CITY OF DE PERE

PROJECT
24-02

RIDGEWAY DRIVE PAVEMENT REHABILITATION

BID DATE:
APRIL 4, 2024
@ 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.

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MARCH 15, 2024 AND MARCH 22, 2024

CITY OF DE PERE

ADVERTISEMENT TO BID

PROJECT 24-02

RIDGEWAY DRIVE PAVEMENT REHABILITATION

Online bids will be received and accepted for Project 24-02 Ridgeway Drive Pavement Rehabilitation via the online electronic bidding service through QuestCDN.com, until 1:00 PM, Thursday, April 4, 2024, at which time they will be publicly accepted, displayed and read aloud.

Project 24-02 for which proposals are being sought includes the following approximate quantities:

- 1,050 LF Relay Sanitary Laterals (4-inch and 6-inch) and Associated Appurtenances.
- 350 LF Pipe Bursting Sanitary Laterals from Main to House (4-inch and 6-inch) and Associated Appurtenances.
- 1,900 LF New and Relay Storm Sewer (8-inch to 18-inch) and Associated Appurtenances.
- 900 LF new storm laterals (6-inch) and associated appurtenances.
- 2,500 LF Relay Watermain (6-inch to 8-inch) and Associated Appurtenances.
- 850 CY Unclassified Excavation (Alleys).
- 11,800 SY Asphaltic Concrete Milling and/ or Pulverizing.
- 1,420 TONS Aggregate Basecourse (1 1/4 inch)
- 3,000 TONS Asphaltic Concrete Pavement.
- 2,450 LF Replace Concrete Curb and Cutter.
- 850 SY Replace Concrete Sidewalks, Pavement, and Driveways (4-inch to 9-inch depth)
- CIP Spot Liner
- Traffic Control
- 300 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 #8901273 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 4:00 PM, Monday, April 1, 2024. Prospective bidders who have previously submitted such forms subsequent to January 1, 2024 will not be required to separately submit such form 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 15th day of March 2024.

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

Project 24-02

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. Geotechnical Engineering Services Report; De Pere Roads, Ridgeway Drive and Smits Street, De Pere Wisconsin 54115 By Intertek Psi.

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/863612021

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

United States (Toll Free): 1 866 899 4679

Access Code: 863-612-021

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 24-02

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 April 4, 2024 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 24-02

BID SCHEDULE – UNIT PRICE

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SANITARY SEWER					
SS-01	Remove and Relay 6" or 4" PVC Sanitary Lateral	LF	780	$_____	$_____
SS-02	Provide Sanitary Sewer Risers	VF	12	$_____	$_____
SS-03	Provide 6" or 4" Saddle to Existing Sanitary Sewer	EA	23	$_____	$_____
SS-04	Verify Active Sanitary Sewer Lateral	EA	5	$_____	$_____
SS-05	Sanitary Sewer Lateral Cleanout (Undistributed)	EA	5	$_____	$_____
SS-06	Pipe Burst 6" or 4" HDPE Sanitary Sewer Lateral	LF	520	$_____	$_____
SS-07	Provide Pipe Burst Connections (Home and Sanitary Sewer Main)	EA	8	$_____	$_____
SS-08	Extra Pipe Burst Excavation	EA	8	$_____	$_____
SS-09	Provide Pre-Pipe Burst Lateral Televising	EA	8	$_____	$_____
SS-10	Pipe Burst Pipe Acceptance and Televising	EA	8	$_____	$_____
SS-11	Provide Sump Pump Basin (Undistributed)	EA	8	$_____	$_____
SS-12	Provide 5' Cured In Place Spot Liner for 8" Sanitary Sewer	EA	2	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SANITARY SEWER CONTINUED					
SS-13	Provide Chemical Grout Lateral Connection to Spot Liner	EA	1	$_____	$_____
SS-14	Provide 30'-15" Sanitary Sewer Spot Repair (Broadway at Randall)	LS	1	$_____	$_____
STORM SEWER					
ST-01	Remove and Relay 18” RCP Class IV	LF	385	$_____	$_____
ST-02	Remove and Relay 12” PVC, RCP Class III, or PP Storm Sewer	LF	10	$_____	$_____
ST-03	Provide 15” PVC, RCP Class III, or PP Storm Sewer	LF	360	$_____	$_____
ST-04	Provide 12” PVC or RCP Class III, or PP Storm Sewer	LF	460	$_____	$_____
ST-05	Provide 8” PVC Storm Sewer	LF	1,130	$_____	$_____
ST-06	Provide 6” PVC Storm Sewer Lateral	LF	880	$_____	$_____
ST-07	Provide 18"X6" Storm Branch or Inserta Tee	EA	2	$_____	$_____
ST-08	Provide 15"X6" Storm Branch or Inserta Tee	EA	1	$_____	$_____
ST-09	Provide 8"X6" Storm Branch or Inserta Tee	EA	17	$_____	$_____
ST-10	Remove and Replace 4’ Diameter Storm Manhole	VF	13	$_____	$_____
ST-11	Provide 4’ Diameter Storm Manhole	VF	60	$_____	$_____
ST-12	Remove and Replace Type B Catch Basin	EA	1	$_____	$_____
ST-13	Remove and Replace Type B Inlet	EA	7	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STORM SEWER CONTINUED					
ST-14	Provide Type B Inlet	EA	7	$_____	$_____
ST-15	Connect to Existing Pipe	EA	9	$_____	$_____
ST-16	Core Drill Existing Structure	EA	1	$_____	$_____
ST-17	Storm Sewer Dig Down and Repair (10-Foot Spot Repair)	EA	2	$_____	$_____
ST-18	Storm Sewer Dig Down and Repair (5-Foot Spot Repair)	EA	2	$_____	$_____
ST-19	Storm Sewer Outfall Repair (Front Street)	LS	1	$_____	$_____
ST-20	Abandon/Remove Existing Storm Sewer Appurtenances	LS	1	$_____	$_____
WATER MAIN					
W-01	Provide 8” PVC Water Main	LF	2,525	$_____	$_____
W-02	Provide 1” HDPE Water Service	LF	925	$_____	$_____
W-03	Provide 1” HDPE Water Service - Kiwanis Park (Open Cut)	LF	125	$_____	$_____
W-04	Provide 1” Corporation and Curb Stop	EA	26	$_____	$_____
W-05	Provide 1” Corporation and Curb Stop - Kiwanis Park	EA	1	$_____	$_____
W-06	Provide 2" Corporation with Plug/Saddle with 2" Galvanized Pipe	EA	5	$_____	$_____
W-07	Provide 8" Gate Valve	EA	11	$_____	$_____
W-08	Provide 6" Gate Valve	EA	5	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
WATER MAIN CONTINUED					
W-09	Provide Connection to Existing Water Main	EA	9	$_____	$_____
W-10	Provide Hydrant (7.5' Bury)	EA	1	$_____	$_____
W-11	Provide Hydrant (6.5' Bury)	EA	2	$_____	$_____
W-12	Provide Hydrant (6.0' Bury)	EA	1	$_____	$_____
W-13	Provide Hydrant (5.5' Bury)	EA	1	$_____	$_____
W-14	Provide 6” PVC Hydrant Lead	LF	75	$_____	$_____
W-15	Provide 1/2 Vertical Offset	EA	1	$_____	$_____
W-16	Water Meter Assembly	LS	1	$_____	$_____
W-17	Abandon/Remove Water Main and Appurtenances	LS	1	$_____	$_____
STREET AND DRAINAGE					
SD-01	Provide Clearing and Grubbing	In Dia	80	$_____	$_____
SD-02	Unclassified Excavation	CY	875	$_____	$_____
SD-03	Unclassified Excavation and Site Restoration - Kiwanis Park	LS	1	$_____	$_____
SD-04	Pulverize Asphaltic Concrete Pavement and Aggregate (10" Depth)	SY	7,875	$_____	$_____
SD-05	Mill Asphaltic Concrete Pavement 1 3/4" Depth	SY	3,760	$_____	$_____
SD-06	Mill Asphaltic Concrete Pavement Additional 4" Depth (Overmill Areas)	SY	100	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STREET AND DRAINAGE CONTINUED					
SD-07	Crack Overmilling 4" Depth (2' Wide) - VFW Park	LF	40	$_____	$_____
SD-08	Provide 1 1/4" Crushed Aggregate Base Course	TON	1450	$_____	$_____
SD-09	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 2" Upper Layer (Smits Street and Ridgeway Drive)	TON	850	$_____	$_____
SD-10	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 1 3/4" Upper Layer (Ridgeway Drive)	TON	500	$_____	$_____
SD-11	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 1 3/4" Upper Layer (Alleys)	TON	180	$_____	$_____
SD-12	Provide Asphaltic Concrete Pavement Type 3 LT 58-28 S, 3" Lower Layer (Ridgeway Drive)	TON	600	$_____	$_____
SD-13	Provide Asphaltic Concrete Pavement Type 3 LT 58-28 S, 2 1/4" Lower Layer (Ridgeway Drive)	TON	650	$_____	$_____
SD-14	Provide Asphaltic Concrete Pavement Type 3 LT 58-28 S, 2 1/4" Lower Layer (Alleys)	TON	225	$_____	$_____
SD-15	Provide Asphaltic Concrete Pavement Type 3 LT 58-28 S, 2" Lower Layer (Smits Street)	TON	200	$_____	$_____
SD-16	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 2" Upper Layer (VFW Basketball Court) (Overlay)	TON	60	$_____	$_____
SD-17	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 4" Lower Layer (VFW Basketball Court)	TON	10	$_____	$_____
SD-18	Provide Asphalt Patch - Kiwanis Park	SY	40	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STREET AND DRAINAGE CONTINUED					
SD-19	Provide Asphalt Patch	SY	20	$_____	$_____
SD-20	Remove and Replace 24” Concrete Curb and Gutter (Slip Form)	LF	1250	$_____	$_____
SD-21	Remove and Replace 24” Concrete Curb and Gutter (Hand Form)	LF	1,900	$_____	$_____
SD-22	Remove and Replace 24” Concrete Curb and Gutter - Kiwanis Park	LF	25	$_____	$_____
SD-23	Remove and Replace 30" Concrete Curb and Gutter	LF	25	$_____	$_____
SD-24	Remove and Replace 24" Concrete Curb and Gutter Integral	LF	40	$_____	$_____
SD-25	Provide Sidewalk Pedestrian Curb Head	LF	60	$_____	$_____
SD-26	Remove and Replace 9-Inch Doweled Concrete Pavement (HES-3DAY)	SY	75	$_____	$_____
SD-27	Remove and Replace 9-Inch Concrete Pavement with Integral Curb	SY	130	$_____	$_____
SD-28	Remove and Replace 8" Concrete Sidewalk, Ramp, and Driveway	SY	60	$_____	$_____
SD-29	Remove and Replace 6" Concrete Sidewalk, Ramp, and Driveway	SY	400	$_____	$_____
SD-30	Provide 6" Concrete Pad - Kiwanis Park	SY	5	$_____	$_____
SD-31	Remove and Replace 4" Concrete Sidewalk, Ramp, and Driveway	SY	420	$_____	$_____
SD-32	Remove and Replace 4" Concrete Sidewalk - Kiwanis Park	SY	40	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STREET AND DRAINAGE CONTINUED					
SD-33	Provide #4 Reinforcement Bars for Curb and Sidewalk	LF	3,100	$_____	$_____
SD-34	Drilled Tie Bars (Existing Sidewalk, Driveway, and Curb and Gutter)	EA	650	$_____	$_____
SD-35	Drilled Dowel Bars	EA	70	$_____	$_____
SD-36	Drilled Tie Bars (Concrete Pavement)	EA	60	$_____	$_____
SD-37	Provide Detectable Warning Field (5'-Natural Patina)	EA	24	$_____	$_____
SD-38	Landscaping – Topsoil, Seed, Fertilizer and Mulch	SY	300	$_____	$_____
SD-39	Regrade and Restore Terrace (Ridgeway and Smits)	SY	10	$_____	$_____
SD-40	Remove and Reset Retaining Wall	EA	2	$_____	$_____
SPECIAL CONSTRUCTION					
SC-01	Inlet Protection Type D	EA	45	$_____	$_____
SC-02	Adjust Inlet Less Than 1-Foot	EA	2	$_____	$_____
SC-03	Adjust Inlet 1-Foot or Greater	EA	4	$_____	$_____
SC-04	Adjust Inlet & Provide New Casting	EA	1	$_____	$_____
SC-05	Adjust Manhole Less Than 1-Foot	EA	3	$_____	$_____
SC-06	Adjust Manhole 1-Foot or Greater	EA	2	$_____	$_____
SC-07	Adjust Manhole Less Than 1-Foot & Provide New Casting	EA	5	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SPECIAL CONSTRUCTION CONTINUED					
SC-08	Adjust Manhole 1-Foot or Greater & Provide New Casting	EA	2	$_____	$_____
SC-09	Adjust Manhole & Provide New Casting (Neenah R-1510-A) 6" Frame Height	EA	1	$_____	$_____
SC-10	Polystyrene Insulation Board	LF	50	$_____	$_____
SC-11	Temporary MailBox	EA	5	$_____	$_____
SC-12	Pavement Marking Epoxy Line 12" White	LF	50	$_____	$_____
SC-13	Pavement Marking Epoxy Line 4" Yellow	LF	2,550	$_____	$_____
SC-14	Pavement Marking "ONLY" Word (White)	EA	1	$_____	$_____
SC-15	Pavement Marking Arrow Epoxy Type 2 (White)	EA	1	$_____	$_____
SC-16	Pavement Marking Arrow Epoxy Type 3 (White)	EA	1	$_____	$_____
SC-17	Traffic Control - Ridgeway Drive and Smits Street	LS	1	$_____	$_____
SC-18	Traffic Control - Alleys	LS	1	$_____	$_____
SC-19	Traffic Control - Broadway Street Sewer Repair	LS	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 24-02 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		
Hydrants		
Manholes	CONCRETE	
Inlets	CONCRETE	
Storm Sewer (PVC) *List Proposed Sizes*	PVC	
Storm Sewer (RCP) *List Proposed Sizes*	REINFORCED CONCRETE	
Storm Sewer (PP) *List Proposed Sizes*	POLYPROPYLENE	

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
Excavation		
Utility Work		
Asphaltic Concrete Pavement		
Concrete Driveway and Sidewalk		
Concrete Curb and Gutter		
Unclassified Excavation		
Traffic Control		
Landscape Restoration		
Pipe Bursting		
Pulverizing		
Milling		

SECTION 00 51 00

NOTICE OF AWARD

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

Project Description: 24-02 Ridgeway Drive Pavement Rehabilitation

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 March 15, 2024 and March 22, 2024.

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 _____2024.

_____
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 24-02 Ridgeway Drive Pavement Rehabilitation, 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 March 15, 2024 and March 22, 2024.

(b) Drawings designated for Project 24-02 Ridgeway Drive Pavement Rehabilitation dated March 15, 2024.

(c) City of De Pere 2024 Construction Specifications.

(d) Special Provisions dated March 15, 2024.

(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 (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:_____
(MAYOR) (CITY CLERK)

SECTION 00 55 00

NOTICE TO PROCEED

Date: _____

(CONTRACTOR NAME)
(ADDRESS)
(ADDRESS)

Project Description: 24-02 Ridgeway Drive Pavement Rehabilitation

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 _____ _____(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 24-02, 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 24-02, 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, 2024 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. Ridgeway Drive – Webster Street to Libal Street
      b. Smits Street – Ridgeway Drive to LeBrun Street
      c. Alley – Michigan/Superior/James/Williams
      d. Alley – Huron/Erie/James/Fulton
      e. Alley – Charles/George/Erie/Ontario
      f. VFW Park
      g. Kiwanis Park
      h. Broadway Street at Randall Street Spot Repair
      i. Front Street at Fox River Spot Repair

   2. Work will be performed under the following prime contract:
      a. Project 24-02 – Ridgeway Drive Pavement Rehabilitation

B. The Work includes:
   1. Sanitary sewer lateral relay and/or pipe bursting.
   2. Water main and associated appurtenances relay with open cut and/or directional drill construction.
   3. Storm sewer and associated appurtenances relay and new, storm structure installation, repair, and replacement.
   4. Manhole adjustment and repair.
   5. Concrete pavement removal and replacement.
   6. Curb and gutter removal and replacement.
   7. Driveway and sidewalk removal and replacement.
   8. Unclassified excavation.
   9. Pulverizing asphaltic concrete pavement.
   10. Milling asphaltic concrete pavement
   11. Asphaltic concrete paving and patching.
   12. Erosion Control.
   13. Traffic Control.

1.4 WORK SEQUENCE/SCHEDULE

A. Project shall be completed October 15, 2024.

B. LeBrun Road shall be open to traffic at all times. If traffic is reduced to one lane of travel during construction, flaggers shall be provided.

C. Construction on all projects/locations once started, shall be continuous unless approved by the engineer.

D. The work on Ridgeway Drive and East River Drive shall be completed within 80 calendar days once work has started.

E. The sanitary sewer at Broadway Street and Randall Street is being televised under Project 24-15. Work shall not commence until the City has evaluated the video.

F. Conduct construction activities to maintain access to businesses and residences throughout construction.

G. Topsoil, seed, and mulch shall be completed prior to asphaltic concrete pavement placement.

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 simultaneously with work under this Contract. This Contract includes the following:
   1. Project 24-03 Sewer Lining – Sanitary sewer lining will occur on Ridgeway Drive from Smits Street to Mandalay Terrace prior to laterals being replaced.

C. City staff will complete the following:
   1. Restoration on VFW Park around the basketball court and on the haul road.
   2. Provide the water meter at Kiwanis Park for contractor installation.

D. 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, (rtlaskowski@wisconsinpublicservice.com) (920-617-2775)

D. Charter, Vince Albin, (vince.albin@charter.com) (920-378-0444)

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

F. TDS Metrocom, Steve Jakubiec, (steve.jakubiec@tdstelecom.com) (920-882-4166)

G. Net-Lec (Mi-Tech Services), Dennis Lafave, (dlafave@mi-tech.us) (920-619-9774)

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. Notification to Residents –notify individually all residents and businesses 2-weeks prior to the start of operations, giving an estimated time that vehicle movement will be limited or prohibited. Property owners shall be notified 24-hours prior to closing a drive.

B. Ingress and egress to the site of work for delivery of materials, hauling of excavation, daily construction activities and all vehicular traffic shall be as follows:

Location	**Route**
Ridgeway Drive	Loaded trucks from Webster Street. Empty trucks will be allowed to exit via Libal Street
Smits Street	Loaded trucks Ridgeway Drive via Webster Street. Empty trucks will be allowed to exit via LeBrun Street

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 Laterals	SS-01
2. Sanitary Sewer Risers	SS-02
3. Sanitary Sewer Service Branches	SS-03
4. Dig Down and Verify Active Lateral	SS-04
5. Sanitary Sewer Lateral Cleanout	SS-05
6. Pipe Burst Sanitary Sewer Laterals	SS-06
7. Provide Pipe Burst Connections	SS-07
8. Extra Pipe Burst Excavation	SS-08
9. Pipe Burst Acceptance and Televising	SS-09, SS-10
10. Provide Sump Pump Basin	SS-11
11. Spot Repair	SS-14

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 LATERALS

A. The unit price for Sanitary Sewer Laterals work includes:
    1. General Work Items of Article 1.2.
    2. Sanitary sewer lateral pipe and fittings of the material stated in the Unit Price Bid Schedule and installed using the open trench method.
    3. Watertight plug in the end of the sewer service lateral or connection including transition coupling to the existing building sewer lateral.
    4. Tracer wire.
    5. Install an 8’ – 4” X 4” board at the end of the lateral.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer service lateral pipe (excluding risers) from centerline of the service branch to the end of the pipe at the right of way, easement or existing sewer service lateral with no deductions for fittings.

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

1.4 SANITARY SEWER RISERS

A. The unit price for Sanitary Sewer Risers work includes:
   1. General Work Items of Article 1.2.
   2. Sanitary sewer riser pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
   3. Risers to be installed at the main.
   4. Tracer wire.

B. Measurement for payment will be the actual length of pipe along the centerline of the installed sewer service riser pipe from centerline of fitting to centerline of fitting having a vertical rise of 45 degrees or greater with no deductions for fittings.

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

1.5 SANITARY SEWER SERVICE BRANCHES

A. The unit price for Sanitary Sewer Service Branches work includes:
   1. General Work Items of Article 1.2.
   2. Sanitary sewer service branches of same material strength or better than sanitary sewer main pipe.
   3. Installation along with the sanitary sewer main pipe installation.
   4. Plug (where required).

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

C. The unit of measurement for payment is each.

1.6 DIG DOWN AND VERIFY ACTIVE SANITARY LATERAL

A. The unit price for Dig Down and Verify Active Sanitary Lateral work includes:
   1. General Work Items of Article 1.2.
   2. Televise or excavate down to existing sanitary sewer lateral to expose the existing lateral to verify if the lateral is active.
   3. Assist City staff with televising. City staff will provide a push camera to televise the lateral.
   4. City staff will dye test the lateral if needed.
   5. Backfilling and compacting.
   6. Plug lateral if not active.

B. Measurement for payment will be the actual number completed.
   1. This item only applies to laterals on existing main that are plugged at the main.
   2. Laterals that are reconnected will be paid under a separate bid item.

C. The unit of measurement for payment is each.

1.7 SANITARY SEWER LATERAL CLEANOUT

A. The unit price for Sanitary Sewer Lateral Cleanout work includes:
   a. General Work Items of Article 1.2.
   b. Sanitary sewer cleanout pipe and fittings of material state in the unit price bid schedule and installed using the open trench method.
   c. Tracer Wire.

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

C. The unit of measurement for payment is each.

1.8 PIPE BURST SANITARY SEWER LATERALS

A. The unit price for Pipe Burst Sanitary Sewer Laterals work includes:
   1. General work Items of Article 1.2.
   2. Sanitary sewer lateral pipe and fittings of the material stated in the Unit Price Bid Schedule and installed using the pipe bursting method.
   3. Tracer wire.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer service lateral pipe from centerline of the service branch to the connection point within the home of which the lateral is servicing.

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

1.9 PROVIDE PIPE BURST CONNECTIONS

A. The unit price for Provide Pipe Burst Connections work includes:
   1. General work Items of Article 1.2.
   2. Excavating and backfilling.
   3. Sanitary Sewer Pipe same material strength or better than pipe material listed in the unit price bid schedule. Provide Fernco with stainless steel sheer bands and connection watertight seal at the home.
   4. Sanitary sewer service branches of same material strength or better than sanitary sewer main pipe.
   5. Installation along with the sanitary sewer main pipe installation.
   6. Sanitary sewer lateral pipe and fittings of the material stated in the Unit Price Bid Schedule and installed using the pipe bursting method.
   7. Tracer wire.

B. Measurement of payment will be the actual number of sanitary laterals pipe burst. The unit price for providing pipe burst connections shall include both the connect at the serviced home and the branch connection at the sanitary sewer main.

C. The unit of measurement for payment is each.

1.10 EXTRA PIPE BURST EXCAVATION

A. The unit price for Pipe Burst Sanitary Sewer Laterals work includes:
   1. General work Items of Article 1.2.
   2. Excavating and backfilling.
   3. Sanitary sewer lateral pipe and fittings of the material stated in the Unit Price Bid Schedule and installed using the pipe bursting method.
   4. Tracer wire.

B. Measurement of payment will be the actual number of extra excavations completed.
   1. This item is reserved for emergency situations where an additional excavation is needed to rescue the pipe bursting head after an obstruction is encountered.

C. The unit of measurement for payment is each.

1.11 PIPE BURST ACCEPTANCE & TELEVISING

A. The unit price for Pipe Burst Acceptance & Televising work includes:
   1. General work Items of Article 1.2.
   2. Pre & Post Televising of sanitary sewer laterals for each sanitary lateral pipe bursted.
      a. Pre-televising work shall be reviewed to determine if there are existing connections into the sanitary sewer lateral between the basement and the sanitary sewer main.
      b. Flagging of unknown connections into the sanitary sewer lateral for the Engineer's review.
      c. Post-televising of sanitary sewer laterals shall be completed to verify watertight construction.

B. Measurement of payment will be the actual number of sanitary laterals televised.

C. The unit of measurement for payment is each.

1.12 PROVIDE SUMP PUMP BASIN

A. The unit price for Provide Sump Pump Basin work includes:
   1. General work Items of Article 1.2.
   2. Providing a sump pump basin of material and construction standard as outlined in the unified dwelling code.
   3. Connecting existing foundation drains to the new sump pump basin.
   4. Excavating.

B. Measurement of payment will be the actual number of sump pump basins installed.

1. This is an undistributed item and will only be installed when existing foundation drains are found connected to the sanitary sewer lateral.
2. This item only requires the installation of the sump pump basin and the connections to existing foundation drain lines. No sump pump installation or associated plumbing work is required as part of this item.

C. The unit of measurement for payment is each.

1.13 SANITARY SEWER SPOT REPAIR

A. The unit price for Sanitary Sewer Spot Repair work includes:
   1. General Work Items of Article 1.2.
   2. Excavating
   3. Exposing sanitary sewer line for repairs.
   4. Remove and replace pipe (if applicable).
   5. Connection to existing sanitary sewer (if applicable).
   6. Repairing offset joints where present.
   7. Reconnecting to lateral where present with wye.

B. Measurement for payment will be the actual number of repairs 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 (Granular Backfill)	ST-01, ST-02, ST-03, ST-04, ST-05
2. Storm Sewer Laterals	ST-06
3. Storm Sewer Service Branches	ST-07, ST-08, ST-09
4. Storm Sewer Manholes	ST-10, ST-11
5. Catch Basin/Inlets	ST-12, ST-13, ST-14
6. Connect to Existing Storm Sewer Pipe	ST-15
7. Core Drilling to Storm Manhole	ST-16
8. Storm Sewer Dig Down Spot Repair	ST-17, ST-18
9. Abandon/Remove Storm Sewer and Appurtenances	ST-20
10. Storm Sewer Outfall Repair	ST-19

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 (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.

1.4 STORM SEWER LATERALS

A. The unit price for Storm Sewer Laterals work includes:
   1. General Work Items of Article 1.2.
   2. Storm sewer lateral pipe and fittings of the material stated in the Unit Price Bid Schedule and installed using the open trench method.
   3. Watertight plug in the end of the sewer service lateral or connection including transition coupling to the existing building sewer lateral.
   4. Tracer wire.
   5. Install an 8' – 4" X 4" board at the end of the lateral.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer service lateral pipe from centerline of the service branch to the end of the pipe at the right of way, easement or existing sewer service lateral with no deductions for fittings.

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

1.5 STORM SEWER SERVICE BRANCHES/INSERTA TEES

A. The unit price for Storm Sewer Service Branches/Inserta Tees work includes:
   1. General Work Items of Article 1.2.
   2. Storm sewer service branches of same material strength or better than storm sewer main pipe (where required).
   3. Core drilling into concrete storm sewer main (where required).
   4. Installation along with the storm sewer main pipe installation.
   5. Plug (where required).

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

C. The unit of measurement for payment is each.

1.6 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.

1.7 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.

1.8 CONNECT TO EXISTING STORM SEWER PIPE

A. The unit price for Connect to Existing Storm Sewer Pipe work includes:
1. General Work Items of Article 1.2.
2. Storm sewer pipe same material strength or better than sewer main. Provide Fernco with stainless steel sheer bands and connection water tight seal.
3. Bends as required in the field.
4. Backfilling and compaction.

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

C. The unit of measurement for payment is each.

1.9 CORE DRILLING TO STORM MANHOLE

A. The unit price for Core Drilling to Storm Manhole work includes:
1. General Work Items of Article 1.2.
2. Core drilling into existing storm sewer manhole (where required).
3. Install A-Lok boot or mortar connection.

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.

1.10 STORM SEWER DIG DOWN SPOT REPAIR

A. The unit price work for Storm Sewer Dig Down Spot Repair work includes:
1. General Work Items of Article 1.2.
2. Excavation.
3. Exposing storm sewer line for repairs.
4. Sawing existing storm sewer.
5. Remove and replace pipe.
6. Connection to existing storm sewer.
7. Repairing offset joints where present.

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

C. The unit of measurement for payment is each.

1.11 ABANDON/REMOVE STORM SEWER AND APPURTENANCES

A. The unit price for Abandon/Remove Storm Sewer and Appurtenances work includes:
1. General Work Items of Article 1.2.
2. Excavating
3. Install bulkheads and abandon storm sewer and/or structures.
4. Removing existing storm sewer and/or structures where in conflict with other utilities.
5. Providing and placing flowable fill.
6. Backfilling and compacting.
7. Removal and disposal 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.

1.12 STORM SEWER OUTFALL REPAIR

A. The unit price work for Storm Sewer Outfall Repair work includes:
1. General Work Items of Article 1.2.
2. Excavation.
3. Exposing storm sewer line for repairs.
4. Raise outfall/discharge pipe and provide additional bedding stone.
5. Connection to existing storm sewer.
6. Bolt outfall pipe to storm sewer.

7. Restore existing riprap.
8. Restore bank with topsoil, seed, and erosion control mat, Class I.

B. Measurement for payment will not be made.

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

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 (Granular Backfill)	W-01
2. Water Services	W-02, W-03
3. Corporation and Curb Stop	W-04, W-05
4. 2” Corporation with Plug or Saddle and Galvanized Pipe	W-06
5. Fire Hydrants	W-10, W-11, W-12, W-13
6. Hydrant Leads	W-14
7. Valves	W-07, W-08
8. Connection to Existing Water Mains	W-09
9. Water Main Offset	W-15
10. Water Meter Assembly	W-16
11. Abandon/Remove Water Main and Appurtenances	W-17

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 (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.

1.4 WATER SERVICES

A. The unit price for Water Services work includes:
   1. General Work Items of Article 1.2.
   2. Pipe and fittings of material stated in the Unit Price Bid Schedule.
   3. Tracer wire.
   4. Disinfection of pipelines.
   5. Install an 8’- 4”x4” board at the end of the lateral.

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

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

1.5 CORPORATION AND CURB STOPS

A. The unit price for Corporation and Curb Stops work includes:
   1. General Work Items of Article 1.2.
   2. Supply curb stops and curb boxes.
   3. Connection to existing water service (where required).
   4. Installation of curb stops and curb boxes.
   5. Tracer wire.

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

C. The unit of measurement for payment is each.

1.6 2-INCH CORPORATION WITH PLUG OR SADDLE AND GALVANIZED PIPE

A. The unit price for 2-Inch Corporation with Plug or Saddle and Galvanized Pipe work includes:
   1. General Work Items of Article 1.2.
   2. Provide and install 2-inch corporation with plug or saddle (where required) with 2-inch galvanized pipe.
   3. Remove 2-inch corporation with plug/saddle and repair water main.

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 HYDRANTS LEADS

A. The unit price for Hydrants 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 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.

1.10 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.

1.11 WATER MAIN OFFSET

A. The unit price for Water Main Offset work includes:
   1. General Work Items of Article 1.2.
   2. Ductile iron fittings and PVC pipe.
   3. Tracer wire.
   4. Polyethylene encasement of ductile iron pipe and fittings.
   5. Blocking and joint restraints.

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

C. The unit of measurement for payment is each.

1.12 WATER METER ASSEMBLY

A. The unit price for Water Meter Assembly work includes:
   1. General Work Items of Article 1.2.
   2. Excavating, backfilling, and compaction for the assembly.
   3. Constructing the foundation.
   4. Furnishing and installing all required materials including, fittings, connections, mounting hardware, sleeving, piping, valves, controller, backflow heads, wiring, quick coupler valves, and water meter handhole.
   5. Installation of water meter (Water meter to be provided City).

B. Measurement of payment will be for the completed facility.

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

1.13 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. Clearing and Grubbing	SD-01
2. Topsoil and Unclassified Excavation	SD-02
3. Unclassified Excavation and Site Restoration	SD-03
4. Mill Asphaltic Concrete Pavement	SD-05, SD-06
5. Pulverize Asphaltic Concrete Pavement	SD-04
6. Crack Overmilling	SD-07
7. Crushed Aggregate Base and Surface Course	SD-08
8. Asphaltic Concrete Pavement	SD-09, SD-10, SD-11, SD-12, SD-13, SD-14, SD-15, SD-16, SD-17
9. Asphalt Concrete Pavement Patch	SD-18, SD-19
10. Portland Cement Concrete Curb and Gutter	SD-20, SD-21, SD-22, SD-23, SD-24
11. Sidewalk Pedestrian Curb Head	SD-25
12. Portland Cement Concrete Pavement	SD-26, SD-27
13. Portland Cement Concrete Driveway and Sidewalk	SD-28, SD-29, SD-30, SD-31, SD-32
14. Deformed Reinforcement Bars	SD-33
15. Drilling Tie Bars and Dowel Bars	SD-34, SD-35, SD-36
16. Detectable Warning Field Natural	SD-37
17. Landscaping – Topsoil, Seed, Fertilize, and Mulch	SD-38
18. Regrade and Restore Terrace	SD-39
19. Remove and Reset Retaining Wall	SD-40

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 CLEARING AND GRUBBING

A. The unit price for Clearing and Grubbing work includes:
   1. General Work Items of Article 1.2.
   2. Cutting and disposing of tree.
   3. Grinding down of tree stump to a depth of one (1’) foot.
   4. Removing and disposing of roots and stump grindings.

B. Measurement and payment will be by the tree diameter in inches. The tree diameter will be determined by measuring the tree’s trunk circumference approximately 4-1/2 feet above the existing ground level, but above the ground swell, and dividing by three. Diameters will be rounded to the nearest inch.

C. The unit of measurement for payment in inch diameter.

1.4 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.

1.5 UNCLASSIFIED EXCAVATION AND SITE RESTORATION

A. The unit price for Unclassified Excavation and Site Restoration work includes:
   1. General Work Items of Article 1.2.
   2. Removal of topsoil to depth available.
   3. Hauling and stockpiling topsoil.
   4. Excavation for sidewalk and foundation pad.
   5. Hauling of unclassified material.
   6. Compaction of subgrade and fill areas.
   7. Placing crushed aggregate under paved surfaces.
   8. Placing clean stone under foundation pad per detail.
   9. Respreading topsoil around disturbed surfaces.
   10. Disposal of surplus topsoil, unclassified material and unsuitable material.
   11. Finish grading.
   12. Provide seed, fertilizer, and mulch on disturbed landscape areas.

B. Measurement of payment will not be made.
   1. This item applies to work at Kiwanis Park.

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

1.6 MILL ASPHALTIC CONCRETE PAVEMENT

A. The unit price for Mill Asphaltic Concrete Pavement work includes:
   1. General Work Items of Article 1.2.
   2. Milling to length, width and depth as shown on Drawings or specified elsewhere.
   3. Hauling and disposing of millings.
   4. Cleaning of area milled.

B. Measurement for payment will be the average horizontal length and width of roadway.

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

1.7 PULVERIZE ASPHALTIC CONCRETE PAVEMENT

A. The unit price for Pulverize Asphaltic Concrete Pavement work includes:
   1. General Work Items of Article 1.2.
   2. Pulverizing asphaltic concrete pavement with crushed aggregate base course to a depth of 10-inches.
   3. Compacting and fine grading of pulverized material.
   4. Removal of excess material to established grade elevations.

B. Measurement for payment will be the average horizontal length and width of roadway.

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

1.8 CRACK OVERMILLING

A. The unit price for Crack Overmilling work includes:
   1. General Work Items of Article 1.2.
   2. Full depth mill, 2-feet in width over large cracks as specified in the field.
   3. Hauling and disposing of millings.
   4. Cleaning of area milled.

B. Measurement for payment will be the length of cracks milled.

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

1.9 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.

1.10 ASPHALTIC CONCRETE PAVEMENT

A. The unit price for Asphaltic Concrete Pavement work includes:
1. General Work Items of Article 1.2.
2. Asphaltic concrete mixture, tack coat and other required materials
3. Surface preparation.
4. Provide tack coat on base material.
5. Saw cutting and/or mill adjacent and abutting pavement surfaces.
6. Asphaltic concrete placement and compaction to thickness and width shown on the drawings or specified elsewhere.
7. Tack coat between asphaltic concrete courses and abutting pavements.

B. Measurement for 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.

C. The Unit Price shall be adjusted for deficiencies for less than minimum density represented by the average lot density of five nuclear density tests of 750 tons of asphaltic concrete placed as shown in the following table:

Density Deficiency-Percent of Unit Price for Payment

%Lot Density Below Specified Minimum	WisDOT Mixes
From 0.5-1.0 inclusive	98%
From 1.1-1.5 inclusive	95%
From 1.6-2.0 inclusive	91%
From 2.1-2.5 inclusive	85%
From 2.6-3.0 inclusive	70%
More than 3.0	0%

D. The unit of measurement for payment is tons.

1.11 ASPHALTIC CONCRETE PAVEMENT PATCH

A. The unit price for Asphaltic Concrete Pavement Patch work includes:
   1. General Work Items of Article 1.2.
   2. Sawcutting.
   3. Removal of asphalt.
   4. Asphaltic concrete mixture, tack coat and other required materials.
   5. Surface preparation.
   6. Grading subgrade.
   7. Asphaltic concrete placement and compaction to thickness matching surrounding pavements.
   8. Tack coat between asphaltic courses and abutting pavement.

B. Measurement for payment will be the average horizontal length and width of roadway.

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

1.12 PORTLAND CEMENT CONCRETE CURB AND GUTTER

A. The unit price for Portland Cement Concrete Curb and Gutter work includes:
   1. General Work Items of Article 1.2.
   2. Providing Portland cement concrete mixture of size shown in the drawings or specified elsewhere.
   3. Providing expansion joints.
   4. Providing curing.
   5. Existing curb and gutter removal.
   6. Subgrade preparation.
   7. Provide crushed aggregate base.
   8. Fine grading of subgrade.
   9. Providing contraction joints.
   10. Driveway entrances and handicap ramp entrances.
   11. Adjustment of catch basin/inlets.
   12. Finishing.
   13. Protection.
   14. Restoration behind the curb.

B. Measurement for payment will be along the flow line of the gutter and through inlets/catch basins.

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

1.13 PORTLAND CEMENT INTEGRAL CURB HEAD WITH SIDEWALK

A. The unit price for Portland Cement Integral Curb Head With Sidewalk work includes:
   1. General Work Items of Article 1.2.
   2. Providing Portland cement concrete mixture of size shown in the drawings or specified elsewhere.
   3. Providing expansion joints.
   4. Providing curing.
   5. Providing contraction joints.
   6. Finishing.
   7. Protection.
   8. Restoration behind the curb.

B. Measurement for payment will be along the flow line of the curb head.

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

1.14 PORTLAND CEMENT CONCRETE PAVEMENT

A. The unit price for Portland Cement Concrete Pavement work includes:
   1. General Work Items of Article 1.2.
   2. Furnish all labor, tools, equipment and services.
   3. Providing Portland cement concrete mixture of thickness shown in the drawings or specified elsewhere.
   4. Surface preparation.
   5. Providing reinforcement including tie bars and dowel bars.
   6. Drilling tie bars and dowel bars into existing pavement.
   7. Joint sealing.
   8. Providing curing.
   9. Concrete sealing with linseed oil.
   10. Fine grading of subgrade.
   11. Providing expansion joints and contraction joints.
   12. Adjustment of manholes, water valves, inlets/catch basin and other structures to finish grade.
   13. Finishing.
   14. Protection.

B. Measurement for payment will be length and width of areas paved. Concrete curb and gutter will be measured separately, regardless if the curb is installed with integral curb. Curb and gutter will be paid per linear foot for twenty-four (24) inch width. The width and length will be subtracted from the concrete pavement area if integral curb is constructed.

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

1.15 PORTLAND CEMENT CONCRETE DRIVEWAY AND SIDEWALK

A. The unit price for Portland Cement Concrete Sidewalk and Driveway work includes:
   1. General Work Items of Article 1.2.
   2. Providing Portland cement concrete mixture of thickness shown in the drawings or specified elsewhere.
   3. Providing reinforcement.
   4. Providing expansion joint.
   5. Providing curing.
   6. Existing pavement removal.
   7. Subgrade preparation.
   8. Providing contraction joints.
   9. Handicap ramps.
   10. Sidewalk steps.
   11. Saw cutting adjacent surfaces.
   12. Finishing.
   13. Protection.
   14. Restoration.

B. Measurement for payment will be the average horizontal length and width of the concrete placed.

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

1.16 DEFORMED REINFORCEMENT BARS

A. The unit price for Deformed Reinforcement Bars work includes:
   1. General Work Items of Article 1.2.
   2. Supply and install two - #4 deformed reinforcement bars over all trenches that fall under any portion of the concrete curb and gutter, sidewalk, and driveway being constructed.

B. Measurement for payment will be the horizontal length of each bar installed.
   1. This item applies to concrete curb and gutter, sidewalk, and driveway.
   2. This item does not apply to concrete pavement and patches.

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

1.17 DRILLING TIE BARS

A. The unit price for Drilling Tie Bars work includes:
   1. General Work Items of Article 1.2.
   2. Providing and installing tie bars, including coating.
   3. For drilling holes in concrete not placed under the contract.
   4. For epoxying or driving.

B. Measurement for payment will be the actual number of bars installed.
   1. This item applies to concrete curb and gutter, sidewalk, and driveway.
   2. This item does not apply to concrete pavement and patches.

C. The unit of measurement for payment is each.

1.18 DETECTABLE WARNING FIELD NATURAL

A. The unit price for Detectable Warning Field Natural work includes:
   1. General Work Items of Article 1.2.
   2. Providing and installing Detectable Warning Field per ADA requirements.
   3. Each detectable warning field shall be two (2) feet by five (5) feet.

B. Measurement for payment will be the actual number of detectable warning field installed.

C. The unit of measurement for payment is each.

1.19 LANDSCAPING- TOPSOIL, SEED, FERTILIZE AND MULCH

A. The unit price for Landscaping- Topsoil, Seed, Fertilize, and Mulch 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.
   6. Provide maintenance.

B. Measurement for payment will be the width and length not greater than the road right-of-way, not greater than the easement and not greater than fifteen (15) feet beyond the top of either side of ditches outside the right-of-way.
   1. This item applies to work in the alleys.

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

1.20 REGRADE AND RESTORE

A. The unit price for Regrade and Restore work includes:
   1. General Work Items of Article 1.2.
   2. Excavate and regrade terrace where City trees were removed.
   3. Provide 4” topsoil or salvaged topsoil.
   4. Provide seed.
   5. Provide fertilizer.
   6. Provide mulch.

B. Measurement for payment will be the width and length of the disturbed area.
   1. This item applies to areas along Ridgeway Drive and Smits Street. Regrading will occur concurrently with utility construction, as directed by Engineer.

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

1.21 REMOVE AND RESET RETAINING WALL

A. The unit price for Remove and Reset Retaining Wall work includes:
   1. General Work Items of Article 1.2.
   2. Remove and salvage stone retaining wall.
   3. Resetting stone.
   4. Mortar joints.

B. Measurement of payment will be based on the number of repairs required for lateral installation.

C. The unit of measurement for payment is each.

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. Inlet Protection Erosion Control	SC-01
2. Adjusting Existing Structure Frame and Casting	SC-02, SC-03, SC-04, SC-05, SC-06, SC-07, SC-08, SC-09
3. Polystyrene Insulation	SC-10
4. Temporary Mailbox	SC-11
5. Pavement Marking Epoxy Lines	SD-12, SC-13
6. Pavement Marking Epoxy Arrows, Words, Symbols	SC-14, SC-15, SC-16
7. Traffic Control	SC-17, SC-18, SC-19

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 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.

1.4 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.

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

C. The unit of measurement for payment is each.

1.5 POLYSTYRENE INSULATION BOARDS

A. The unit price for Polystyrene Insulation Boards work includes:
   1. General Work Items of Article 1.2.
   2. Supply and install a 2 inch thick insulation per the Standard Specifications along the top of the water main and/or service and 6 inch above the water main and/or service with pipe bedding in between the polystyrene board and pipe.

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

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

1.6 TEMPORARY MAILBOX

A. The unit price for Temporary Mailbox includes:
   1. General Work Items of Article 1.2.
   2. Furnishing and installing temporary mailbox with secure base to maintain mail service.
   3. Remove temporary mailbox when service is restored to mailbox.

B. Measurement for payment will be based on the number installed.

C. The unit of measurement for payment is each.

1.7 PAVEMENT MARKING EPOXY LINES

A. The unit price for Pavement Marking Epoxy Lines includes:
   1. General Work Items of Article 1.2.
   2. Providing and installing the Pavement Marking Epoxy Lines includes preparing the surface, including brush-off blasting of concrete, for providing all marking, including reflectorization with glass beads, for protecting marking until dry or cured, and for replacing marking improperly constructed or that fails during the warranty period.
   3. For remarking if initially applies at less than 90% of the specified rate.

B. Measurement for payment will be by the linear foot, calculated as follows:
   1. For solid lines; by adding the linear feet of solid line measured end to end.
   2. For intermittent lines; by multiplying the specified length of the individual marking of the line by the number of markings in the intermittent line end to end.

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

1.8 PAVEMENT MARKING EPOXY ARROWS, WORDS, SYMBOLS

A. The unit price for Pavement Marking Epoxy Arrows, Words, Symbols includes:
   1. General Work Items of Article 1.2.
   2. Providing and installing the Pavement Marking Epoxy Arrows, Words, Symbols includes preparing the surface, including brush-off blasting of concrete, for providing all marking, including reflectorization with glass beads, for protecting marking until dry or cured, and for replacing marking improperly constructed or that fails during the warranty period.
   3. For remarking if initially applies at less than 90% of the specified rate.

B. Measurement for payment will be by each individual unit.

C. The unit of measurement for payment is each.

1.9 TRAFFIC CONTROL

A. The unit price for Traffic Control work includes:
   1. General Work Items of Article 1.2.
   2. Providing, installing, maintain, and removing the Traffic Control signing and barricades as shown on the plans and per the MUTCD.
   3. Traffic Detour, including covering signs when not in use.
   4. Flaggers per the MUTCD.
   5. Temporary traffic control signals (activated) per the MUTCD.
   6. Sidewalk closure.

B. Measurement for payment will not be made.
   1. This item applies to the specific bid items lists. All other traffic control is incidental to other items bid.

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

END OF SECTION

SECTION 01 22 06

MEASUREMENT AND PAYMENT PIPE LINING - CIPP

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:

	Bid Items
1. Internal Grouting	SS-13
2. Internal CIPP Spot Repairs	SS-12

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. Mobilization.
3. All labor, material and equipment.
4. Dust control.

1.3 INTERNAL GROUTING

A. The unit price for Internal Grouting work includes:
1. General Work Items of Article 1.2.
2. Cleaning sewer pipe prior to grouting.
3. Removal of roots, mineral deposits and other debris at the joint to be grouted.
4. Removal of protruding laterals (where required).

5. Televising of the sewer pipe pre-grouting and post grouting.
6. Bypassing existing flow.
7. Installation of grout.
8. Restoration of surfaces.
9. Dispose of material from the sewer pipe.

B. Measurement of payment will be the actual number of internal grouting spots repaired.

C. The unit of measurement for payment is each.

1.4 INTERNAL CIPP SPOT REPAIR

A. The unit price for Internal CIPP Spot Repairs work includes:
1. General Work Items of Article 1.2.
2. Cleaning sewer pipe pre-lining.
3. Removal of roots, mineral deposits and other debris at the spot repair.
4. Televising of the sewer pipe pre-spot and post spot repair.
5. Bypassing existing flow.
6. Installation of spot repair liner.
7. Reconnection of all active services at the repair (if applicable).
8. Restoration of surface.
9. Dispose of material from sewer pipe

B. Measurement of payment will be the actual number of internal CIPP spot repairs installed.

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, water main

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, verity 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 PROVIDE 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 32 01 16.71

COLD MILLING ASPHALT PAVING

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. The special provision describes the removal and disposal of asphaltic pavement by milling.

PART 2 – PRODUCTS

2.1 EQUIPMENT

A. Milling Equipment
   1. The milling machine shall be a power operated, self-propelled machine, having a cutting drum with lacing patterns that will attain a grooved surface and produce grinding chips of less than 2-inches in size.
   2. The milling machine shall be equipped with a pressurized watering system for dust control.
   3. The milling machine shall be shrouded to prevent the discharge of any loosened material into adjacent work areas or live traffic lanes.
   4. Equip the machine with electronic devices that provide accurate depth, grade, and slope control.
   5. Use a machine capable of leaving a uniform surface suitable for handling traffic without damage to the underlying pavement structure.
   6. Provide additional equipment necessary to satisfactorily remove the pavement around manholes, water valves, curb and gutter, and other obstructions.
   7. Smaller width milling machines may be necessary for use around structures and other penetrations. Produce the same surface texture with small milling machines as with large milling machines.

B. Cleaning
   1. Clean the milled surface by removing all dust, dirt, debris or other foreign or deleterious materials.
   2. Street cleaning equipment shall be of the type to efficiently removal all loosened material and load into trucks for hauling. A belt loader followed by a power sweeper and manual sweeping is considered the preferred method. Use of front-end loaders or flushing into the storm sewer system will not be allowed as a means of clean-up.
   3. Equip the street sweeper with a water tank, dust control spray assembly, both a pick-up and gutter broom, and a debris hopper.

PART 3 – EXECUTION

3.1 PREPARATION

A. Sawcut or mill pavement perpendicular to traffic at project ends and side roads to provide proper butt joint.

3.2 MILLING OPERATION

A. Make sufficient passes so that the designated area is milled to the profile, cross-slope, grade, and elevations as indicated in the Plans.

B. Mill the pavement in depth increments that will not damage the pavement below the designated finished grade.

C. Notify the Engineer for further directions if scabbing or delamination occurs.

D. Protect manholes, valve boxes, curb and gutter, utility lines and other obstructions from damage as part of the milling operation.
   1. Repair or replace items damaged during milling operations such as manholes, valve boxes, utility lines, mailboxes at no additional cost to the Owner.

E. Remove the milled material from the pavement and load it into trucks.

F. Milled material shall become property of the Contractor unless otherwise indicated in the Plans by the Owner.

G. Overmilling
   1. Overmilling shall only occur after sufficient passes have been made to mill the surface layer of asphalt to the profile, cross-slope, grade, and elevations indicated on the plans.
   2. The Engineer will paint out areas to be overmilled only after surfacing milling operations have been completed in an area.
   3. Make sufficient passes to that the designated overmilled areas are milled to the profile, cross-slope, grade, and elevations indicated by the Plans and Engineer.
   4. Wedge milling is not considered an acceptable method to obtain final product in overmilled areas.

END OF SECTION

SECTION 33 00 02.1

FUSIBLE POLYVINYL CHLORIDE (PVC) PIPE

1.1 SUMMARY

A. Section Includes:
   1. PVC pipe for water main

B. The products described are not installed under this Section.

C. This specification section is a supplemental to the City of De Pere Standard Specifications and Section 33 00 02 Polyvinyl Pipe (PVC) Pipe and Fittings.

D. This material specification covers the requirements of fusible polyvinylchloride pipe, including Fusible C-900 and Fusible C-905.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. D1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride)(CPVC) Compounds
   2. D1785 Specifications for Poly (Vinyl Chloride) (PVC) Plastic Pipe Schedules 40, 80, and 120
   3. D2152 Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride)(PVC) Pipe and Molded Fittings by Acetone Immersion.
   4. D2241 Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)

B. American Water Works Association (AWWA)
   1. C900 Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch through 12-inch for water
   2. C905 Standard for Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters 14-inch through 36-inch
   3. M23 Manual of Supply Practices PVC Pipe-Design and Installation, Second Edition

C. National Sanitation Foundation (NSF)
   1. NSF-14 Plastic Piping System Components and Related Materials
   2. NSF-61 Drinking Water Components-Health Effects

D. PPI
   1. TR-2 PVC Range Composition Listing Qualified Ingredients

1.3 SUBMITTALS

A. Submit the following:
   1. Certification of productions date of all materials.
   2. Manufacturer's certification that the materials delivered were manufactured, sampled, tested, and inspected in accordance with this specifications and appropriate referenced standards.
   3. Product data sheet.
   4. Manufacturer's recommendations for assembly.

1.4 QUALITY ASSURANCE

A. Make pipe available to the Engineer's Representative for inspection.

B. Pipe shall be considered defective and will be rejected when:
   1. Pitted or cratered.
   2. Flaking.
   3. Straightness varies more than ½ inch in 10 feet.
   4. Any defect which prevents assembly according to manufacturer's recommendations.
   5. Not utilized within six months of date of production.
   6. Pipe is not properly marked.

C. Material brands and/or pipe classes shall not be mixed.

D. Pipe Marking – pipe and fittings shall be marked as follows:
   1. Manufacturer's name, trademark or logo.
   2. Nominal size.
   3. PVC cell classification.
   4. Pipe stiffness designation, dimension ration, or schedule size and pressure class.
   5. ASTM or AWWA specification designation.
   6. National Sanitation Foundation approval (pipe for potable water).
   7. Production date.

E. MANUFACTURER REQUIREMENTS
   1. All piping shall be made from PVC compound conforming to cell classification 12454 per ASTM D1784.

F. FUSION TECHNICIAN REQUIREMENTS
   1. Fusion Technician shall be qualified by the pipe supplier to install fusible polyvinylchloride pipe. Qualification shall be current as of the actual date of the fusion performance on the project.

G. SPECIFIED PIPE SUPPLIERS
   1. Fusible polyvinylchloride pipe shall be used as manufactured under the trade names Fusible C-900, or Fusible C-905 for Underground Solutions, Inc. or Engineer approved equal.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inspect the pipe shipment to identify shifted loads, broken packaging or rough treatment, which could be an indication of damage.

B. Unload the pipe in a manner which will not put stress on the pipe or strike anything causing damage.

C. Place and store the pipe package units on level ground stacked no more than 8 feet high. Do not store close to heat sources.

D. Store gaskets away from excessive exposure to heat, direct sunlight, ozone, oil or grease.

E. Store Solvent cement in tightly sealed containers away from excessive heat.

F. Handle pipe in a manner to prevent impact blows, abrasion damage, gouging or cutting.

G. When handling pipe in cold weather, provide additional care to prevent damage due to impact. Impact strength is reduced in cold weather.

PART 2 – PRODUCTS

2.1 WATER MAIN

A. Fusible polyvinylchloride pipe for potable water shall conform to AWWA C900, ASSA C905, or ASTM D2241, as applicable. Testing shall be in accordance with the referenced AWWA standards for all pipe types. Pipe shall be marked verifying suitability for potable water service per NSF-61

B. Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

C. The pipe shall be manufactured in a standard 40 foot nominal length or custom lengths, unless otherwise approved by the Engineer.

D. Pipe shall be blue in color for potable water use.

2.2 FUSION JOINTS

A. Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints.

2.3 FUSIBLE POLYVINYLCHLORIDE SWEEPS OR BENDS

A. Sweeps or bends shall conform to the same sizing convention, diameter, dimensional tolerances and pressure class of the pipe being joined by the sweep or bend.

B. Sweeps or bends shall be manufactured from the same fusible polyvinyl chloride pipe being used for the installation, and shall have at least two feet of straight section on either end of the sweep or bend to allow for fusion of the sweep to the pipe installation.

C. Angles shall not be greater than 22.5 degrees, and shall be used in nominal diameters ranging from 4-inch through 16-inch.

PART 3 – EXECUTION

3.1 FUSION PROCESS

A. Pipe shall be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and the pipe supplier’s guidelines.

B. Pipe shall be fused by a qualified fusion technician.

C. Pipe supplier’s procedures shall be followed at all times during fusion procedures.

D. Each fusion shall be recorded and logged by an approved electronic monitoring device (data logger) connected to the fusion machine, which utilizes a current version of the pipe suppliers recommended and compatible software.

E. Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process.

3.2 GENERAL INSTALLATION

A. Installation guidelines from the pipe supplier shall be followed for all installations.

B. The Pipe shall be installed in a manner so as not to exceed the recommended bending radius guidelines.

C. Where pipe is installed by pulling in tension, the recommended maximum safe pulling force, established by the pipe supplier, shall not be exceeded.

END OF SECTION

SECTION 33 01 30.23

PIPE BURSTING

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Requirements for the replacement of gravity sanitary sewer lateral lines by bursting of the host pipe and inserting new high density polyethylene pipe (HDPE).

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM)
   1. ASTM C425 Standard Specification for Compression Joints for Vitrified Clay Pipe and Fittings
   2. ASTM D638 Standard Test Method for Tensile Properties of Plastics
   3. ASTM D1238 Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
   4. ASTM D1248 Specification for Polyethylene Plastics Molding and Extrusion Materials
   5. ASTM D1505 Standard Test Method for Density of Plastics by the Density-Gradient Technique
   6. ASTM D1598 Standard Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure
   7. ASTM D1599 Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings
   8. ASTM D2122 Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
   9. ASTM D2290 Standard Test Method for Apparent Hoop Tensile Strength of Plastic or Reinforced Plastic Pipe
   10. ASTM D2837 Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
   11. ASTM D3035 Specification for Polyethylene Plastic
   12. ASTM D3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
   13. ASTM D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials
   14. ASTM D638 Standard Test Method for Tensile Properties of Plastics
   15. ASTM F2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings

16. ASTM F585 Standard Guide for Insertion of Flexible Polyethylene Pipe into Existing Sewers
17. ASTM F714 Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter

B. American Water Works Association (AWWA)
1. AWWA C901 Standard for Polyethylene (PE) Pressure Pipe and Tubing, ¾ in. (19 mm) through 3 in. (76 mm), for Water Service
2. AWWA C906 Standard for Polyethylene (PE) Pressure Pipe and Fittings, 4 in. through 63 in., for Water Distribution

1.3 SUBMITTALS

A. Product Data
1. Shop drawings, catalog data, MSDS sheets, and manufacturer's technical data showing complete information on material composition, physical properties, and dimensions of new pipe and fittings.
2. Engineering calculations for the design of the HDPE pipe thickness. Loads used in calculations will include the maximum pushing and/or pulling force imposed by the pipe bursting equipment.

B. Contractor Certifications
1. Certifications of training by pipe bursting system manufacturer stating that installer have been fully trained in the use of the pipe bursting equipment by an authorized representative of the equipment manufacturer.
2. Certification from the pipe manufacturer of training in the proper method for handling and installing new pipe.
3. Certification of training by the pipe fusion equipment manufacturer that the operators have been fully trained in the use of the fusion equipment by an authorized representative of the equipment manufacturer.

C. Quality Assurance
1. Documentation showing that personnel have three (3) years of pipe bursting experience with a list of a minimum of 50,000 linear feet installed by the company including 3 sewer main projects similar or greater in scope and value to the project specified in the contract documents. Information for each supervisor and the company must include, but not be limited to, date of work, location, pipe information (e.g. length, diameter, depth of installation, pipe material), project owner information, (e.g. name, address, telephone number, contact person).
2. Contingency Plan. Provide for the following potential conditions at a minimum:

a. Unforeseen obstruction causing burst stoppage, such as unanticipated change in host pipe material, repair section, concrete encasement or cradles(s), buried or abandoned manhole or changes in direction not depicted on drawings provided by the owner.
b. Substantial surface heave occurs due to depth of the existing pipe versus the amount of upsizing.
c. Damage to existing service connections or to the replacement pipeline's structural integrity.
d. Damage to other existing utilities.
e. Soil heaving or settlement.
f. Loss of and return to line and grade.

3. Pre-Installation and Post-Installation Inspection Data and Reports.
   a. Pre-installation inspection video on external hard drive with pdf report.
   b. Post-installation inspection video on external hard drive with pdf report.
   c. CCTV inspection equipment shall be in accordance with Section 01 45 23.10 – Testing & Inspection of Pipeline & Appurtenances.
4. Pipe shall be available to Owner's Representative for inspection.
5. Pipe shall be considered defective and will be rejected when:
   a. Any defect which prevents assembly according to manufacturer's recommendations.
   b. Not utilized within 12 months of manufacture date of production.
   c. Pipe is not properly marked.
6. Material manufacturer, pipe diameters, and pressure classes shall not be mixed.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle products as recommended by the manufacturer to prevent damage. Materials shall be made safe from theft, vandalism, and damage.

B. Packing and shipping:
   1. Markings: Pipe materials shall be legibly marked by manufacturer with the following:
      a. Name and trademark of manufacturer.
      b. Nominal pipe size.
      c. Dimension ratio (SDR).
      d. Letters PE, followed by polyethylene grade per ASTM D3350, followed by hydrostatic design basis in hundreds of psi.
      e. Manufacturing standard reference.
      f. Production code from which date and place of manufacture can be determined.

C. Upon delivery, inspect pipe and fittings for damage, cracks, holes, or foreign inclusions.

D. Store pipe and accessories on flat, level ground with no rocks or other objects under the pipe.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Pipe Sizes 4-inch and Larger
   1. Pipe and fittings shall be high density polyethylene (HDPE) meeting AWWA C906 standards.
   2. Polyethylene resin shall meet or exceed the requirements of ASTM D3350. Materials used for the manufacture of the HDPE pipe and fittings shall be made from a PE 4710 material with cell classification of 445474C, or better. Pressure rating shall be based on hydrostatic design stress of 1,00 psi at 73.4 degrees F.
   3. Provide pipe with a dimension ratio (SDR) of 11, pressure class 200.

B. Pipe joining.
   1. Pipe lengths, fittings, and flanged connections to be joined by thermal butt-fusion shall be of a compatible resin mix for the fusion process.
   2. Threaded or solvent cement joints and connections are not permitted. All equipment and procedures used shall be in strict compliance with the manufacturer's recommendations.

C. Transition from HDPE to PVC Pipe
   1. Pipe fittings, couplings, and service saddles or wyes at the mainline sewer shall be in accordance with section 33 00 02 – PVC Pipe and Fittings.

D. Sewer house and clean out connection.
   1. Reconnect sewer house connection and install a clean out for the sewer main to the installed pipe by using heat fusion saddles.
   2. Connection to the existing sewer house connection pipe shall be made using sleeved stainless steel flexible couplings. All flexible couplings shall conform to ASTM C425.

E. Polyethylene Fittings
   1. Shall be thermal butt-fusion type.
   2. Shall have the same or higher pressure rating as the pipe.

2.2 SOURCE QUALITY CONTROL

A. Certify laboratory data confirming that said tests have been performed on a sample pipe to be provided under this Contract, or pipe from that production run, and that satisfactory results were obtained prior to shipping.

PART 3 – EXECUTION

3.1 EQUIPMENT

A. Pipe bursting. Provide equipment of sufficient size and power to accomplish the specified pipe replacement under adverse conditions. Utilize hydraulically powered, constant tension, static pull pipe bursting system. The bursting unit shall be designed and manufactured to force its way through the existing line by fracturing the pipe and compressing the broken pieces into the surrounding soil as the equipment progresses. The bursting unit shall generate sufficient force to burst and compact the existing pipeline. The bursting unit shall pull the HDPE pipe with it as it moves forward.

3.2 PRE-INSTALLATION PROCEDURES

A. Clean the existing sewer pipe by removing interior debris jetting or other appropriate methods before the pre-installation television inspection.

B. Inspect the existing sewer pipe immediately before the installation of the pipe by remote TV camera to locate obstructions, connections, and defects. Allow the Engineer to review the TV inspection videotapes.

C. Point repairs or obstruction removals shall be performed by the Contractor where TV inspection video tapes reveal heavy solids, dropped joints, sags in lines, or collapsed pipe that cannot be removed by conventional sewer cleaning equipment and prevent completion of the pipe bursting process.

3.3 INSTALLATION

A. During execution of the work, the Contractor shall be responsible for the continuity of sanitary sewer service to each facility connected to the affected sections of sewer pipe.

B. Machine pits and pipe insertion pits
   1. Excavation of launch pits shall be situated to provide the minimum inconvenience to residents, businesses, or traffic. Launch pits shall not be located in easement areas and private property without the permission of the property owner and the Engineer.

2. The location and number of machine pits and pipe insertion pits shall be planned by the Contractor and submitted in writing for approval by the engineer prior to excavation.
3. Insertion pits shall be of sufficient length to allow the bursting head and new HDPE pipe to enter the host pipe at an angle that will maintain the grade of the existing sanitary sewer.
4. One or more machine pits shall be excavated at the ends of the sewer pipe to be replaced or at appropriate points within the length of the existing pipe. Pits shall be centered over the existing pipe.
5. The number of pits for machine and pipe insertion shall be the minimum necessary to efficiently accomplish the work.
6. Rescue Shafts
   a. In the event that the pipe bursting machine encounters an obstruction and is halted, the Contractor will be required to excavate down to the machine to free the obstruction and continue the installation.
   b. The construction of such shafts will be paid for under the extra pipe-bursting excavation item for each excavation completed.

C. Pipe Joining
   1. General
   a. When requested by the owner, prior to the pipe installation, two trail fusion welds shall be performed, reviewed, and approved by the Owner. Full penetration welds shall provide homogeneous material across the section of weld. Fusion machine employed for trial welds shall be the same machine utilized for project installation.
   b. The HDPE pipe shall be assembled and joined at the site using the butt fusion method to provide a leak proof joint.
   c. All equipment and procedures shall be in strict compliance with ASTM F2620 and with the pipe manufacturer's recommendations.
   d. All connections shall be completed in the absence of flow and in conformance with the manufacturer's installation procedures.
   e. Cut out and replace defective joints. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater than 10 percent of the wall thickness (ASTM F585) shall not be used and shall be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated above. In addition, any section of the pipe having other defects, such as concentrated ridges, discoloration, excessive spot roughness, pitting, variable wall thickness, or any other defect from manufacturing or handling as determined by the Engineer, shall be discarded, and not used.
   2. Joint preparation shall be made by cleaning the inside and outside of pipe ends with cotton or non-synthetic cloth to remove dirt, water, grease, and other foreign materials.

3. Fused pipe shall be laid along (parallel) streets, not across streets, so as not to block traffic. The Contractor shall lay the pipe around corners or provide a ramp/bridge to allow traffic to safely cross the pipe with no damage to the pipe at street crossings. Private property, including landscaping, shall be protected.
4. Pipe ends shall be cut square and carefully aligned prior to fusing. The butt fused joint shall be in true alignment and shall have uniform rollback beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal of pressure. The joint shall be watertight and shall have tensile strength equal to that of the pipe.
5. Weld De-beading

a. Internal beads shall be removed with an approved de-beading device without introducing any defects to the pipe or bead. The pipe and bead must be completely cooled before the bead is removed.
b. The removed beads shall be in one continuous strip without splitting or defect. The contractor shall remove any joint with defective beads and fuse a new joint.

D. Lubrication
1. Lubrication shall be used if in the opinion of the Contractor such lubrication is necessary to ensure the successful completion of the job.
2. The Contractor shall make arrangements for the injection of bentonite into the annular space, behind the pipe bursting head, as the lubricant is required.

E. Restoration
1. The Contractor shall restore all lateral, launching pits and disturbed surface areas to their original condition.

3.4 POST-INSTALLATION PROCEDURES

A. Prior to inspection and acceptance of the pipe by the Owner, flush and clean sewer pipes to remove accumulated construction debris, rocks, gravel, sand, silt, and other foreign material in accordance with Section 01 45 23.10 – Testing & Inspection of Pipeline & Appurtenances.

B. The contractor shall perform post-installation CCTV in accordance with Section 01 45 23.10 – Testing & Inspection of Pipeline & Appurtenances.
1. Post construction video shall be submitted to the owner for review within two weeks after permeant lateral replacements have been completed. Should any portion of the inspection video be of inadequate quality or coverage, as determined by the Engineer, the Contractor will have that portion re-inspected at no additional cost to the Owner.

2. From the CCTV inspection, the newly installed pipe shall be visibly free of defects, which may affect the integrity or strength of the pipe. If in the opinion of the Engineer, such defects exist, the pipe shall be repaired or replaced at the Contractor's expense.

END OF SECTION

SECTION 33 01 30.61

SEWER REHABILITATION USING CHEMICAL GROUTING

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes
   1. Sewer line cleaning.
   2. Television inspection.
   3. Sewer pipe joint testing.
   4. Sewer pipe joint sealing using the packer method.

1.2 REFERENCES

A. American Society for Testing and Materials
   1. ASTM F2304 Standard Practice for Rehabilitation of Sewer Using Chemical Grouting

B. National Association of Sewer Service Companies
   1. NASSCO Specifications Guidelines, Wastewater Collection Systems Maintenance and Rehabilitation, Sewer Line Cleaning
   2. NASSCO Specifications Guidelines, Wastewater Collection Systems Maintenance and Rehabilitation, Television Inspection, Main Sewers

1.3 SUBMITTALS

A. Product Data
   1. Submit chemical grout material information along with any additives. Include supplier, manufacturer and product names of chemical sealing materials.

B. Submit equipment operation procedures and systems.

C. Field Quality Control Submittals
   1. Submit copies of video DVDs.
   2. Submit Sewer Pipe Joint Testing results and report.
   3. Submit Records for each joint sealing.

D. Qualification Statements
   1. Submit qualification statements

1.4 QUALITY ASSURANCE

A. Qualifications
   1. The installing contractor shall provide experience evidence that they have performed sewer rehabilitation using chemical grouting for at least the last five years.
   2. Provide a list of at least ten projects with references where chemical grouting of sewers was performed in the last five years. State the type of grout material used.
   3. Identify key people who will work on the project, describe their job function and experience with at least ten different sewer chemical grouting projects.
   4. Provide list of available equipment for use in sewer chemical grouting.

B. Certifications
   1. Provide written certification that backup equipment is available and will be delivered to the site within 48 hours if equipment failure occurs. Stat the location of the backup equipment.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Acrylamide Base Gel Sealing Material
   1. Provide in accordance with Chemical Grout Sealing Materials of ASTM F2304.
   2. Identify and use additives which can strengthen grout, reduce grout shrinkage, protect against low temperatures, increase viscosity, help fill large voids, and inhibit root growth as required for each joint application.

B. Urethane Base Gel Chemical Sealing Material
   1. Provide in accordance with Chemical Grout Sealing Materials of ASTM F2304.
   2. Provide additive to reduce dehydration where groundwater is below the pipeline
   3. Identify and use additives which can strengthen grout, reduce shrinkage, protect against low temperatures, increase viscosity, help fill large voids, and inhibit root growth as required for each joint application.

C. Urethane Base Foam Chemical Sealing Material
   1. Provide in accordance with Chemical Grout Sealing Materials of ASTM F2304.
   2. Identify and use additives which can strengthen grout, reduce shrinkage, protect against low temperatures, increase viscosity, help fill large voids, and inhibit root growth as required for each joint application.

D. Equipment
   1. Provide equipment as stated in ASTM F2304.

2. Equipment shall be calibrated.

PART 3 – INSTALLATION

3.1 EXAMINATION

A. Verification of Conditions
   1. Prior to start of sewer cleaning locate and expose sewer access manholes.
   2. Identify any pump stations that are discharging to the sewer being rehabilitated and make arrangements with the Owner to shutdown or operate manually during the sewer rehabilitation process.
   3. Notify affected residents of intent to perform sewer rehabilitation work and advise residents of any possible repercussions to their property or any limitations in sewer use.
   4. Contact public agency having jurisdiction over the roadway to determine the allowable traffic control required during the sewer rehabilitation process.

3.2 PREPARATION

A. Sewer Line Cleaning
   1. Clean sewer meeting NASSCO Specification Guidelines.
   2. Sufficiently clean sewer to be rehabilitated to remove foreign materials and to obtain proper seating of the packer.

B. Sewer Flow Control
   1. Reduce sewer pipeline flow to acceptable levels for television inspections and joint testing/sealing in accordance with ASTM F2304.

C. Television Inspection
   1. Inspect each sewer section to be chemical grouted using color closed-circuit television meeting NASSCO Specification Guidelines.
   2. Provide video DVD of the inspection.

D. Sewer Pipe Joint Testing
   1. Pressure test all non-visibly leaking joints in accordance with the Method for Sewer Joint Testing in ASTM F2304.
   2. Provide report on results of control test, intermediate test, final test equipment observations. State actions taken as result of tests.
   3. Provide report in accordance with ASTM F2304 of each joint pressure test.
   4. Provide location of all joints found to be leaking.

3.3 SEWER PIPE JOINT SEALING

A. Perform joint sealing of joints identified by the engineer for sealing. Joints per sewer section to be sealed may range from 10% of the joints to 100% of the joints.

B. Perform joint sealing in accordance to ASTM F2304 Sewer Pipe Joint Sealing, Main Sewers (Packer Method).

C. Record information for each joint as stated in ASTM F2304 Sewer Pipe Sealing, Main Sewers (Packer Method).

END OF SECTION

SECTION 33 01 30.71.SP

CURED IN PLACE PIPE (CIPP) SPOT REPAIR

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes
   1. Section includes lining processes for the rehabilitation of existing sewer mains using cured-in-place spot liners.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):

1.	ASTM D543	Test Method for Resistance of Plastics to Chemical Reagents
2.	ASTM D638	Test Method for Tensile Properties of Plastics
3.	ASTM D790	Test Method for Tensile Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
4.	ASTM D903	Standard Test for Delamination of Plastic Composites
5.	ASTM F1216	Rehabilitation of Existing Pipelines and Conduits by Inversion and Curing of a Resin-Impregnated Tube
6.	ASTM F1743	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-In-Place Installation of Cured-In-{lace thermosetting Resin Pipe (CIPP)
6.	ASTM D2990	Standard Test Methods for Flexural Properties of Unreinforced Plastics and Electrical Insulating Materials
7.	ASTM 3034	Type PSM Poly (Vinyl/chloride)(PVC) Sewer Pipe and Fittings
8.	ASTM D1248	Specification for Polyethylene Plastics molding and Extrusion Materials.
9.	ASTM F1504	Standard Specification for Folded Poly (Vinyl/Chloride) (PVC) Pipe for Existing Sewer and Conduit Rehabilitation
10.	ASTM F1533	Standard Specification for Deformed Polyethylene (PE) Liner
11.	ASTM D1784	Standard Specification for Rigid Poly (Vinyl/Chloride) and Chlorinated Poly (Vinyl/Chloride) Components
12.	ASTM D2122	Method for Determining Dimensions of Thermoplastic Pipe and Fittings
13.	ASTM D3350	Specifications for Polyethylene Plastics Pipe and Fittings Material

1.3 SUBMITTALS

A. Product Data.
   1. Manufacturer’s product literature and application and installation requirement for materials used in liner.
   2. Manufacturer’s product certification for materials used in liner.
   3. Liner Pipe Thickness Design (Cured-in-Place).

4. Manufacturer's Resin Data Test Results.
5. Resin Enhancer Manufacturer's Data.
6. Bond Enhancer Manufacturer's Data.
7. Certification of Applicability of Resin.
8. Liner Pipe Thickness Design shall be in accordance with Appendix XI of ASTM F1216. In the liner thickness calculations shall be based on the following.
   a. Fully deteriorated Pipe (No structure support from existing pipe).
   b. Minimum ovality of Host Pipe shall be 2%.
   c. Height of Groundwater shall be 50% of Pipe Depth.
   d. The Enhancement Factor (K) shall not be greater than 7.0.
   e. The Minimum Safety Factor shall be 2.0.
   f. The Flexural Modulus of Elasticity shall be reduced 50% to account for long term effects and used in the design equation EL.
9. No liner shall be installed until it has been approved for installation.
10. No liner will be approved for installation until liner thickness calculations have been submitted and reviewed for conformance with the specifications and installation requirements.

B. Miscellaneous Submittals
1. Copies of video DVD (MPEG 2 format) of pre-lining and post-lining.
2. Test results required under Part 3.
3. Proposed plan for bypassing sewage during liner installation.
4. Documentation of when liner is impregnated and the potential life of impregnated liner.
5. Provide photographs of existing ground conditions prior to performing sanitary sewer lining.

1.4 QUALITY ASSURANCE

A. Corrosion
1. Fabricate finished liner from materials which, when cured, will be chemically resistant to withstand internal exposure to domestic sewage.

B. Manhole Connections
1. All manhole connections shall be watertight and approved by the Engineer.

C. Testing
1. Test finished pipe liner in accordance with this section.

1.5 MINIMUM QUALIFICATIONS

A. CONTRACTOR shall provide to the satisfaction of OWNER certification from the cure-in-lace spot lining manufacturer that CONTRACTOR'S personnel have been adequately trained in the installation of cure-in-place spot liner. Such certification shall describe manufacturer's training program and, if applicable, licensing policies and procedures for installers.

B. CONTRACTOR's foreman shall have successfully installed a minimum of 150 spot liners.

PART 2 – PRODUCTS

2.2 CURED – IN – PLACE PIPE LINER (CIPP) SPOT REPAIR

A. The liner shall be constructed of felt, fiberglass and/or polyester fiber, polypropylene composite, nylon, Kevlar, or a combination thereof meeting manufacturer's standards, and be acceptable to the OWNER. The liner shall form to the internal circumference of the original pipe and be capable of conforming to any off-set joints, bells, and disfigured pipe sections. It shall be capable of carrying resin, and withstanding installation pressures and curing temperatures.

B. The resin shall be polyester, vinyl ester, styrene-based thermosetting, or epoxy with proper catalysts that are both corrosion resistant and compatible with the installation process. The resin system shall have physical characteristics, which allow it to adhere to both dry and wet substrates.

C. The cured pipe shall conform to the minimum mechanical properties established in ASTM F1216. If so directed by the ENGINEER, CONTRACTOR shall furnish prior to use of the materials satisfactory written certification of his compliance with the manufacturer's standards for all materials including the tube, resin and catalyst system, and conformance with methods of the manufacturer's process.

2.2 SIZING

A. The liner shall be fabricated to a size that when installed shall neatly and tightly fit in the internal circumference of the existing sewer line being rehabilitated in one continuous length over the area designated to receive the liner.

B. The liner length shall conform to the section(s) of deteriorated pipe plus a minimum of two feet beyond joints on either side of the last crack, open joint. CONTRACTOR shall verify the length by visual documentation and record the necessary length prior to fabrication and insertion.

C. The completed repair shall be of uniform thickness throughout the entire length and circumference except that the finished liner shall have tapered ends to allow for a smooth transition to and from the host pipe. No overlapping in circumference or length shall be allowed.

PART 3 – INSTALLATION

3.1 EXAMINATION

A. Examine videos for condition of pipe interior before starting work.

3.2 PREPARATION

A. Prior to liner repair installation, sufficiently clean roots, encrustations of cast iron pipe, mineral deposits, and other debris from sewer line to provide for proper installation of product. Sewer liner to be televised after cleaning.

B. Remove or repair offset joints, protruding services or collapsed pipe that will prevent insertion of liner.

C. If Contractor or Engineer determines that existing pipe is 15% or more out of roundness, Contractor shall redesign liner.
   1. Notify Engineer of condition of pipe.

D. Any visible leaks prior to sewer repair that will prevent proper installation of the liner shall be grouted prior to lining.

E. Sewage Bypassing
   1. Provide for flow of sewage around section of pipe to be repaired.
      a. Pump or bypass lines shall be adequate size and capacity to handle flow.
      b. Coordinate bypassing operations with Engineer.

3.3 INSTALLATION

A. CIPP Spot Repair
   1. Installation of Cured-In-Place Spot Liner:
      a. The liner delivery and installation shall be such that after curing, the liner shall become part of the host pipe with smooth, tapering transitions.
      b. The resin impregnated liner shall be inserted through an existing manhole and shall be installed in accordance with ASTM and manufacturer's standards. Carrying devices shall be permitted. Care shall be taken during the inversion/insertion process to avoid gouging and overstressing of the tube, particularly if a carrying device is not used. Use of a lubricant during the inversion/insertion shall be used if recommended by the manufacturer to reduce friction. The lubricant shall be nontoxic, unable to support bacterial growth, shall not adversely affect the fluid to be transported.

c. The resin and tube shall be completely protected during the insertion process. No resin shall be lost by contact with manhole walls or pipe during the insertion. All resin shall be contained within a translucent bladder such that resin shall not be contaminated or diluted by exposure to dirt, debris, or water during the insertion and such that there shall be no resin loss during the insertion process.
d. Transport resin impregnated liner to site immediately prior to inversion in suitable light-proof container with temperature maintained below 40°F (4°C).

2. Insertion of liner:
   a. Insert liner through an existing manhole or other access by means of an inversion process and application of hydrostatic head or air insertion sufficient to fully extend liner to next designated manhole or termination point or by means of winching the liner through the last pipe to the next designated manhole or termination point. Lubricant may be used.
3. Curing liner:
   a. Cure the liner in strict accordance with ASTM and manufacturer's recommendations. The cure temperature shall be determined by the manufacturer of the resin/catalyst system employed. The cure and post-cure period and temperature shall be as recommended by the resin manufacturer, modified for the cured-in-lace process being used. The curing process shall take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture content, thermal conductivity, etc.)
   b. Cool the finished cured-in-place pipe to specified temperature in strict accordance with ASTM and manufacturer's recommendations before relieving the internal pressure in the cured-in-place pipe. Care shall be taken in the release of the static head such that a vacuum will not be developed that could damage the newly installed cure-in-place pipe.
   c. After curing is complete, pressures shall be released and the inflation bladder and/or carrying device shall be removed from the host pipe. In the case of cure using heat (water or steam), cooling shall be permitted to occur prior to the release of pressure. No barriers, coatings or other material shall be left in the host.
4. Lateral reinstatement:
   a. Reinstate all active sanitary laterals after pipe has been cured by using a remote cutting device with a camera.
   b. After reinstatement all lateral connections shall be brushed/cleaned to remove jagged edges and to smooth the cut edge.

3.4 FIELD QUALITY CONTROL

A. CIPP Liners
   1. Finished Liner:

a. Liner repair shall be continuous over entire length of repair and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes, lifts, and delamination.
b. During curing process, gauge water tightness under positive head.
c. Liner shall conform to shape of existing pipe before installation and not be out of round by more than 15%.

2. Examination:
   a. Televise interior of pipe after completion of work but before introducing wastewater flow and provide DVD (MPEG 2) to Engineer.
   b. Naming convention of the televising inspection report shall follow what is on the Drawings or in the Exhibits.
   c. Use pan and tilt color 3 lux camera to view the sewer service lateral connection reinstatement.

3.5 CLEANING AND RESTORATION

A. At completion of work, remove rubbish, debris, dirt, equipment and excess material from site. Clean adjacent surfaces soiled by and during course of work.

B. Restore areas disturbed to original condition.

3.6 ACCEPTANCE

A. Grounds for rejection or repair of CIPP Spot Repair shall be:
   1. Excessive bending or flattening of CIPP Spot Repair not related to the existing pipe condition.
   2. Visible infiltration.
   3. Visible damage from the lining procedure.
   4. Bulges/intrusions in the invert of the liner that impede flow and not related to the shape of the existing pipe.
   5. Bulges/intrusions above the invert that extend into the pipe by greater than 10% of the pipe diameter and not related to the shape of the existing pipe.

END OF SECTION

EXHIBIT 1

GEOTECHNICAL ENGINEERING SERVICES REPORT; DE PERE ROADS, RIDGEWAY DRIVE AND SMITS STREET, DE PERE WISCONSIN 54115 BY INTERTEK PSI

GEOTECHNICAL ENGINEERING
SERVICES REPORT

For the:

De Pere Roads
Ridgeway Drive and Smits Street
De Pere, Wisconsin 54115

Prepared for:

City of De Pere
925 South Sixth Street
De Pere, Wisconsin 54115

Prepared by:

Professional Service Industries, Inc.
3009 Vandenbroek Road
Kaukauna, Wisconsin 54130
Phone (920) 735-1200

January 3, 2024

PSI Report Number: 00942199

James M. Becco, P.E.
Regional Vice President

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Project Manager

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Appendix (in order of appearance)
Figure 1 – Boring Location Plan
Soil Boring Logs
General Notes

1 INTRODUCTION

1.1 GENERAL

This report presents the results of the subsurface exploration and subgrade evaluation for the proposed road reconstruction on Ridgeway Drive and on Smits Street in De Pere, Wisconsin. The work was performed for the City of De Pere, at the request of Mr. James G. Boyd.

1.2 PURPOSE

The purpose of this study was to evaluate the subsurface conditions at specific boring locations on the site, and to establish parameters for use by the design engineers in preparing the pavement designs for the proposed project. An evaluation of any planned utilities or other structures associated with the project was not requested or performed.

1.3 SCOPE

The scope of services included the subsurface exploration, an evaluation of soil characteristics by field and laboratory testing, and an evaluation of the data obtained. Subgrade preparation recommendations and construction considerations are also provided. The scope of the field work, including the number, depth, and locations of the borings was determined by the client.

1.4 AUTHORIZATION

The description of services and authorization to perform this subsurface exploration and evaluation were in the form of signed acceptance copy of the Agreement for Contractor Services Between the City of De Pere and Professional Service Industries, Inc., dated February 27, 2023. The general conditions for the performance of the work were referenced in the agreement. This report has been prepared on behalf of, and exclusively for the use of the City of De Pere. The information contained in this report may not be relied upon by any other parties without the express written consent of PSI, and acceptance by such parties of PSI's General Conditions.

2 SITE AND PROJECT DESCRIPTION

2.1 SITE FEATURES

The subject site is located along Ridgeway Drive between N. Clay St. and Libal St., and along Smits Street, between Ridgeway Dr. and Lebrun St., in De Pere, Wisconsin. At the time of the exploration, the roads consisted of asphalt pavement. The surrounding parcels predominately consisted of residential properties. A review of historical aerial photography available from Google Earth between the years of 1992 and 2023 indicates the surface features of the site have remained relatively similar to the those described above since the earliest photo taken in 1992. The subject site is depicted on the enclosed Boring Location Plan (Figure 1).

2.2 PROJECT DESCRIPTION

Based on the information provided by the client, it is understood that the proposed project is planned to consist of the reconstruction of the asphalt pavement along Ridgeway Drive from N. Clay Street to Libal Street; and the reconstruction of Smits Street from Ridgeway Drive to Lebrun Street. It is anticipated only nominal grade changes will be necessary to reach desired grades. No alignment changes are planned.

When additional information regarding the project becomes available, and/or if any of the information discussed herein differs from the current plans or changes as design progresses, PSI must be informed so that any necessary revisions to this report can be made.

3 EXPLORATION AND LABORATORY PROCEDURES

3.1 SCOPE SUMMARY

The field and laboratory data utilized in the evaluation of the subsurface materials was obtained by drilling exploratory test borings, securing soil samples by the split-spoon sampling method, and subjecting the samples to laboratory testing.

3.2 FIELD EXPLORATION

A total of five (5) soil test borings were performed to a depths of about 5 and 11.5 feet below existing grade. The number, depths, and locations of the borings were determined by the client. The borings were located in the field and staked by the client. The surface elevations shown on the logs were provided by the client and painted on the road next to the staked boring locations.

The soil test borings were performed with a truck-mounted rotary drilling rig utilizing continuous flight hollow stem augers to advance the holes. Representative samples were obtained by the Standard Penetration Test (SPT) method using split-spoon sampling procedures in general accordance with ASTM D-1586 procedures. Samples were collected continuously at 1-foot to 1 foot below existing grade and then at 2-foot intervals to the end of the borings. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer, falling thirty (30) inches, required to advance the split-spoon sampler one (1) foot into the soil. The sampler is lowered to the bottom of the drill hole and the number of blows recorded for each of the three (3) successive increments of six (6) inches of penetration. The “N” value is obtained by adding the second and third incremental numbers. The SPT provides a means of estimating the relative density of granular soils and comparative consistency of cohesive soils, thereby providing a method of evaluating the relative strength and compressibility characteristics of the subsoils.

The SPT soil samples were transferred into clean glass jars immediately after retrieval and returned to the laboratory upon completion of the field operations. Samples will be discarded unless other instructions are received. All soil samples were visually classified in general accordance with the Unified Soil Classification System (ASTM D-2488-75). A description of the

subsurface conditions encountered at each boring location is shown on the enclosed Soil Boring Logs. After completion of the borings, the auger holes were backfilled to the ground surface with bentonite chips, and the surface in pavement areas patched with cold mix asphalt.

A copy of the Soil Boring Logs and Boring Location Plan (Figure 1) are enclosed in the Appendix. The soil stratification shown on the logs represents the approximate soil conditions in the actual boring locations at the time of the exploration. The terms and symbols used on the logs are described in the General Notes found in the Appendix.

3.3 LABORATORY PHYSICAL TESTING

Soil samples obtained from the exploration were visually classified in the laboratory, and subjected to testing, which included moisture content determinations. Selected cohesive soil samples were tested in unconfined compression with an uncontrolled strain loading rate and/or with a calibrated hand penetrometer to aid in evaluating the soil strength characteristics. The values of strength tests performed on soil samples obtained by the Standard Penetration Test Method (SPT) are considered approximate, recognizing that the SPT method provides a representative but somewhat disturbed soil sample.

4 DESCRIPTION OF SUBSURFACE CONDITIONS

4.1 GENERAL

A description of the subsurface conditions encountered at the test boring locations is shown on the Soil Boring Logs. The lines of demarcation shown on the logs represent approximate boundaries between the various soil classifications. It must be recognized that the soil descriptions are considered representative for the specific test boring location, but that variations may occur between and beyond the sampling intervals and boring locations. Soil depths, topsoil and layer thicknesses, and demarcation lines utilized for preconstruction planning should not be expected to yield exact and final quantities. A summary of the major soil profile components is described in the following paragraphs.

4.2 SUBSURFACE CONDITIONS

The surface at B-1 through B-5 consisted of about 5 to 6.5 inches of asphalt pavement, underlain by about 3 to 9.5 inches of base course comprised of grayish brown silty sand and brown to light brown sand. The underlying natural soils generally consisted of brown to reddish brown sandy clay to clay to the maximum depths of the borings.

The natural cohesive soils encountered in the borings were generally medium stiff to very stiff in comparative consistency, with N-values ranged from about 8 to 20 bpf, and unconfined compressive strengths generally ranging from about 1.9 to 3.2 tons per square foot (tsf).

The foregoing discussion of soil conditions on this site represents a generalized soil profile as determined at the test boring locations. A more detailed description and supporting data for each test location can be found on the individual Soil Boring Logs.

4.3 GROUNDWATER OBSERVATIONS

Groundwater was not encountered during auger advancement or upon completion and removal of the augers within the borings.

The groundwater observations reported herein are considered approximate. It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics. Longer term monitoring would be required to further evaluate groundwater levels on this site.

5 CONSIDERATIONS AND RECOMMENDATIONS

5.1 EXISTING PAVEMENT SECTION

The existing pavement section at the borings consisted of approximately 5 to 6.5 inches of asphalt pavement, overlying 3 to 9.5 inches of base course predominantly comprised of grayish brown silty sand and brown to light brown sand. The underlying soils generally consisted of natural clay.

The WisDOT Standard Specifications referenced in the following sections, refers to the State of Wisconsin Standard Specifications for Highway and Structure Construction, latest edition, with current interim specifications.

5.2 PAVEMENT SUBGRADE EVALUATION

The subgrade soils encountered in the borings immediately below the existing pavement and base course consisted predominantly of sandy clay to clay. The clay subgrade soils have been assigned an estimated visual classification of A-6 by the AASHTO soil classification method. They are generally rated as poor for pavement subgrade support based on their poor drainage, moderate to high shrink-swell potential, moderate to high frost susceptibility, and their high potential to soften when exposed to moisture. Provided that the subgrade soils are prepared as outlined in this report, the in-place subgrade soils, and any new structural fill, can generally be used for pavement construction.

Design of a conventional flexible (asphalt) pavement on the existing subgrade soils will require proper subgrade preparation and thorough proofrolling (as described in the Pavement Subgrade Preparation section of this report). Depending on the condition of the exposed subgrade and the results of the field evaluation after proofrolling, some undercutting of unsuitable soils may be necessary, especially if they are wet during construction.

The near surface pavement subgrade soils encountered within the borings generally consist of clay which have been assigned an estimated visual classification of A-6 by the AASHTO soil classification method. They are generally rated as poor for pavement subgrade support due to moderate to high frost susceptibility, poor drainage characteristics, and high susceptibility to

strength loss when exposed to free water. Provided that the subgrade soils are prepared as outlined in the Site Preparation section of this report, the in-place subgrade soils and any new structural fill can be used for standard flexible or rigid pavement construction. With proper subgrade preparation, the following pavement subgrade design coefficients should be used for pavement section thickness design. However, if soils with support characteristics different from the predominantly natural cohesive are encountered or are used to raise grades, revised coefficients will need to be provided.

PAVEMENT SUBGRADE DESIGN COEFFICIENTS

SOIL PARAMETER	VALUE
AASHTO Soil Classification	A-6
Drainage	Poor
Shrink/Swell Potential	Moderate to High
Design Frost Index	F-3
Design Group Index	15
Soil Support Value	3.8
Estimated Subgrade Modulus (k)	125 pci

5.3 SELECTIVE SUBGRADE REMOVAL AND REPLACEMENT

Zones of unsuitable soils may be encountered. Therefore, some removal and replacement of these soils may be required. In addition, the soils along the project route are moderately to highly moisture sensitive and subject to substantial instability in the presence of water, especially when exposed to construction traffic. During wet and/or cool weather, extremely softened subgrade soils may develop over large areas. This can result in the need for substantial drying times; significant reworking, drying, discing; and/or the necessity for removal and replacement with crushed stone or compacted structural fill. Subgrade stabilization with lime, lime kiln dust, fly ash, or Portland cement could also be considered.

5.4 SITE DRAINAGE

In general, the existing clay subgrade soils are considered to be poorly drained. Drainage action of the subgrade is dependent on the amount of fines (silt and clay) present. The presence of fines decreases the drainability of a soil, and therefore, increases its sensitivity to moisture and frost, which can result in increased instability. In addition, the proposed project is located in an area that experiences annual freezing cycles and the subgrade soils encountered have been classified as moderately/highly susceptible to frost action when free water is present.

The detrimental effects of frost action on subgrade materials are manifested by non-uniform heave of pavements during winter months and/or the loss of strength of the subgrade during thawing periods. In order to reduce the potential for frost action, it will be necessary to control surface runoff and water seepage within the sub-base. It is recommended that underdrains be placed within the subgrade, just below the granular base, to help reduce the potential for trapping water within the aggregate base layer. Sufficient drain tiles must be installed. In addition, drain tiles should extend curb lines, up the slope from curb inlets. The drain tile should be directly connected to the storm sewer manholes or catch basins (if permissible by local municipal or other applicable code). The drain tile should consist of perforated PVC pipe of adequate diameter placed beneath the base layer, extending a sufficient distance into the subgrade. The pipe should be surrounded by appropriately sized clean stone, with the pipe and stone being wrapped with a geotextile filter fabric to reduce the potential for soils to migrating into and obstruct the pipe.

6 CONSTRUCTION CONSIDERATIONS

6.1 PAVEMENT SUBGRADE PREPARATION

Subgrade preparation will require the removal of all existing pavements, any unsuitable portions of the existing base course, and other soft, yielding, unsuitable soils. Although evaluation of the existing asphalt pavement was beyond the scope of this project, the asphalt pavements have the potential for reuse as aggregate base, if milled/crushed and separated from the existing aggregate base and subgrade materials. Milling should be performed with suitable equipment and to a depth that extends through the existing asphalt pavement, and into the existing base, but not into the underlying subgrade soils. Portions of the existing base course may also be reused, provided there is adequate layer thickness, and that excessive fines intrusion has not occurred. The suitability for reuse of the existing materials should be verified prior to or at the time of construction.

Any vegetation and topsoil must be removed throughout new pavement areas. After removal of any soft, yielding, or unsuitable soils; the exposed subgrade should be prepared as outlined in Section 211 of the WDOT Standard Specifications. Prior to any fill placement, the exposed subgrade must be thoroughly proofrolled to detect unstable, yielding soils. This should consist of overlapping passes in a perpendicular grid pattern, with a fully-loaded tandem-axle dump truck, or other equipment of similar size and weight suitable for the surface conditions. Proofrolling should be performed in consultation with the geotechnical engineer at the time of construction. Some difficulty with subgrade preparation may be experienced, especially in wet or cold weather, or during thawing conditions. Additionally, instability can become more severe and extend over large areas in silty and clayey materials, which are considered to be moderately to highly moisture sensitive. It is generally recommended that earthwork be carried out during relatively warm, dry weather. Any soft, wet, or otherwise unstable zones which cannot be improved by scarification and aeration, must be removed and replaced with compacted structural fill, such as clean crushed stone, possibly in conjunction with the use of a geotextile fabric. Lime, lime kiln dust, fly ash, or Portland cement modification are additional remedial measures which can be considered for clayey and some silty

soils. However, this must only be performed at the direction and under the supervision of the geotechnical engineer. A proper mix design must be performed prior to the performance of any modification. Substantial construction delays and difficulty with subgrade stabilization may be experienced during periods of wet and/or cool weather.

In areas where organic, wet, soft or yielding subgrade conditions are encountered during subgrade preparation or a stable subgrade cannot be obtained, selective excavation below subgrade (EBS) and replacement may be required for proper support of new fills, or pavement construction. Excavation below subgrade (EBS) should be performed as outlined in Section 205 of the WisDOT Standard Specifications. The necessity and ultimate extent of undercutting will be dependent upon the soil type encountered, moisture condition, and stability of the exposed subgrade at the time of construction. In areas of EBS, limited excavation below subgrade to a depth of 2 feet and replacement with granular fill, such as those specified in Section 305 of the WisDOT Standard Specification for ¾-inch or 1¼-inch materials, can generally be used to improve the stability of the subgrade. It must be recognized that soil stability is dependent on such factors as soil type and moisture content, weather conditions at the time of construction, and also construction disturbance. Thus, the necessity of EBS generally must be determined in the field at the time of construction, based upon observations made during subgrade preparation.

If relatively wet or unstable soils are encountered below EBS, it may be necessary to use an SAS (Subgrade Aggregate Separation) geotextile fabric and/or a select crushed material for stabilization (such as that specified in Section 312 of the WisDOT Standard Specifications) before placing backfill soils. The SAS geotextile fabric used in this application should meet the physical requirements identified in Section 645 of the WisDOT Standard Specifications and shown in the following table.

Test	Units	Values
Grab Tensile Strength	N	750 min.
Puncture Strength	N	300 min.
Apparent Opening Size	um	212 max.
Permittivity	s^{-1}	0.35 min.

The cohesive soils present within the subgrade are considered to be moderately to highly sensitive to moisture and construction activity; therefore, every effort should be made to prevent ponding during construction operations and maintain a relatively dry and stable working subgrade. If the soils become disturbed, removal and replacement may be required, and may become extensive.

6.2 BORROW MATERIAL

Generally, granular material with low fines contents is recommended for use in regrading, or to replace unsuitable soils, such as those specified in Section 305 of the WisDOT Standard Specification for ¾-inch or 1¼-inch materials. The existing granular fill and base materials, and/or recycled asphaltic pavement materials may be used to balance grades, and are

generally considered suitable for such purposes. Clayey and silty soils, organic materials, and wet granular soils are not considered suitable for such purposes. All fill used must have subgrade design coefficients equal to or greater than those previously specified. Importing of granular fill may be necessary.

6.3 FILL PLACEMENT AND COMPACTION

Fill should be placed in layers of not more than 9 inches in loose thickness before compaction. As an exception, when the fill consists of well-graded granular material and the compaction equipment is adequate for such purpose, the loose layer thickness may be increased to a maximum of 12 inches. Each lift must be compacted to a density of at least 95 percent of the maximum dry density as determined by the Standard Proctor method, ASTM designation D-698.

Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities. This is especially true of silty and clayey soils, where scarification and aeration may be required to achieve near-optimum moisture levels prior to compaction. It is recommended the fill soils be placed at moisture contents within a few percent of their optimum moisture content. Depending upon seasonal moisture conditions, significant drying and/or reworking of these fine-grained soils may be necessary prior to placement.

It must be recognized that fine-grained soils are highly sensitive to moisture, and proper placement and compaction will be extremely difficult if they become wet during construction. The selection of fill materials for various applications should be done in consultation with the soils engineer. Similarly, the evaluation of the subgrade preparation, and placement and compaction of fill for structural application should be monitored and tested by a qualified representative of the soils engineer.

Compaction testing is recommended so that the pavement subgrade materials develop the subgrade design coefficients previously specified for adequate pavement section thickness design. Compaction should be performed with equipment suitable for such purpose, such as a sheepsfoot roller for clayey soils, and a vibratory smooth drum roller for granular material.

6.4 GROUNDWATER CONSIDERATIONS

Groundwater was not encountered during drilling or upon completion and removal of the augers, in the borings. On the basis of the observations, no major difficulty is anticipated during typical shallow pavement reconstruction not extending more than about a foot below the existing surface. If excavations extend only a few inches or so below the groundwater, or low volume perched zones, a filtered sump pump should suffice to control the groundwater. However, for larger volume perched zones, prolonged dewatering with a series of sump pumps may be necessary to facilitate construction. It should be noted that larger volume perched zones not disclosed by the borings can be present within existing basecourse materials.

Groundwater levels can vary seasonally, with changes in precipitation, and due to other factors. They can also vary between and beyond boring locations from the estimates made at the time of the exploration. Proper drainage of the reconstructed pavement must be provided.

The groundwater observations reported herein are considered approximate. It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics.

6.5 EXCAVATION CONSIDERATIONS

Sloping, shoring or bracing of the excavation sidewalls will be necessary to facilitate construction and to protect life and property. The degree of excavation instability problems is dependent upon the depth and length of time that excavations remain open, excavation bank slopes, water levels and the effectiveness of any dewatering systems. However, severe instability may occur within granular or soft clay soils, especially in the presence of water. All excavation work must be performed in accordance with OSHA and local building code requirements.

All excavations must be performed with caution and utilize methods which will prevent undermining or destabilization of buildings, utilities, pavements, or other structures. The use of a properly designed shoring and bracing, sheet piling, or underpinning system must be utilized as necessary to adequately protect utilities, pavements, and other structures. This must be performed by an experienced specialty contractor. Additionally, extreme care must be used during the installation of any bracing system, especially those using driven or vibratory methods, in order to avoid damaging existing buildings, utilities, and other structures. Consideration should be given to the performance of video and/or photographic documentation of the condition of nearby buildings, utilities, and other structures prior to installation.

Since the subgrade soils are generally sensitive to moisture, every effort should be made to provide adequate drainage across the site during construction, and to prevent ponding of runoff on the subgrade. These soils are also subject to erosion caused by runoff, and erosion control measures should be implemented where needed or required by local ordinances.

It is mandated that excavations be constructed in accordance with current Occupational Safety and Health Administration (OSHA) guidelines to protect workers and others during construction. PSI recommends that these regulations be strictly enforced.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations.

PSI is providing this information solely as a service to our client. PSI does not assume responsibility for construction site safety or the contractor's or other parties' compliance with local, state, and federal safety or other regulations.

6.6 SUBGRADE FROST ACTION

The proposed project is located in an area that experiences annual freezing cycles. Some frost movement may occur, and can result in relatively long term adverse effects such as cracking, alligatoring, or other related distress.

7 GENERAL COMMENTS

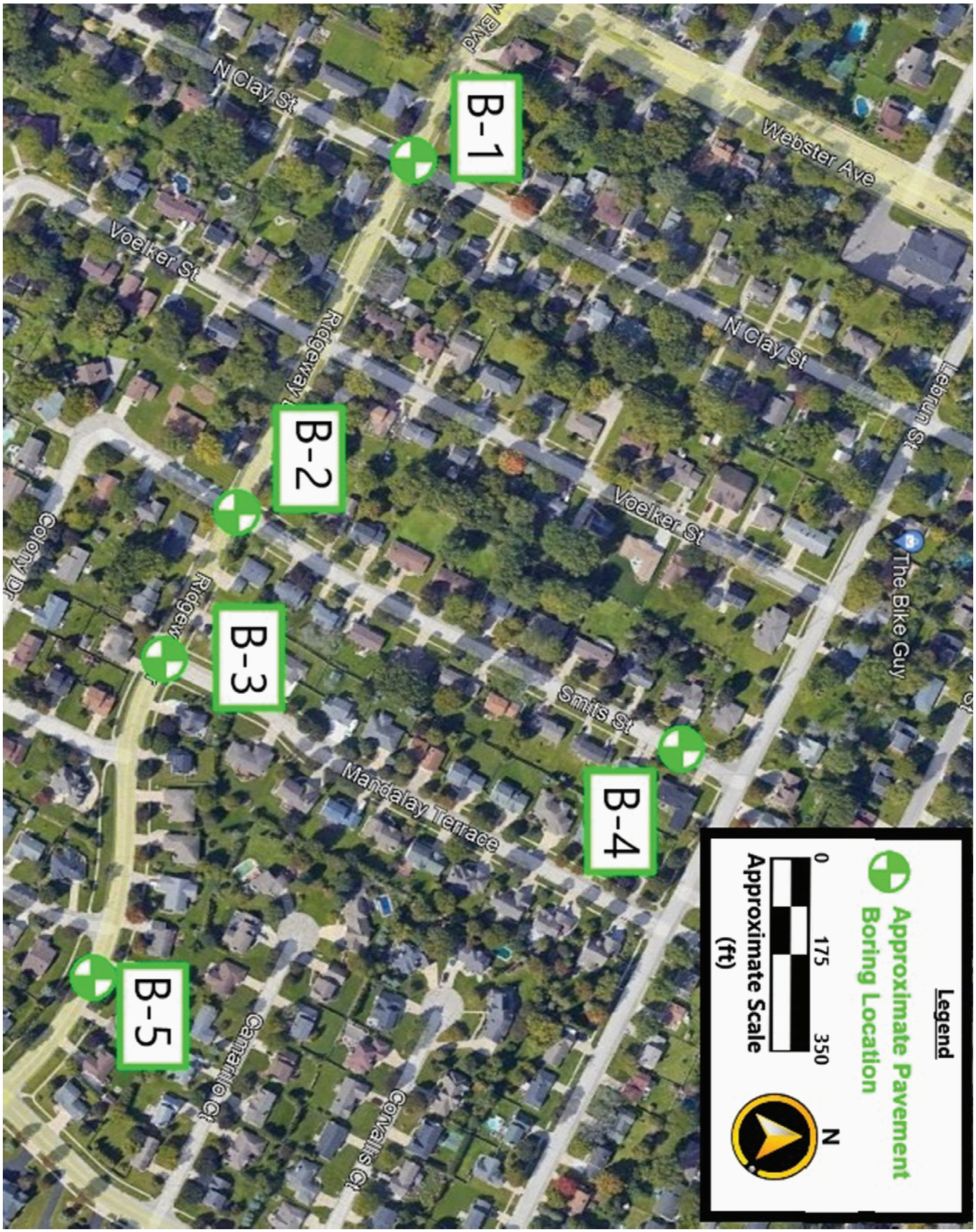
This geotechnical exploration and pavement evaluation has been prepared to aid in the evaluation of the pavement conditions on this site. The recommendations presented herein are based on the available soil information and the design information provided. Any changes in the design information or building locations should be brought to the attention of PSI to determine if modifications in the recommendations are required. The final design plans and specifications should also be reviewed by PSI to determine that the recommendations presented herein have been interpreted and implemented as intended.

This geotechnical study has been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings, recommendations and opinions contained herein have been promulgated in accordance with generally accepted practice in the fields of foundation engineering, soils mechanics, and engineering geology. No other representations, expressed or implied, and no warranty or guarantee is included or intended in this report.

It is recommended that the earthwork operations be monitored by the soils engineer, to test and evaluate the bearing capacities, and the selection, placement and compaction of controlled fills.

APPENDIX

Figure 1 - Boring Location Plan
Soil Boring Logs
General Notes



intertek psi	De Pere Roads Ridgeway Drive and Smits Street De Pere, Wisconsin	**SCALE: SHOWN ABOVE**
		PROJECT NO: 00942199
	FIGURE 1: Boring Location Plan	**PAGE 1 OF 1** **12/27/2023**

SOIL BORING LOG: B - 1

Project: De Pere Roads
Project No.: 00942199

Location: Ridgeway Drive and Smits Street
De Pere, Wisconsin

Drill Date: November 21, 2023
Drilled By: KD/CD

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 643.2	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		0-5.5" ASPHALT						
	642.7	5.5-10" Grayish brown Coarse to Fine Silty SAND, with gravel, moist (BASE COURSE)	1-AU	-	-	-	2	
1	642.2	Brown Sandy CLAY, with trace silt, moist						
	641.7							
2	641.2		2-SS	15	2.5	-	14	
	640.7							
3	640.2							
	639.7							
4	639.2		3-SS	14	1.5	-	16	
	638.7							
5	638.2							
		END OF BORING @ 5± FEET						
	637.7							
6	637.2							

FIELD OBSERVATIONS:

Water Level $_{during\ drilling}$: Not Encountered
Water Level $_{upon\ completion}$: Not Present
Caved at $_{upon\ completion}$: N/A
Delay Time: N/A
Water Level $_{delayed}$: N/A
Caved at $_{delayed}$: N/A

ADDITIONAL COMMENTS:

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.

SOIL BORING LOG: B - 2

Project: De Pere Roads
Project No.: 00942199

Location: Ridgeway Drive and Smits Street
De Pere, Wisconsin

Drill Date: November 21, 2023
Drilled By: KD/CD

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 637.4	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		0-6.5" ASPHALT						
	636.9	6.5-14" Grayish brown Coarse to Fine Silty SAND, with gravel, moist (BASE COURSE)	1-AU	-	2.5	1.2	3	
1	636.4	Brown CLAY, with sand and trace silt, moist						
	635.9							
2	635.4		2-SS	9	2.5	-	16	
	634.9							
3	634.4	Brown to Reddish brown Sandy CLAY, with trace silt, moist						
	633.9							
4	633.4		3-SS	17	4.25	1.9	13	
	632.9							
5	632.4	END OF BORING @ 5± FEET						
	631.9							
6	631.4							

FIELD OBSERVATIONS:

Water Level $_{\text{during drilling}}$: Not Encountered
Water Level $_{\text{upon completion}}$: Not Present
Caved at $_{\text{upon completion}}$: N/A
Delay Time: N/A
Water Level $_{\text{delayed}}$: N/A
Caved at $_{\text{delayed}}$: N/A

ADDITIONAL COMMENTS:

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.

SOIL BORING LOG: B - 3

Project: De Pere Roads
Project No.: 00942199

Location: Ridgeway Drive and Smits Street
De Pere, Wisconsin

Drill Date: November 21, 2023
Drilled By: KD/CD

DEPTH/EL. (feet)	VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 635.1	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
	0-5" ASPHALT						
634.6	5-14.5" Grayish brown Coarse to Fine Silty SAND, with trace gravel, moist (BASE COURSE)	1-AU	-	-	-	5	
1 634.1							
	Brown to Reddish brown Silty CLAY, with sand, moist						
633.6							
2 633.1		2-SS	12	2.5	-	18	
632.6							
3 632.1							
631.6							
4 631.1		3-SS	20	-	-	15	
630.6							
5 630.1							
	END OF BORING @ 5± FEET						
629.6							
6 629.1							

FIELD OBSERVATIONS:

Water Level $_{during\ drilling}$: Not Encountered
Water Level $_{upon\ completion}$: Not Present
Caved at $_{upon\ completion}$: N/A
Delay Time: N/A
Water Level $_{delayed}$: N/A
Caved at $_{delayed}$: N/A

ADDITIONAL COMMENTS:

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.

SOIL BORING LOG: B - 4

Project: De Pere Roads
Project No.: 00942199

Location: Ridgeway Drive and Smits Street
De Pere, Wisconsin

Drill Date: November 21, 2023
Drilled By: KD/CD

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 638.8	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		0-6.5" ASPAHLT						
1	637.8	6.5-9.5" Brown to Light brown Coarse to Fine SAND, with silt, moist (BASE COURSE)	1-SS	8	-	-	4	
2	636.8	Reddish brown Sandy CLAY, with silt, moist			-	-	14	
3	635.8	Brown Sandy CLAY, with silt, moist	2-SS	13	3.0	2.1	14	⊥
4	634.8							
5	**633.8**							
6	632.8		3-SS	19	4.5+	3.1	15	
7	631.8							
8	630.8		4-SS	20	3.75	2.8	15	
9	629.8							
10	**628.8**							
11	627.8	Brown Silty CLAY, with sand, moist	5-SS	18	4.5+	3.2	17	
12	626.8	**END OF BORING @ 11.5± FEET**						
13	625.8							
14	624.8							
15	**623.8**							

FIELD OBSERVATIONS:

Water Level $_{during\ drilling}$: Not Encountered ⊻
Water Level $_{upon\ completion}$: Not Present ▼
Caved at $_{upon\ completion}$: 3± feet below ground surface (EL. 635.8±) ⊥
Delay Time: N/A
Water Level $_{delayed}$: N/A ¥
Caved at $_{delayed}$: N/A

ADDITIONAL COMMENTS:

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.

SOIL BORING LOG: B - 5

Project: De Pere Roads
Project No.: 00942199

Location: Ridgeway Drive and Smits Street
De Pere, Wisconsin

Drill Date: November 21, 2023
Drilled By: KD/CD

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 620.6	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
	620.1	0-5.5" ASPHALT						
		5.5-11.5" Grayish brown Coarse to Fine Silty SAND, with trace gravel, moist (BASE COURSE)	1-AU	-	-	-	5	
1	619.6	Brown Silty CLAY, with sand, moist						
	619.1							
2	618.6		2-SS	15	3.0	-	14	
	618.1							
3	617.6	Brown CLAY, with silt and sand, moist						
	617.1							
4	616.6		3-SS	17	4.5+	-	13	
	616.1							
5	615.6	**END OF BORING @ 5± FEET**						
	615.1							
6	614.6							

FIELD OBSERVATIONS:

Water Level $_{during\ drilling}$: Not Encountered
Water Level $_{upon\ completion}$: Not Present
Caved at $_{upon\ completion}$: N/A
Delay Time: N/A
Water Level $_{delayed}$: N/A
Caved at $_{delayed}$: N/A

ADDITIONAL COMMENTS:

Note: Lines of stratification represent an approximate boundary between soil types. Variations may occur between sampling intervals and/or boring locations. Transitions may also be gradual.

GENERAL NOTES

SAMPLE IDENTIFICATION

1. Information on each log is a compilation of subsurface conditions, based on visual soil classifications of soil samples obtained from the field as assigned by a soils engineer, as well as from laboratory testing of samples, if performed. The strata lines on the logs may be approximate or the transition between the strata may be gradual rather than distinct. Water level measurements refer only to those observed at the times and locations indicated, and may vary with time, geologic condition and construction activity.
2. Unified Soil Classification System (USCS) designations are based on visual soil classification estimates on the basis of textural and particle size categorization and various soil behavior characteristics. If laboratory tests were performed to classify the soil, the USCS designation is shown in parenthesis.

USCS SOIL PARTICLE SIZE CLASSES

U.S. Std. Sieve		#200	#40	#10	#4	¾"	3"	12"
Soil Type	Clay	Silt	Sand			Gravel		Cobbles	Boulders
			Fine	Medium	Coarse	Fine	Coarse		
Millimeters	0.002	0.074	0.42	2	4.8	19	76	300	

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487-00)

Criteria for assigning group symbols and group names using laboratory tests [A]				Soil Classification	
				Group Symbol	Group Name [B]
COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve)	Gravels (More than 50% of coarse fraction retained on No. 4 sieve)	Clean gravels w/ < 5% fines [E]	Cu ≥ 4 and 1 ≤ Cc ≤ 3 [C]	GW	Well-graded gravel [D]
			Cu < 4 and/or1 > Cc > 3 [C]	GP	Poorly graded gravel [D]
		Gravels w/ > 12% fines [E]	Fines classify as ML or MH	GM	Silty gravel [D,F,G]
			Fines classify as CL or CH	GC	Clayey gravel [D,F,G]
	Sands (More than 50% of coarse fraction passes the No. 4 sieve)	Clean sands w/ < 5% fines [I]	Cu ≥ 6 and 1 ≤ Cc ≤ 3 [C]	SW	Well-graded sand [H]
			Cu < 6 and/or 1 > Cc > 3 [C]	SP	Poorly graded sand [H]
		Sands w/ > 12% fines [I]	Fines classify as ML or MH	SM	Silty sand [F,G,H]
			Fines classify as CL or CH	SC	Clayey sand [F,G,H]
FINE-GRAINED SOILS (More than 50% passes the No. 200 sieve)	Silts and clays w/ liquid limit (LL) < 50	Inorganic	PI > 7 and plots on or above "A" line [J]	CL	Lean clay [K,L,M]
			PI < 4 and plots below "A" line [J]	ML	Silt [K,L,M]
		Organic	LL (Oven dried) / LL (Not dried) < 0.75	OL	Organic clay [K,L,M,N]
				OL	Organic silt [K,L,M,O]
	Silts and clays w/ liquid limit (LL) ≥ 50	Inorganic	PI plots on or above "A" line	CH	Fat clay [K,L,M]
			PI plots below "A" line	MH	Elastic silt [K,L,M]
		Organic	LL (Oven dried) / LL (Not dried) < 0.75	OH	Organic clay [K,L,M,P]
				OH	Organic silt [K,L,M,Q]
HIGHLY ORGANIC SOILS		Primarily organic matter, dark in color, and organic odor		PT	Peat

[A] Based on the material passing the 3-inch (75 mm) sieve
[B] If field sample contained cobbles or boulders, or both, add " with cobbles or boulders, or both" to group name
[C] $Cu = D_{60}/D_{10}$; $Cc = (D_{30})^2 / D_{10} \times D_{60}$
[D] If soil contains ≥ 15% sand, add "with sand" to group name
[E] Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
[F] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM
[G] If fines are organic, add "with organic fines" to group name
[H] If soil contains ≥ 15% gravel, add "with gravel" to group name
[I] Sands with 5 - 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
[J] If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay
[K] If soil contains 15 - 29% plus No. 200, add "with sand" or "with gravel"
[L] If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name
[N] PI ≥ 4 and plots on or above "A" line
[O] PI < 4 or plots below "A" line
[P] PI plots on or above "A" line
[Q] PI below "A" line

RELATIVE SOIL COMPOSITION

Trace - 0 - 15% of sample
With - 15 - 35% of sample
Soil modifier - > 35% of sample (i.e. sandy, silty, clayey, gravelly)

DRILLING & SAMPLING SYMBOLS

AU - Auger sample from cuttings
BS - Bag sample
HA - Hand auger sample
SS - Split spoon sample (2" O.D. by 1⅜" I.D.)
ST - Shelby Tube sample (2" or 3" O.D.)
WS - Wash sample from wash water return

SOIL PROPERTY SYMBOLS

N - N-value (blow count) is the standard penetration resistance based on the total number of blows required to advance a split spoon sampler one (1) foot, using a 140 lb. hammer with a 30 inch free fall. To avoid damage to sampling tools, driving is typically limited to 50 blows during any 6 inch interval. Additional description is provided below:

N-value (bpf)	Description
HW	Sampler penetrated soil under weight of hammer and rods; no driving required
25	25 blows to advance sampler 12 inches after initial 6 inches of seating
75/10"	75 blows to advance sampler 10 inches after initial 6 inches of seating
50/S3"	50 blows to advance sampler 3 inches during initial 6 inch seating interval

MC - Moisture content, %
Qu - Unconfined compressive strength, tons per square foot (tsf)
Qp - Calibrated hand penetrometer resistance, tsf
γd - Dry density, pounds per cubic foot (pcf)
LL - Liquid limit, % (ASTM D4318)
PL - Plastic limit, % (ASTM D4318)
PI - Plasticity index, % (ASTM D4318)
%P200 - Percent of sample passing the No. 200 sieve
RQD - Rock quality designation of NX-size core sample
RMR - Rock mass rating, as developed by Z.T. Bieniawski
PID - Photoionization detector (Hnu meter) volatile vapor level, ppm

SOIL RELATIVE DENSITY & CONSISTENCY CLASSIFICATION

NON-COHESIVE SOILS		COHESIVE SOILS		
Density	N-Value Range	Consistency	Qu Range (tsf)	Approximate N-value Range
Very loose	0 - 3	Very soft	0 - 0.25	0 - 2
Loose	3 - 7	Soft	0.25 - 0.5	2 - 5
Medium dense	7 - 15	Medium stiff	0.5 - 1.0	5 - 10
Dense	15 - 38	Stiff	1.0 - 2.0	10 - 14
Very dense	38+	Very Stiff	2.0 - 4.0	14 - 32
		Hard	4.0+	32+

SOIL STRUCTURE TERMINOLOGY

Interlayered - Alternating layers of different soil types
Layer - Inclusion greater than 3 inches thick
Seam - Inclusion ⅛ to 3 inches thick
Laminated - Alternating seams of different soil type
Intermixed - Pockets of different soil types, no layering
Pocket - Inclusion of material of different texture
Varved - Alternating layers or seams of sand, silt, and/or clay

GROUNDWATER & MOISTURE CONDITIONS

v - Approximate groundwater level as noted during drilling and sampling
▼ - Groundwater level as noted within the open borehole upon removal of the augers
¥ - Delayed groundwater level within open borehole
Dry - Absence of moisture, dry to the touch
Moist - Damp, but no visible water
Wet - Visible free water, saturated, usually below water table

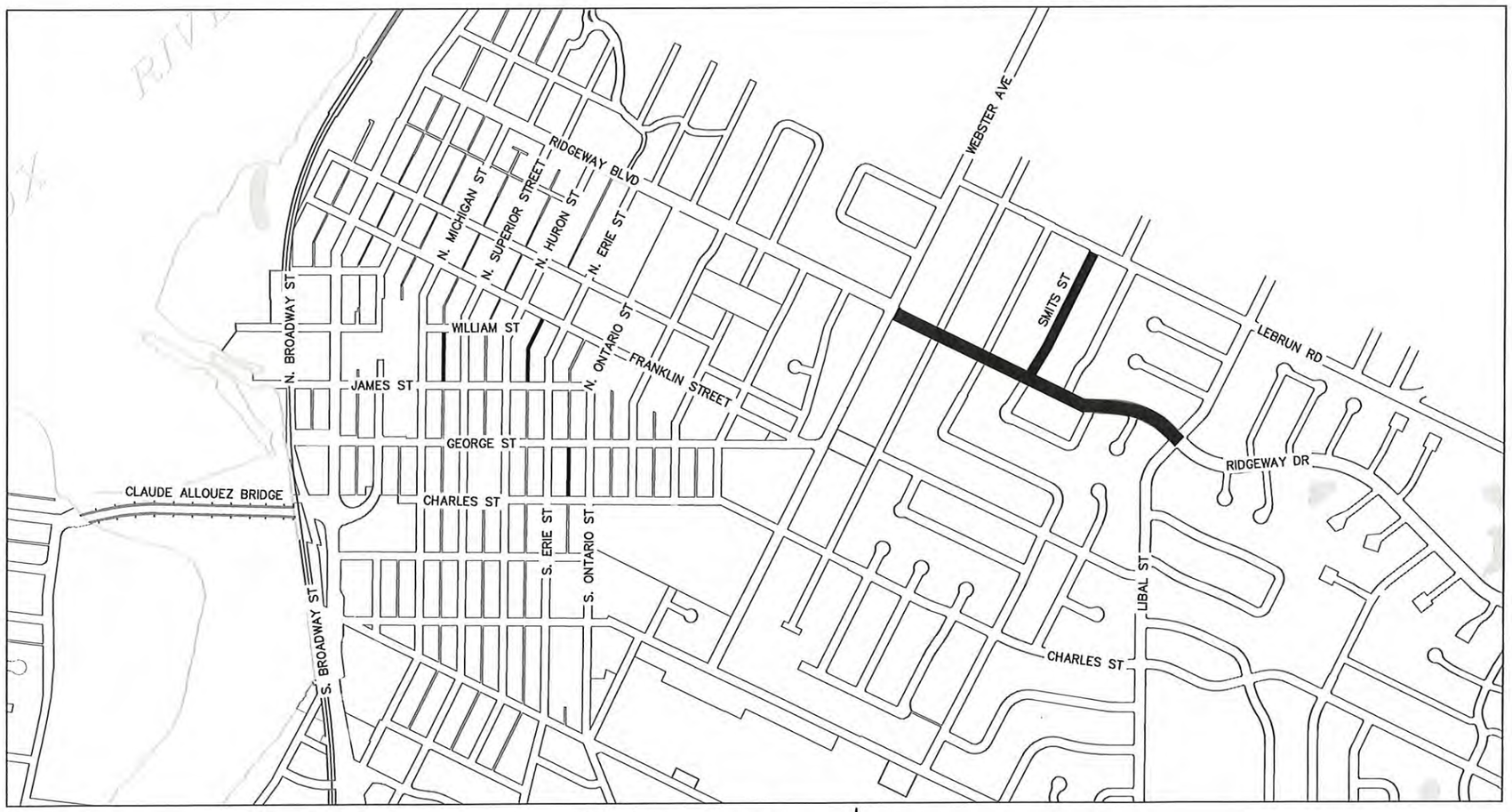
NOTE: General Notes have been adapted from and incorporate portions of ASTM D2487 "Classification of Soils for Engineering Purposes (Unified Soil Classification System)" and ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)."

PROJECT# 24-02
RIDGEWAY PAVEMENT REHAB

CITY OF DE PERE

DE PERE

ENGINEER DIVISION
925 S. SIXTH ST
DE PERE, WI 54115



SITE LOCATION MAP
N.T.S.

SHEET NO.	DESCRIPTION
G001	TITLE SHEET
G002	STANDARD ABBREVIATION & SYMBOLS
G003 – G004	TYPICAL SECTIONS
C101 – C103	RIDGEWAY BLVD SANITARY SEWER AND WATER MAIN PLAN AND PROFILE SHEETS
C104 – C105	SMITS ST SANITARY SEWER AND WATER MAIN PLAN AND PROFILE SHEETS
C106	VOELKER ST STORM SEWER AND WATER MAIN PLAN AND PROFILE SHEETS
C107 – C109	RIDGEWAY BLVD STORM SEWER AND STREET PLAN AND PROFILE SHEETS
C110 – C111	SMITS ST STORM SEWER AND STREET PLAN AND PROFILE SHEETS
C112 – C113	RIDGEWAY BLVD PULVERIZING AND STREET PLAN AND PROFILE SHEETS
C114	JAMES/WILLIAMS TO MICHIGAN/SUPERIOR PLAN AND PROFILE SHEETS
C115	JAMES/FRANKLIN TO HURON/ERIE PLAN AND PROFILE SHEETS
C116	CHARLES/GEORGE TO ERIE/ONTARIO PLAN AND PROFILE SHEETS
C117	VFW PARK ASPHALT REPAIRS
C118	KIWANIS PARK WATER FOUNTAIN AND CONCRETE
C119 – C120	MISCELLANEOUS SPOT REPAIRS
C301 – C310	ALLEY CROSS SECTIONS
C401 – C404	BENCHMARK AND EROSION CONTROL PLANS
C405 – C406	INTERSECTION DETAILS
C407 – C411	TRAFFIC CONTROL DETAILS
C412	PAVEMENT MARKINGS
C501 – C506	CONSTRUCTION DETAILS

CITY OF DE PERE
BOARD OF PUBLIC WORKS

3/22/2024	E. P. Rakers
DATE	CITY ENGINEER
3/22/2024	M Dolan
DATE	CITY ADMINISTRATOR
3/22/2024	
DATE	MAYOR

STAMPS:

WISCONSIN
ERIC P. RAKERS
E-30929
GREEN BAY, WI
PROFESSIONAL ENGINEER
3/22/2024

LIST OF STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC
AGGR	AGGREGATE
AH	AHEAD
ASPH	ASPHALT
B/B	BACK TO BACK
BARR	BARRICADE
BC	BACK OF CURB
BK	BACK
BL	BASELINE
BLVD	BOULEVARD
BLDG	BUILDING
BM	BENCHMARK
BOW	BACK OF SIDEWALK
BSMT	BASEMENT
C	CUT
C&G	CURB AND GUTTER
C/C	CENTER TO CENTER
CABC	CRUSHED AGGREGATE BASE COURSE
CB	CATCH BASIN
CE	CONSTRUCTION ENTRANCE
CI	CAST IRON PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CNTY	COUNTY
CO	CLEANOUT
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONSTR JT	CONSTRUCTION JOINT
CORP	CORPORATION
CP	CONTROL POINT
CTH	COUNTY TRUNK HIGHWAY
CTRL JT	CONTROL JOINT
CTV	CABLE TV
CY	CUBIC YARD
D	DEPTH
DIA	DIAMETER
DI	DUCTILE IRON PIPE
DISCH	DISCHARGE
DW	DRIVEWAY
E	EAST (SEE ELEC BELOW)
EA	EACH
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EL	ELEVATION
ELEC	ELECTRIC (E WHEN USED IN LINE STYLE)
EMB	EMBANKMENT
ENTR	ENTRANCE
EP	EDGE OF PAVEMENT
EW	ENDWALL
EXC	EXCAVATION
EXIST	EXISTING
F	FILL
F/F	FACE TO FACE
FDN	FOUNDATION
FE	FIELD ENTRANCE
FERT	FERTILIZER
FIN GR	FINISHED GRADE
FL	FLOWLINE
FO	FIBER OPTIC
FOW	FRONT OF SIDEWALK
FT	FOOT
FTG	FOOTING
G	GAS
GV	GAS VALVE
GW	GUY WIRE
HDPE	HIGH DENSITY POLYETHYLENE
HR	HANDICAP RAMP
HSE	HOUSE
HT	HEIGHT
HYD	HYDRANT
I	INTERSECTION ANGLE
ID	INSIDE DIAMETER
IN	INCH
INL	INLET
INTERS	INTERSECTION
INV	INVERT
IP	IRON PIPE OR PIN
L	LENGTH (OF CURVE)
LC	LONG CHORD OF CURVE
LP	LIGHTPOLE
LS	LIFT STATION OR LUMP SUM
LT	LEFT
MAINT	MAINTENANCE
MATL	MATERIAL
MB	MAILBOX
MH	MANHOLE
MP	MARKER POST
N	NORTH
NB	NORTHBOUND
NC	NORMAL CROWN
NE	NORTHEAST
NO	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OD	OUTSIDE DIAMETER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PCC	PORTLAND CEMENT CONCRETE
PED	PEDESTAL
PLE	PERMANENT LIMITED EASEMENT
PVMT	PAVEMENT
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
POC	POINT OF CURVE
POT	POINT ON TANGENT
PP	POLYETHYLENE
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PRZ	PROTECTIVE ROOT ZONE
PSI	POUND PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RANGE OR RADIUS
RCP	REINFORCED CONCRETE PIPE
REBAR	REINFORCEMENT BAR
REL	RELOCATE
REM	REMAINING
REQD	REQUIRED
RL	REFERENCE LINE
ROW	RIGHT OF WAY
RP	REFERENCE POINT
RR	RAILROAD
RT	RIGHT
RW	RETAINING WALL
S	SOUTH
SALV	SALVAGE
SAN	SANITARY
SB	SOUTHBOUND
SDWK	SIDEWALK
SE	SOUTHEAST
SF	SQUARE FEET
SHLDR	SHOULDER
SY	SQUARE YARD
SS	SANITARY SEWER
ST	STREET (ST WHEN USED FOR STORM SEWER LINE)
STA	STATION
STD	STANDARD
STH	STATE HIGHWAY TRUNK
STM	STORM
STRUCT	STRUCTURE OR STRUCTURAL
SW	SOUTHWEST
TAN	TANGENT
T	TELEPHONE LINE
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
TOC	TOP OF CURB
TOW	TOP OF WATER
TRANS	TRANSITION
TYP	TYPICAL
UG	UNDERGROUND
USH	US HIGHWAY
VC	VERTICAL CURVE
VERT	VERTICAL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPRC	VERTICAL POINT OF REVERSE CURVE
VPT	VERTICAL POINT OF TANGENCY
W	WEST (W WHEN USED FOR WATER LINE)
WB	WESTBOUND
WM	WATERMAIN
WSO	WATER SHUTOFF VALVE
WV	WATER VALVE
YD	YARD

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL EXISTING	SYMBOL PROPOSED
BENCHMARK		
BUSH		
CATCH BASIN/INLET		
CABLE TV BOX	CTV	
CONTROL POINT		
ELECTRICAL BOX	E	
EROSION CONTROL – INLET		
FIBER OPTIC PEDESTAL		
FIELD INLET		
GAS VALVE	GV	
GUY WIRE		
HEDGE		
HYDRANT		
IRON PIPE	MB	
LIGHTPOLE	E	
MAILBOX	SS	SS
MANHOLE ELECTRIC	ST	ST
MANHOLE SANITARY	MW	
MANHOLE STORM		
MONTORING WELL		
POWER POLE		
SIGN		
SOIL BORING		(xx)
STUMP		(B–#)
TELEPHONE MANHOLE		
TELEPHONE PEDESTAL		
TREE	tel / TEL	
WELL		
WATER SERVICE VALVE	W	
BUTTERFLY WATER VALVE		
WATER VALVE		

GENERAL CONSTRUCTION NOTES:

1. ALL ELEVATIONS ARE REFERENCED TO NAVD 88.
2. THE WORK UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE CITY OF DE PERE, CURRENT CONSTRUCTION SPECIFICATIONS AND THESE SPECIAL PROVISIONS AND PLANS, AND THE LATEST ADDITION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION SPECIFICATIONS, LATEST EDITION, WHERE REFERENCED IN THE CITY SPECIFICATIONS.
3. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO CONSTRUCTION AND SHALL CONFIRM TO THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONSTRUCTION SITE EROSION CONTROL AND TECHNICAL STANDARDS.
4. EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES. WHETHER SHOWN OR NOT, FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITIES OWNERS SHALL BE NOTIFIED BY THE CONTRACTOR 72 HOURS PRIOR TO EXCAVATION.

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL
PLAN	
EXISTING SANITARY SEWER LINE	(SIZE AND MATERIAL) San
PROPOSED SANITARY SEWER LINE	100'–8" PVC SAN San
EXISTING STORM SEWER LINE	(SIZE AND MATERIAL) ST
PROPOSED STORM SEWER LINE	100'–8" PVC STM ST
EXISTING WATER MAIN LINE	(SIZE AND MATERIAL) W
PROPOSED WATER MAIN LINE	100'–8" PVC WM (TEE–BEND) W
EXISTING ELECTRICAL LINE	E
EXISTING GAS MAIN LINE	G
EXISTING TELEPHONE LINE	T
EXISTING CABLE TV LINE	TV
EXISTING SANITARY LATERAL	San
EXISTING WATER SERVICE	W
RIGHT OF WAY	ROW
PROPERTY LINE	PL
EASEMENT	
LANDSCAPE FENCE	ESM
SILT FENCE EROSION CONTROL	
EXISTING FIBER OPTIC	FO
EXISTING MAJOR CONTOUR	615
EXISTING MINOR CONTOUR	612
PROPOSED MAJOR CONTOUR	615
PROPOSED MINOR CONTOUR	612
EXISTING OVERHEAD UTILITY	
PROFILE	
EXISTING SANITARY SEWER LINE	(SIZE AND MATERIAL)
PROPOSED SANITARY SEWER LINE	100'–8" PVC SAN @ 0.40%
EXISTING STORM SEWER LINE	(SIZE AND MATERIAL)
PROPOSED STORM SEWER LINE	100'–8" PVC STM @ 1.0%
EXISTING WATER MAIN LINE	(SIZE AND MATERIAL)
PROPOSED WATER MAIN LINE	PROPOSE 8" PVC WM

PATCH SYMBOLS

ASPHALTIC CONCRETE PAVEMENT

CRUSHED AGGREGATE BASE COURSE

PORTLAND CEMENT CONCRETE

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115

OFFICE 920–339–4060 FAX 920–339–4071

STANDARD ABBREVIATIONS AND SYMBOLS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24–02

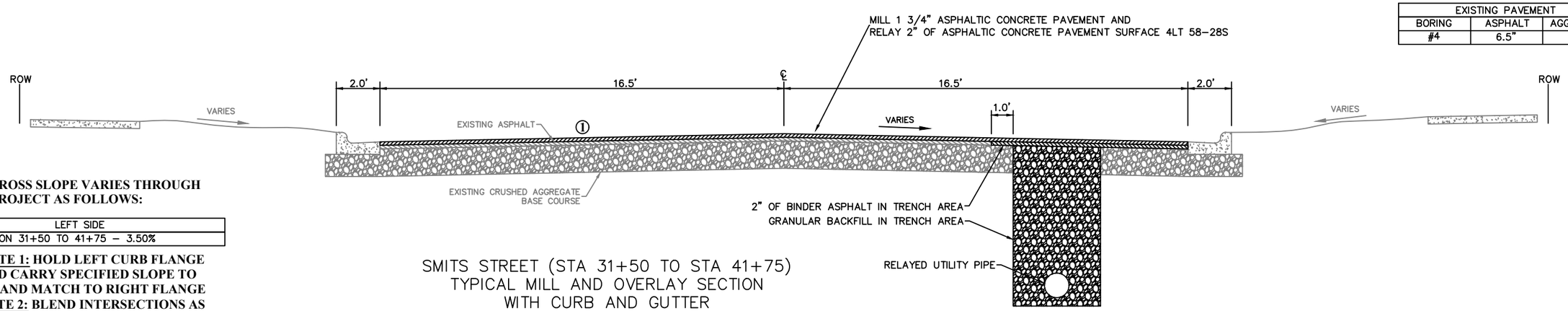
	BY	DATE
SURVEYED		
DRAWN	KAD	02–2024
DESIGNED		
CHECKED		

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. G002

EXISTING PAVEMENT		
BORING	ASPHALT	AGGREGATE
#4	6.5"	3"



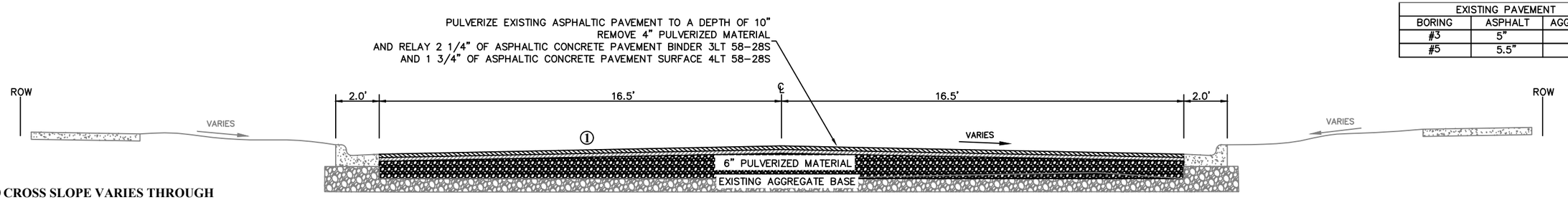
① CROSS SLOPE VARIES THROUGH PROJECT AS FOLLOWS:

LEFT SIDE
STATION 31+50 TO 41+75 – 3.50%

NOTE 1: HOLD LEFT CURB FLANGE AND CARRY SPECIFIED SLOPE TO CL AND MATCH TO RIGHT FLANGE
NOTE 2: BLEND INTERSECTIONS AS REQUIRED TO TRANSITION FROM PROPOSED GRADES

SMITS STREET (STA 31+50 TO STA 41+75)
TYPICAL MILL AND OVERLAY SECTION
WITH CURB AND GUTTER

EXISTING PAVEMENT		
BORING	ASPHALT	AGGREGATE
#3	5"	9.5"
#5	5.5"	6"



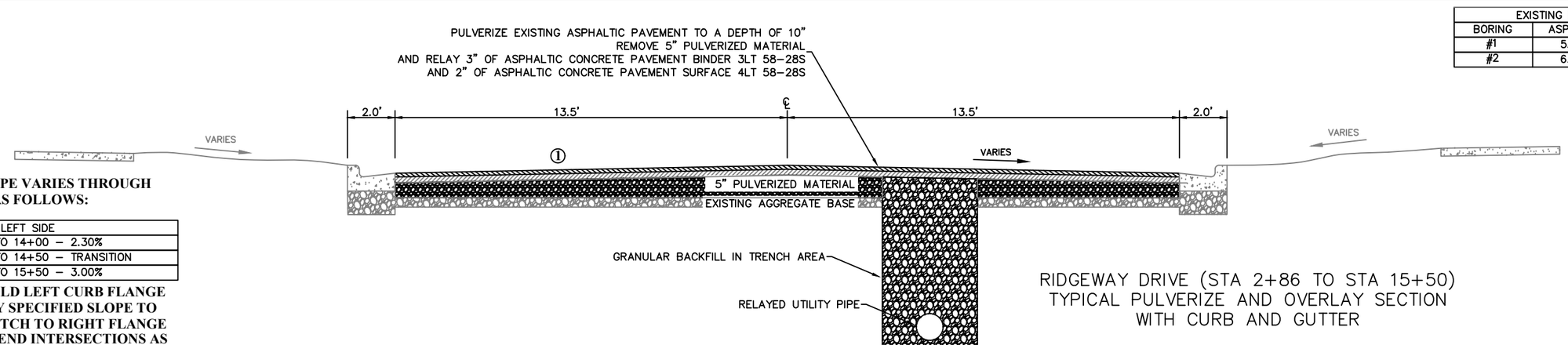
① CROSS SLOPE VARIES THROUGH PROJECT AS FOLLOWS:

LEFT SIDE
STATION 15+50 TO 24+75 – 3.50%

NOTE 1: HOLD LEFT CURB FLANGE AND CARRY SPECIFIED SLOPE TO CL AND MATCH TO RIGHT FLANGE
NOTE 2: BLEND INTERSECTIONS AS REQUIRED TO TRANSITION FROM PROPOSED GRADES

RIDGEWAY DRIVE (STA 15+50 TO STA 24+75)
TYPICAL PULVERIZE AND OVERLAY SECTION
WITH CURB AND GUTTER

EXISTING PAVEMENT		
BORING	ASPHALT	AGGREGATE
#1	5.5"	4.5"
#2	6.5"	7.5"



① CROSS SLOPE VARIES THROUGH PROJECT AS FOLLOWS:

LEFT SIDE
STATION 12+86 TO 14+00 – 2.30%
STATION 14+00 TO 14+50 – TRANSITION
STATION 14+50 TO 15+50 – 3.00%

NOTE 1: HOLD LEFT CURB FLANGE AND CARRY SPECIFIED SLOPE TO CL AND MATCH TO RIGHT FLANGE
NOTE 2: BLEND INTERSECTIONS AS REQUIRED TO TRANSITION FROM PROPOSED GRADES

RIDGEWAY DRIVE (STA 2+86 TO STA 15+50)
TYPICAL PULVERIZE AND OVERLAY SECTION
WITH CURB AND GUTTER

CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

TYPICAL SECTION
RIDGEWAY DRIVE AND EAST RIVER DRIVE

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2023
CHECKED	EPR	01-2023

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. G003

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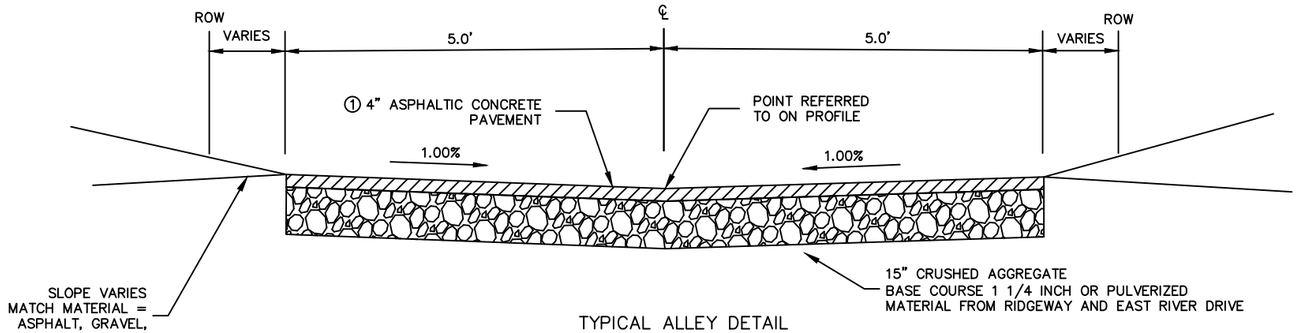
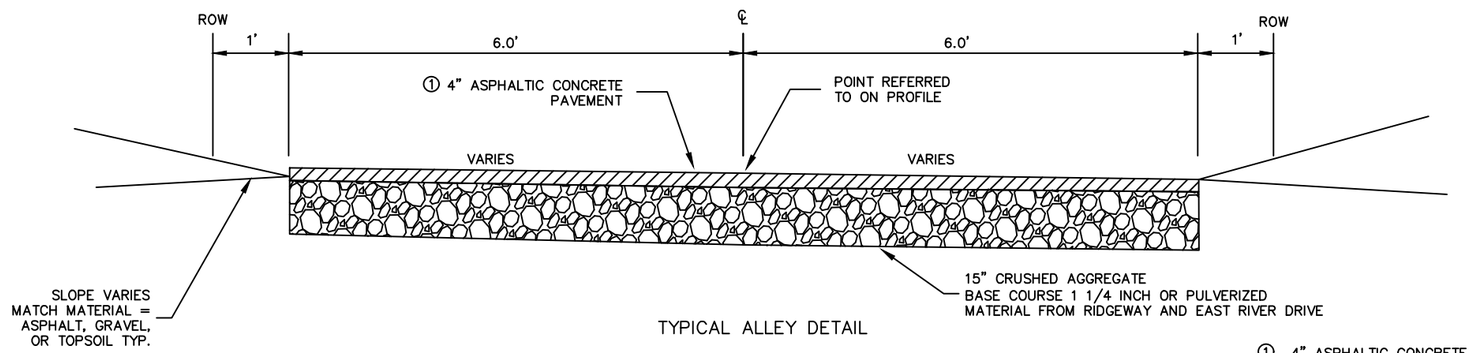


TYPICAL ALLEY DETAIL

JAMES ST / FRANKLIN ST / N. HURON / N. ERIE ST 10' WIDE
(WIDTH VARIES AT DRIVEWAY MATCH POINTS)

① 4" ASPHALTIC CONCRETE PAVEMENT CONSISTS OF:
2.25" BINDER COURSE: 3 LT 58-28 S
1.75" SURFACE COURSE: 4 LT 58-28 S

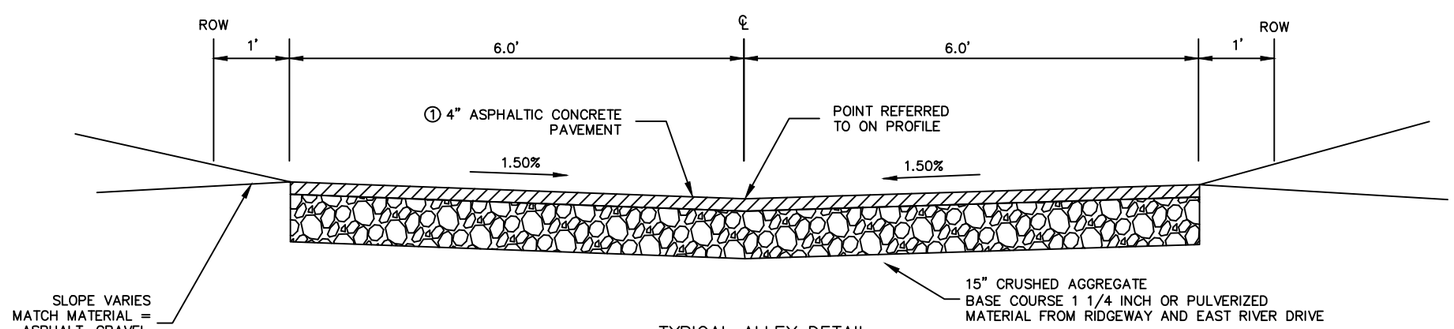
CROSS SLOPE INFORMATION
STATION 55+60 TO 56+50 – 1.00% LEFT
STATION 56+75 TO 58+00 – 1.00% RIGHT
STATION 58+25 TO END – 1.00% LEFT



TYPICAL ALLEY DETAIL

CHARLES ST / GEORGE ST / S. ERIE ST/ S. ONTARIO ST 12' WIDE
(WIDTH VARIES AT DRIVEWAY MATCH POINTS)

① 4" ASPHALTIC CONCRETE PAVEMENT CONSISTS OF:
2.25" BINDER COURSE: 3 LT 58-28 S
1.75" SURFACE COURSE: 4 LT 58-28 S



TYPICAL ALLEY DETAIL

JAMES ST / WILLIAM ST / N. MICHIGAN ST/ N. SUPERIOR ST 12' WIDE
(WIDTH VARIES AT DRIVEWAY MATCH POINTS)

① 4" ASPHALTIC CONCRETE PAVEMENT CONSISTS OF:
2.25" BINDER COURSE: 3 LT 58-28 S
1.75" SURFACE COURSE: 4 LT 58-28 S

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

TYPICAL SECTION

ALLEYS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	MJT	04-2022
DESIGNED		
CHECKED	EPR	01-2024

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO. G004

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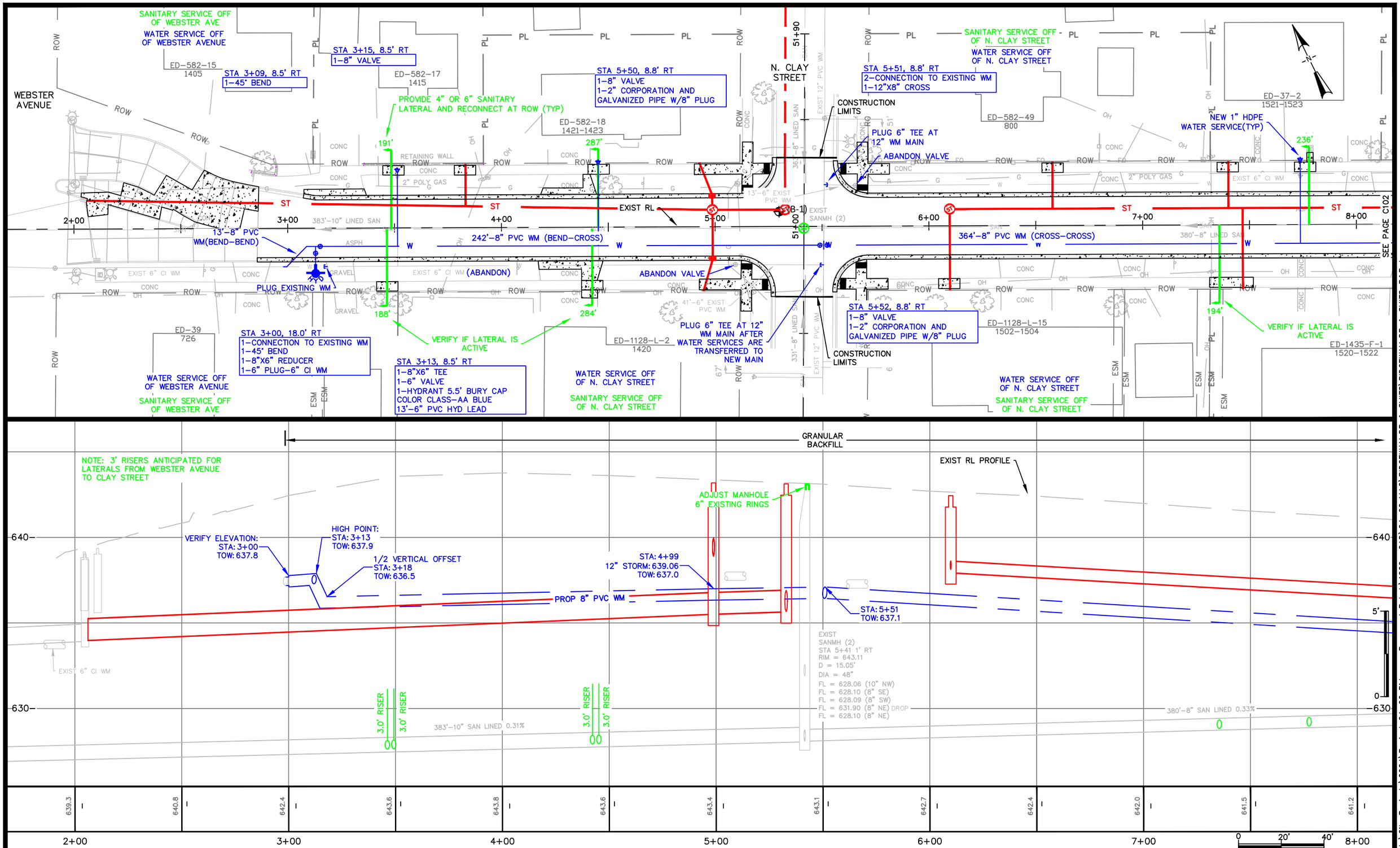

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE
WEBSTER AVE TO 250' E/O N. CLAY ST
SANITARY SEWER & WATERMAIN

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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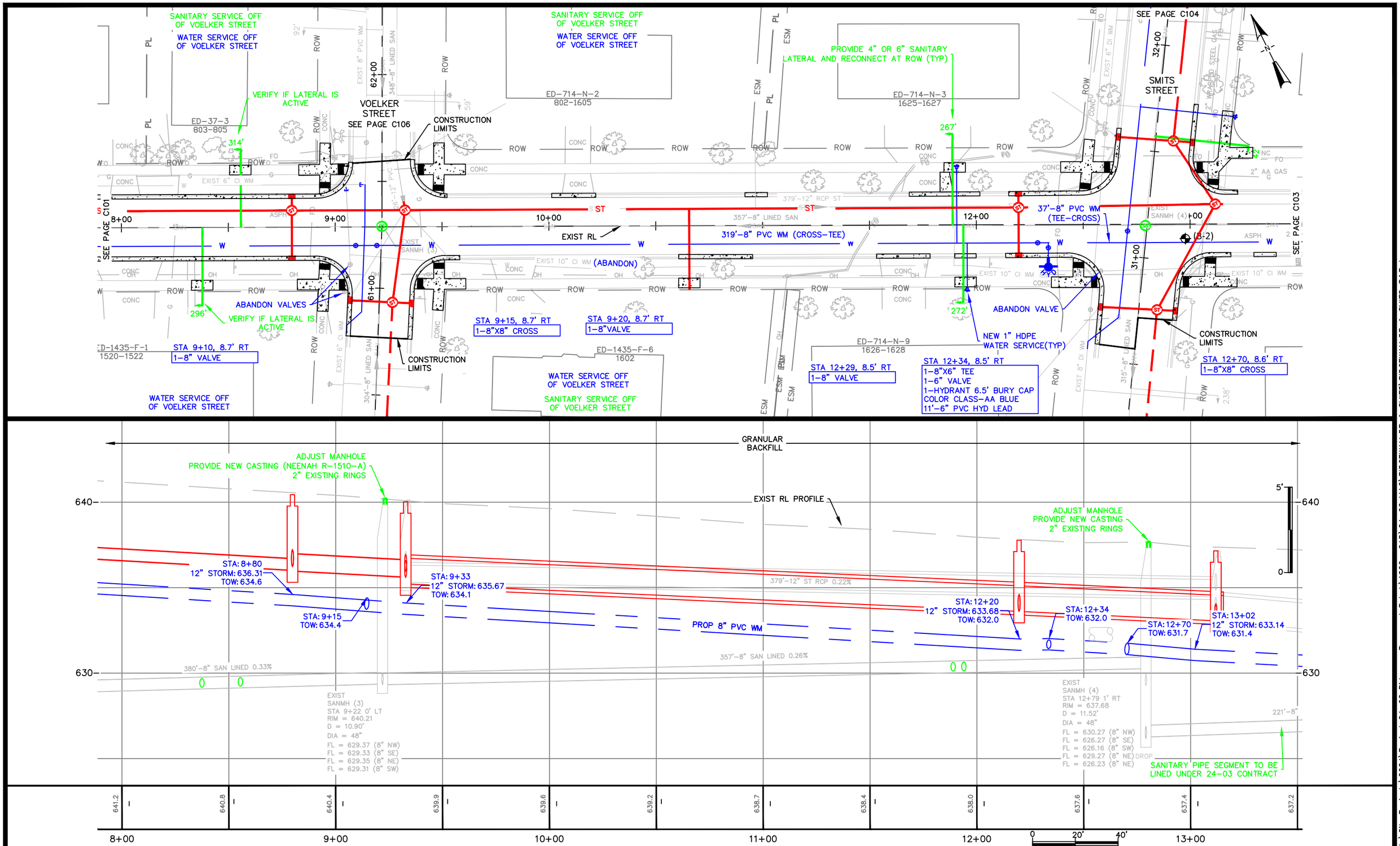

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE
250' E/O N. CLAY ST TO SMITS ST
SANITARY SEWER & WATERMAIN

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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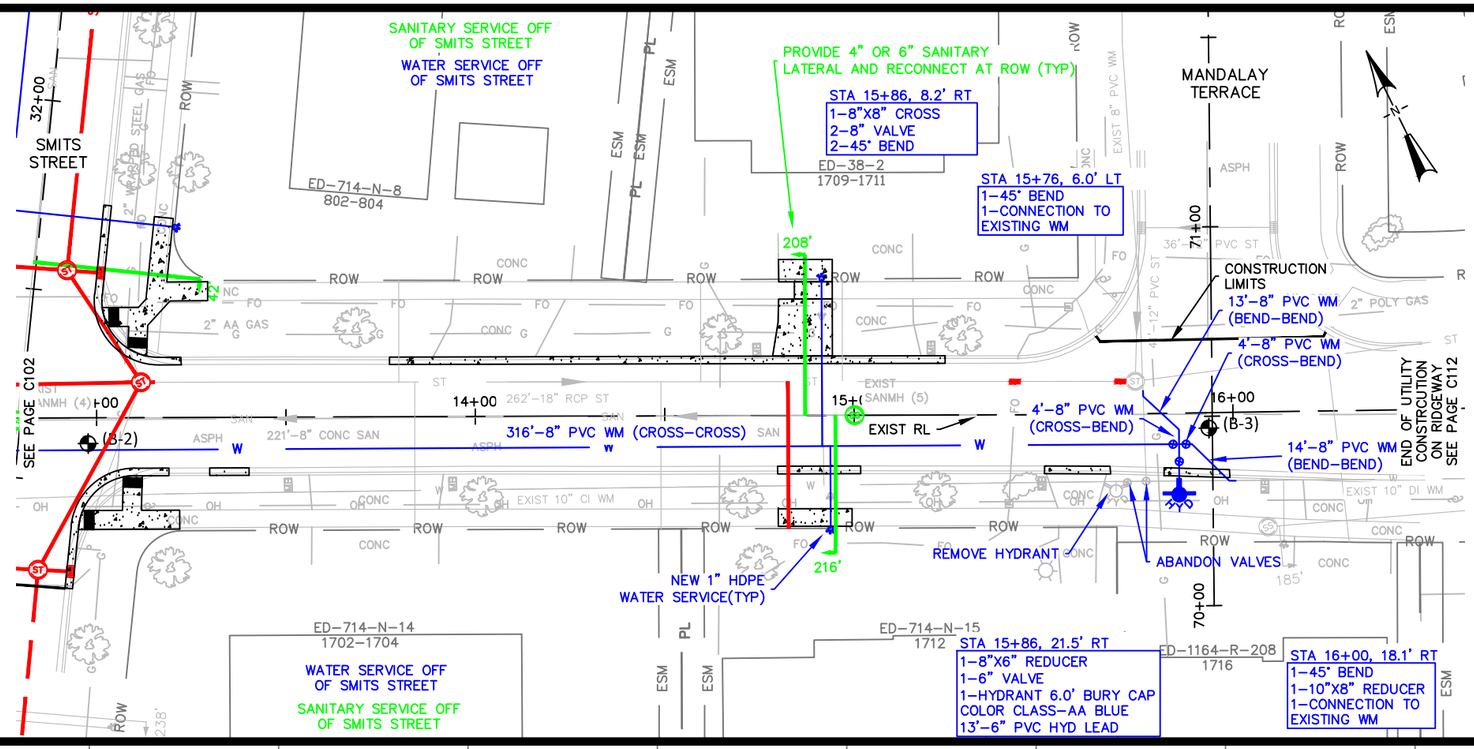
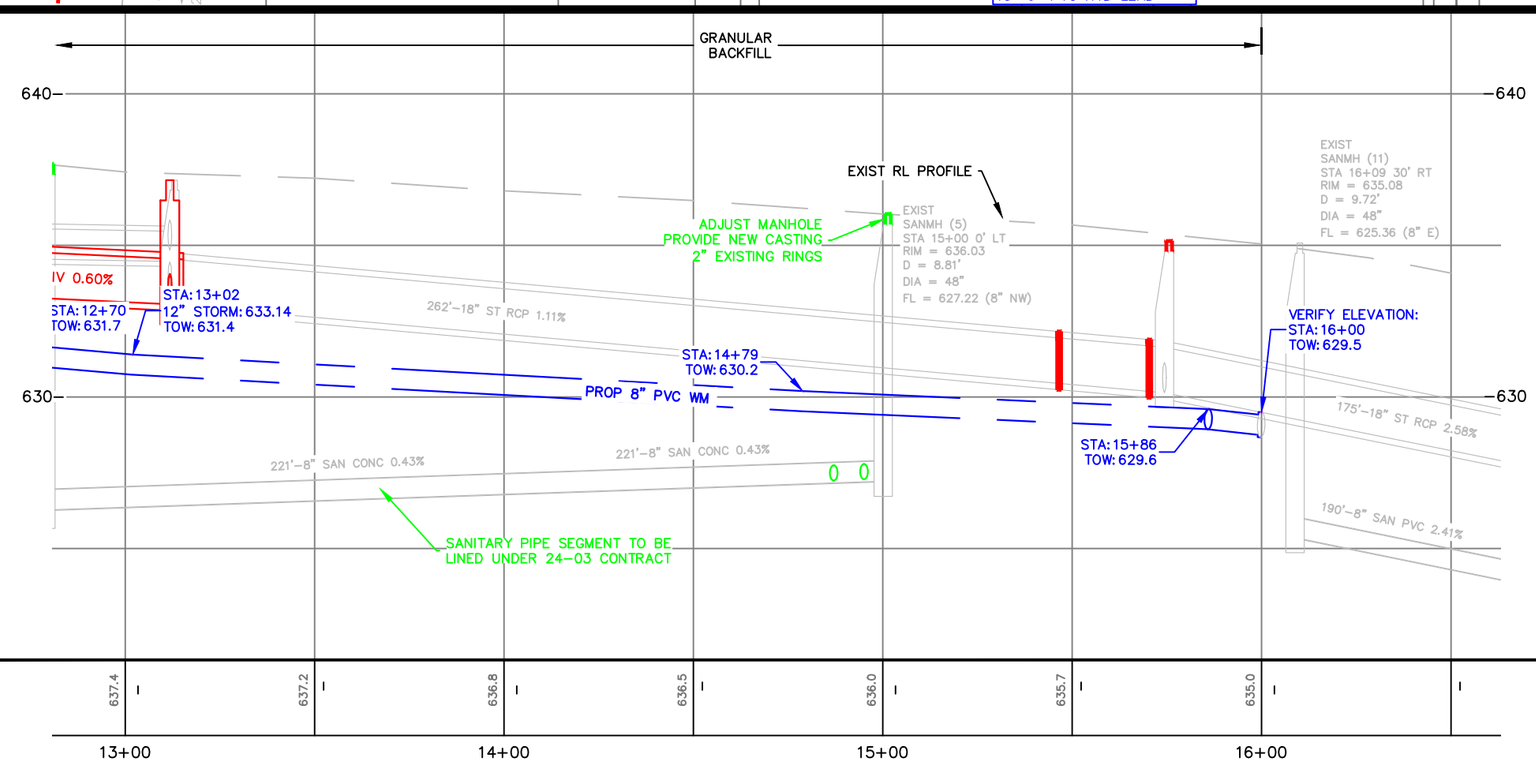


NOTE: CLOSE VALVES AFTER INSTALLATION FOR WATERMAIN CONSTRUCTION TO WEST. INSTALL HYDRANT AFTER EXISTING WATERMAIN IS TAKEN OUT OF SERVICE



CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115

OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE

SMITS ST TO MANDALAY TER

SANITARY SEWER & WATERMAIN

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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STA 30+55, 22.1' LT
1-CONNECTION TO EXISTING WM
1-45° BEND
1-2" CORPORATION AND GALVANIZED PIPE W/8" PLUG

SEE PAGE C102

SANITARY SERVICE OFF OF RIDGEWAY DRIVE

WATER SERVICE OFF OF RIDGEWAY DRIVE

RIDGEWAY DRIVE

STA 31+07, 9.4' LT
1-8"X8" CROSS

REMOVE HYDRANT AND ABANDON VALVE

35'-8" PVC WM (BEND-CROSS)

18'-8" PVC WM (BEND-BEND)

CONSTRUCTION LIMITS

STA 30+71, 9.0' LT
1-45° BEND

STA 31+12, 9.4' LT
1-8" VALVE

476'-8" PVC WM (CROSS-TEE)

PROVIDE 4" OR 6" SANITARY LATERAL AND RECONNECT AT ROW (TYP)

EXIST RL

STA 33+99, 5.0' LT
1-WM PIPE DEFLECTION

STA 35+84, 5.8' LT
1-8"X6" TEE
1-6" VALVE
1-HYDRANT 6.5' BURY CAP COLOR CLASS-AA BLUE
19'-6" PVC HYD LEAD

STA 35+89, 5.8' LT
1-8" VALVE

REMOVE HYDRANT AND ABANDON VALVE

NEW 1" HDPE WATER SERVICE(TYP)

SEE PAGE C101

SEE PAGE C105

SEE PAGE C102

ED-714-N-4 809
ED-714-N-5 813
ED-582-74 817-819
ED-582-76 823-825
ED-582-77 829-831
ED-714-N-14 1702-1704
ED-714-N-8 802-804
ED-714-N-7 808-810
ED-714-N-6 812-814
ED-35-3 816-818
ED-35-4 822-824
ED-35-5 828-830

GRANULAR BACKFILL

EXIST RL PROFILE

ADJUST MANHOLE
PROVIDE NEW CASTING
11" EXISTING RINGS

HIGH POINT:
STA: 35+84
TOW: 638.6

PROP 8" PVC WM

EXIST
STMH (29)
STA 13+12 9' LT
RIM = 637.15
D = 4.10'
DIA = 48"
FL = 634.47 (12" NW)
FL = 633.05 (18" SE)
FL = 633.45 (12" SW)
FL = 634.84 (12" N)

STA 12+93 41' RT
EXIST
INL (34)
RIM = 637.53
D = 2.70'
FL = 634.83 (12" NW)
FL = 634.83 (12" NE)

53'-12" ST RCP 2.60%

VERIFY ELEVATION:
STA: 30+55
TOW: 631.4

STA: 31+07
TOW: 631.7

STA: 31+55
12" STORM: 633.48
TOW: 631.8

STA: 32+15
TOW: 632.5

STA: 31+24
18" STORM: 633.30
TOW: 631.6

STA: 30+77
12" STORM: 633.35
TOW: 631.5

EXIST
SANMH (10)
STA 12+79
RIM = 637.6
D = 11.52'
DIA = 48"
FL = 630.27 (8" NW)
FL = 626.27 (8" SE)
FL = 626.16 (8" SW)
FL = 629.27 (8" NE)
FL = 626.23 (8" NE)

EXIST
SANMH (10)
STA 33+99 3' RT
RIM = 642.30
D = 10.92'
DIA = 48"
FL = 631.37 (8" NE)
FL = 631.37 (8" SW)

284'-8" SAN LINED 0.74%

310'-8" SAN LINED 0.24%

315'-8" SAN PVC 0.38%

640

630

637.5 637.7 638.3 639.1 640.2 641.3 642.4 643.1 643.8 644.3 644.6 644.8

31+00 32+00 33+00 34+00 35+00 36+00

0 20' 40'

5' 0

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CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

SMITS STREET

RIDGEWAY DR TO 550' N/O RIDGEWAY DR

SANITARY SEWER & WATERMAIN

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C104

STA 41+37, 7.0' LT
1-22.5° BEND

STA 41+50, 12.4' LT
1-22.5° BEND

SANITARY SERVICE OFF OF LEBRUN STREET

WATER SERVICE OFF OF LEBRUN STREET

STA 41+73, 12.5' LT
1-8" VALVE
1-CONNECTION TO EXISTING PVC WM
REMOVE EXISTING VALVE

STA 41+68, 12.5' LT
1-8"X6" TEE
1-6" VALVE
1-HYDRANT 7.5' BURY CAP
COLOR CLASS-AA BLUE
14'-6" PVC HYD LEAD

PROVIDE 4" OR 6" SANITARY LATERAL AND RECONNECT AT ROW (TYP)

REMOVE HYDRANT

17'-8" PVC WM (BEND-TEE)

14'-8" PVC WM (BEND-BEND)

5'-8" PVC WM (BEND-EXIST)

CONSTRUCTION LIMITS

LEBRUN STREET

554'-8" PVC WM (TEE-BEND)

EXIST RL

NEW 1" HDPE WATER SERVICE(TYP)

WATER SERVICE OFF OF LEBRUN STREET

SANITARY SERVICE OFF OF LEBRUN STREET

SEE PAGE C109

ADJUST MANHOLE
PROVIDE NEW CASTING
16" EXISTING RINGS

EXIST RL PROFILE

ADJUST MANHOLE
PROVIDE NEW CASTING
21" EXISTING RINGS

STA: 38+95
TOW: 636.8

STA: 39+50
TOW: 635.7

MAINTAIN 6" SEPARATION OVER SANITARY LATERAL

STA: 40+08
TOW: 635.3

PROP 8" PVC WM

STA: 40+36
TOW: 633.7

STA: 41+53
12" STORM: 632.33
TOW: 630.6

STA: 41+68
TOW: 630.1

VERIFY ELEVATION:
STA: 41+73
TOW: 630.0

GRANULAR BACKFILL

310'-8" SAN LINED 0.24%

309'-8" SAN PVC 0.43%

EXIST SANMH (8)
STA 37+09 2' RT
RIM = 644.67
D = 12.55'
DIA = 48"
FL = 632.12 (8" NE)
FL = 632.12 (8" SW)

EXIST SANMH (9)
STA 40+18 1' RT
RIM = 640.61
D = 7.16'
DIA = 48"
FL = 633.45 (8" SW)

EXIST SANMH (17)
STA 42+13 1' LT
RIM = 636.08
D = 10.73'
DIA = 48"
FL = 625.44 (8" NW)
FL = 625.34 (8" SE)

CITY OF DE PERE	SMITS STREET	NAME: RIDGEWAY PAVEMENT REHAB		BY	DATE	REVISIONS / ISSUES				PAGE NO.
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115	550' N/O RIDGEWAY DR TO LEBRUN STREET	PROJECT # 24-02	SURVEYED	MJT	11-2023	NO.	DATE	BY	REMARKS	C105
OFFICE 920-339-4061 FAX 920-339-4071	SANITARY SEWER & WATERMAIN		DRAWN	MJT	12-2023					
			DESIGNED	MJT	01-2024					
			CHECKED	EPR	01-2024					

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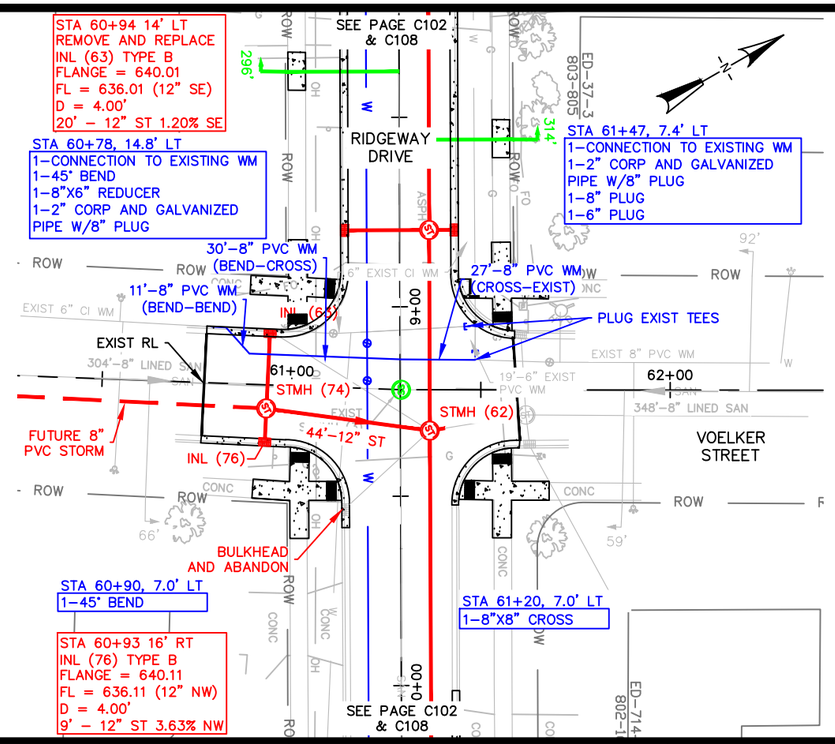

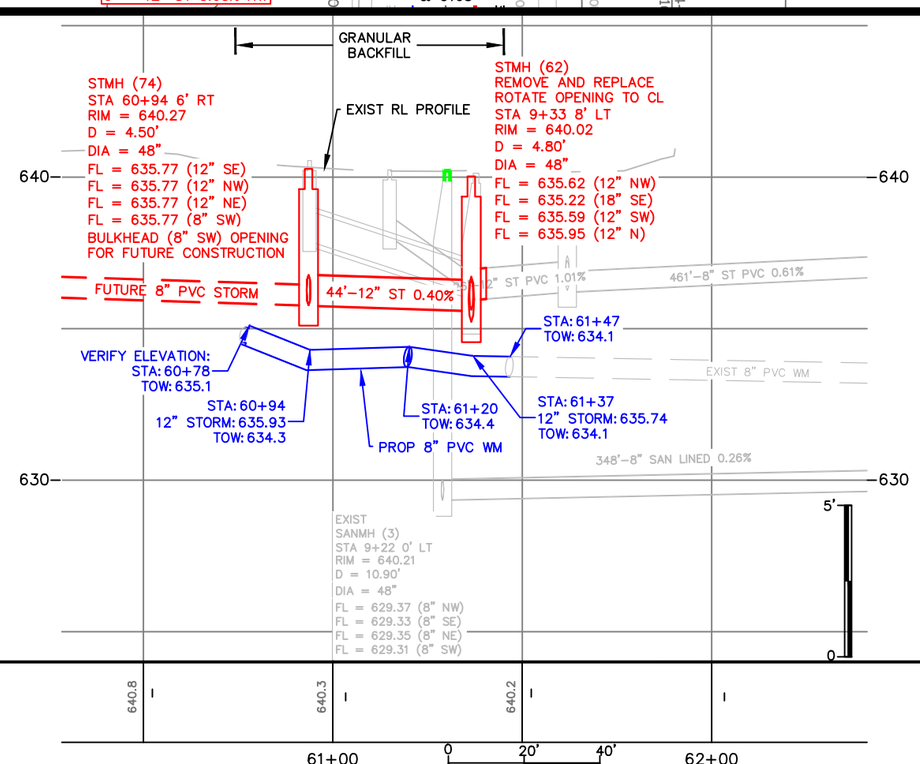

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920–339–4061 FAX 920–339–4071

VOELKER STREET
AT RIDGEWAY DRIVE
WATERMAIN & STORM SEWER

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24–02

	BY	DATE
SURVEYED	MJT	11–2023
DRAWN	MJT	12–2023
DESIGNED	MJT	01–2024
CHECKED	EPR	01–2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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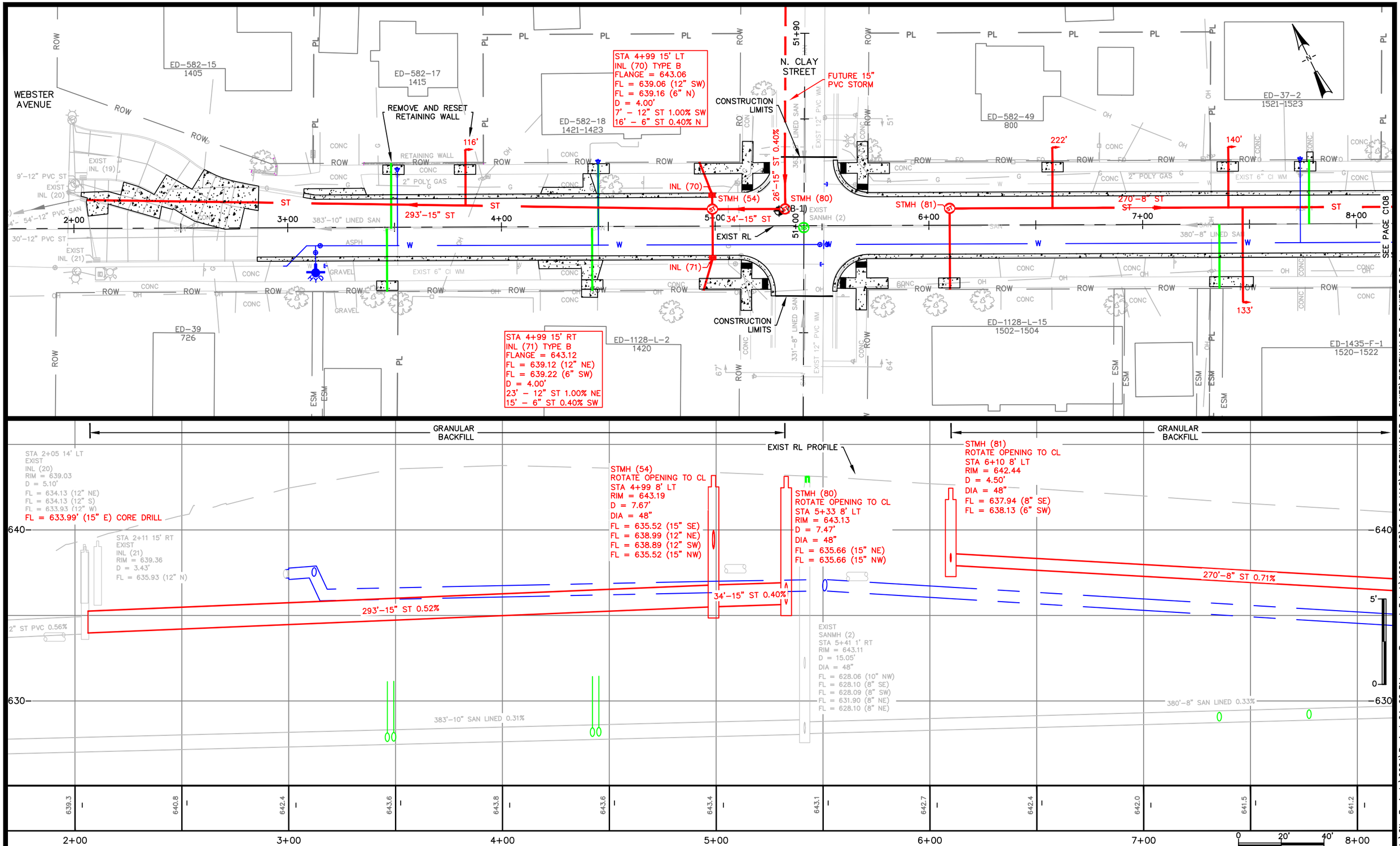

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CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE

WEBSTER AVE TO 250' E/O OF N. CLAY ST

STORM SEWER AND STREET

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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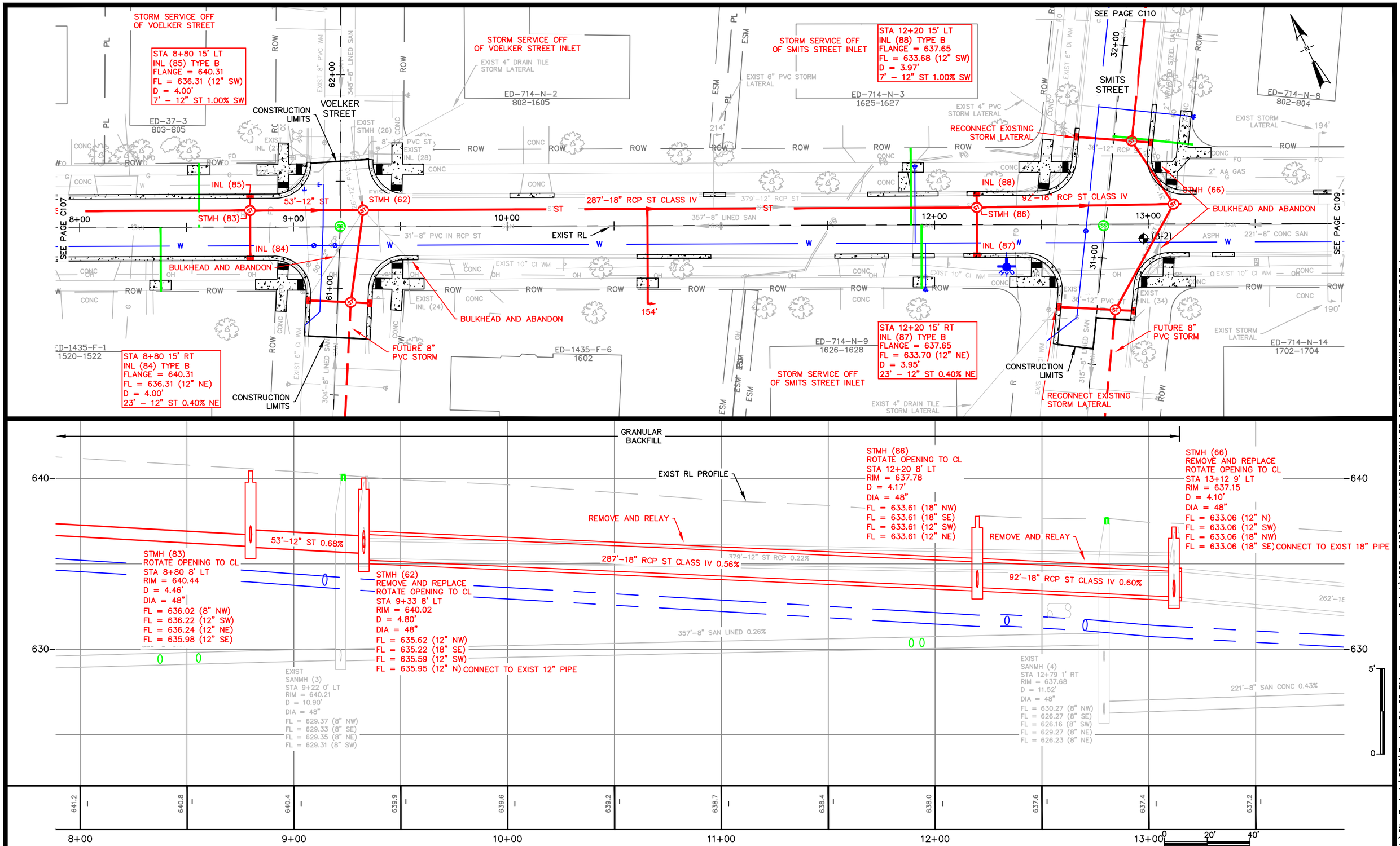

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115

OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE

250' E/O N. CLAY ST TO 100' E/O SMITS ST

STORM SEWER AND STREET

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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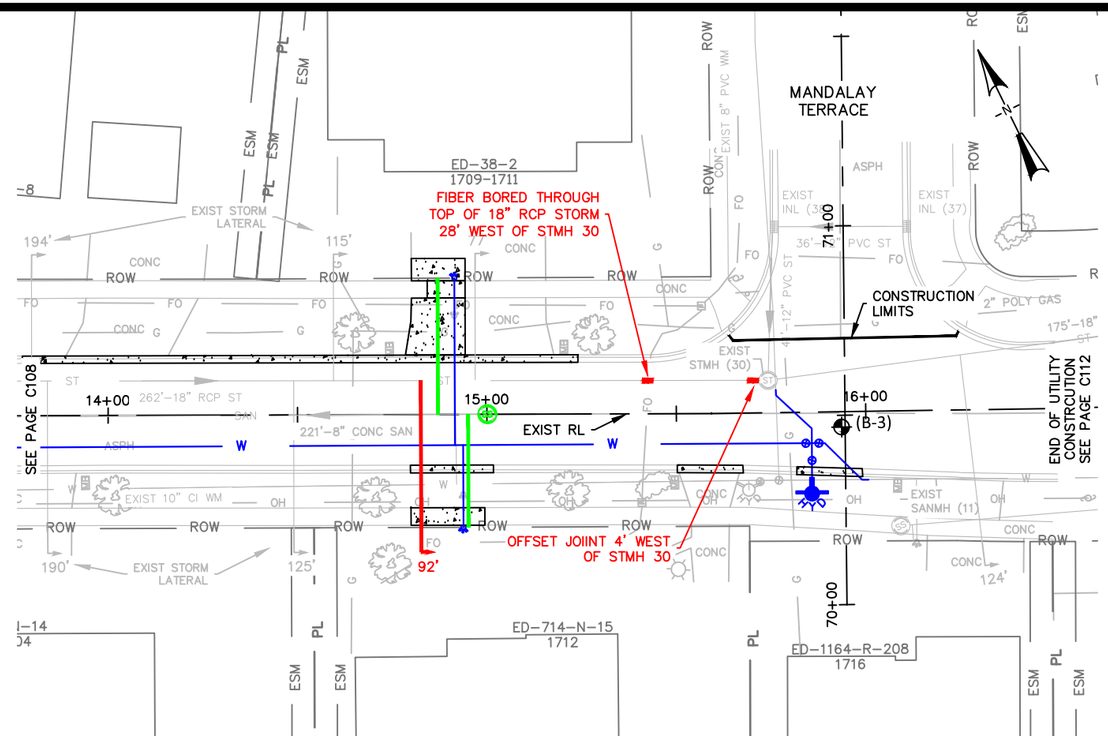
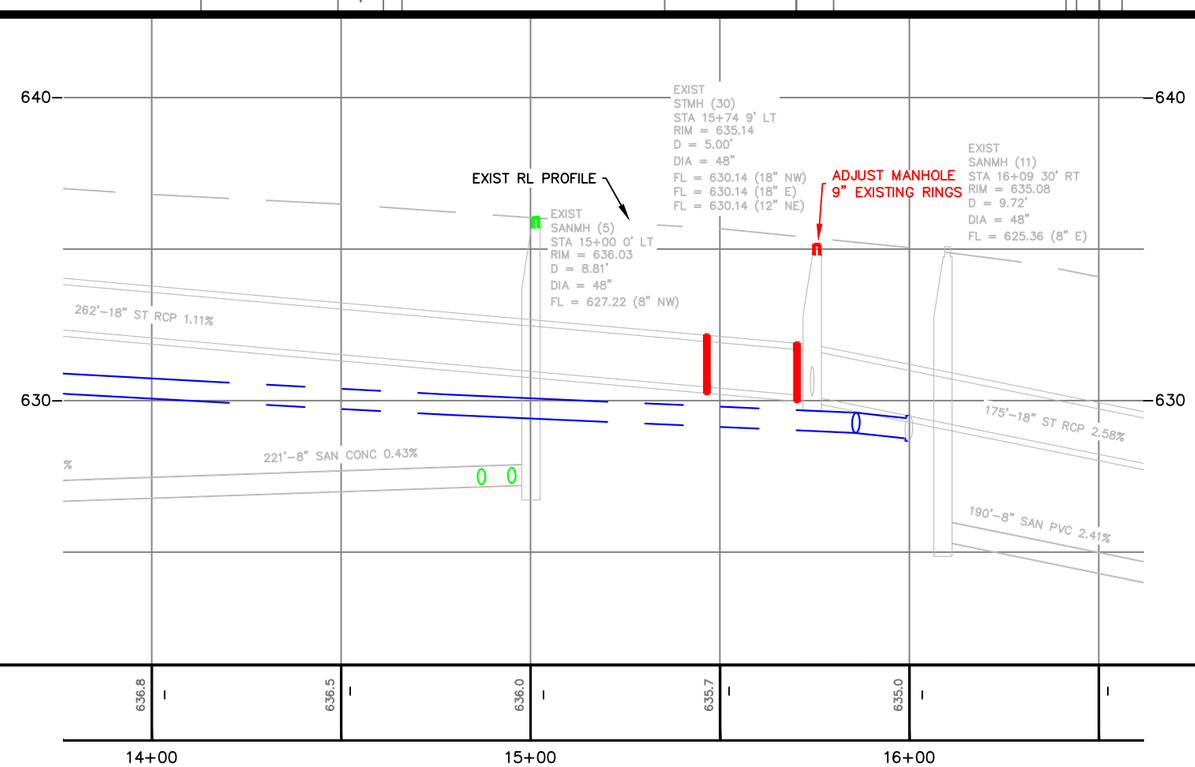
FIBER THROUGH TOP OF 18" RCP STORM
(5' SPOT REPAIR)



OFFSET JOINT 4' FROM STMH 30
(5' SPOT REPAIR)



5'
0

0 20' 40'

CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE
100' E/O SMITS ST TO 50' E/O MANDALAY TER
STORM SEWER AND STREET

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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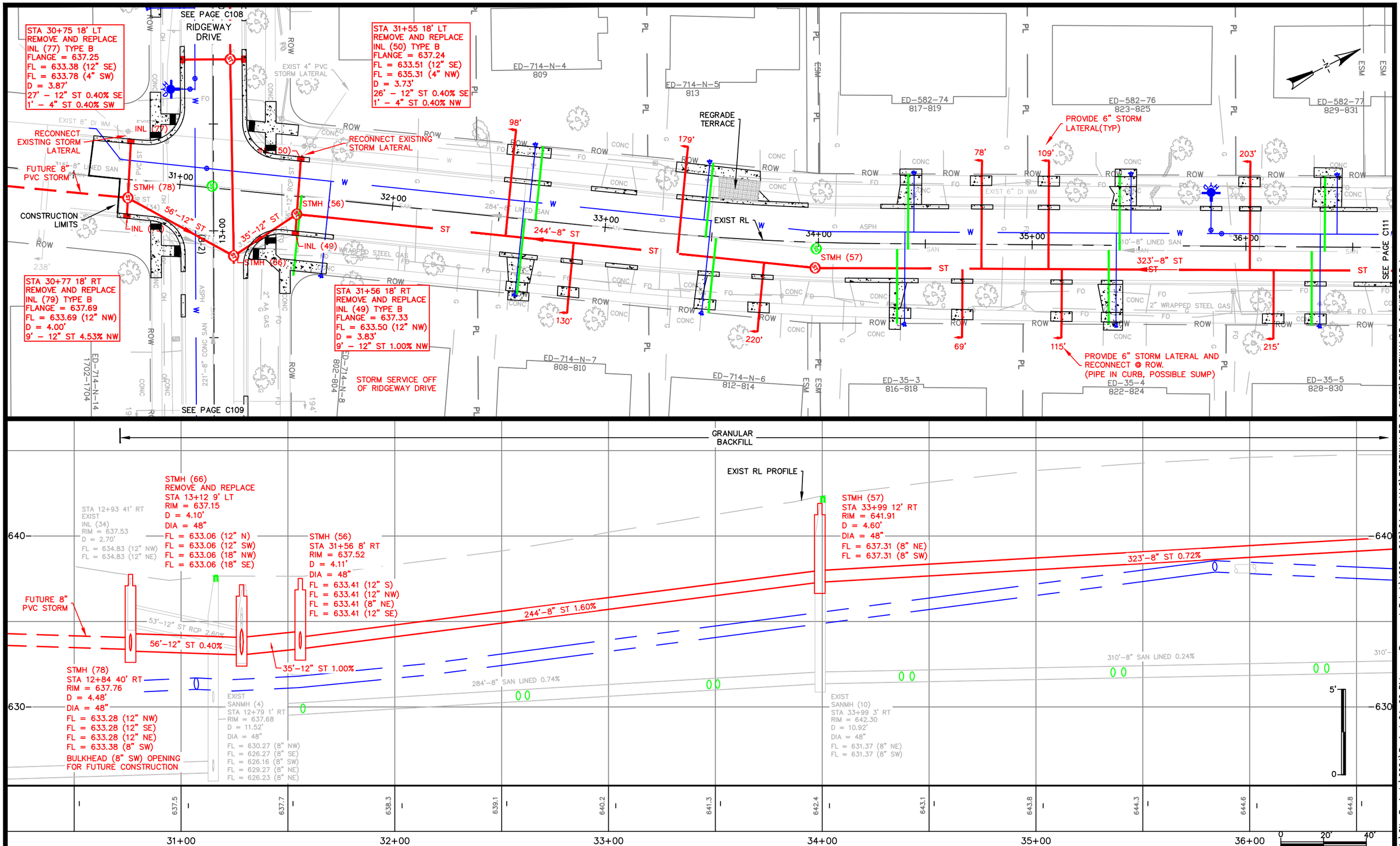

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

SMITS STREET

RIDGEWAY DR TO 550' N OF RIDGEWAY DR

STORM SEWER AND STREET

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C110

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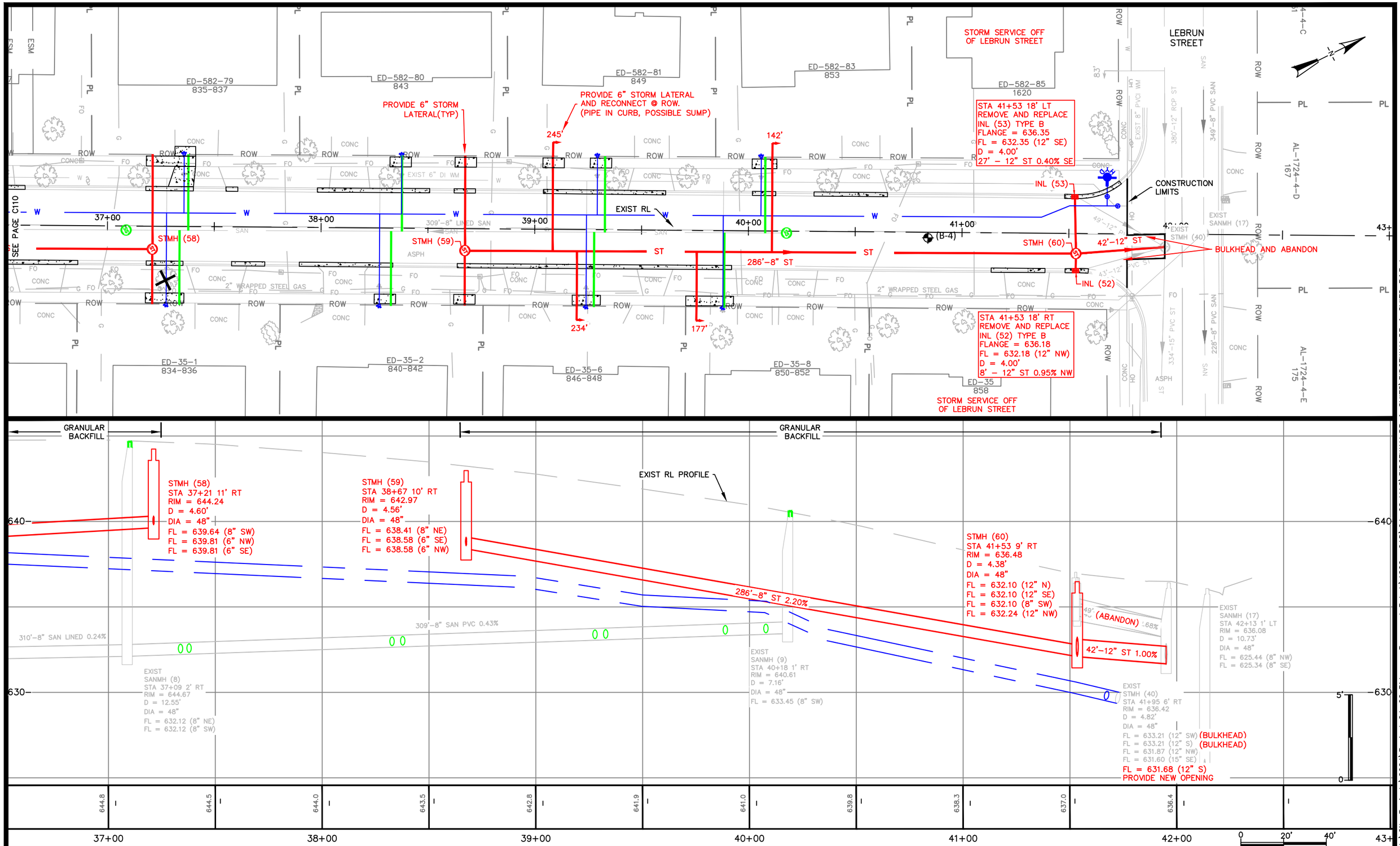

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

SMITS STREET
550' N OF RIDGEWAY DR TO LEBRUN STREET
STORM SEWER AND STREET

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
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REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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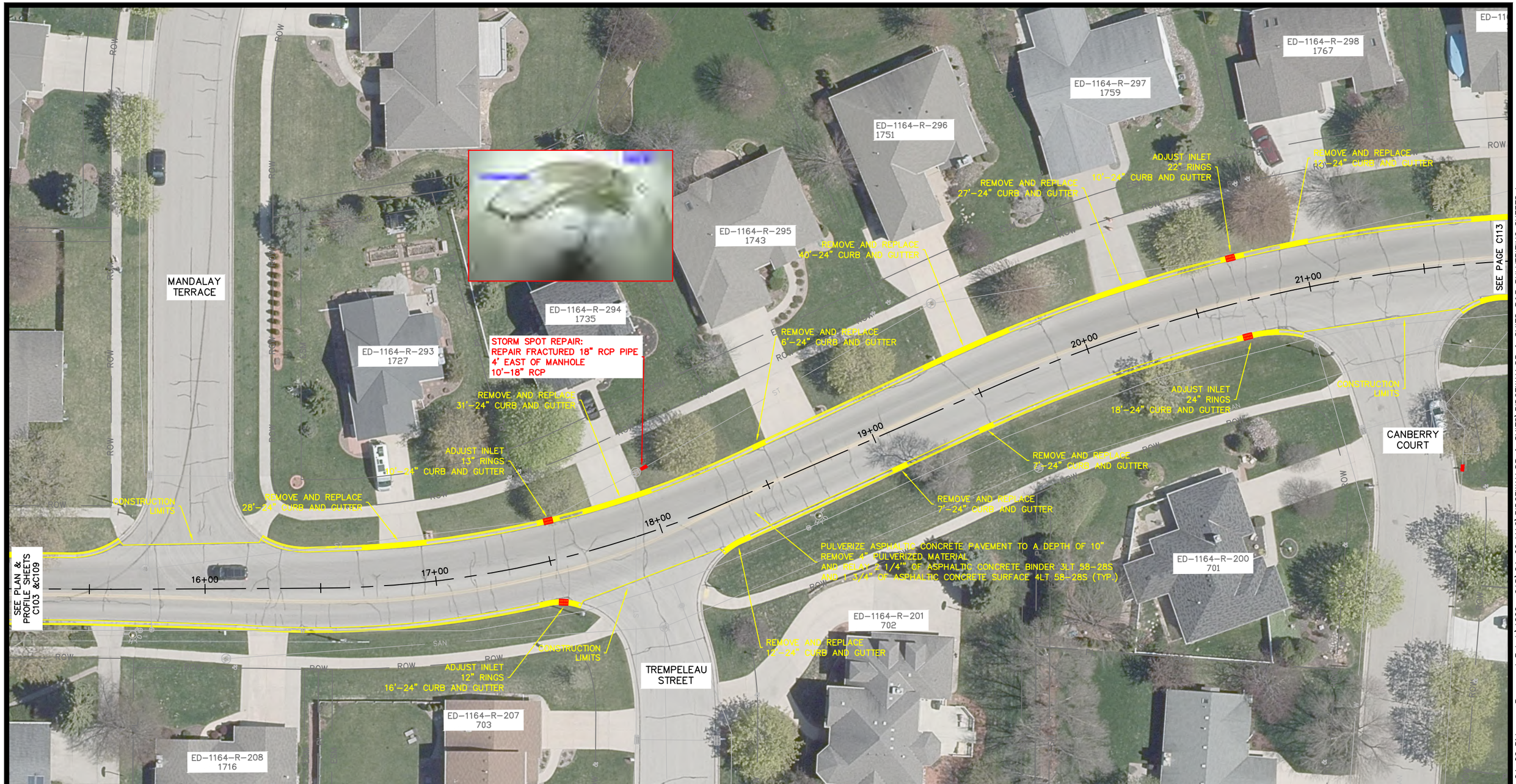


CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE

MANDALAY TER TO CANBERRY CT

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

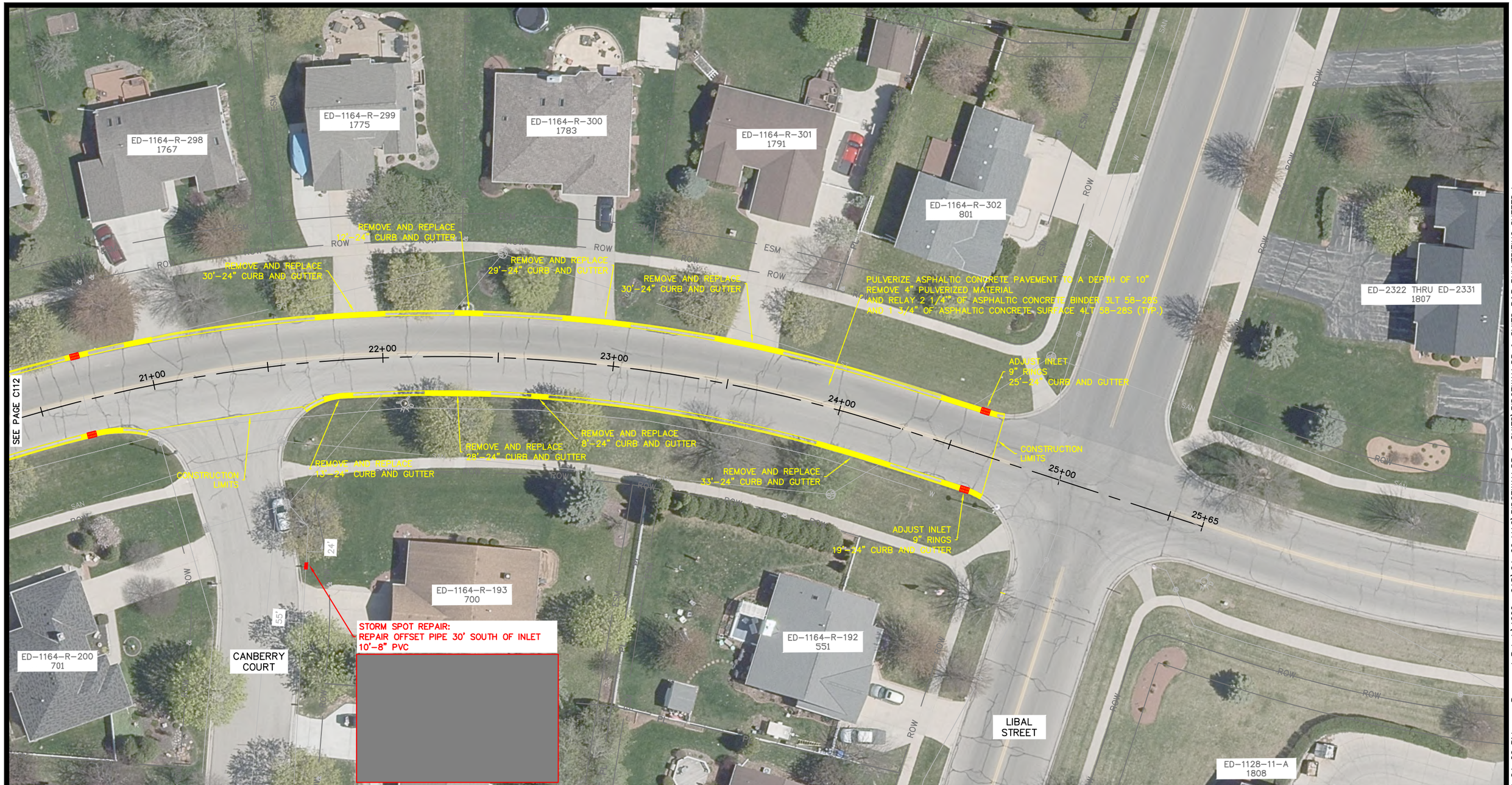
	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C112

X:\ENG\Projects\City Projects\2024\Project 24-02 Ridgeway Pavement Rehab\1200- CAD\24-02 MAC\RIDGEWAY DR & SMITS\RIDGEWAY DR & SMITS_P&P PULVERIZING SHEETS.dwg



CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE
CANBERRY CT TO LIBAL ST

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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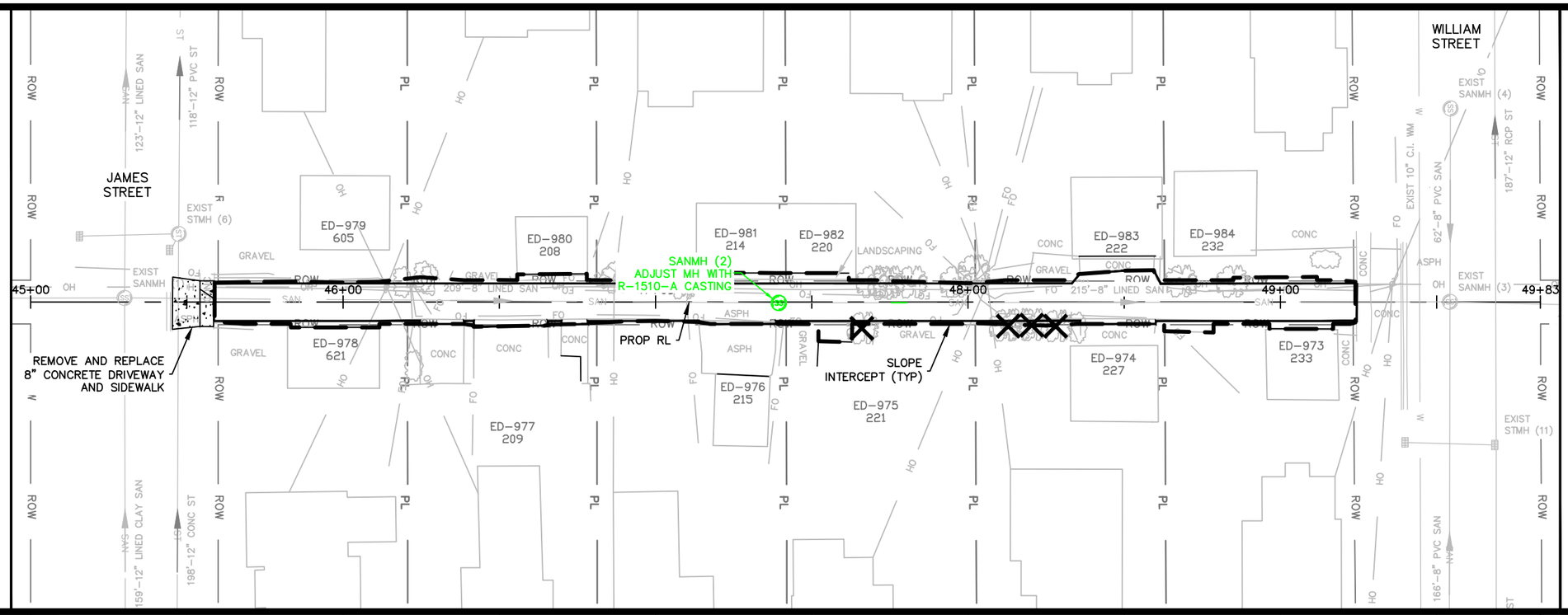

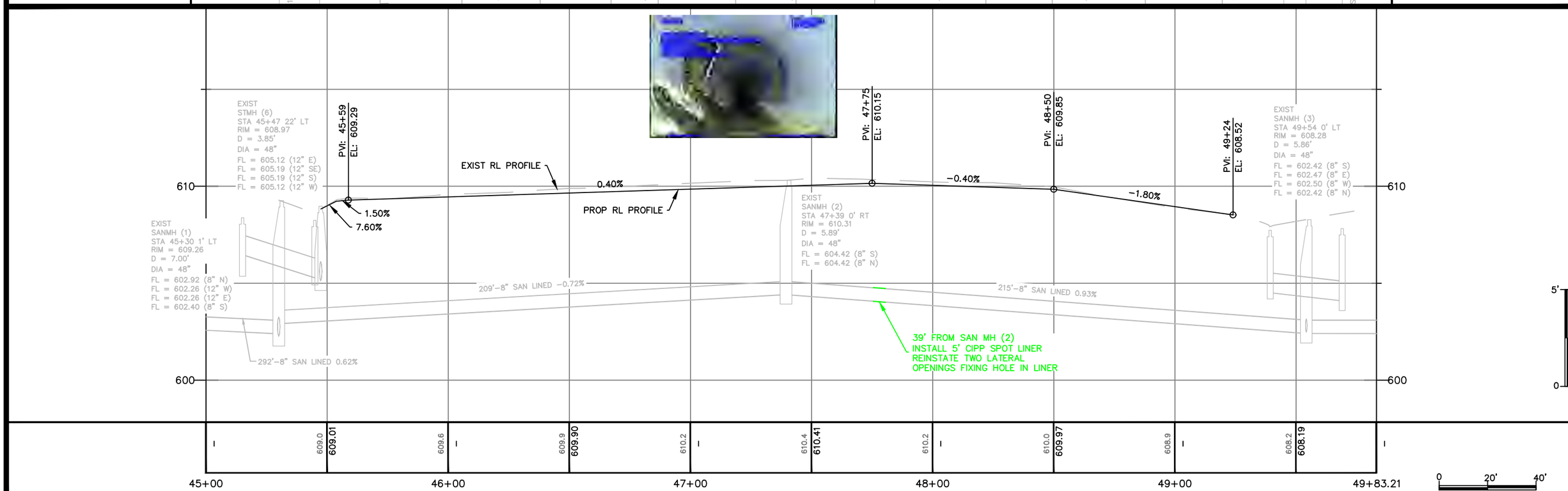

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CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

ALLEY

JAMES ST TO WILLIAM ST

BETWEEN N. MICHIGAN ST AND N. SUPERIOR ST

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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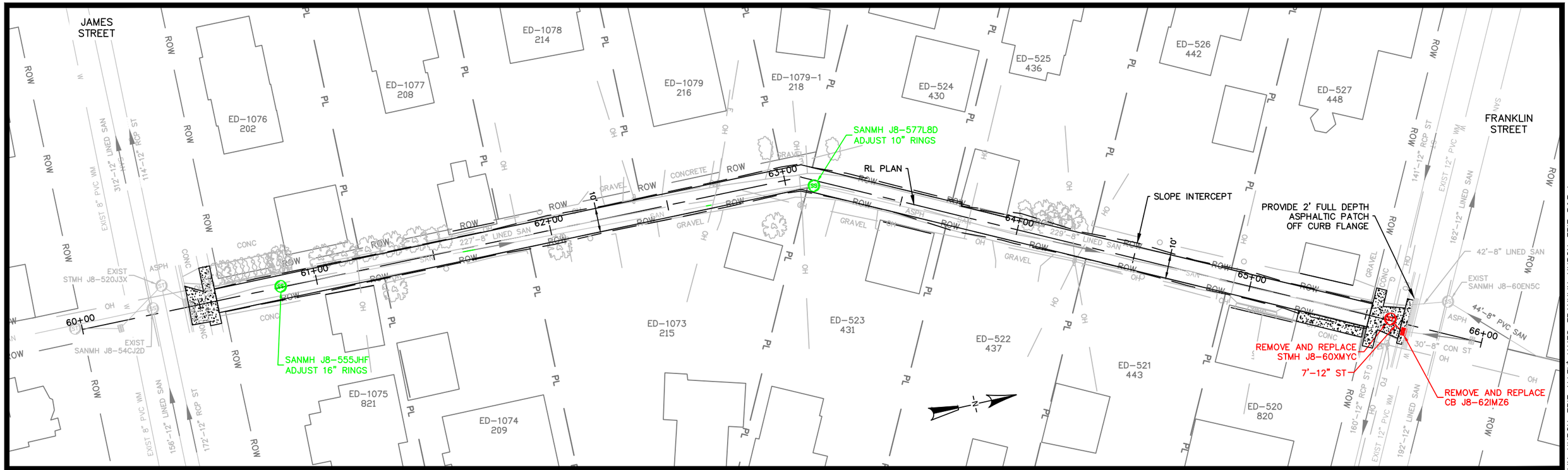

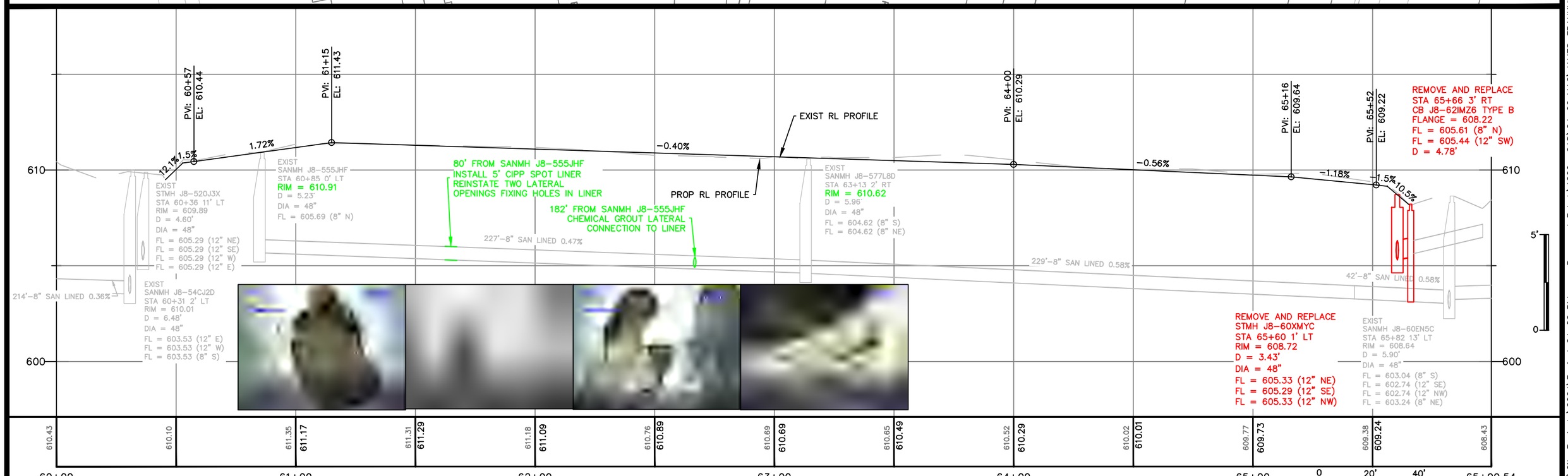

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

ALLEY

JAMES ST TO FRANKLIN ST
BETWEEN N. HURON ST AND N. ERIE ST

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	CKK	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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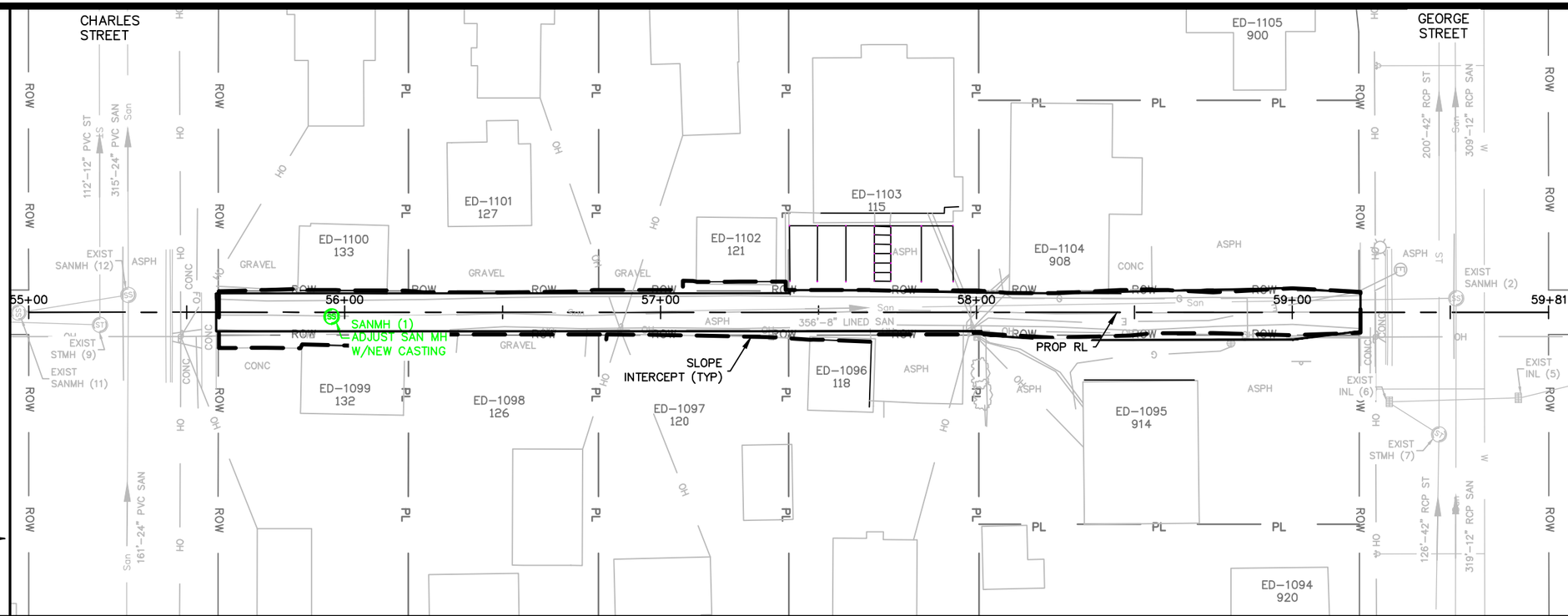

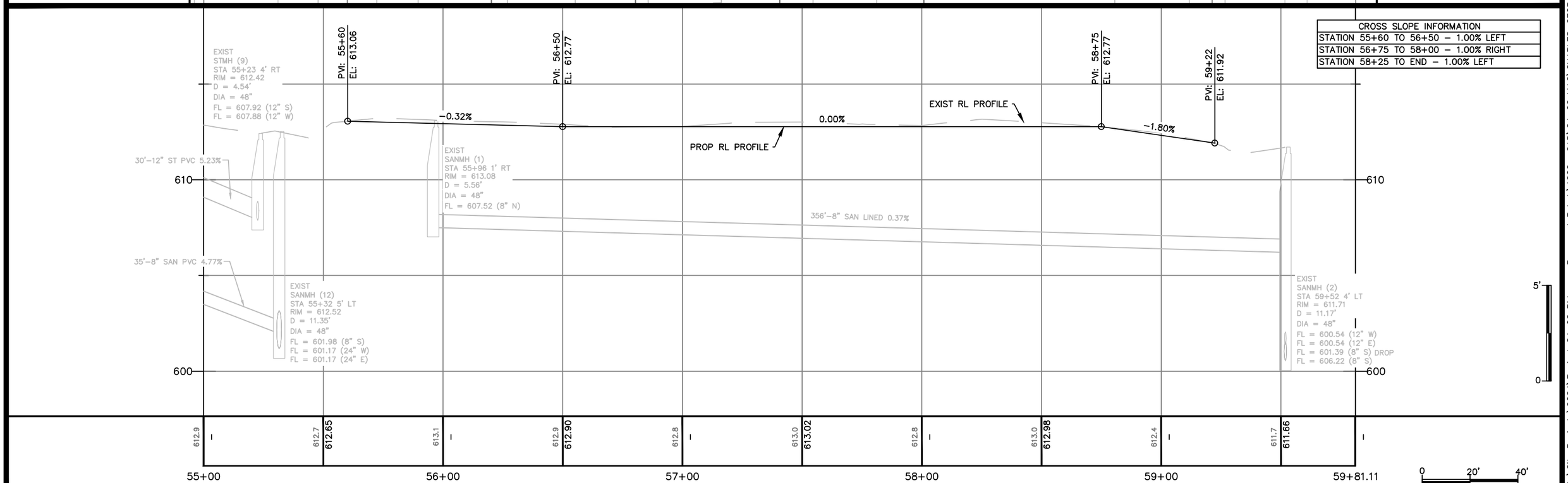

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

ALLEY
CHARLES ST TO GEORGE ST
BETWEEN S. ERIE ST AND S. ONTARIO ST

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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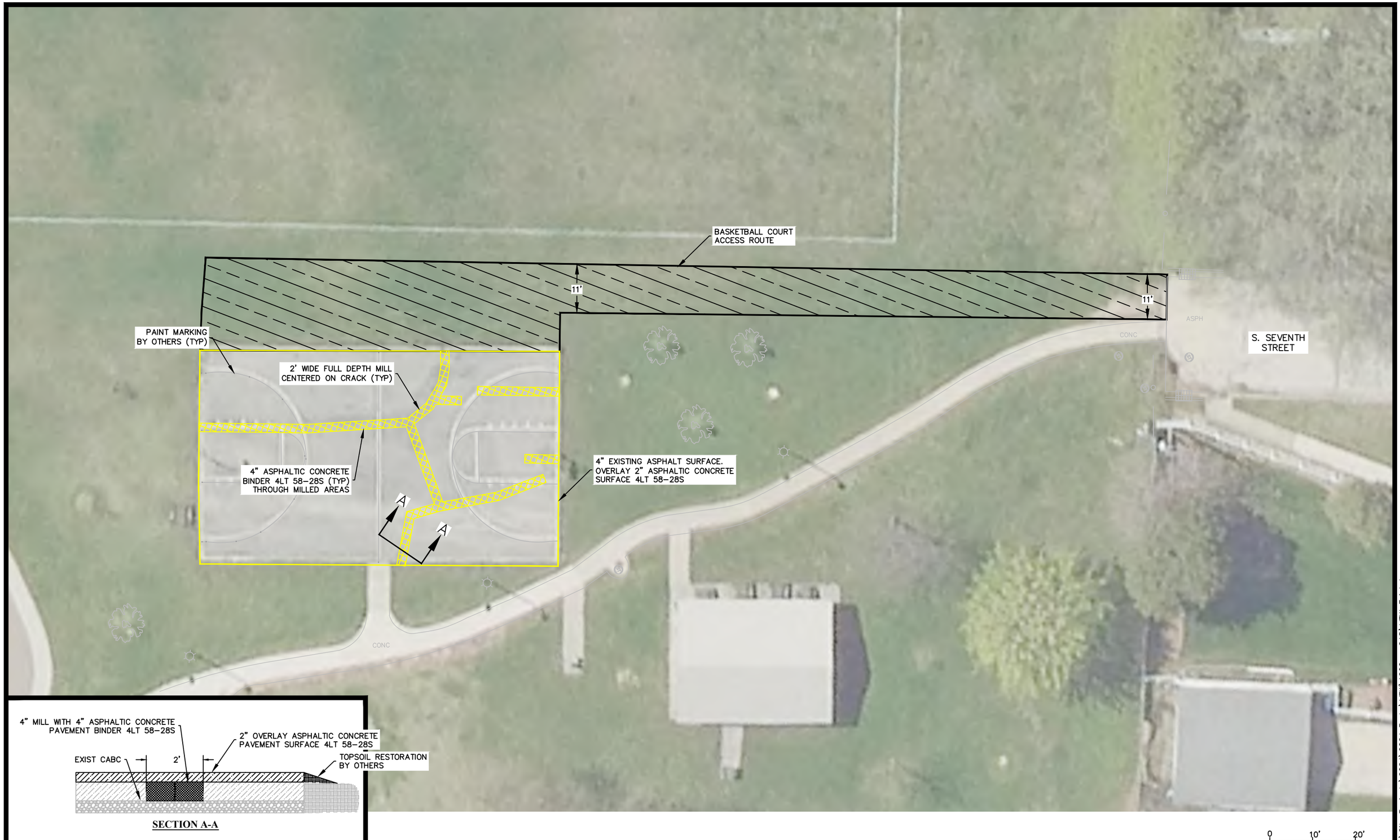

CITY OF DE PERE

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OFFICE 920-339-4061 FAX 920-339-4071

VFW PARK
BASKETBALL COURT

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED	KAD	03-2024
DRAWN	KAD	03-2024
DESIGNED	KAD	03-2024
CHECKED	EPR	03-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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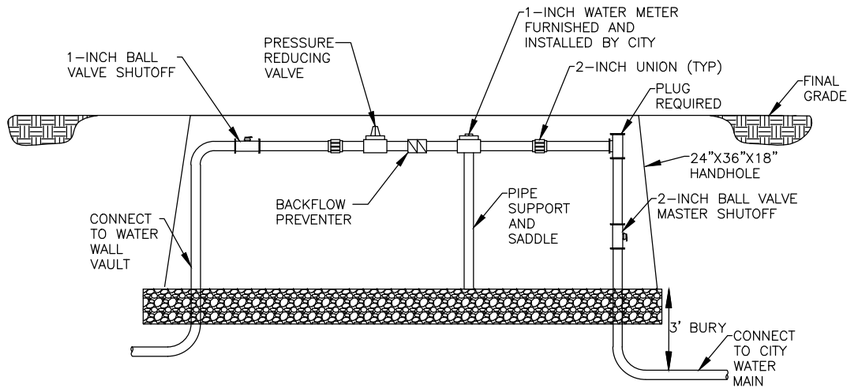
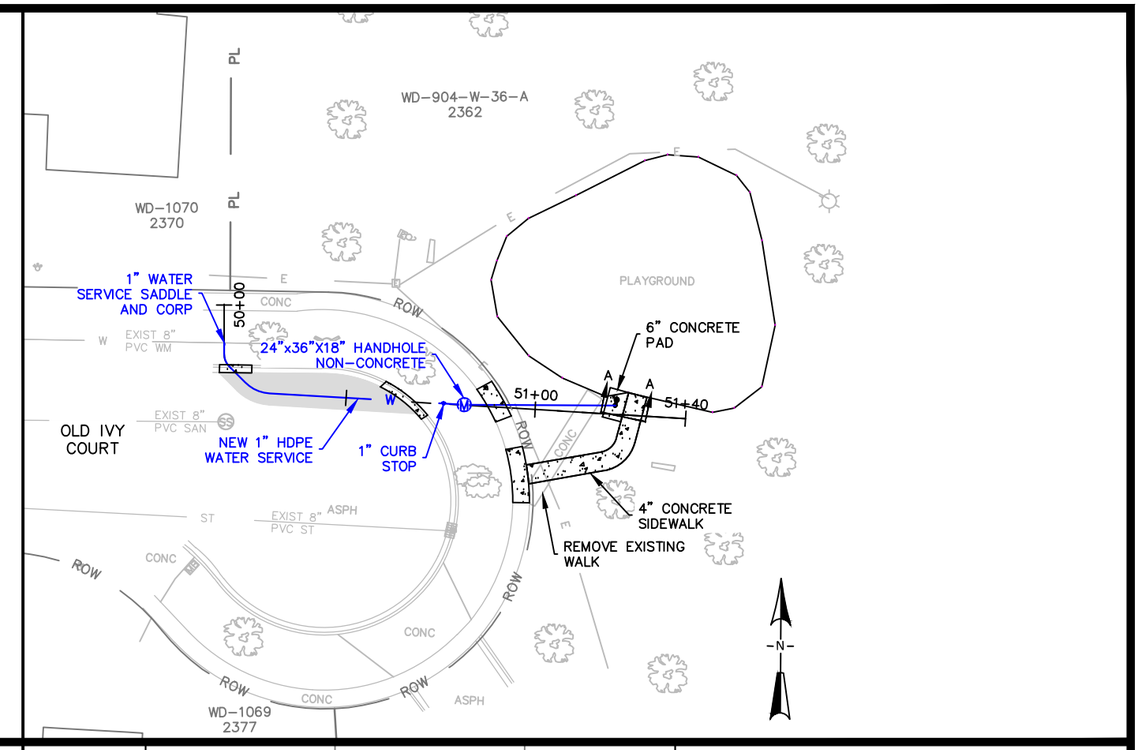
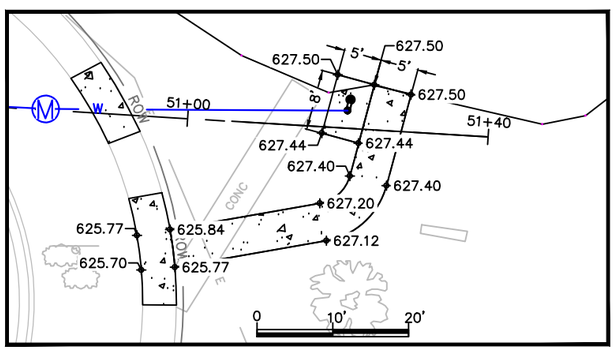
X:\ENG\Projects\City Projects\2024\2024 Parks\VFW\1200 - CAD\VFW_Exist.dwg

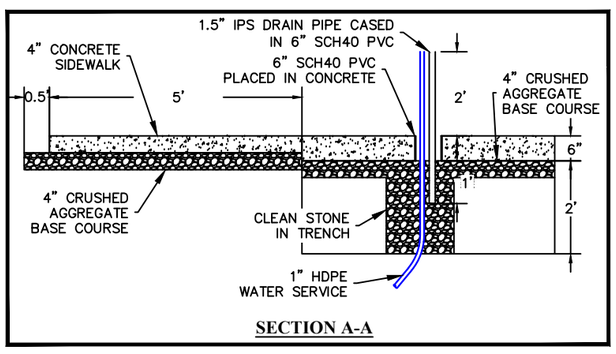
NOTES:
1. BACKFLOW PREVENTER MUST BE LOCATED 18–INCHES ABOVE THE GROUND.
2. PROVIDE SECURITY MECHANISM TO LOCK COVER TO GROUND.



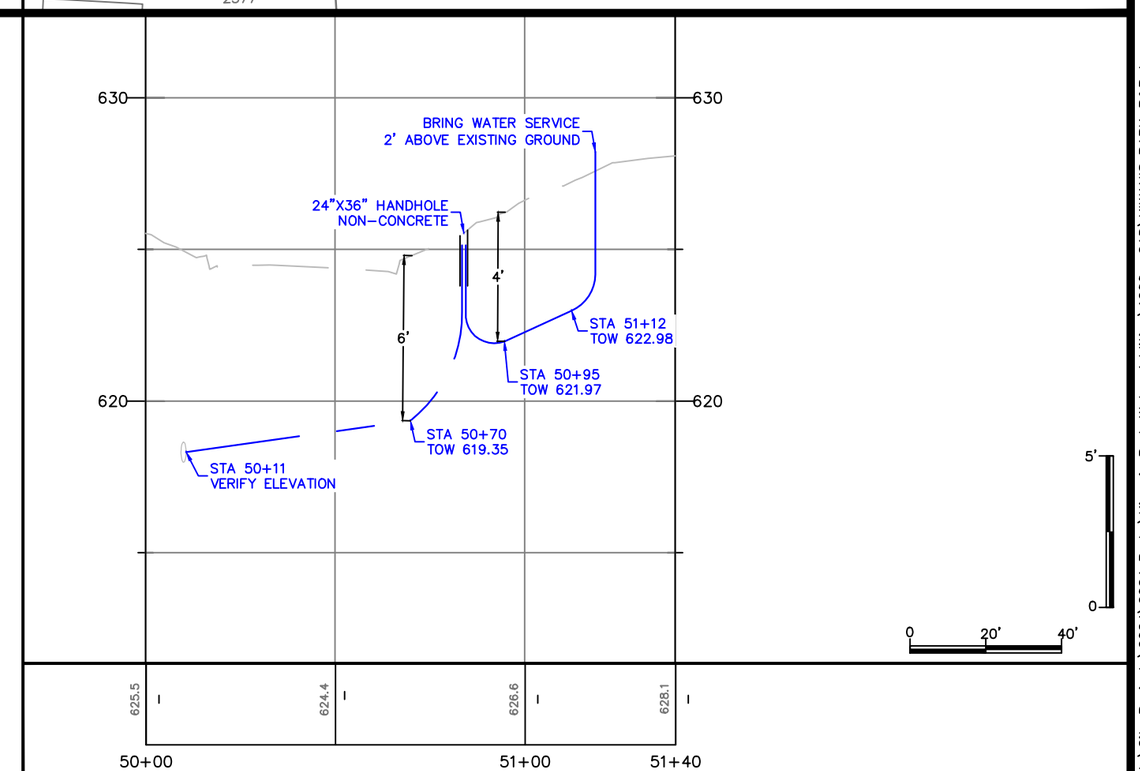
WATER METER ASSEMBLY







SECTION A-A



CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920–339–4061 FAX 920–339–4071

KIWANIS PARK
WATER SERVICE

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24–02

	BY	DATE
SURVEYED	MJT	12–2023
DRAWN	MJT	12–2023
DESIGNED	KAD	03–2024
CHECKED	EPR	03–2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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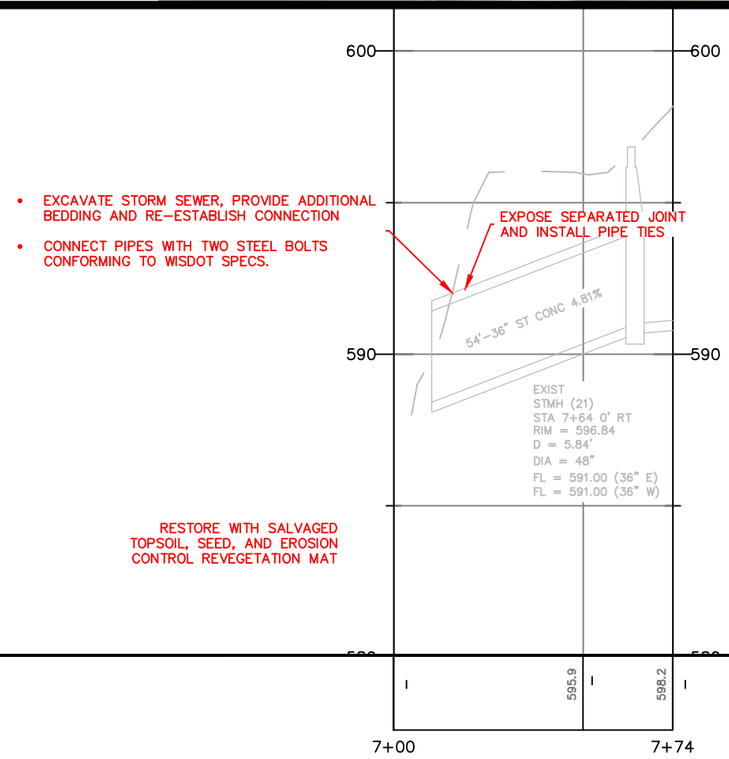

5'
0

0 20' 40'

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CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115

OFFICE 920-339-4061 FAX 920-339-4071

CITY WIDE SPOT REPAIRS

STORM SEWER REPAIR

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	KAD	02-2024
DESIGNED	KAD	02-2024
CHECKED	EPR	02-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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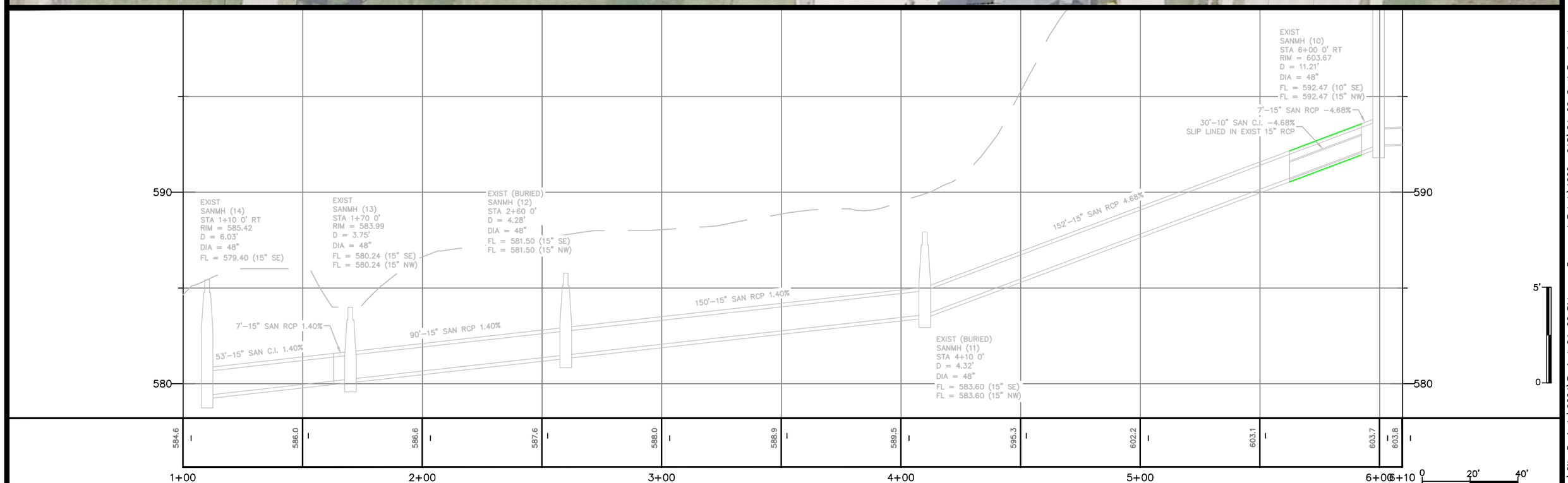

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
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CITY WIDE SPOT REPAIRS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	KAD	02-2024
DESIGNED	KAD	02-2024
CHECKED	EPR	02-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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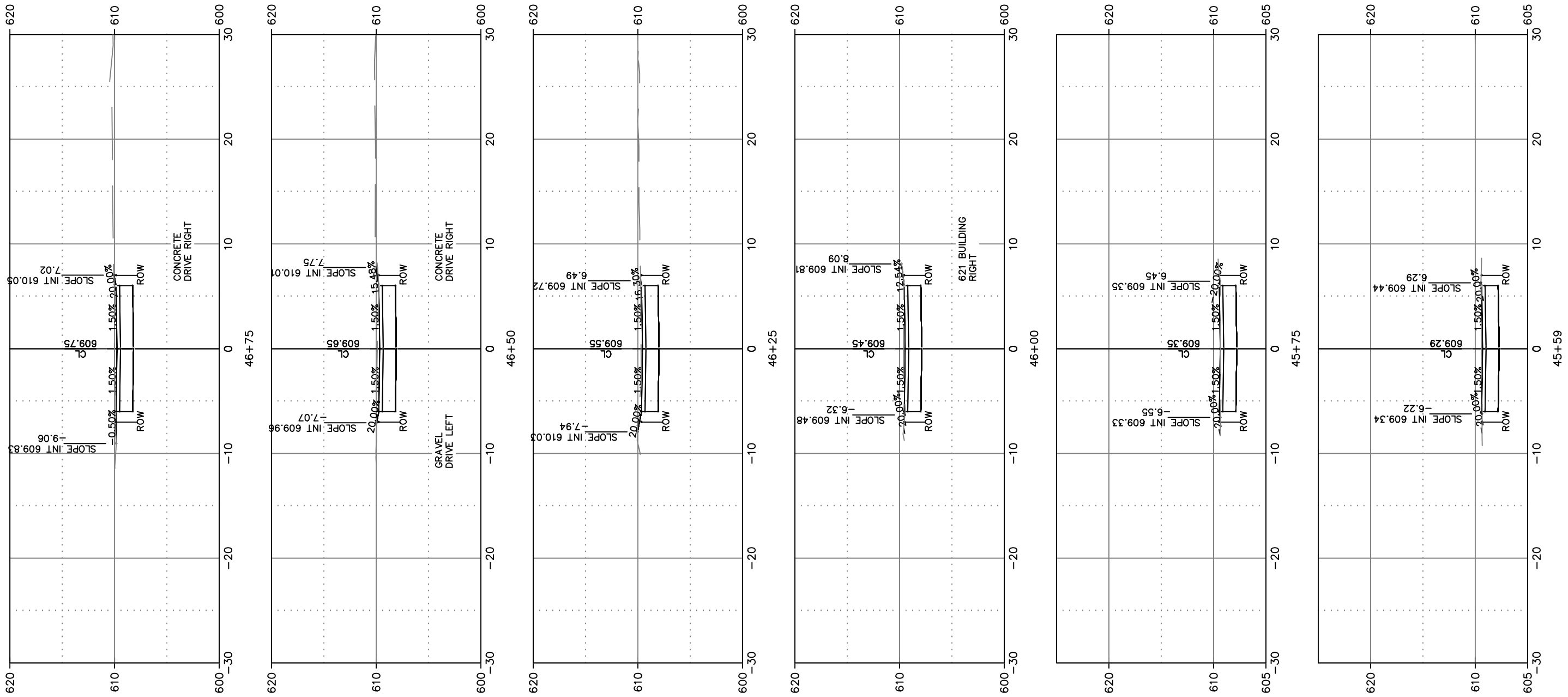

0 5' 10'

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

JAMES/WILLIAMS & MICHIGAN/SUPERIOR
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	MAL	12-2023
CHECKED	CKK	12-2023

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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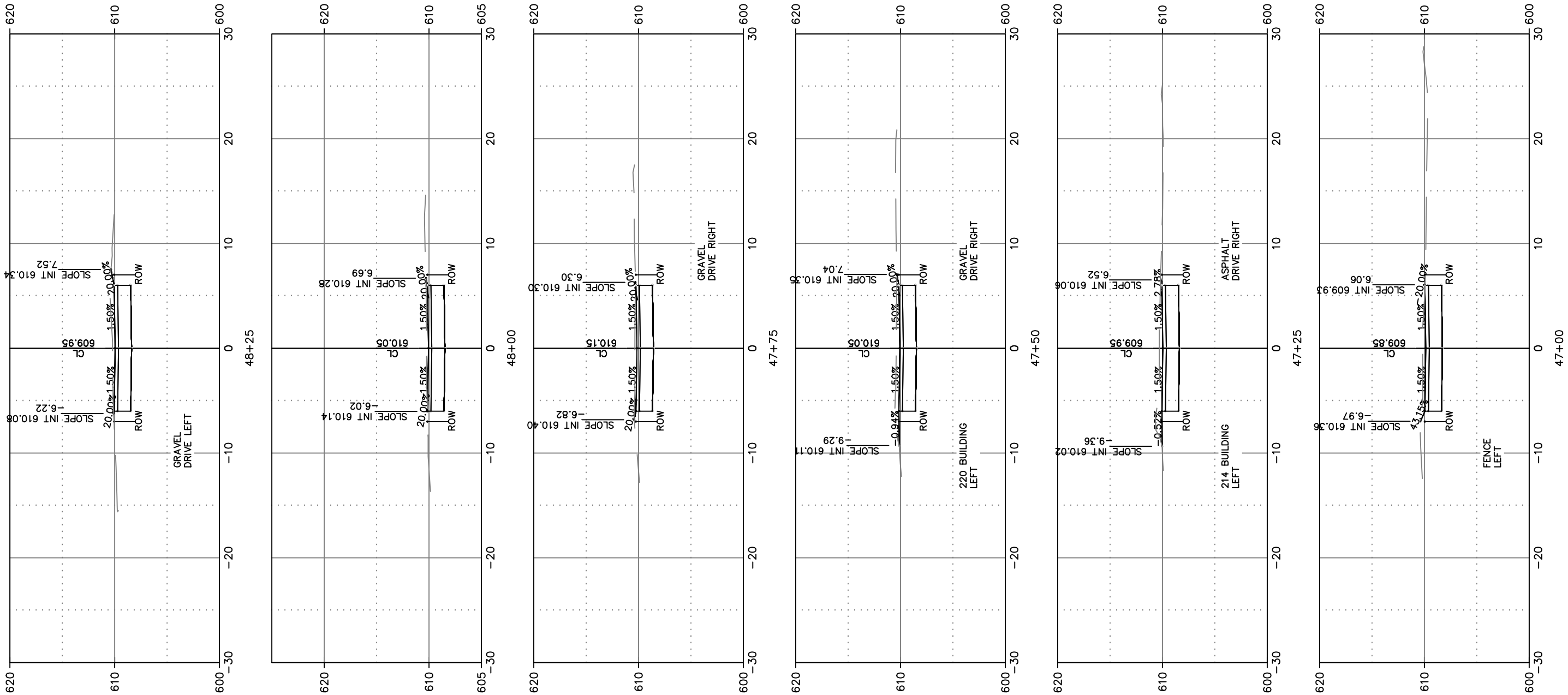
X:\ENG\Projects\City Projects\2024\Project 24-02 Ridgeway Pavement Rehab\1200- CAD\24-02 MAC\JAMES-WILLIAM-MICHIGAN-SUPERIOR ALLEY\JAMES-WILLIAM-MICHIGAN-SUPERIOR ALLEY_XSECT.dwg



CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

JAMES/WILLIAMS & MICHIGAN/SUPERIOR
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	MAL	12-2023
CHECKED	CKK	12-2023

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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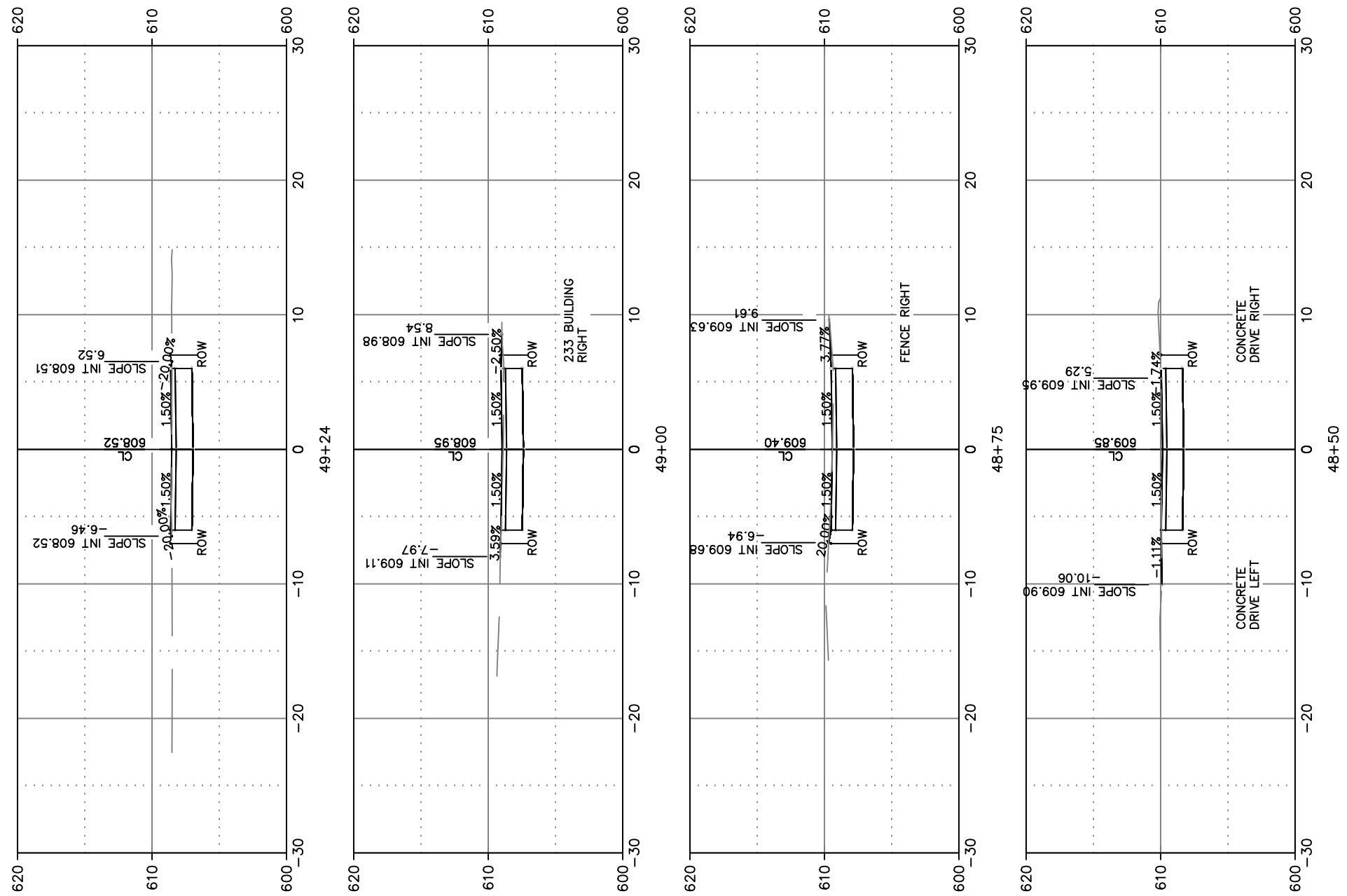

0 5' 10'

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

JAMES/WILLIAMS & MICHIGAN/SUPERIOR
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	MAL	12-2023
CHECKED	CKK	12-2023

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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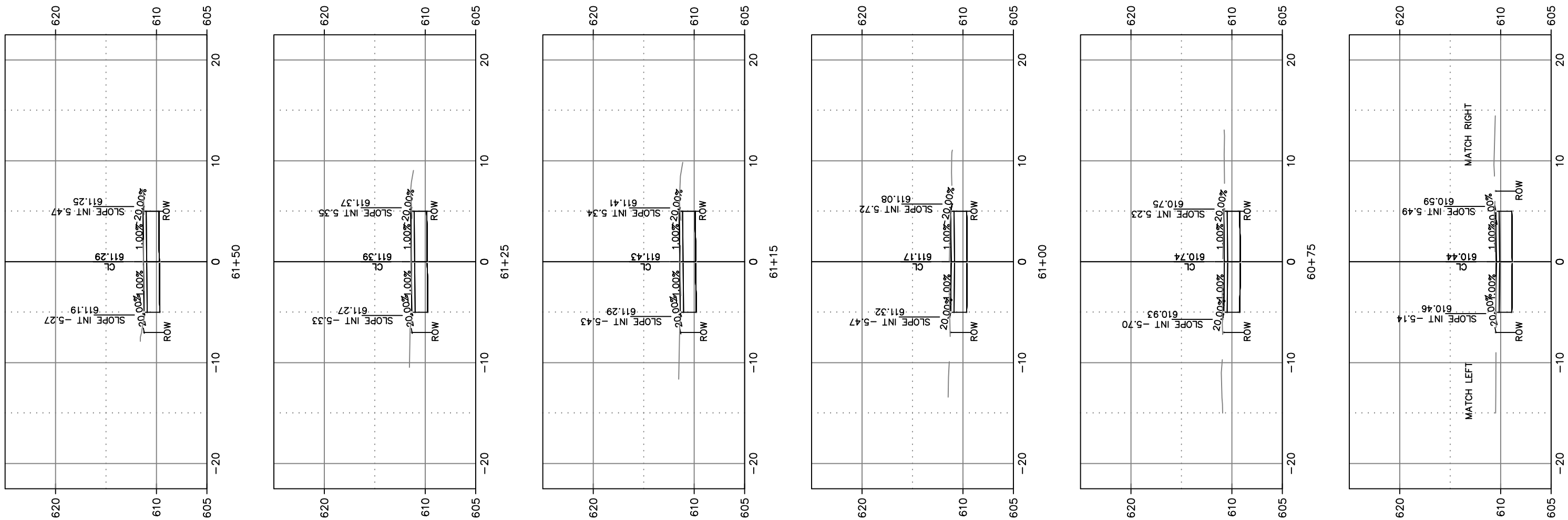

0 5' 10'

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CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

JAMES/FRANKLIN & HURON/ERIE
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	CKK	2-2024
CHECKED	EPR	2-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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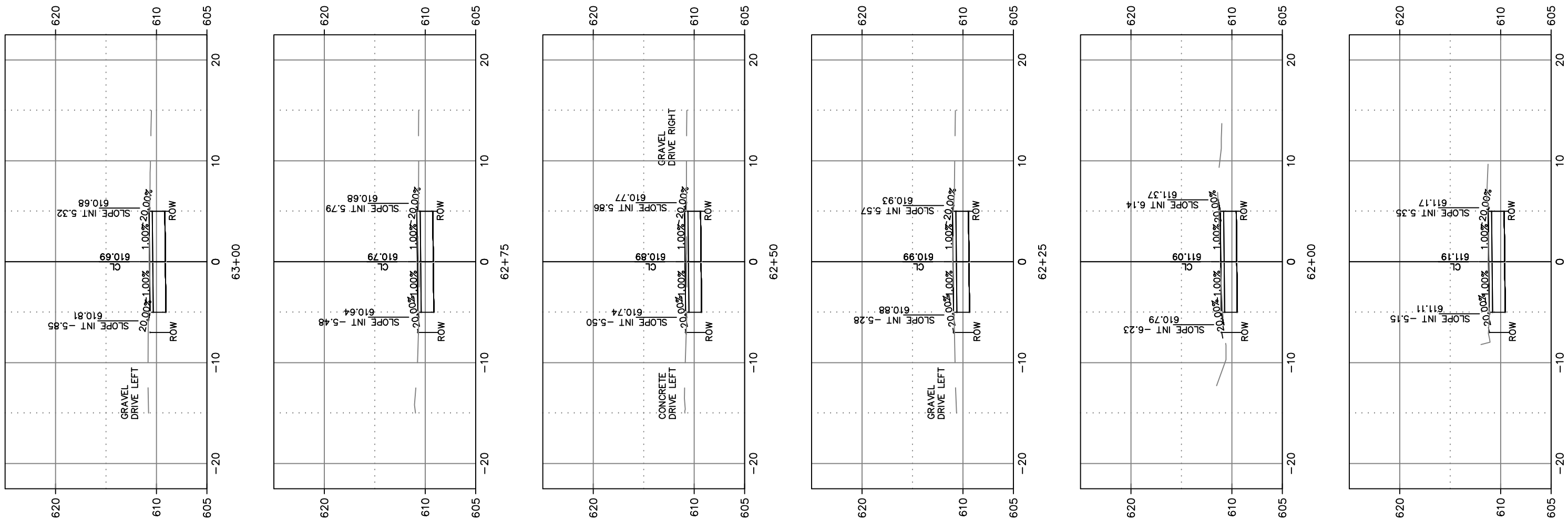

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ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

JAMES/FRANKLIN & HURON/ERIE
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	CKK	2-2024
CHECKED	EPR	2-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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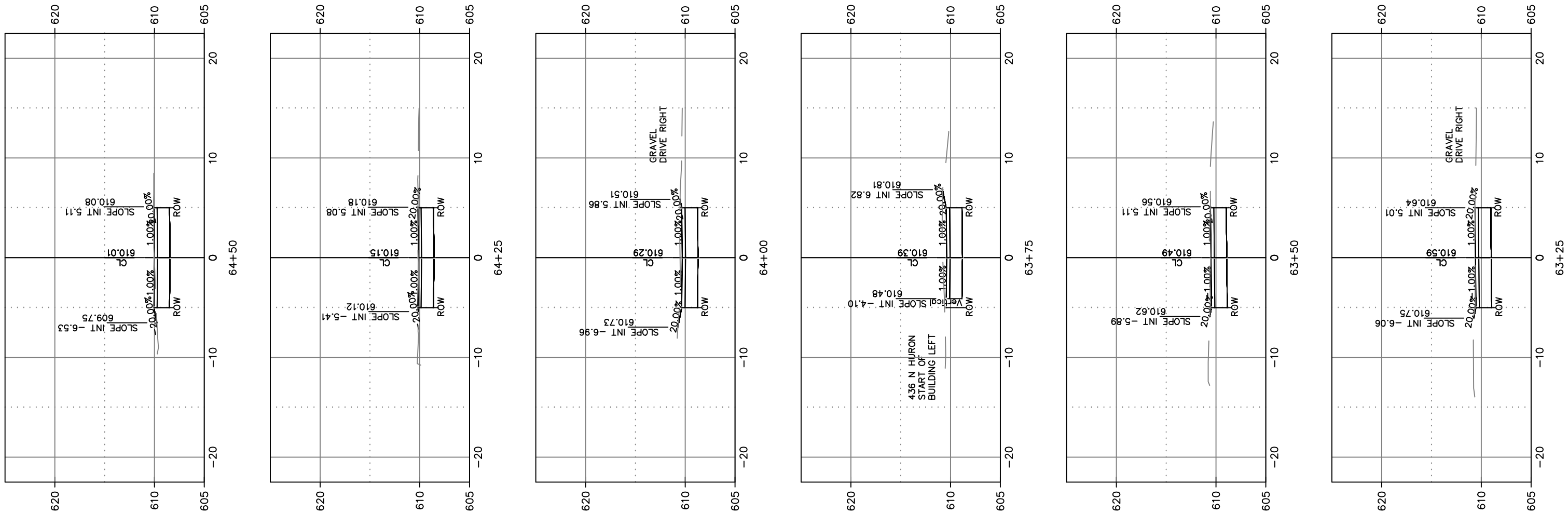

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115

OFFICE 920-339-4061 FAX 920-339-4071

JAMES/FRANKLIN & HURON/ERIE

CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	CKK	2-2024
CHECKED	EPR	2-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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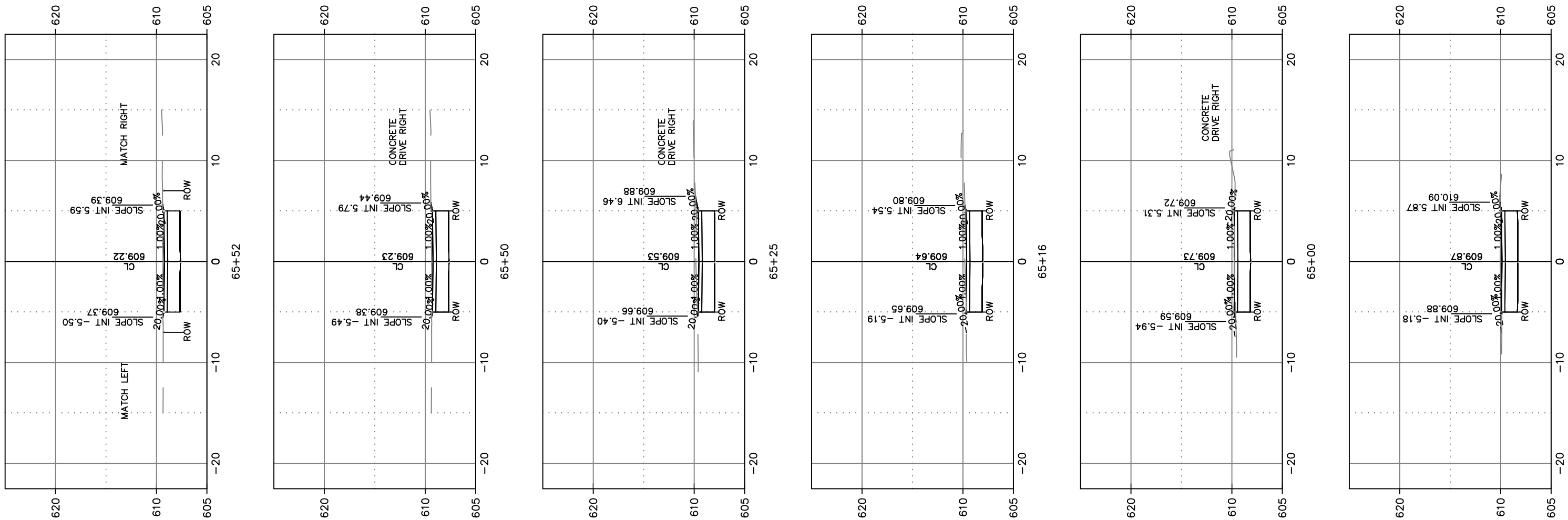
ALLEY\JAMES-FRANKLIN-HURON-ERIE



0 5' 10'

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CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

JAMES/FRANKLIN & HURON/ERIE
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	CKK	2-2024
CHECKED	EPR	2-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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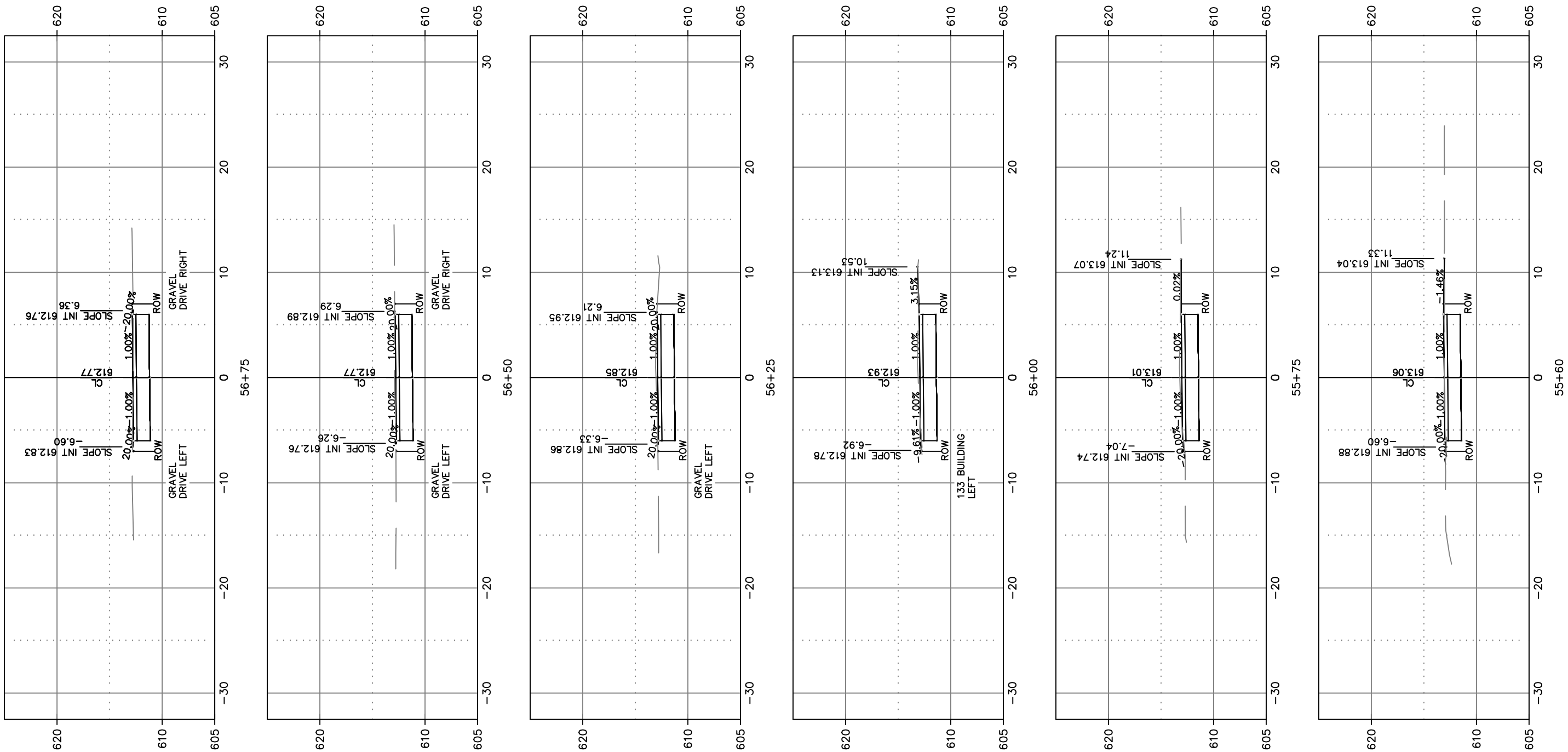

0 5' 10'

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CHARLES/GEORGE & ERIE/ONTARIO
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	MAL	12-2023
CHECKED	CKK	12-2023

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C308

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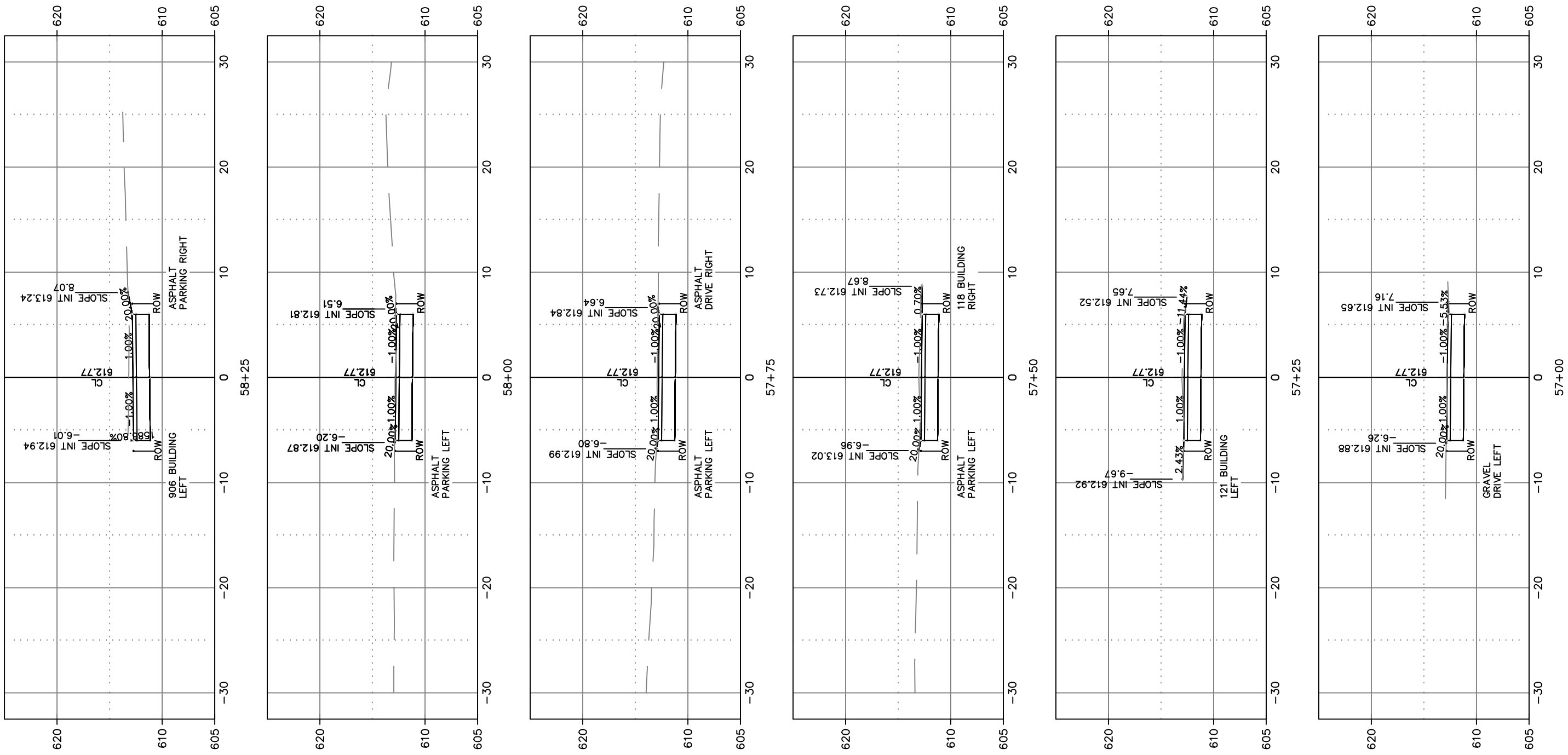

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CHARLES/GEORGE & ERIE/ONTARIO
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	MAL	12-2023
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REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C309

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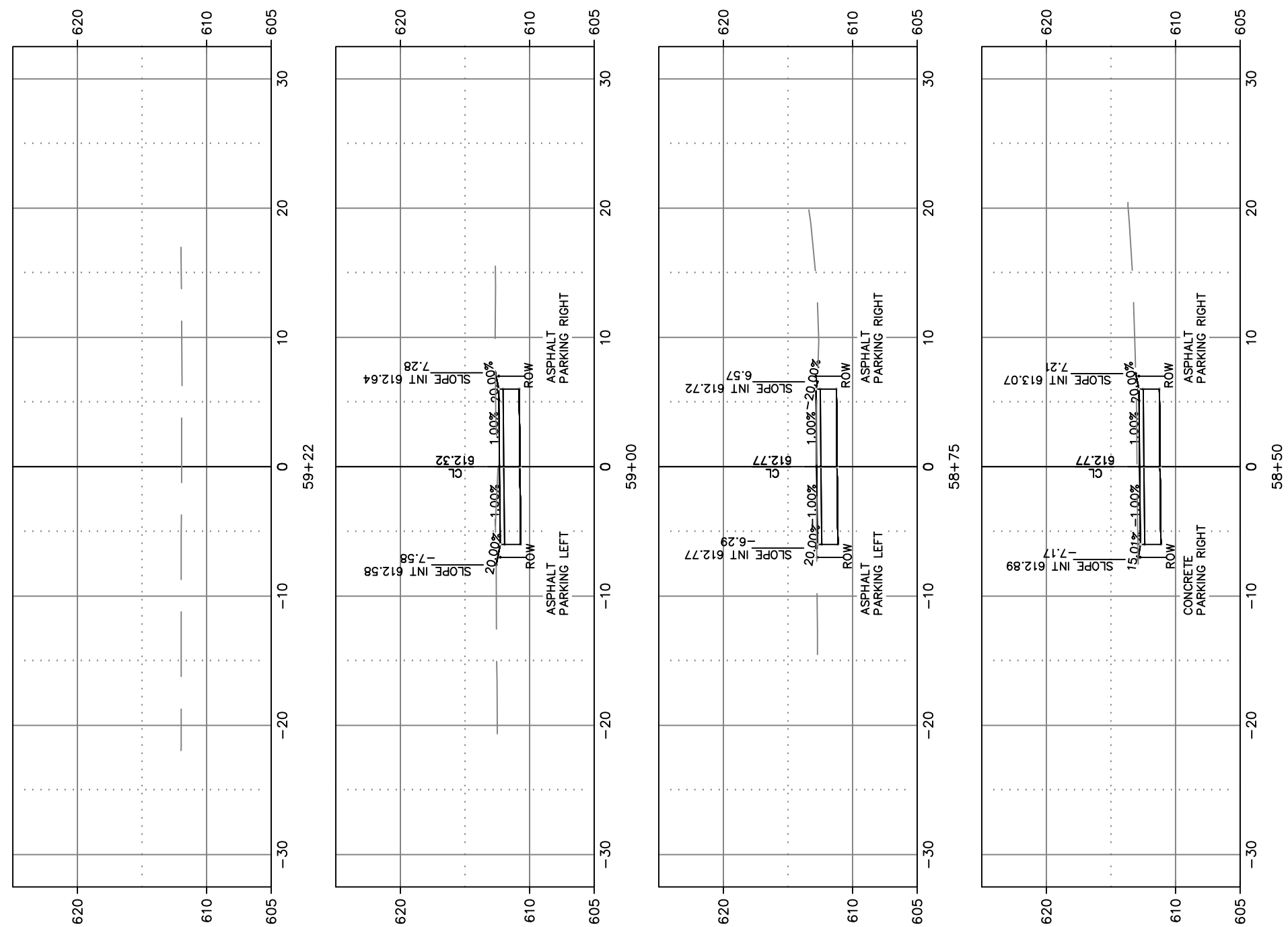

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CHARLES/GEORGE & ERIE/ONTARIO
CROSS SECTIONS

NAME: ALLEY RECONSTRUCTION
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	MAL	12-2023
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REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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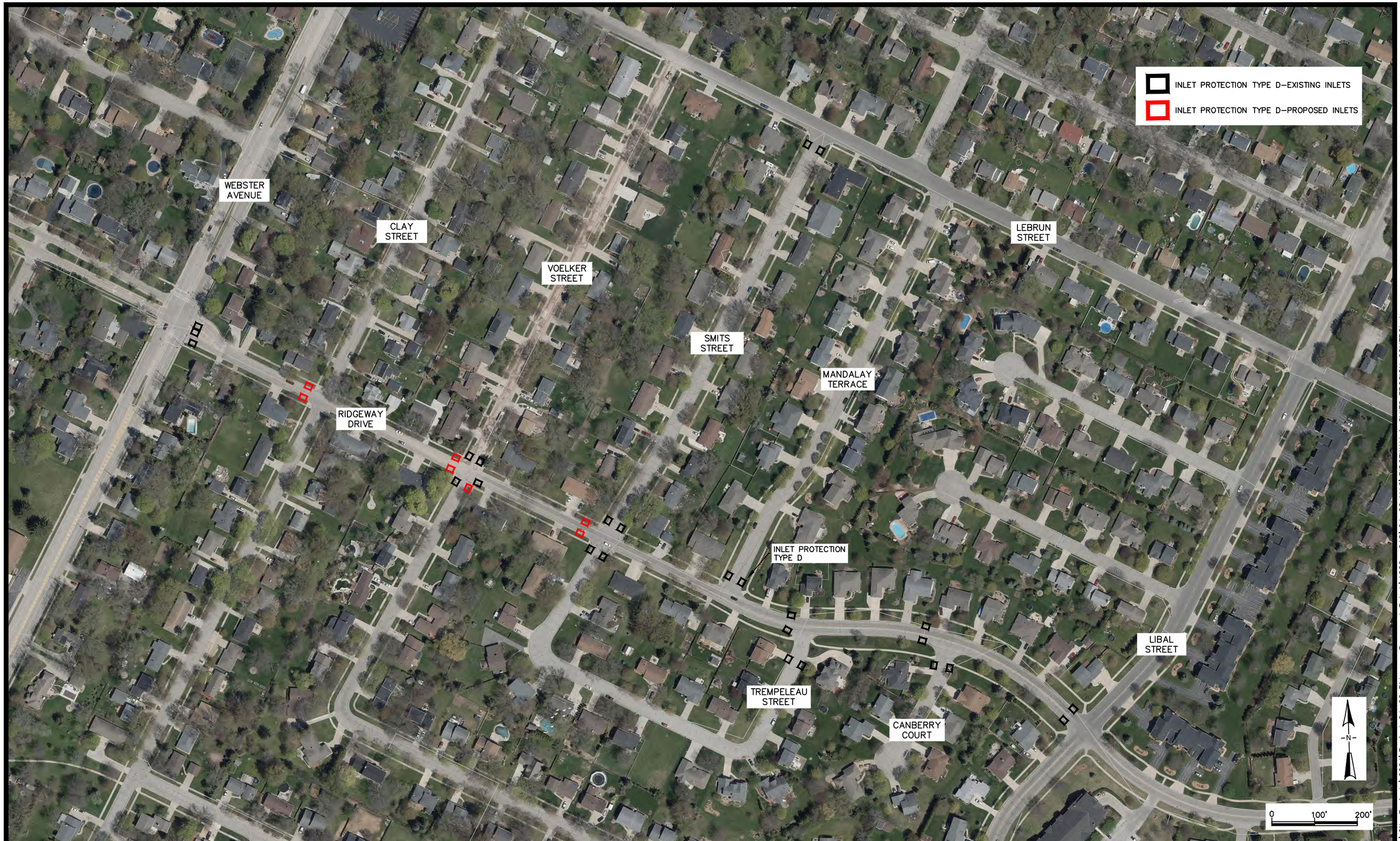

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CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

EROSION CONTROL

RIDGEWAY DRIVE AND SMITS STREET

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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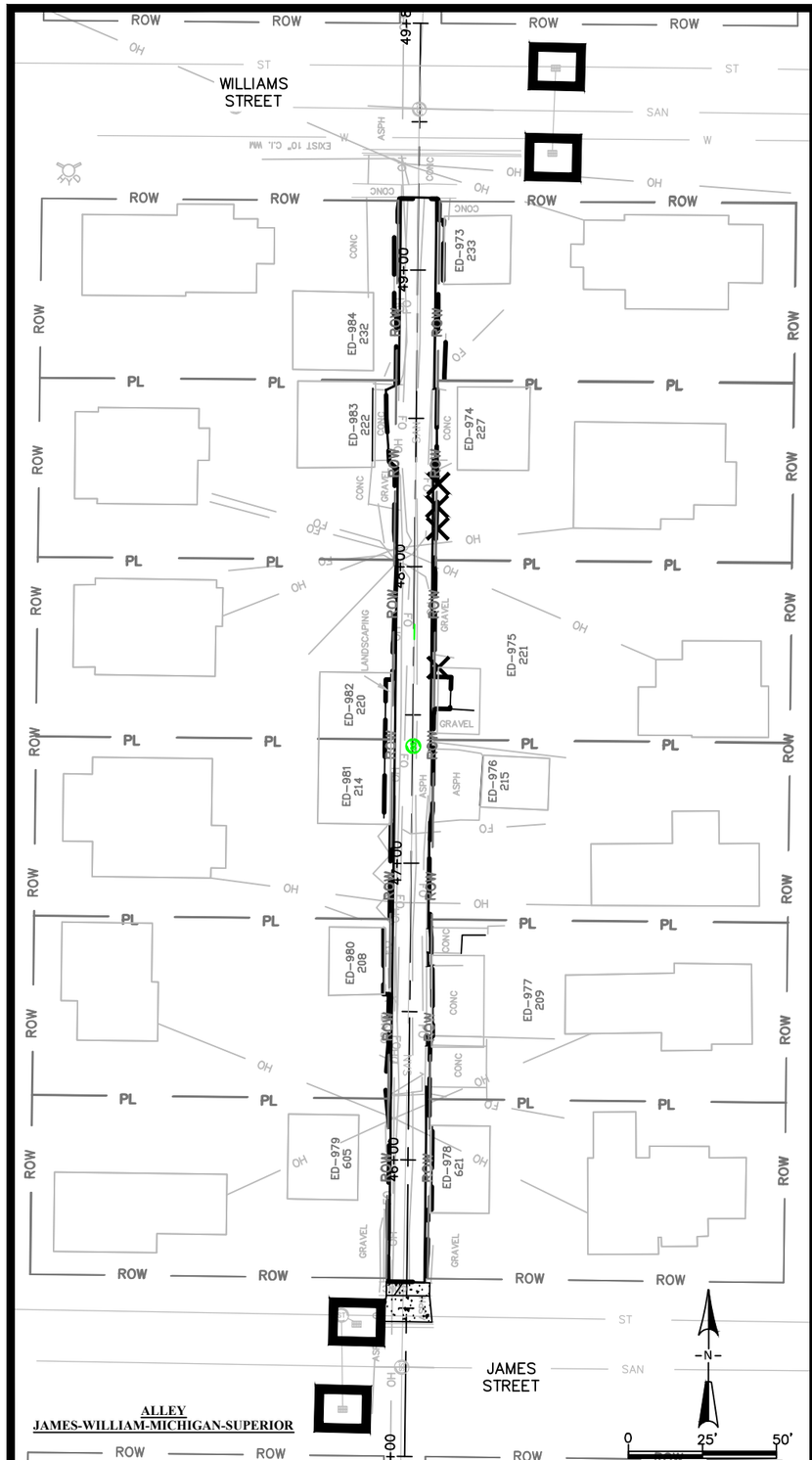

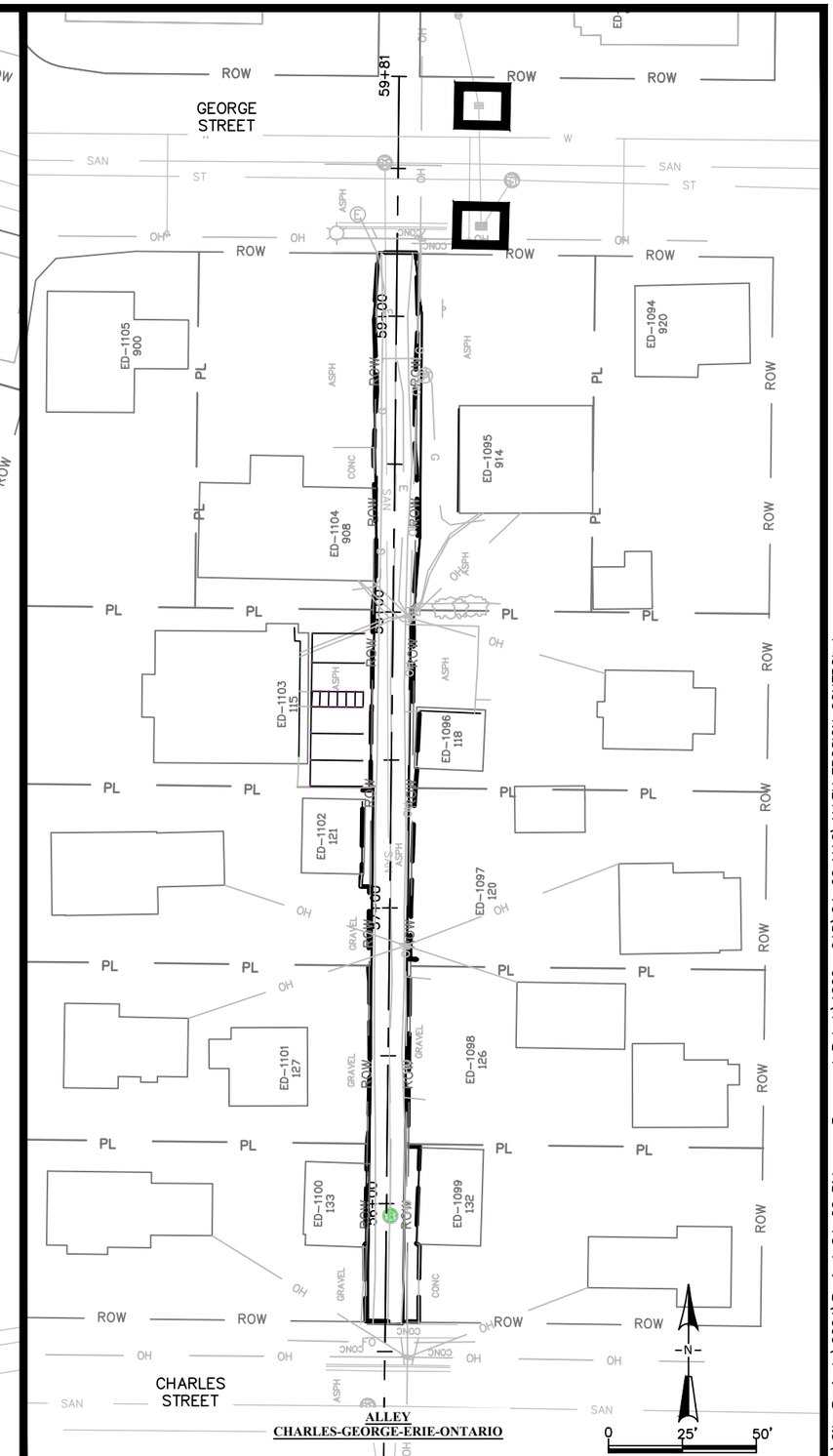

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

EROSION CONTROL
ALLEYS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C402

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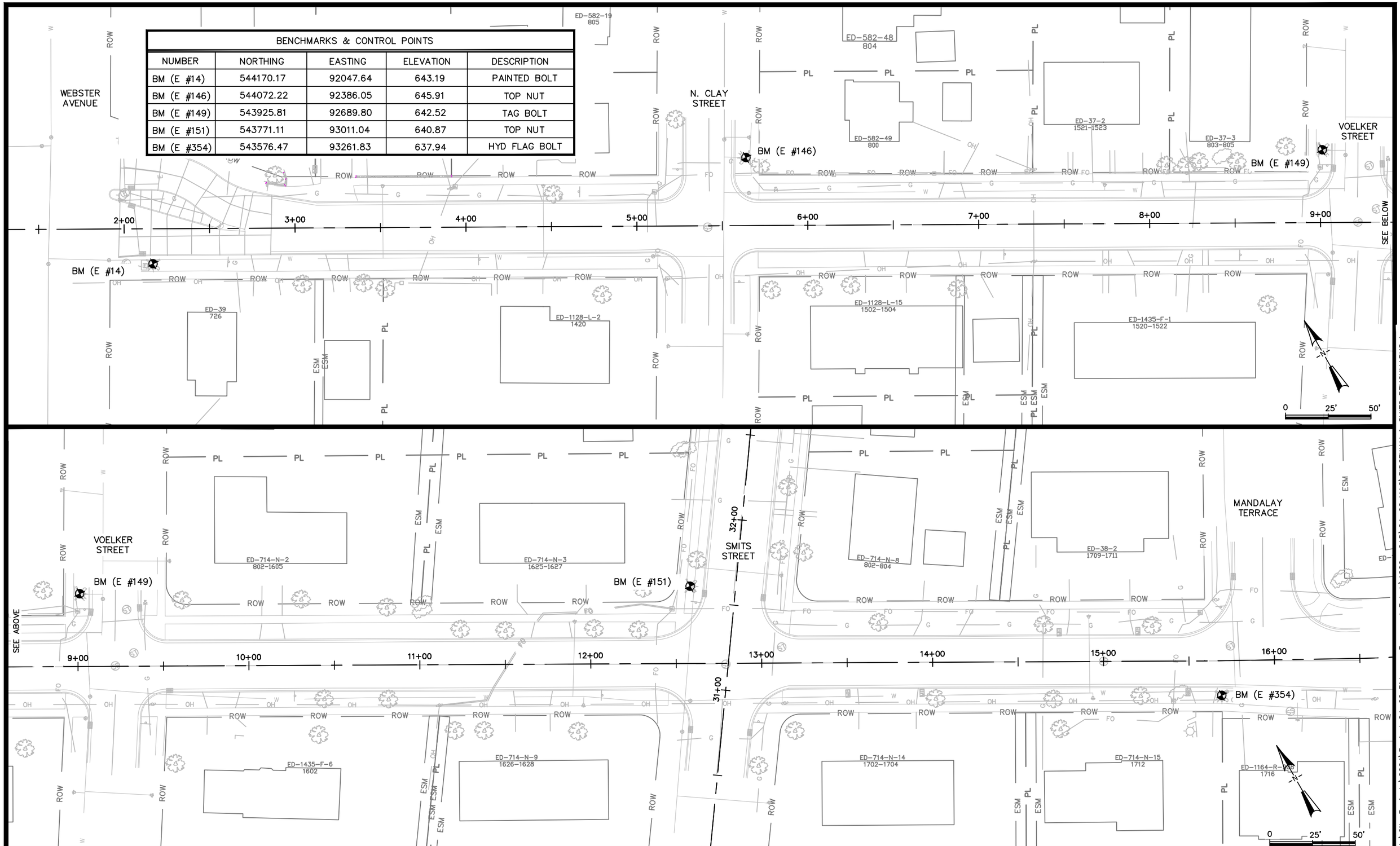
BENCHMARKS & CONTROL POINTS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM (E #14)	544170.17	92047.64	643.19	PAINTED BOLT
BM (E #146)	544072.22	92386.05	645.91	TOP NUT
BM (E #149)	543925.81	92689.80	642.52	TAG BOLT
BM (E #151)	543771.11	93011.04	640.87	TOP NUT
BM (E #354)	543576.47	93261.83	637.94	HYD FLAG BOLT



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OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE
WEBSTER AVENUE TO MANDALAY TERRACE
BENCHMARKS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

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BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM (E #36)	544090.54	88568.81	611.86	TOP NUT
BM (E #121)	543647.65	88546.33	612.19	TOP NUT
BM (E #37)	544087.92	88875.96	612.19	TOP NUT
BM (E #29)	544092.71	89616.64	612.29	TOP NUT
BM (E #583)	543934.29	89935.67	614.13	TOP NUT
BM (E #41)	543715.14	89489.56	613.20	TOP NUT
BM (E #49)	543313.66	89486.63	614.59	TOP NUT
BM (E #50)	543210.54	89753.02	615.04	TOP NUT
BM (E #112)	542887.22	89479.89	615.50	TOP NUT
BM (E #54)	542789.51	89749.93	615.63	TOP NUT
BM (E #119)	543708.40	89761.73	614.29	TOP NUT
BM (E #40)	543727.58	89135.50	614.24	TOP NUT
BM (E #648)	544091.19	89149.75	613.03	TOP NUT
BM (E #28)	544310.34	89315.55	613.51	TOP NUT

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115

OFFICE 920-339-4061 FAX 920-339-4071

BENCHMARKS

ALLEYS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
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REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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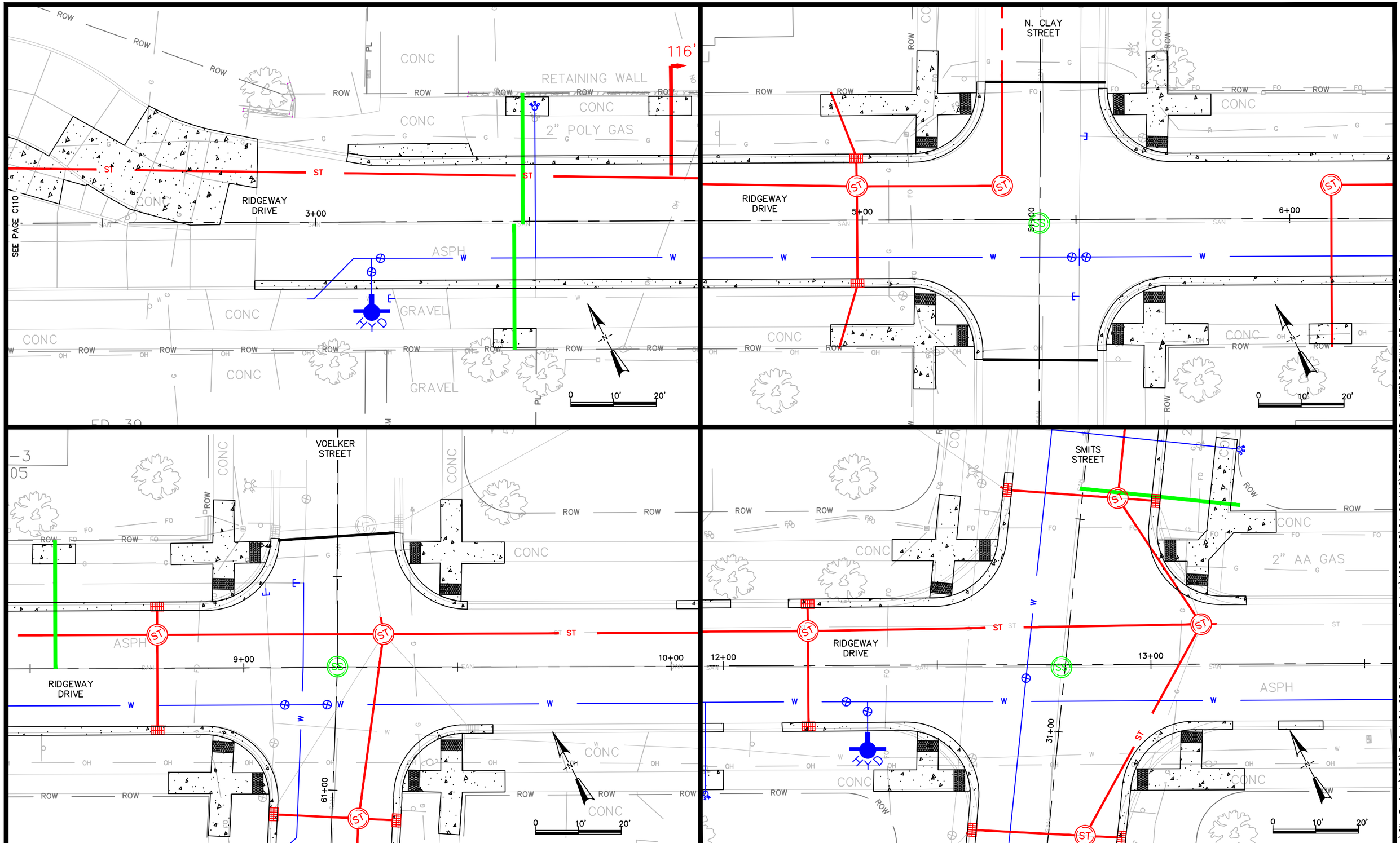

CITY OF DE PERE

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RIDGEWAY DRIVE
INTERSECTION DETAILS

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

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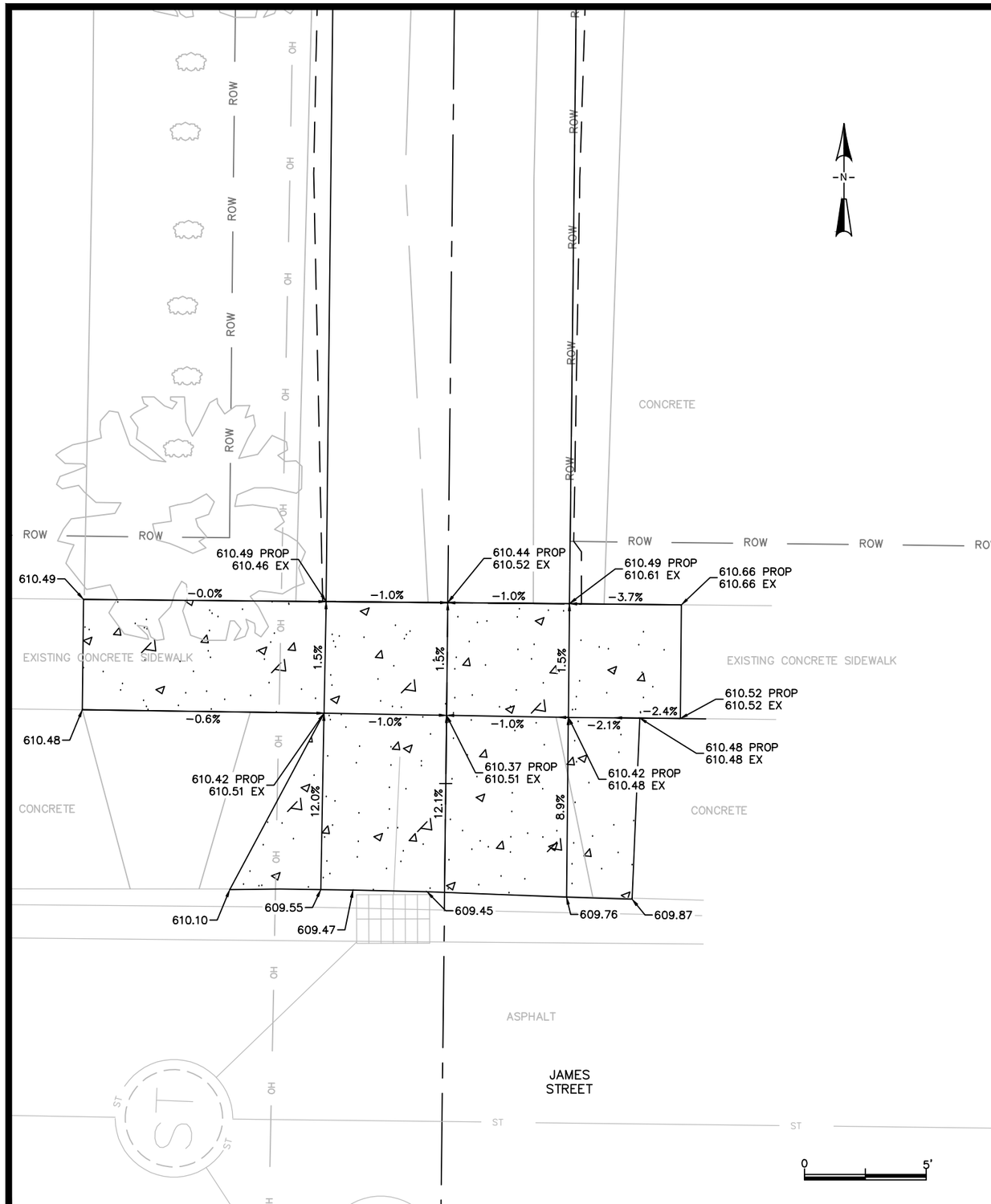

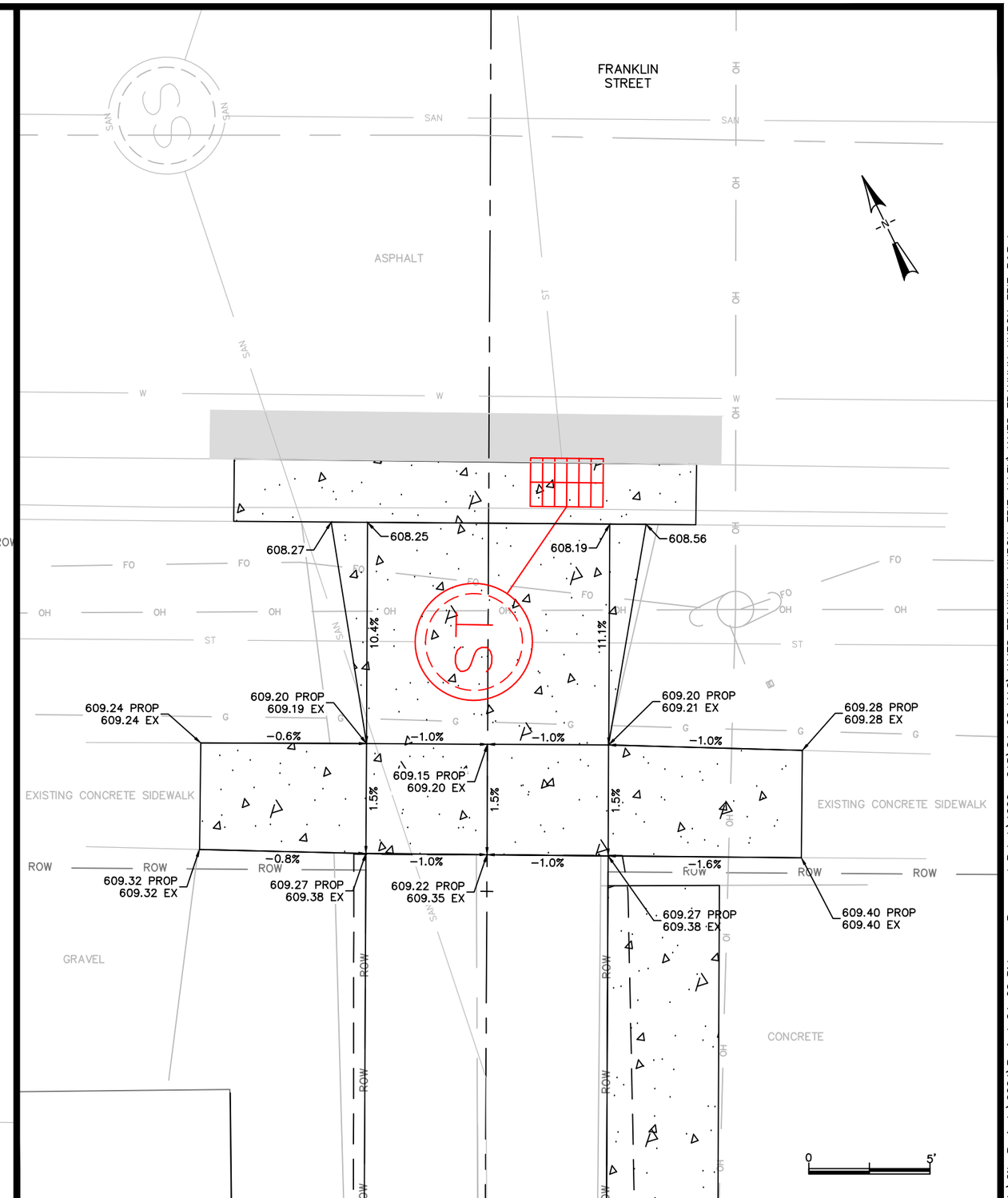

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ALLEY
JAMES ST TO FRANKLIN ST
BETWEEN N. HURON ST AND N. ERIE ST

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	12-2023
DRAWN	MJT	12-2023
DESIGNED	CKK	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

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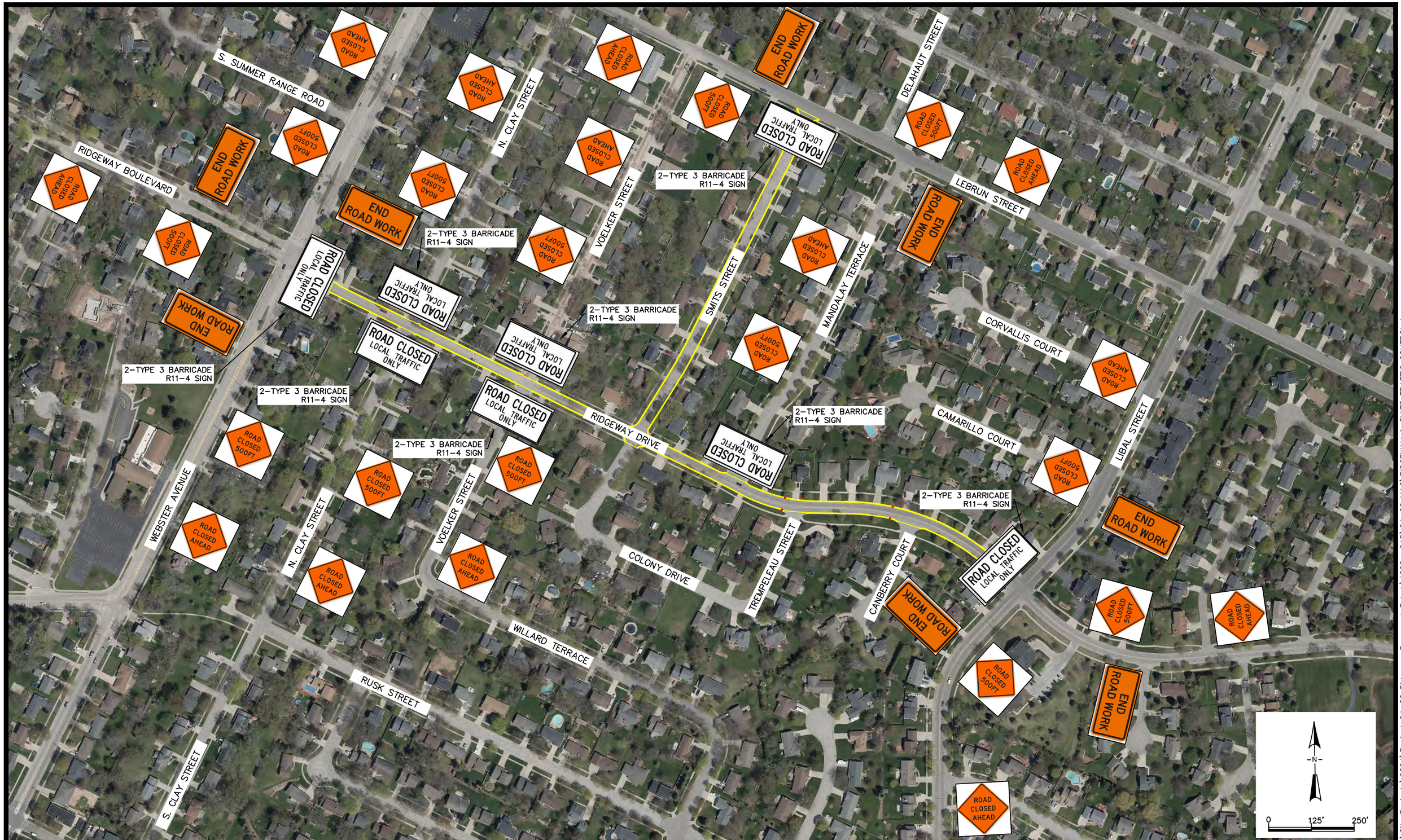

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
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TRAFFIC CONTROL

RIDGEWAY DRIVE AND SMITS STREET

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	MJT	12-2023
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CITY OF DE PERE

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TRAFFIC CONTROL PLAN
ALLEYS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	MJT	12-2023
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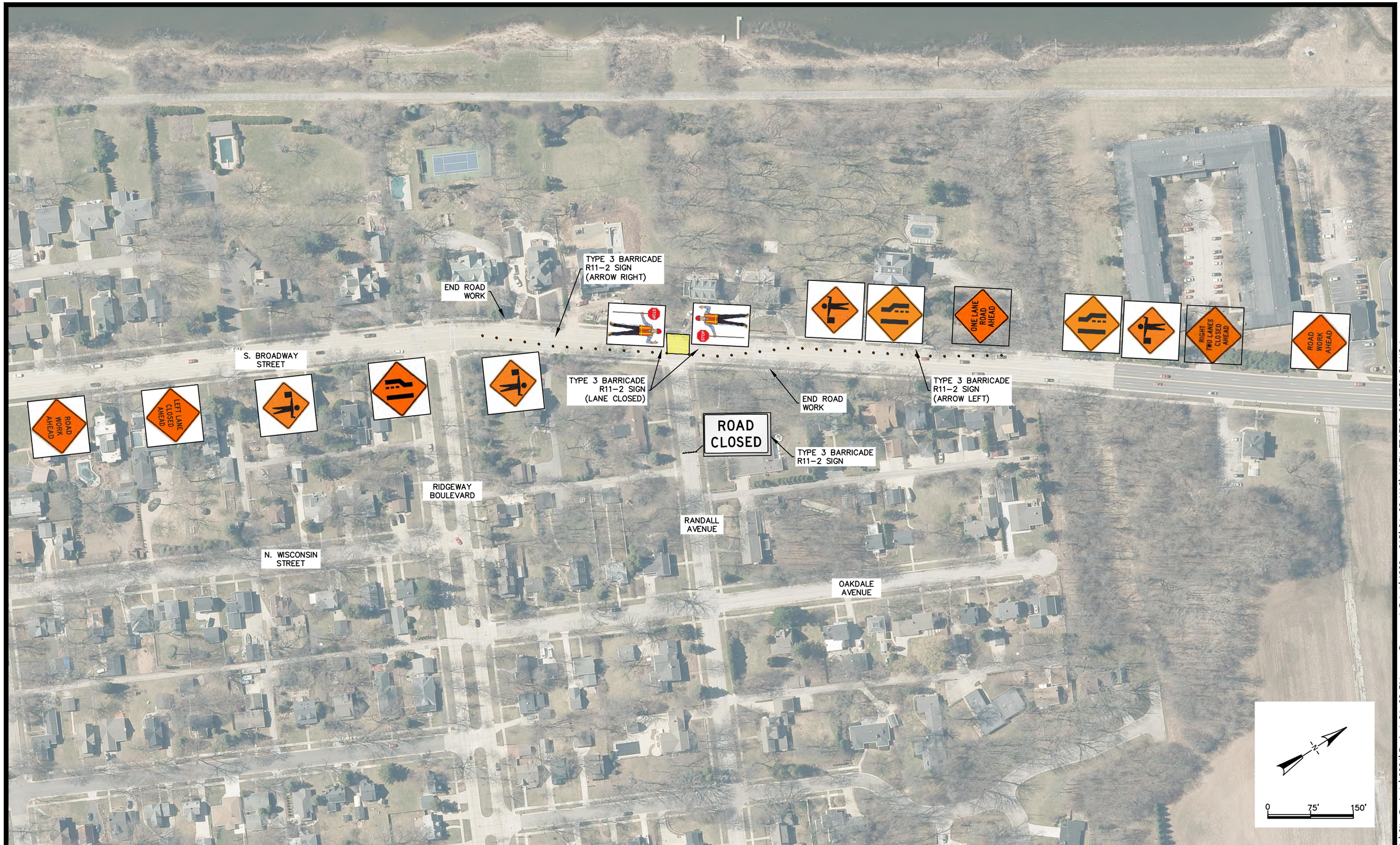

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TRAFFIC CONTROL PLAN
SANITARY RELAY - PHASE 1

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	KAD	03-2024
DESIGNED	KAD	03-2024
CHECKED	EPR	03-2024

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TRAFFIC CONTROL PLAN

PHASE 2A - CONCRETE REPAIR INTERNAL LANES

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN	KAD	03-2024
DESIGNED	KAD	03-2024
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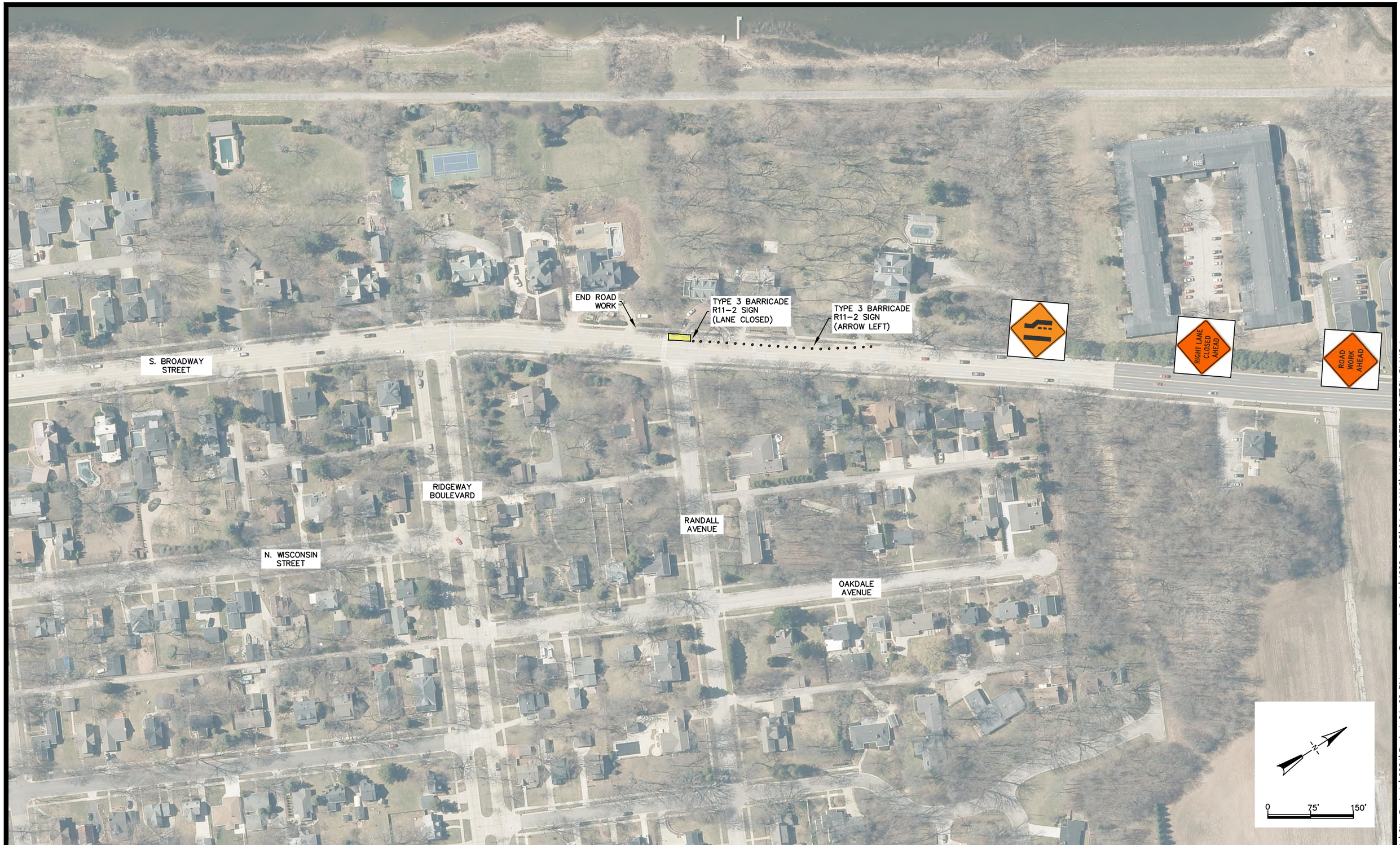

CITY OF DE PERE

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OFFICE 920-339-4061 FAX 920-339-4071

TRAFFIC CONTROL PLAN

PHASE 2B - CONCRETE REPAIR EXTERNAL LANE

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
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DESIGNED	KAD	03-2024
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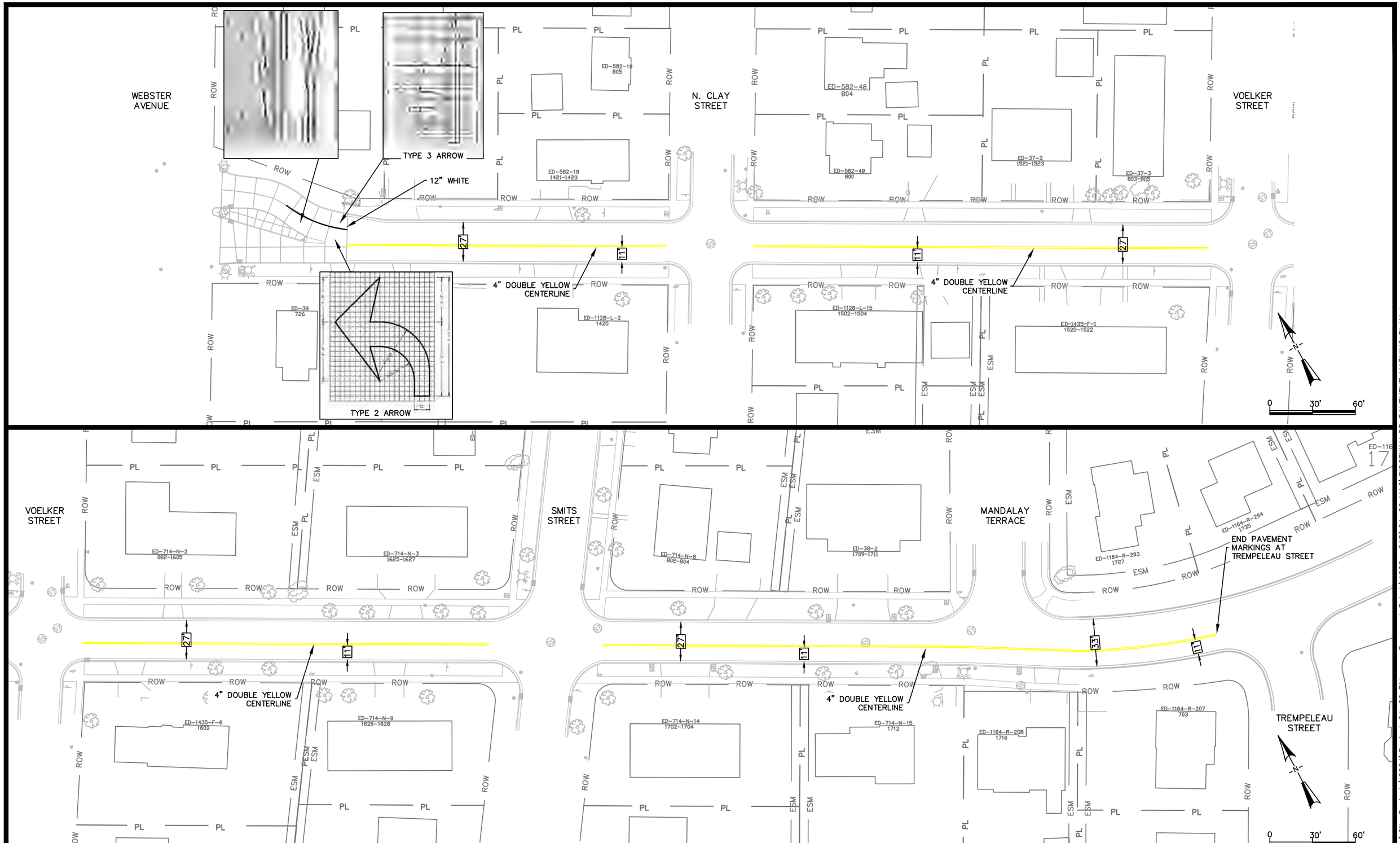

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY DRIVE PAVEMENT MARKING PLAN

WEBSTER AVE TO TREMPELEAU ST

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED	MJT	11-2023
DRAWN	MJT	12-2023
DESIGNED	MJT	01-2024
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

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LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- -X- -X- -X- REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45 MPH, USE SDD 15D14.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

"W0" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRAIBLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

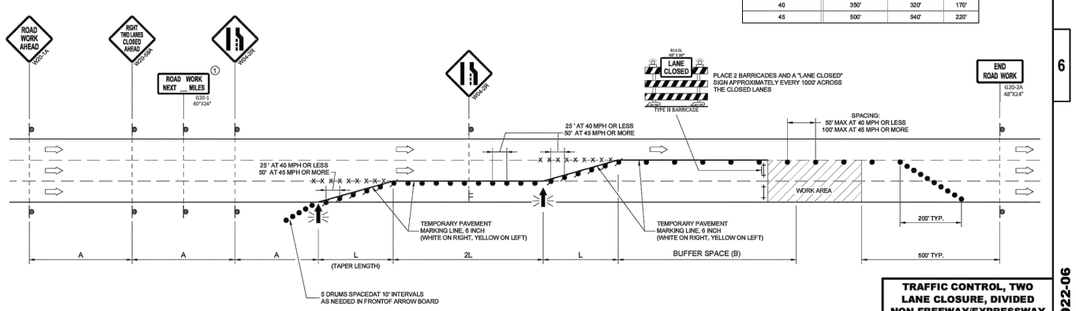
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	55'
30	200'	180'	85'
35	350'	245'	120'
40	350'	320'	170'
45	500'	540'	220'



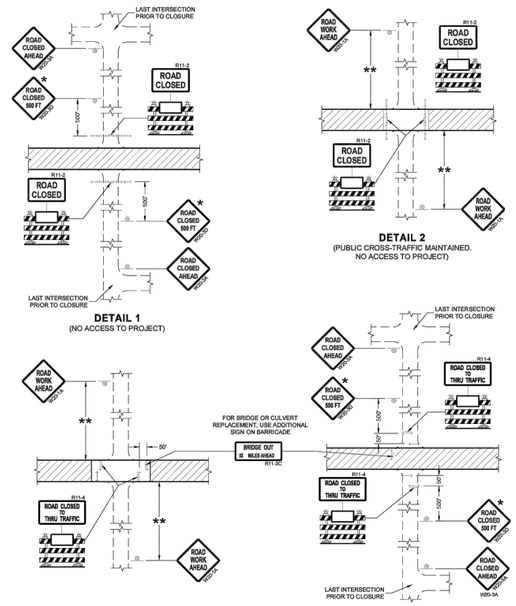
TRAFFIC CONTROL, TWO LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED May 2023 (DATE) /S/ Andrew Heidtke (WORK ZONE ENGINEER)

SDD 15D22-06

SDD 15C03 Barricades and Signs for Sideroad Closures



GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A": LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW.
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

★ OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

★★ 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED July 2018 (DATE) /S/ Andrew Heidtke (WORK ZONE ENGINEER)

SDD 15C03 - 05

SDD 15C05 Traffic Control, Advance Warning Signs 40 MPH or Less Two Way Undivided Road Open to Traffic

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

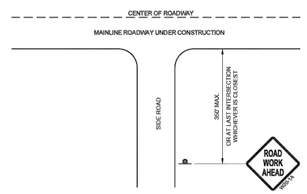
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

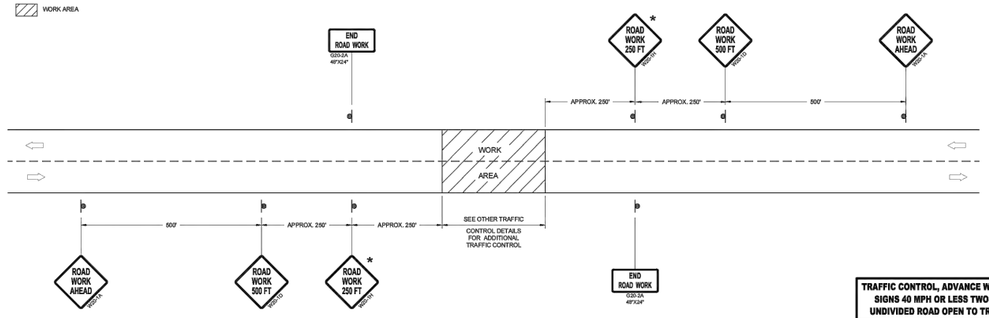
★ THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED July 2018 (DATE) /S/ Andrew Heidtke (WORK ZONE ENGINEER)

SDD 15C05 - 05

SDD 15C12 Traffic Control for Lane Closure With Flagging Operation

LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

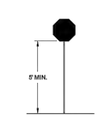
② EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

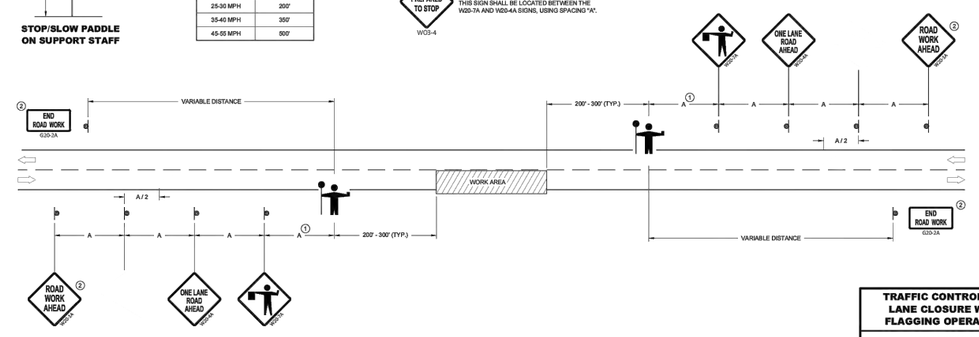


STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

BE PREPARED TO STOP W23-4 — USE OF W23-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED May 2019 (DATE) /S/ Andrew Heidtke (WORK ZONE ENGINEER)

SDD 15C12 - 07

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CONSTRUCTION DETAILS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN		
DESIGNED		
CHECKED	EPR	01-2024

REVISIONS / ISSUES

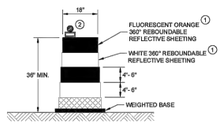
NO.	DATE	BY	REMARKS

PAGE NO. C501

x:\ENG\Projects\City Projects\2024\Project 24-02 Ridgeway Pavement Rehab\1200- CAD\24-02 MAC\24-02 CONSTRUCTION DETAILS.dwg

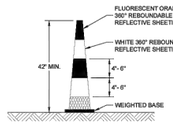
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

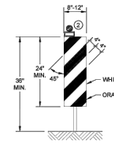
BALLAST WIDTHS RANGE FROM 24"-36"



42" CONE

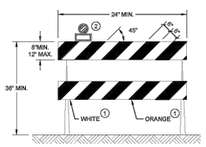
DO NOT USE IN TAPERS
⅓ SPACING OF DRUMS

BALLAST WIDTHS RANGE FROM 14"-20"



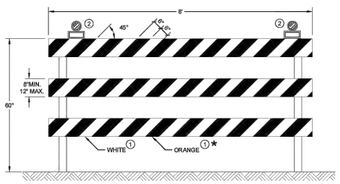
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

★ IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

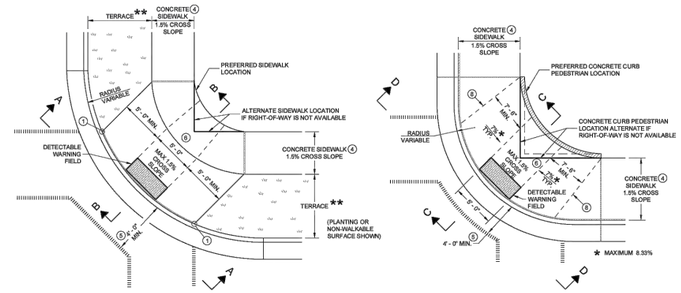
APPROVED November 2022 (DATE) /S/ Andrew Heldke (WORK ZONE ENGINEER)

PHMA

6

SDD 15C11 - 10b

SDD 08D05-a: Curb Ramps Types 1 and 1-A



PLAN VIEW
CURB RAMP TYPE 1
(CENTER OF CORNER RADIUS)

PLAN VIEW
CURB RAMP TYPE 1 - A
(NO TERRACE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

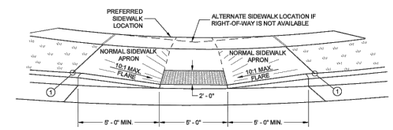
DETECTABLE WARNING FILED SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"

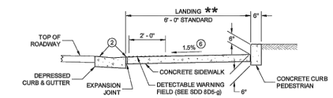
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

1. THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
2. GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
3. MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
4. ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
5. PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
6. PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
8. PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.



VIEW A - A FOR TYPE 1

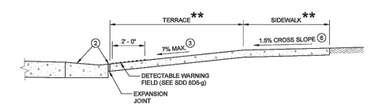


SECTION C - C FOR TYPE 1 - A

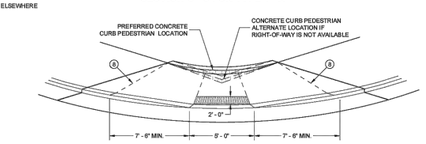
★★ WIDTH SHOWN ELSEWHERE IN THE PLANS

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

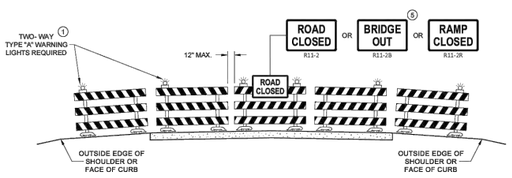
CURB RAMPS TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

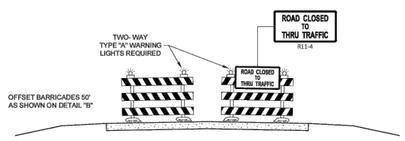
6

SDD 08D05 - 20a

SDD 15C02-b Barricades and Sign for Various Closures



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MIMIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW.
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

1. TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.
2. THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
3. FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
4. FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
5. FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
6. INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
7. "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED February 2020 (DATE) /S/ Andrew Heldke (WORK ZONE ENGINEER)

PHMA

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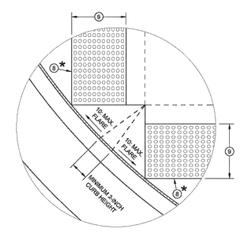
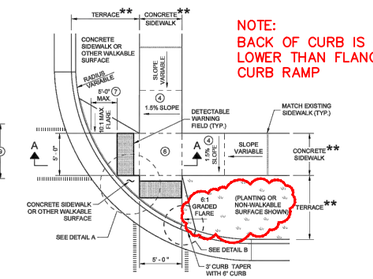
SDD 15C02 - 08b

SDD 08D05-b Curb Ramps Types 2 and 3





PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)

NOTE:
BACK OF CURB IS 0.04' LOWER THAN FLANGE AT CURB RAMP

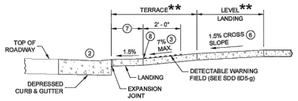
GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

2. GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
3. MAX 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (4.0% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
4. ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
6. PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
7. WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
8. PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
9. WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.



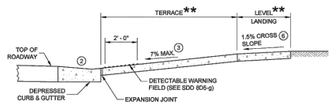
SECTION A - A FOR TYPE 2

★ MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

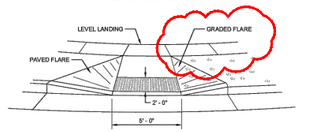
★★ WIDTH SHOWN ELSEWHERE IN THE PLANS

PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)

GRADED FLARE TO BE USED FOR CURB RAMPS



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20b

CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CONSTRUCTION DETAILS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN		
DESIGNED		
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C502

X:\ENG\Projects\City Projects\2024\Project 24-02 Ridgeway Pavement Rehab\1200- CAD\24-02 MAC\24-02 CONSTRUCTION DETAILS.dwg

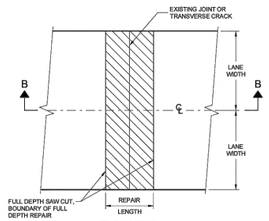
GENERAL NOTES

SAWCUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

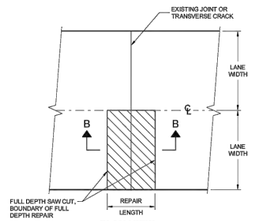
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

(1) DOWEL BARS MAY NOT BE PRESENT.

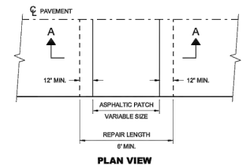


PLAN VIEW (DOUBLE LANE REPAIR)

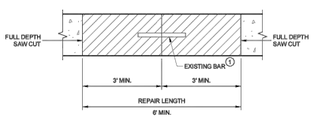


PLAN VIEW (SINGLE LANE REPAIR)

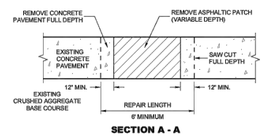
FULL DEPTH CONCRETE PAVEMENT REMOVAL



PLAN VIEW



SECTION B - B
CONCRETE REMOVAL



SECTION A - A

HMA PATCH REMOVAL

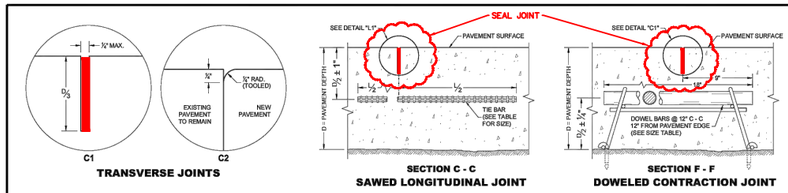
6

SDD 13C09 - 17a

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 13C09 - 17a



TRANSVERSE JOINTS

SECTION C - C
SAWED LONGITUDINAL JOINT

SECTION F - F
DOWELED CONTRACTION JOINT

GENERAL NOTES

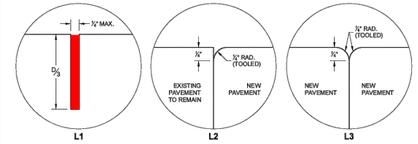
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

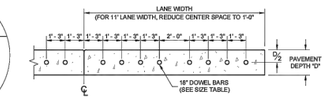
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 18 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

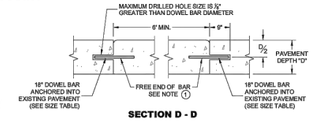
(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



LONGITUDINAL JOINTS



SECTION E - E
DRILLED DOWEL BAR CONSTRUCTION JOINT



SECTION D - D

TIE BAR TABLE

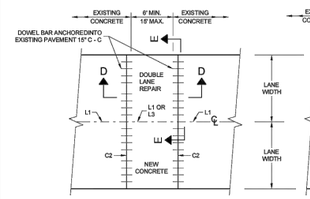
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10½"	NO. 4	30"	36"
≥ 10½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

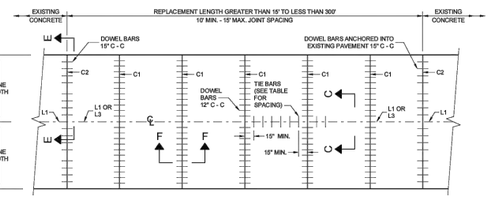
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 8 ½"	NONE	NONE	12'
7", 7 ½"	1"	1"	14'
8" & ABOVE	1 ¼"	1 ¼"	15'



PLAN VIEW
MULTILANE CONCRETE PAVEMENT REPAIR



PLAN VIEW
MULTILANE CONCRETE PAVEMENT REPLACEMENT

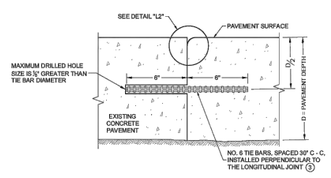
6

SDD 13C09 - 17b

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 13C09 - 17b



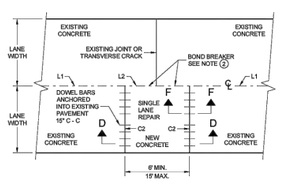
SECTION G - G
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

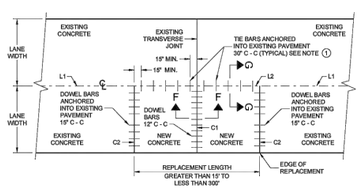
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(2) USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

(3) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW
SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW
SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

6

SDD 13C09 - 17c

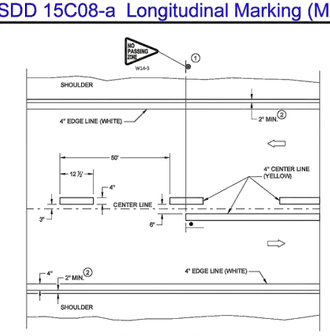
CONCRETE REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

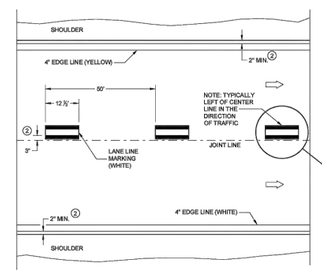
APPROVED
November 2022 — /S/ Peter Kemp P.E.
DATE — PAVEMENT SUPERVISOR
FHWA

SDD 13C09 - 17c

SDD 15C08-a Longitudinal Marking (Mainline)



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING

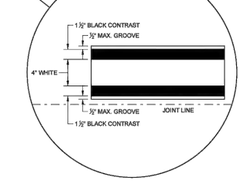
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

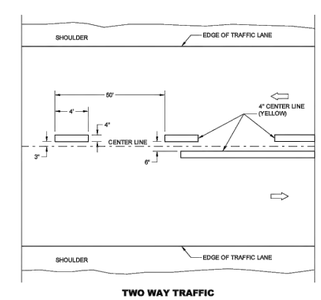
LEGEND

"T" MARKING

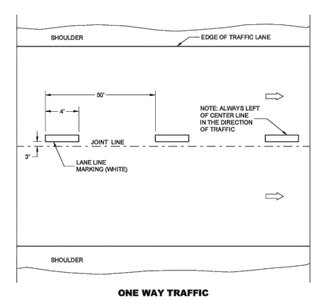
SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC





TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

6

SDD 15C08 - 20a

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — /S/ Matthew Rauch
DATE — STATEWIDE SIGNING AND MARKING ENGINEER
FHWA

SDD 15C08 - 20a

CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CONSTRUCTION DETAILS

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN		
DESIGNED		
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C503

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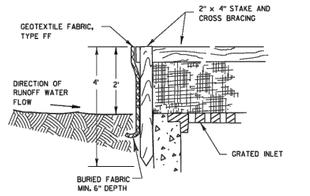
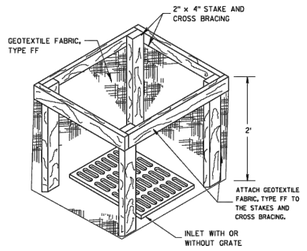
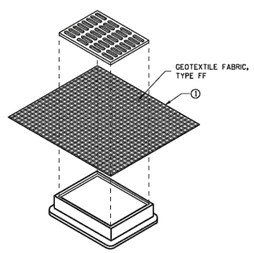
SDD 8e10 Inlet Protection Type A, B, C and D

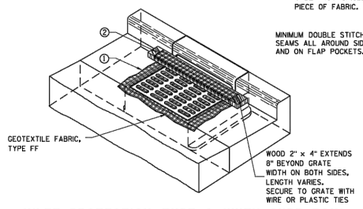




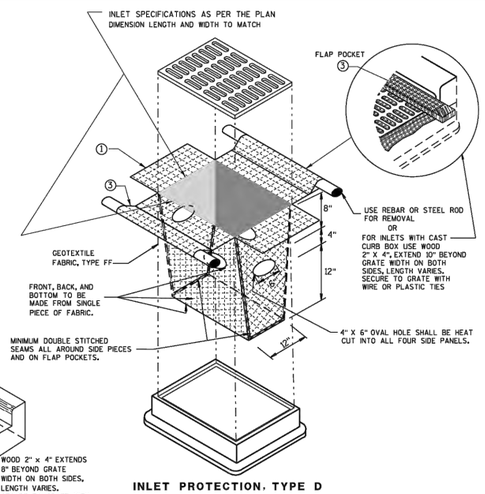
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE 2)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

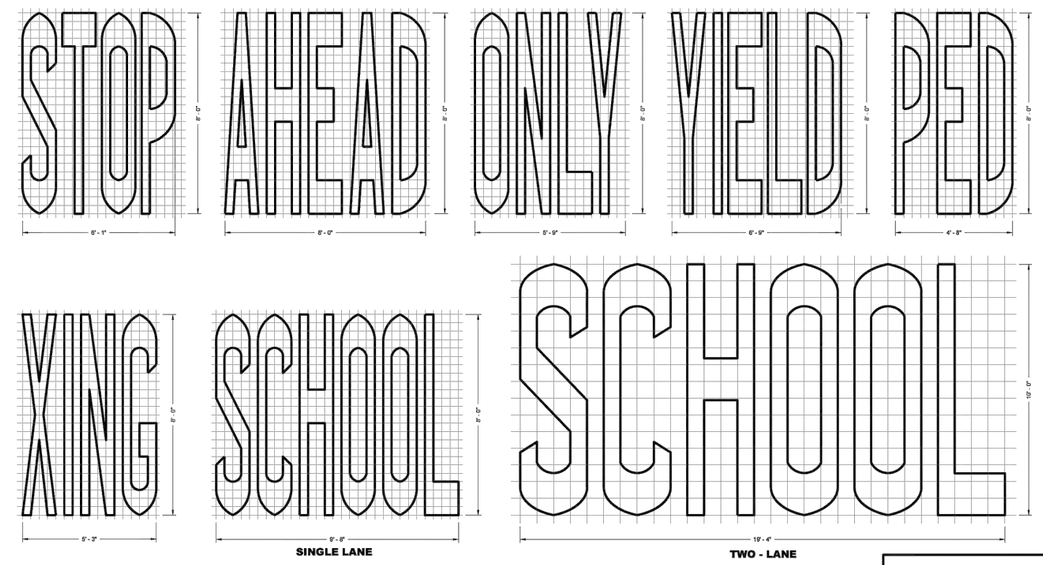
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10-16-02 DATE	/S/ Beth Cornestro CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

6 6

S.D.D. 8 E 10-2 S.D.D. 8 E 10-2

SDD 15C07-b Pavement Marking Words



GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

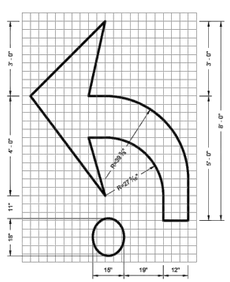
6 6

SDD 15C07 - 15b SDD 15C07 - 15b

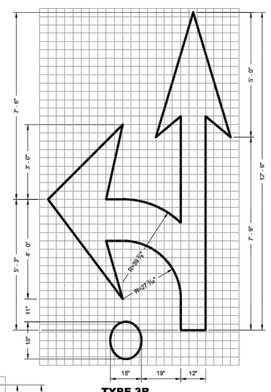
SDD 15C7-d Roundabout Marking Arrows

GENERAL NOTES

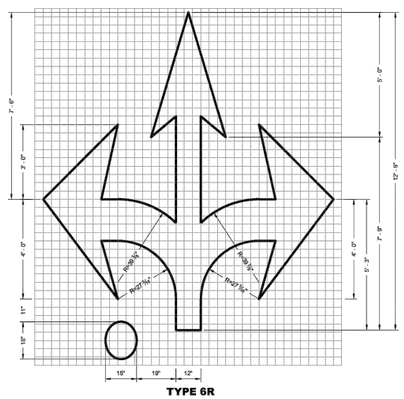
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



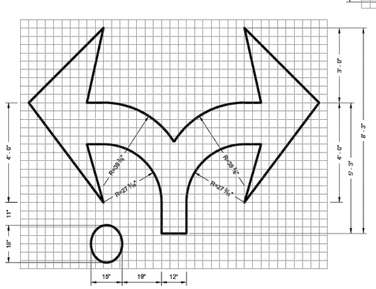
TYPE 2R



TYPE 3R



TYPE 6R



TYPE 7R

ROUNDABOUT MARKING ARROWS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

6 6

SDD 15C07 - 15d SDD 15C07 - 15d

CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CONSTRUCTION DETAILS

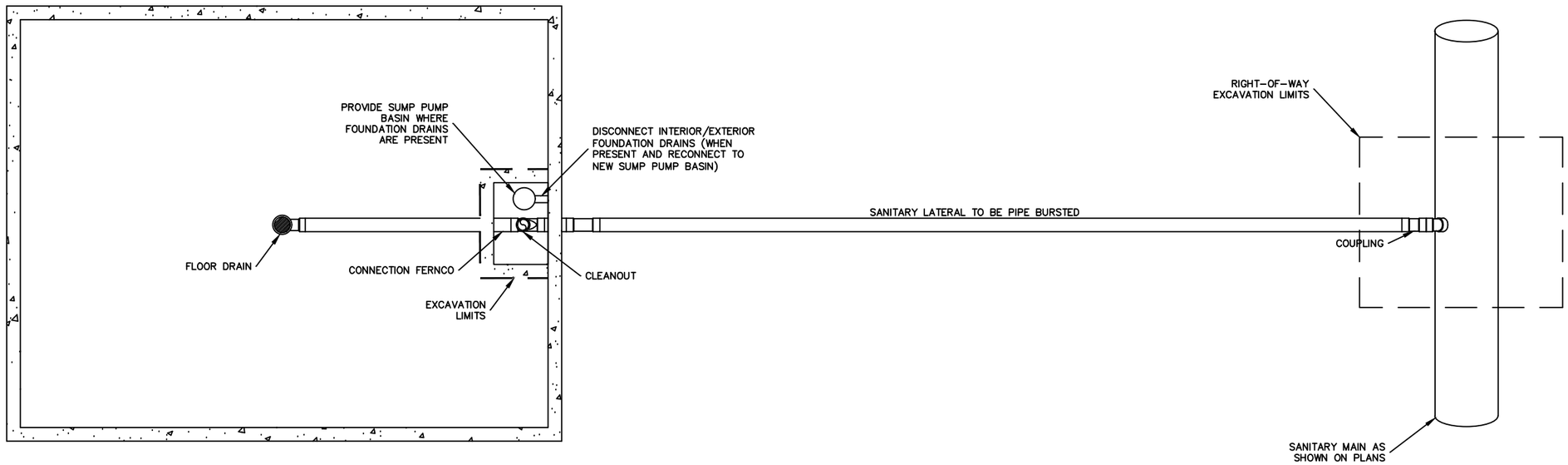
NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN		
DESIGNED		
CHECKED	EPR	01-2024

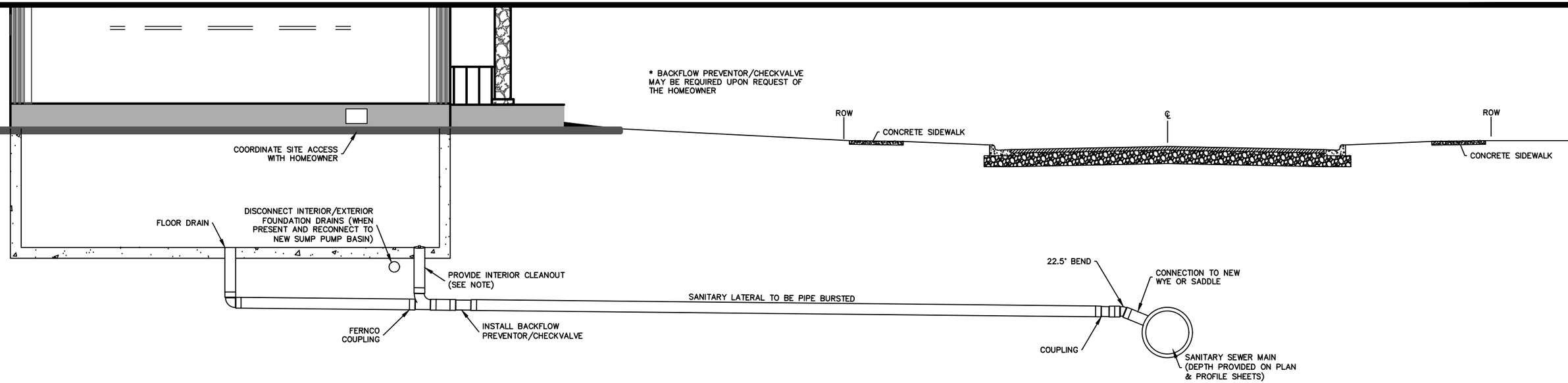
REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO. C504

X:\ENG\Projects\City Projects\2024\Project 24-02 Ridgeway Pavement Rehab\1200- CAD\24-02 MAC\24-02 CONSTRUCTION DETAILS.dwg



N.T.S.



N.T.S.

CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115

OFFICE 920-339-4061 FAX 920-339-4071

CONSTRUCTION DETAILS

NAME: RIDGEWAY PAVEMENT REHAB

PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN		
DESIGNED		
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C505

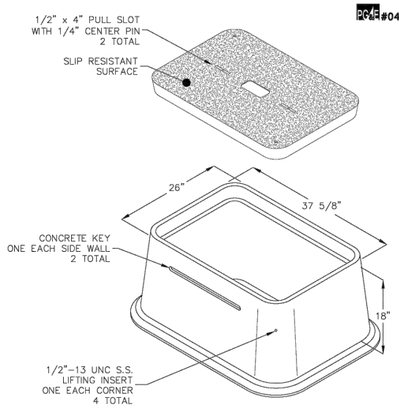
X:\ENG\Projects\City Projects\2024\Project 24-02 Ridgeway Pavement Rehab\1200- CAD\24-02 MAC\24-02 CONSTRUCTION DETAILS.dwg

24x36 HANDHOLE NON-CONCRETE

24"x36"x18"
(INSIDE DIMENSIONS)

PG&E #04-0940

PG&E APPROVED. POLYMER CONCRETE FRAME AND NON-SKID COVER FOR STRENGTH. "FRP" FIBERGLASS REINFORCED BODY FOR LIGHT WEIGHT. FLARED AT BASE TO PROVIDE ADDITIONAL WORK SPACE. MEETS ALL REQUIREMENTS OF W.U.C..



NOMINAL DIMENSIONS	PG&E CODE NO.	DESCRIPTION	APPROX. WT. LBS.
24"x36"x18"	04-0940	BOX AND COVER ASSEMBLY	258
24"x36"x18"	04-0930	BOX ONLY	158
24"x36"x4"	04-0118	4" EXTENSION	90
	04-3724	LID ONLY	100

DESIGN LOAD: STATIC DESIGN LOAD OF 8000 LBS. OVER A 10" X 10" AREA.

FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

4/25/06
24361BHH_PGE_B.dwg
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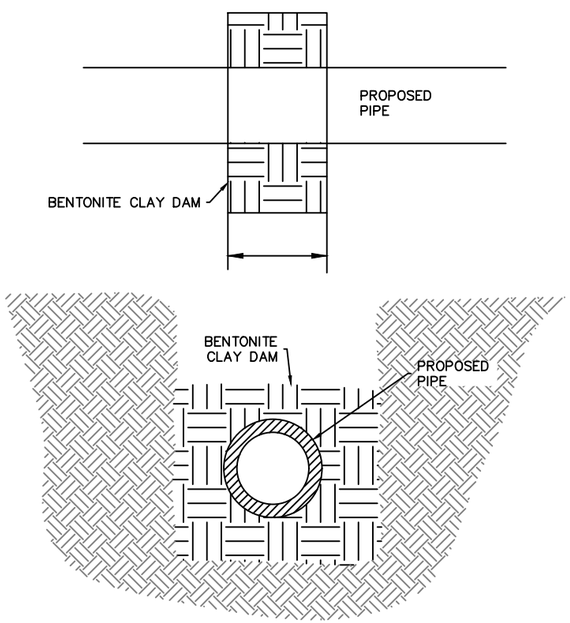
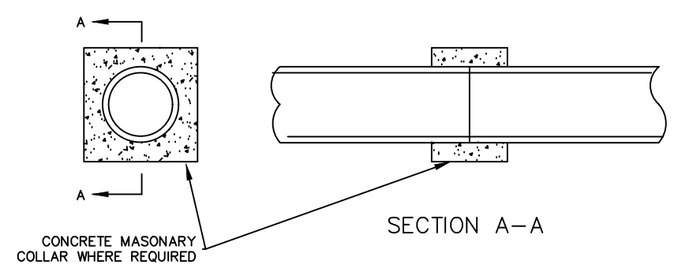
JENSEN PRECAST



CLAY DAM DETAIL
NTS



CONCRETE COLLAR DETAIL
NTS

CITY OF DE PERE
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

CONSTRUCTION DETAILS

NAME: RIDGEWAY PAVEMENT REHAB
PROJECT # 24-02

	BY	DATE
SURVEYED		
DRAWN		
DESIGNED		
CHECKED	EPR	01-2024

REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO. C506

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