

CITY OF DE PERE

PROJECT

23-01

SEWER AND WATER RELAY AND STREET RESURFACING

**BID DATE:
APRIL 26, 2023
@ 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 \$15 for each contract. Bidders will be charged an additional fee of \$30 to submit a bid electronically. Bidding documents may be viewed on the QuestCDN website or at the Municipal Service Center, 925 S. Sixth Street, De Pere, WI 54115.

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

SECTION 00 01 10

TABLE OF CONTENTS

INTRODUCTORY INFORMATION

<u>Section</u>	<u>Title</u>
00 00 01	PROJECT MANUAL COVER
00 01 10	TABLE OF CONTENTS

PROJECT BID DOCUMENTS

<u>Section</u>	<u>Title</u>
00 11 13	ADVERTISEMENT TO BID
00 21 13	INSTRUCTIONS TO BIDDERS
00 41 13	BID FORM
00 41 43	BID SCHEDULE
00 43 13	BID BOND
00 43 33	PROPOSED PRODUCTS FORM
00 43 36	TABULATION OF SUBCONTRACTORS

CONTRACTING REQUIREMENTS

<u>Section</u>	<u>Title</u>
00 51 00	NOTICE OF AWARD
00 52 13	CONTRACT
00 55 00	NOTICE TO PROCEED
00 61 13	PAYMENT BOND
00 61 16	PERFORMANCE BOND
00 62 76	APPLICATION FOR PAYMENT
00 65 16	CERTIFICATE OF SUBSTANTIAL COMPLETION

DIVISION 1 GENERAL REQUIREMENTS

<u>Section</u>	<u>Title</u>
01 10 00	SUMMARY OF WORK
01 22 01	MEASUREMENT AND PAYMENT SANITARY SEWER
01 22 02	MEASUREMENT AND PAYMENT STORM SEWER
01 22 03	MEASUREMENT AND PAYMENT WATER SYSTEM
01 22 04	MEASUREMENT AND PAYMENT STREET AND DRAINAGE CONSTRUCTION
01 22 05	MEASUREMENT AND PAYMENT SPECIAL CONSTRUCTION
01 29 00	PAYMENT PROCEDURES
01 32 33	CONSTRUCTION PHOTOGRAPHS
01 33 00	SUBMITTALS
01 41 00	REGULATORY REQUIREMENTS
01 71 23	FIELD ENGINEERING

SUPPLEMENTAL SPECIAL PROVISIONS

32 01 16.10	PULVERIZE ASPHALT PAVEMENTS
33 00 02.1	FUSIBLE POLYVINYL CHLORIDE (PVC) PIPE
33 00 05	DOUBLE AND TRIPLE WALLED POLYPROPYLENE PIPE

APPENDIX

APPENDIX A	GEOTECHNICAL ENGINEERING SERVICES REPORT FOR THE 2023 STREET RECONSTRUCTION AND KINGSTON PRESERVE STORMWATER POND BY INTERTEK PSI
------------	--

CITY OF DE PERE 2022 STANDARD SPECIFICATIONS

CONTRACTING REQUIREMENTS

<u>Section</u>	<u>Title</u>
00 70 00	GENERAL CONDITIONS (See City of De Pere 2022 Standard Specifications)
DIVISION 31 –	EARTHWORK (See City of De Pere 2022 Standard Specifications)
DIVISION 32 –	EXTERIOR IMPROVEMENTS (See City of De Pere 2022 Standard Specifications)
DIVISION 33 –	UTILITIES (See City of De Pere 2022 Standard Specifications)

SECTION 00 11 13

APRIL 7, 2023 – APRIL 14, 2023

CITY OF DE PERE

ADVERTISEMENT TO BID

PROJECT 23-01

SEWER AND WATER RELAY AND STREET RESURFACING

Online bids will be received and accepted for Project 23-01 Sewer and Water Relay and Street Resurfacing via the online electronic bidding service through QuestCDN.com, until 1:00 PM, Wednesday, April 26, 2023, at which time they will be publicly accepted, displayed and read aloud.

Project 23-01 for which proposals are being sought includes the following approximate quantities:

- 1,700 LF relay sanitary laterals (4-inch and 6-inch) and associated appurtenances.
- 3,900 LF new and relay storm sewer (8-inch to 15-inch) and associated appurtenances.
- 1,900 LF relay water main (8-inch) and associated appurtenances.
- 2,100 TONS asphaltic concrete pavement placement.
- 3,800 SY asphaltic concrete pavement milling and/or pulverizing.
- 3,600 LF replace concrete curb and gutter.
- 1,250 SY replace concrete sidewalks, driveways and pedestrian ramps (4-inch to 8-inch).

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 \$15 by inputting Quest project #8350097 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 \$30 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.

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

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 24, 2023. Prospective bidders who have previously submitted such forms subsequent to January 1, 2023 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 7th day of April 2023.

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

Project 23-01

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. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.
- 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 based on 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/846319245>

You can also dial in using your phone.
United States (Toll Free): 1 877 309 2073

Access Code: 846-319-245

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 23-01

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, Wednesday, April 26, 2023 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: \$ _____

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

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)

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

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 23-01

BID SCHEDULE – UNIT PRICE

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SANITARY SEWER					
SS-01	Remove and Relay 8" PVC Sanitary Sewer (Driftwood Drive)	LF	30	\$	\$
SS-02	Remove and Relay 6" or 4" PVC Sanitary Lateral	LF	1,700	\$	\$
SS-03	Directional Drill 4" PVC Sanitary Lateral (533-535 S. Ninth Street)	LF	110	\$	\$
SS-04	Provide 6" or 4" Saddle to Existing Sanitary Sewer	EA	49	\$	\$
SS-05	Provide 8"x4" Wye (533-535 S. Ninth Street)	LS	1	\$	\$
SS-06	Provide Sanitary Sewer Riser	LF	15	\$	\$
SS-07	Provide 4' Diameter Sanitary Manhole	VF	8	\$	\$
SS-08	Remove and Replace 4' Diameter Sanitary Manhole	VF	6	\$	\$
SS-09	Dig Down and Verify Active Sanitary Lateral (Cap Abandoned)	EA	7	\$	\$
SS-10	Spot Line or Dig Down and Cap Existing Sanitary Lateral (533-535 S. Ninth Street)	EA	1	\$	\$
SS-11	Connect to Existing Sanitary Sewer Pipe	EA	6	\$	\$
SS-12	Dig Down and Repair Offset Joint (5' Length)	EA	3	\$	\$

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STORM SEWER					
ST-01	Remove and Replace 15" PVC, RCP Class III, or PP Storm Sewer	LF	190	\$	\$
ST-02	Provide 15" PVC, RCP Class III, or PP Storm Sewer	LF	40	\$	\$
ST-03	Remove and Replace 12" PVC, RCP Class III, or PP Storm Sewer	LF	80	\$	\$
ST-04	Provide 12" PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	2,450	\$	\$
ST-05	Provide 12" PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	150	\$	\$
ST-06	Provide 8" PVC Storm Sewer	LF	1,010	\$	\$
ST-07	Provide 6" PVC Storm Sewer (Kelly Danen Park)	LF	75	\$	\$
ST-08	Provide 6" PVC Storm Lateral	LF	1,800	\$	\$
ST-09	Provide 12"x6" Storm Branch or Inserta Tee	EA	13	\$	\$
ST-10	Provide 8"x6" Storm Branch	EA	23	\$	\$
ST-11	Remove and Replace 4' Diameter Storm Manhole	VF	12	\$	\$
ST-12	Provide 4' Diameter Storm Manhole	VF	105	\$	\$
ST-13	Remove and Replace Type A Catch Basin	EA	1	\$	\$
ST-14	Provide Type A Catch Basin	EA	3	\$	\$
ST-15	Remove and Replace Type B Catch Basin	EA	4	\$	\$
ST-16	Provide Type B Catch Basin	EA	23	\$	\$

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STORM SEWER (Continued)					
ST-17	Provide Nyloplast Yard Drain (Kelly Danen Park)	EA	1	\$	\$
ST-18	Provide 15" Concrete Endwall	EA	2	\$	\$
ST-19	Connect to Existing Structure	EA	6	\$	\$
ST-20	Connect to Existing Pipe	EA	9	\$	\$
ST-21	Dig Down Repair Offset Joint (5' Length – S. Washington Street)	EA	1	\$	\$
ST-22	Dig Down and Reestablish Buried Endwall (Killarny Trail)	EA	1	\$	\$
ST-23	Abandon/Remove Existing Storm Sewer Appurtenances	LS	1	\$	\$
WATER MAIN					
W-01	Provide 8" PVC Water Main (Open Cut Granular or Directional Drill)	LF	1,550	\$	\$
W-02	Provide 8" PVC Water Main (Open Cut Natural or Directional Drill)	LF	90	\$	\$
W-03	Provide 8" PVC Water Main (Directional Drill Only)	LF	300	\$	\$
W-04	Provide 6" PVC Water Main	LF	15	\$	\$
W-05	Provide 1" HDPE Water Service	LF	1,900	\$	\$
W-06	Provide 1" Corporation and Curb Stop	EA	55	\$	\$
W-07	Provide 2" Corporation with Plug/Saddle and 2" Galvanized Pipe	EA	2	\$	\$
W-08	Provide 8" Gate Valve	EA	6	\$	\$

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
WATER MAIN (Continued)					
W-09	Provide Hydrant 7.5' Bury	EA	2	\$	\$
W-10	Provide Hydrant 7.0' Bury	EA	1	\$	\$
W-11	Provide Hydrant 6.5' Bury	EA	1	\$	\$
W-12	Provide Hydrant 5.5' Bury	EA	1	\$	\$
W-13	Provide 6" PVC Hydrant Lead	LF	65	\$	\$
W-14	Provide Vertical Offset	EA	2	\$	\$
W-15	Provide ½ Vertical Offset	EA	1	\$	\$
W-16	Provide Connection to Existing Water Main	EA	4	\$	\$
W-17	Abandon/Remove Existing Water Main Appurtenances	LS	1	\$	\$
STREET AND DRAINAGE					
SD-01	Unclassified Excavation	CY	135	\$	\$
SD-02	Remove Pavement	SY	70	\$	\$
SD-03	Ditching	SY	320	\$	\$
SD-04	Mill Asphaltic Concrete Pavement	SY	9,200	\$	\$
SD-05	Pulverize Asphaltic Concrete Pavement (Reid Street - 10" Depth)	SY	3,620	\$	\$
SD-06	Provide 1-¾" Crushed Aggregate Base Course or Pulverized Material (15" Depth)	SY	200	\$	\$

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STREET AND DRAINAGE (Continued)					
SD-07	Provide ¾" Crushed Aggregate Material (9" Depth)	SY	50	\$	\$
SD-08	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 1-¾" Upper Layer (Reid Street & Alley)	TON	410	\$	\$
SD-09	Provide Asphaltic Concrete Pavement Type 4 LT 58-28 S, 2" Upper Layer	TON	1,120	\$	\$
SD-10	Provide Asphaltic Concrete Pavement Type 3 LT 58-28 S, 2-¼" Lower Layer	TON	700	\$	\$
SD-11	Provide Asphalt Patch	SY	20	\$	\$
SD-12	Remove and Replace 30" Concrete Curb and Gutter	LF	475	\$	\$
SD-13	Remove and Replace 24" Concrete Curb and Gutter (Slip Form)	LF	2,400	\$	\$
SD-14	Remove and Replace 24" Concrete Curb and Gutter	LF	875	\$	\$
SD-15	Remove and Replace 8" Concrete Sidewalk and Driveway	SY	120	\$	\$
SD-16	Remove and Replace 6" Concrete Sidewalk, Ramp, and Driveway	SY	550	\$	\$
SD-17	Remove and Replace 4" Concrete Sidewalk	SY	700	\$	\$
SD-18	Provide #4 Reinforcement Bars for Curb and Sidewalk	LF	4,500	\$	\$
SD-19	Drilled Tie Bars (Existing Sidewalk, Driveway, Curb and Gutter)	EA	750	\$	\$
SD-20	Provide Detectable Warning Field (Natural Patina)	EA	11	\$	\$
SD-21	Landscaping – Topsoil, Seed, Fertilizer and Mulch	SY	1,200	\$	\$

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SPECIAL CONSTRUCTION					
SC-01	Pipe Foundation Stabilization	CY	10	\$	\$
SC-02	Inlet Protection Type B	EA	15	\$	\$
SC-03	Inlet Protection Type D	EA	35	\$	\$
SC-04	Medium Grouted Rip Rap with Geotextile Fabric (Type HR)	SY	250	\$	\$
SC-05	Medium Rip Rap with Geotextile Fabric (Type HR)	SY	20	\$	\$
SC-06	Adjust Manhole and Provide New Casting	EA	10	\$	\$
SC-07	Adjust Manhole	EA	2	\$	\$
SC-08	Adjust Inlet and Provide New Casting	EA	2	\$	\$
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 23-01 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) <i>List Proposed Sizes</i>		
Storm Sewer (RCP) <i>List Proposed Sizes</i>		
Storm Sewer (PP) <i>List Proposed Sizes</i>		

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 more than 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
Utility Work		
Concrete Driveways, Ramps & Sidewalks		
Road Excavation		
Pulverizing		
Milling		
Concrete Curb and Gutter		
Asphaltic Concrete Paving		
Traffic Control		
Landscape Restoration		
Directional Drilling		

SECTION 00 51 00

NOTICE OF AWARD

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

Project Description: 23-01 Sewer and Water Relay and Street Resurfacing

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 April 7, 2023 and April 14, 2023.

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 _____ 2023.

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 23-01 Sewer and Water Relay and Street Resurfacing, 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 April 7, 2023 and April 14, 2023.
- (b) Drawings designated for Project 23-01 Sewer and Water Relay and Street Resurfacing dated April 7, 2023.
- (c) City of De Pere 2022 Construction Specifications.
- (d) Special Provisions dated April 7, 2023.
- (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 27)(\$) 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)

(WITNESS) BY: _____

(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: _____
(MAYOR)

BY: _____
(CITY CLERK)

SECTION 00 55 00

NOTICE TO PROCEED

Date: _____

(CONTRACTOR NAME)

(ADDRESS)

(ADDRESS)

Project Description: 23-01 Sewer and Water Relay and Street Resurfacing

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

Department of Public Works

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

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

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

Signature

BY: _____
Printed Name

TITLE: _____

SECTION 00 61 13

CITY OF DE PERE

PAYMENT BOND

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

WHEREAS, Contractor has by written agreement dated _____ (date to be affixed by City) entered into a contract with City for Project 23-01, 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.

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

- 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 23-01, 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			1. ORIGINAL CONTRACT PRICE:.....	
Number	Additions	Deductions	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
Total	\$0.00	\$0.00	6. AMOUNT ELIGIBLE TO DATE (Line 4 minus 5).....	\$0.00
NET CHANGE BY CHANGE ORDERS:			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, 2022 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. Reid Street from Allard Street to Main Avenue Annex.
 - b. Main Avenue Annex from Reid Street to S. Seventh Street.
 - c. S. Seventh Street from Main Avenue to terminus south of Reid Street.
 - d. Alley from S. Seventh Street to Allard Street between Main Avenue and Reid Street.
 - e. Wilcox Court from Fox River Drive to eastern termini.
 - f. Miscellaneous repairs around the City per the plans.
2. Work will be performed under the following prime contract:
- a. 23-01 Sewer and Water Relay and Street Resurfacing.

B. The Work includes:

1. Sanitary sewer lateral relay and new.
2. Storm sewer and associated appurtenances relay and new.
3. Water main and associated appurtenances relay and new.
4. Concrete curb and gutter slip form and/or spot repairs.
5. Concrete driveway aprons, pedestrian ramps, and sidewalk removal and repairs.
6. Pulverize or mill existing asphaltic concrete pavement.
7. Salvage pulverized material to City.
8. Asphaltic concrete paving.
9. Terrace restoration.
10. Erosion control.
11. Traffic control.

1.4 WORK SEQUENCE/SCHEDULE

A. Project shall be completed by October 15, 2023.

- B. The calendar days listed on the following table are the allowed durations for each location from the beginning of construction of the street or site to the substantial completion of the area. Work in each area shall be continuous without crews and equipment mobilizing and

demobilizing to complete work outside of this project scope unless designated or approved by the Project Engineer.

Location	Calendar Days
Reid Street, Main Avenue Annex, S. Seventh Street and Alley from S. Seventh Street to Allard Street between Main Avenue and Reid Street	120 Calendar Days
Wilcox Court	60 Calendar Days
S. Ninth Street Sanitary Lateral Relay	7 Calendar Days

- C. Conduct construction activities to maintain access to businesses and residences throughout construction.
- D. Topsoil, seed, and mulch shall be completed prior to asphaltic concrete pavement placement.
- E. The following sanitary sewer spot repairs shall be completed by June 23, 2023 in coordination with Project 23-03 Sewer Lining.:
 - 1. Main Avenue Annex – 8” Sanitary Sewer Offset Joint Repair.
 - 2. Main Avenue – Raise Manhole at 627/633 Main Avenue.
 - 3. Moonglow Drive at S. Ninth Street – 8” Sanitary Sewer Repair.
 - 4. Driftwood Drive – 8” Sanitary Repair at Sag.
- F. The following work shall be completed by August 18, 2023 in advance of the 2023-2024 school year starting:
 - 1. S. Washington Street Spot Repair.
 - 2. S. Huron Street Spot Repair at Merrill Street.
 - 3. Shetland Spot Repair.
 - 4. S. Ninth Street sanitary lateral relay.
- G. Work on Merrill Street will need to be completed outside of peak traffic hours. Work shall be completed between 9:00 AM and 3:00 PM. Work may again resume after 6:00 PM if needed.

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 23-03 Sewer Lining. Sewer lining will occur at the following locations in coordination with this work. No conflicts are anticipated:
 - a. Moonglow Drive
 - b. Main Avenue Annex from Main Avenue to Reid Street
 - c. Driftwood Drive
 - 2. Project 23-05 Sidewalk and Curb Repairs. Sidewalk installation and repair work will occur after work under this contract at Kelly Danen Park.
- C. Cooperate fully with separate contractors and/or Owner so work by others may be carried out smoothly, without interfering with or delaying work under this Contract.

1.8 PROJECT UTILITY SOURCES

- A. Green Bay Metropolitan Sewer District (NEW Water), Lisa Sarau, (lsarau@newwater.us) (920-438-1039)
- B. AT&T, Victoria Kassab, (vk352k@att.com) (920-401-7512)
- 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:
 - 1. Reid Street, Main Avenue Annex, S. Seventh Street and Alley work shall be accessed via Main Avenue or Allard Street via Main Avenue.
 - 2. Wilcox Court Shall be accessed from Fox River Drive via Cook Street and S. Broadway Street.
 - 3. Shetland Spot Repair shall be accessed via the walking path south of Shetland Court.
 - 4. The remaining spot repairs shall be accessed via the most direct route off the City of De Pere designated truck routes. The truck route map can be found at:
https://www.deperewi.gov/egov/documents/1673556768_98235.pdf
- C. Reid Street shall be pulverized per the plans. Four (4) inches of pulverized material shall be removed to accommodate the four (4) inches of asphaltic concrete pavement. If the Contractor desires, the City will accept pulverized material and the material can be trucked and stockpiled at the De Pere Compost Facility at 655 Rockland Road. Stockpiles will need to be shaped and maintained by the contractor until trucking operations are completed.

Project 23-01
Sewer and Water Relay and Street Resurfacing

City of De Pere

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: | <u>Bid Item No.</u> |
| 1. Sanitary Sewer Mains (Granular Backfill) | SS-01 |
| 2. Sanitary Sewer Laterals | SS-02 & SS-03 |
| 3. Sanitary Sewer Service Branches | SS-04 & SS-05 |
| 4. Sanitary Sewer Risers | SS-06 |
| 5. Sanitary Sewer Manholes | SS-07 & SS-08 |
| 6. Dig Down and Verify Active Lateral | SS-09 & SS-10 |
| 7. Connect to Existing Sanitary Sewer Main | SS-11 |
| 8. Sanitary Sewer Spot Repair | 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. Sawcutting asphalt and/or concrete.
 3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
 4. Dewatering.
 5. Bypass pumping.
 6. Excavation.
 7. Open Trench installation method (unless bid item specifies other method).
 8. Pipe Bedding.

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

1.3 SANITARY SEWER MAINS (GRANULAR BACKFILL)

- A. The unit price for Sanitary Sewer Main (Granular Backfill) work includes:
 1. General Work Items of Article 1.2.
 2. Sanitary sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
 3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
 4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.
 5. Clay anti-seepage collar around pipe.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.
- C. The unit of measurement for payment is linear feet.

1.4 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.
 - 6. Directional drilling of sanitary service on S. Ninth Street.
- 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.

1.5 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 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 right of way (existing construction if existing lateral is too shallow).
 - 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 linear feet.

1.7 SANITARY SEWER MANHOLES

- A. The unit price for Sanitary Sewer Manholes work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Precast reinforced concrete components.
 - 3. Joint flexible gasket material.
 - 4. Resilient flexible connector between the manhole structure and the sewer pipe.
 - 5. Adjusting rings and bituminous plastic cement sealant at chimney.
 - 6. Manhole steps.
 - 7. Manhole frame and cover (Neenah Foundry R-1500 Manhole Cover with Non-Rocking Lid or equal). Sanitary Sewer manhole covers shall have gaskets and concealed pick holes.
 - 8. Bedding material.
 - 9. Sewer pipe stub with connections and watertight plug (where required).
 - 10. Final casting adjustment.
- B. Measurement for payment will be the distance from the invert of the lowest sewer to the top of the frame and cover as set.
- C. The unit of measurement for payment is vertical feet.

1.8 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. Televis 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. Cap lateral if not active.
 - 7. Spot lining through inactive lateral to seal off connection (if applicable).
- B. Measurement for payment will be the actual number completed.
 - 1. This item only applies to laterals on existing main that are capped 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.

1.9 CONNECT TO EXISTING SANITARY SEWER MAIN

- A. The unit price for Reconnect to Connect to Existing Sanitary Sewer Main work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Sanitary Sewer Pipe same material strength or better than sewer main. Provide Fernco with stainless steel sheer bands and connection water tight seal.
 - 3. Backfilling and compacting.
- B. Measurement for payment will be the actual number completed.
- C. The unit of measurement for payment is each.

1.10 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:
- | | <u>Bid Item No.</u> |
|--|---|
| 1. Storm Sewer Mains (Granular Backfill) | ST-01, ST-02, ST-03, ST-04, ST-06 & ST-07 |
| 2. Storm Sewer Mains (Natural Backfill) | ST-05 |
| 3. Storm Sewer Laterals | ST-08 |
| 4. Storm Sewer Service Branches | ST-09 & ST-10 |
| 5. Storm Sewer Manholes | ST-11 & ST-12 |
| 6. Catch Basin/Inlets | ST-13, ST-14, ST-15, ST-16 & ST-17 |
| 7. Flared End Section | ST-18 |
| 8. Connect to Storm Structure | ST-19 |
| 9. Connect to Existing Storm Sewer Pipe | ST-20 |
| 10. Storm Sewer Dig Down Spot Repair | ST-21 & ST-22 |
| 11. Abandon/Remove Storm Sewer and Appurtenances | ST-23 |
- 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 MAINS (NATURAL BACKFILL)

- A. The unit price for Storm Sewer Main (Natural Backfill) work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Storm sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
 - 3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
 - 4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.
- C. The unit of measurement for payment is linear feet.

1.5 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.

1.6 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.

1.7 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.

1.8 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.

1.9 FLARED END SECTION

- A. The unit price for Flared End Section includes:
 - 1. General Work Items of Article 1.2.
 - 2. Precast concrete components.
 - 3. Anchors to storm sewer pipe.
- B. Measurement for payment will be the actual number installed.
- C. The unit of measurement for payment is each.

1.10 CONNECT TO STORM STRUCTURE

- A. The unit price for Connect to Storm Structure work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Modify existing storm sewer manhole opening (where required).
 - 3. Provide concrete around the pipe, gasket, and manhole opening to form a sediment tight seal.
 - 4. Reform flow line in existing storm manhole.
- B. Measurement for payment will be the actual number complete.
- C. The unit of measurement for payment is each.

1.11 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.

1.12 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.
8. Clearing debris from storm sewer line.
9. Reestablishing end walls where present.

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

C. The unit of measurement for payment is each.

1.13 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.

END OF SECTION

SECTION 01 22 03

MEASUREMENT AND PAYMENT WATER SYSTEM

PART 1 – GENERAL

1.1 SUMMARY

- | | |
|---|-------------------------|
| A. Section includes: | <u>Bid Item No.</u> |
| 1. Water Mains (Granular Backfill) | W-01 & W-04 |
| 2. Water Mains (Natural Backfill) | W-02 & W-03 |
| 3. Water Services | W-05 |
| 4. Corporation and Curb Stop | W-06 |
| 5. 2" Corporation with Plug or Saddle and Galvanized Pipe | W-07 |
| 6. Valves | W-08 |
| 7. Fire Hydrants | W-09, W-10, W-11 & W-12 |
| 8. Hydrant Leads | W-13 |
| 9. Water Main Offset | W-14 & W-15 |
| 10. Connection to Existing Water Mains | 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 and/or directional drilling.
 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 MAINS (NATURAL BACKFILL)

- A. The unit price for Water Main (Natural Backfill) work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Water pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method and/or directional drilling.
 - 3. Ductile or cast iron fittings.
 - 4. Tracer wire.
 - 5. Polyethylene encasement of ductile iron or cast iron pipe and fittings.
 - 6. Blocking and joint restraint.
 - 7. Disinfection of pipelines.
- B. Measurement of payment will be the actual horizontal length along the centerline of the installed water main with no deductions for fittings and valves.
- C. The unit of measurement for payment is linear feet.

1.5 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.

1.6 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.

1.7 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.

1.8 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.

1.9 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.

1.10 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.

1.11 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 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.

1.13 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: | <u>Bid Item No.</u> |
|---|----------------------|
| 1. Topsoil and Unclassified Excavation | SD-01 |
| 2. Remove Pavement | SD-02 |
| 3. Ditching | SD-03 |
| 4. Mill Asphaltic Concrete Pavement | SD-04 |
| 5. Pulverize Asphaltic Concrete Pavement | SD-05 |
| 6. Crushed Aggregate Base and Surface Course | SD-06 & SD-07 |
| 7. Asphaltic Concrete Pavement | SD-08, SD-09 & SD-10 |
| 8. Asphalt Concrete Pavement Patch | SD-11 |
| 9. Portland Cement Concrete Curb and Gutter | SD-12, SD-13 & SD-14 |
| 10. Portland Cement Concrete Driveway and Sidewalk | SD-15, SD-16 & SD-17 |
| 11. Deformed Reinforcement Bars | SD-18 |
| 12. Drilling Tie Bars and Dowel Bars | SD-19 |
| 13. Detectable Warning Field Natural | SD-20 |
| 14. Landscaping – Topsoil, Seed, Fertilize, and Mulch | SD-21 |
- B. Unit Prices include:
1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
 2. The method of measurement for payment.
 3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

- A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for street and drainage systems.
- B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
1. Traffic Control.
 2. Sawcutting asphalt and/or concrete.

3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
4. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site.
5. Site access requirements including temporary aggregate material as required for local traffic access.
6. Dust control.
7. Remove and replace existing mailboxes and traffic signs.
8. Restroom facilities.
9. Construction staking and other survey work not provided by the Engineer.
10. Regulatory requirements.
11. Quality assurance and quality control testing and inspections.
12. Final casting and valve box adjustment.
13. Shop drawings and other submittals.

1.3 TOPSOIL AND UNCLASSIFIED EXCAVATION

- A. The unit price for Topsoil and Unclassified Excavation work includes:
 1. General Work Items of Article 1.2.
 2. Removal of topsoil to depth available.
 3. Hauling and stockpiling topsoil.
 4. Excavation to subgrades shown on the Drawings.
 5. Hauling of unclassified material.
 6. Placing unclassified material in fill areas to subgrades shown on the Drawings and the subgrade required for placement of topsoil.
 7. Compaction of subgrade and fill areas.
 8. Test rolling subgrade.
 9. Excavation of undercut areas for placing topsoil.
 10. Respreading topsoil to final grades shown on the Drawings.
 11. Disposal of surplus topsoil, unclassified material and unsuitable material.
 12. Preparation of disposal site and transportation of material over an Engineer approved haul route from the site including all loading and dumping of material.
 13. Finish grading.
- B. Measurement of payment will not be made unless there is a change in project scope. The estimated quantity represents the computed volume by comparing the triangulated surfaces and will be the basis for payment.
- C. The unit of measurement for payment is cubic yards.

1.4 REMOVE PAVEMENT

- A. The unit price for Remove Pavement work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Sawcutting.
 - 3. Asphaltic concrete pavement removal.
 - 4. Curb and gutter removal.
 - 5. Grading and compacting existing base course.
- B. Measurement of payment will be the length and width of the pavement removal.
 - 1. This item only applies to the pavement removal on the east end of Reid Street at Main Avenue Annex.
- C. The unit of measurement for payment is square yards.

1.5 DITCHING

- A. The unit price for Ditching work includes:
 - 1. General work items of Article 1.2.
 - 2. Removal of topsoil to depth available.
 - 3. Hauling and stockpiling topsoil.
 - 4. Excavation to subgrades shown on the drawings.
 - 5. Hauling of unclassified material.
 - 6. Placing unclassified material in fill areas to subgrades shown on the drawings and the subgrade required for placement of rip rap.
 - 7. Compaction of subgrade and fill areas.
 - 8. Excavation of undercut areas for placing rip rap.
 - 9. Disposal of surplus topsoil, unclassified material and unsuitable material.
 - 10. Preparation of disposal site and transportation of material over an engineer approved haul route from the site including all loading and dumping of materials.
 - 11. Finish grading.
- B. Measurement of payment will be the length and width of the area to be ditched.
- C. The unit of measurement for payment is square yards.

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 8-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 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:
 - 1. Width:
 - a. The width will not be greater than the maximum trench width at the surface which is greater of the pipe outside diameter plus twenty-four (24) inches or the distance from the surface to the top of the pipe embedment; or
 - b. If the surface removal and the replacement limits are shown on the drawings outside the maximum trench width, then the actual average width of the area will be measured.
 - 2. The depth will be the actual measured depth not to exceed the depth shown on the drawings or specified elsewhere.
 - 3. The length will be the actual length measured longitudinally along the installed facility.
- C. The unit of measurement for payment is square yards.

1.9 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.

1.10 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.

1.11 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.

1.12 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.

1.13 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.

1.14 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.

1.15 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 four (4) feet.

- B. Measurement for payment will be the actual number of detectable warning field installed.
- C. The unit of measurement for payment is each.

1.16 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.
- C. The unit of measurement for payment is square yard.

END OF SECTION

SECTION 01 22 05

MEASUREMENT AND PAYMENT SPECIAL CONSTRUCTION

PART 1 – GENERAL

1.1 SUMMARY

- | | |
|---|----------------------|
| A. Section includes: | <u>Bid Item No.</u> |
| 1. Pipe Foundation Stabilization | SC-01 |
| 2. Inlet Protection Erosion Control | SC-02 & SC-03 |
| 3. Rip Rap Erosion Control | SC-04 & SC-05 |
| 4. Adjusting Existing Structure Frame and Casting | SC-06, SC-07 & SC-08 |
- 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 PIPE FOUNDATION STABILIZATION

- A. The unit price for Pipe Foundation Stabilization work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Excavation below the limits of the pipe bedding with the bottom of the excavation wider than the top with 1:1 side slopes.
 - 3. Dewatering.
 - 4. Soil Class A-7 or A-8 aggregate material.
 - 5. Loading, hauling and disposing of surplus excavated material.
- B. Measurement of payment will be the volume calculated based on:
 - 1. The actual depth from four (4) inches below the bottom of pipe to the bottom of the aggregate material placed.
 - 2. The bottom width is the actual width not to exceed the pipe outside diameter plus twenty-four (24) inches plus 1:1 side slopes.
 - 3. The top width is the pipe outside diameter plus twenty-four (24) inches.
- C. The unit of measurement for payment is cubic yards.

1.4 INLET PROTECTION EROSION CONTROL

- A. The unit price for Inlet Protection Erosion Control work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Provide geotextile and wood materials for type shown on the Drawings.
 - 3. Placing inlet protection system.
 - 4. Inspection and maintenance of the installed inlet protection.
 - 5. Removal of the inlet protection.
 - 6. Cleaning debris buildup around inlet.
- B. Measurement for payment will be actual number of inlet protection erosion control installed.
- C. The unit of measurement for payment is each.

1.5 RIP RAP EROSION CONTROL

- A. The unit price for Rip Rap Erosion Control work includes:
 - 1. General Work Items of Article 1.2.
 - 2. Provide rip rap material and geotextile fabric.
 - 3. Provide grouting material (where applicable).
 - 4. Excavate and place rip rap material.
- B. Measurement for payment will be the actual area installed.
- C. The unit of measurement for payment is square yards.

1.6 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. Providing new casting frame and lid at locations indicated on the plans.
 - 3. Removal of the casting and existing adjusting rings from the structure as required.
 - 4. Providing concrete adjusting rings and a 2-inch rubber riser ring from the WisDOT approved product list.
 - 5. Bituminous plastic cement sealing the exterior of the adjusting rings and casting.
 - 6. The ring will be secured to the precast section with a 3 ½ inch wide Kent Seal or equal.
 - 7. 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.
 - 8. Initial and final adjustment.
 - 9. 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.

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. Wisconsin Department of Natural Resources Water System Plan Review
 - 2. Wisconsin Department of Natural Resources Storm Water Notice of Intent (NOI)
- B. Any costs associated with violations pertaining to the NOI permit will be the responsibility of the Contractor.

PART 2 – PRODUCTS (Not used)

PART 3 – EXECUTION (Not used)

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 – GENERAL

1.1 SUMMARY

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

1.2 SUBMITTALS

- A. None

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 PREPARATION

- A. Investigate and verify the existence and location of site improvements, utilities, and other existing facilities.
- B. Before construction, verify the location of invert elevations at points of connection of sanitary sewer, storm sewer, water piping and underground electrical services.
- C. Furnish information to the Engineer and the appropriate utility regarding conflicts that are necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction.
- D. Provide the Engineer two (2) working days advance notification when ready for engineering surveys for construction to be provided by the Engineer.

3.2 ENGINEERING SURVEYS TO BE PROVIDED BY THE ENGINEER

- A. General
 - 1. Establish benchmarks for construction as shown on the drawings.
 - 2. Establish control points as shown on the drawings.
- B. Gravity Sewer Systems and Water Distribution Systems
 - 1. Provide construction reference stakes set for pipe construction location at critical changes in horizontal and vertical alignment.

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

C. New Road Construction

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

3.3 ENGINEERING SURVEYS TO BE PROVIDED BY THE CONTRACTOR

A. General

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

B. Gravity Sewer Systems and Water Distribution Systems

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

C. New Road Construction

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

END OF SECTION

SECTION 32 01 16.10

PULVERIZE ASPHALT PAVEMENTS

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cold Recycling of asphaltic pavements

PART 2 – PRODUCTS

2.1 EQUIPMENT

- A. Crushing Equipment
 - 1. Crushing equipment may be an in-place crusher or a central crusher.
 - 2. In-place crusher:
 - a. Provide a self-propelled machine designed and built for reduction in size of old pavement material in-place.
 - b. Provide a rotary reduction machine, having positive depth and control adjustments in increments of ½ inch and capable of reducing material to at least 6 inches thick.
 - c. Provide a totally enclosed drum to prevent discharge of any loosened material on adjacent areas.
 - 3. Pulverize the full depth of the existing asphaltic pavement until 97 percent or more will pass the 2-inch sieve. Also pulverize the existing base to the depth the plans show and mix with the pulverized asphaltic pavement.
- B. Compaction
 - 1. Provide a vibratory roller capable of exerting a minimum total force of 450 lbs. per linear inch of roller drum.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Clean the pavement surfaces of excessive dirt, clay or other foreign material immediately prior to milling the pavement.
- B. Saw cut pavement at project ends and side roads to provide proper butt joint.

3.2 APPLICATION

- A. Work includes scarifying, pulverizing, crushing, redistributing, blending, shaping, rolling and

compacting of recrushed aggregate material to proper elevation and slope.

- B. Protect from damage manholes, valve boxes, and any other items in the roadway.

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 production 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 ratio, 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 PVC 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 always followed 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 00 05

DOUBLE AND TRIPLE WALLED POLYPROPYLENE PIPE

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Double walled polypropylene pipe for mainline gravity storm sewer.
 - 2. Triple walled polypropylene pipe for mainline gravity storm sewer.
- B. The products described are not installed under this Section.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. D3212 Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
 - 2. F477 Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
 - 3. F2736 Standard Specification for 6 to 27 in. (152 To 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe And Double Wall Pipe
 - 4. F2764 Standard Specification for 30 to 60 in. [750 to 1500 mm] Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications

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 twelve 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. Pipe stiffness designation, dimension ration, or schedule size and pressure class.
4. ASTM specification designation.
5. Production date.

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. For onsite gasket installation on pipe, store gaskets away from excessive exposure to heat, direct sunlight, ozone, oil or grease.
- E. For gaskets installed on the pipe offsite, keep the protective wrap on gaskets until installation.
- 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.

PART 2 – PRODUCTS

2.1 NON-PRESSURE RATED PIPE

A. Mainline Gravity Sewer and Sewer Services

1. Pipe fittings and repair couplings shall be manufactured and tested in accordance with the following standards:
 - a. Sizes 8 inch through 27 inch and depths up to 20 feet: ASTM F2736, PSM SDR-35 PVC
 - b. Sizes 30 inch through 60 inch and depths up to 20 feet: ASTM F2764, PS46 PVC, T-1 minimum cell classification

2. Pipe shall have a minimum pipe stiffness of 46 PSI.
3. Minimum height of cover to the top of pipe to the existing elevation or proposed finished elevation (whichever is less) shall be two feet.
4. Elastomeric Gaskets: Conform with ASTM F477
5. Elastomeric Joints: Conform with ASTM D3212
6. Solvent Weld Joints: Not permitted.

B. Sewer Services

1. 4" and 6" pipe shall be Schedule 40 PVC and conform to section 33 00 02, Polyvinyl Chloride (PVC) Pipe and Fittings.
2. Branch laterals shall be designed to accept SDR 35.

2.2 DEFLECTION TEST REQUIREMENTS

- A. Deflection testing procedures shall conform to Section 01 45 23 10, Testing and Inspection of Pipeline and Appurtenances.
- B. The following table shall be used for the mandrel setting for Polypropylene Pipe:

Table 1
SaniTite HP Recommended Mandrel Settings

Pipe Type	Pipe Diameter (Inches)	Minimum Inside Diameter (Inches)	Inside Diameter With 5% Deflection (Inches)
Dual Wall	12	11.90	11.31
	15	14.85	14.11
	18	17.93	17.03
	21	20.79	19.75
	24	23.90	22.71
	30	29.79	28.30
Triple Wall	30	29.62	28.14
	36	35.40	33.63
	42	41.31	39.24
	48	47.31	44.94
	60	59.30	56.34

END OF SECTION

APPENDIX A

GEOTECHNICAL ENGINEERING SERVICES REPORT FOR THE 2023 STREET RECONSTRUCTION AND KINGSTON PRESERVE STORMWATER POND

GEOTECHNICAL ENGINEERING
SERVICES REPORT

For the:

2023 Street Reconstruction and Kingston
Preserve Stormwater Pond
De Pere, Wisconsin

Prepared for:

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

Prepared by:

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

April 12, 2023

PSI Report Number: 00941953



A handwritten signature in black ink, appearing to read "James M. Becco".

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

A handwritten signature in black ink, appearing to read "Patrick Bray".

Patrick Bray, E.I.T.
Branch Manager

A handwritten signature in black ink, appearing to read "Patrick J. Patterson".

Patrick J. Patterson, P.G.
Staff Geologist

A handwritten signature in black ink, appearing to read "Andrew Olson".

Andrew Olson
Staff Geologist

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	GENERAL	1
1.2	PURPOSE	1
1.3	SCOPE	1
1.4	AUTHORIZATION	1
2	SITE AND PROJECT DESCRIPTION	1
2.1	SITE FEATURES	1
2.2	PROJECT DESCRIPTION	2
3	EXPLORATION AND LABORATORY PROCEDURES	3
3.1	SCOPE SUMMARY	3
3.2	FIELD EXPLORATION	3
3.3	LABORATORY PHYSICAL TESTING	4
4	DESCRIPTION OF SUBSURFACE CONDITIONS	4
4.1	GENERAL	4
4.2	SUBSURFACE CONDITIONS	4
4.3	GROUNDWATER OBSERVATIONS	6
5	EVALUATION AND RECOMMENDATIONS	6
5.1	PAVEMENT DESIGN RECOMMENDATIONS	6
5.2	SELECTIVE SUBGRADE REMOVAL AND REPLACEMENT	6
5.3	SITE DRAINAGE	7
6	CONSTRUCTION CONSIDERATIONS	7
6.1	PAVEMENT SUBGRADE PREPARATION	7
6.2	BORROW MATERIAL	8
6.3	FILL PLACEMENT AND COMPACTION	9
6.4	GROUNDWATER CONTROL	9
6.5	SUBGRADE FROST ACTION	10
6.6	STORMWATER MANAGEMENT CONSIDERATIONS	10
7	GENERAL COMMENTS	11

Appendix (in order of appearance)

Figure 1 – Boring Location Plan

Soil Boring Logs

Storm Forms

General Notes





1 INTRODUCTION

1.1 GENERAL

This report presents the results of the subsurface exploration and subgrade evaluation for the proposed East River Drive, Reid Street, and Ridgeway Drive reconstruction, in De Pere, Wisconsin. In addition, this report includes borings in the area of the proposed Kingston Preserve Stormwater Pond at Humana Sports Park, in De Pere, Wisconsin. The work was performed for the City of De Pere, at the request of Mr. Eric Rakers.

1.2 PURPOSE

The purpose of this study was to evaluate the subsurface conditions at specific boring locations and to establish parameters for use by the engineers in preparing the pavement and stormwater pond designs for the proposed projects.

1.3 SCOPE

The scope of services included a summary of the subsurface conditions within the boring depths, a summary of the existing pavement and base course thicknesses, soil classifications, refusal depth (if encountered), and groundwater levels. 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 a City of De Pere contract dated February 27, 2023, which included PSI Proposal No. PO-0094-390548, dated January 11, 2023. The general conditions for the performance of the work were referenced in the proposal. 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

Roadway Reconstruction (R-1, ER-1, RW-1)

The project site is located on East River Drive between Charles Street and Lebrun Street; on Reid Street from Allard Street to the Main Avenue Annex; and on Ridgeway Drive from Libal Street to East River Drive, in De Pere, Wisconsin. At the time of the exploration, the surface of the roadways consisted of asphalt pavement. Usage along the project route consisted primarily of residential properties. A review of historical aerial photography available from Google Earth between the years of 1992 and 2021 indicates that the roadways were present since the earliest



photo taken in 1992. At the time of exploration, the surface of the site was relatively firm, and the truck-mounted drill rig experienced no difficulty accessing the boring locations. The subject sites are depicted on the enclosed Boring Location Plans (Figure 1, 2, and 3).

Kingston Preserve Pond (B-1, B-2)

The project site is located at the current Humana Sports Park, approximately 1,100 feet northwest of the intersection of Lawrence Drive and Silver Maple Drive, in De Pere, Wisconsin. At the time of exploration, the surface of the site consisted of manicured grass. A review of historical aerial photography available from Google Earth between the years of 1992 and 2022 indicates the surface features of the site appear to have remained relatively similar in appearance to those described above since the earliest photo taken in 1992. The subject site is depicted on the enclosed Boring Location Plan (Figure 4).

The topography of the subject site is relatively flat, with an elevation difference of approximately 1.3 feet between the boring locations. The site generally slopes down towards the west. The surface elevations of the boring locations ranged between about EL. 634.9 and EL. 633.6. At the time of the exploration, the surface of the site was relatively soft; therefore, an ATV mounted drill rig was utilized to access the boring locations.

2.2 PROJECT DESCRIPTION

Roadway Reconstruction (R-1, ER-1, RW-1)

Based on the information provided by the client, it is understood that the proposed project will consist of the reconstruction of the asphalt roadways on East River Drive between Charles Street and Lebrun Street; on Reid Street from Allard Street to the Main Avenue Annex; and on Ridgeway Drive from Libal Street to East River Drive, in De Pere, Wisconsin. The project will consist of full-depth reconstruction which will include the removal of the existing asphalt pavement and base course. Construction will include concrete curb and gutter. The horizontal and vertical alignments are expected to remain the same, and only nominal cuts and fills of less than 1 foot are anticipated.

Kingston Preserve Pond (B-1, B-2)

Based on the information provided by the client, it is understood that a stormwater management pond will be located at the current Humana Sports Park in De Pere, Wisconsin. The stormwater management pond will have a bottom elevation of EL. 621.0. The size and other design details were not provided at the time of report preparation. If additional information regarding the roadway or stormwater projects becomes available, or if any of the information discussed herein differs from 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 and analysis 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.

With respect to the stormwater management pond, the field and laboratory work for classification of the subgrade soils was performed to provide information for use by the basin design personnel when considering requirements of Chapter NR151 of the Wisconsin Administrative Code, and of WDNR Technical Standard 1002, "Site Evaluation for Stormwater Infiltration" guidelines. The design of the proposed stormwater management area was beyond the scope of services for this project.

3.2 FIELD EXPLORATION

A total of five (5) soil test borings were performed to a depth of about 5 to 20 feet below the existing ground surface. Borings R-1, ER-1, and RW-1 were performed to a depth of about 5 feet in the areas of proposed roadway reconstruction along Reid Street, East River Drive, and Ridgeway Drive, respectively. Borings B-1 and B-2 were performed to a depth of about 20 feet in the proposed stormwater management pond. The number, depths, and locations of the borings were determined by the client. The borings were located in the field by PSI utilizing a handheld GPS device. They are estimated to be accurate to within several feet. The surface elevations shown on the logs were provided by the client.

The soil test borings were performed with a truck-mounted (R-1, ER-1, RW-1) and ATV (B-1, B-2) 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 at 2.5-foot intervals to 10 feet, and then at 5-foot intervals thereafter to the end of the borings. As an exception, samples were obtained at 2-foot intervals at the borings performed within the proposed stormwater management areas. 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). The samples



collected within the stormwater management areas were visually classified by a certified soil tester in general accordance with USDA National Resources Conservation Service textural soil classification procedures. A description of the subsurface conditions encountered at each boring location is shown on the enclosed Soil Boring Logs.

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.

The laboratory testing was performed in general accordance with the respective ASTM methods, as applicable, and the results are shown on the boring logs and Laboratory Data Sheets in the Appendix.

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

Reid Street Reconstruction (R-1)

The surface of the site at R-1 consisted of about 5 inches of asphalt, underlain by about 7 inches of base course consisting of brown coarse to fine sand with gravel. Beneath the base course, the underlying natural soils generally consisted of reddish-brown clay to the maximum depth explored by the boring.



East River Drive Reconstruction (ER-1)

The surface of the site at ER-1 consisted of about 4.5 inches of asphalt, underlain by about 9.5 inches of base course consisting of brown coarse to fine sand with gravel. Fill, generally comprised of brown clayey sand with trace gravel, was present to a depth of about 3 feet (EL. 587.4) below ground surface. The underlying natural soils generally consisted of brown silt with clay to the maximum depth explored by the boring.

Ridgeway Drive Reconstruction (RW-1)

The surface of the site at RW-1 consisted of about 4.5 inches of asphalt, underlain by about 7.5 inches of base course consisting of dark brown coarse to fine sand with gravel. Fill, generally comprised of brown sandy clay with trace gravel, was present to a depth of about 3 feet (EL. 593.7) below ground surface. The underlying natural soils generally consisted of reddish-brown clay to the maximum depth explored by the boring.

The fill and buried topsoil materials were classified as such based on their varied visual characteristics and composition. However, it must be recognized that in the absence of foreign substances and/or debris within the soil samples obtained, it is often difficult to distinguish between natural soils and clean soil fill.

The cohesive fill soils encountered in RW-1 were generally medium stiff in comparative consistency, with Standard Penetration Resistances (N-values) of about 9 blows per foot (bpf). The granular fill soils encountered in ER-1 were generally medium dense in comparative consistency with N-values of about 13 blows per foot (bpf). The natural granular soils encountered in ER-1 were generally dense in comparative consistency with N-values of about 18 blows per foot (bpf). The natural cohesive soils encountered in the borings were generally stiff to very stiff in comparative consistency, with N-values ranging from about 11 to 19 bpf, and unconfined compressive strengths ranging from about 1.8 to 3.75 tons per square foot (tsf).

Stormwater Pond (B-1, B-2)

The surface of the site at the stormwater pond borings B-1 and B-2 consisted of about 2 and 9 inches of topsoil, respectively, comprised of dark reddish brown silty clay loam. The underlying natural soils consisted of reddish brown to reddish gray silty clay loam and silty clay to the maximum depths explored by the borings.

The natural cohesive soils at B-1 and B-2 were soft to very stiff in comparative consistency, with N-values ranging from about 7 to 25 blows per foot (bpf), and unconfined compressive strengths ranging from about 0.3 to 2.2 tons per square foot (tsf).



4.3 GROUNDWATER OBSERVATIONS

Groundwater observations were made during the drilling operations and in the open boreholes upon completion. Groundwater was not encountered during drilling or upon completion and removal of the augers in the boreholes. B-1 and B-2 caved at depths of about 9 and 14 feet, respectively, below existing grade; therefore, observations could not be made below the cave depths. 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 EVALUATION AND RECOMMENDATIONS

5.1 PAVEMENT DESIGN RECOMMENDATIONS

On the basis of the data obtained in the exploration and laboratory testing, the subgrade soils encountered along the roadway project routes generally consisted of clay, clayey sand, and sandy clay fill. The clay soils, with the poorer support characteristics, have been assigned an estimated visual classification of A-6 by the AASHTO soil classification method and CL by the USCS classification system. They are generally rated as poor in applications for pavement subgrade. These soils are also generally poorly drained, can exhibit low bearing support when wet, have moderate to high shrink-swell potential, and high frost susceptibility.

Evaluation of the visual soil classifications and laboratory testing information has been made in determining pertinent engineering properties of the subgrade soils. Based on the engineering properties determined from the subgrade soils tested, and with proper subgrade preparation and drainage, the following pavement subgrade design coefficients are recommended for pavement section thickness design along the entire roadway alignment. These values are representative of the support conditions exhibited by the anticipated clay subgrade materials. All fill used to raise grades or replace unsuitable materials must have equal or greater support characteristics.

PAVEMENT SUBGRADE DESIGN COEFFICIENTS

AASHTO Soil Classification	A-6
Design Frost Index	F-3
Design Group Index	15
Soil Support Value	3.8
Estimated Subgrade Modulus (k)	125 pci

5.2 SELECTIVE SUBGRADE REMOVAL AND REPLACEMENT

The soils encountered in the borings can generally be used as the pavement subgrade, provided the soils are evaluated and prepared as discussed in this report. However, zones of



unsuitable soils may be encountered, especially within existing fill materials. Therefore, some removal and replacement may be required, and may become extensive, at least in isolated areas. In addition, the majority of the soils along the project route are 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, softened subgrade soils can be expected to 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.

5.3 SITE DRAINAGE

In general, the subgrade soils encountered in the borings 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 to highly susceptible to frost action when free water is present.

The detrimental effects of frost action within frost susceptible 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 maintain a relatively dry subgrade condition and reduce the potential for frost action, it will be necessary to control surface runoff and water seepage as complete removal and replacement of the frost susceptible subgrade soils is not considered economically feasible. Adequate longitudinal slope should be provided to maintain runoff below the top of the pavement subgrade, and proper base course drainage must be provided.

6 CONSTRUCTION CONSIDERATIONS

6.1 PAVEMENT SUBGRADE PREPARATION

The presence of organic topsoil and vegetation within the subgrade can adversely affect the serviceability pavements placed upon them. The surface at the borings was typically covered with asphalt pavement. However, if any topsoil, vegetation, trees, roots, organic matter, and other unsuitable materials are encountered on the surface at the time of construction, they must be removed from the areas of pavements.

After removal of the existing asphalt pavement and base course, the exposed subgrade should be prepared as outlined in Section 211 of the WisDOT Standard Specifications. The subgrade should be thoroughly proofrolled to detect unstable, yielding or unsuitable soils, which must be removed or improved by appropriate preparation and compaction techniques. Scarification and drying of unsuitable soils, or removal and replacement with suitable fill, are two methods, which can be considered. This should be determined at the time of construction by a qualified soils engineer. Low areas may then be raised to the planned grades with suitable properly



compacted fill where necessary. Substantial areas of soft, wet, or otherwise unsuitable soils, requiring undercutting and removal, may be encountered.

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. 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 $\frac{3}{4}$ -inch or $1\frac{1}{4}$ -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 fine-grained soils present within the subgrade are considered 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.

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 $\frac{3}{4}$ -inch or $1\frac{1}{4}$ -inch materials. 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 suitable 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, some drying and/or reworking of these fine-grained soils may be necessary prior to placement.

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.

Adequate compaction must be performed 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 sheepfoot roller for clayey soils, and a vibratory smooth drum roller for granular material.

6.4 GROUNDWATER CONTROL

Because no groundwater was encountered in the upper levels of the boreholes during the exploration, no major difficulties during excavation and construction work is anticipated on this site. A gravity drainage system and a filtered sump pump should be adequate to control isolated small volume perched water, (which can sometimes occur within existing base course materials) if encountered. However, if larger volume perched zones are encountered, or if groundwater levels rise due to seasonal variations, more comprehensive dewatering with a series of sump pumps may be required.

Since the anticipated subgrade soils are subject to softening when exposed to free moisture, every effort should be made to keep excavations dry. Site grading should be performed to direct runoff away from the construction area, so that the potential for the softening of the subgrade soils is reduced.

While no groundwater was encountered at the time the borings were drilled, seasonal variations in precipitation, site drainage conditions, soil permeability, and other factors can cause groundwater or perched zones to be present in the upper soils at other times of the year, including during construction.



6.5 SUBGRADE FROST ACTION

The proposed road project is located in an area that experiences annual freezing cycles and the subgrade soils encountered have been classified as moderate to highly susceptible to frost action when free water is present. Therefore, some frost movement may be experienced. Adequate drainage/sloping must be provided.

6.6 STORMWATER MANAGEMENT CONSIDERATIONS

Based on the information provided by client, it is understood that the proposed project will consist of the construction of a stormwater management pond. The stormwater management pond will have a bottom elevation of EL. 621.0. The size and other design details were not provided at the time of report preparation. When design details of the stormwater management pond become available, they must be provided to PSI to determine if a re-evaluation of the recommendations provided herein is necessary.

Samples of the subgrade soils encountered in B-1 and B-2 have been visually classified in general accordance with the USDA textural soil classification system. The subgrade soils encountered below the surface topsoil consisted of reddish brown to reddish gray silty clay loam and silty clay to the maximum depths explored by the borings. Groundwater was not encountered during drilling or upon completion at the boring locations.

With regard to the above soil and groundwater conditions encountered at the borings, NR 151.124(4)(c)1 and 2 – *Infiltration rate exemptions* indicates that infiltration practices located in an area where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method; or an area where the least permeable soil horizon to 5 feet below the proposed bottom of the infiltration system using the USDA method of soils analysis consists of sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay or clay may be credited toward meeting the requirements, but the decision to infiltrate under these conditions is optional. In addition, NR 151.124(4)(b)1 – *Separation distances* indicates that infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with the following Table (reproduced from NR 151.124):

Table 3. Separation Distances and Soil Characteristics		
Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer*
Residential Arterial Roads	5 feet or more	Filtering Layer*



Roofs Draining to Surface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	
All Other Impervious Source Areas	3 feet or more	Filtering Layer*

*Defined in NR 151.002(14r) as a "soil that has at least a 3-foot deep layer with at least 20 percent fines; or at least a 5-foot deep layer with at least 10 percent fines; or an engineered soil with an equivalent level of protection as determined by the regulatory authority for the site."

The information presented above is provided as general guidance for considering stormwater management in conjunction with the encountered subsurface conditions. However, please consult Chapter NR151 of the Wisconsin Administrative Code, the Site Evaluation for Stormwater Infiltration (1002) document, or other applicable references must be consulted for appropriate site-specific stormwater design guidance and requirements.

Stormwater management basins are not recommended to be placed in close proximity to basements or other below grade structures. Proper and careful consideration of soils and subsurface conditions must be given during site and design planning, and extreme care must be exercised during construction. Lateral migration of water may result in substantially increased sump pump activity and can quickly overcome the ability of such pumps to maintain a desirable water level, resulting in significant flooding. The potential for such conditions to occur can greatly increase when basement floors are below the elevation of basin bottoms and/or when basins are placed in close proximity to structures (strongly not recommended). In addition, the presence of granular or other generally permeable soils, which is typically necessary in the areas of structures, especially within utility backfill, alongside basement walls, or within other development excavations, can act as extensive migration channels to rapidly carry large volumes of water from basins and into nearby basements. Building codes or municipal regulations may require that basement floor elevations be a specified distance above the water level of nearby basins. It is therefore recommended that the design engineer (or other appropriate representative) review applicable municipal requirements, and if necessary, verify the design normal and design high water elevations of stormwater basins with respect to planned basement slab elevations.

7 GENERAL COMMENTS

This geotechnical exploration and foundation evaluation has been prepared to aid in the evaluation of the foundation 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 the soils engineer to determine if modifications in the recommendations are required. The final design plans and specifications should also be reviewed by the soils engineer to determine that the recommendations presented herein have been interpreted and implemented as intended.



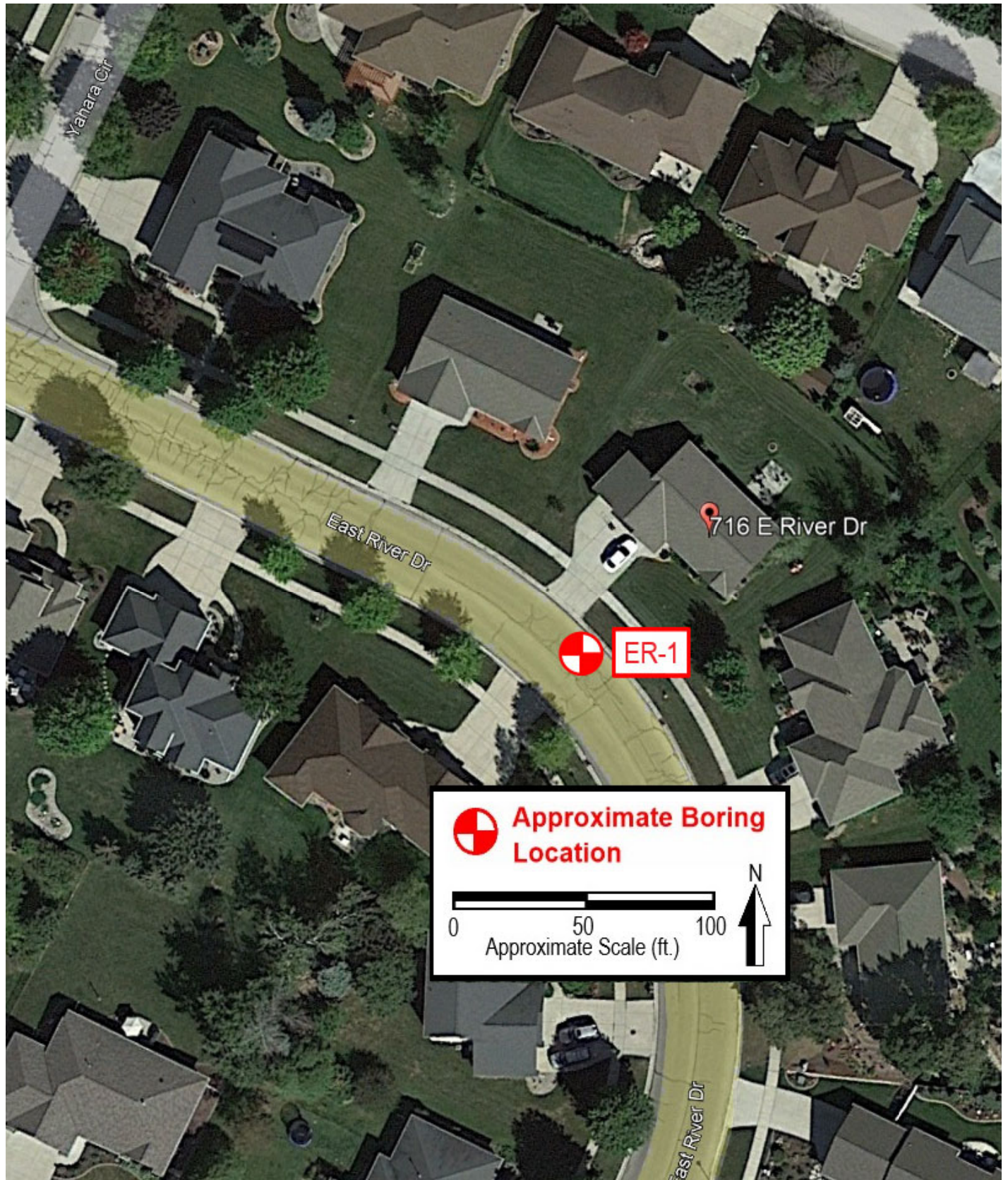
This geotechnical study has been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings, recommendations and opinions contained herein have been promulgated in accordance 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.

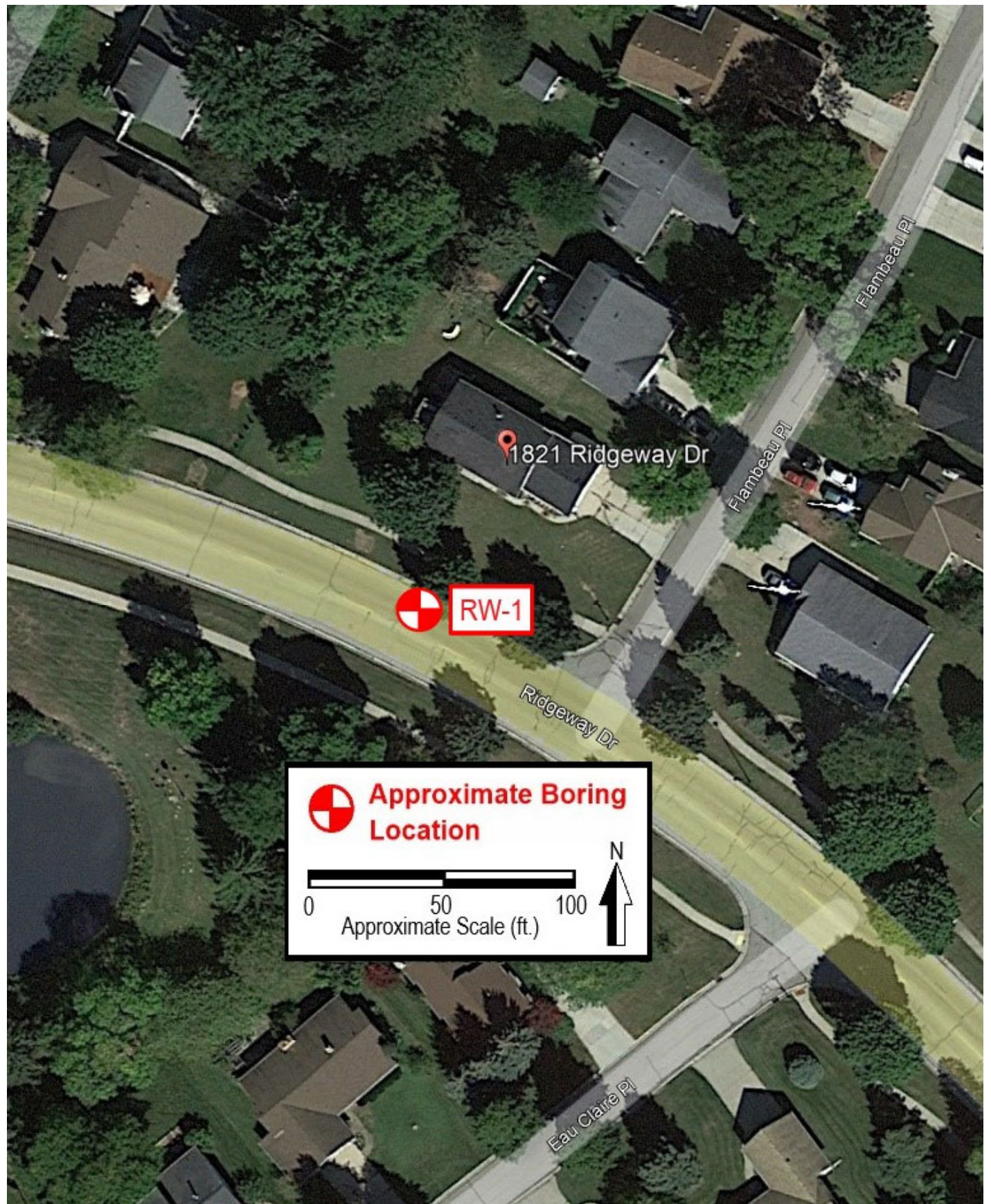
It is recommended that the earthwork and foundation operations be monitored by the soils engineer, to test and evaluate the bearing capacities, and the selection, placement and compaction of controlled fills.

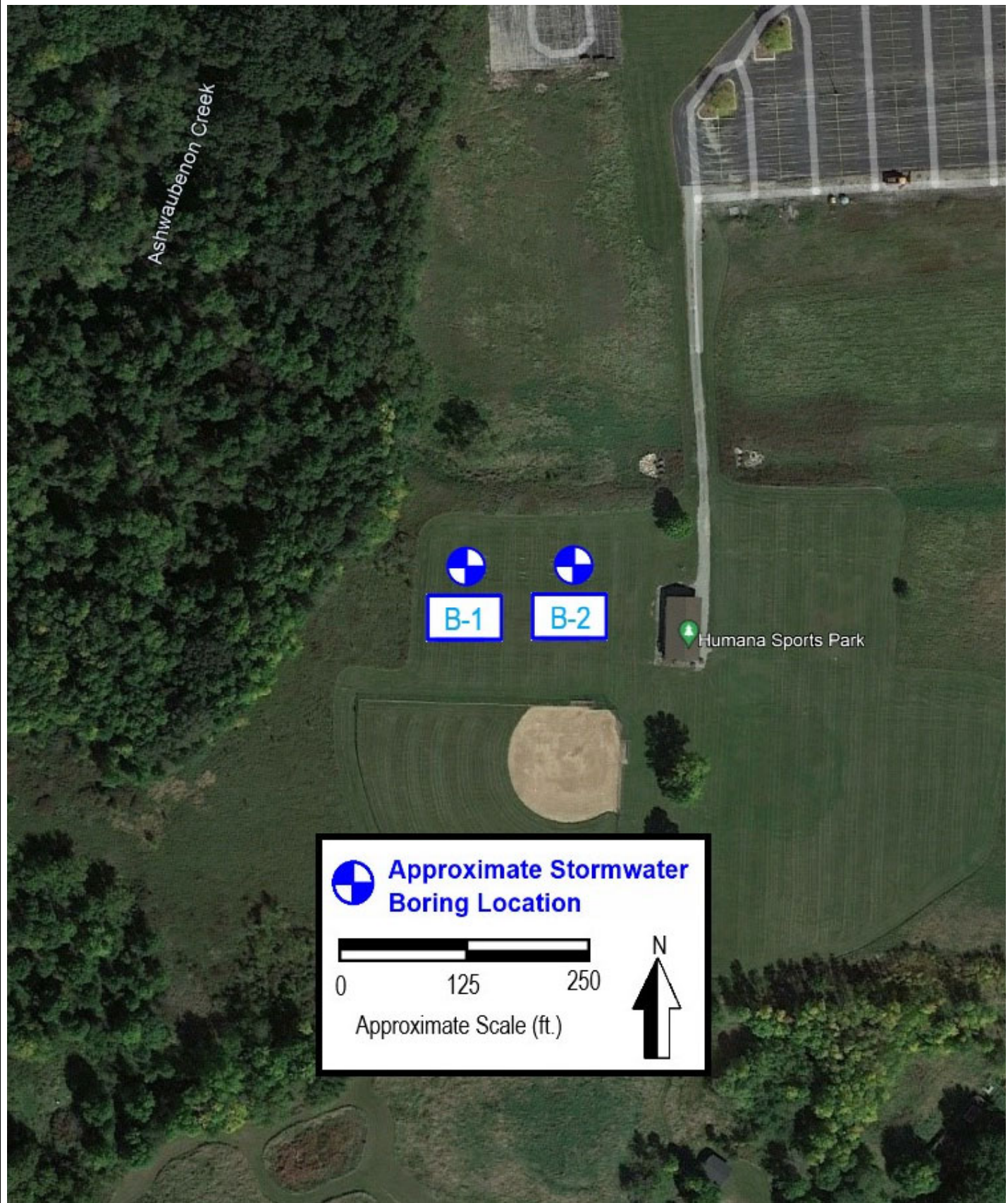
APPENDIX

Figure 1 - Boring Location Plan
Soil Boring Logs
Storm Forms
General Notes











Project No.: 00941953

Drill Date: March 10, 2023
Drilled By: KD/JS

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 610.8	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		0-5": ASPHALT	1-AU	-	-	-	-	
	610.3	5-12": Brown Coarse to Fine SAND, with trace gravel, moist (BASE COURSE)			-	-	3	
1	609.8	Reddish brown CLAY, moist	2-SS	11	2.25	1.8	20	
	609.3							
2	608.8		3-SS	19	3.6	3.75	28	
	608.3							
3	607.8							
	607.3							
4	606.8							
	606.3							
5	605.8							
	605.3							
6	604.8	END OF BORING @ 5± FEET						
FIELD OBSERVATIONS: Water Level <small>during drilling</small> : Not Encountered Water Level <small>upon completion</small> : Not Present Caved at <small>upon completion</small> : Not Present Delay Time: N/A Water Level <small>delayed</small> : N/A Caved at <small>delayed</small> : 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.



Project No.: 00941953

Drill Date: March 10, 2023
Drilled By: KD/JS

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 590.4	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		0-4.5": ASPHALT	1-AU	-	-	-	-	
	589.9	4.5-14": Brown Coarse to Fine SAND, with trace gravel, moist (BASE COURSE)			-	-	4	
1	589.4	Brown Clayey SAND, with trace gravel, moist (FILL)	2-SS	13	-	-	12	
	588.9							
2	588.4							
	587.9	Brown SILT, with clay, moist	3-SS	18	-	-	19	
3	587.4							
	586.9							
4	586.4	END OF BORING @ 5± FEET						
	585.9							
5	585.4							
6	584.9							
	584.4							
FIELD OBSERVATIONS: Water Level _{during drilling} : Not Encountered Water Level _{upon completion} : Not Present Caved at _{upon completion} : Not Present 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.



Project No.: 00941953

Drill Date: March 10, 2023
Drilled By: KD/JS

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION GROUND SURFACE ELEVATION: 596.7	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
1	596.2	0-4.5": ASPHALT	1-AU	-	-	-	-	
	595.7	4.5-12": Dark brown Coarse to Fine SAND, with trace gravel, moist (BASE COURSE)			-	-	5	
2	594.7	Brown Sandy CLAY, with trace gravel, moist (FILL)	2-SS	9	-	-	17	
	594.2							
3	593.7	Reddish brown CLAY, moist	3-SS	18	3.25	2.5	23	
	593.2							
4	592.7	END OF BORING @ 5± FEET						
	592.2							
5	591.7							
	591.2							
6	590.7							
FIELD OBSERVATIONS: Water Level during drilling: Not Encountered Water Level upon completion: Not Present Caved at upon completion: Not Present 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 - 1

Project: 2023 Pond Construction

Project No.: 941953

Location: Humana Sports Park
De Pere, Wisconsin

Drill Date: March 10, 2023
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
		GROUND SURFACE ELEVATION: 633.6						
		0-2": 5YR 3/2 Dark reddish brown SILTY CLAY LOAM,0,m,mfi (TOPSOIL)			0.5	0.1	34	
1	632.6	5YR 4/3 Reddish brown SILTY CLAY LOAM,1,f,sbk,mfi	1-SS	7	1.25	-	26	
2	631.6	5YR 5/3 Reddish brown SILTY CLAY,2,m,abk,mfi	2-SS	8	3	0.8	26	
3	630.6							
4	629.6							
5	628.6							
6	627.6	5YR 3/2 Dark reddish brown SILTY CLAY,2,m,abk,mfi	4-SS	15	0.5	0.3	16	
7	626.6							
8	625.6							
9	624.6							
10	623.6	5YR 4/2 Dark reddish gray SILTY CLAY,2,m,abk,mfi	5-SS	14	3.5	1.5	19	
11	622.6							
12	621.6							
13	620.6							
14	619.6	5YR 4/2 Dark reddish gray SILTY CLAY,2,m,abk,mfi	6-SS	25	1.25	0.3	20	
15	618.6							
16	617.6							
17	616.6							
18	615.6	5YR 4/2 Dark reddish gray SILTY CLAY,2,m,abk,mfi	9-SS	12	4.0	2.2	19	
19	614.6							
20	613.6							
		END OF BORING @ 20± FEET						
FIELD OBSERVATIONS				ADDITIONAL COMMENTS:				
Water Level <small>during drilling</small> : Not Encountered								
Water Level <small>upon completion</small> : Not Present								
Caved at <small>upon completion</small> : 14± feet below existing grade (EL. 619.6±)								
Delay Time: N/A								
Water Level <small>delayed</small> : N/A								
Caved at <small>delayed</small> : N/A								

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: 2023 Pond Construction

Location: Humana Sports Park
De Pere, Wisconsin

Project No.: 941953

Drill Date: March 10, 2023
Drilled By: AD/KH

DEPTH/EL. (feet)		VISUAL SOIL CLASSIFICATION	SAMPLE NO.	N (bpf)	Qp (tsf)	Qu (tsf)	MC (%)	REMARKS
1	633.9	0-9": 5YR 3/2 Dark reddish brown SILTY CLAY LOAM,0,m,mfi (TOPSOIL)	1-SS	7	0.25	-	34	
		5YR 4/3 Reddish brown SILTY CLAY LOAM,1,f,sbk,mfi			2	-	29	
2	632.9	5YR 5/3 Reddish brown SILTY CLAY,2,m,abk,mfi	2-SS	7	4.5+	2.1	24	
3	631.9							
4	630.9							
5	629.9							
6	628.9	5YR 3/2 Dark reddis brown SILTY CLAY,2,m,abk,mfi	3-SS	10	3.5	1.3	16	
7	627.9							
8	626.9							
9	625.9							
10	624.9	5YR 4/2 Dark reddish gray SILTY CLAY,2,m,abk,mfi	4-SS	16	3.75	1.4	18	
11	623.9							
12	622.9							
13	621.9							
14	620.9	5YR 4/2 Dark reddish gray SILTY CLAY,2,m,abk,mfi	5-SS	16	3.5	0.6	19	
15	619.9							
16	618.9							
17	617.9							
18	616.9	5YR 4/2 Dark reddish gray SILTY CLAY,2,m,abk,mfi	6-SS	24	3.5	1.2	21	
19	615.9							
20	614.9							
END OF BORING @ 20± FEET								
FIELD OBSERVATIONS				ADDITIONAL COMMENTS:				
Water Level <small>during drilling</small> : Not Encountered								
Water Level <small>upon completion</small> : Not Present								
Caved at <small>upon completion</small> : 9± feet below existing grade (EL. 625.9±)								
Delay Time: N/A								
Water Level <small>delayed</small> : N/A								
Caved at <small>delayed</small> : N/A								

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 EVALUATION - STORM


Page 1 of 1

In accordance with SPS 382.365 & 385, Wis. Adm. Code and WDNR Standard 1002

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road. Please print all information. Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1) (m)].				County	
				Brown	
				Parcel I.D.	
				Reviewed by:	
				Date:	
Property Owner				Property Location: DePere, Wisconsin	
				Govt. Lot	
Property Owner's Mailing Address				Lot #	Block #
				Subd. Name or CSM#	
City	State	Zip Code	Phone Number	<input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town	
				Nearest Road	
				DePere	
Drainage area _____ <input type="checkbox"/> sq. ft. <input type="checkbox"/> acres				Hydraulic Application Test Method:	
Optional:				<input checked="" type="checkbox"/> Morphological Evaluation	
Test Site Suitable for (check all that apply)				<input type="checkbox"/> Double Ring Infiltrometer	
<input type="checkbox"/> Irrigation <input type="checkbox"/> Bioretention trench <input type="checkbox"/> Trench(es)				<input type="checkbox"/> Other (specify)	
<input type="checkbox"/> Rain Garden <input type="checkbox"/> Grassed swale <input type="checkbox"/> Reuse					
<input type="checkbox"/> Infiltration trench <input type="checkbox"/> SDS (> 15' wide) <input type="checkbox"/> Other _____					
				Soil Moisture	
				Date of Borings: March 10, 2023	
				USDA-NRCS WETS Value: 15	
				<input type="checkbox"/> Dry = 1;	
				<input type="checkbox"/> Normal = 2;	
				<input checked="" type="checkbox"/> Wet = 3.	

1	Obs. #	<input checked="" type="checkbox"/> Boring	B-1										
		<input type="checkbox"/> Pit	Ground surface elevation ±				Elevation of limiting factor 14'±						
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.			
1	0-2	5YR 3/2		sicl	0 m	mfi		<15		0.04			
2	2-24	5YR 4/3		sicl	1 f sbk	mfi		<15		0.04			
3	24-96	5YR 5/3		sic	2 m abk	mfi		<15		0.07			
4	96-168	5YR 3/2		sic	2 m abk	mfi		<15		0.07			
5	168-240	5YR 4/2		sic	2 m abk	mfi		<15		0.07			
Comment: gray soils at 14 feet													

1	Obs. #	<input checked="" type="checkbox"/> Boring	B-2											
		<input type="checkbox"/> Pit	Ground surface elevation ±				Elevation of limiting factor 14'±							
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.				
1	0-9	5YR 3/2		sicl	0 m	mfi		<15		0.04				
2	9-24	5YR 4/3		sicl	1 f sbk	mfi		<15		0.04				
3	24-96	5YR 5/3		sic	2 m abk	mfi		<15		0.07				
4	96-168	5YR 3/2		sic	2 m abk	mfi		<15		0.07				
5	168-240	5YR 4/2		sic	2 m abk	mfi		<15		0.07				
Comment: gray soils at 14 feet														

CST/PSS Name (Please Print)		Signature	CST/PSS/Geologist Number
Patrick J. Patterson			G-229
Address		Date Evaluation Conducted	Telephone Number
821 Corporate Court, Waukesha, WI 53189		3/10/2023	262 521 2125

SBD-10793 (R.01/17)

GENERAL NOTES

SAMPLE IDENTIFICATION

- 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.
- 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								
Soil Type	Clay	Silt	Sand			Gravel		Cobbles
			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	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^C	GW	Well-graded gravel ^D
			$Cu < 4$ and/or $1 > Cc > 3$ ^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	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^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)	Silt 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}
	Silt 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 1½" 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
- γ_d - Dry density, pounds per cubic foot (pcf)
- 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
- LL - Liquid limit, % (ASTM D4318)
- PL - Plastic limit, % (ASTM D4318)
- PI - Plasticity index, % (ASTM D4318)
- %P200 - Percent of sample passing the No. 200 sieve

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

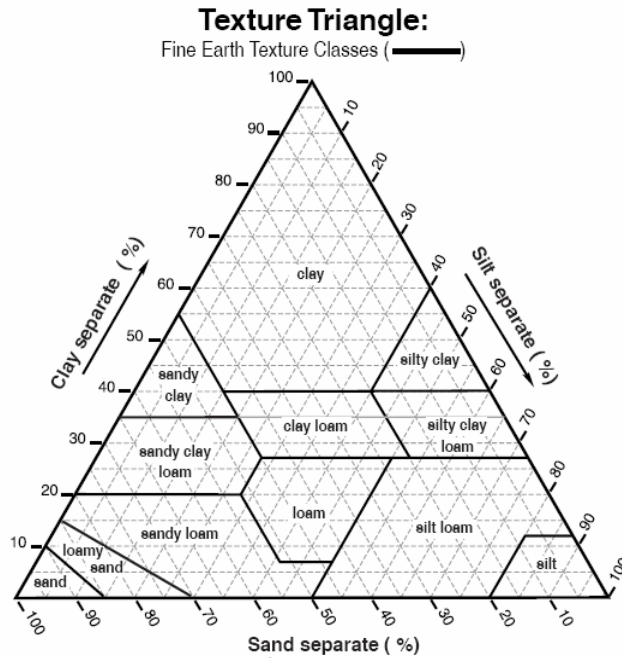
- Interlayered - Alternating layers of different soil types
- Layer - Inclusion greater than 3 inches thick
- Seam - Inclusion ½ to 3 inches thick
- Laminated - Alternating seams of different soil type
- Intermixed - Pockets of different soil types, no layering
- Pocket - Inclusion of material of different texture
- Varved - Alternating layers or seams of sand, silt, and/or clay

GROUNDWATER & MOISTURE CONDITIONS

- ▽ - 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)."

USDA SOIL CLASSIFICATION SYSTEM*



NOTE: Soil Texture encompasses only the fine earth fraction (≤ 2 mm).

Particle Size Distribution (PSD) encompasses the whole soil, including both the fine earth fraction (≤ 2 mm; weight %) and rock fragments (> 2 mm; volume %).

TEXTURE CLASS

Texture Class or Subclass	Code	
	Conv.	NASIS
Coarse Sand	cos	COS
Sand	s	S
Fine Sand	fs	FS
Very Fine Sand	vfs	VFS
Loamy Coarse Sand	lcos	LCOS
Loamy Sand	ls	LS
Loamy Fine Sand	lfs	LFS
Loamy Very Fine Sand	lvfs	LVFS
Coarse Sandy Loam	cosl	COSL
Sandy Loam	sl	SL
Fine Sandy Loam	fsl	FSL
Very Fine Sandy Loam	vfsl	VFSL
Loam	l	L
Silt Loam	sil	SIL
Silt	si	SI
Sandy Clay Loam	scl	SCL
Clay Loam	cl	CL
Silty Clay Loam	sicl	SICL
Sandy Clay	sc	SC
Silty Clay	sic	SIC
Clay	c	C

TEXTURE MODIFIERS - Conventions for using "Rock Fragment Texture Modifiers" and for using textural adjectives that convey the "% volume" ranges for Rock Fragments - Size and Quantity.

Fragment Content % By Volume	Rock Fragment Modifier Usage
< 15	No texture adjective is used (noun only; e.g., <i>loam</i>).
15 to < 35	Use adjective for appropriate size; e.g., <i>gravelly</i> .
35 to < 60	Use "very" with the appropriate size adjective; e.g., <i>very gravelly</i> .
60 to < 90	Use "extremely" with the appropriate size adjective; e.g., <i>extremely gravelly</i> .
≥ 90	No adjective or modifier. If $\leq 10\%$ fine earth, use the appropriate noun for the dominant size class; e.g., <i>gravel</i> . Use Terms in Lieu of Texture .

TEXTURE MODIFIERS - (adjectives)

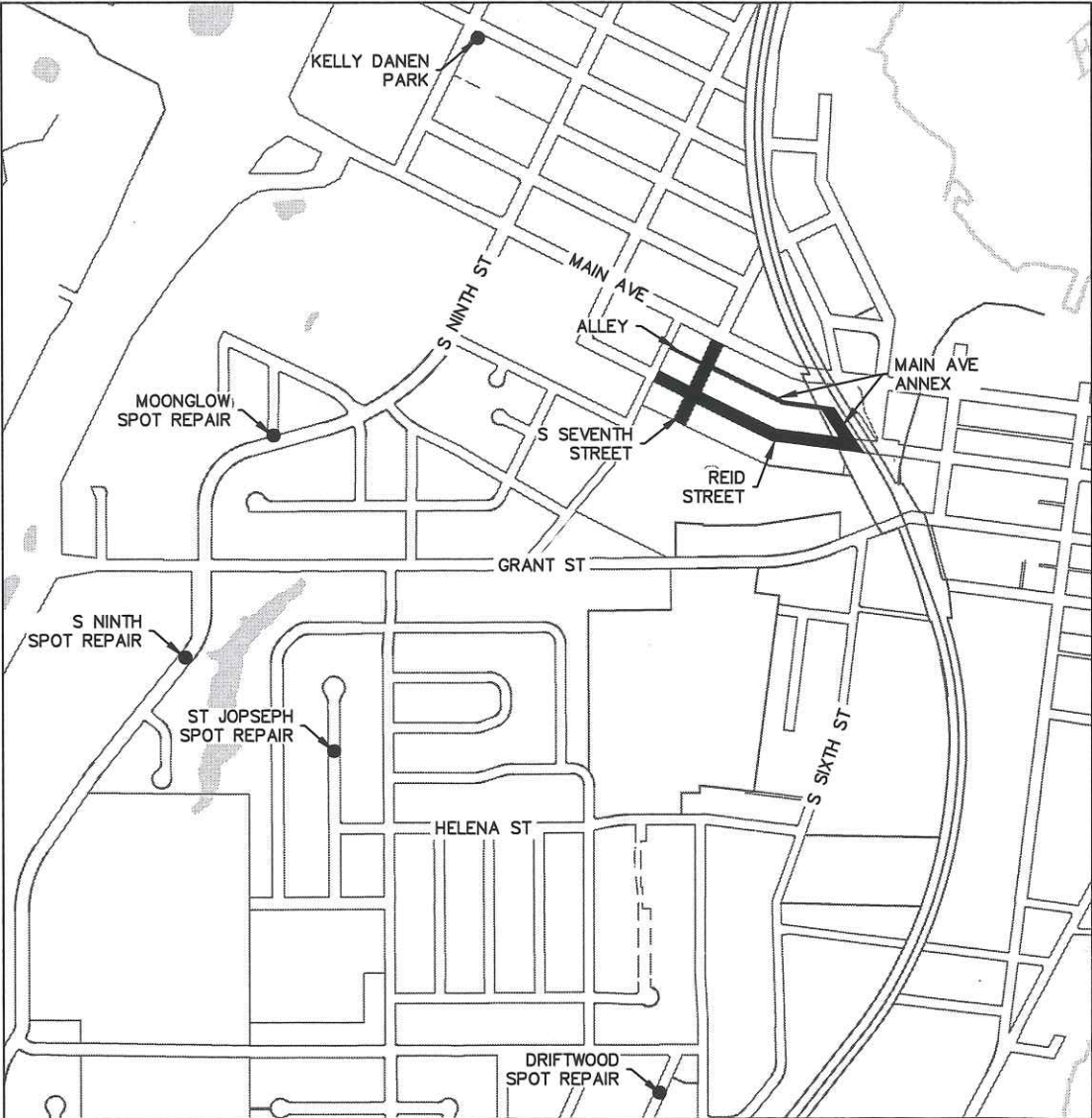
ROCK FRAGMENTS: Size & Quantity ¹	Code		Criteria: Percent (By Volume) of Total Rock Fragments and Dominated By (name size): ¹
	Conv.	PDP/ NASIS	
ROCK FRAGMENTS (> 2 mm; ≥ Strongly Cemented)			
Gravelly	GR	GR	≥ 15% but < 35% gravel
Fine Gravelly	FGR	GRF	≥15% but < 35% fine gravel
Medium Gravelly	MGR	GRM	≥15% but < 35% med. gravel
Coarse Gravelly	CGR	GRC	≥ 15% but < 35% coarse gravel
Very Gravelly	VGR	GRV	≥ 35% but < 60% gravel
Extremely Gravelly	XGR	GRX	≥ 60% but < 90% gravel
Cobbly	CB	CB	≥ 15% but < 35% cobbles
Very Cobbly	VCB	CBV	≥ 35% but < 60% cobbles
Extremely Cobbly	XCB	CBX	≥ 60% but < 90% cobbles
Stony	ST	ST	≥ 15% but < 35% stones
Very Stony	VST	STV	≥ 35% but < 60% stones
Extremely Stony	XST	STX	≥ 60% but < 90% stones
Bouldery	BY	BY	≥ 15% but < 35% boulders
Very Bouldery	VBY	BYV	≥ 35% but < 60% boulders
Extremely Bouldery	XBY	BYX	≥ 60% but < 90% boulders
Channery	CN	CN	≥ 15% but < 35% channers
Very Channery	VCN	CNV	≥ 35% but < 60% channers
Extremely Channery	XCN	CNX	≥ 60% but < 90% channers
Flaggy	FL	FL	≥ 15% but < 35% flagstones
Very Flaggy	VFL	FLV	≥ 35% but < 60% flagstones
Extremely Flaggy	XFL	FLX	≥ 60% but < 90% flagstones

* As outlined in the NRCS Field Book for Describing and Sampling Soils, Version 2.0 (2002).

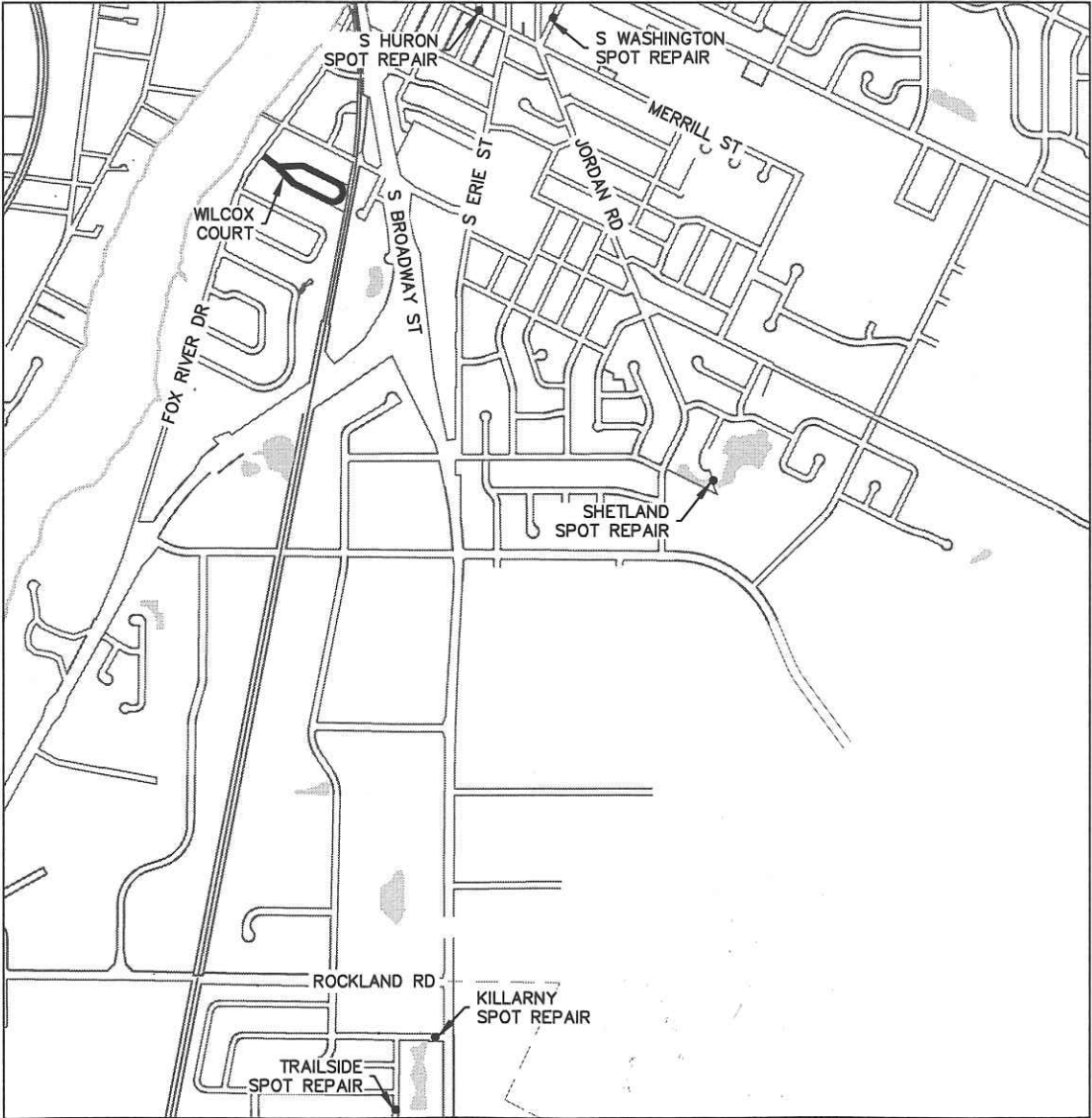
PROJECT# 23-01
SEWER AND WATER RELAY
AND STREET RESURFACING
CITY OF DE PERE



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



WEST SIDE SITE LOCATION MAP
N.T.S.



EAST SIDE SITE LOCATION MAP
N.T.S.

SHEET NO.	DESCRIPTION
G001	TITLE SHEET
G002	STANDARD ABBREVIATION & SYMBOLS
G003 - G004	TYPICAL SECTIONS
C101 - C108	REID STREET PLAN AND PROFILE SHEETS
C109	S SEVENTH STREET PLAN AND PROFILE SHEET
C110 - C111	MAIN AVENUE ANNEX PLAN AND PROFILE SHEETS
C112	ALLEY (S SEVENTH STREET TO ALLARD STREET) PLAN AND PROFILE SHEET
C113 - C115	WILCOX COURT PLAN AND PROFILE SHEETS
C116 - C123	MISCELLANEOUS SPOT REPAIRS
C301 - C308	REID STREET CROSS SECTIONS
C309 - C310	ALLEY CROSS SECTIONS
C311	KILLARNY POND CROSS SECTIONS
C401 - C402	REID STREET INTERSECTION DETAILS
C403	WILCOX COURT ALLEY ENTRANCE DETAIL
C404	BENCHMARKS
C501	CONSTRUCTION DETAILS
C502 - C503	TRAFFIC CONTROL DETAILS

CITY OF DE PERE
BOARD OF PUBLIC WORKS

4/12/2023 DATE CITY ENGINEER E.P. Rakers
4/13/23 DATE CITY ADMINISTRATOR
4/12/2023 DATE MAYOR

STAMPS:



LIST OF STANDARD ABBREVIATIONS

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

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
BENCHMARK		
BUSH		
CATCH BASIN/INLET		
CABLE TV BOX		
CONTROL POINT		
ELECTRICAL BOX		
EROSION CONTROL - INLET		
FIELD INLET		
GAS VALVE		
HEDGE		
HYDRANT		
IRON PIPE		
LIGHTPOLE		
MAILBOX		
MANHOLE ELECTRIC		
MANHOLE SANITARY		
MANHOLE STORM		
MONITORING WELL		
POWER POLE		
LIGHT POLE		
SIGN		
SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE		
SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE		
SOIL BORING		
STUMP		
TELEPHONE MANHOLE		
TELEPHONE PEDESTAL		
TREE		
WELL		
WATER SERVICE VALVE		
BUTTERFLY WATER VALVE		
WATER VALVE		

GENERAL CONSTRUCTION NOTES:

- ALL ELEVATIONS ARE REFERENCED TO NAVD 88.
- 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.
- 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.
- 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	<div>(SIZE AND MATERIAL) San</div>	
PROPOSED SANITARY SEWER LINE	<div>100'-8" PVC SAN San</div>	
EXISTING STORM SEWER LINE	<div>(SIZE AND MATERIAL) ST</div>	
PROPOSED STORM SEWER LINE	<div>100'-8" PVC STM ST</div>	
EXISTING WATER MAIN LINE	<div>(SIZE AND MATERIAL) W</div>	
PROPOSED WATER MAIN LINE	<div>100'-8" PVC WM (TEE-BEND) W</div>	
EXISTING ELECTRICAL LINE	<div>E</div>	
EXISTING GAS MAIN LINE	<div>G</div>	
EXISTING TELEPHONE LINE	<div>T</div>	
EXISTING CABLE TV LINE	<div>TV</div>	
EXISTING SANITARY LATERAL	<div>San</div>	
EXISTING WATER SERVICE	<div>W</div>	
RIGHT OF WAY	<div>ROW</div>	
PROPERTY LINE	<div>PL</div>	
EASEMENT	<div>ESM</div>	
SILT FENCE EROSION CONTROL	<div></div>	
EXISTING FIBER OPTIC	<div>FO</div>	
EXISTING MAJOR CONTOUR	<div>615</div>	
EXISTING MINOR CONTOUR	<div>612</div>	
PROPOSED MAJOR CONTOUR	<div>615</div>	
PROPOSED MINOR CONTOUR	<div>612</div>	

PROFILE

EXISTING SANITARY SEWER LINE	<div>(SIZE AND MATERIAL)</div>
PROPOSED SANITARY SEWER LINE	<div>100'-8" PVC SAN @ 0.40%</div>
EXISTING STORM SEWER LINE	<div>(SIZE AND MATERIAL)</div>
PROPOSED STORM SEWER LINE	<div>100'-8" PVC STM @ 1.0%</div>
EXISTING WATER MAIN LINE	<div>(SIZE AND MATERIAL)</div>
PROPOSED WATER MAIN LINE	<div>PROPOSE 8" PVC WM</div>

PATCH SYMBOLS

ASPHALTIC CONCRETE PAVEMENT		CRUSHED AGGREGATE BASE COURSE	
PORTLAND CEMENT CONCRETE			



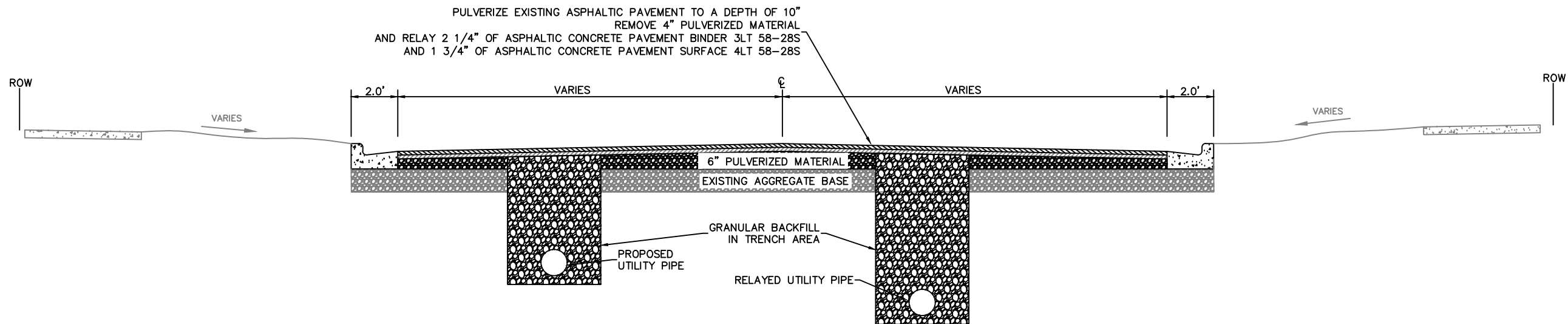
CITY OF DE PERE

ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4060 FAX 920-339-4071

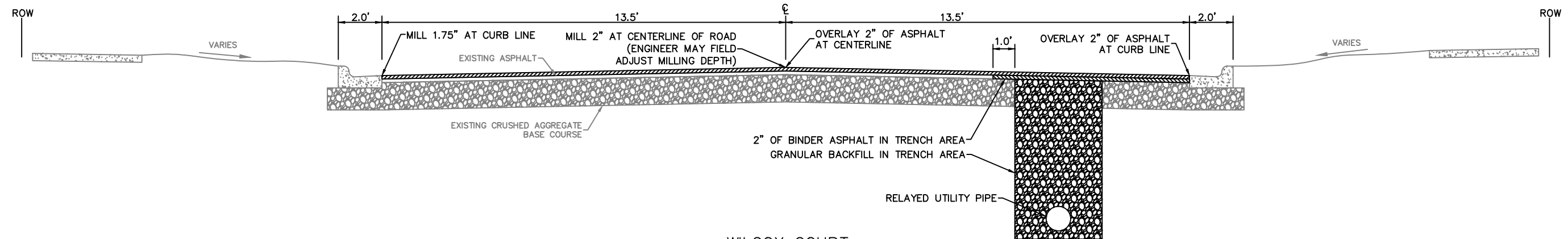
STANDARD ABBREVIATIONS
AND SYMBOLS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

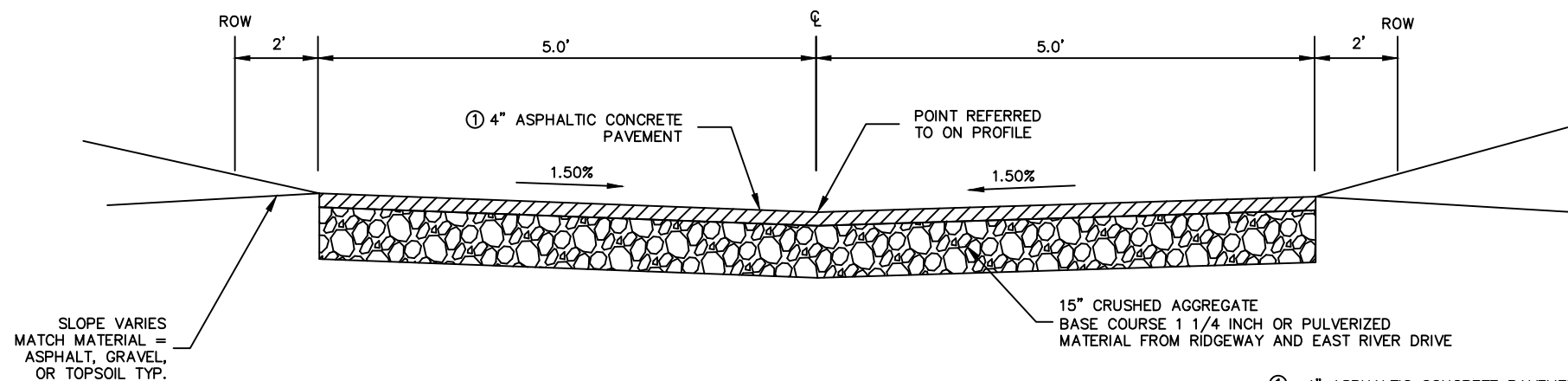
	BY	DATE	REVISIONS / ISSUES				PAGE NO.
			NO.	DATE	BY	REMARKS	
SURVEYED							G002
DRAWN	KAD	03-2023					
DESIGNED							
CHECKED							



REID STREET (STA 2+38 TO STA 13+75)
TYPICAL PULVERIZE AND OVERLAY SECTION
WITH CURB AND GUTTER



WILCOX COURT
AND S SEVENTH STREET
TYPICAL MILLING AND OVERLAY SECTION
WITH CURB AND GUTTER



ALLEY (MAIN AVE/REID ST/ALLARD ST/S SEVENTH ST)
TYPICAL RECONSTRUCTION

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 REID STREET, MAIN AVE ANNEX, WILCOX COURT AND ALLEY

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

23-01

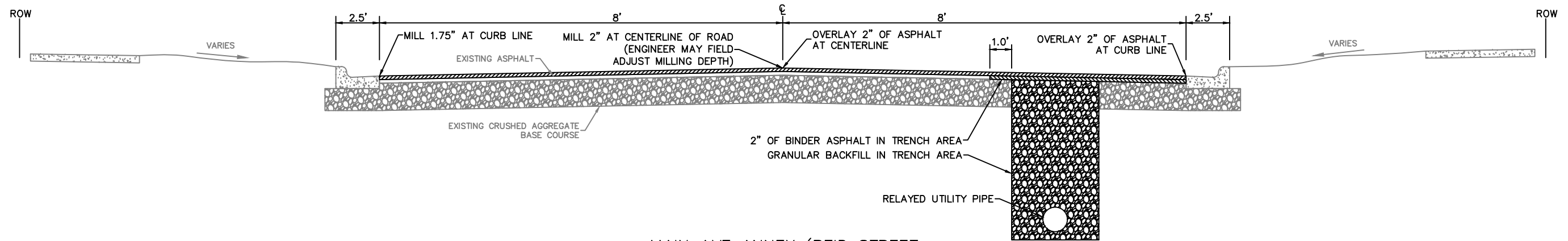
BY	DATE
SURVEYED	
DRAWN	KAD 03-2023
DESIGNED	KAD 03-2023
CHECKED	CKK/EPR 03-2023

REVISIONS / ISSUES

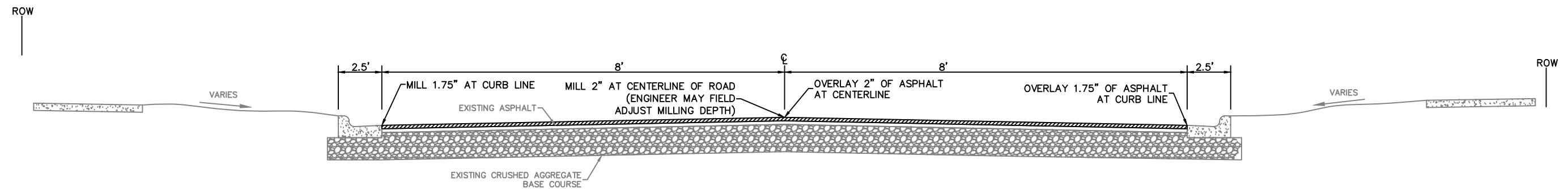
NO.	DATE	BY	REMARKS

PAGE
NO.

G003



MAIN AVE ANNEX (REID STREET
TO 250' NORTH OF REID STREET)
TYPICAL MILLING AND OVERLAY SECTION
WITH CURB AND GUTTER



MAIN AVE ANNEX (250' NORTH OF REID
STREET TO S SEVENTH STREET)
TYPICAL MILLING 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

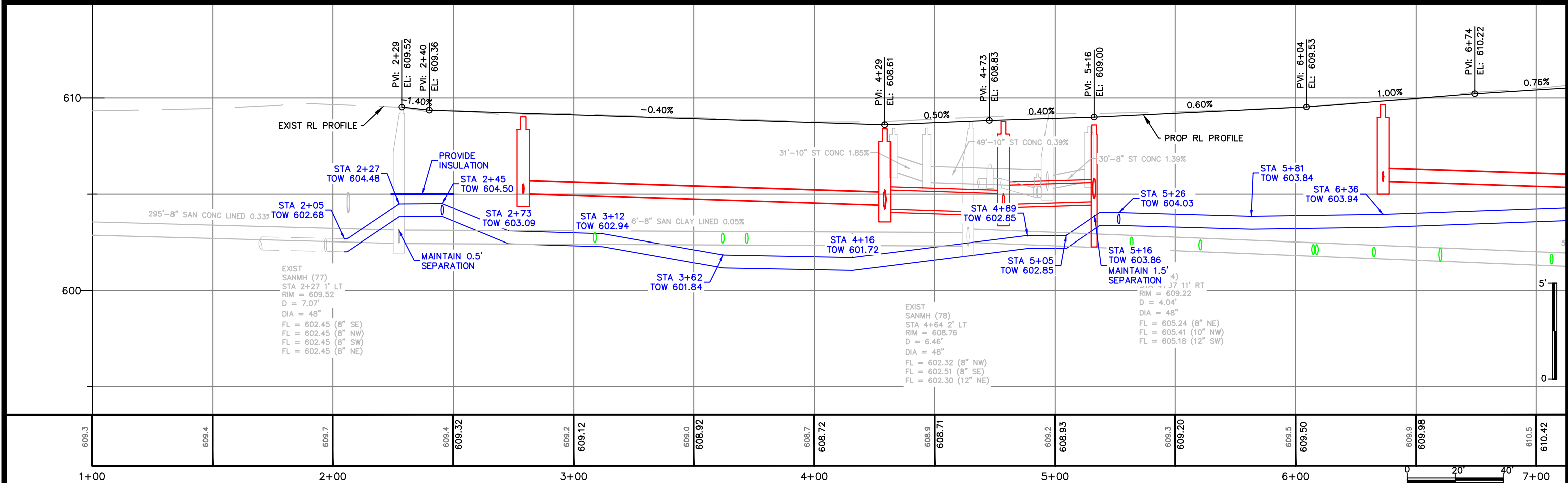
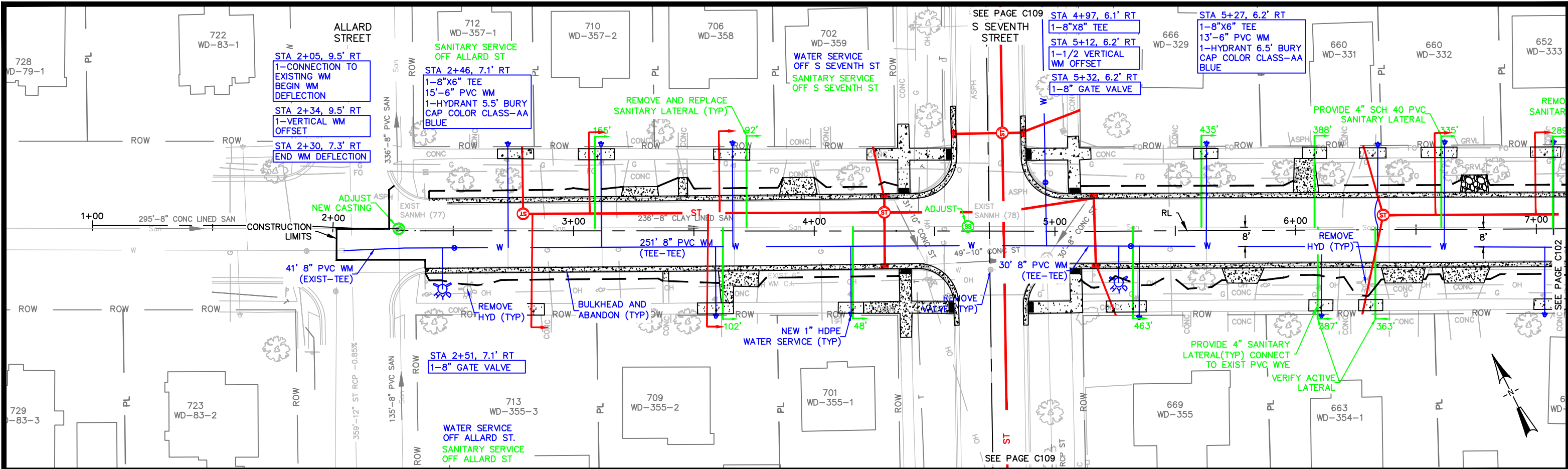
**TYPICAL SECTION
MAIN AVE ANNEX**

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

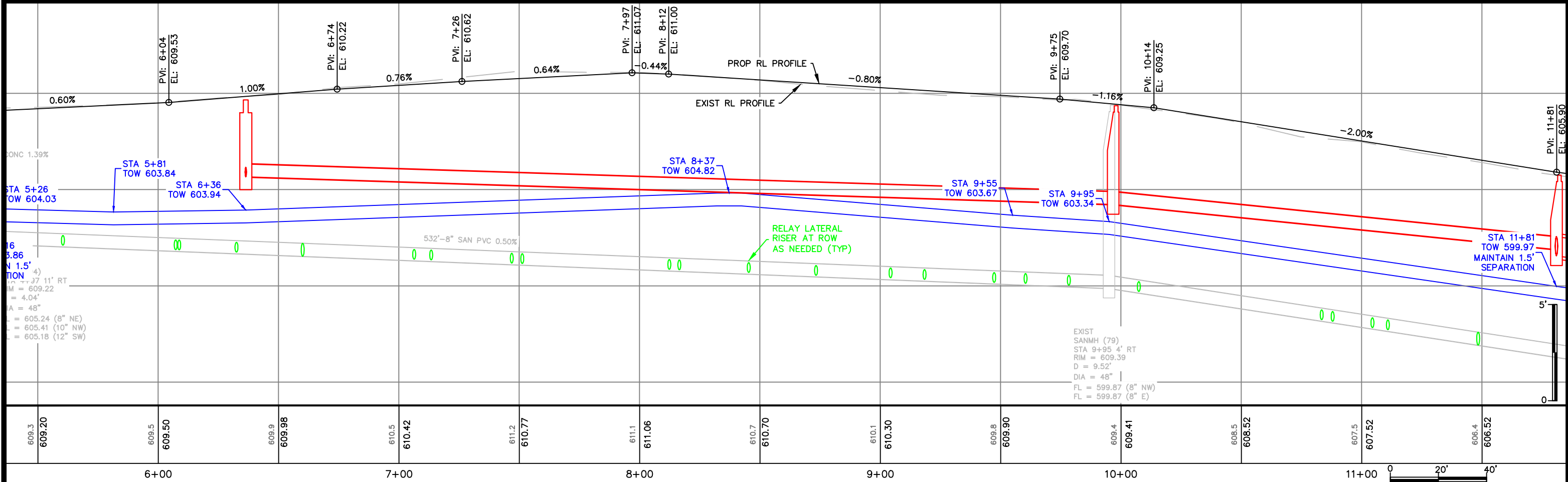
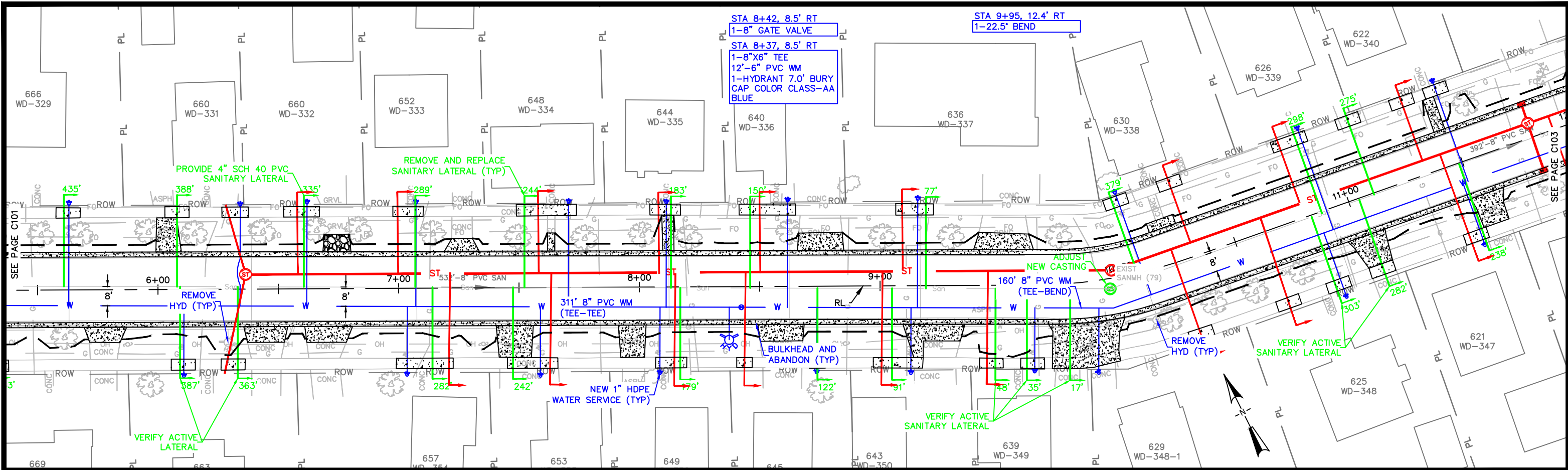
	BY	DATE	REVISIONS / ISSUES			
			NO.	DATE	BY	REMARKS
SURVEYED						
DRAWN	KAD	03-2023				
DESIGNED	KAD	03-2023				
CHECKED	CKK/EPR	03-2023				

PAGE
NO.

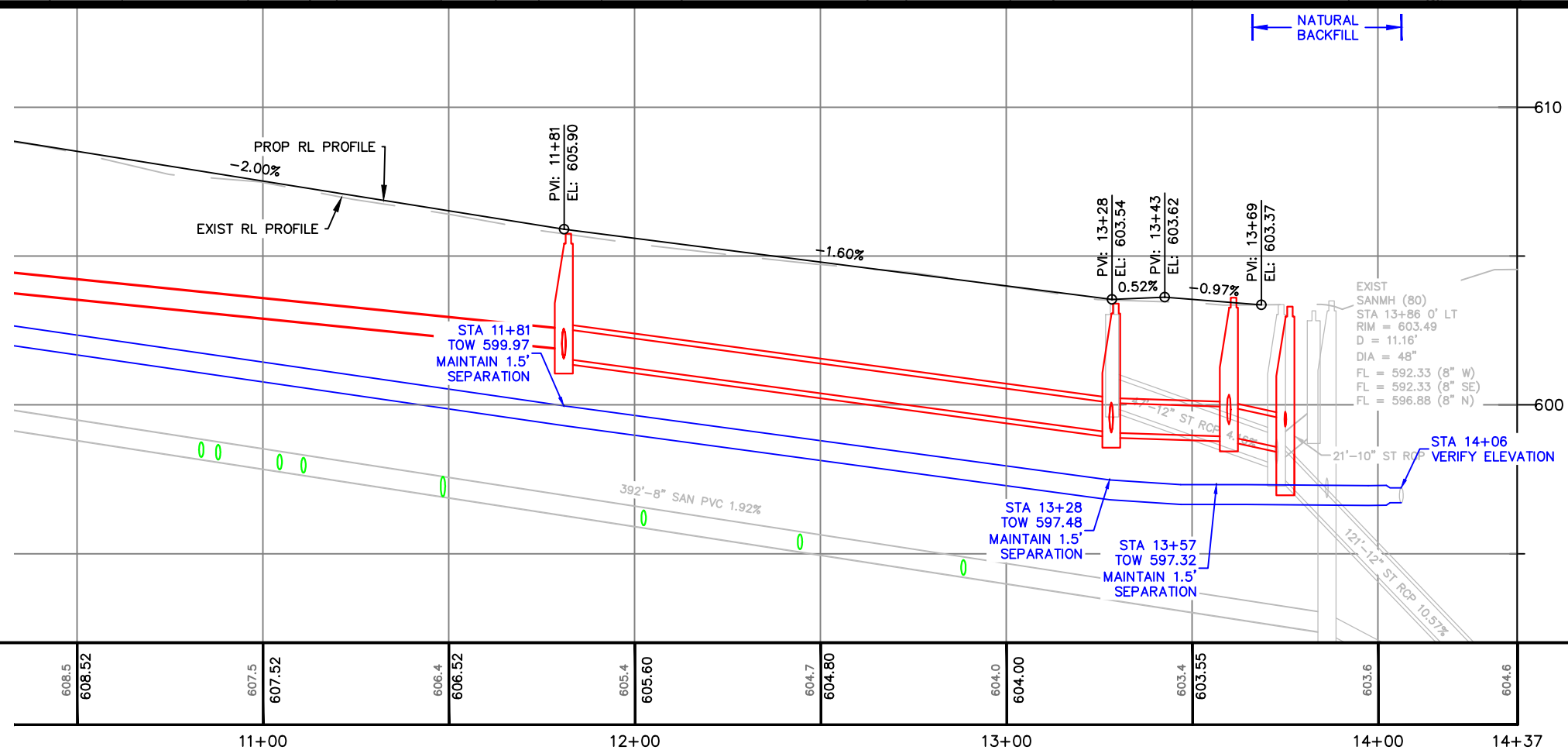
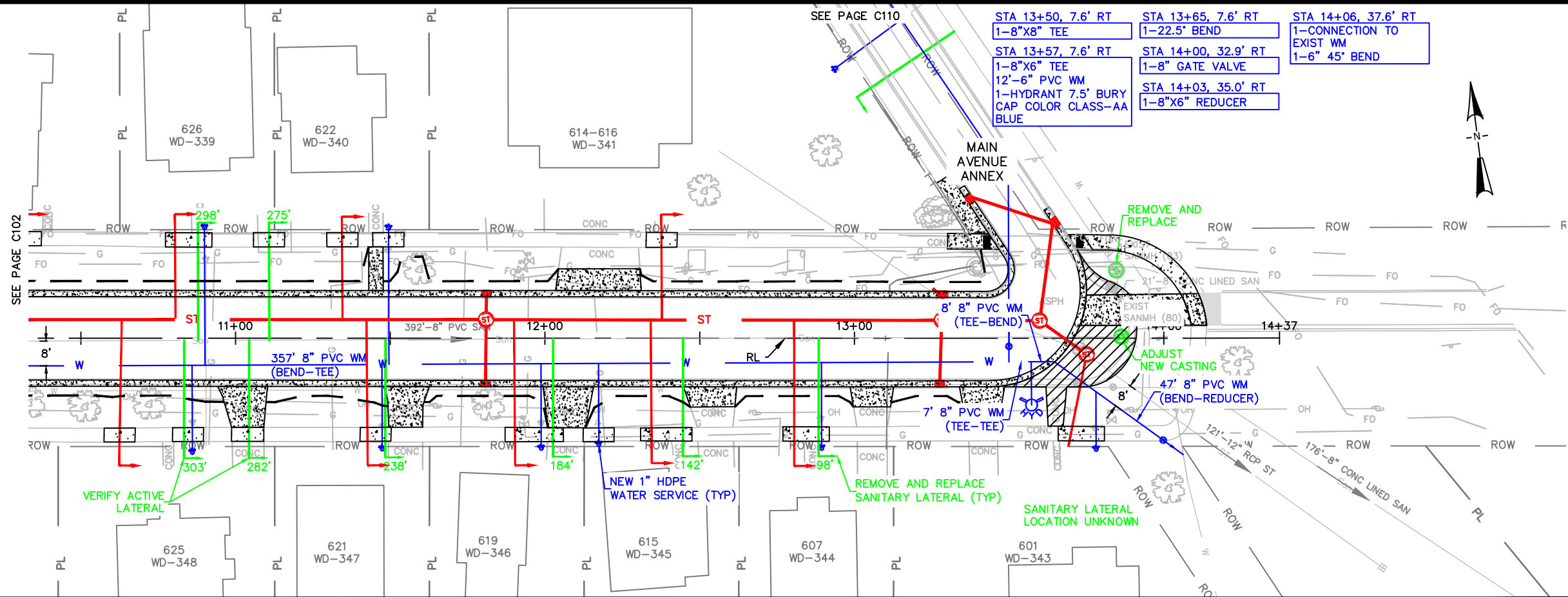
G004



x:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\Reid Street\Reid_P&P.dwg



x:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\Reid Street\REID_P&P.dwg



CITY OF DE PERE

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

REID STREET
600' EAST OF S SEVENTH ST TO MAIN AVE ANNEX
SANITARY SEWER AND WATERMAIN

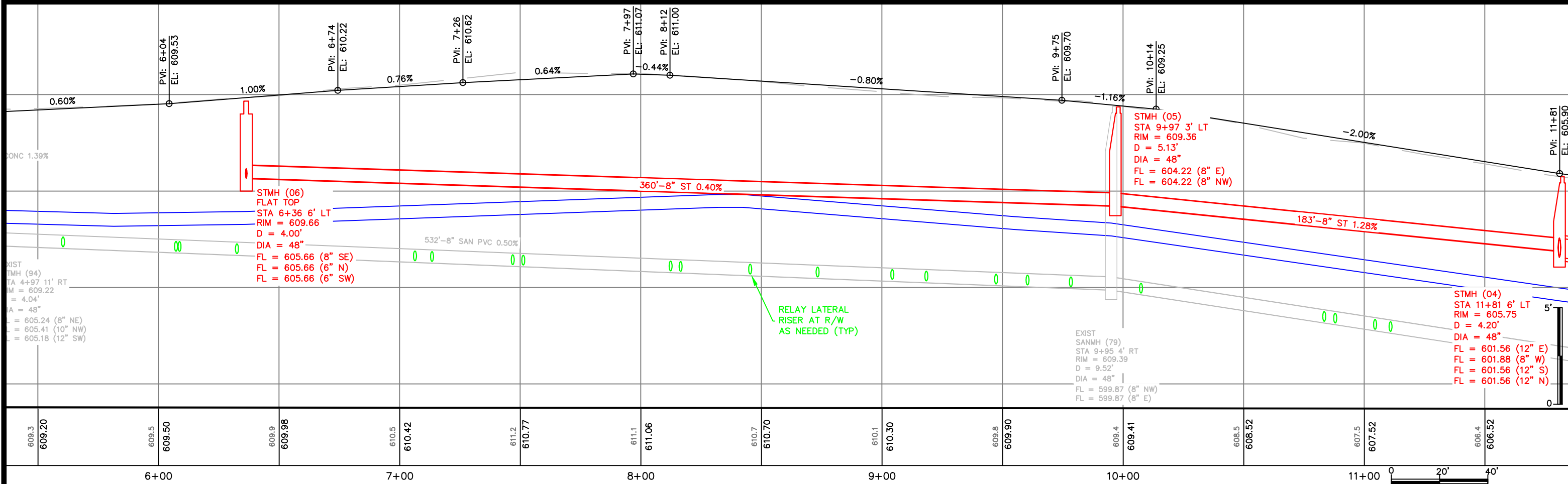
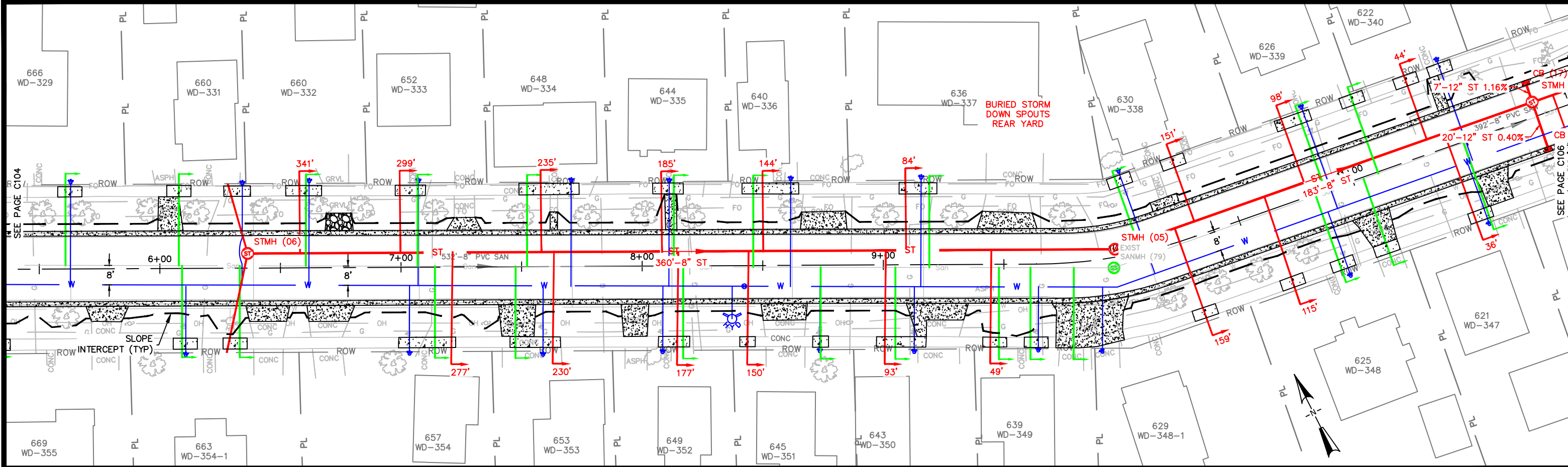
NAME: SEWER AND WATER RELAY AND STREET RESURFACING
PROJECT # 23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	02-2023
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

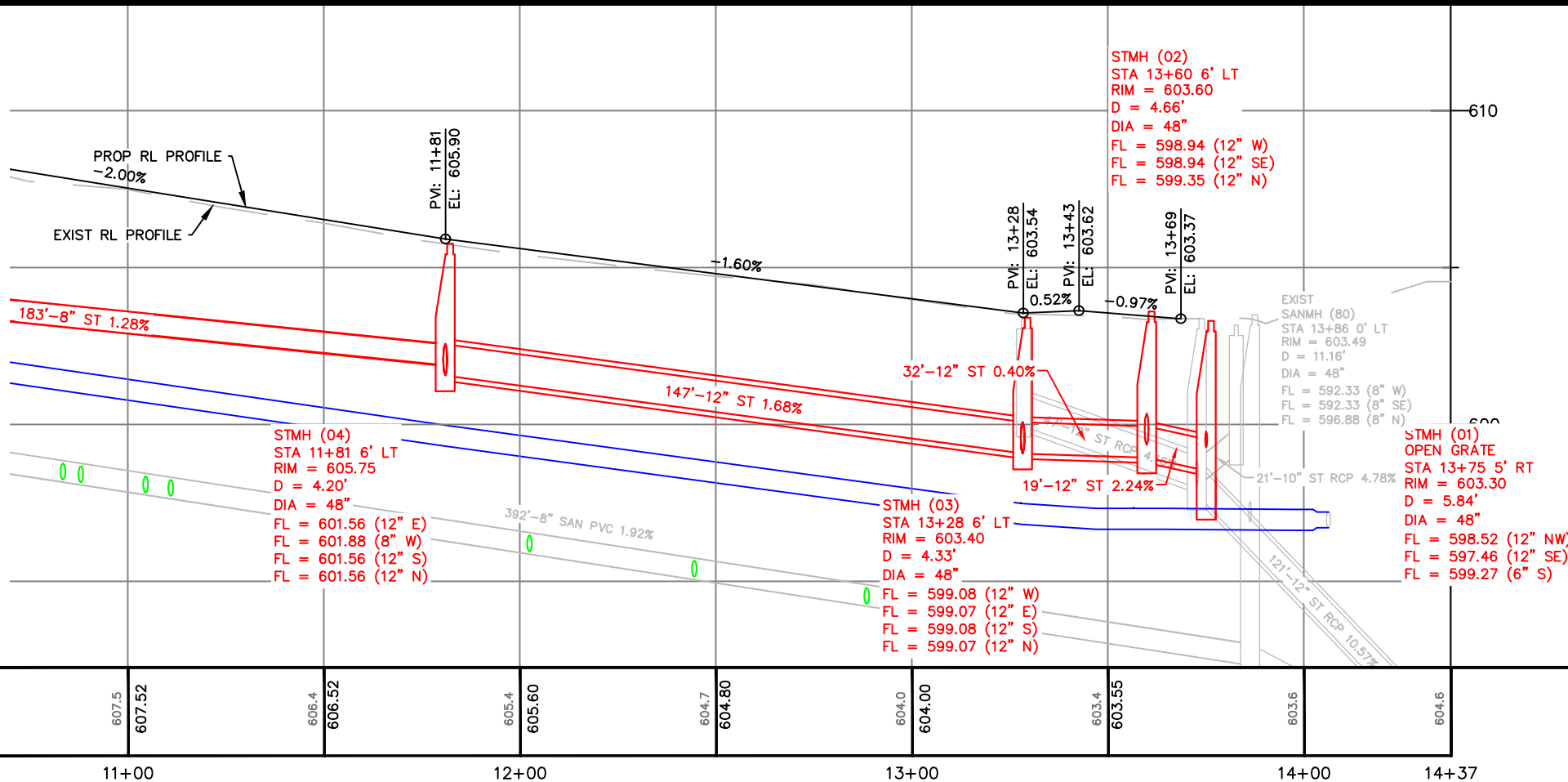
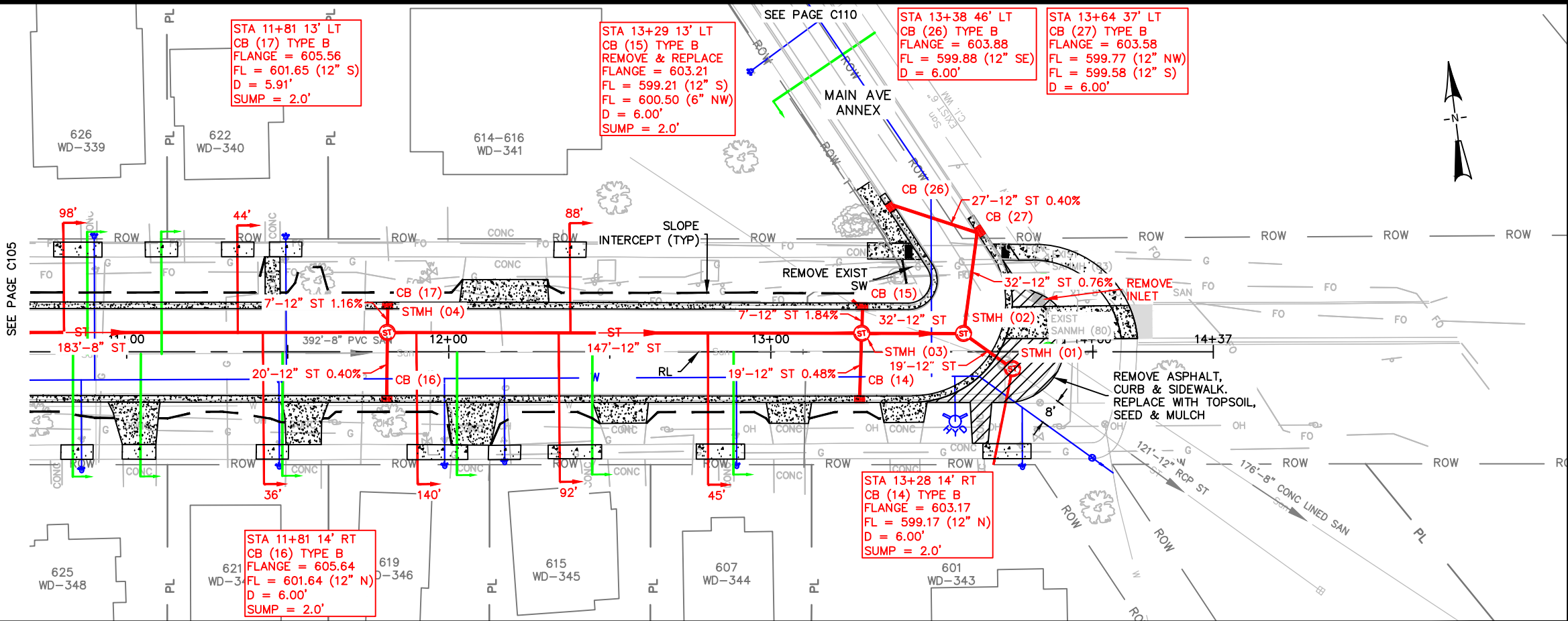
REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.
C103

X:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\Reid Street\REID_P&P.dwg



X:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\Reid Street\REID_P&P.dwg



CITY OF DE PERE

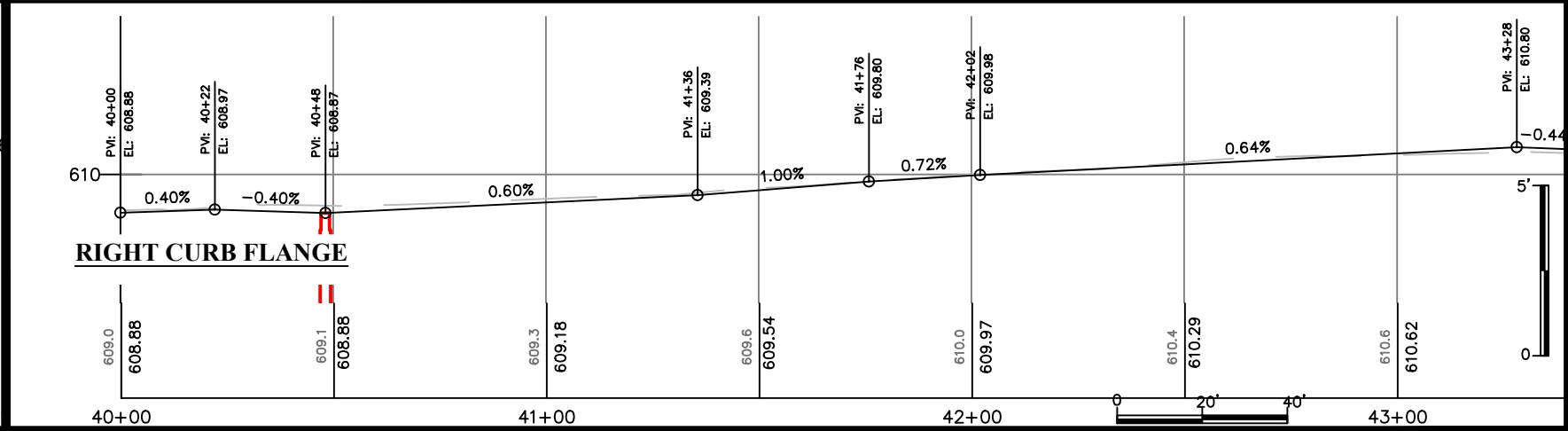
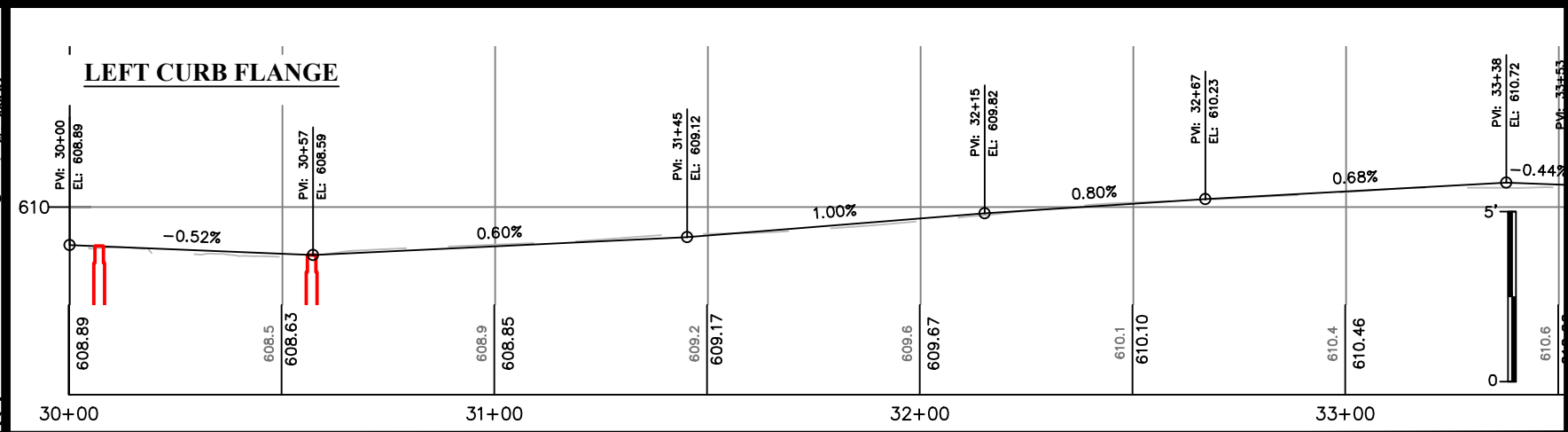
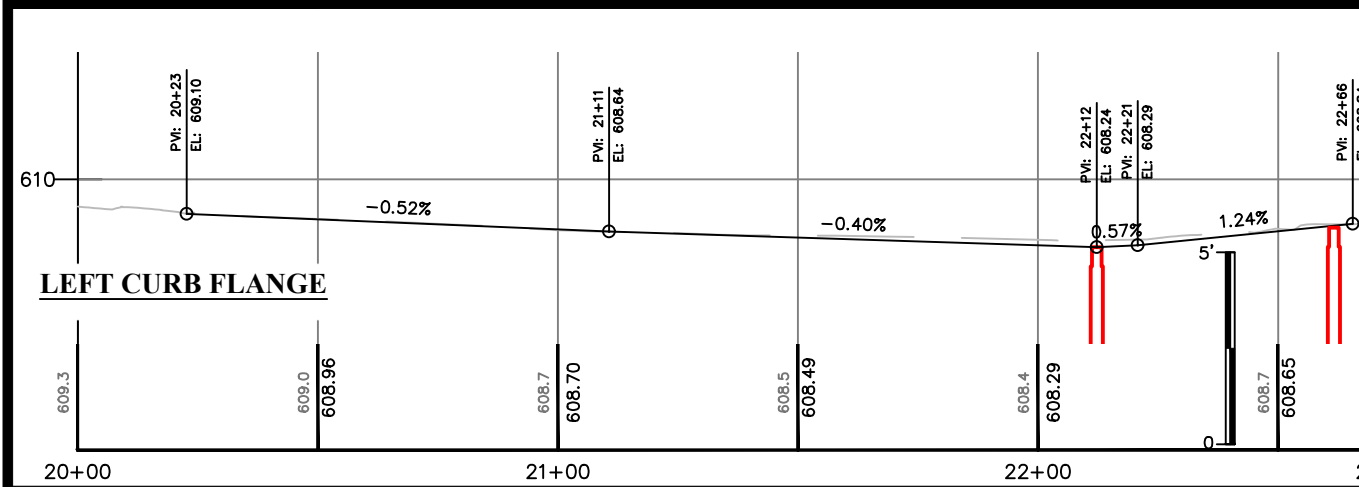
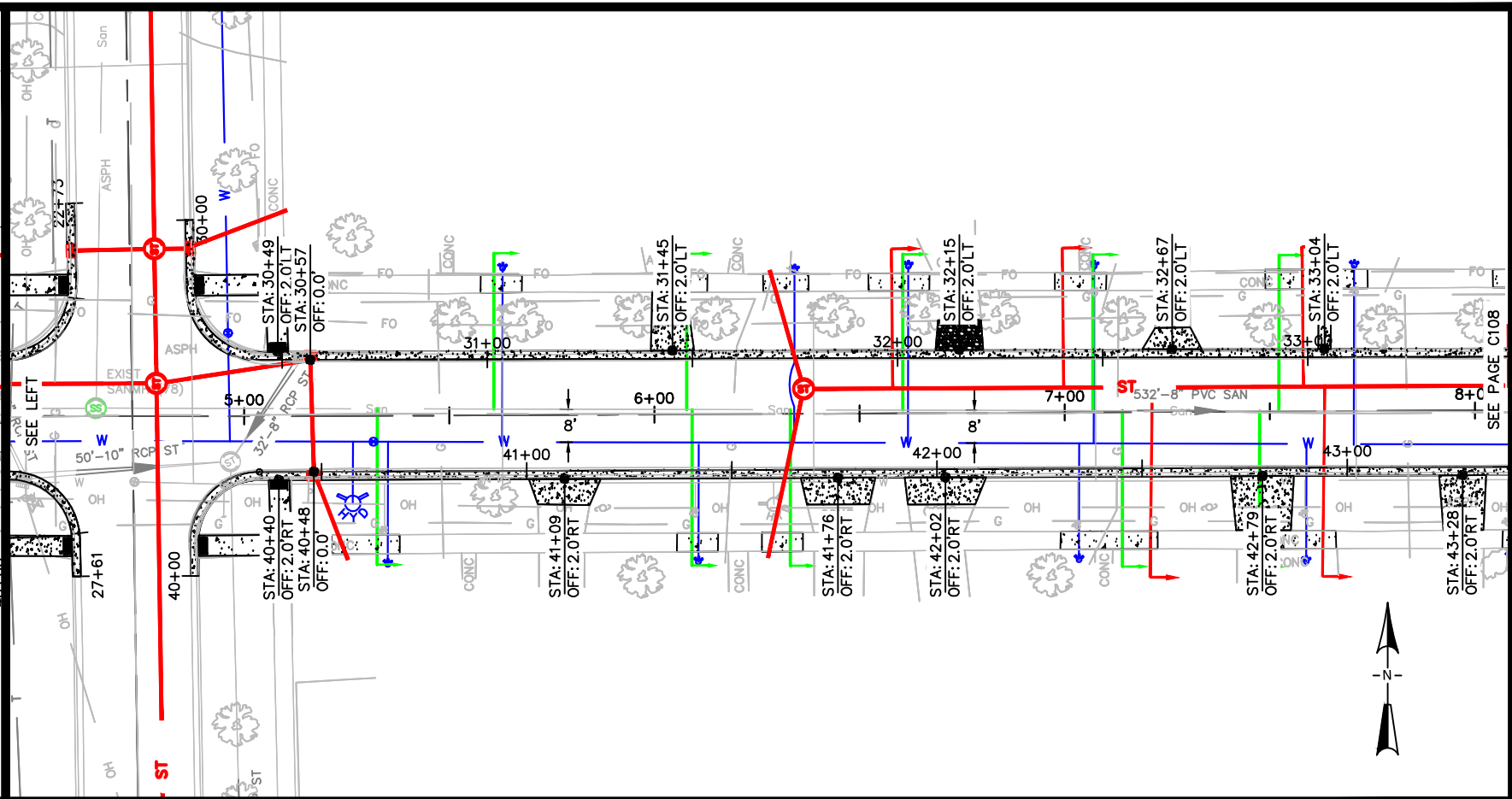
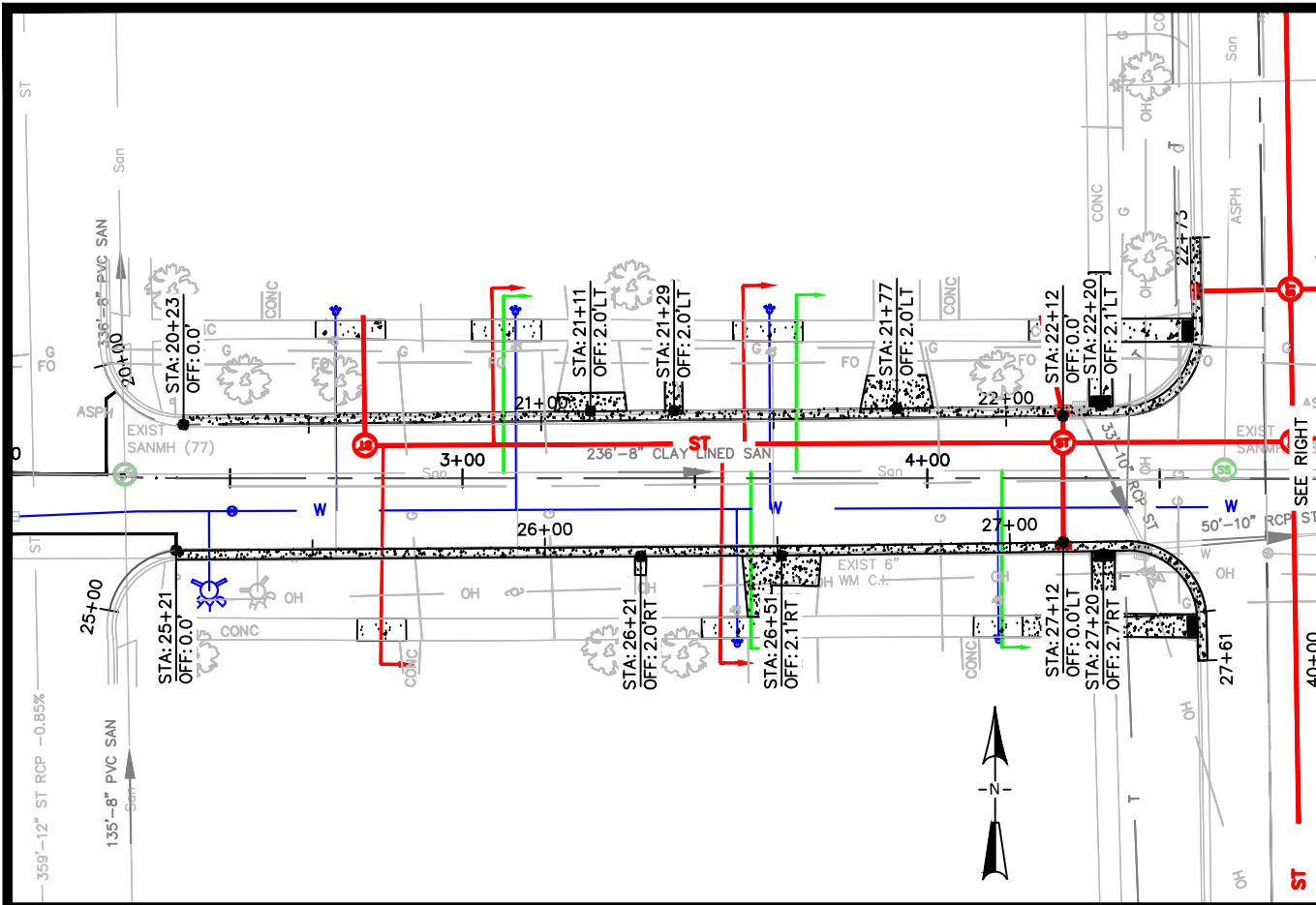
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

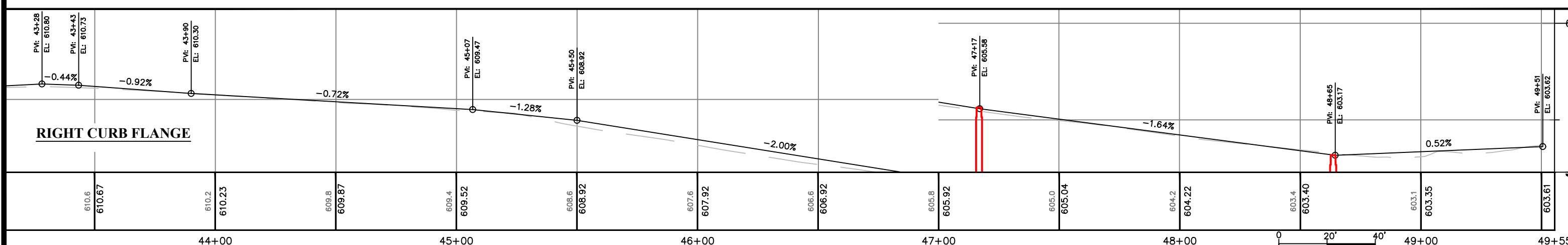
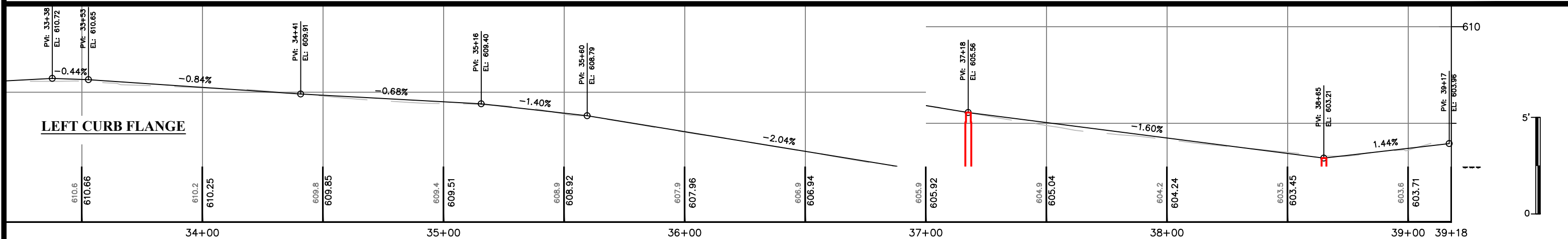
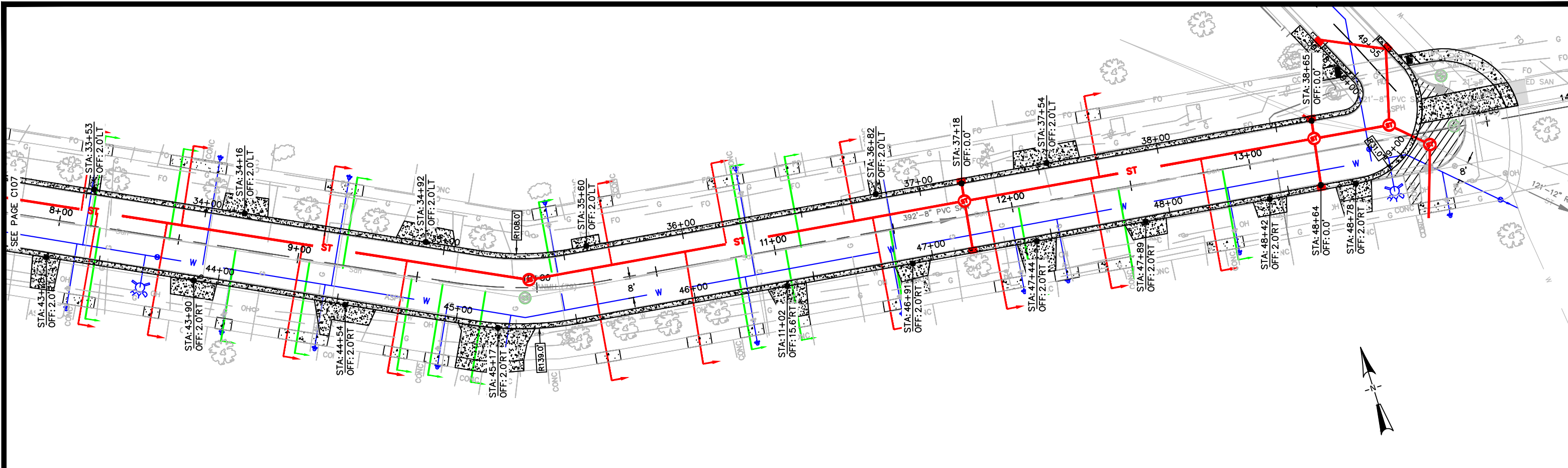
REID STREET
600' EAST OF S SEVENTH TO MAIN AVE ANNEX
STORM SEWER AND STREET

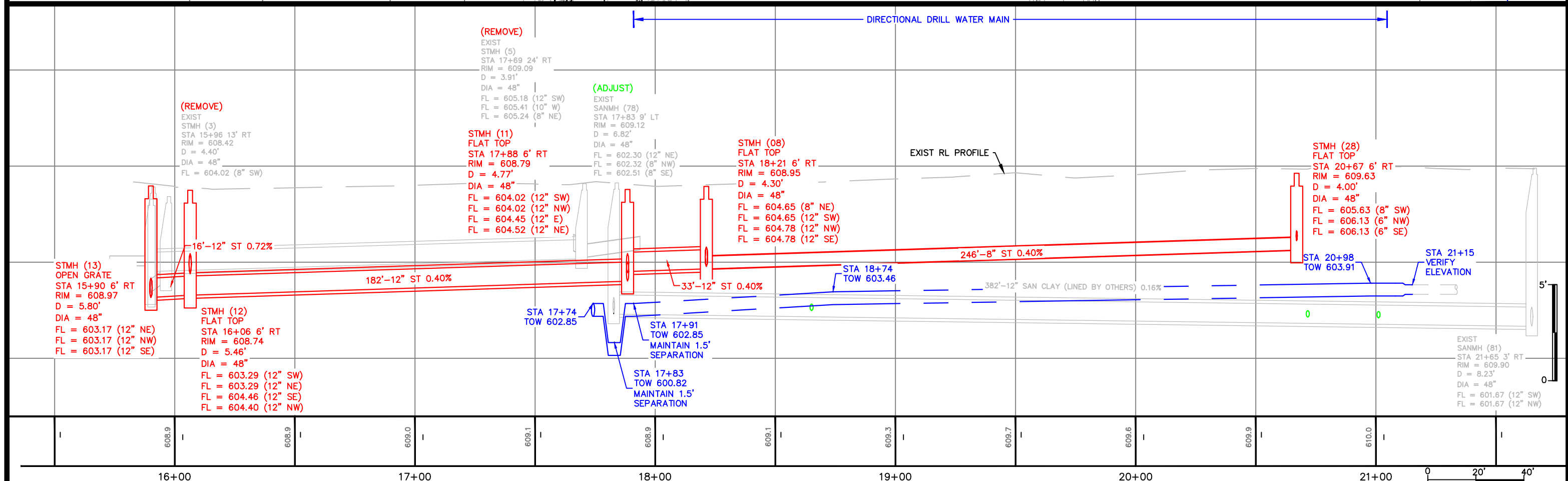
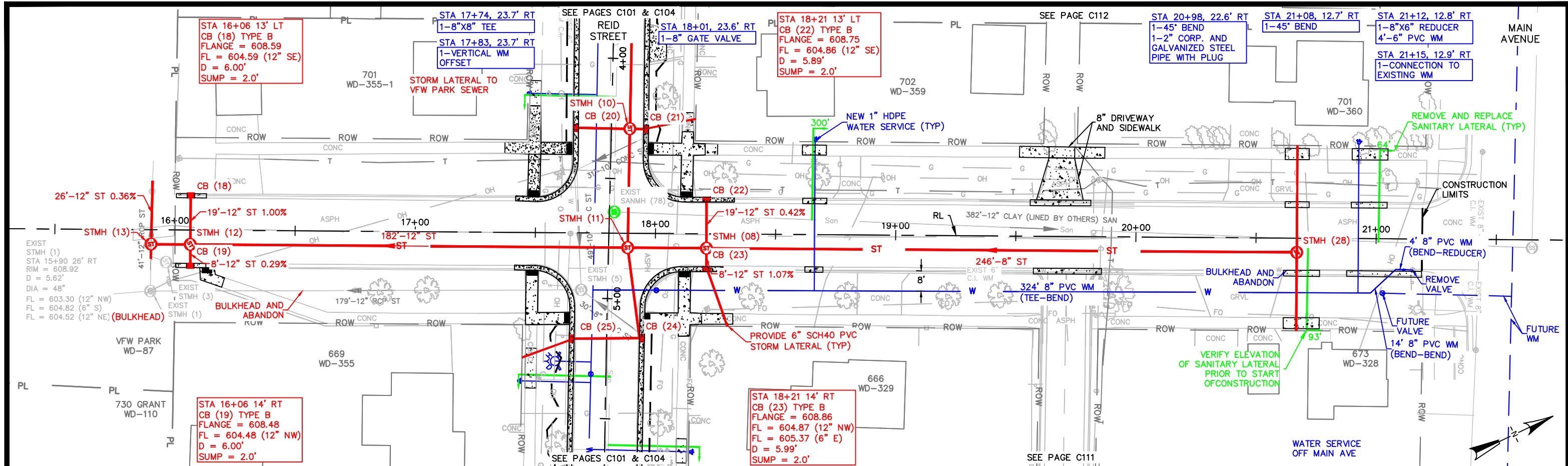
NAME: SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

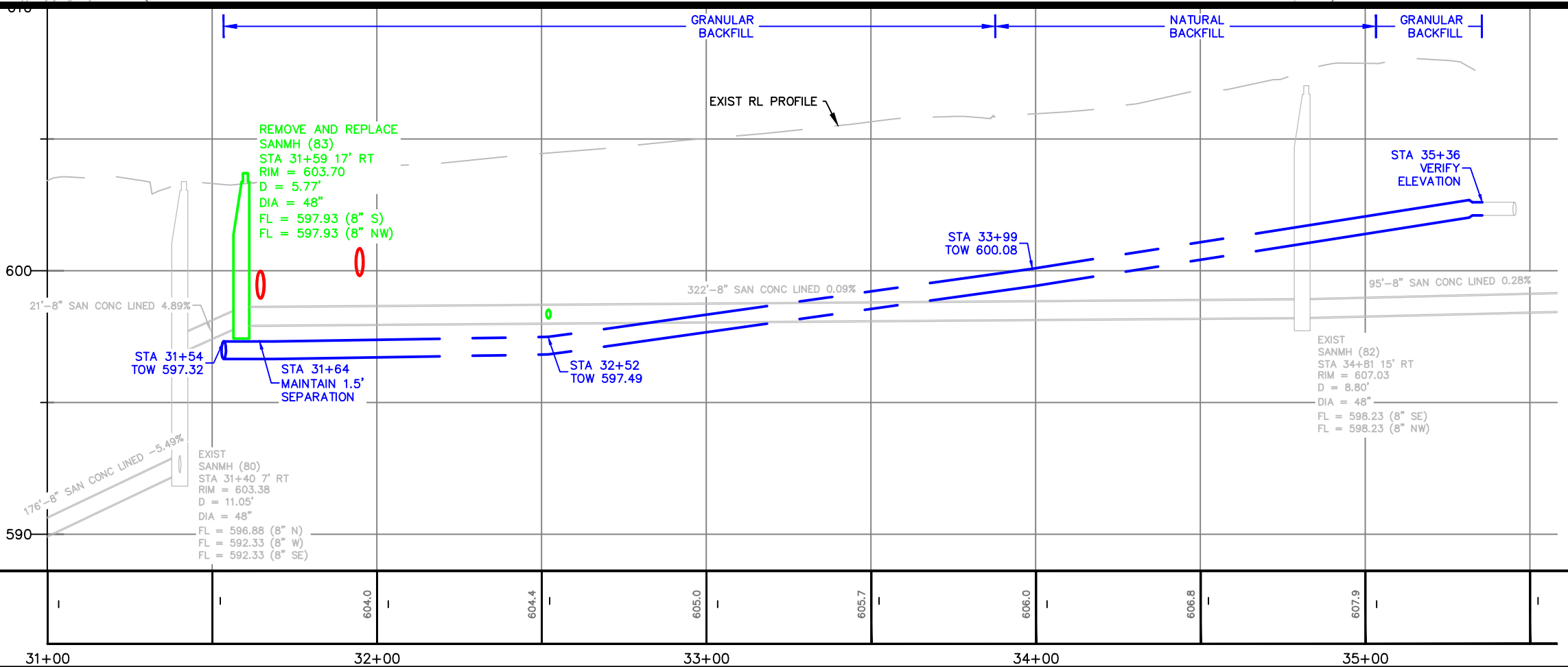
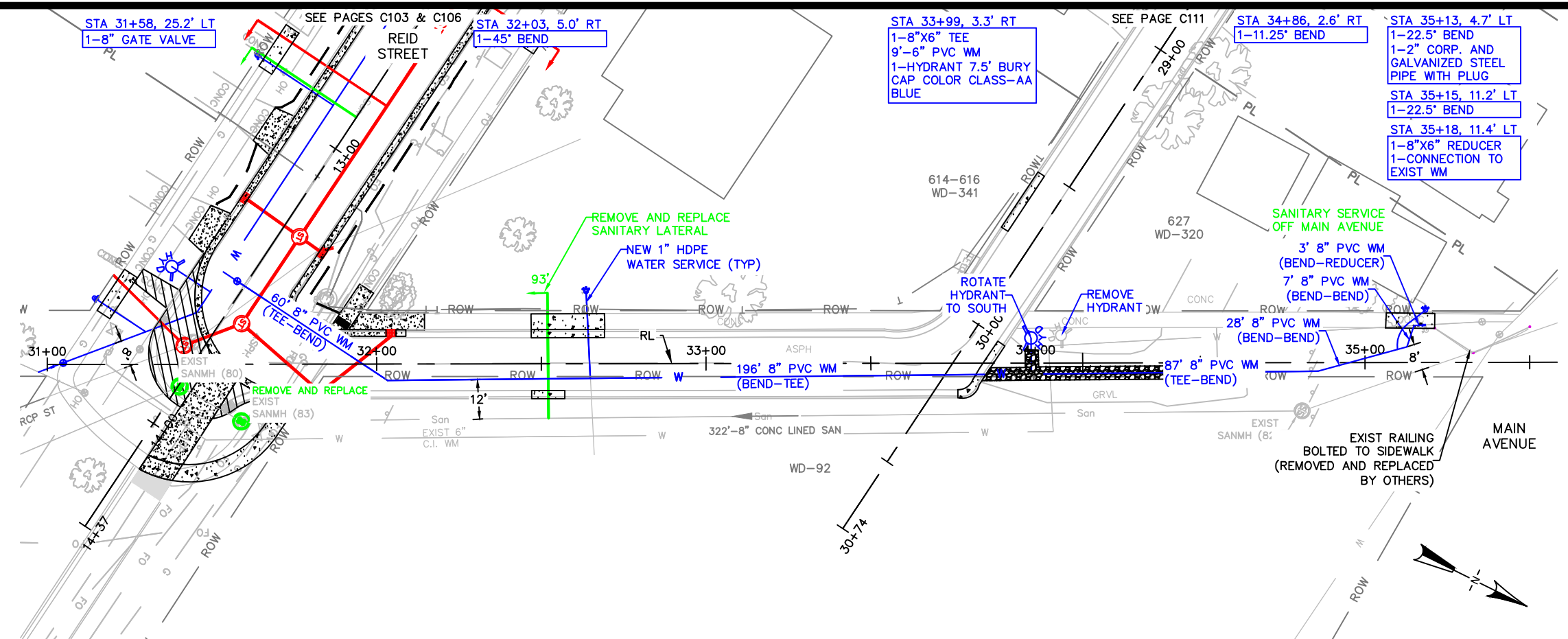
SURVEYED	BY	DATE
DRAWN	MAC	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	BK/KAD	02-2023

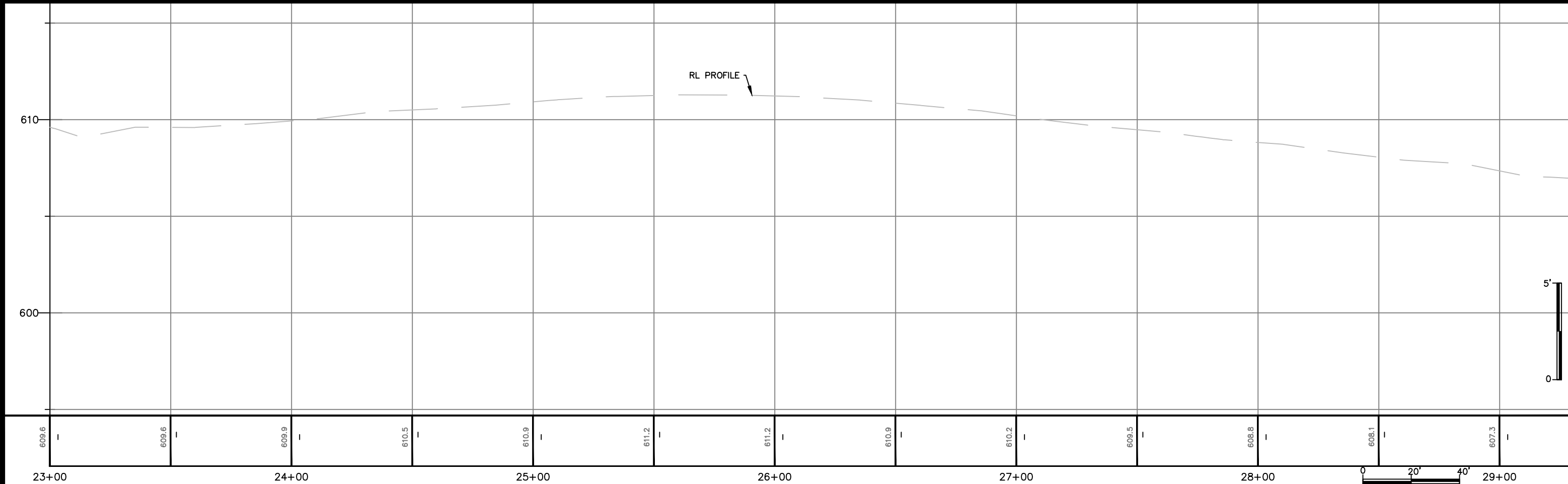
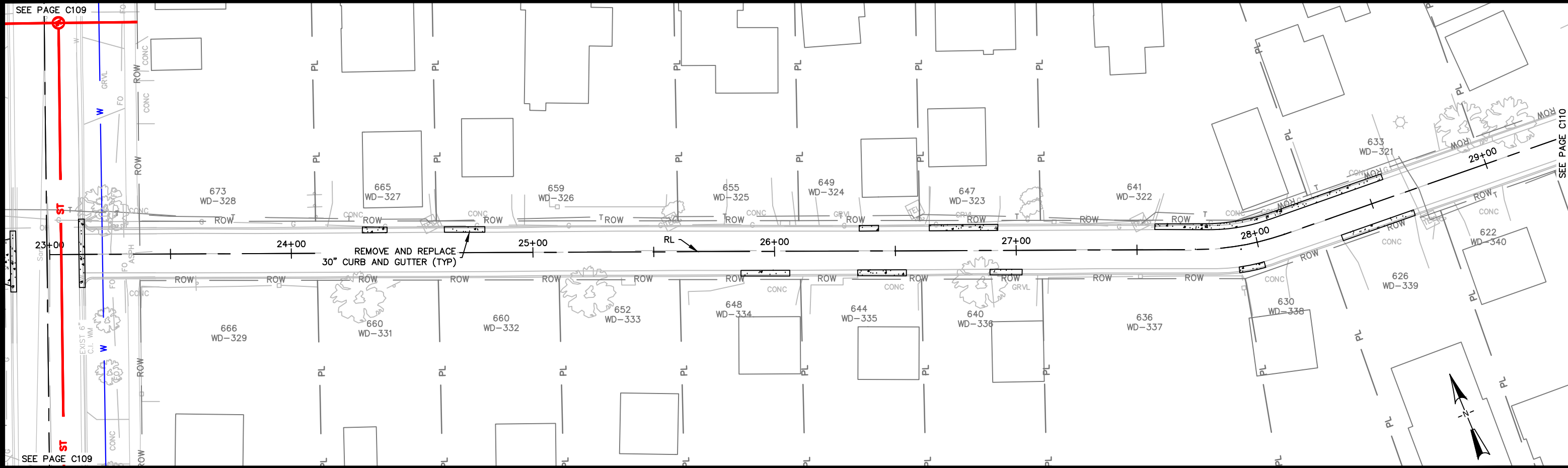
REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

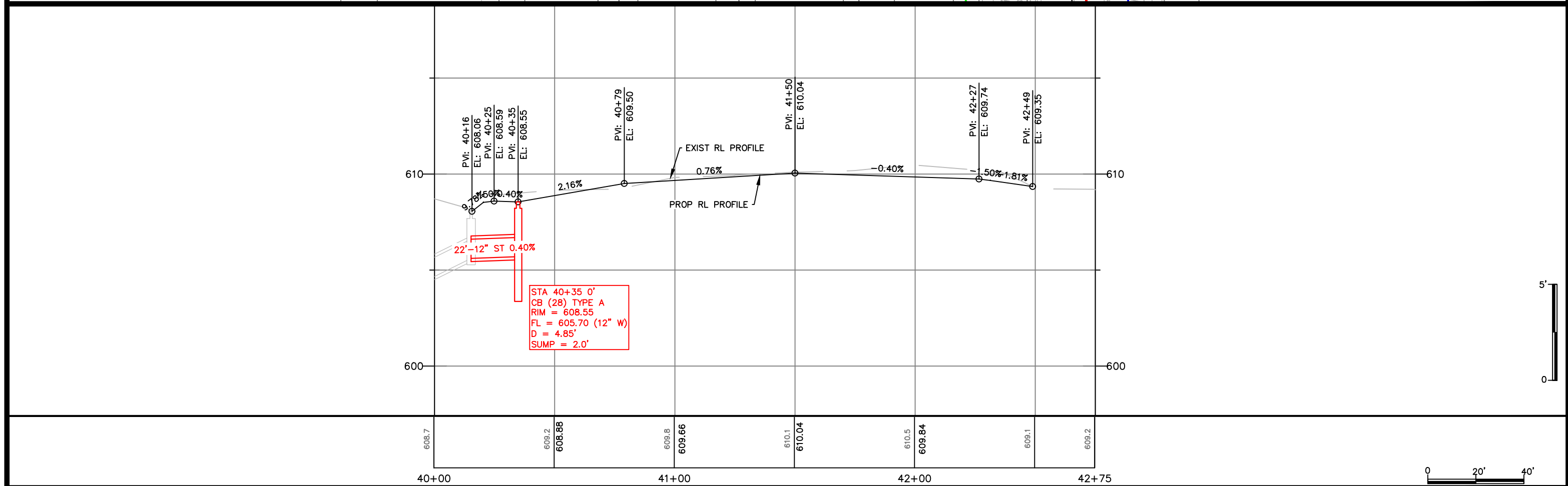
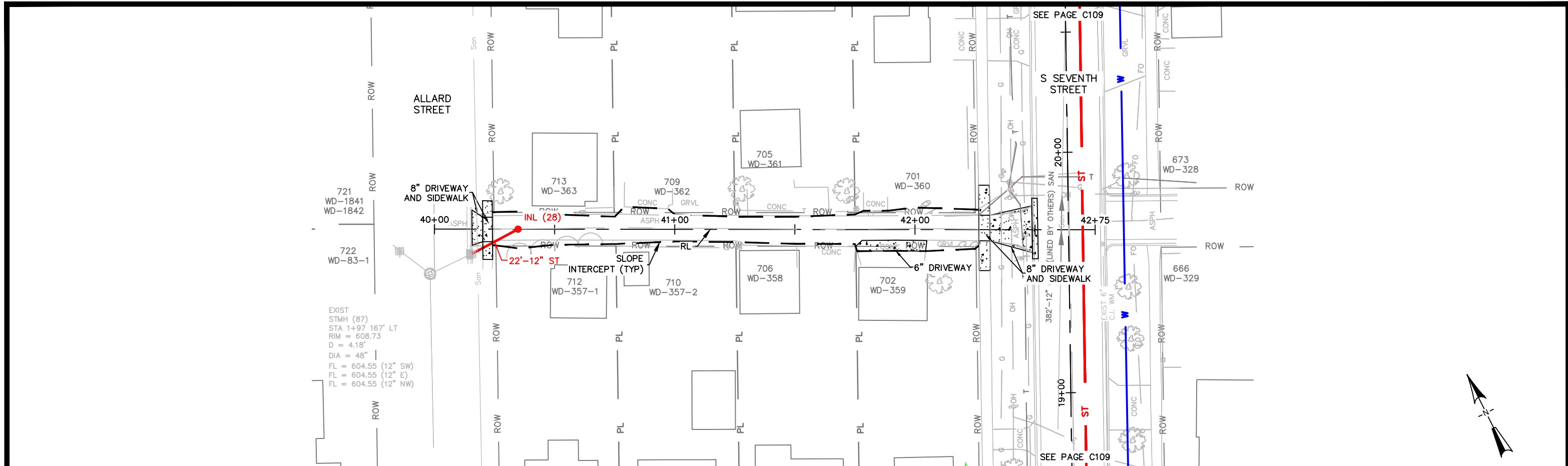




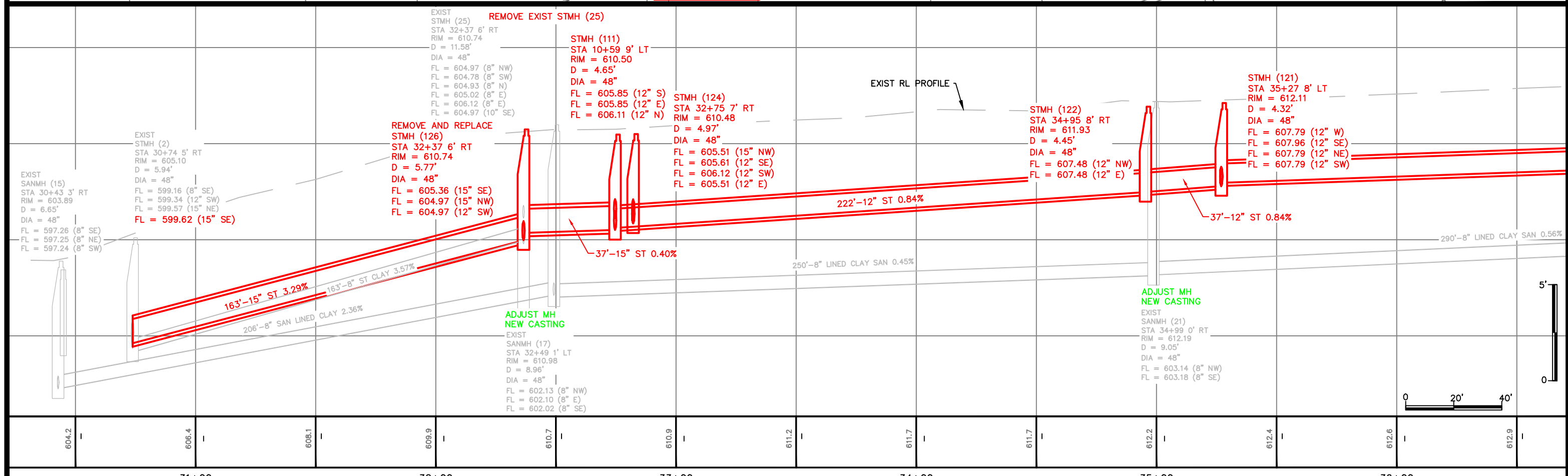
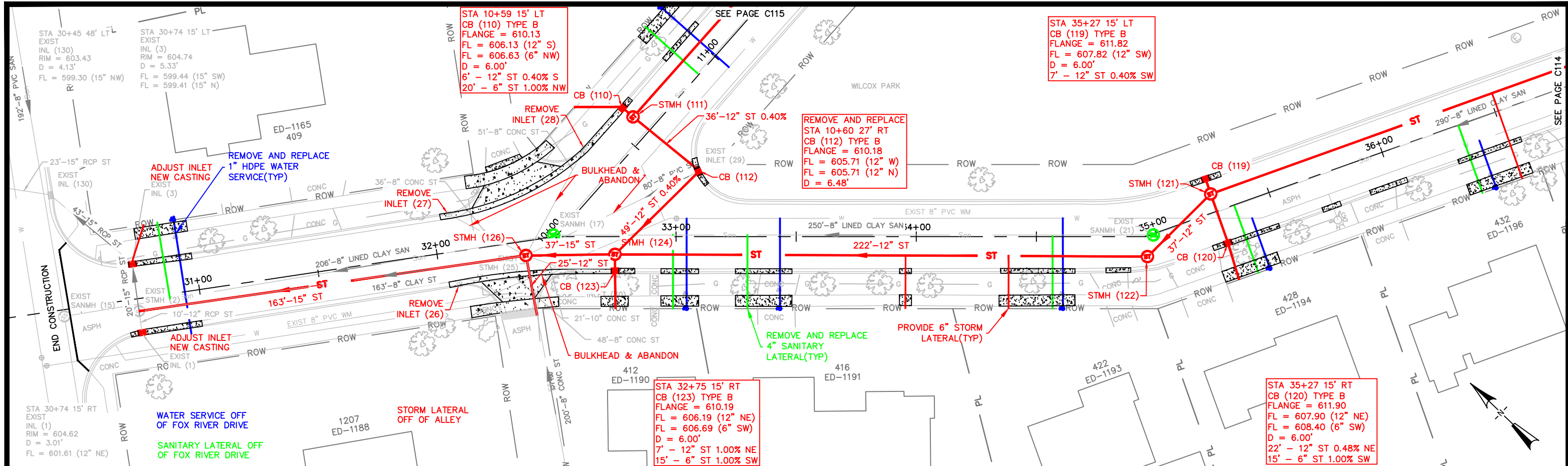


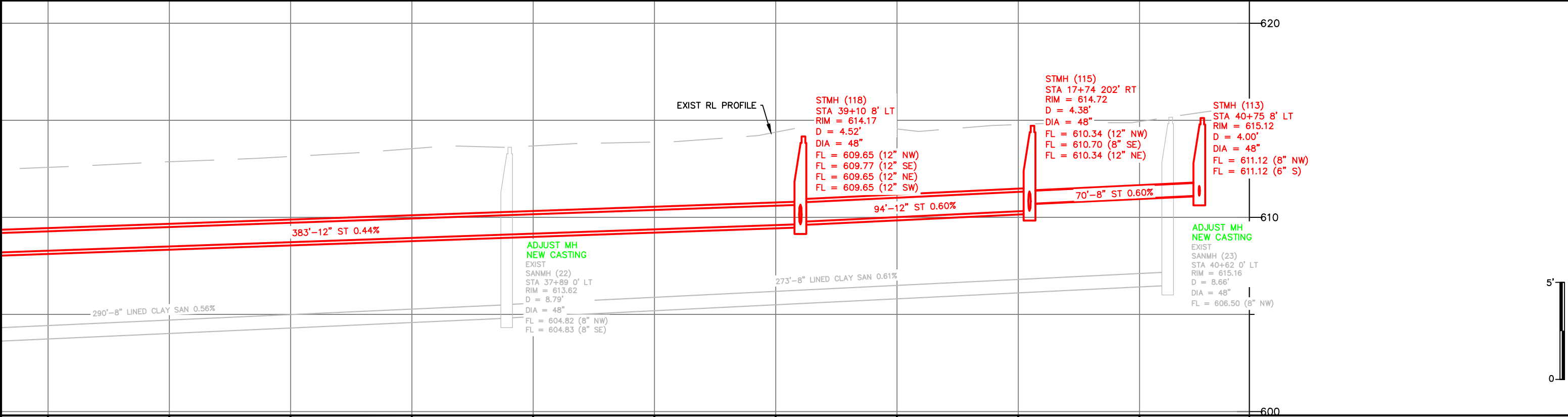
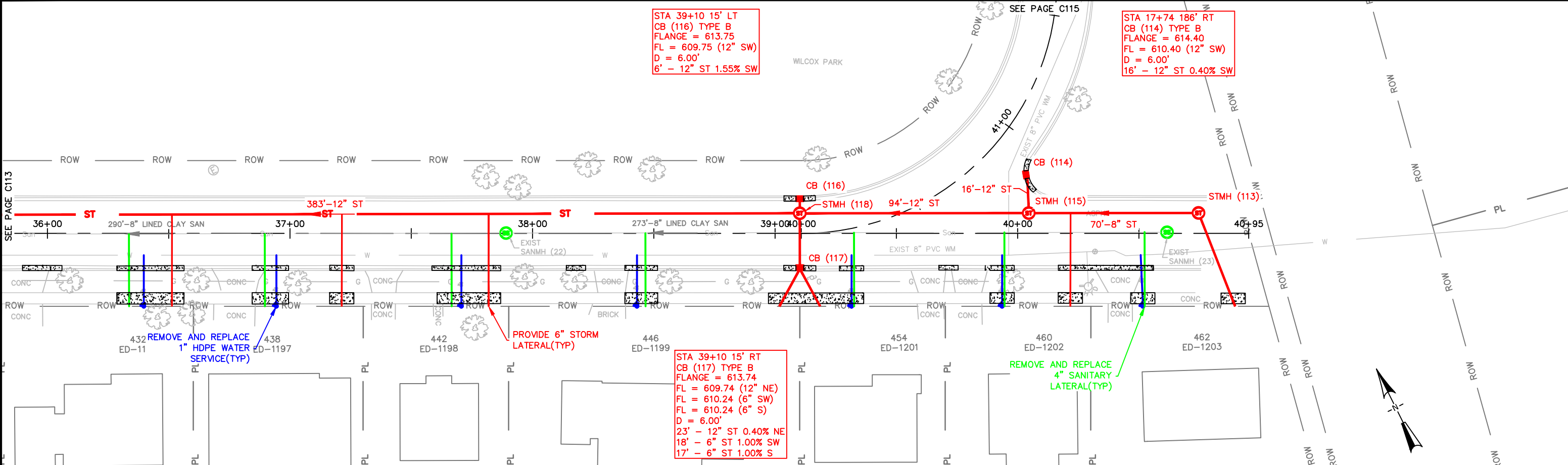






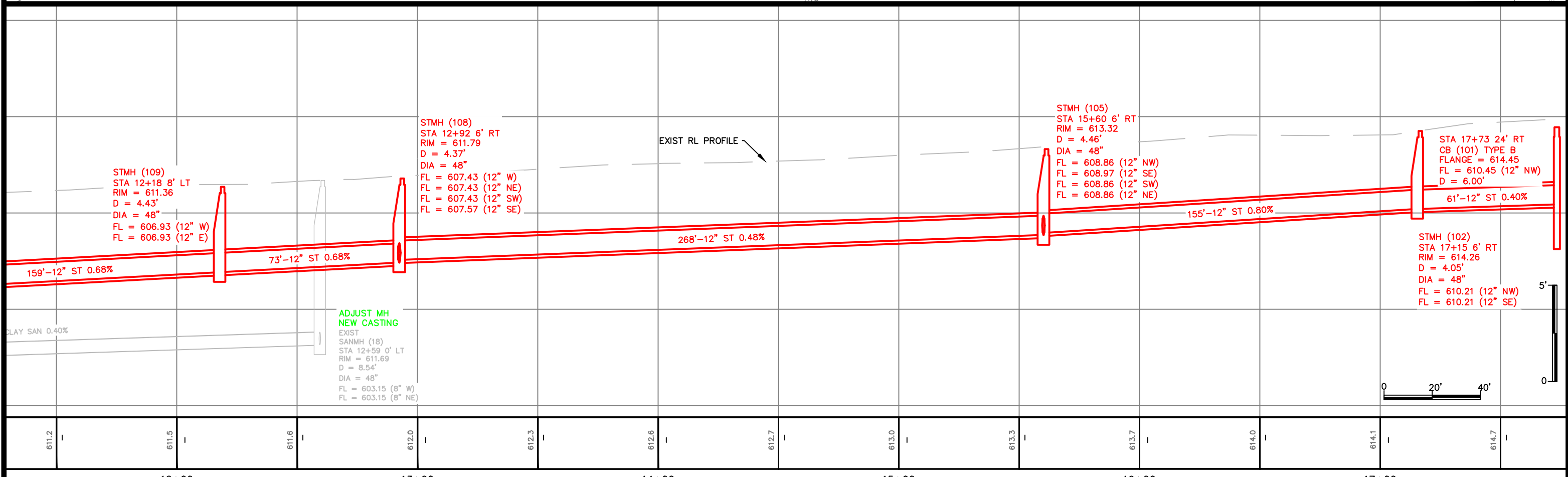
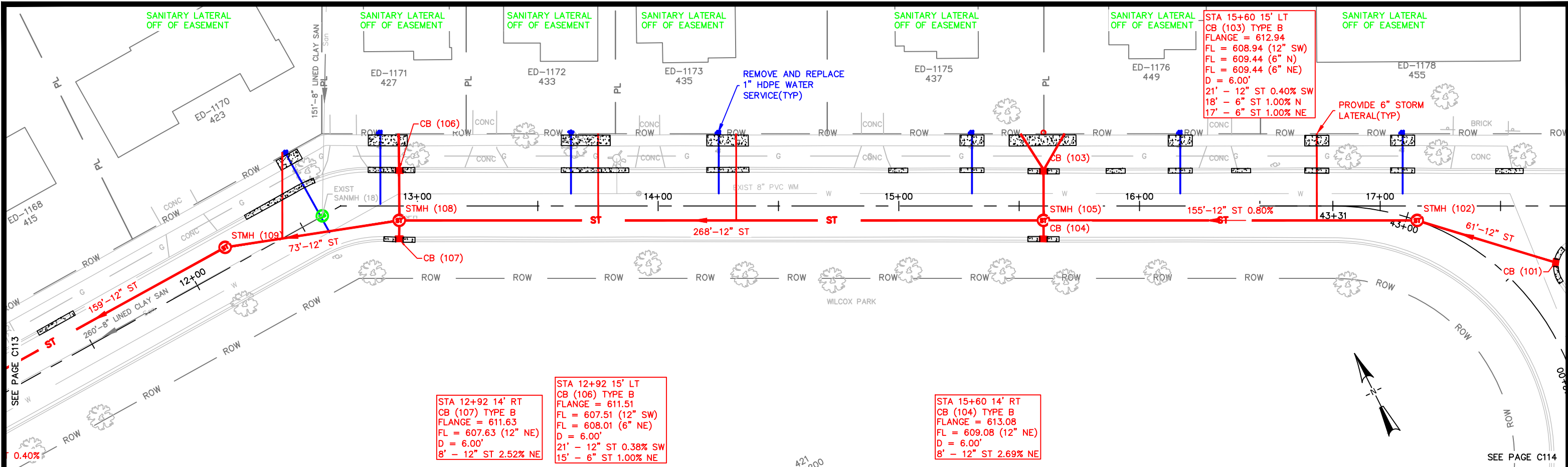
X:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\ALLEY S 7TH-ALLARD & REID-MAIN\ALLEY S 7TH-ALLARD & REID-MAIN_P&P.dwg

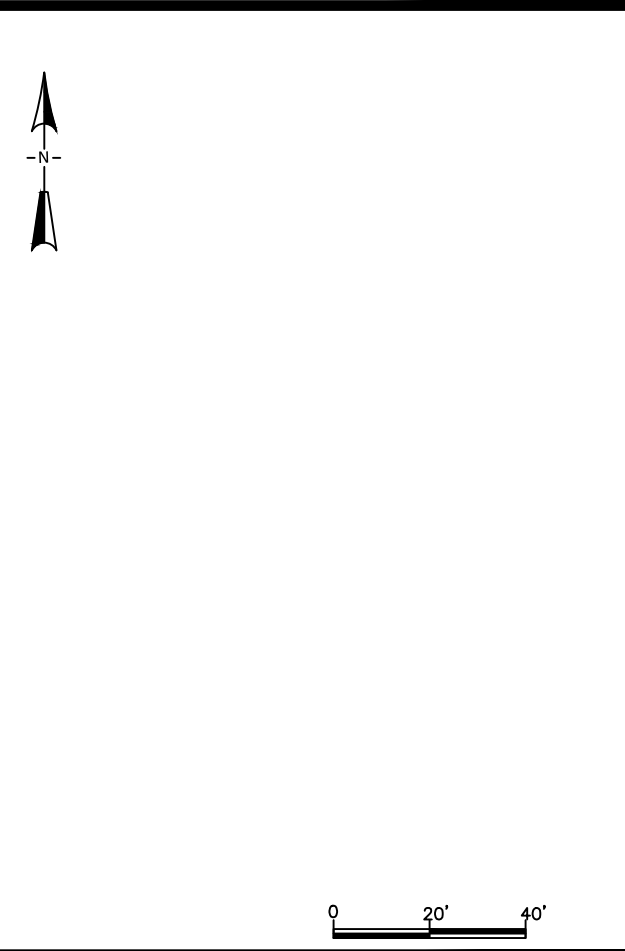
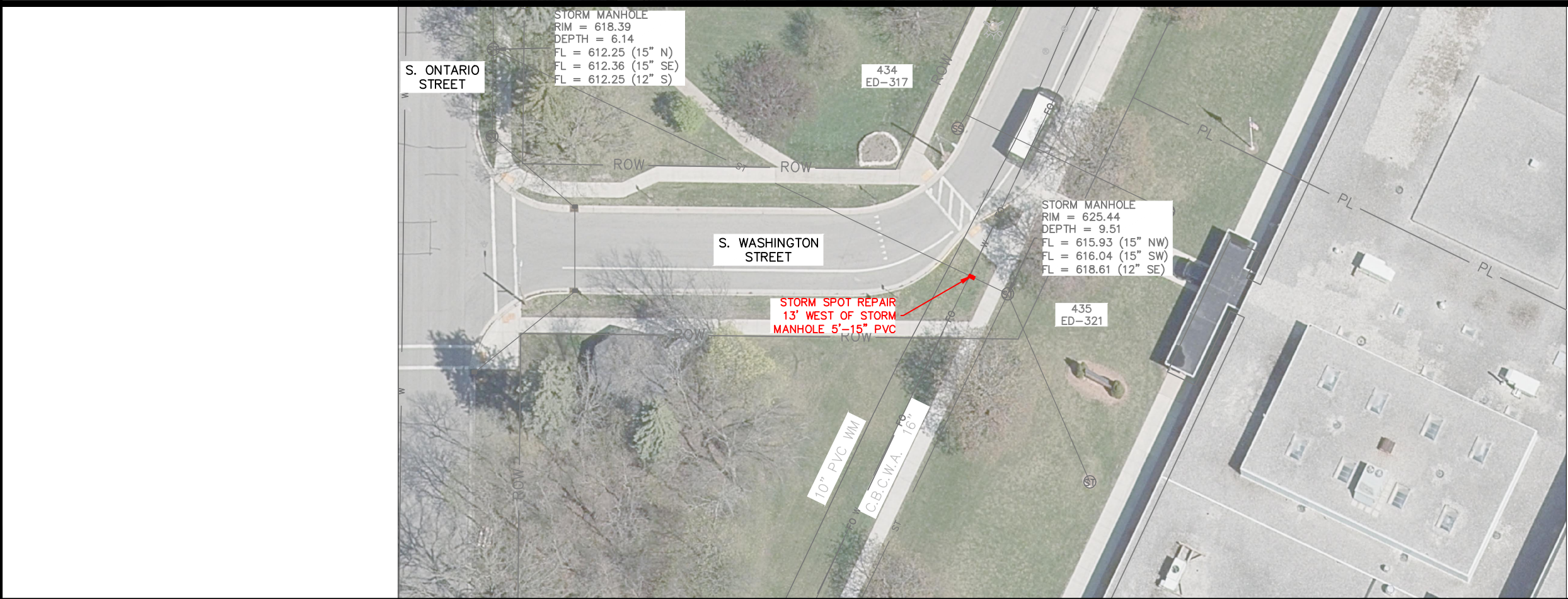
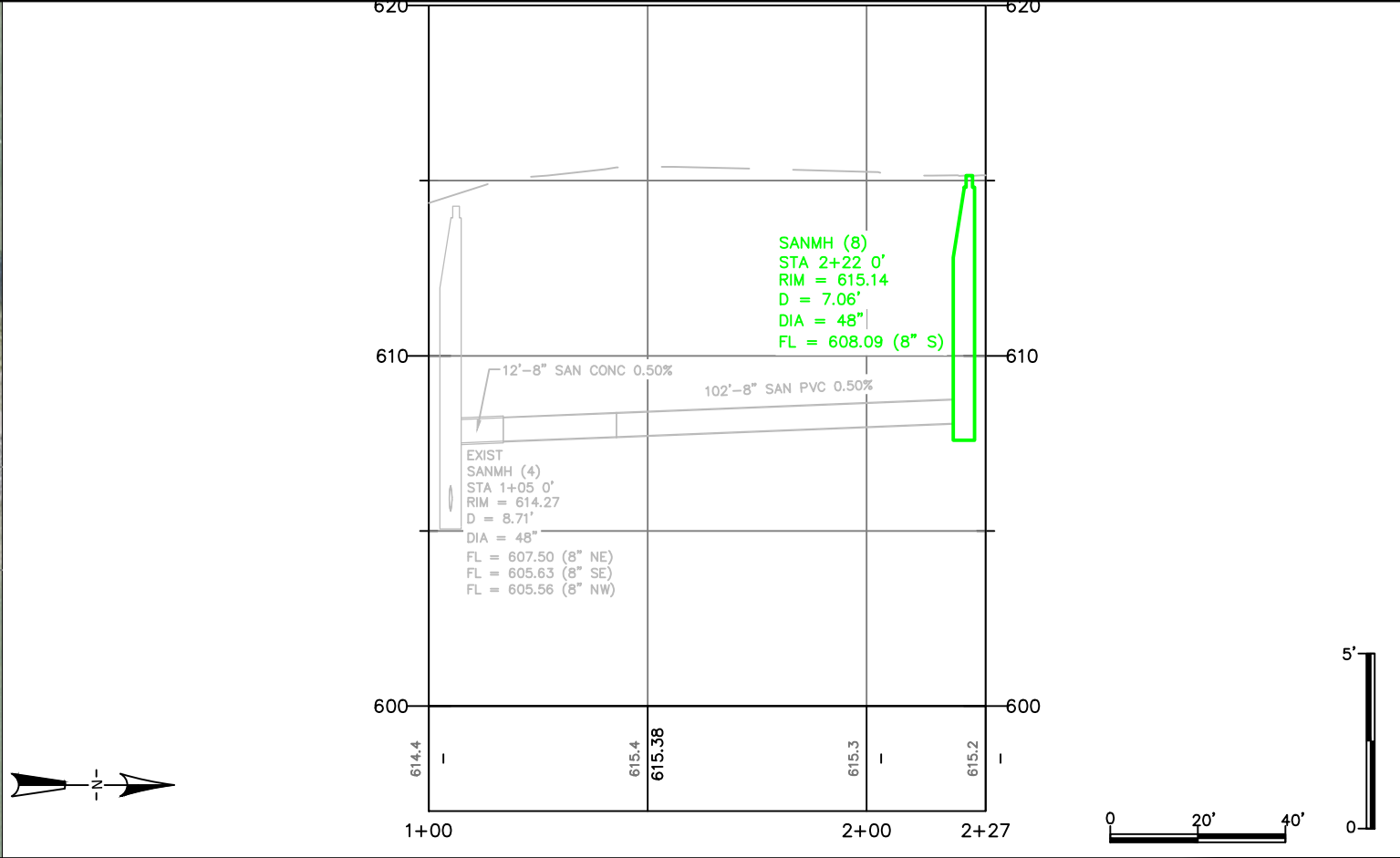
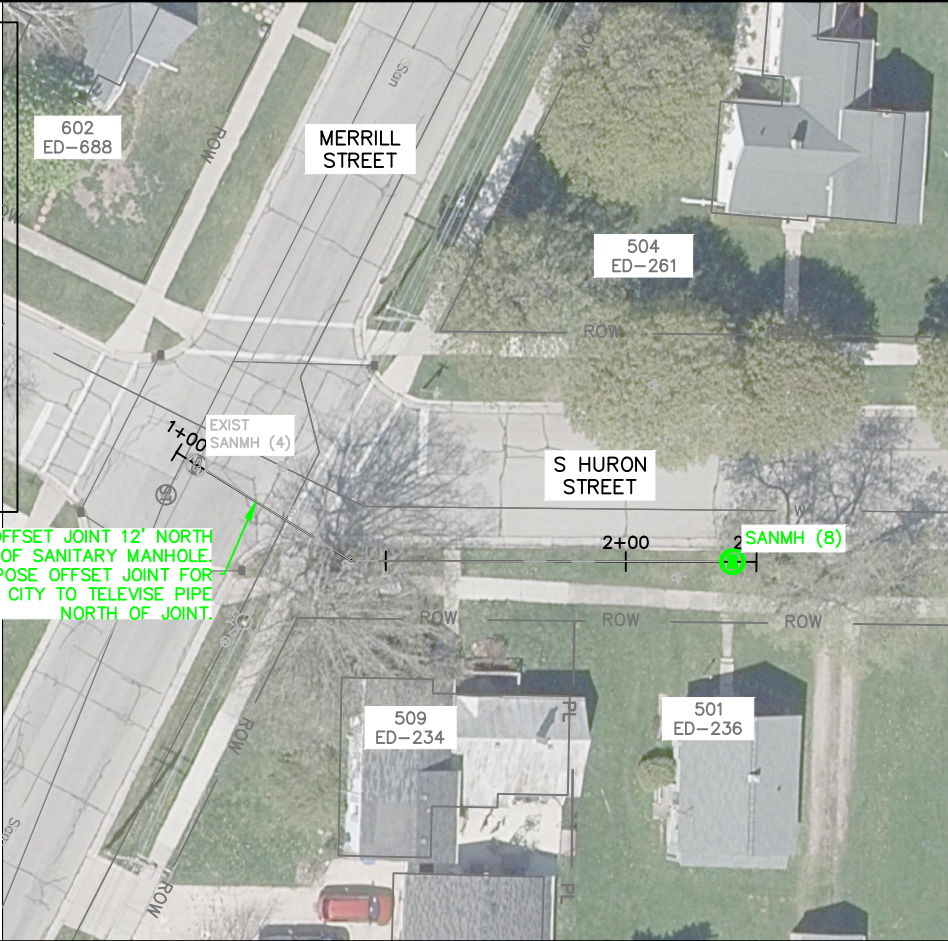
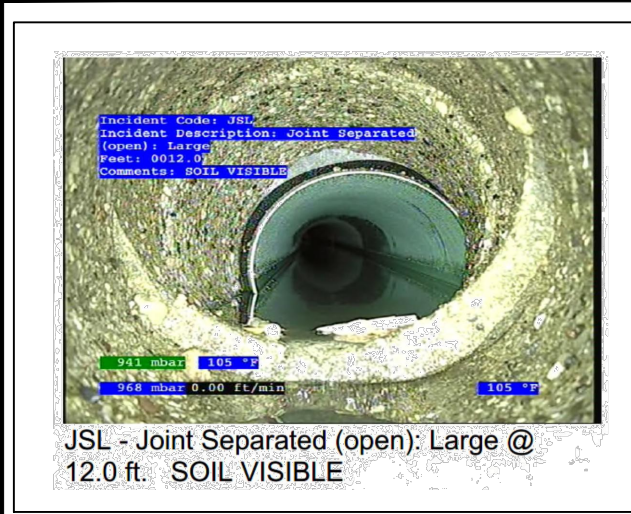


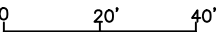
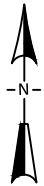
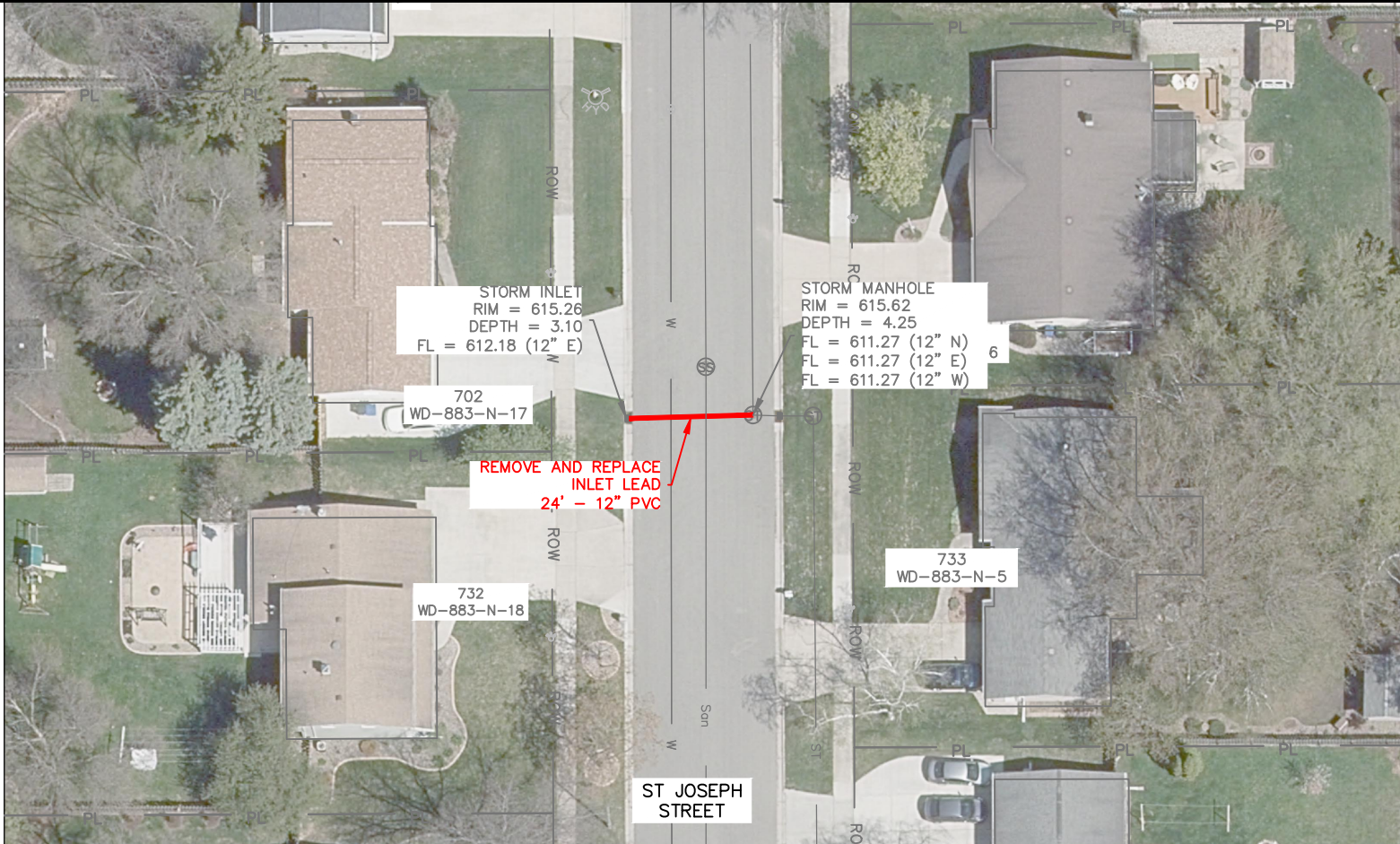
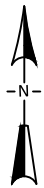
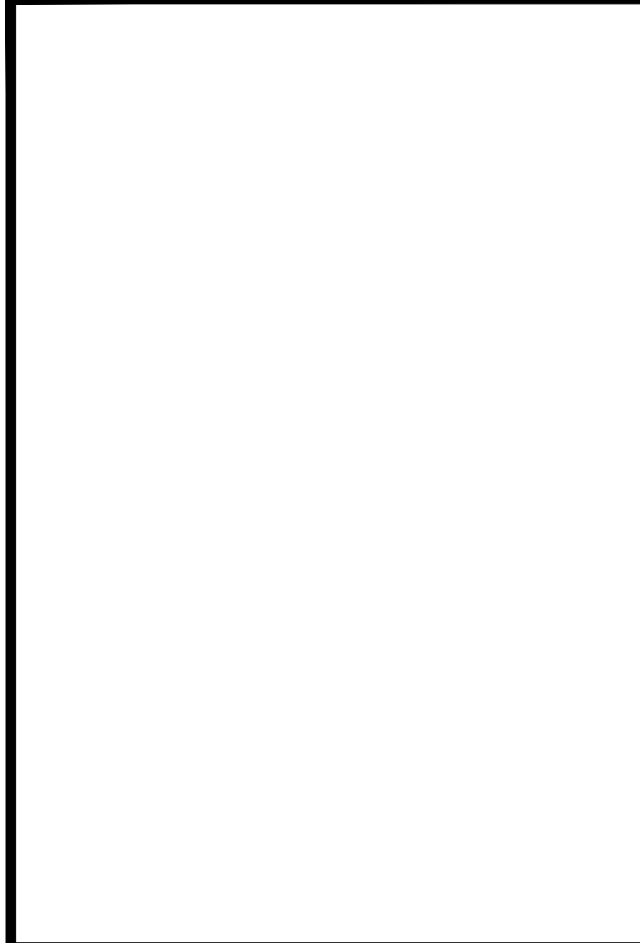


612.6	612.9	613.1	613.5	613.7	613.9	614.4	614.6	614.8	614.9	
36+00	37+00	38+00	39+00	40+00	40+95.29					

X:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\Wilcox Court\Wilcox_P&P.dwg







CITY OF DE PERE

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

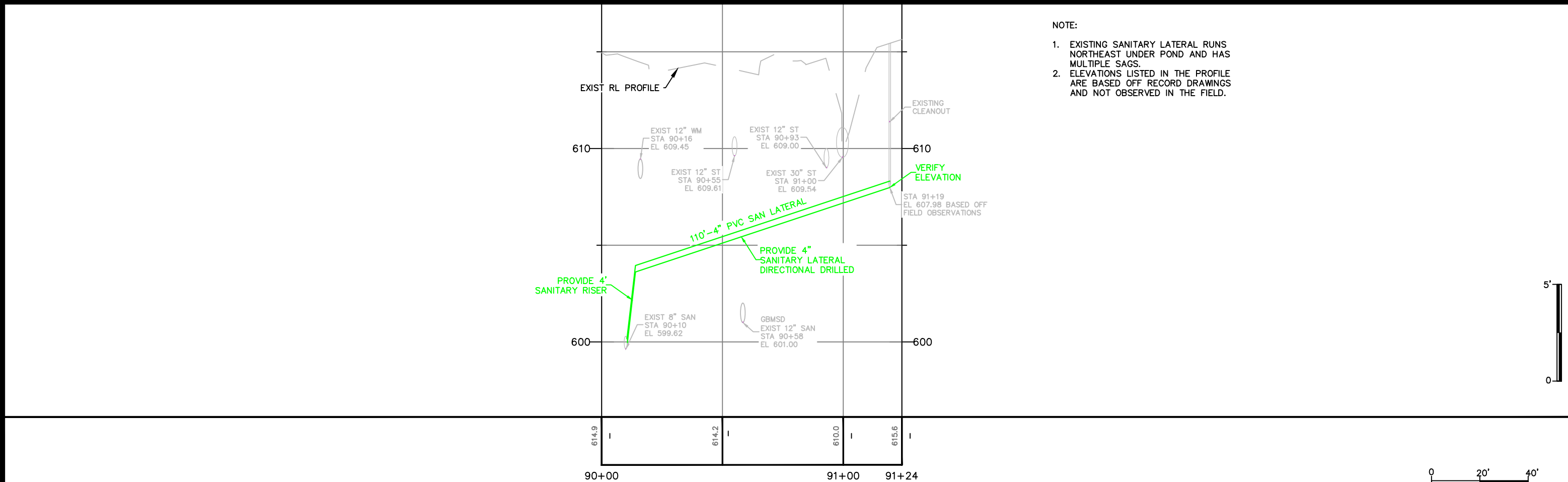
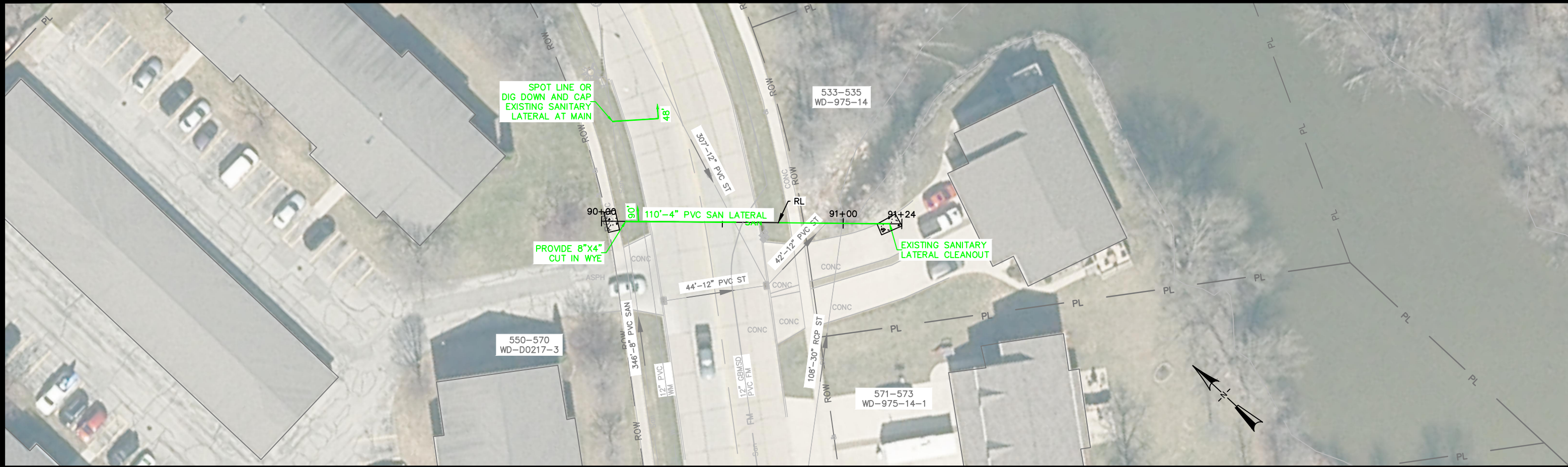
STORM AND SANITARY
MISCELLANEOUS LOCATIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

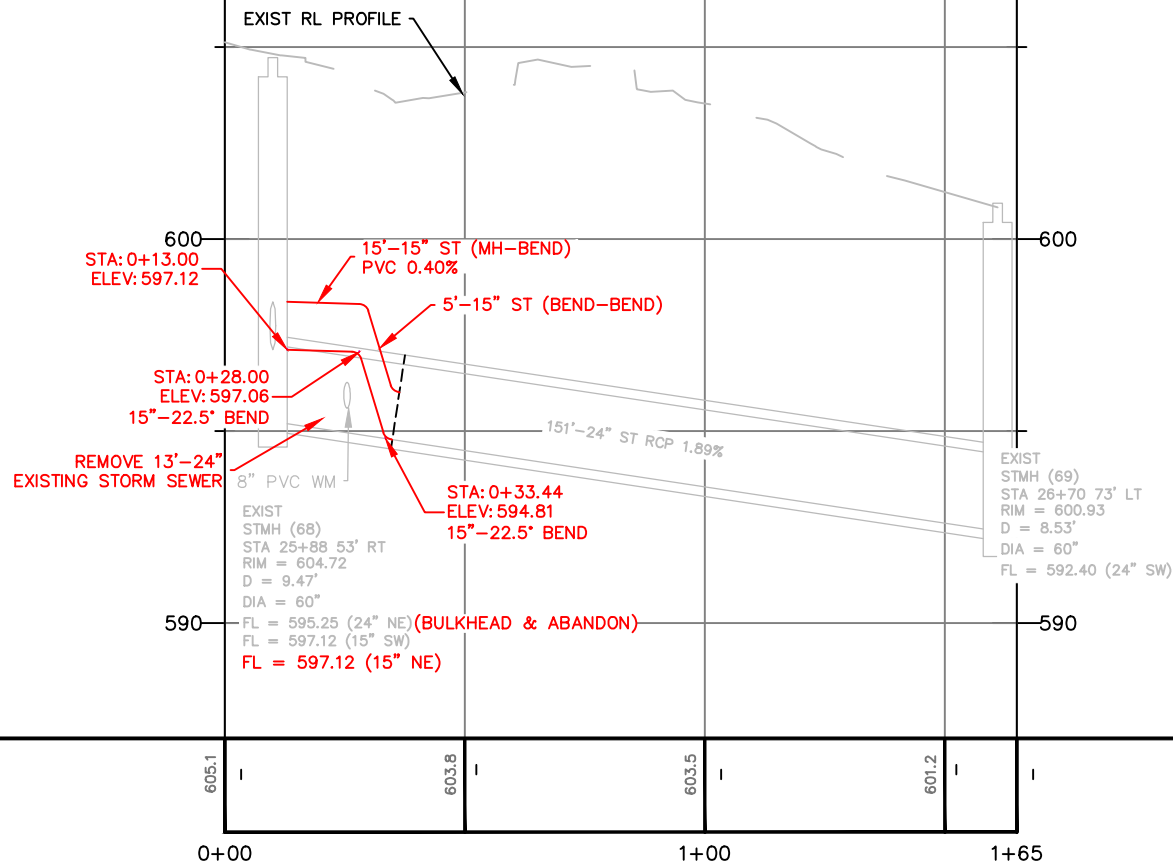
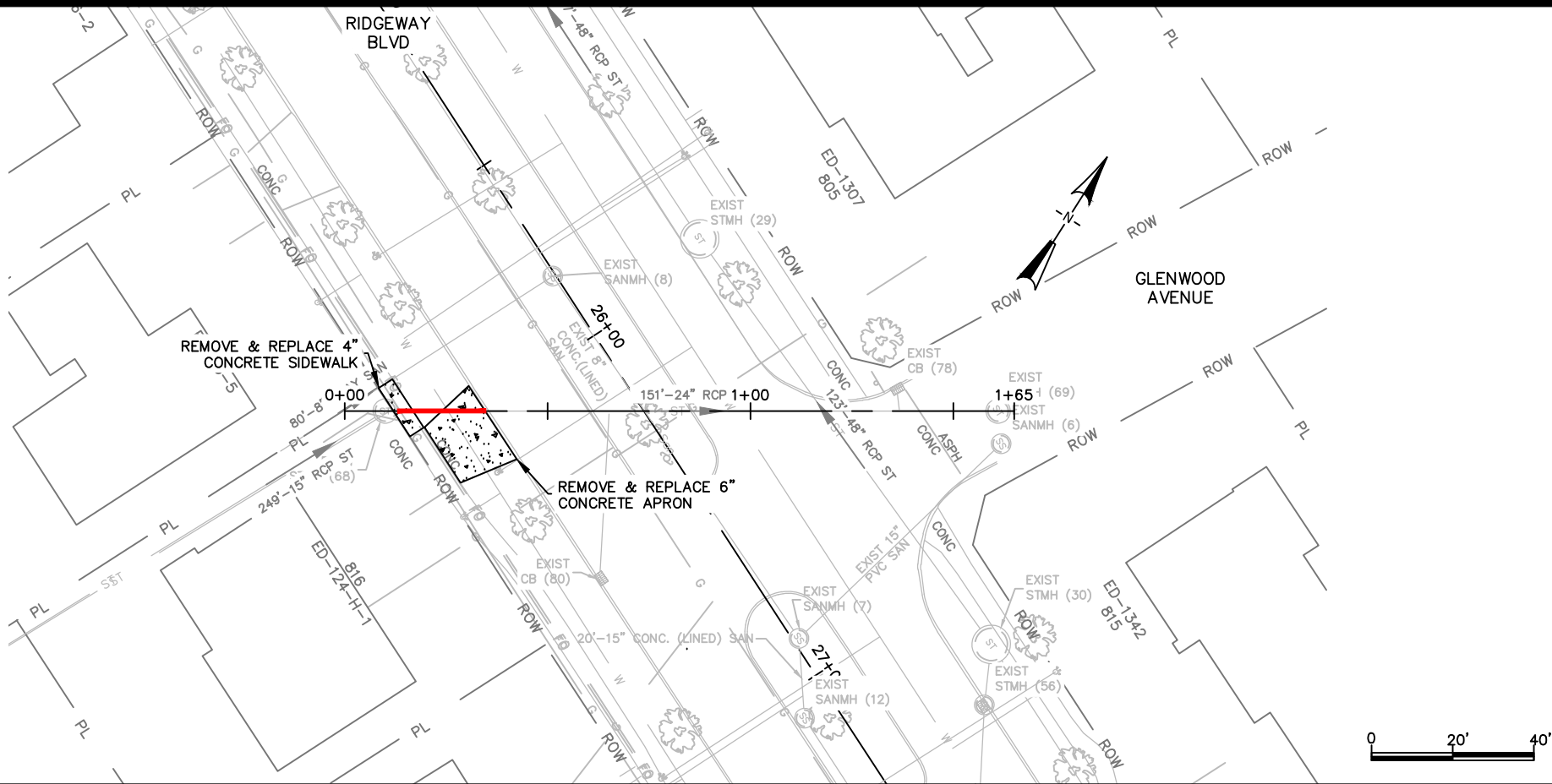
	BY	DATE
SURVEYED		
DRAWN	KAD	03-2023
DESIGNED	KAD	03-2023
CHECKED	CKK	03-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

X:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\City Wide Utility Spot Repairs\Washington St and Huron-Erie Alley Dig Downs & Erie-Alley Dig Downs &



- NOTE:
1. EXISTING SANITARY LATERAL RUNS NORTHEAST UNDER POND AND HAS MULTIPLE SAGS.
 2. ELEVATIONS LISTED IN THE PROFILE ARE BASED OFF RECORD DRAWINGS AND NOT OBSERVED IN THE FIELD.



NOTE:
1) INSTALL BEND PARTIAL
WAY INTO 24" STORM SEWER

2) BLOCK VOID BETWEEN 24"
AND 15" STORM SEWERS



CITY OF DE PERE

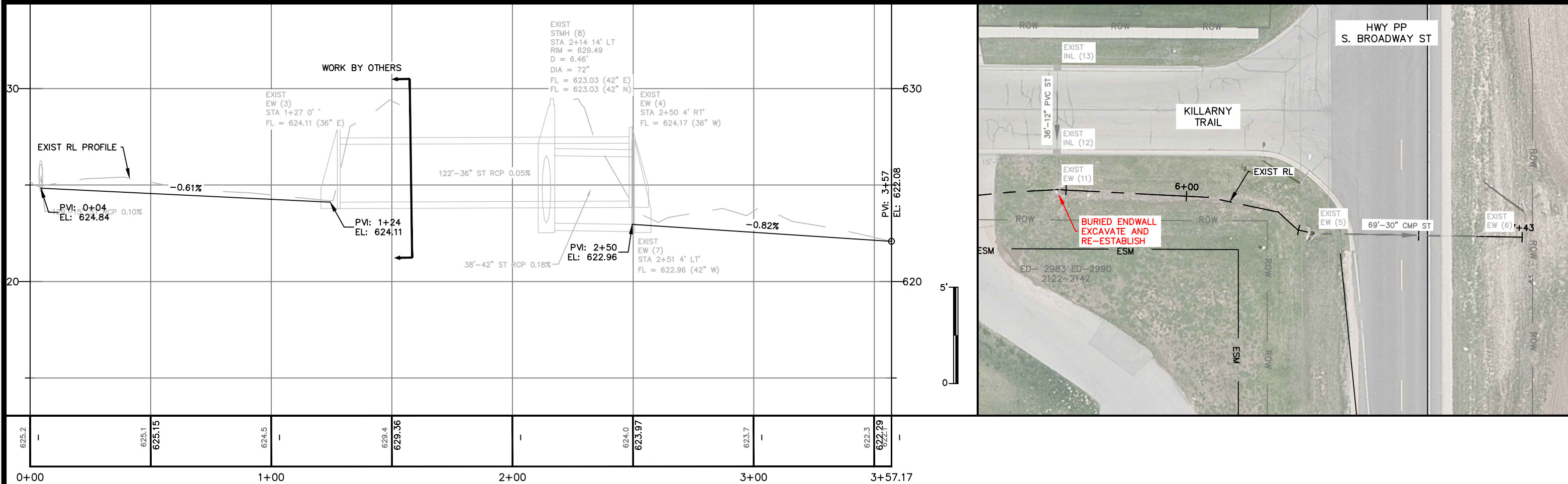
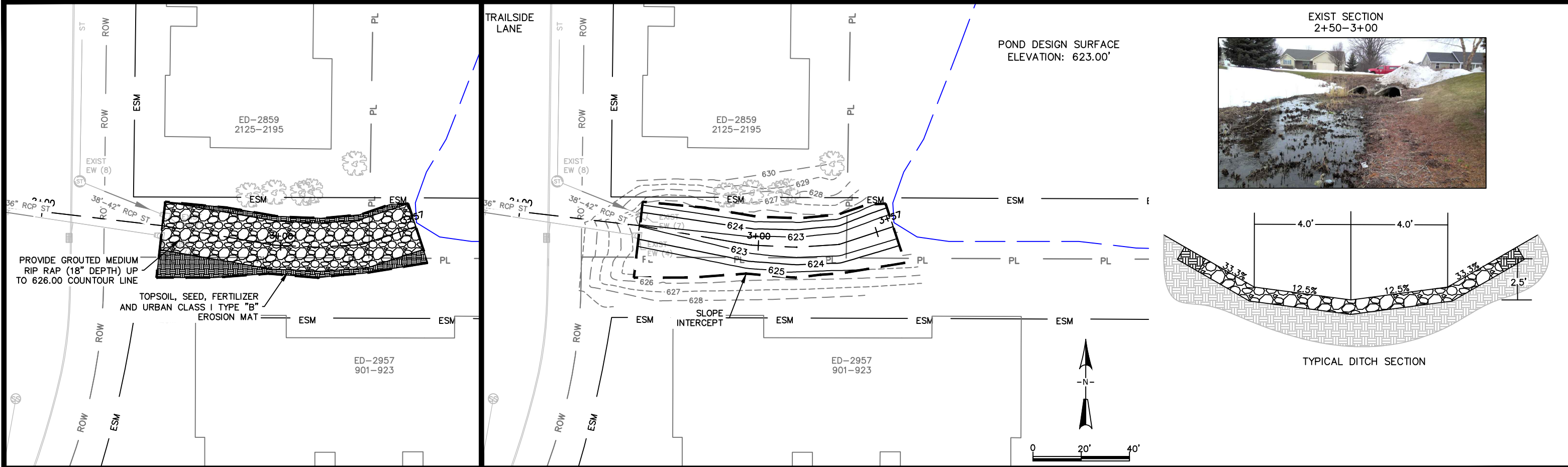
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

RIDGEWAY BLVD
GLENWOOD AVE INTERSECTION

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

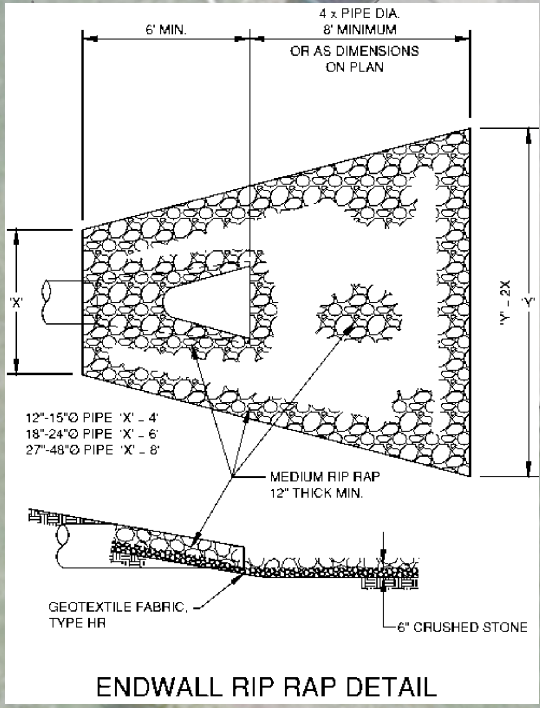
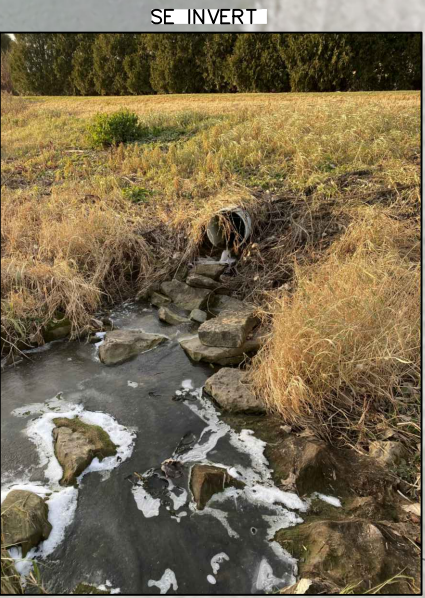
	BY	DATE
SURVEYED	JML	08-2019
DRAWN	MAL	03-2022
DESIGNED	MAL	02-2022
CHECKED	CKK	03-2022

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS





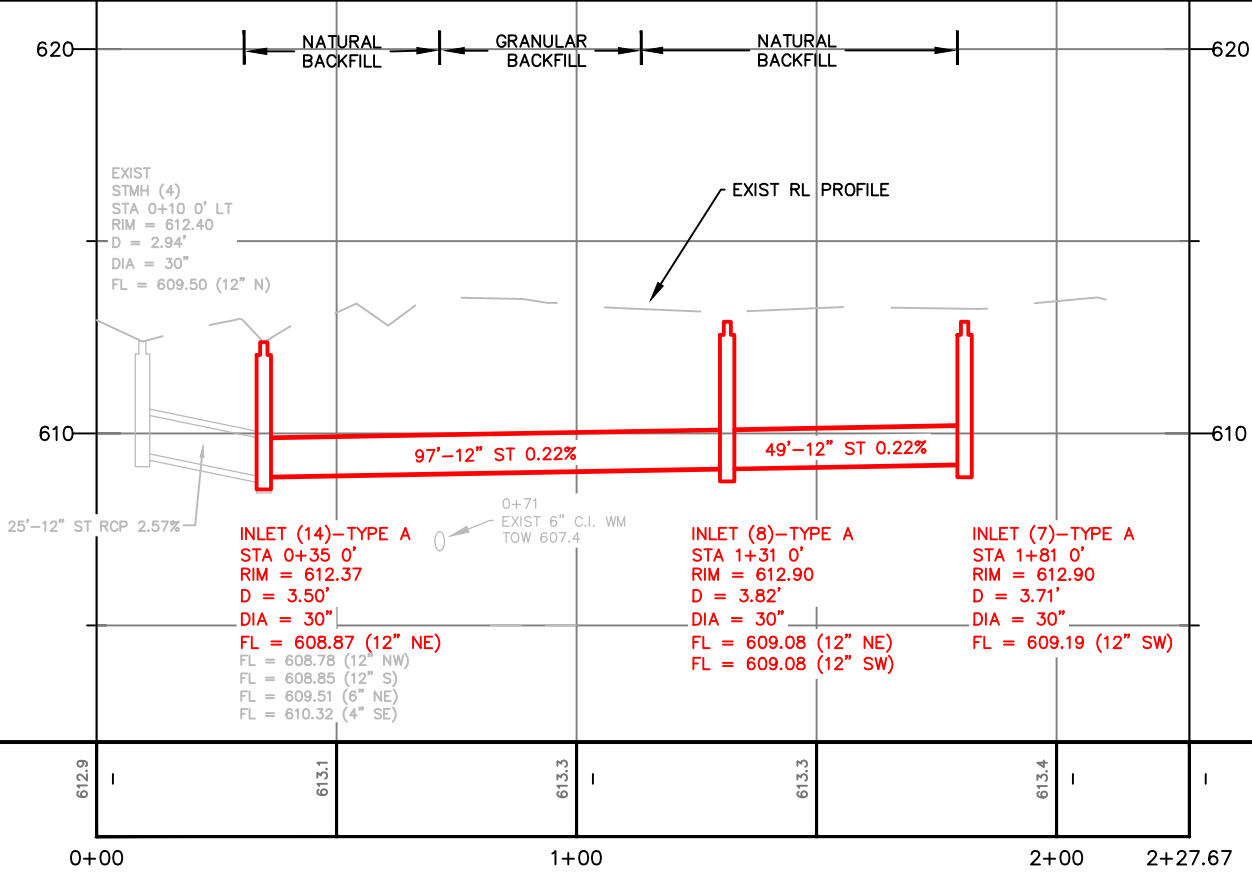
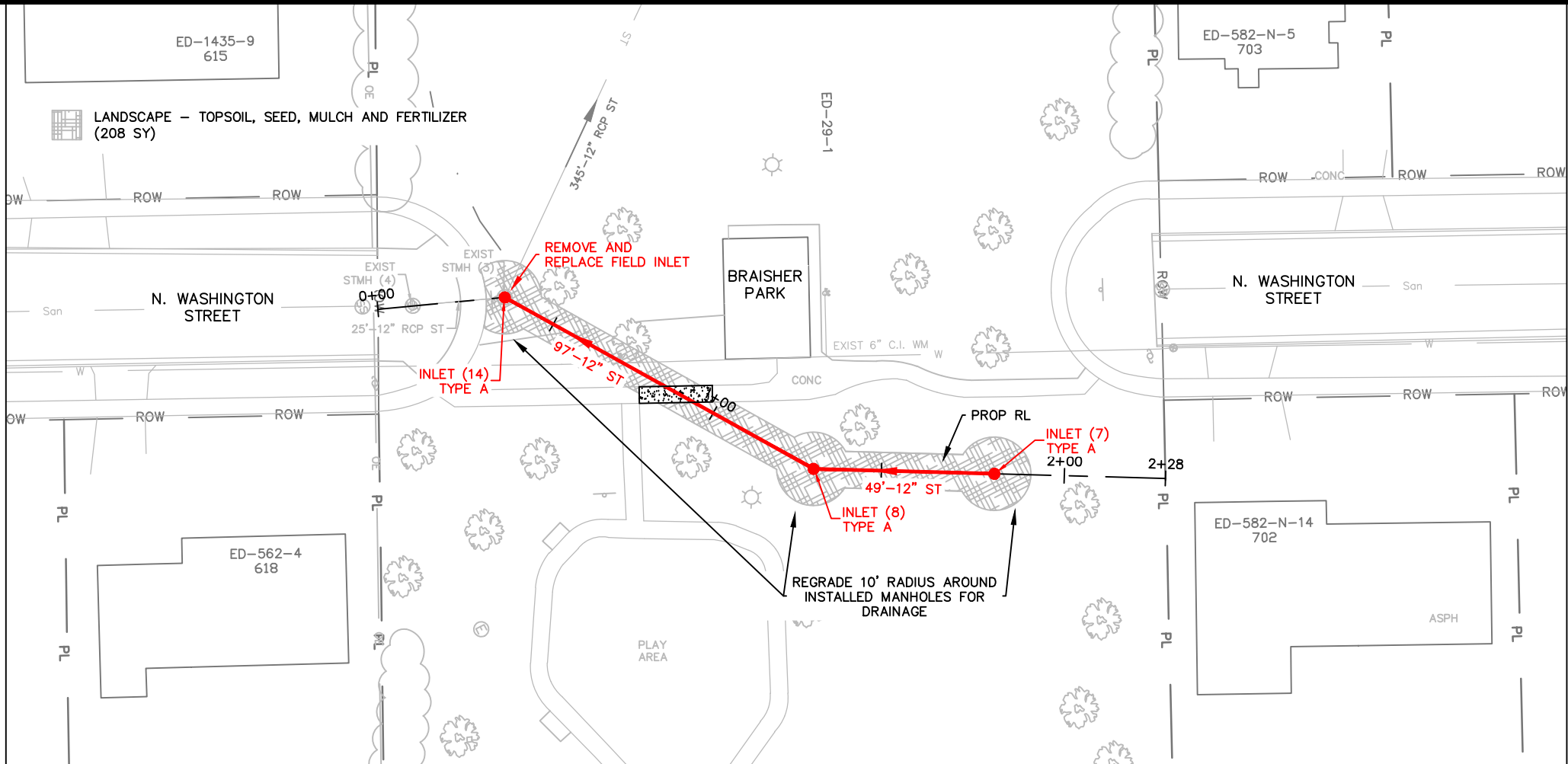
NOTE: USE SHETLAND PLACE CUL DE SAC AND TRAIL FOR SITE ACCESS AND MATERIAL STORAGE



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

**SHETLAND PLACE
CONSERVANCY END WALL RAP INSTALLATION**

NAME: SEWER AND WATER RELAY AND STREET RESURFACING PROJECT # 23-01	REVISIONS / ISSUES				PAGE NO. C121
	SURVEYED	BY	DATE	NO. DATE BY REMARKS	
	DRAWN	MJT	02-2023		
	DESIGNED	MJT	02-2023		
	CHECKED	CKK	02-2023		



CITY OF DE PERE

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

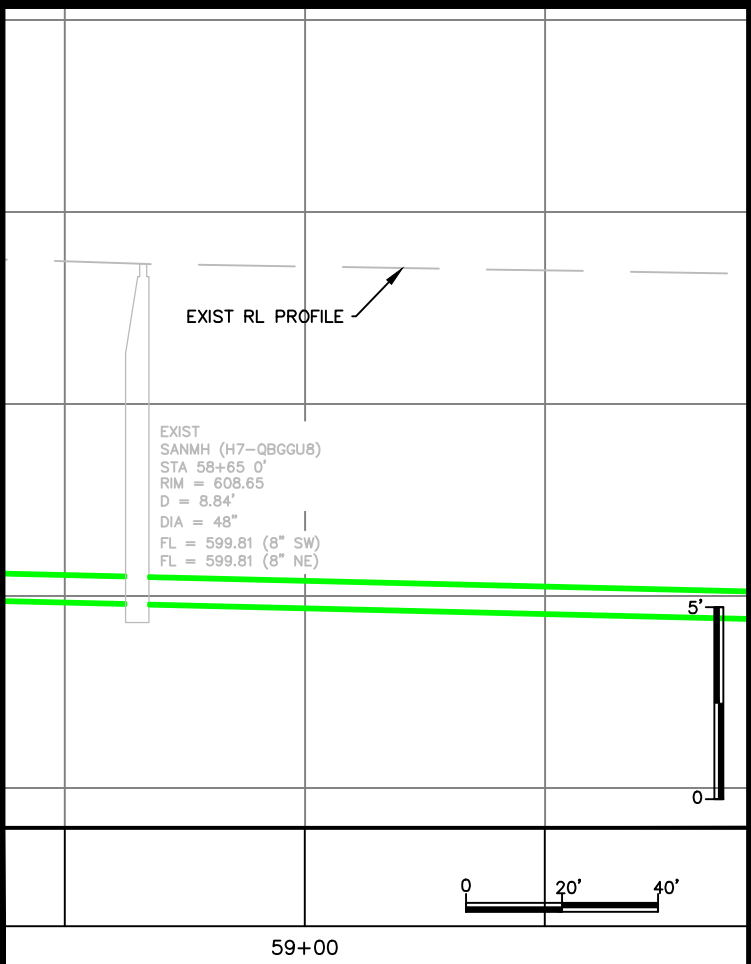
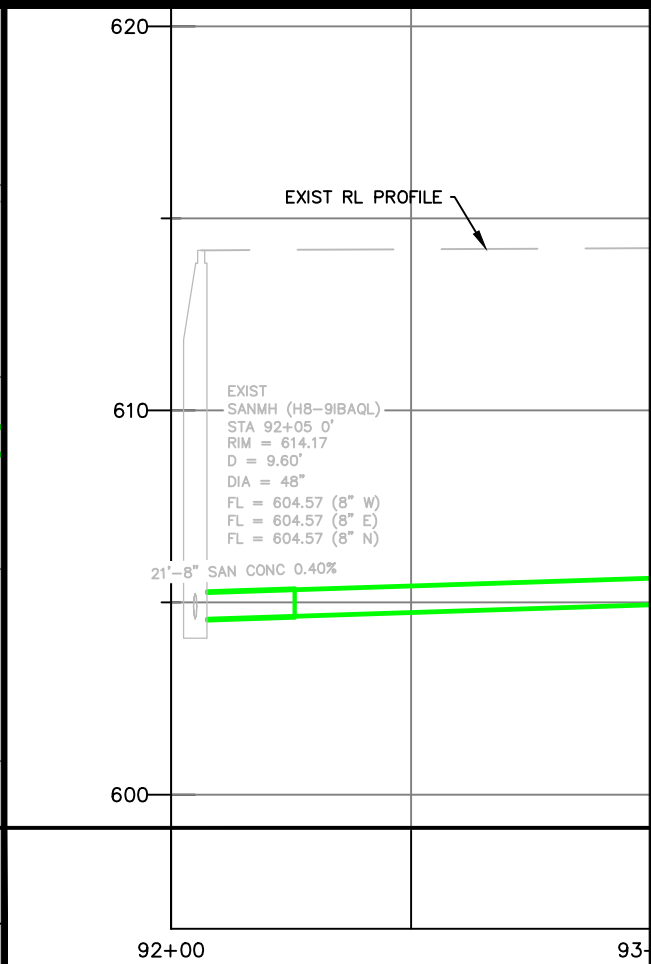
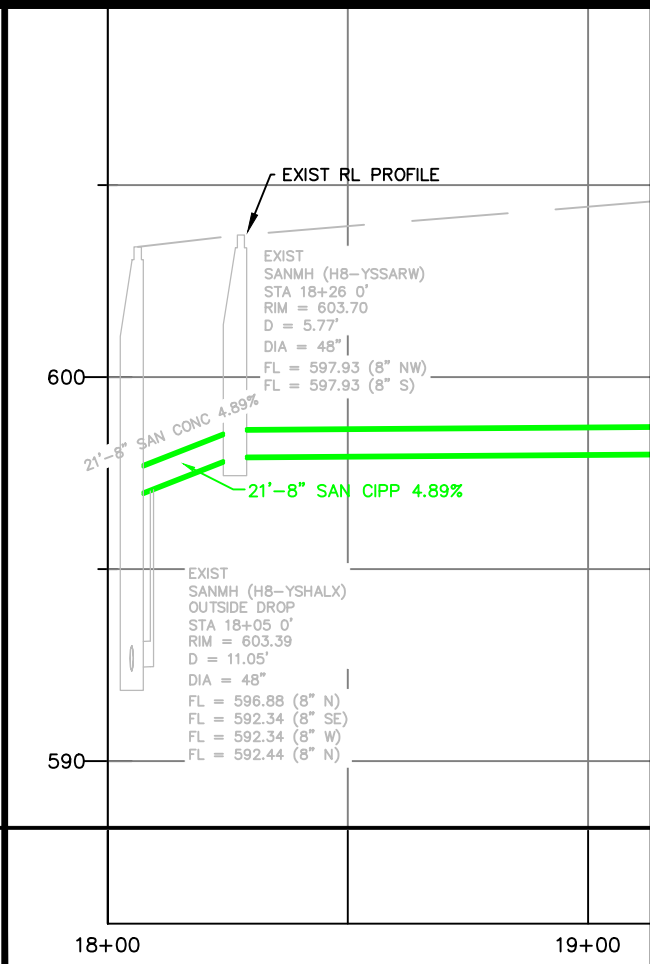
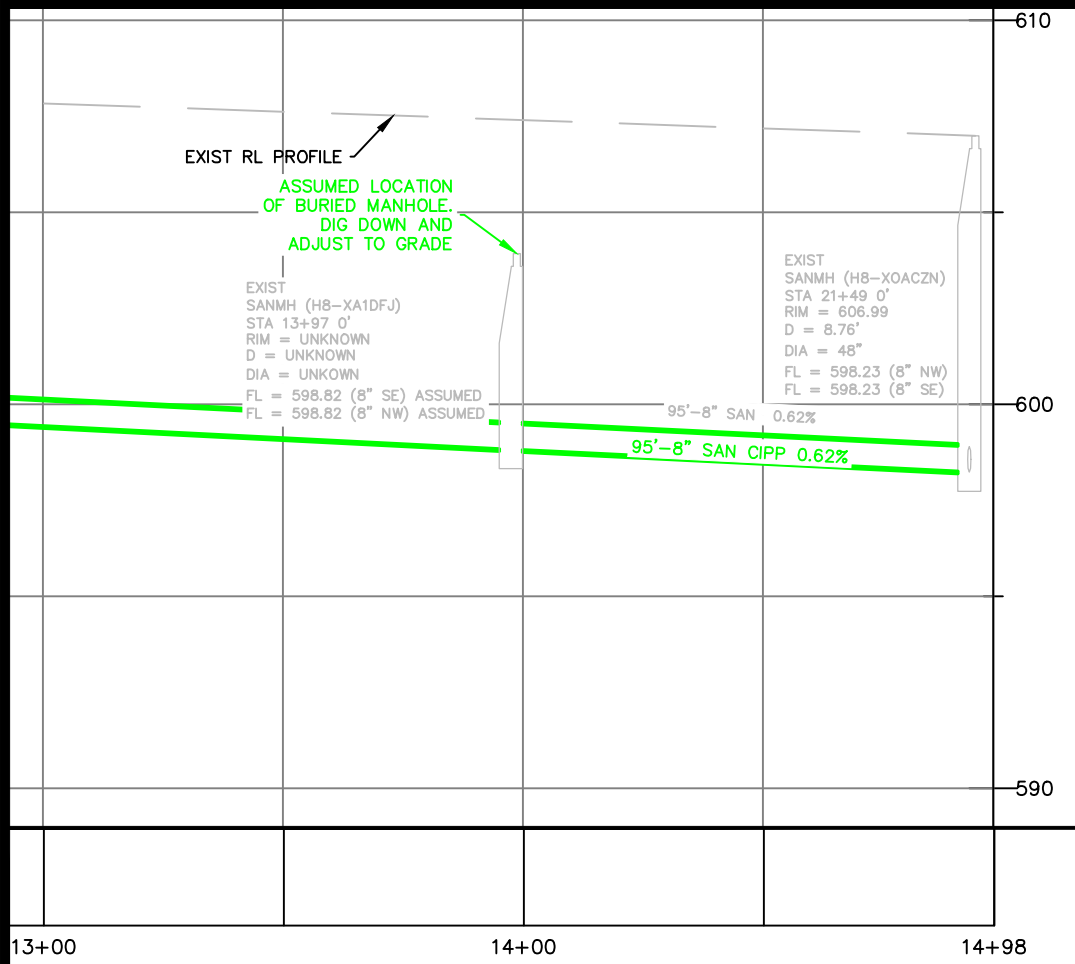
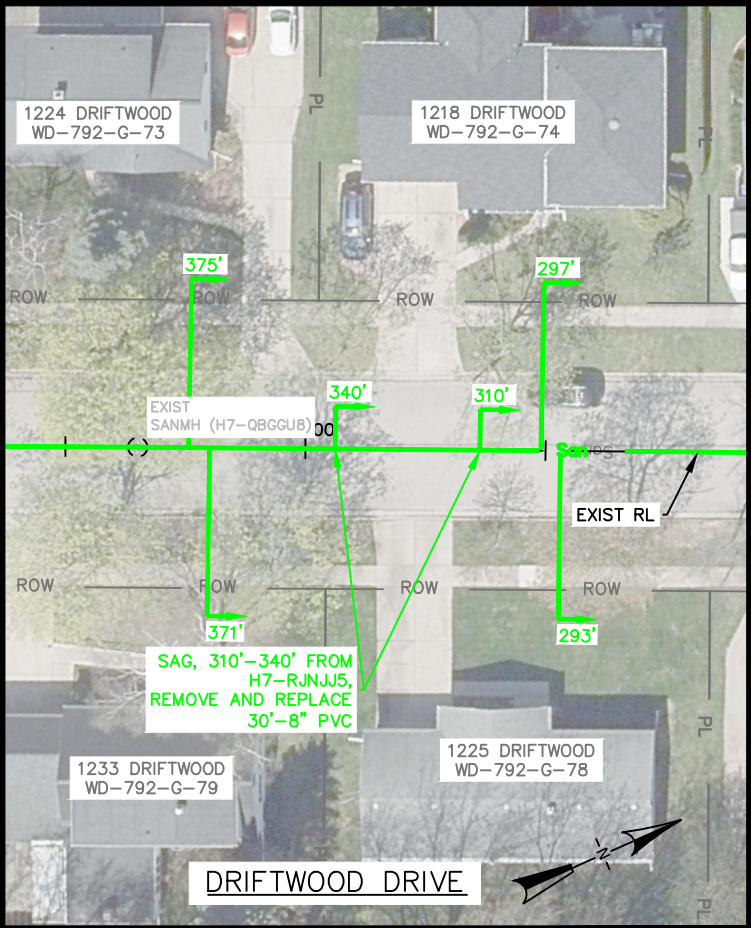
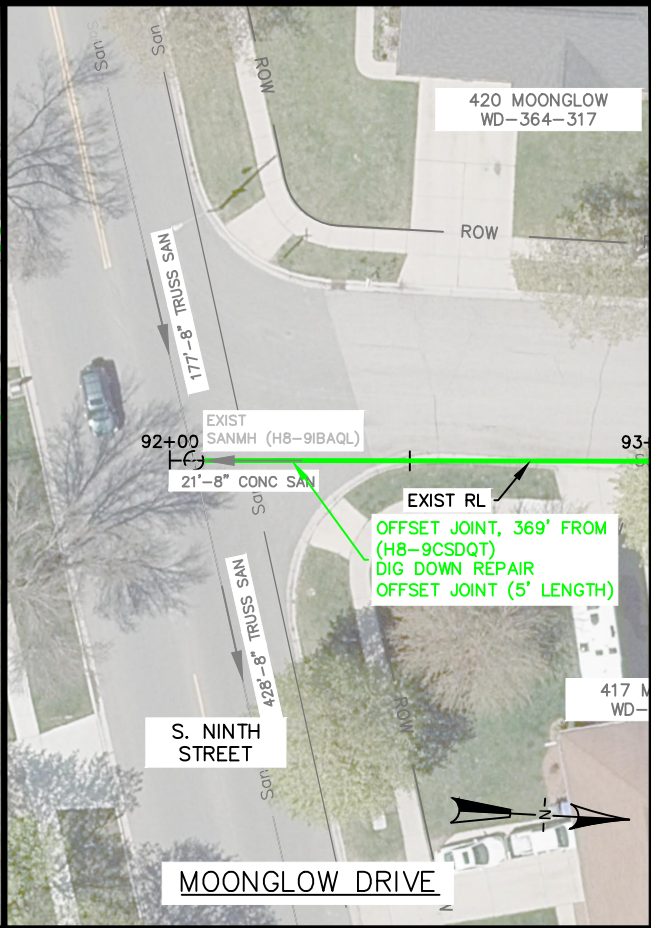
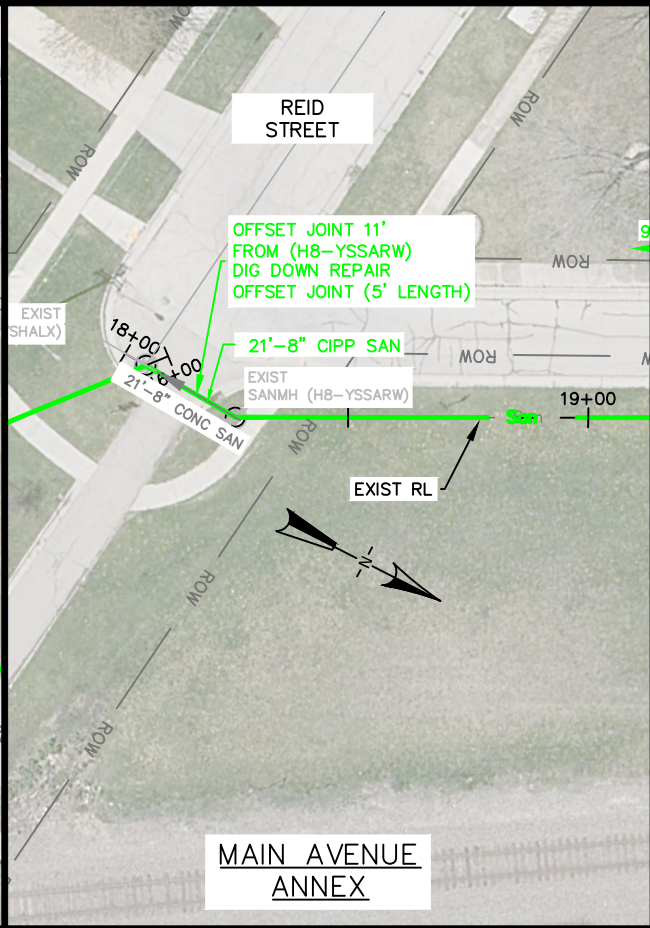
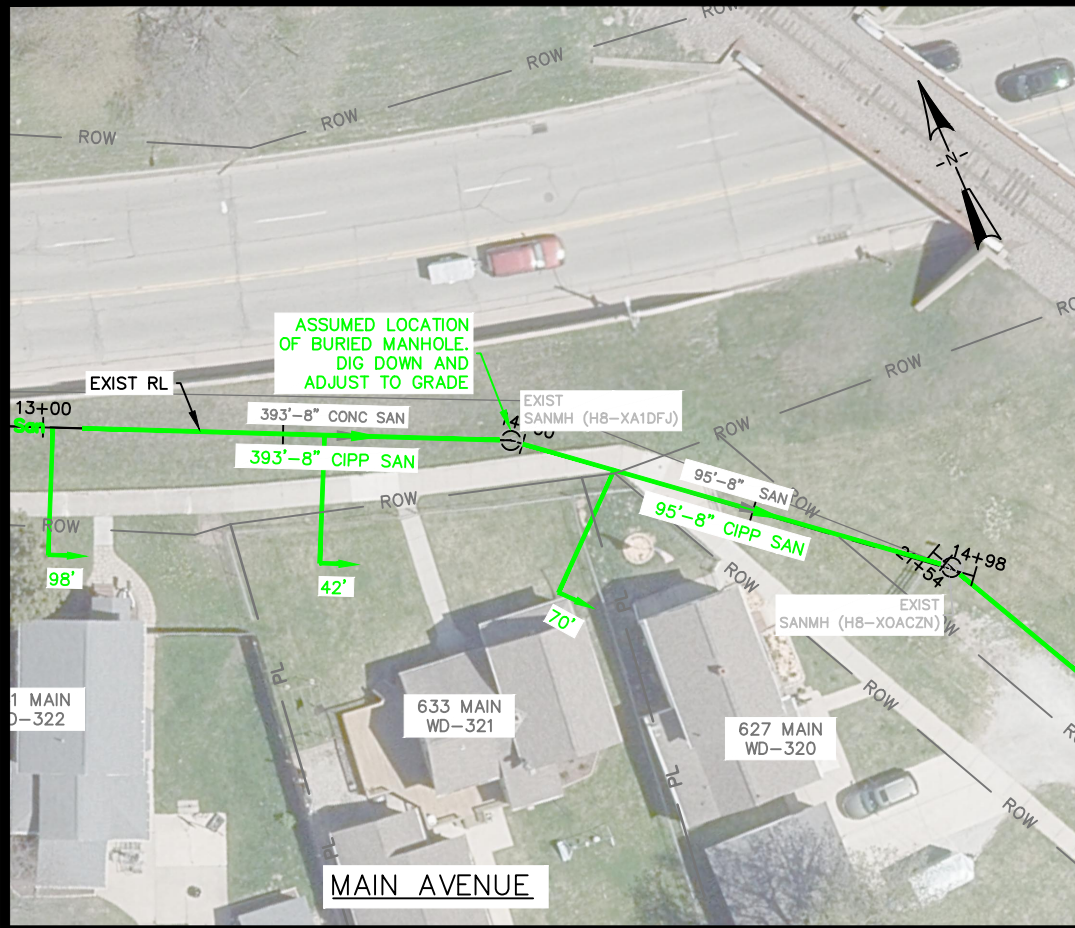
**BRAISHER PARK
STORM SEWER**

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

		REVISIONS / ISSUES			
SURVEYED	BY	DATE	NO.	DATE	REMARKS
DRAWN	MJT	01-2023			
DESIGNED	MJT	01-2023			
CHECKED	EPR	01-2023			

PAGE NO.
C122

X:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\Braisher Park\Braisher Park_P&P.dwg



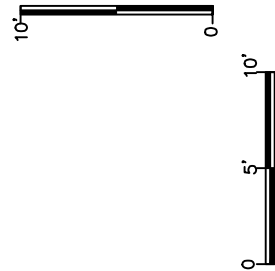


REID STREET **CROSS SECTIONS**

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE
NO.
C301





CITY OF DE PERE

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

REID STREET
CROSS SECTIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

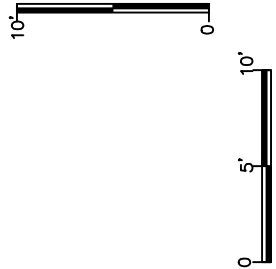
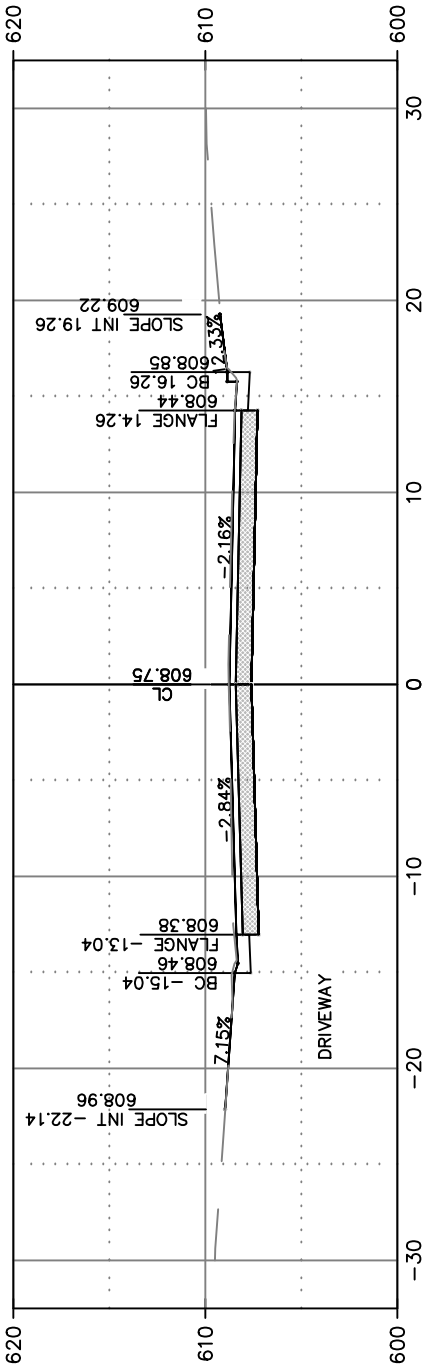
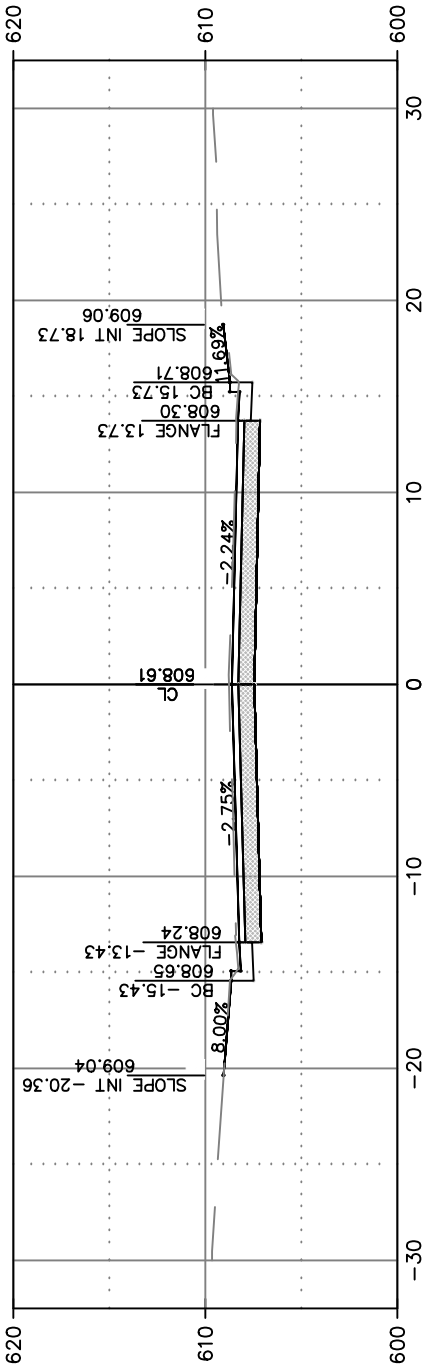
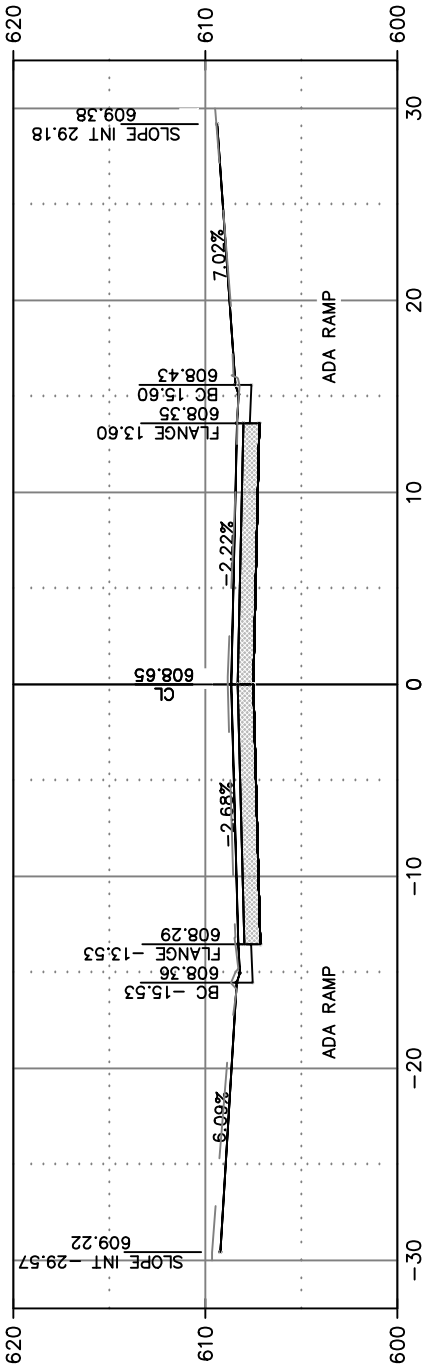
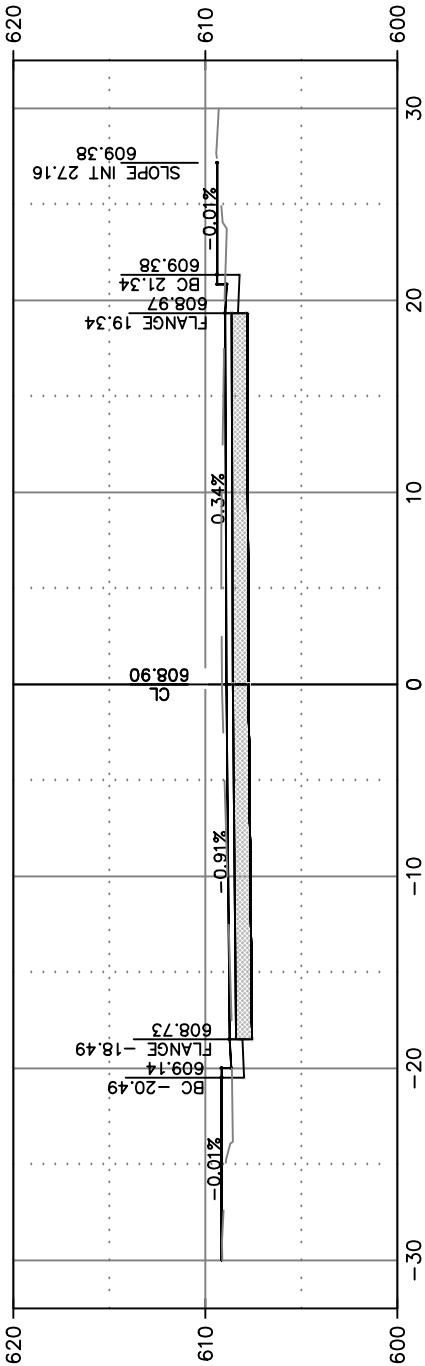
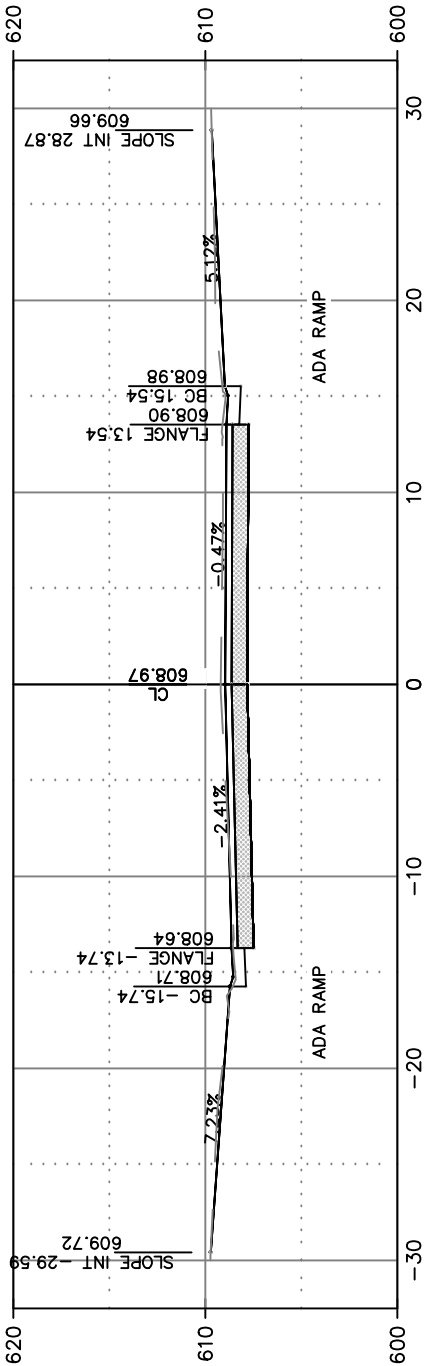
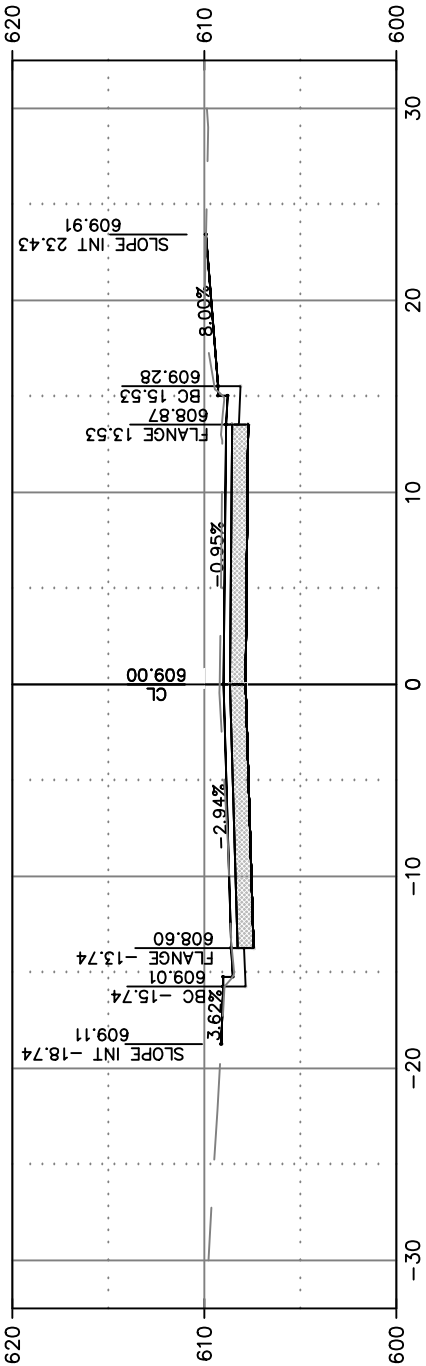
23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.

C302





CITY OF DE PERE

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

REID STREET
CROSS SECTIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

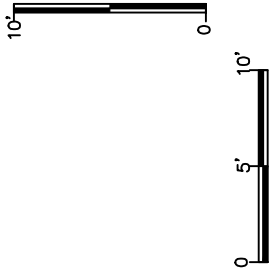
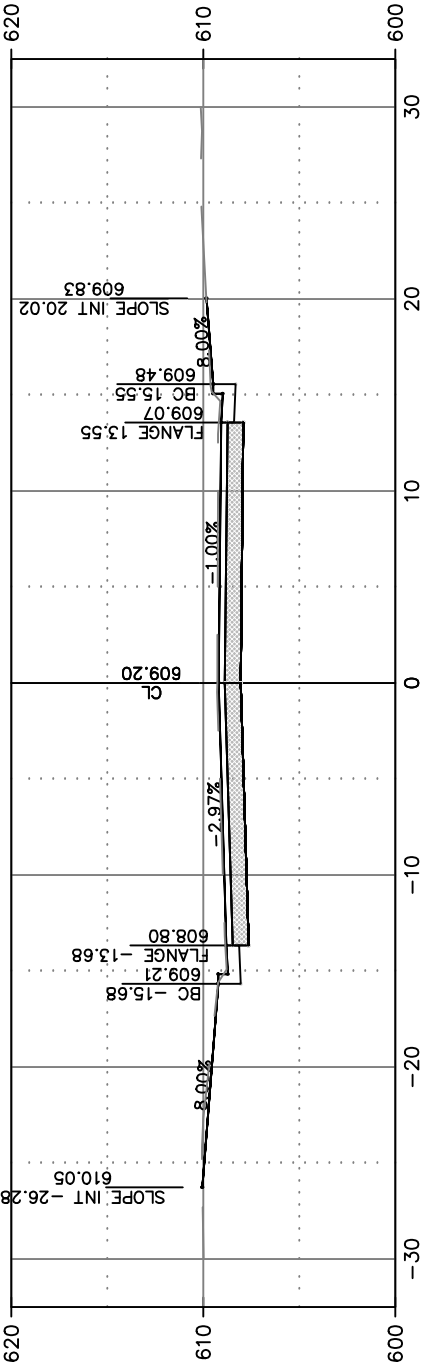
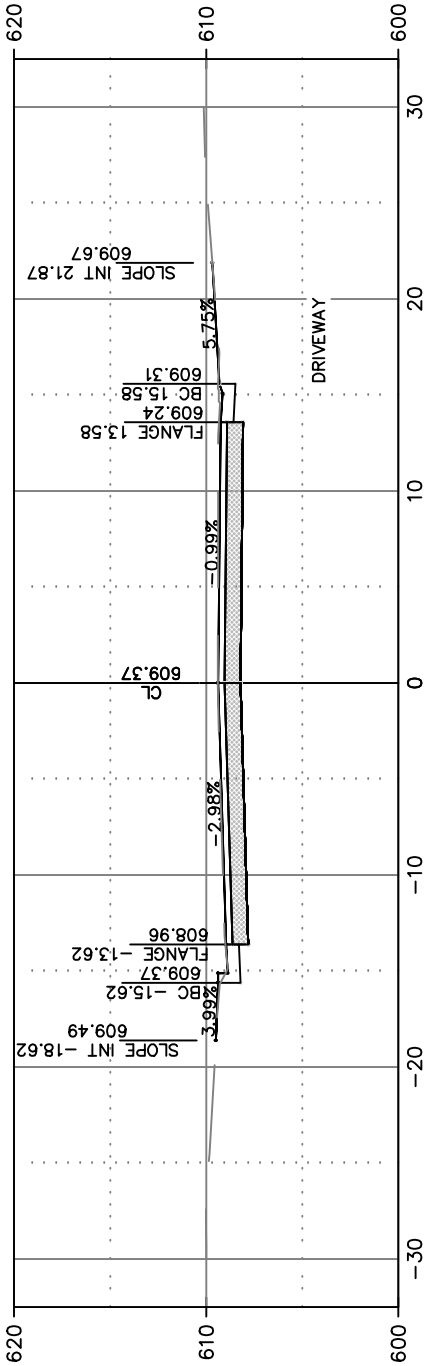
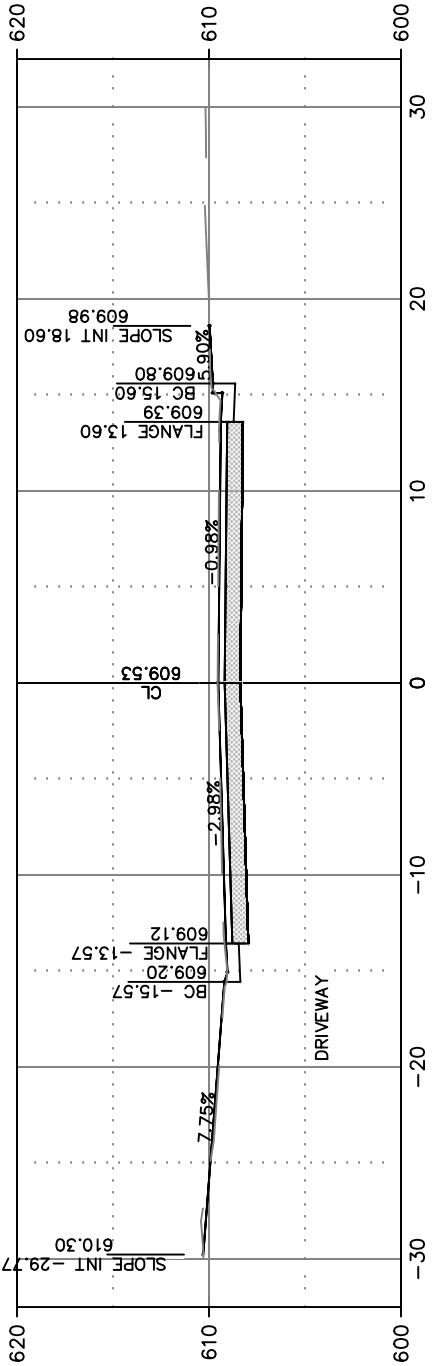
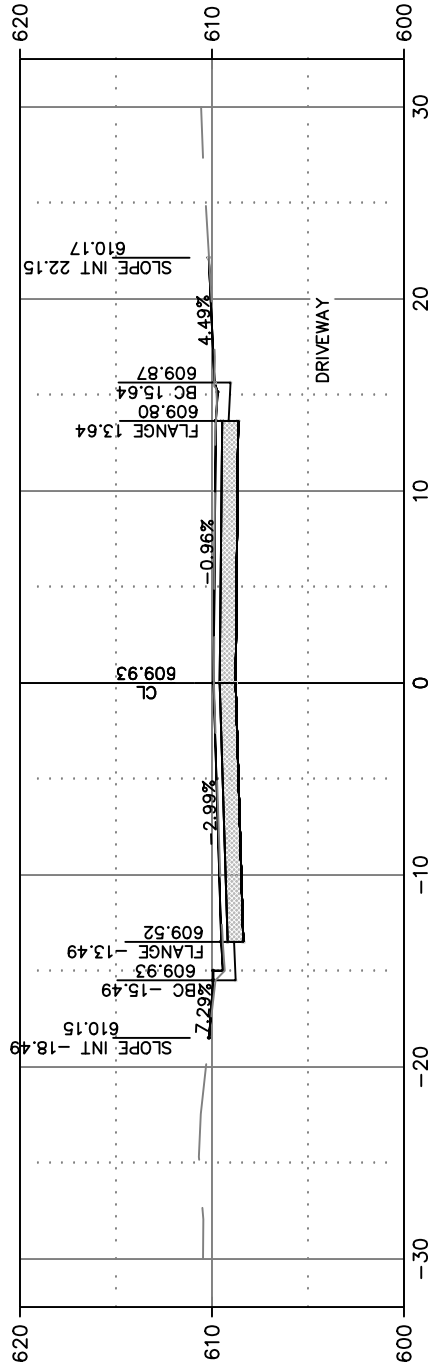
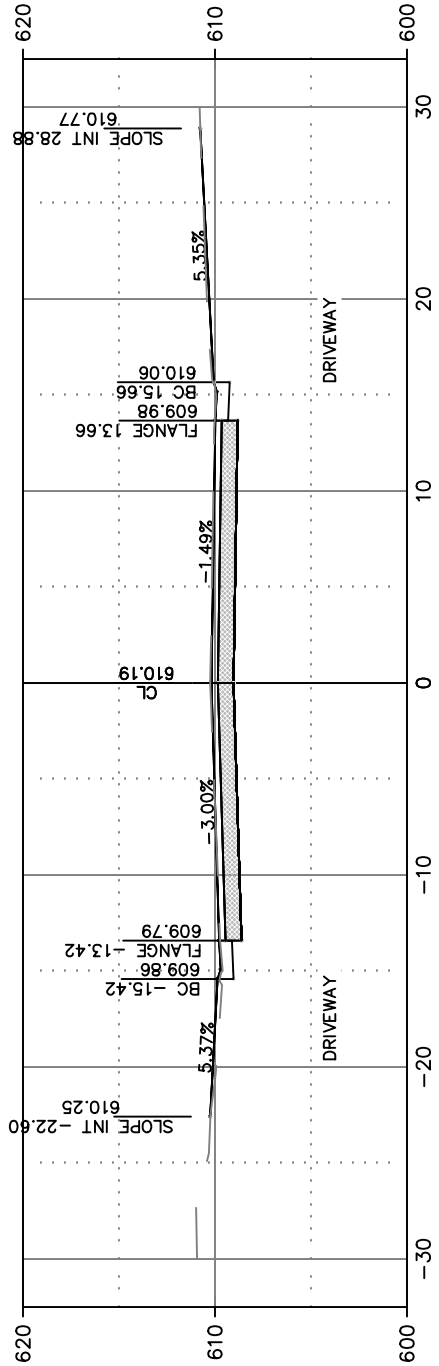
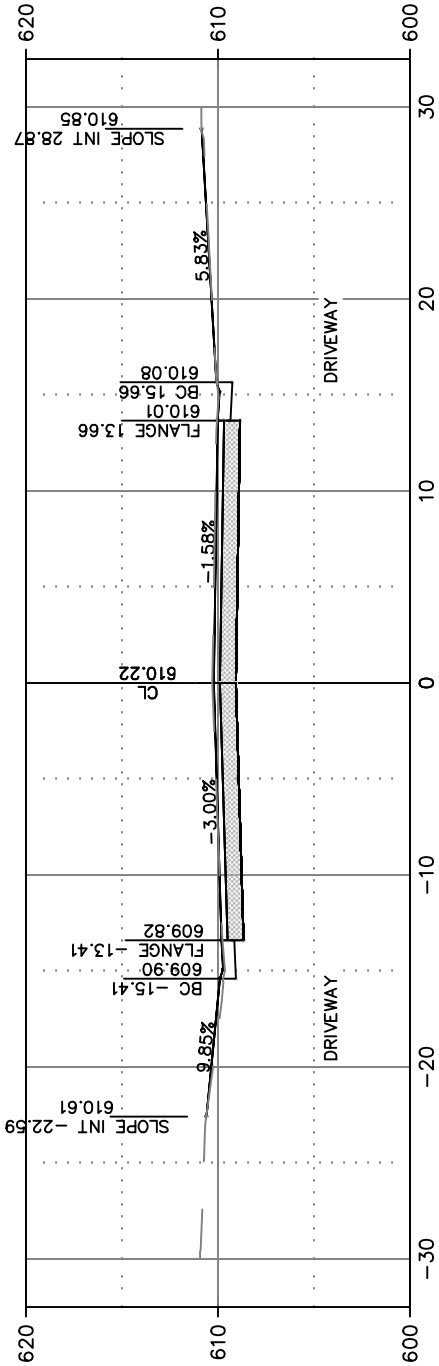
23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.

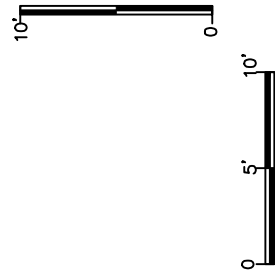
C303





REID STREET CROSS SECTIONS

PAGE
NO.
C304



CITY OF DE PERE

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

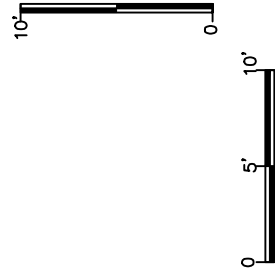
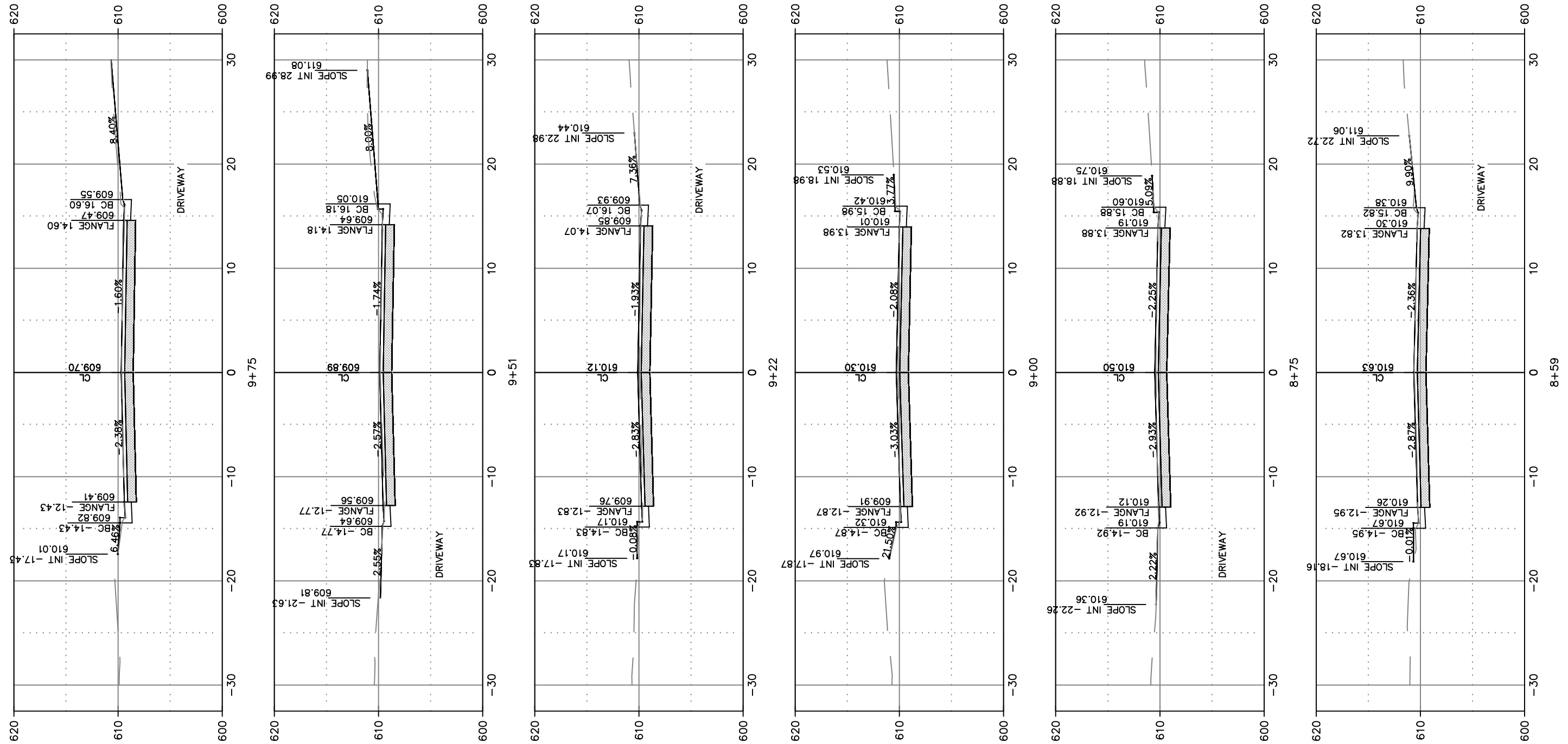
REID STREET CROSS SECTIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS
22			
22			
23			
23			

PAGE
NO.
C305





CITY OF DE PERE

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

REID STREET
CROSS SECTIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

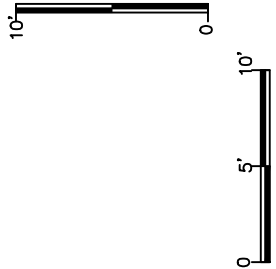
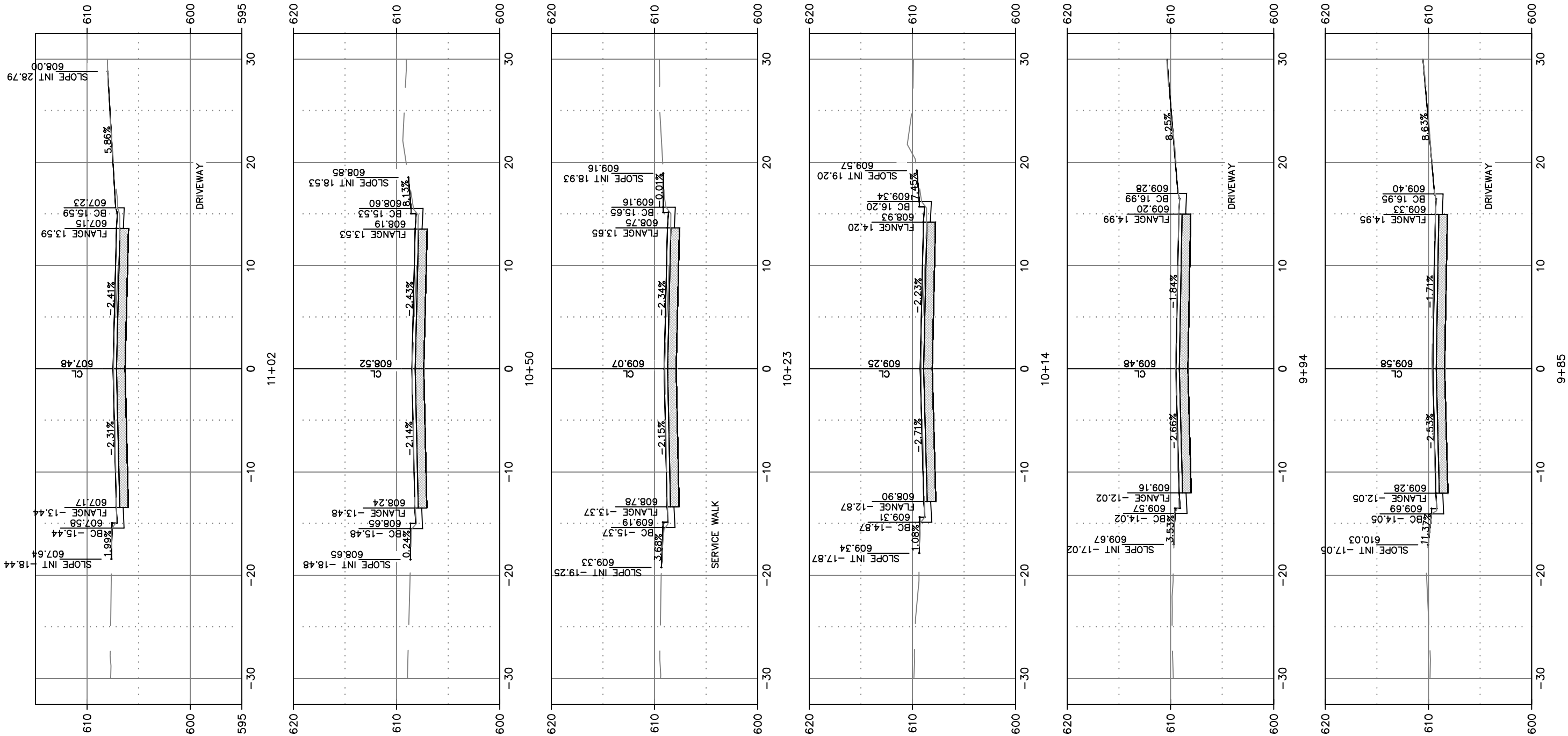
23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.

C306





CITY OF DE PERE

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

REID STREET
CROSS SECTIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

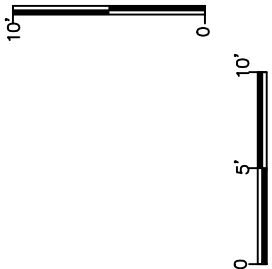
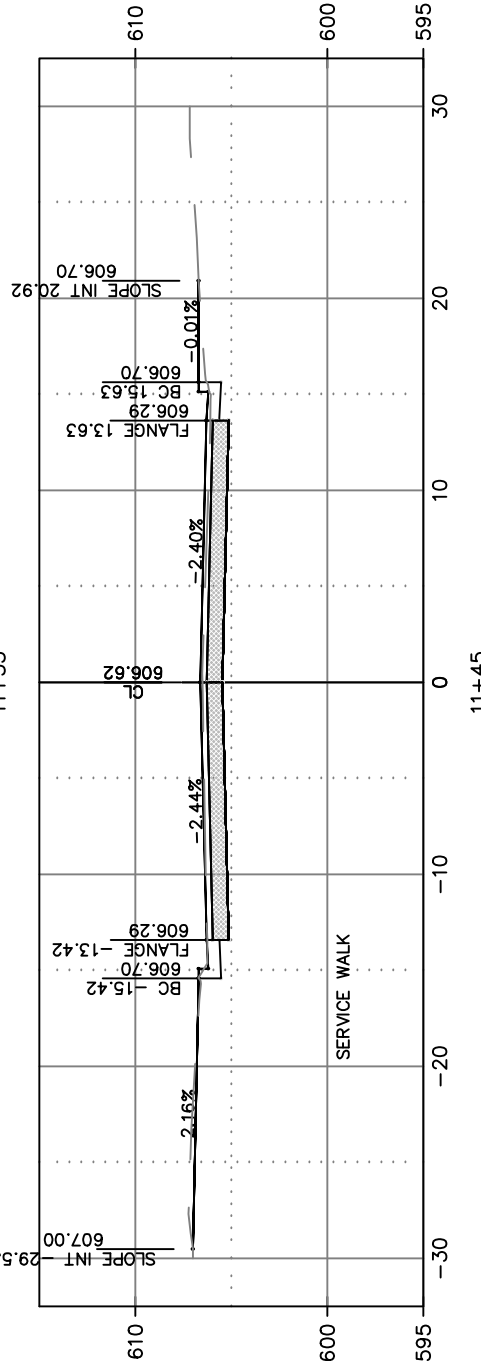
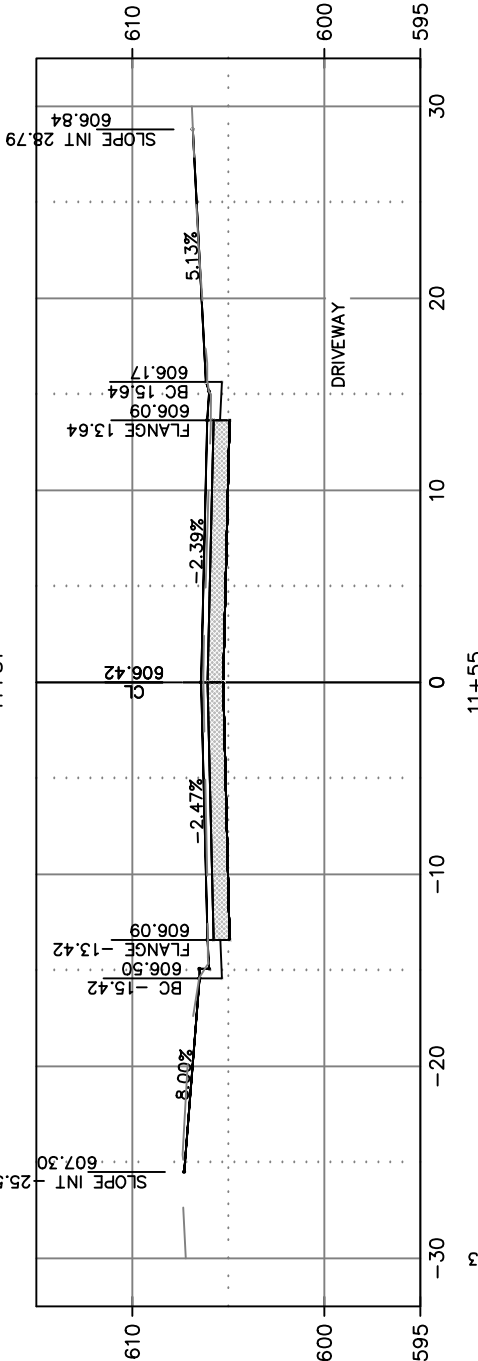
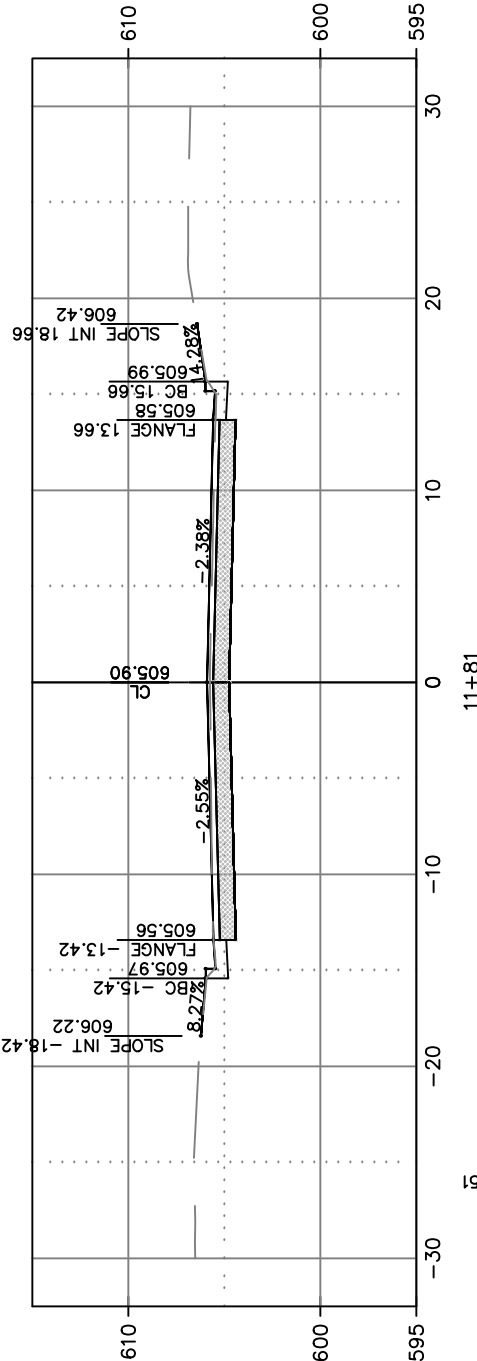
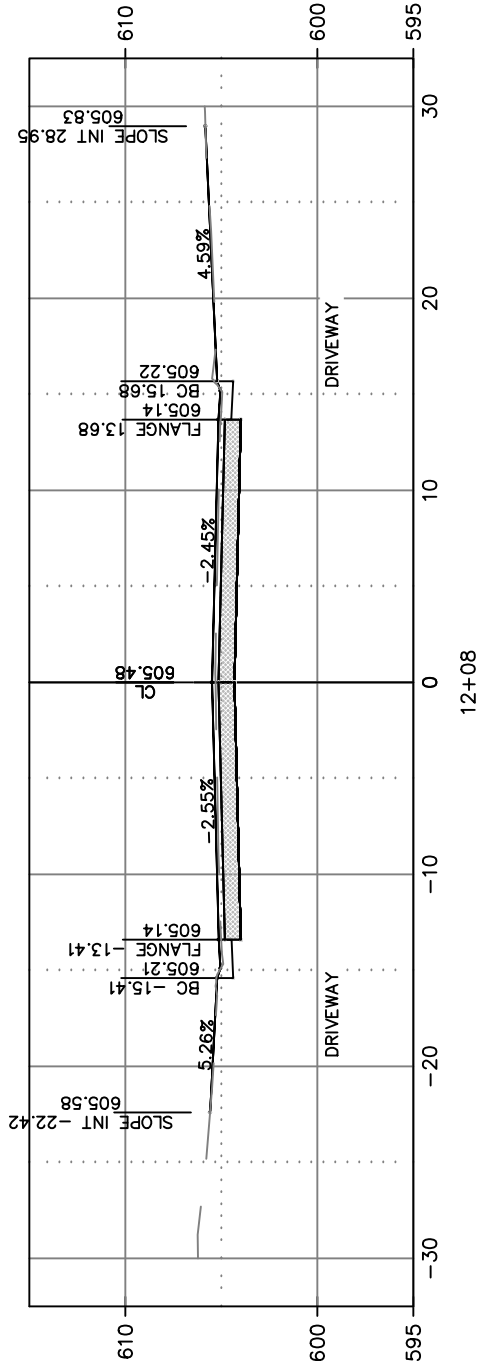
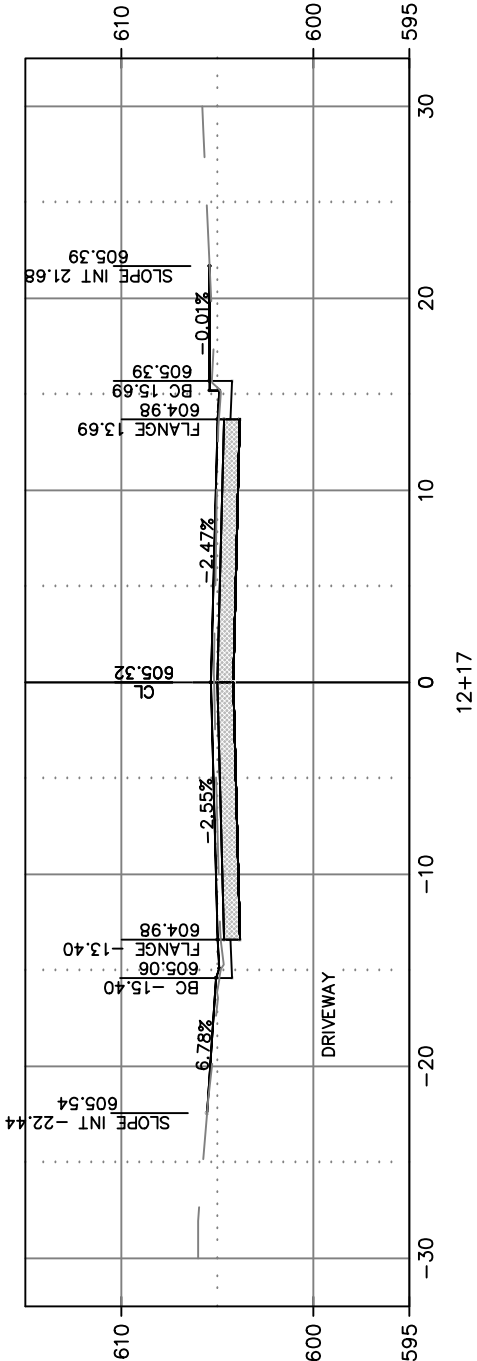
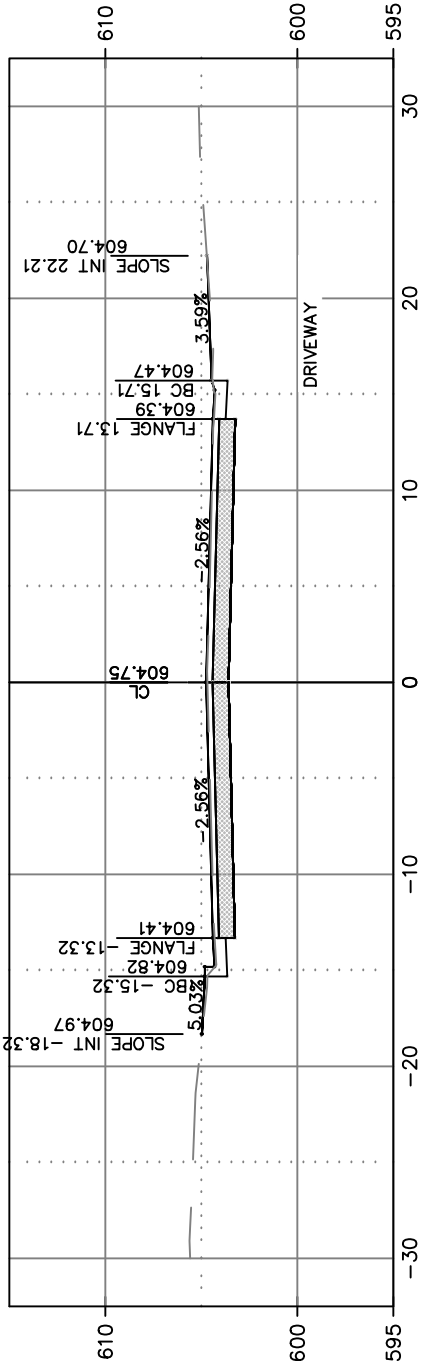
23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.

C307





CITY OF DE PERE

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

REID STREET
CROSS SECTIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

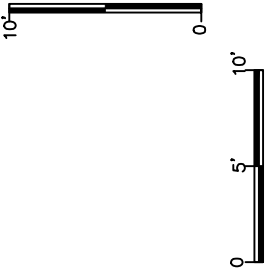
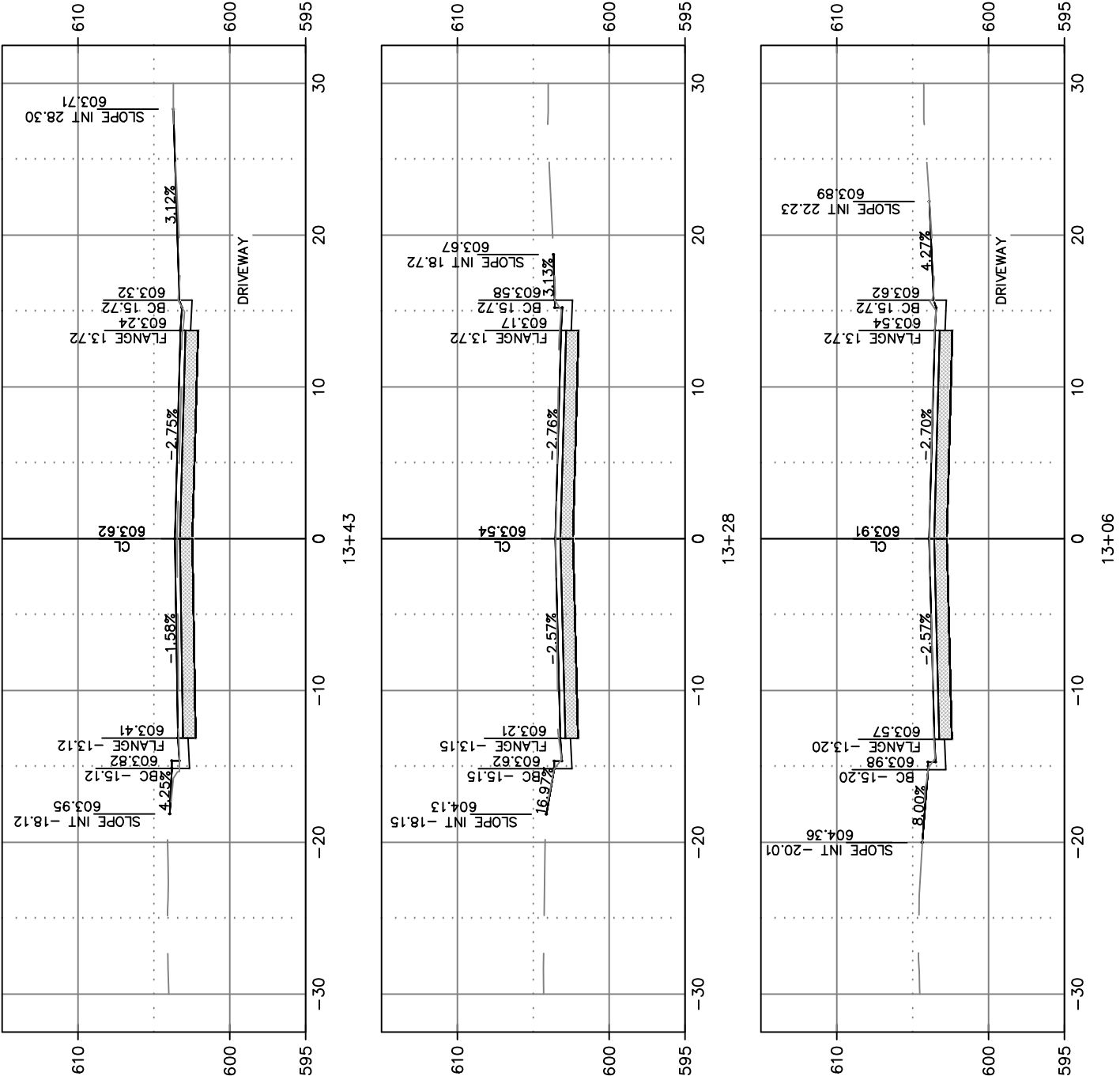
23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	12-2022
DESIGNED	BK/KAD	02-2023
CHECKED	CKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO.

C308





CITY OF DE PERE

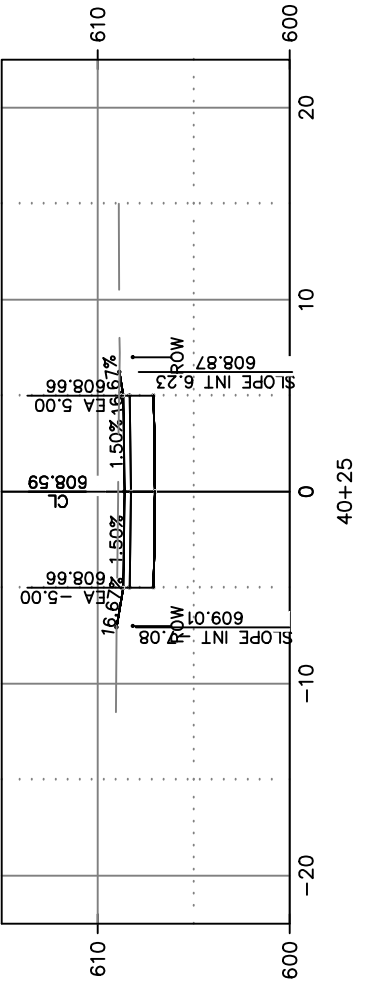
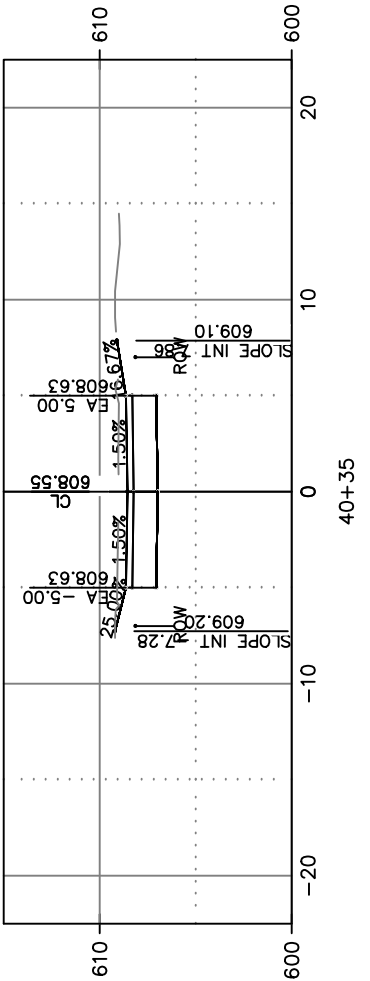
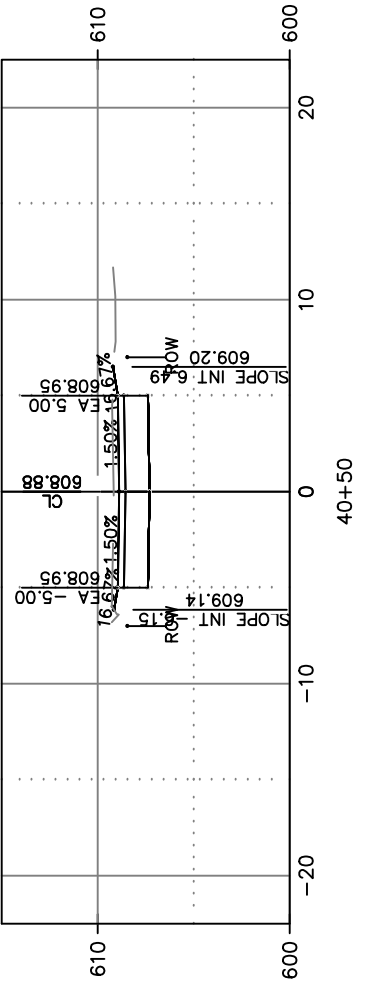
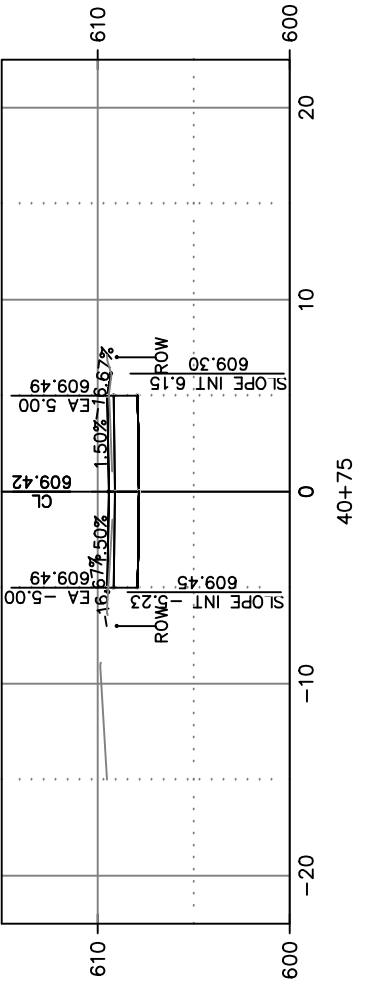
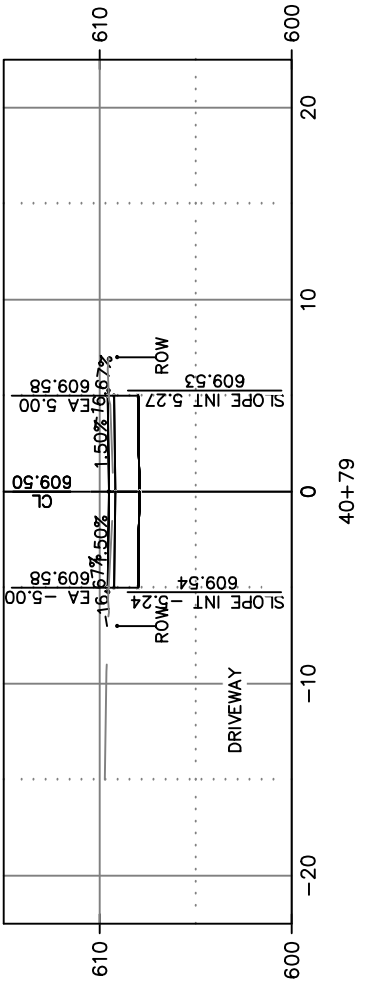
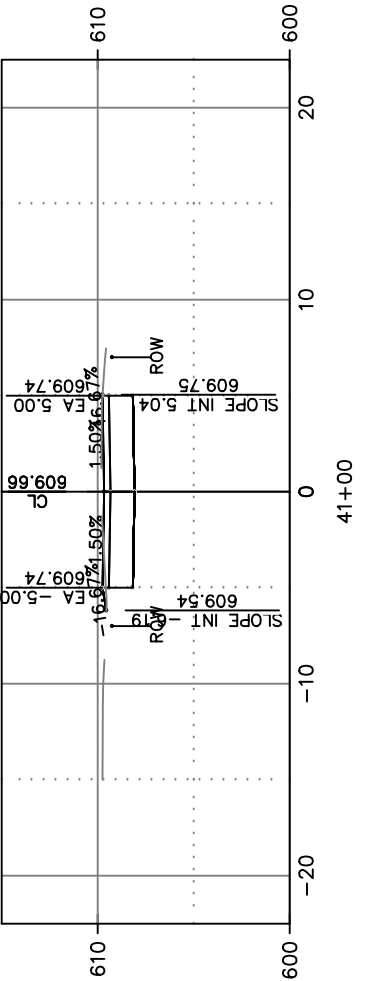
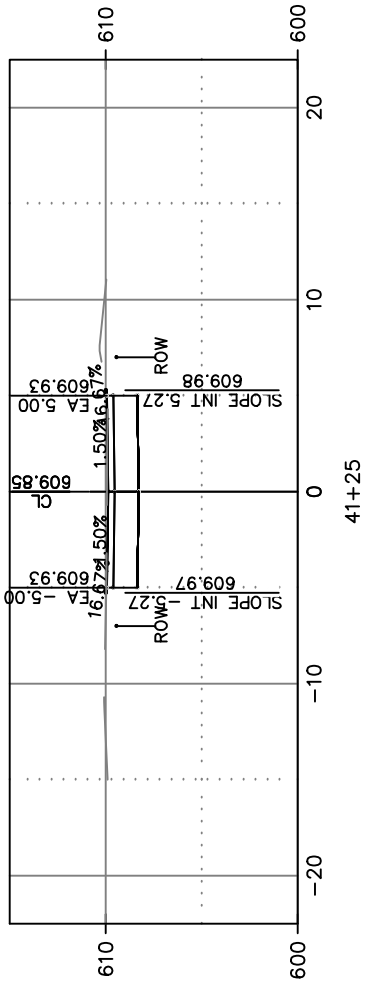
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

MAIN AVE ALLEY
CROSS SECTIONS

NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

SURVEYED	BY MAC	DATE 12-2022
DRAWN	BK/KAD	03-2023
DESIGNED	BK/KAD	03-2023
CHECKED	CHK	03-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS





CITY OF DE PERE

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

MAIN AVE ALLEY
CROSS SECTIONS

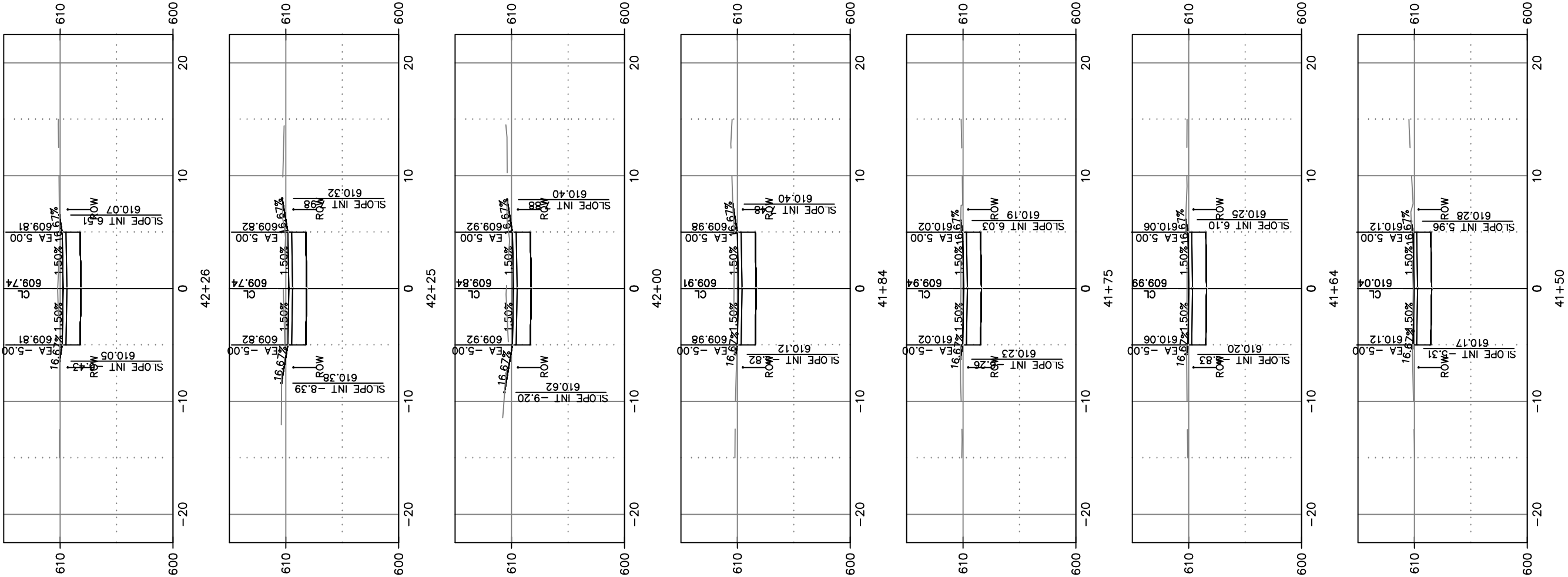
NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

SURVEYED	BY MAC	DATE 12-2022
DRAWN	BK/KAD	03-2023
DESIGNED	BK/KAD	03-2023
CHECKED	CKK	03-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE
NO.

C310





CITY OF DE PERE

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

TRAILSIDE STORM EASEMENT
CROSS SECTIONS
EXISTING

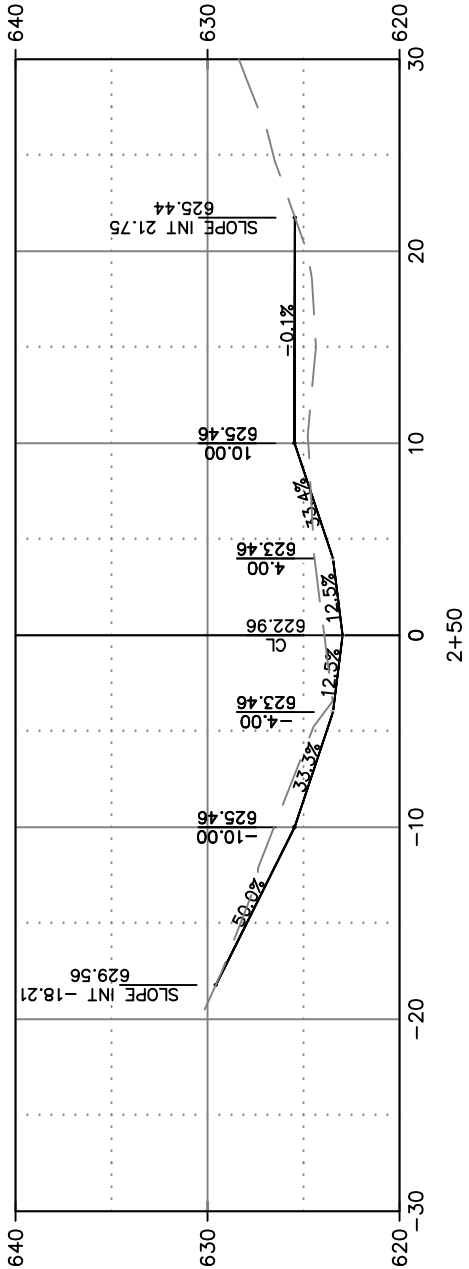
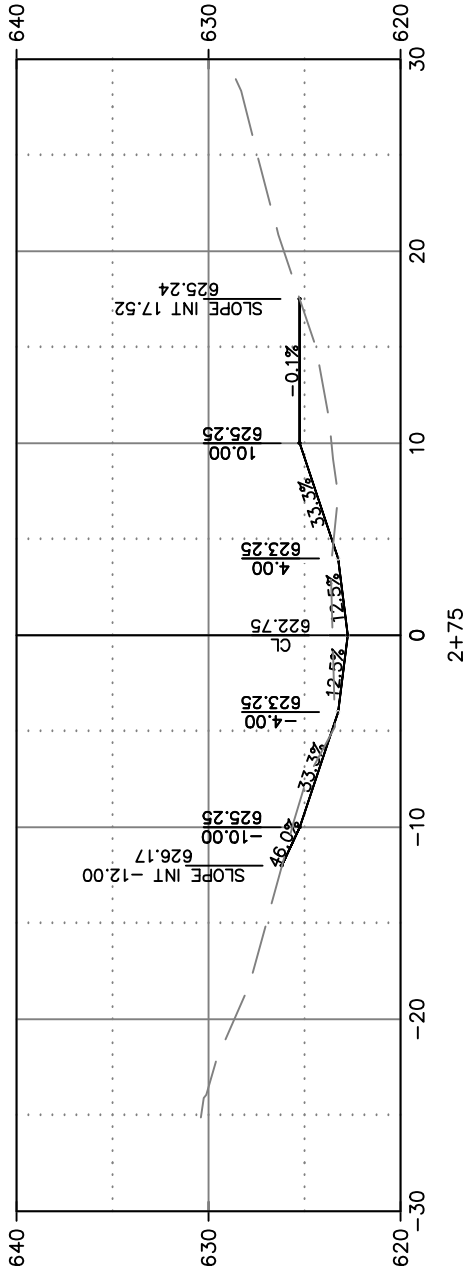
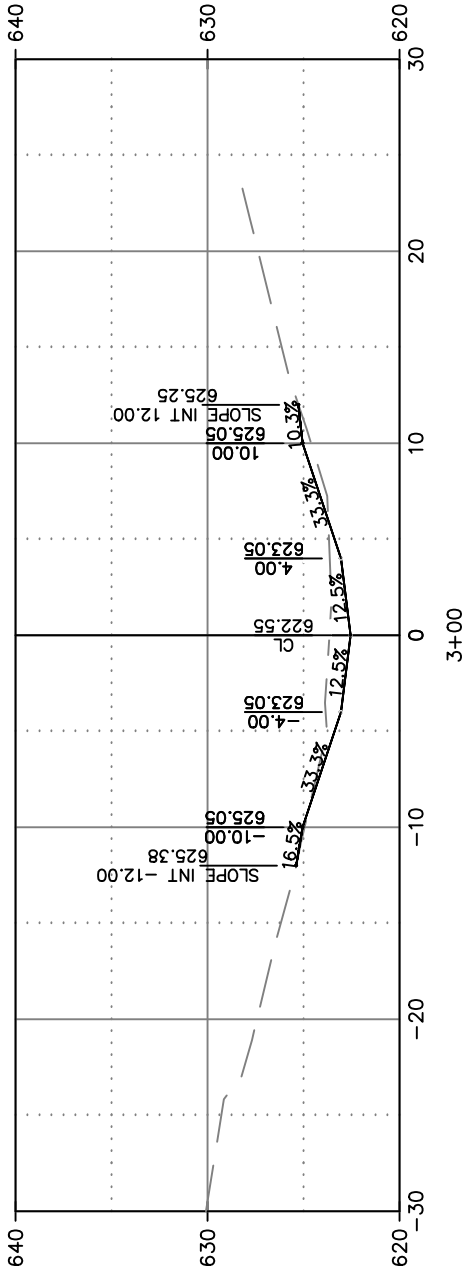
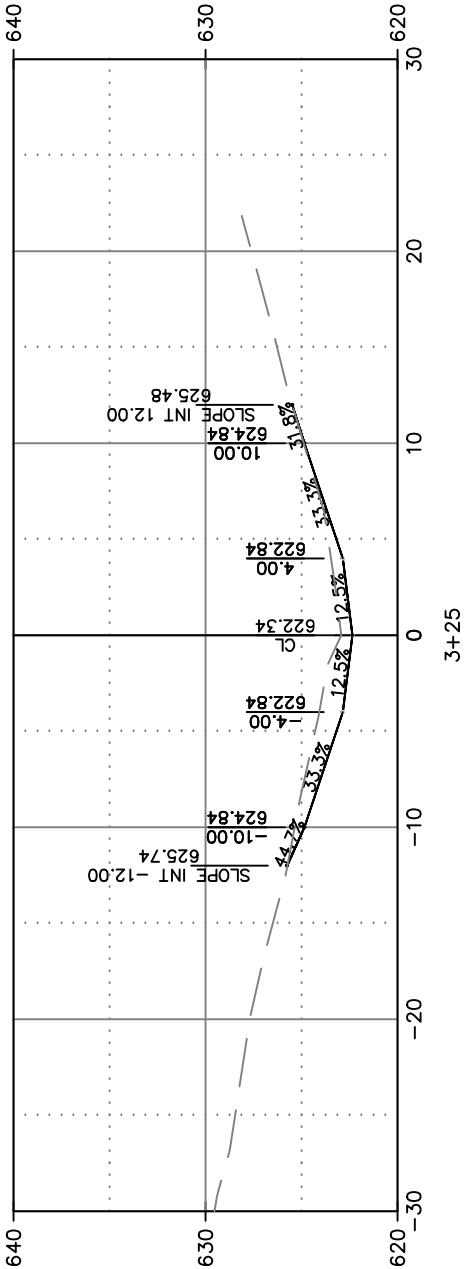
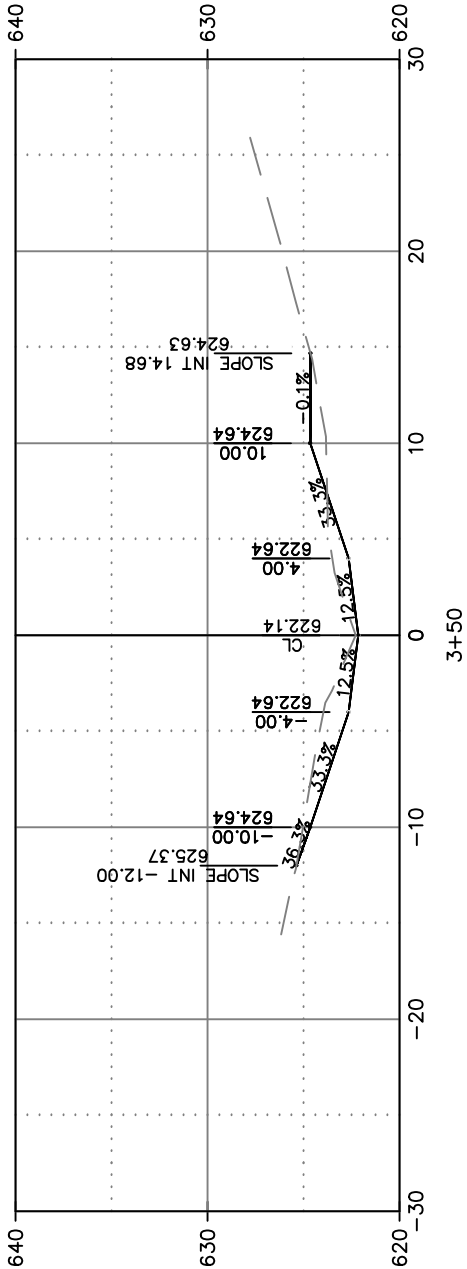
NAME:
SEWER & WATER RELAY
AND STREET RESURFACING
PROJECT #
23-01

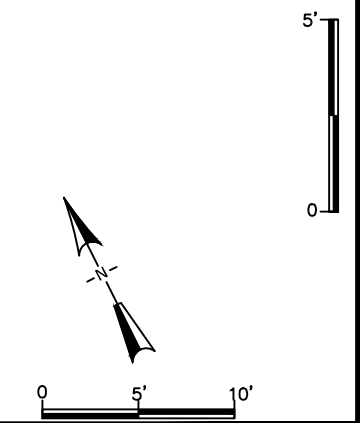
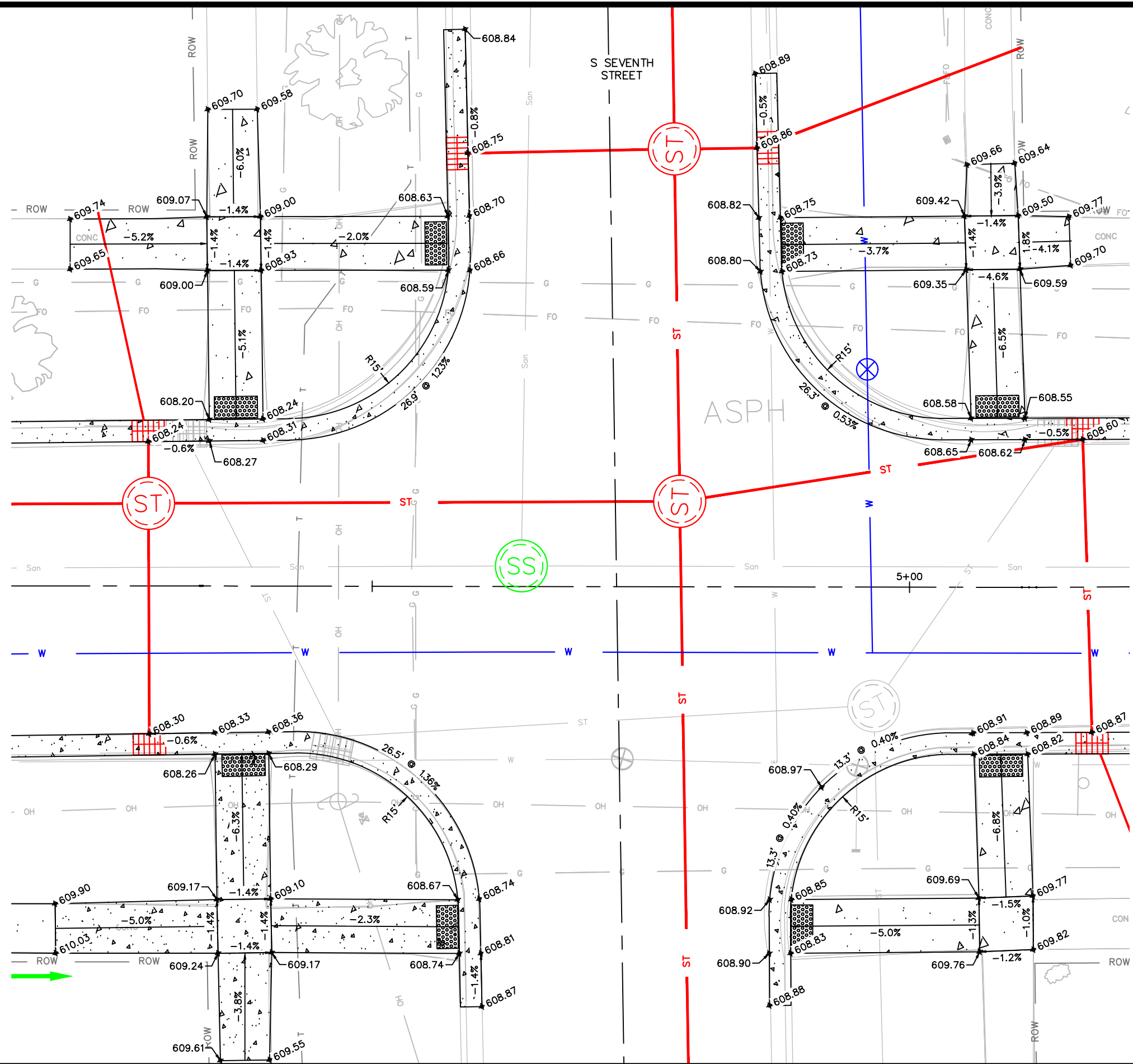
	BY	DATE
SURVEYED	MAL	03-2022
DRAWN	MAL	08-2022
DESIGNED	MJT	04-2023
CHECKED	EPR	04-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE
NO.

C311





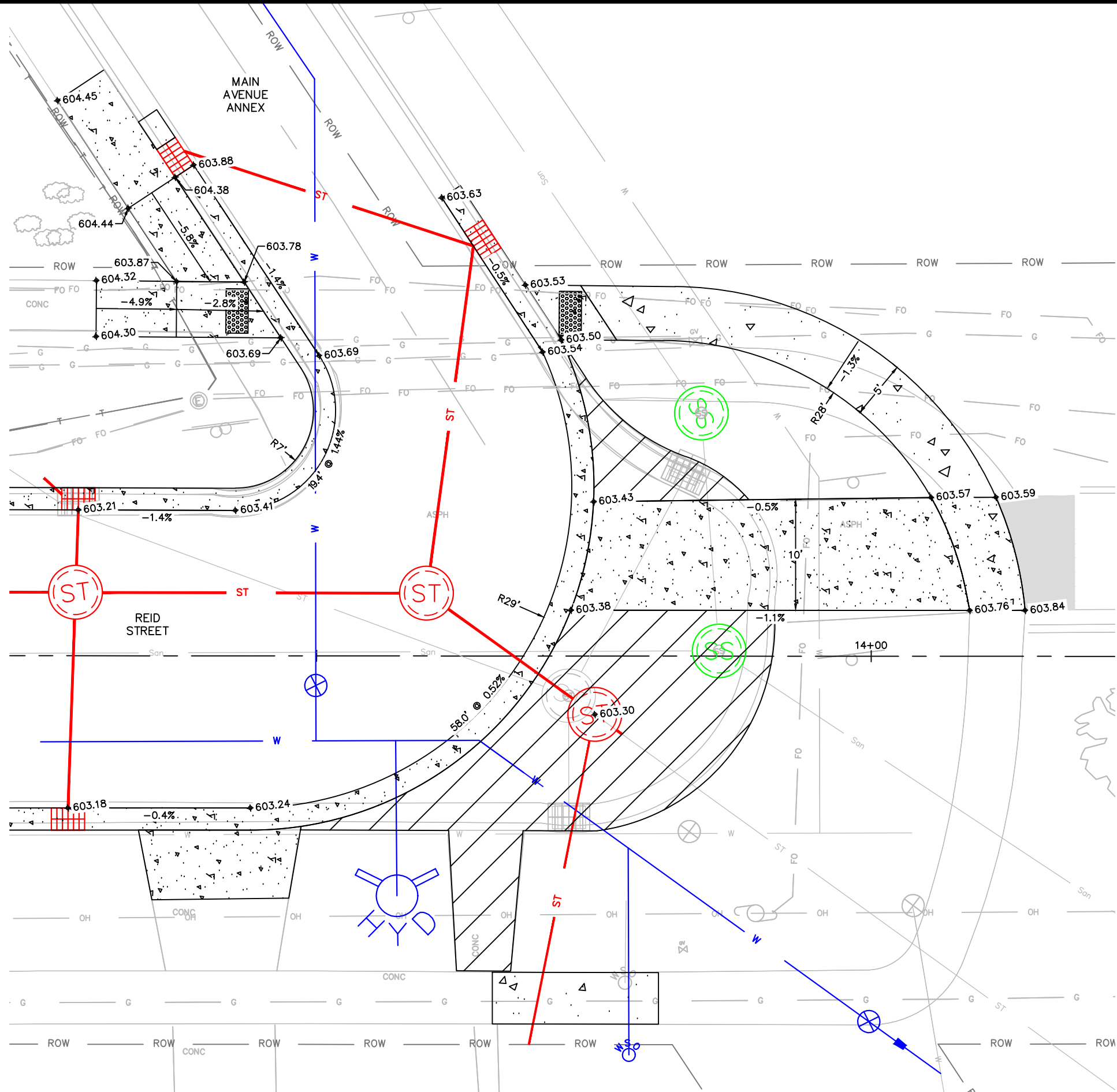
CITY OF DE PERE
 ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
 OFFICE 920-339-4061 FAX 920-339-4071

**REID STREET
 INTERSECTION DETAIL**

NAME: SEWER AND WATER RELAY
 AND STREET RESURFACING
 PROJECT # 23-01

		REVISIONS / ISSUES			
		NO.	DATE	BY	REMARKS
SURVEYED	MAC	12-2022			
DRAWN	BK/KAD	02-2023			
DESIGNED	BK/KAD	02-2023			
CHECKED	OKK	02-2023			

X:\ENG\Projects\City Projects\2023\Project 23-01 Sewer and Water Relay and Street Resurfacing\1200- CAD\Reid Street\REID_P&P.dwg



CITY OF DE PERE

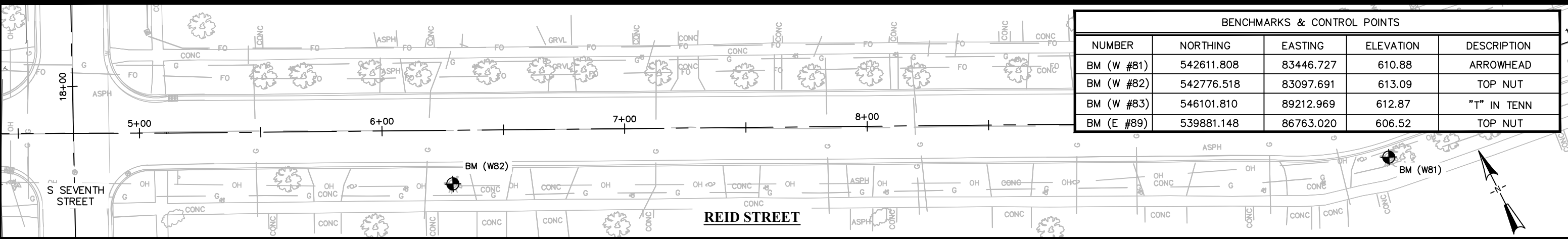
ENGINEERING DIVISION 925 S. SIXTH ST DE PERE WI 54115
OFFICE 920-339-4061 FAX 920-339-4071

**REID STREET AT MAIN AVENUE ANNEX
INTERSECTION DETAIL**

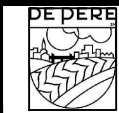
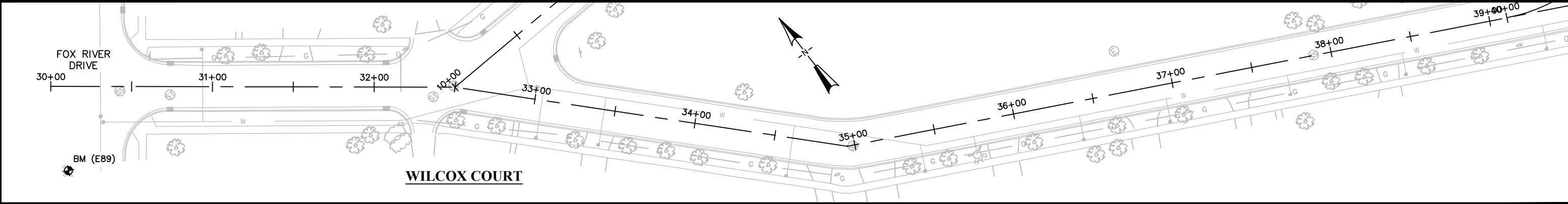
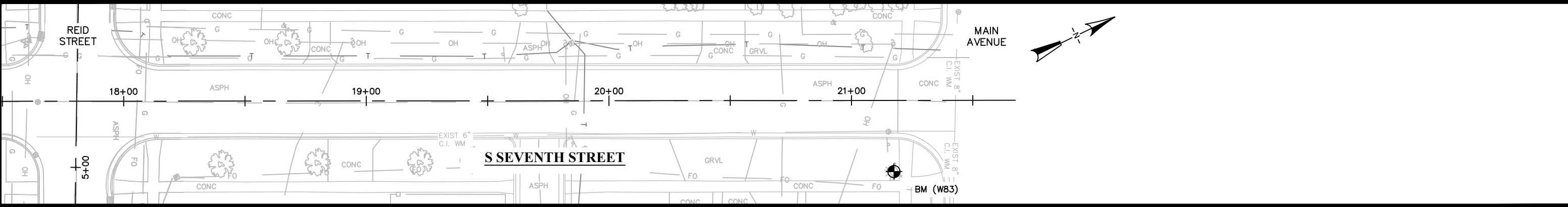
NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT # 23-01

	BY	DATE
SURVEYED	MAC	12-2022
DRAWN	BK/KAD	02-2023
DESIGNED	BK/KAD	02-2023
CHECKED	OKK	02-2023

REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS



BENCHMARKS & CONTROL POINTS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM (W #81)	542611.808	83446.727	610.88	ARROWHEAD
BM (W #82)	542776.518	83097.691	613.09	TOP NUT
BM (W #83)	546101.810	89212.969	612.87	"T" IN TENN
BM (E #89)	539881.148	86763.020	606.52	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

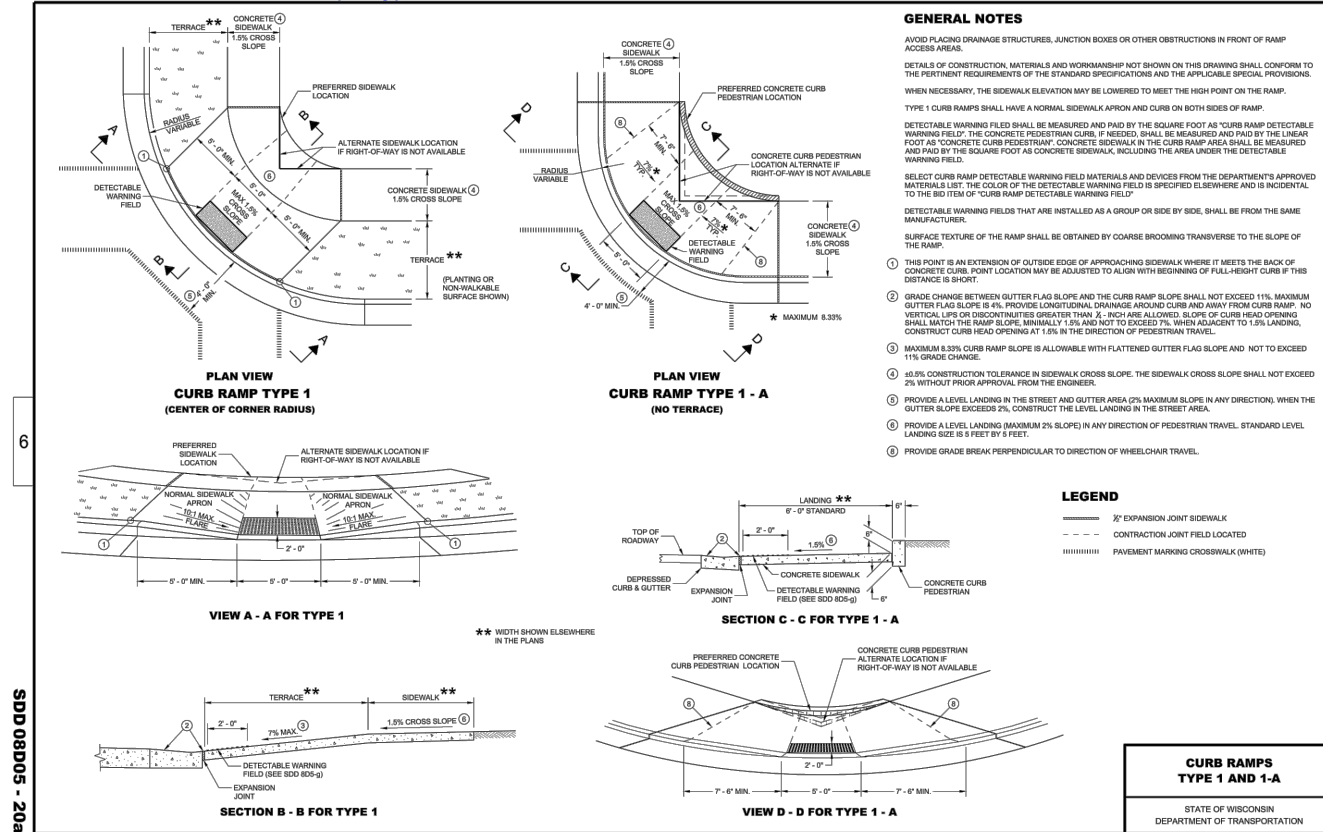
NAME:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

23-01

	BY	DATE
SURVEYED	MJT	2023
DRAWN	KAD	04-2023
DESIGNED		
CHECKED	CKK	04-2023

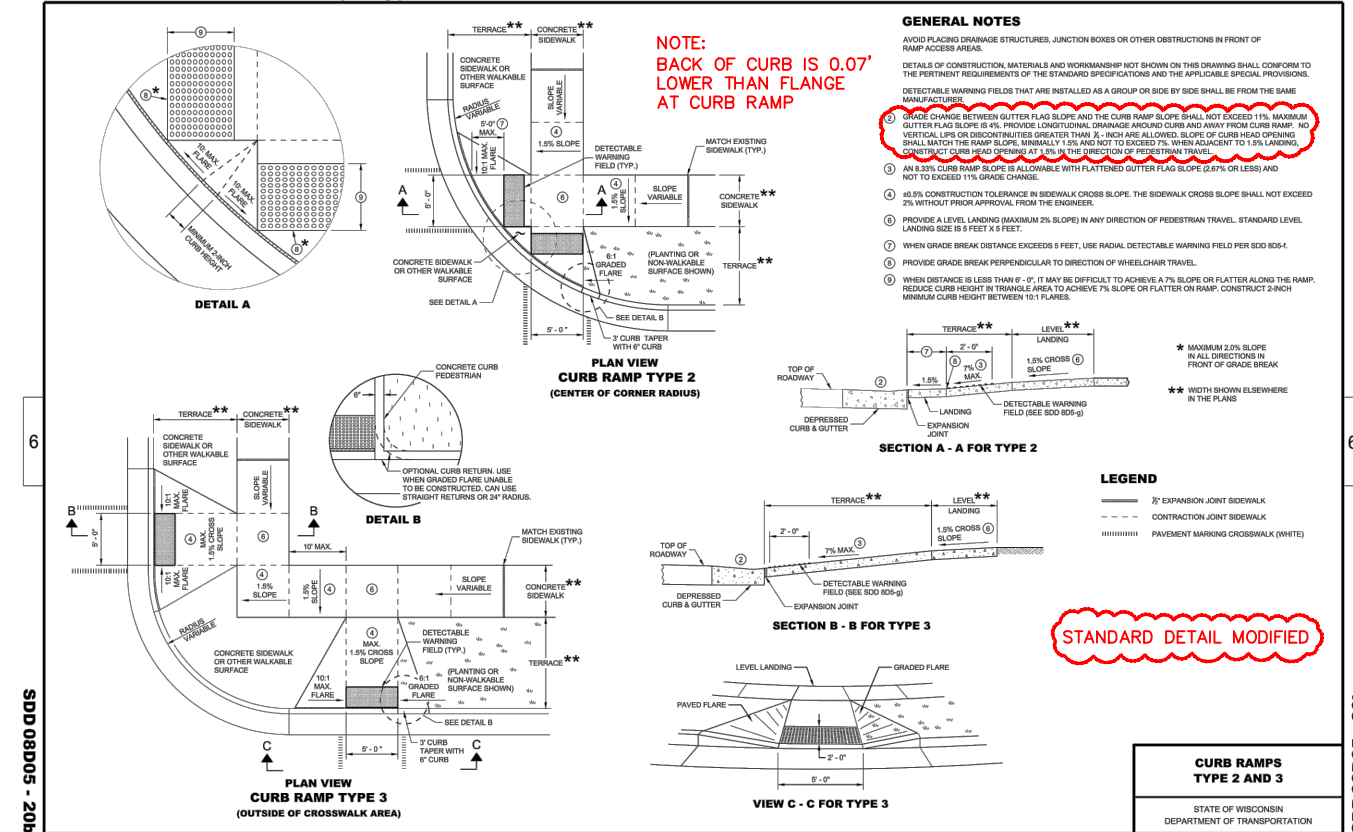
REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

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



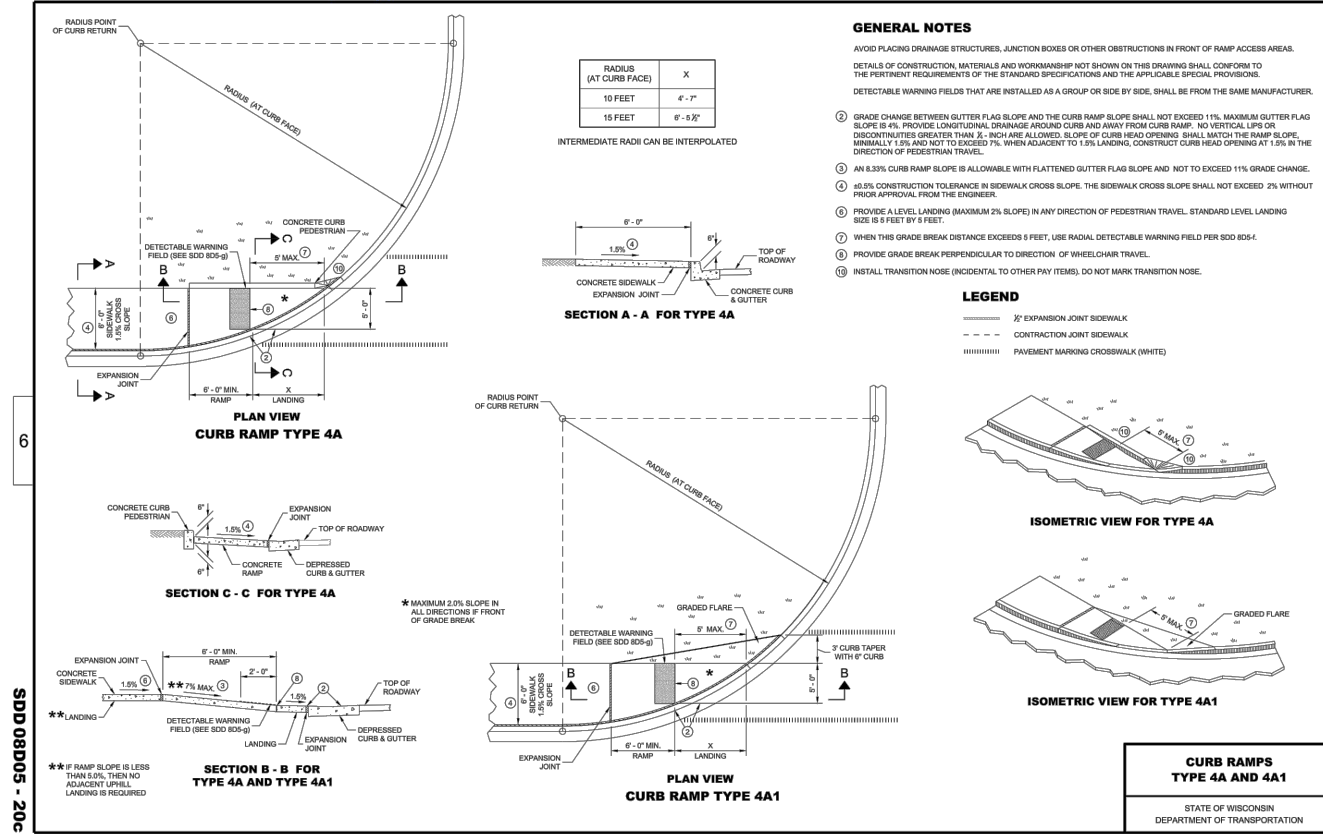
SDD 08D05 - 20a

SDD 08D05-b Curb Ramps Types 2 and 3



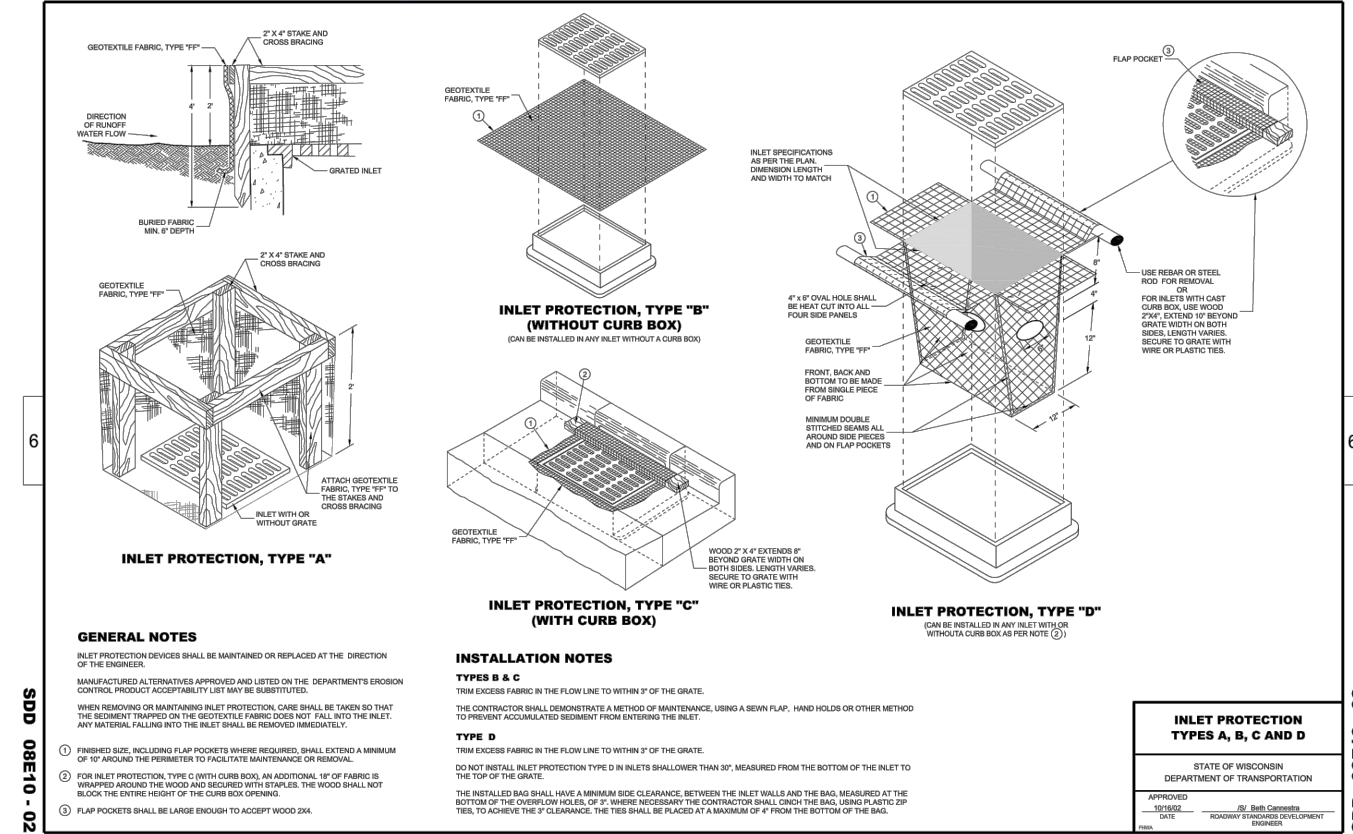
SDD 08D05 - 20b

SDD 08D05-c Curb Ramps Types 4A and 4A1



SDD 08D05 - 20c

SDD 08E10 Inlet Protection, Types A, B, C and D



SDD 08E10 - 02



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:
SEWER AND WATER RELAY
AND STREET RESURFACING
PROJECT #

23-01

BY	DATE
SURVEYED	
DRAWN	KAD
DESIGNED	
CHECKED	CKK

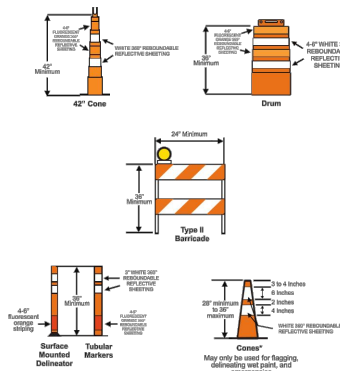
REVISIONS / ISSUES

NO.	DATE	BY	REMARKS

PAGE NO.

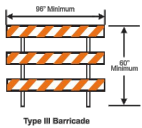
C501

Channelizing Devices



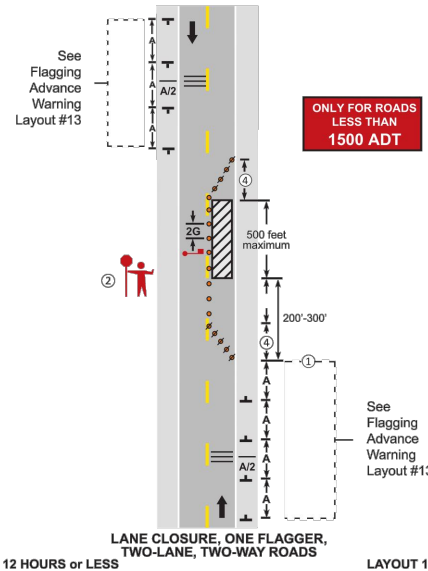
TYPE 3 BARRICADES

- Orange diagonals shall slope down toward the traffic side.
- Signs mounted on Type III barricades should not cover more than half of the top two rails or 33 percent of the total area of the three rails.
- Type A Flashing Warning Lights may be used - place on both side of barricade. Required for nighttime work or if device remaining overnight.



NOTES:

- The approach sight distance to the flagger shall be at least the Decision Sight Distance (D).
- If the flagger's ability to see oncoming motorists beyond the work space is less than the Decision Sight Distance (D), two flaggers shall be used.
- If the work space must be left unattended at night use Layout 12.
- The two-way taper should be 50 feet in length and using 5 equally spaced channelizing devices.
- END ROAD WORK sign should be placed 500 feet past work area.



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 (600 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.

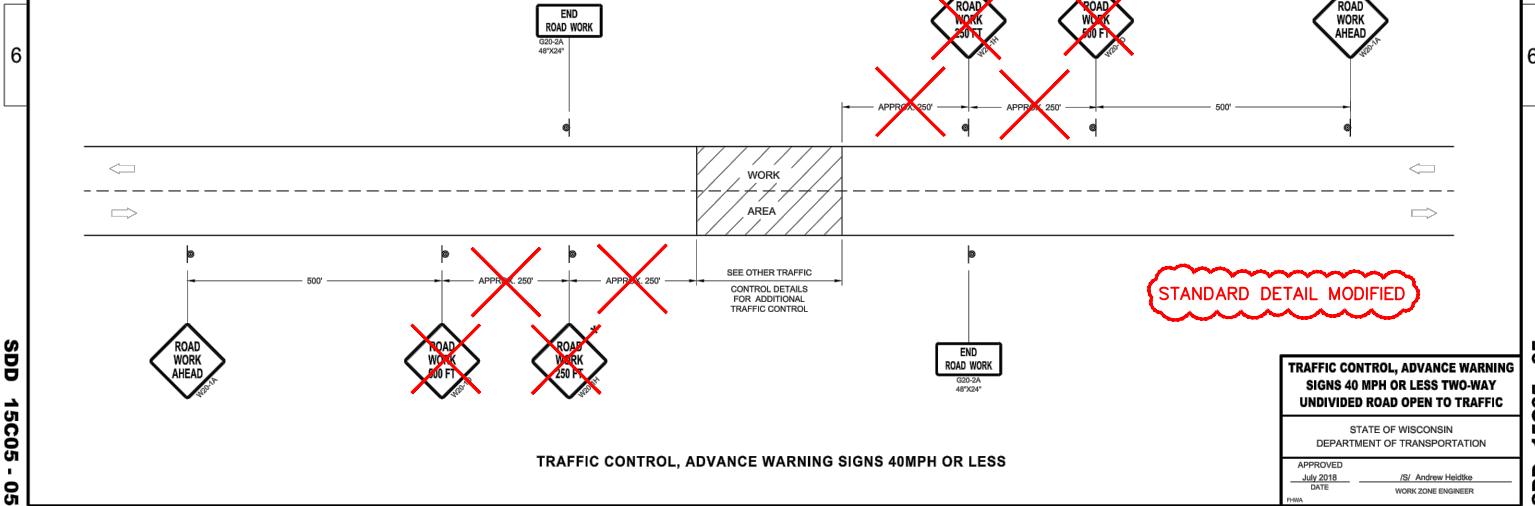
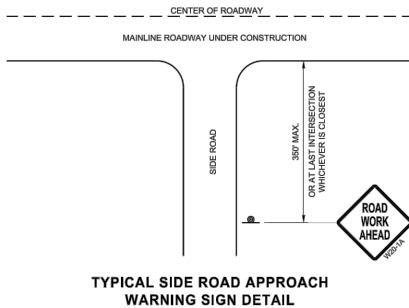
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

LEGEND

- Sign on permanent support
- Direction of traffic
- Work area



CITY OF DE PERE

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

TRAFFIC CONTROL DETAILS

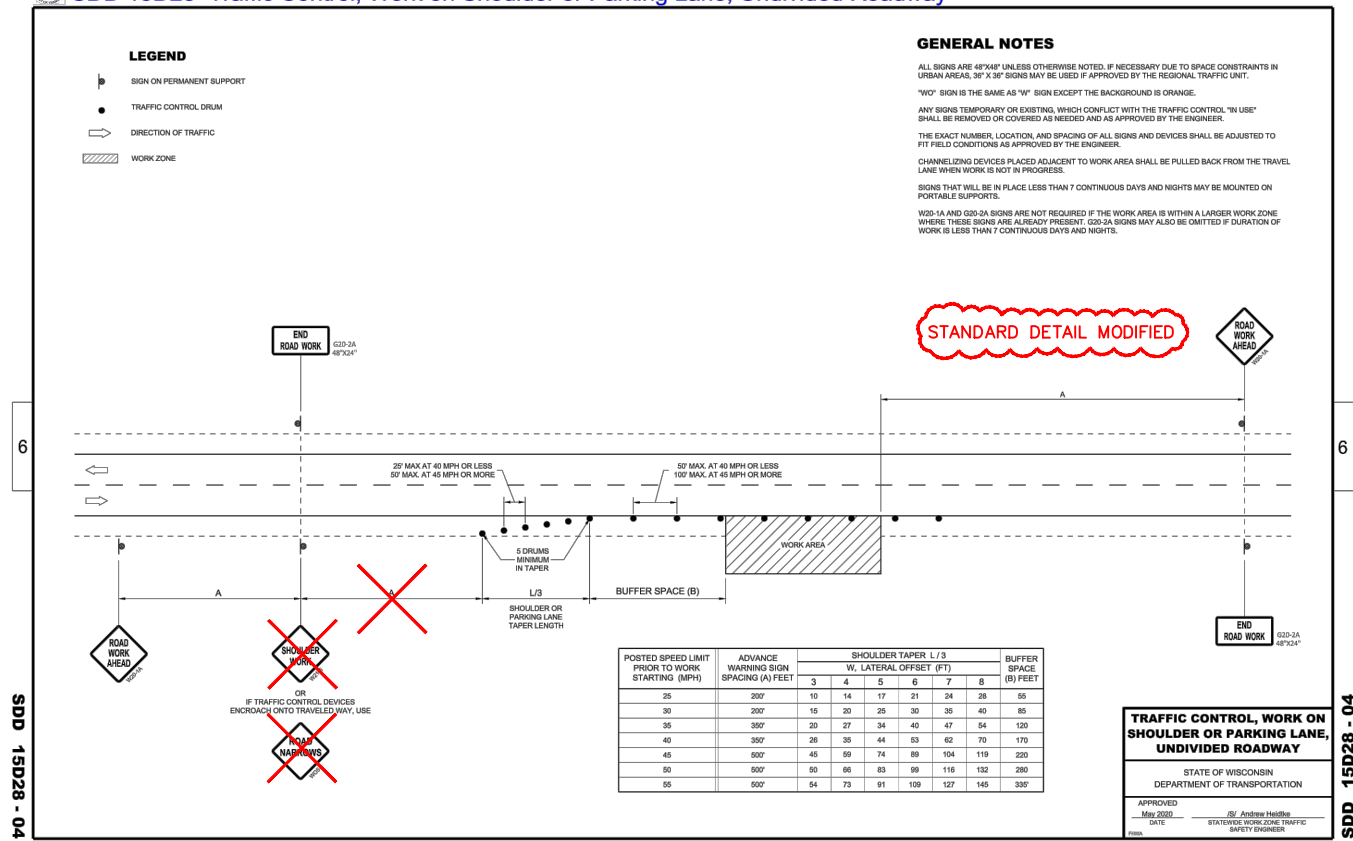
NAME: SEWER AND WATER RELAY AND STREET RESURFACING
PROJECT # 23-01

BY	DATE
SURVEYED	
DRAWN	KAD
DESIGNED	
CHECKED	CKK

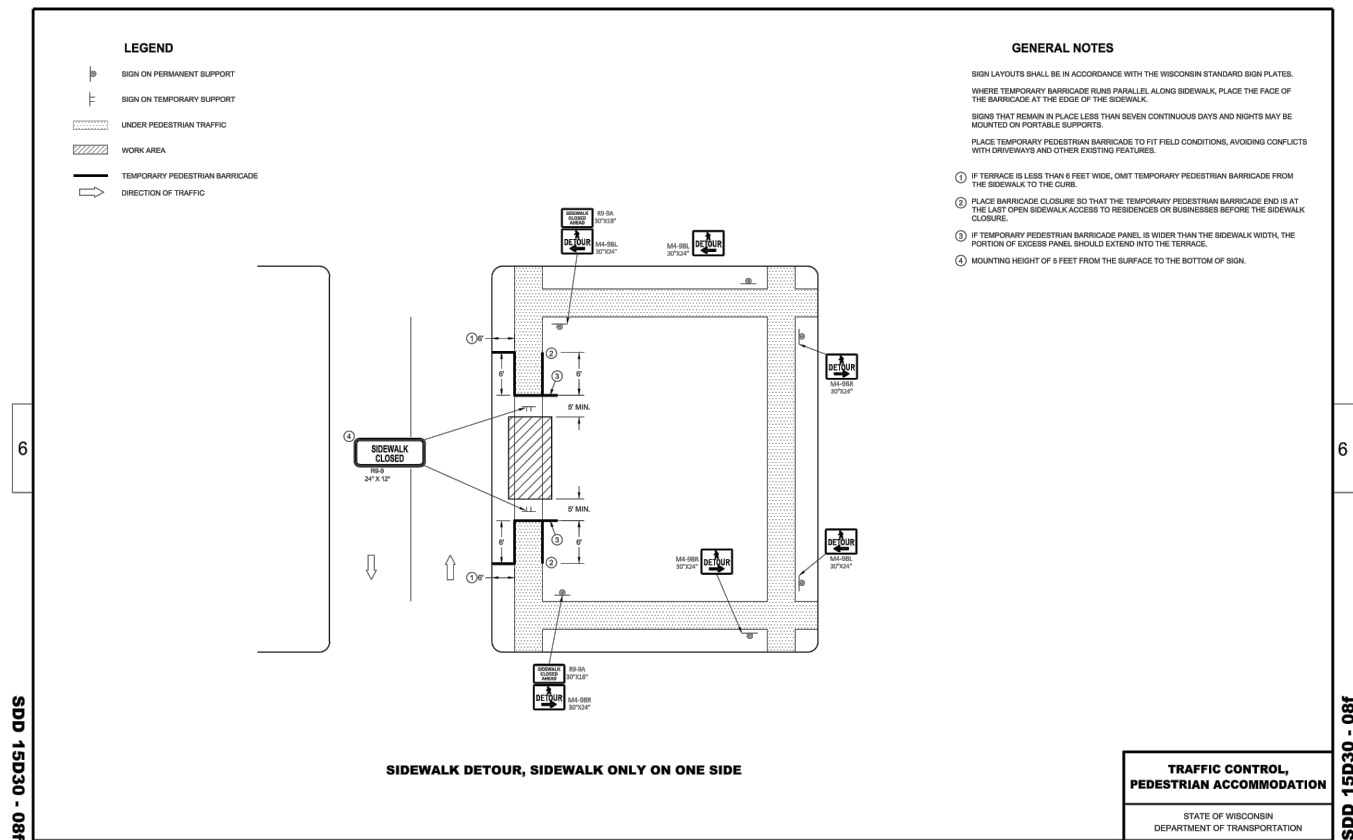
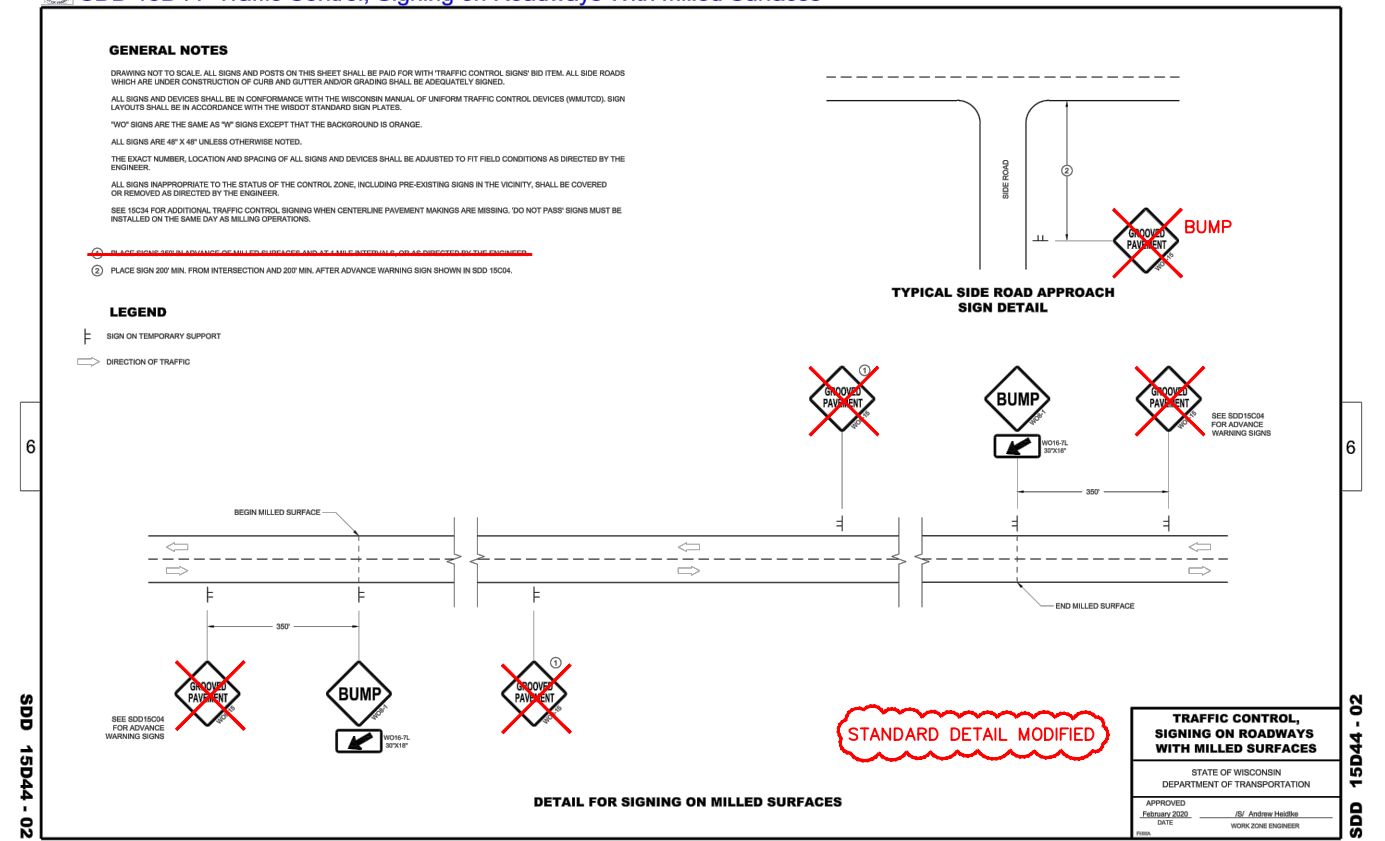
REVISIONS / ISSUES			
NO.	DATE	BY	REMARKS

PAGE NO. C502

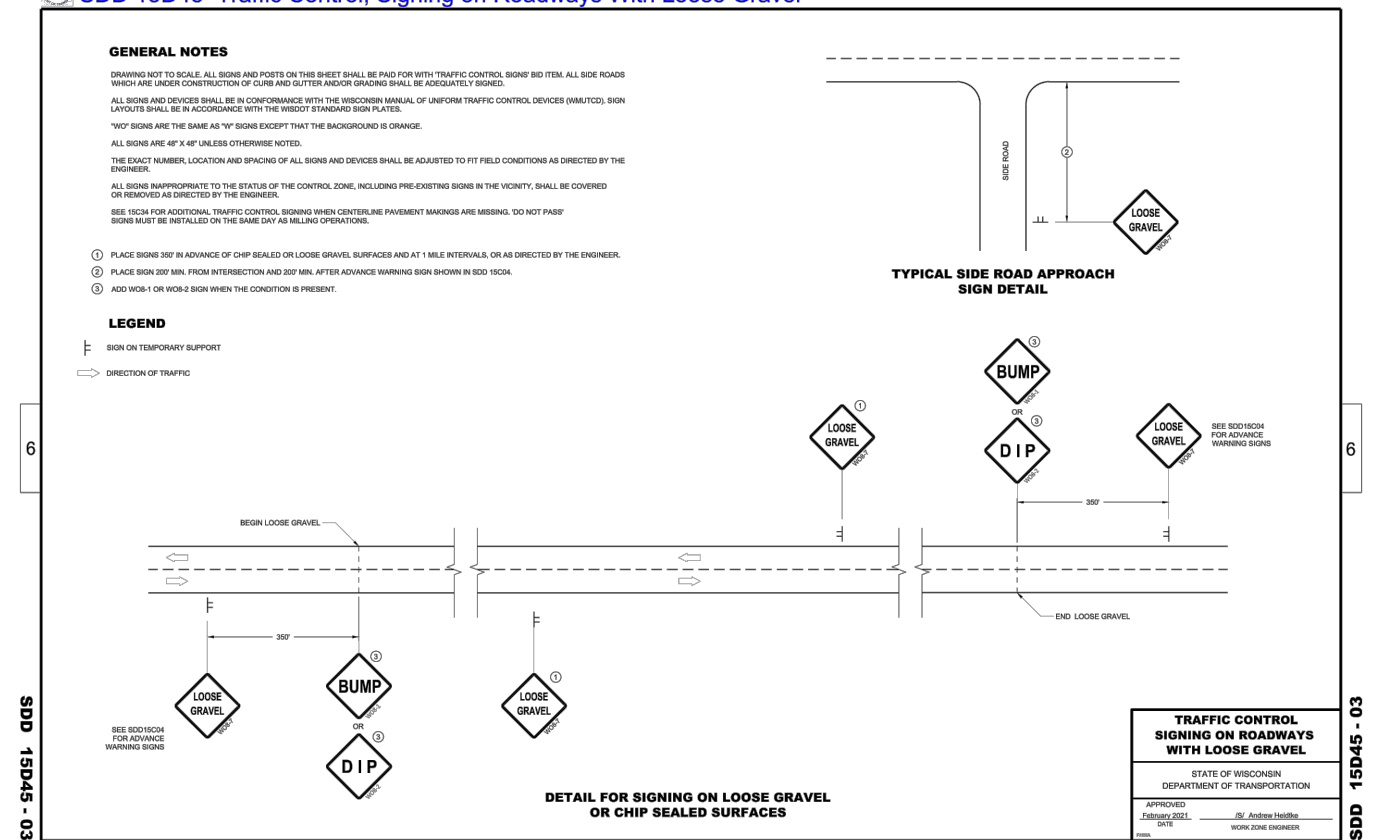
SDD 15D28 Traffic Control, Work on Shoulder or Parking Lane, Undivided Roadway



SDD 15D44 Traffic Control, Signing on Roadways With Milled Surfaces



SDD 15D45 Traffic Control, Signing on Roadways With Loose Gravel



CITY OF DE PERE

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

TRAFFIC CONTROL DETAILS

NAME: SEWER AND WATER RELAY AND STREET RESURFACING
PROJECT # 23-01

		REVISIONS / ISSUES			
		NO.	DATE	BY	REMARKS
SURVEYED					
DRAWN	KAD	03-2023			
DESIGNED					
CHECKED	CKK	03-2023			

PAGE NO.

C503