

Request for Proposal (RFP)  
 Bid No: Bid 26-05-4136SB  
 Addendum No. 3

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**Date:** June 19, 2026  
**To:** All Proposers  
**Subject:** Addendum No. 3  
 Consisting of Seventeen (17) Pages  
**RFP No.:** Bid 26-05-4136SB  
**Project Name:** N9073(1)1,2&4 Blue Canyon Road Project in Apache County, AZ  
**Owner:** Navajo Division of Transportation

Proposer shall make note of and/or incorporate all changes listed below into the requested Request for Proposal (RFP):

1. RFP:
  - a. Replace the Bid Schedule form with the attached pages. The excel version of this file will also be replaced on the Navajo DOT RFP website.
  - b. The submittal date for the Bid Proposal has been extended to July 2, 2026. The following sections of the RFP file have been revised as shown below.
    - i. Page 1, Proposal and bid package must be physically submitted to the following address by **July 2, 2026**, no later than 4:00 PM MDST:
    - ii. Page 3, Part I, C. Schedule of Activities and Timelines:

Schedule of Activities	Timelines
Mandatory Virtual Pre-Proposal Meeting	Wednesday, May 27, 2026, at 10:00 a.m. MDT
Prospective respondents "Inquiry Timeline." Questions regarding this RFP must be submitted in writing, by fax or email prior to this date. No questions accepted after this date.	Tuesday, June 9, 2026, by 12:00 p.m. MDT
Written responses to written questions will be distributed in writing through an Addendum issued on this date.	Friday, June 12, 2026, by 10:00 a.m. MDT
Due date for all proposals	Thursday, <b>July 2, 2026</b> , by 4:00 p.m. MDT

# Request for Proposal (RFP)

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## Addendum No. 3

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Opening of proposals and evaluations by the Review Panel	Between <b>July 6, 2026</b> to <b>July 10, 2026</b>
Selection of Contractor	Week of <b>July 13, 2026</b>

- iii. Page 4, Part I, F. Proposals Submission: Proposal must be received by **July 2, 2026**, at 4:00 p.m. MDST. Respondents who are mailing their proposals should allow sufficient time for mail delivery to ensure receipt by the time specified. If mailed, it is recommended that proposals be sent by certified mail to the address indicated on Page 2 of this RFP

### 2. Addendum 2:

In the previous Addendum 2, a question was submitted about which was the correct pipe to use, PVC or HDPE. The reply was that BOTH PVC and HDPE pipes were to be used. To clarify the response, the NTUA Standard Detail W-33A HDPE Wash Crossing Detail was provided, which was to show the use of the PVC and HDPE pipes in a drawing. However, the standard detail provided in Addendum 2 was incorrect, because it was for pipes 14-inches and larger. Thus, the correct wash crossing standard detail is attached to this Addendum 3, NTUA Standard Detail W-33 HDPE Wash Crossing Detail for 4-inch Thru 12-inch pipe (See Addendum 2 for question and answers).

### 3. Contract Book:

- a. Replace pages 120-122 of Exhibit D with the attached pages. Bid Schedule was revised.

### 4. Plans:

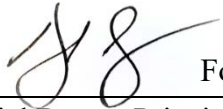
- The overall plans are being reviewed, and design revisions to the earthwork are being implemented. These implementations will be in a forthcoming addendum #4.
- Sheet 7 ESTIMATED QUANTITIES TABLES:
  - Revised to update the quantity for Bid Item No. 25302-100 Gabions, Aluminized Coated, Class 2 to 9,335 m<sup>3</sup>.
  - Revised for the updated NTUA waterline relocation design.
- Sheet 33A: Revised to update the quantity for Bid Item No. 25302-100 Gabions, Aluminized Coated, Class 2 to 9,335 m<sup>3</sup>, removing segment 2.
- Sheets 77-80: Revised for the updated NTUA waterline relocation design.

**END OF ADDENDUM NO. 3**

Request for Proposal (RFP)  
Bid No: Bid 26-05-4136SB  
Addendum No. 3

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Thank you for your interest!



For

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Ardaniel Begay, Principal Contract Analyst  
Project Contact Person

**Navajo Nation Division of Transportation**  
Request for Proposal (RFP)  
Bid No. 26-05-4136SB

The Navajo Division of Transportation (Navajo DOT) is soliciting proposals to construct "N9073(1)1,2&4 Blue Canyon Road Project" in Apache County, AZ. The proposed work consists of roadway reconstruction, earthwork, metal guardrail, drainage and bridge structures, erosion control measures, traffic control, permanent signing and striping and other miscellaneous work as called for in the design plans and specifications for this 5.36 mile roadway project located in Fort Defiance, AZ, Apache County, Navajo Nation.

Proposals will be subject to all requirements specified in RFP No. 26-05-4136SB. The RFP package will be available for download from the Navajo DOT website (<https://navajodot.org/rfp%2Frfq>), beginning May 21, 2026 at 10:00 AM MDT.

A MANDATORY Virtual Pre-Proposal Meeting will be held on Wednesday, May 27, 2026 at 10:00 AM MDT. The Pre-Proposal Meeting will consist of a brief presentation explaining the Project Scope and the necessary items required to be submitted as part of the RFP. Contractors are encouraged to conduct a field review of the project site on their own. The link for the web meeting and conference call number are as follows:

<https://teams.microsoft.com/meet/221378453755017?p=IRuhaU0GHfx4qGiFxb>

By Phone: +1 575-405-5728 Conference ID: 771324452

Proposal and bid package must be physically submitted to the following address by **July 2, 2026**, no later than 4:00 PM MDT:

Navajo Division of Transportation  
Attention: Ardaniel Begay  
Navajo Transportation Complex  
#16 Old Coal Mine Road  
Mentmore, NM 87319  
(505) 481-2651

The Navajo Nation Business Opportunity Act and Navajo Preference Act shall apply to this project. Prospective bidders are encouraged to familiarize themselves with these provisions. Having preference does not guarantee the award of the project. Competitive Sealed Proposals under the Navajo Nation Business Opportunity Act shall be utilized in the selection of the Contractor. Refer to 12 N.N.C. §332 Competitive Sealed Proposals.

The Navajo Nation reserves the right to waive any formalities or irregularities in the Request for Proposals and/or to reject any or all bids; to be the sole judge of the suitability of the materials offered and to award a contract for the furnishing of services it deems to be in the best interest of the Navajo Nation.

## PROPOSAL SUBMITTAL



All proposals **MUST** have the Prospective Respondent's name and contact information on the outside of the Sealed Proposal and Proposal Cost (envelopes). If not included, it will be considered "Non-Responsive."

All proposals are to be submitted to:

Navajo Division of Transportation  
Attention: Ardaniel Begay  
Navajo Transportation Complex  
#16 Old Coal Mine Road  
Mentmore, NM 87319  
Phone: (505) 481-2651

All proposals and bid schedule shall be sent in sealed envelope, clearly marked with the following information:

### Respondent's Contact Information

RFP Bid Number: Bid 26-05-4136SB  
Project Name: N9073(1)1,2&4  
Contact Person: Ardaniel Begay  
Navajo Division of Transportation  
Work Phone: (505) 481-2651  
Email: [abegay@navajodot.org](mailto:abegay@navajodot.org)

Please submit one (1) original and five (5) copies of proposals.

## PART I

### INFORMATION ONLY – NO RESPONSE TO THIS SECTION IS REQUIRED

- A. This Request for Proposal (RFP) provides the prospective respondents with sufficient information that will enable them to prepare and submit a proposal for consideration.
- B. This RFP contains the instructions governing the proposals to be submitted and the materials to be included. These are mandatory requirements which must be met to be eligible for consideration. Failure to adhere will result in a “Non-Responsive” Status.
- C. SCHEDULE OF ACTIVITIES AND TIMELINES:

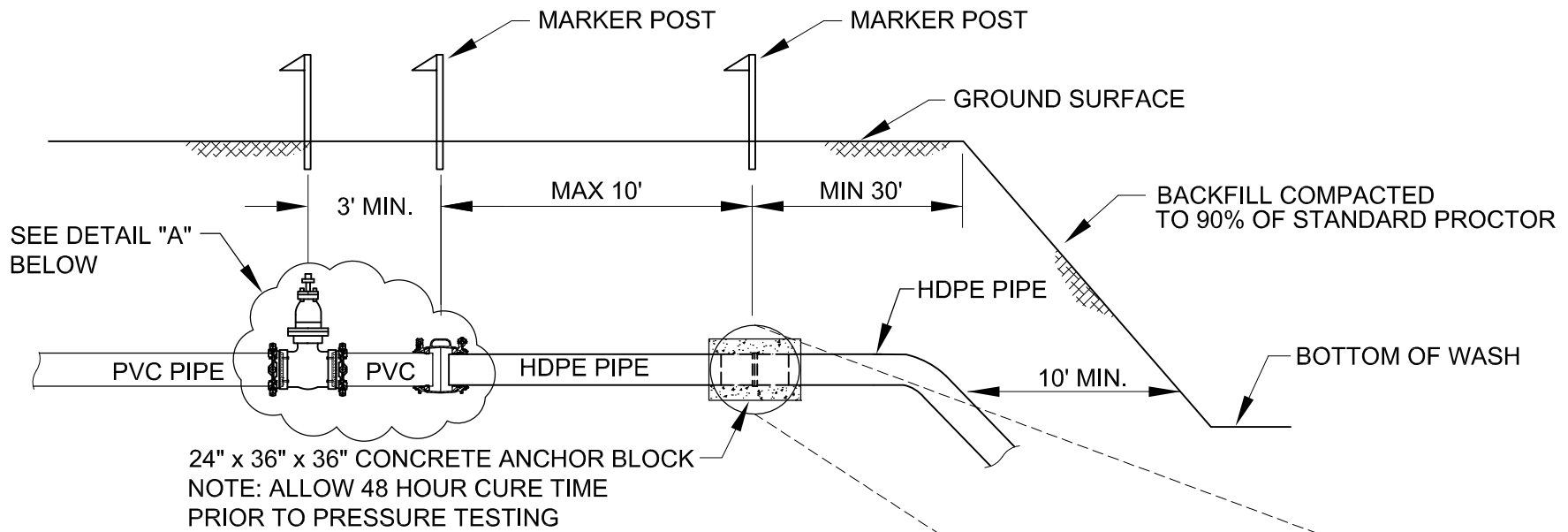
Schedule of Activities	Timelines
Mandatory Virtual Pre-Proposal Meeting	Wednesday, May 27, 2026, at 10:00 a.m. MDT
Prospective respondents “Inquiry Timeline.” Questions regarding this RFP must be submitted in writing, by fax or email prior to this date. No questions accepted after this date.	Tuesday, June 9, 2026, by 12:00 p.m. MDT
Written responses to written questions will be distributed in writing through an Addendum issued on this date.	Friday, June 12, 2026, by 10:00 a.m. MDT
Due date for all proposals	Thursday, <b>July 2</b> , 2026, by 4:00 p.m. MDT
Opening of proposals and evaluations by the Review Panel	Between <b>July 6</b> , 2026 to <b>July 10</b> , 2026
Selection of Contractor	Week of <b>July 13</b> , 2026

- D. INQUIRIES: Questions regarding this RFP must be submitted in writing, by fax or email to the Project Contact listed below. Written questions as to the intent or clarity of this RFP can be submitted to the Project Contact until the inquiring date listed in Section C. Written responses to written questions and any RFP amendments will be distributed in writing through an Addendum issued on the date listed in Section C. No further questions, in any form, will be entertained after the date listed in Section C.

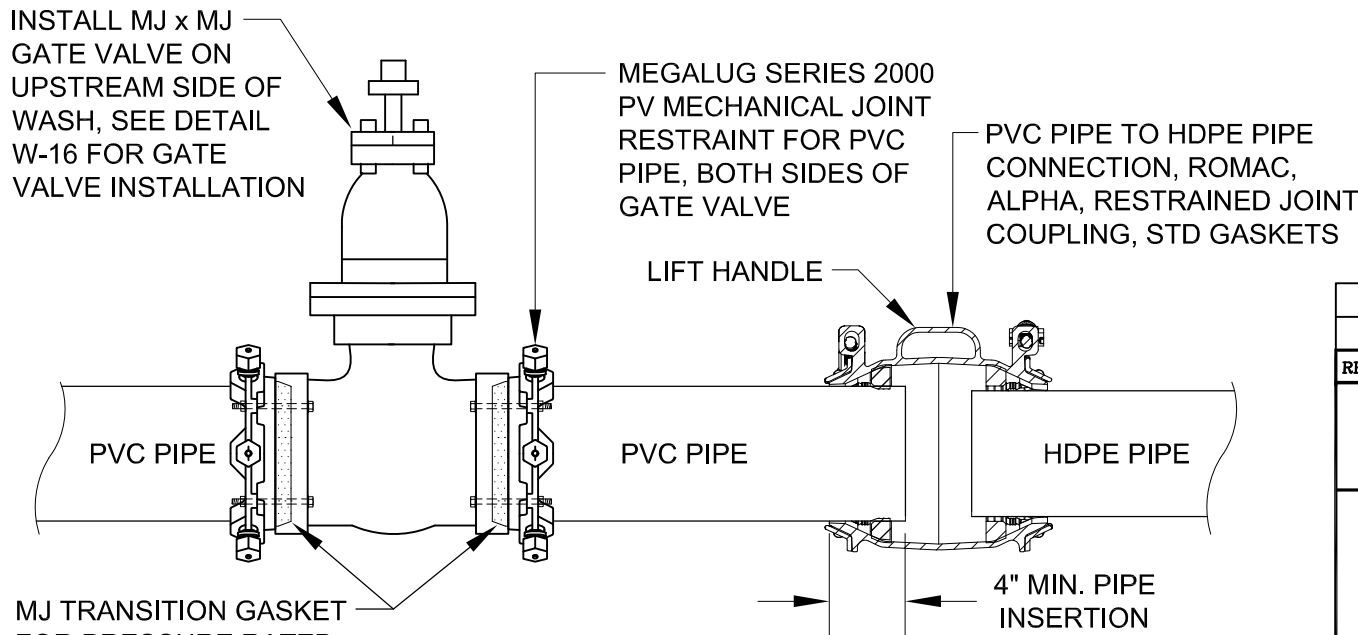
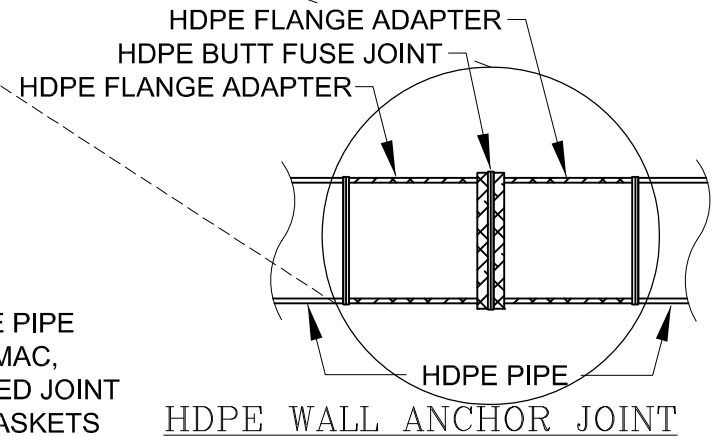
Project Contact: Ardaniel Begay, Principal Contract Analyst, Navajo Division of Transportation, Telephone: (505) 481-2651 and Email: [abegay@navajodot.org](mailto:abegay@navajodot.org)

- E. ADDENDUM OR SUPPLEMENT TO THIS REQUEST FOR PROPOSALS: In the event it becomes necessary to revise any part of this RFP, an addendum will be issued. **The addendum(s) will be available for download from the Navajo Division of Transportation (Navajo DOT) website ([www.navajodot.org](http://www.navajodot.org)).** It is important that respondents check the Navajo DOT website for addendum(s). Any respondents that already submitted a proposal will be notified.

- F. PROPOSALS SUBMISSION: Proposal must be received by **July 2, 2026**, at 4:00 p.m. MDT. Respondents who are mailing their proposals should allow sufficient time for mail delivery to ensure receipt by the time specified. If mailed, it is recommended that proposals be sent by certified mail to the address indicated on Page 2 of this RFP.
- G. NUMBER OF PROPOSALS TO BE SUBMITTED: In the submission of a proposal, one original and five (5) copies must be enclosed in **one sealed envelope**. A separately sealed Bid Schedule envelope should be contained within this overall proposal envelope as described in Part III, Section G. The outside of the proposal envelope should be clearly marked with: 1) Respondent's Contact information; 2) the RFP Bid Number; 3) the Project Name; and 4) the Navajo DOT Contact Person.
- H. LATE RECEIPT OF PROPOSALS: Late proposals will not be accepted. It is the responsibility of the respondent to ensure that the proposal arrives at the Navajo DOT on or before the date/time specified.
- I. REJECTION OF PROPOSALS: The Navajo DOT reserves the right to reject any or all proposals and to waive informalities and minor irregularities in the proposals received.
- J. PROPRIETARY INFORMATION: Any restriction on the use of the information, data, contents contained within the proposals must be clearly stated in the proposal itself. Each and every page of the propriety material must be labeled or identified with the word "Proprietary." Proprietary information submitted in response to this RFP will be handled in accordance with applicable procurement regulations.
- K. PROPOSAL MATERIAL OWNERSHIP: All material submitted in reference to this RFP shall become the property of the Navajo Nation and will not be returned to the respondent. Responses received will be retained by the Navajo DOT and may be reviewed by any person(s) after the final selection has been made, subject to Section J. The Navajo DOT has the right to use any or all systems, ideas presented in this RFP, subject to limitations in Section J. Disqualification or non-selection of a respondent does not eliminate this right.
- L. INCURRING COSTS: The Navajo DOT is not liable for any cost incurred by the Respondent prior to issuance of signed contract award for services.
- M. ACCEPTANCE OF PROPOSAL CONTENT: The contents of the proposal of the successful respondent will become contractual obligation, if acquisition action ensues. Failure of the successful respondents to accept this obligation may result in cancellation of the award and such respondent may be removed from consideration for future solicitation.
- N. ACCEPTANCE TIME: The Navajo DOT, in coordination with the Navajo Nation Business Regulatory Department and the Navajo Nation Office of the Controller, intends to select the successful Respondent in the time specified in Section C, after the closing date of receipt of proposals.



PROFILE VIEW  
 TYP. HDPE PIPE WASH CROSSING DETAIL  
 N.T.S.



DETAIL "A" - PVC TO HDPE PIPE CONNECTION  
 N.T.S.

REVISION	DATE	BRIEF	BY
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE INDIAN HEALTH SERVICE NAVAJO NATION			
<b>STANDARD DRAWING No. W-33</b> <b>HDPE WASH CROSSING DETAIL</b> <b>FOR 4" THRU 12" PIPE</b>			
NAVAJO ENGINEERING & CONSTRUCTION AUTHORITY			
DRAWN BY: WZS DATE: 8/24/16	CHECKED BY: S.C. DATE: 8/24/16	APPR. BY: S.C. DATE: 8/24/16	AUTOCAD DRAWING



**BID SCHEDULE  
NAVAJO NATION DIVISION OF TRANSPORTATION**

**PROJECT: N9073(1)1,2&4**

**Date: June 19, 2026**

**LENGTH: 8.635 kilometers (5.36 miles)**

ITEM	DESCRIPTION	Quantity	Units	Unit Bid Price	Total Price
10901-0000	EXTRA & MISCELLANEOUS WORK AUTHORIZED UNDER SECTION 109.02 (s)	1	LPSM	\$ 276,640.00	\$ 276,640.00
15101-0000	MOBILIZATION	1	LPSM	\$	\$
15201-0000	CONSTRUCTION SURVEY AND STAKING	1	LPSM	\$	\$
15701-0000	TEMPORARY EROSION CONTROL	1	LPSM	\$	\$
15708-1000	TEMPORARY STRAW MULCHING	12	HECTARE	\$	\$
20102-0000	CLEARING AND GRUBBING	1	LPSM	\$	\$
20301-0400	REMOVAL OF EXISTING BRIDGE	1	LPSM	\$	\$
20304-1000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	1	LPSM	\$	\$
20401-0000	ROADWAY EXCAVATION	220,000	CUBIC METER	\$	\$
21101-2000	ROAD OBLITERATION - METHOD 2	1,900	SQUARE METER	\$	\$
21301-4000	SUBGRADE STABILIZATION 152mm DEPTH	47,000	SQUARE METER	\$	\$
25101-2000	PLACED RIPRAP CLASS 2	55	CUBIC METER	\$	\$
25112-2000	WIRE-ENCLOSED RIPRAP APRON, CLASS 2	200	CUBIC METER	\$	\$
25112-3000	WIRE-ENCLOSED RIPRAP STILLING BASIN, CLASS 2	200	CUBIC METER	\$	\$
25127-1020	ARTICULATED CONCRETE BLOCK REVETMENT, 140mm DEPTH, CC45	850	SQUARE METER	\$	\$
25302-1000	GABIONS, ALUMINIZED COATED, CLASS 2	9,335	CUBIC METER	\$	\$
27002-0000	GROUT PIPE	1,000	METER	\$	\$
30103-2000	UNTREATED AGGREGATE BASE, GRADING "D"	29,470	TON	\$	\$
30210-0000	BEDDING & BACKFILL AGGREGATE	8	SQUARE METER	\$	\$
40301-0100	ASPHALT CONCRETE PAVEMENT, TYPE 1	16,560	TON	\$	\$
41101-5000	PRIME COAT - PENETRATING EMULSIFIED PRIME, GRADE PEP	139	TON	\$	\$
41201-1000	TACK COAT, GRADE SS-1	24	TON	\$	\$
55401-1000	REINFORCING STEEL	1,230	KILOGRAM	\$	\$
60101-0000	CONCRETE	32	CUBIC METER	\$	\$
60201-0810	600 mm CORRUGATED STEEL PIPE	520	METER	\$	\$
60201-0910	750 mm CORRUGATED STEEL PIPE	250	METER	\$	\$
60201-1010	900 mm CORRUGATED STEEL PIPE	430	METER	\$	\$
60201-1210	1200 mm CORRUGATED STEEL PIPE	190	METER	\$	\$
60201-1410	1500 mm CORRUGATED STEEL PIPE	130	METER	\$	\$
60201-1610	1800 mm CORRUGATED STEEL PIPE	130	METER	\$	\$
60210-0810	END SECTION, 600 mm CORRUGATED STEEL PIPE	45	EACH	\$	\$
60210-0910	END SECTION, 750 mm CORRUGATED STEEL PIPE	7	EACH	\$	\$
60210-1010	END SECTION, 900 mm CORRUGATED STEEL PIPE	14	EACH	\$	\$
60210-1210	END SECTION, 1200 mm CORRUGATED STEEL PIPE	8	EACH	\$	\$
60222-3150	3000mm SPAN, 2400mm RISE REINFORCED CONCRETE BOX CULVERT, DOUBLE BA	1	LPSM	\$	\$



**BID SCHEDULE  
NAVAJO NATION DIVISION OF TRANSPORTATION**

**PROJECT: N9073(1)1,2&4**

**Date: June 19, 2026**

**LENGTH: 8.635 kilometers (5.36 miles)**

ITEM	DESCRIPTION	Quantity	Units	Unit Bid Price	Total Price
60223-4050	3-BARREL 4.27m SPAN x 2.44m R x 18.632 m CBC WITH HEADWALL, WINGWALLS &	1	LPSM	\$	\$
60403-0000	INLET	2	EACH	\$	\$
60701-1000	REMOVE, CLEAN, AND STOCKPILE PIPE	210	METER	\$	\$
60902-0500	CURB AND GUTTER, CONCRETE, 175mm DEPTH	230	METER	\$	\$
61100-1700	50mm WATER LINE, PVC	91	METER	\$	\$
61102-0545	25mm WATERLINE	175	METER	\$	\$
61102-2950	150mm WATER LINE, PVC, HDPE	161	METER	\$	\$
61102-3450	250mm WATER LINE, PVC, HDPE	595	METER	\$	\$
61103-0700	200mm ENCASEMENT PIPE, GALVANIZED STEEL	46	METER	\$	\$
61103-1480	500mm ENCASEMENT PIPE, GALVANIZED STEEL	68	METER	\$	\$
61104-0300	VALVE, BLOWOFF	1	EACH	\$	\$
61104-0600	VALVE, GATE WITH BOX, 50mm	5	EACH	\$	\$
61104-0800	150mm VALVE, GATE WITH BOX	6	EACH	\$	\$
61104-0950	250mm VALVE, GATE WITH BOX	12	EACH	\$	\$
61109-1000	RELOCATE MANHOLE (See Asbuilts)	1	LPSM	\$	\$
61114-0000	WATER SYSTEM ACCESSORY, BENDS AND TEES	24	EACH	\$	\$
61114-0001	WATER SYSTEM ACCESSORY, AIR RELEASE VALVE for 250mm pipe	2	EACH	\$	\$
61114-0002	WATER SYSTEM ACCESSORY, AIR RELEASE VALVE for 150mm pipe	1	EACH	\$	\$
61114-1500	WATER SYSTEM ACCESSORY, TIE-IN (pressurized connections)	11	EACH	\$	\$
61114-5000	WATER SYSTEM ACCESSORY, CURB STOP, 25mm	5	EACH	\$	\$
61114-6000	WATER SYSTEM ACCESSORY, CONCRETE THRUST COLLAR	5	EACH	\$	\$
61114-8000	WATER SYSTEM ACCESSORY, REDUCER, 150mm X 50mm	1	EACH	\$	\$
61202-0100	100mm SEWER LINE, PLASTIC	30	METER	\$	\$
61206-0000	RELOCATE SANITARY SERVICE	5	EACH	\$	\$
61701-5000	GUARDRAIL SYSTEM, SGR20B, TYPE PDE02 WITH MSKT-TL3-8 END TERMINAL & THRIE BEAM	1,535	METER	\$	\$
61801-0000	CONCRETE BARRIER	177	METER	\$	\$
61901-1000	FENCE, 5-STRAND BARB WIRE FENCING	17,200	METER	\$	\$
61903-0310	CATTLEGUARD 2 UNIT, w/ 4900 mm WIDTH w/ TYPE 2 GATE	19	EACH	\$	\$
61903-0710	CATTLEGUARD 3 UNIT, w/ 7190 mm WIDTH w/ TYPE 2 GATE	4	EACH	\$	\$
61903-1210	CATTLEGUARD 4 UNIT, w/ 9480 mm WIDTH w/ TYPE 2 GATE	4	EACH	\$	\$
62101-0000	RIGHT-OF-WAY MONUMENT	70	EACH	\$	\$
62102-0000	REFERENCE MARKER	70	EACH	\$	\$
62510-1000	SEEDING, DRY METHOD	12	HECTARE	\$	\$
63302-2001	SIGN INSTALLATION 1-POST 38 mm X 38 mm, SQUARE STEEL TUBE	23	SQUARE METER	\$	\$
63302-2002	SIGN INSTALLATION 1-POST 44 mm x 44 mm, SQUARE STEEL TUBE	21	SQUARE METER	\$	\$
63302-2006	SIGN INSTALLATION 2-POST 50 mm x 50 mm, SQUARE STEEL TUBE	2	SQUARE METER	\$	\$



**BID SCHEDULE  
NAVAJO NATION DIVISION OF TRANSPORTATION**

**PROJECT: N9073(1)1,2&4**

**Date: June 19, 2026**

**LENGTH: 8.635 kilometers (5.36 miles)**

ITEM	DESCRIPTION	Quantity	Units	Unit Bid Price	Total Price
63302-2012	SIGN INSTALLATION 4 POST 57 mm x 57 mm, SQUARE STEEL TUBE	0	SQUARE-METER	\$ _____	\$ _____
63308-2000	OBJECT MARKER, TYPE 2	48	EACH	\$	\$
63308-3000	OBJECT MARKER, TYPE 3	4	EACH	\$	\$
63309-0010	DELINEATOR, TYPE 1a	18	EACH	\$	\$
63309-0020	DELINEATOR, TYPE 1b	125	EACH	\$	\$
63318-1000	MILEPOST	10	EACH	\$	\$
63401-1510	PAVEMENT MARKINGS, TYPE "H" SOLID YELLOW	14,700	METER	\$	\$
63401-1520	PAVEMENT MARKINGS, TYPE "H" SOLID WHITE	16,700	METER	\$	\$
63401-1610	PAVEMENT MARKINGS, TYPE "H" BROKEN YELLOW	1,600	METER	\$	\$
63405-3260	PAVEMENT MARKINGS, TYPE "H" STOP BAR	2	EACH	\$	\$
63501-0000	TEMPORARY TRAFFIC CONTROL	1	LPSM	\$	\$
64503-1000	UTILITY COMPANY COMPENSATION	1	CTSM	\$ 300,000.00	\$ 300,000.00
65102-0000	ROCKFALL PROTECTION FENCE	65	METER	\$	\$
				Subtotal:	\$
<input style="width: 400px; height: 20px;" type="text"/>				Navajo Nation Tax (6%):	\$
<b>Contractor Name</b>				<b>Total Bid Price:</b>	\$

**SCOPE-OF-WORK**

The proposed work consists of furnishing all labor, material, equipment and incidentals necessary for construction of 8.635 kilometers (5.36 miles) of grading and subgrade, placement of aggregate base course, placement of hot asphaltic concrete pavement, bridge construction, installation of drainage structures, gabion wall, rockfall fence, waterline, fencing, cattleguards, gates, signs, striping and other miscellaneous work as called for in the design plans and specifications for this Project. The quantities listed for each item is estimated and the Unit Price is applicable to each as given in the Bid Schedule above. The final pay quantity measurements shall be rounded to the significant figures given in this bid schedule for the final pay estimate. Payment for work performed on Items furnished will be made in accordance with Sub-Section 109.05, Scope of Payment of FP-14. **The Unit Bid Price must include all overhead, profit, and bonding.**

### SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	QUANTITY	Units
10901-0000	Extra & Miscellaneous Work Authorized under Section 109.02(s)	1	Lump Sum
15101-0000	Mobilization	1	Lump Sum
15201-0000	Construction Survey and Staking	1	Lump Sum
15701-0000	Temporary Erosion Control	1	Lump Sum
15708-1000	Temporary Straw Mulching	11.5	ha
20102-0000	Clearing & Grubbing	1	Lump Sum
20301-0400	Removal of Existing Bridge	1	Lump Sum
20304-1000	Removal of Structures & Obstructions	1	Lump Sum
20401-0000	Roadway Excavation	220,000	m <sup>3</sup>
21101-2000	Road Obliteration - Method 2	1,900	m <sup>2</sup>
21201-0000	Linear Grading	0.75	km
21301-4000	Subgrade Stabilization, 152mm Depth	47,000	m <sup>2</sup>
25101-2000	Placed RipRap Class 2	55	m <sup>3</sup>
25112-2000	Wire Enclosed Riprap Apron, Class 2	200	m <sup>3</sup>
25112-3000	Wire Enclosed Riprap Stilling Basin, Class 2	200	m <sup>3</sup>
25127-1020	Articulated Concrete Block Revetment, 140mm Depth, CC45	850	m <sup>2</sup>
25127-1000	Articulated Concrete Block Revetment, 140mm Depth, CC45	9,335	m <sup>2</sup>
30103-2000	Untreated Aggregate Base, Grading "D"	29,470	t
40301-0100	Asphalt Concrete Pavement, Type I	16,560	t
41101-5000	Prime Coat - Penetrating Emulsified Prime, Grade PEP	139	t
41201-1000	Tack Coat, Grade SS-1	24	t
55401-1000	Reinforcing Steel	1,230	kg
60101-0000	Concrete	32	m <sup>3</sup>
60201-0810	600 mm Corrugated Steel Pipe	520	m
60201-0910	750 mm Corrugated Steel Pipe	250	m
60201-1010	900 mm Corrugated Steel Pipe	430	m
60201-1210	1200 mm Corrugated Steel Pipe	190	m
60201-1410	1500 mm Corrugated Steel Pipe	130	m
60201-1610	1800 mm Corrugated Steel Pipe	130	m
60210-0810	End Section, 600 mm Corrugated Steel Pipe	45	Each
60210-0910	End Section, 750 mm Corrugated Steel Pipe	7	Each
60210-1010	End Section, 900 mm Corrugated Steel Pipe	14	Each
60210-1210	End Section, 1200 mm Corrugated Steel Pipe	8	Each
60222-3150	3000mm span, 2400mm Rise CBC with Headwall, Wingwalls & Footing, Double Barrel	1	Lump Sum
60223-4050	3-Barrel 4.27m Span x 2.44m R x 18.632 m CBC with Headwall, Wingwalls & Footing	1	Lump Sum
60403-0000	Inlet	2	Each
60701-1000	Remove, Clean and Stockpile Pipe	210	m
60902-0500	Curb and gutter, Concrete, 175 mm Depth	230	m
61701-5000	Guardrail System, SGR20B, Type PDE02 With MSKT-TL3-8 End Terminal & Thrie Beam	1,535	m
61801-0000	Concrete Barrier	177	m
61901-1000	Fence, 5-Strand Barb Wire Fencing	17,200	m
61903-0310	Cattleguard 2 Unit, w/ 4900 mm Width, w/ Type 2 Gate	19	Each
61903-0710	Cattleguard 3 Unit, w/ 7190 mm Width, w/ Type 2 Gate	4	Each
61903-1010	Cattleguard 4 Unit, w/ 9480 mm Width, w/ Type 2 Gate	4	Each
62101-0000	Right-Of-Way Monument	70	Each
62102-0000	Reference Marker	70	Each
62510-1000	Seeding, Dry Method	11.5	ha
63302-2001	Sign Installation 1-Post 38 mm X 38 mm, Square Steel Tube	23	m <sup>2</sup>
63302-2002	Sign Installation 1-Post 44 mm x 44 mm, Square Steel Tube	21	m <sup>2</sup>
63302-2006	Sign Installation 2-Post 50 mm x 50 mm, Square Steel Tube	2	m <sup>2</sup>
63302-2009	Sign Installation 2-Post 76 mm x 76 mm, Square Steel Tube	2	m <sup>2</sup>
63308-2000	Object Marker, Type 2	48	Each
63308-3000	Object Marker, Type 3	4	Each
63309-0010	Delineator, Type 1a	18	Each
63309-0020	Delineator, Type 1b	125	Each
63318-1000	Milepost	10	Each
63401-1510	Pavement Markings, Type "H" solid yellow	14,700	m
63401-1520	Pavement Markings, Type "H" solid white	16,700	m
63401-1610	Pavement Markings, Type "H" broken yellow	1,600	m
63405-3260	Pavement Markings, Type "H" Stop bar	2	Each
63501-0000	Temporary Traffic Control	1	Lump Sum
64503-1000	Utility Company Compensation	1	CTSM
65102-0000	Rockfall Protection Fence	65	m

### SURFACING SCHEDULE

ORIGINAL DESIGN																	
30103-2000				40301-0100				41101-5000		41201-1000							
STATION	STATION	LENGTH (m)	DESCRIPTION	UNTREATED AGGREGATE BASE GRADING "D"				ASPHALT CONCRETE PAVEMENT, TYPE I				ASPHALT PRIME COAT, PENETRATING EMULSIFIED PRIME (PEP)		TACK COAT, GRADE SS-1			
				WIDTH (m)	DEPTH (m)	AREA (m <sup>2</sup> )	METRIC TON	WIDTH (m)	DEPTH (m)	AREA (m <sup>2</sup> )	METRIC TON	WIDTH (m)	METRIC TON	WIDTH (m)	METRIC TON		
<b>PHASE 1, SEGMENT 1</b>																	
0+000.00	0+383.00	383.00		11.46	0.127	4389.37	1264.30	10.97	0.076	4199.67	741.76	11.46	5.93	10.97	1.01		
0+000.00	0+383.00	-	TURNOUTS	VARIES	0.127	469.54	135.24	VARIES	0.076	469.54	82.93	VARIES	0.63	10.97	0.11		
0+383.00	0+493.00	110.00	TIE IN TO EXISTING	11.46	0.127	1260.66	363.11	10.97	0.076	1206.17	213.04	11.46	1.70	10.97	0.29		
<b>TURNOUT AT STATION 1+200</b>																	
1+200.00	-	-	TURNOUT	VARIES	0.127	1210.00	348.52	14.00	0.076	1210.00	213.72	14.00	1.63	14.00	0.28		
<b>PHASE 1, SEGMENT 2</b>																	
1+760.00	1+900.00	140.00	TIE IN TO EXISTING	10.92	0.127	1528.94	440.39	9.93	0.076	1390.26	245.55	10.92	2.06	9.93	0.35		
1+900.00	10+152.00	8252.00		10.92	0.127	90120.09	25957.83	9.93	0.076	81945.66	14473.57	10.92	121.66	9.93	20.73		
1+900.00	10+152.00	-	TURNOUTS	VARIES	0.127	3301.15	950.85	VARIES	0.076	3301.15	583.06	VARIES	4.46	9.93	0.76		
				<b>SUBTOTAL</b>				<b>29460.25</b>				<b>16553.63</b>		<b>138.08</b>		<b>23.52</b>	
				<b>USE</b>				<b>29470</b>				<b>16560</b>		<b>139</b>		<b>24</b>	
<b>PHASE 2 (FOR REFERENCE ONLY)</b>																	
0+383.00	1+200.00	817.00		10.32	0.127	8432.26	2428.79	9.33	0.076	7622.94	1346.39	10.32	11.38	9.33	1.94		
0+383.00	1+200.00	-	TURNOUTS	VARIES	0.127	226.59	65.27	VARIES	0.076	226.59	40.02	VARIES	0.31	9.33	0.00		
1+200.00	1+640.00	440.00		10.32	0.127	4541.24	1308.04	9.33	0.076	4105.38	725.11	10.32	6.13	9.33	1.04		
1+200.00	1+900.00	-	TURNOUTS	VARIES	0.127	226.59	65.27	VARIES	0.076	226.59	40.02	VARIES	0.31	9.33	0.00		
1+640.00	1+900.00	260.00		10.32	0.127	2683.46	772.93	9.93	0.076	2581.90	456.03	10.32	3.62	9.33	0.62		

#### ITEM No. 21301-4000: SUBGRADE STABILIZATION 152mm DEPTH


STATION	TO	STATION	LENGTH (m)	WIDTH (m)	AREA (m <sup>2</sup> )
<b>PHASE 1, SECTION 2</b>					
4+000.00	TO	7+000.00	3000.00	12.6	37800
9+080.00	TO	9+800.00	720.00	12.6	9072
<b>SUBTOTAL</b>					<b>46872</b>
<b>USE</b>					<b>47000</b>

#### ITEM No. 21201-0000 LINEAR GRADING


STATION	TO	STATION	LENGTH (m)	LENGTH (km)
<b>PHASE 1, SEGMENT 1 TO INTERSECTION</b>				
0+450.00	TO	1+200.00	750.00	0.75
<b>SUBTOTAL</b>				<b>0.75</b>
<b>USE</b>				<b>0.75</b>

#### WATERLINE RELOCATION: SUMMARY OF QUANTITIES


ITEM	DESCRIPTION	Quantity	Units
27002-0000	GROUT PIPE	1000	M
30210-0000	BEDDING & BACKFILL AGGREGATE	8	CM
61100-1700	50mm WATER LINE, PVC	91	M
61102-0545	25mm WATERLINE	175	M
61102-2950	150mm WATER LINE, PVC, HDPE	161	M
61102-3450	250mm WATER LINE, PVC, HDPE	595	M
61103-0700	200mm ENCASEMENT PIPE, GALVANIZED STEEL	46	M
61103-1480	500mm ENCASEMENT PIPE, GALVANIZED STEEL	68	M
61104-0300	VALVE, BLOWOFF	1	EACH
61104-0600	VALVE, GATE WITH BOX, 50mm	5	EACH
61104-0800	150mm VALVE, GATE WITH BOX	6	EACH
61104-0950	250mm VALVE, GATE WITH BOX	12	EACH
61109-1000	RELOCATE MANHOLE	1	LPSM
61114-0000	WATER SYSTEM ACCESSORY, BENDS AND TEES	24	EACH
61114-0001	WATER SYSTEM ACCESSORY, AIR RELEASE VALVE for 250mm pipe	2	EACH
61114-0002	WATER SYSTEM ACCESSORY, AIR RELEASE VALVE for 150mm pipe	1	EACH
61114-1500	WATER SYSTEM ACCESSORY, TIE-IN	11	EACH
61114-5000	WATER SYSTEM ACCESSORY, CURB STOP, 25mm	5	EACH
61114-8000	WATER SYSTEM ACCESSORY, CONCRETE THRUST COLLAR	5	EACH
61114-8000	WATER SYSTEM ACCESSORY, REDUCER, 150mm X 50mm	1	EACH
61202-0100	100mm SEWER LINE, PLASTIC	30	M
61208-0000	RELOCATE SANITARY SERVICE	5	EACH



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2	REVISED QUANTITIES	MKC	6/18/26
1	REVISED QUANTITIES	MKC	6/11/26
△	REVISION	BY	DATE



NAVAJO NATION  
DIVISION OF TRANSPORTATION

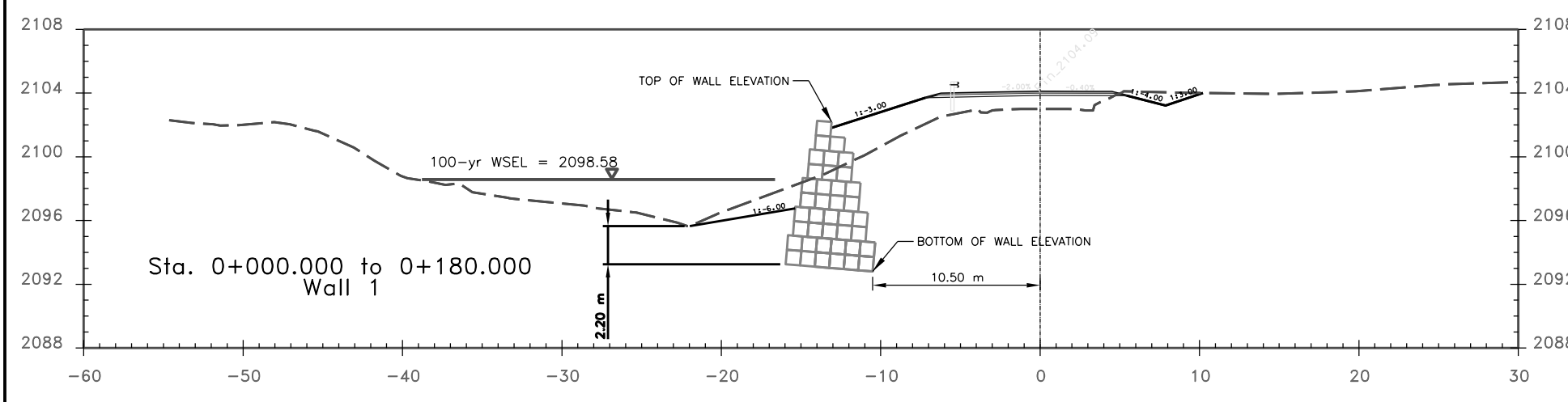
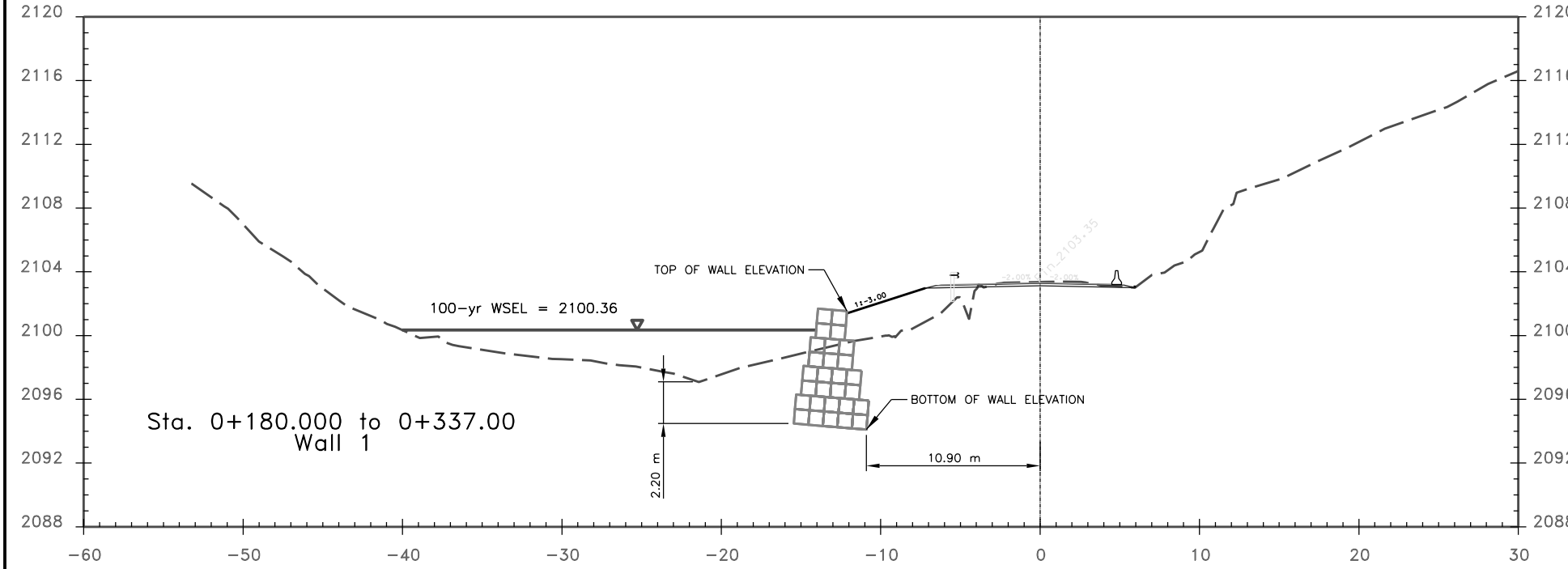
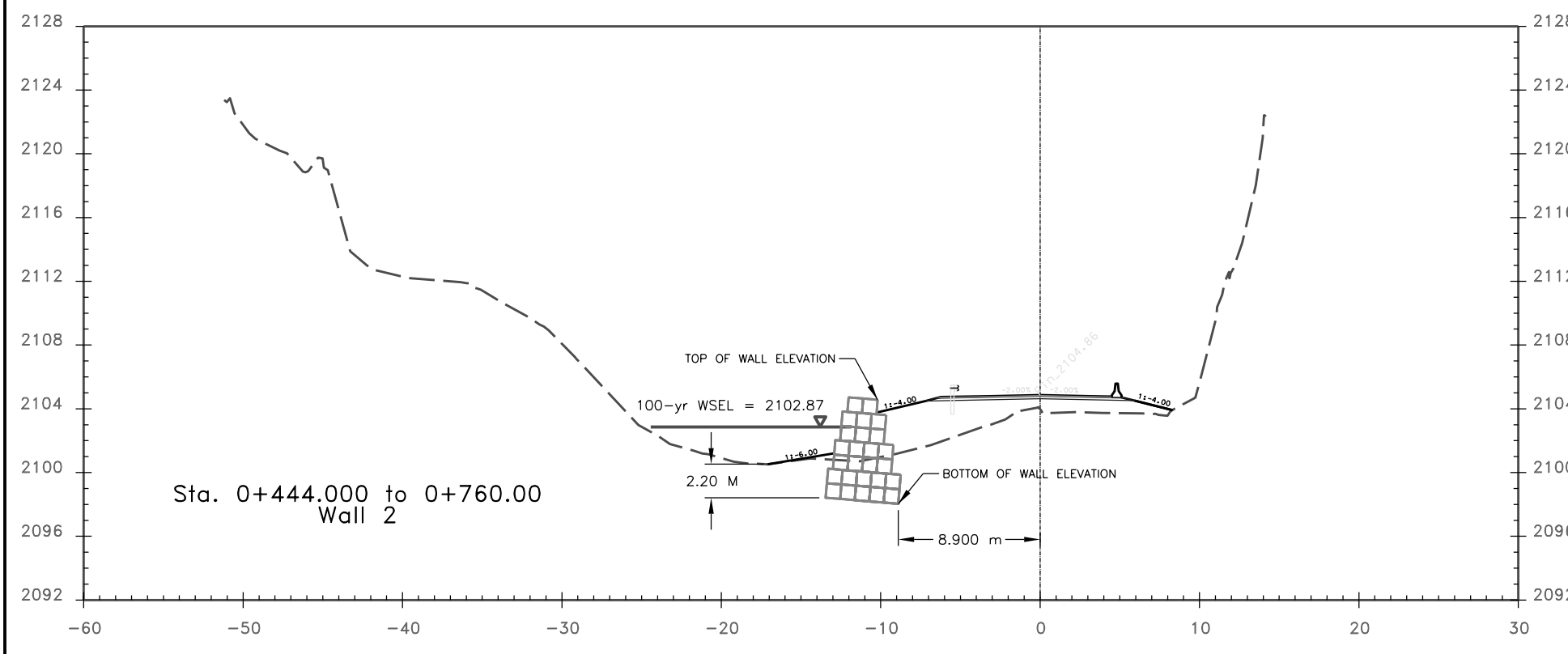
N9073(1) 1, 2 & 4

ESTIMATED QUANTITIES TABLES

PROJECT MANAGER: DDM	DATE: 1/22	DRAWING	SHEET
LEAD DESIGNER: MLL	DATE: 1/22		
ASBUILT BY:	DATE: XXX	7 OF 84	
SCALE: N/A			

**GENERAL NOTES**

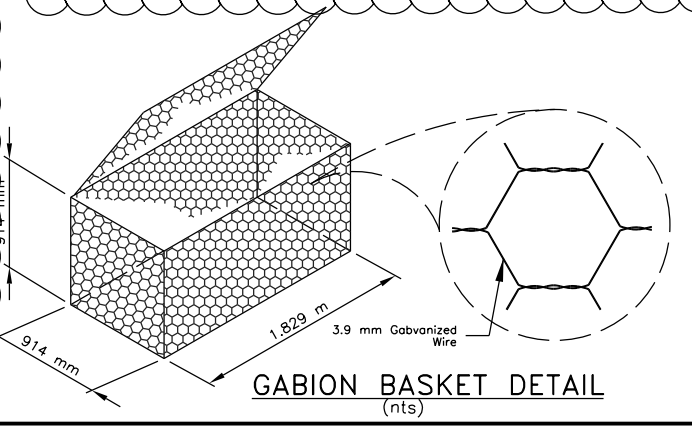
- WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS OR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14) ALONG WITH ALL SUPPLEMENTAL SPECIFICATIONS FOR THIS PROJECT.
- THE QUANTITIES SHOWN ARE ONLY AN ESTIMATE. ACTUAL QUANTITIES SHALL BE DETERMINED IN THE FIELD. THE CONTRACTOR WILL BE REQUIRED TO MAKE ANY NECESSARY ADJUSTMENTS IN THE FIELD TO MATCH EXISTING FIELD CONDITIONS. THESE FIELD ADJUSTMENTS ARE INCIDENTAL OBLIGATIONS OF THE CONTRACTOR.
- GABION MATERIAL SHALL BE RECTANGULAR, COMPARTMENTED CONTAINERS FABRICATED FROM STYLE 1 DOUBLE-TWISTED HEXAGONAL MESH OF GALVANIZED STEEL WIRE.
- WIRE SHALL CONFORM TO ASTM A-691, GALVANIZED STEEL WIRE, SOFT TEMPER. MESH OPENING OF 83mm x 114 mm.  
 MESH WIRE: 3.05 mm dia.  
 WIRE FOR NETTING: 3.00 mm dia.  
 WIRE FOR SELVEDGES & CORNERS: 3.80 mm dia.  
 WIRE FOR BINDING: 2.20 mm dia.  
 ZINC COATING: 260 g/m<sup>2</sup>
- GABIONS SHALL BE PLACED TO THE DETAIL SHOWN ON SHEET 33B. IF UNSUITABLE MATERIAL IS FOUND AT THE FOOTING LOCATION AND ELEVATIONS, THE MATERIAL SHALL BE REMOVED AND REPLACED WITH APPROVED SELECTED BACKFILL AS DESIGNED BY THE CM. ALL SELECTED BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD C, BEFORE AND AFTER FOOTINGS ARE PLACED. THE STRUCTURAL BACKFILL MATERIAL SHALL CONFORM TO AASHTO "A-2-4" SOIL CLASS OR BETTER. THIS WORK AND MATERIAL SHALL BE CONSIDERED INCIDENTAL TO ITEM 25302-1000.
- ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE CM. PRIOR TO PLACEMENT OF FORMS, WELDED WIRE FABRIC, HARDWARE AND SUBSEQUENT CONCRETE. ALL FOOTING EXCAVATIONS SHALL BE KEPT FREE OF WATER AT ALL TIMES. ALL EXCAVATION REQUIRED FOR CONSTRUCTION OF THE GABION WALL SHALL BE CONSIDERED INCIDENTAL TO THE GABION BASKET BID ITEM.
- BACK SLOPES RESHAPING, CLEANING, AND EXCAVATION SHALL BE DONE IN ACCORDANCE WITH THE PLANS AND AS DIRECTED BY THE CM. ANY WASTE MATERIAL SHALL BE USED AS BORROW WHERE NEEDED IN OTHER PROJECT LOCATIONS AS DESIGNATED AND APPROVAL BY THE CM. ALL BACK SLOPES EXCAVATION, CLEANING, AND RESHAPING SHALL BE CONSIDERED INCIDENTAL TO COMPLETION OF THE STRUCTURE.
- ALL STONE FOR WIRE ENCLOSED RIPRAP TO BE CLASS 2 MEETING THE GRADING REQUIREMENTS OF TABLE 705-1, AND SECTION 705 OF THE FP-14.
- WARP EXISTING CUT BACK SLOPES AROUND ENDS OF GABION WALLS AND COMPACT SO THAT THE ENDS OF THE GABION STRUCTURE ARE BURIED INTO THE CUT BACK SLOPES. THIS WORK IS AN INCIDENTAL OBLIGATION OF THE CONTRACTOR.
- FILTER FABRIC SHALL CONFORM TO SECTION 207 AND 714.01(a) OF THE FP-14 FOR TYPE 1V-B MATERIAL AND SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 25302-1000.
- AT PIPE LOCATION, THE GABION WALL SHALL REMAIN OPEN TO WIDTH OF PIPE DIAMETER AS SHOWN. CONTRACTOR CUT OUT AND FABRICATE & PLACE 3 mm ALUMINUM PLATE AROUND THE PIPE ON BACK SIDE OF GABION WALL AS SHOWN BEFORE BACK FILLING.



**SECTION VIEWS**

**ITEM NO. 25302-1000 GABIONS, ALUMINIZED COATED, CLASS 2**

Station		Layout Point Information			Approximate	Length of Wall	Volume	Remarks
Station	Station	Location	Bottom of Wall Elev.	# of courses	Top of Wall Elev.	(m)	(cu m)	Remarks
<b>PHASE 1, SEGMENT 1</b>								
0+000		10.5 m Lt	2,092.80	10	2,101.94			Wall 1
0+000	to 0+060			10		60	1,956.5	Wall 1
0+060		10.5 m Lt	2,092.90	10	2,102.04			Wall 1
0+060	to 0+120			10		60	1,956.5	Wall 1
0+120		10.5 m Lt	2,092.90	9	2,101.13			Wall 1
0+120	to 0+180			9		60	1,655.5	Wall 1
0+180		10.9 m Lt	2,094.10	8	2,101.42			Wall 1
0+180	to 0+240			8		60	1,354.5	Wall 1
0+240		10.9 m Lt	2,094.20	8	2,101.52			Wall 1
0+240	to 0+300			8		60	1,354.5	Wall 1
0+300		10.9 m Lt	2,094.40	8	2,101.72			Wall 1
0+300	to 0+337			8		37	835.3	Wall 1
0+337		10.9 m Lt	2,094.45	8	2,101.77			Wall 1
							Wall 1 Subtotal	9,112.9
<b>PHASE 1, SEGMENT 2</b>								
3+660		5.5 m Lt	2,140.30	1	2,141.21			Wall 3
3+660	to 3+700			1		40	33.4	Wall 3
3+700		5.5 m Lt	2,140.30	1	2,141.21			Wall 3
							Wall 3 Subtotal	33.4
							Project Total	9,146.3
							Project Use	9,150 cu m
<b>PHASE 2 (FOR REFERENCE ONLY)</b>								
0+440		9.5 m Lt	2,096.90	6	2,102.39			Wall 2
0+440	to 0+500			6		60	852.9	Wall 2
0+500		8.9 m Lt	2,097.70	7	2,104.10			Wall 2
0+500	to 0+560			7		60	1,103.6	Wall 2
0+560		8.9 m Lt	2,098.20	7	2,104.60			Wall 2
0+560	to 0+620			7		60	1,103.6	Wall 2
0+620		8.9 m Lt	2,098.60	7	2,105.00			Wall 2
0+620	to 0+680			7		60	1,103.6	Wall 2
0+680		8.9 m Lt	2,099.30	7	2,105.70			Wall 2
0+680	to 0+740			7		60	1,103.6	Wall 2
0+740		8.9 m Lt	2,100.00	7	2,106.40			Wall 2
0+740	to 0+760			7		20	367.9	Wall 2
0+760		8.9 m Lt	2,100.50	7	2,106.90			Wall 2
							Wall 2 Subtotal	5,635.3



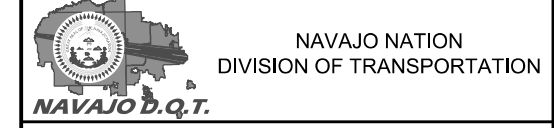
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2	REVISED QUANTITIES	MKC	6/18/26
1	REVISED QUANTITIES	MKC	6/11/26
	REVISION	BY	DATE



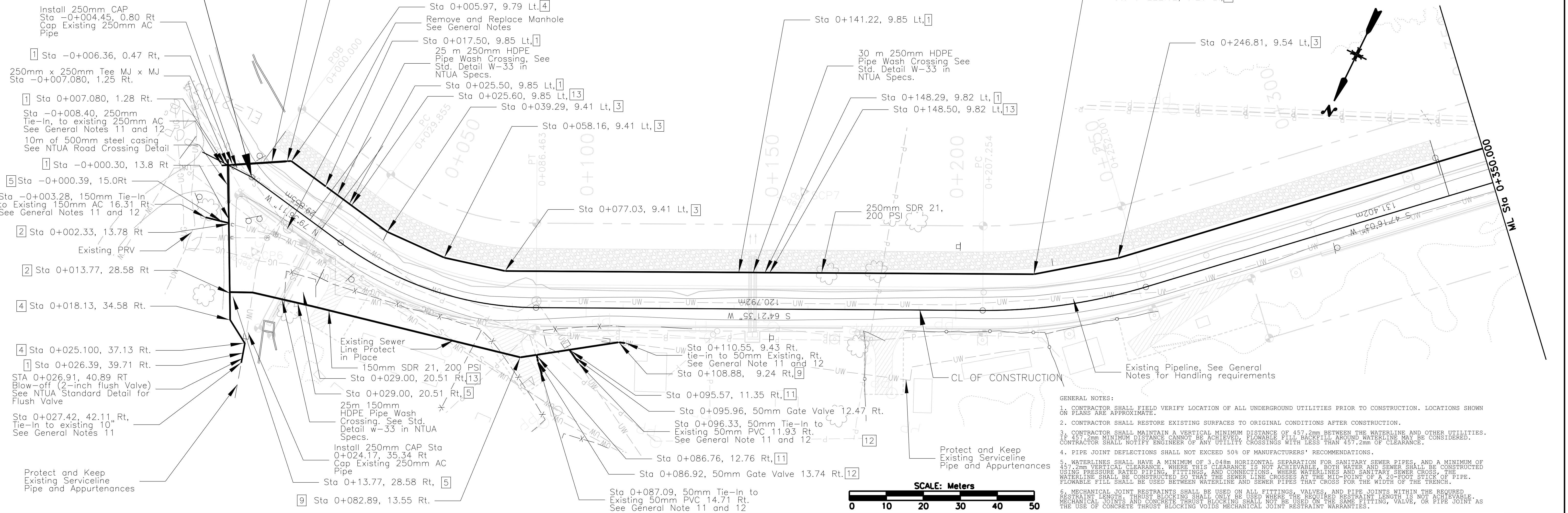
N9073(1) 1, 2 & 4

**GABION WALL CROSS SECTION TABLE & GENERAL NOTES**

PROJECT MANAGER: DDM	DATE: 1/22	DRAWING	SHEET
LEAD DESIGNER: MLL	DATE: 1/22		
ASBUILT BY:	DATE: XXX		
SCALE: N/A			33A OF 83

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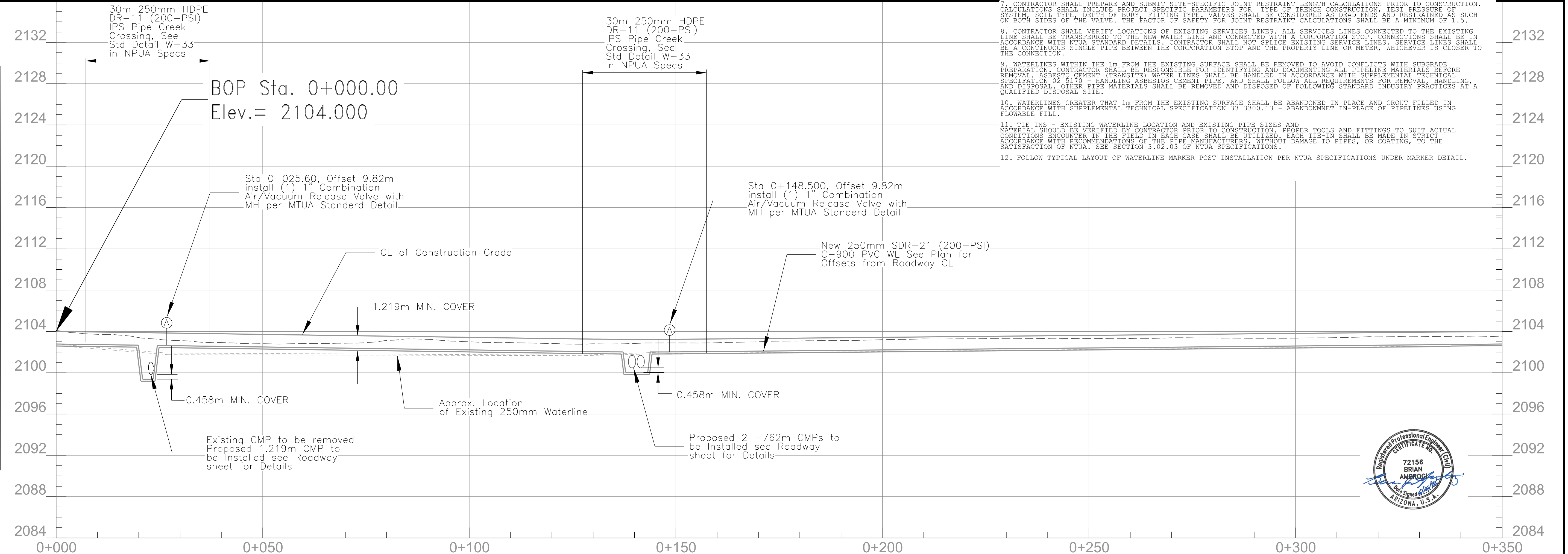
STATE	PROJECT	SHEET NUMBER
AZ	N9073(1) 1, 2 & 4	77

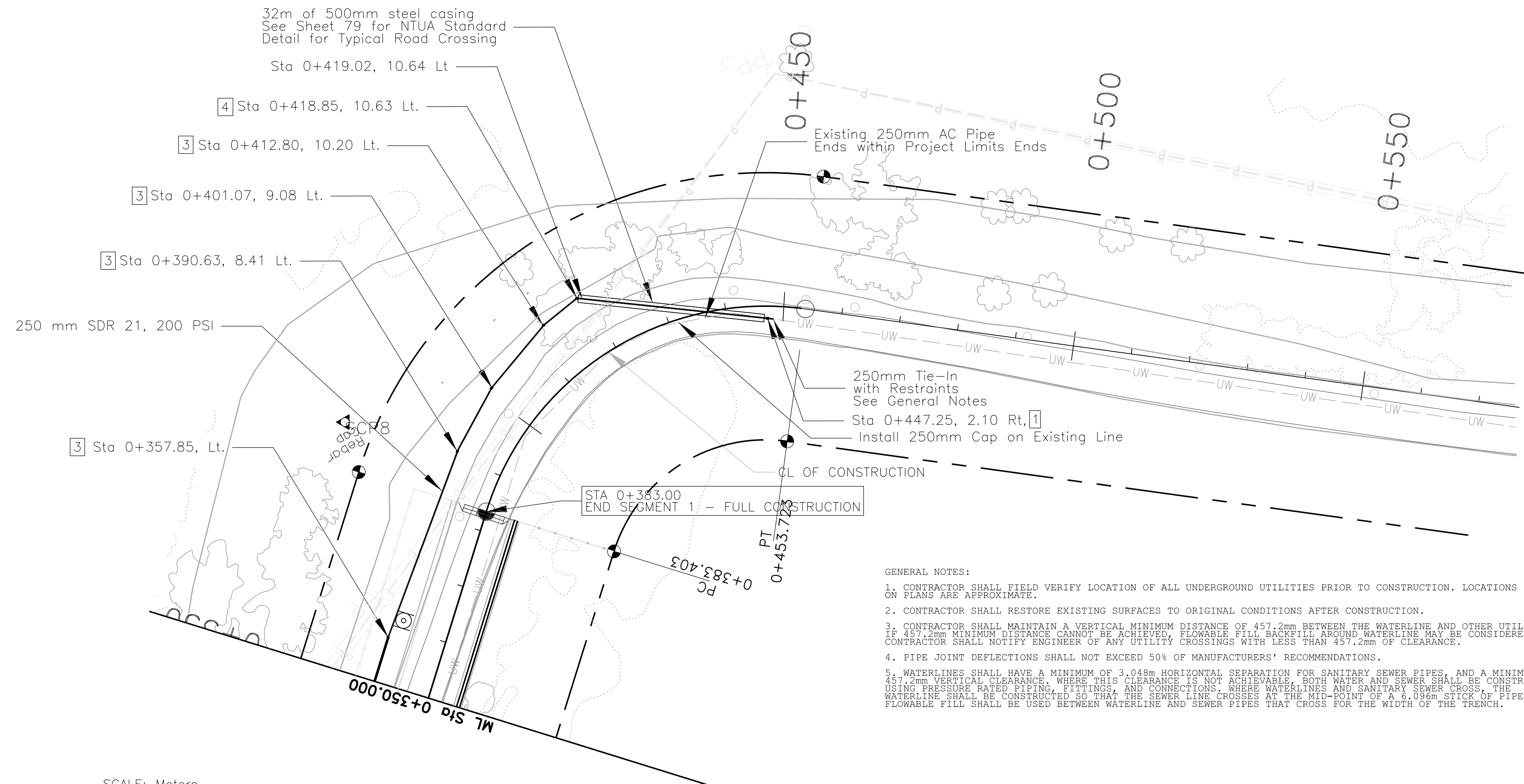


- GENERAL NOTES:
- CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ON PLANS ARE APPROXIMATE.
  - CONTRACTOR SHALL RESTORE EXISTING SURFACES TO ORIGINAL CONDITIONS AFTER CONSTRUCTION.
  - CONTRACTOR SHALL MAINTAIN A VERTICAL MINIMUM DISTANCE OF 457.2mm BETWEEN THE WATERLINE AND OTHER UTILITIES. IF 457.2mm MINIMUM DISTANCE CANNOT BE ACHIEVED, FLOWABLE FILL BACKFILL AROUND WATERLINE MAY BE CONSIDERED. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UTILITY CROSSINGS WITH LESS THAN 457.2mm OF CLEARANCE.
  - PIPE JOINT DEFLECTIONS SHALL NOT EXCEED 50% OF MANUFACTURERS' RECOMMENDATIONS.
  - WATERLINES SHALL HAVE A MINIMUM OF 3.048m HORIZONTAL SEPARATION FOR SANITARY SEWER PIPES, AND A MINIMUM OF 457.2mm VERTICAL CLEARANCE, WHERE THIS CLEARANCE IS NOT ACHIEVABLE, BOTH WATER AND SEWER SHALL BE CONSTRUCTED USING PRESSURE RATED PIPING, FITTINGS, AND CONNECTIONS. WHERE WATERLINES AND SANITARY SEWER CROSS, THE WATERLINE SHALL BE CONSTRUCTED SO THAT THE SEWER LINE CROSSES AT THE MID-POINT OF A 2'-0" STICK OF PIPE. FLOWABLE FILL SHALL BE USED BETWEEN WATERLINE AND SEWER PIPES THAT CROSS FOR THE WIDTH OF THE TRENCH.
  - MECHANICAL JOINT RESTRAINTS SHALL BE USED ON ALL FITTINGS, VALVES, AND PIPE JOINTS WITHIN THE REQUIRED RESTRAINT LENGTH. THRUST BLOCKING SHALL ONLY BE USED WHERE THE REQUIRED RESTRAINT LENGTH IS NOT ACHIEVABLE. MECHANICAL JOINTS AND CONCRETE THRUST BLOCKING SHALL NOT BE USED ON THE SAME FITTING, VALVE, OR PIPE JOINT AS THE USE OF CONCRETE THRUST BLOCKING Voids MECHANICAL JOINT RESTRAINT WARRANTIES.
  - CONTRACTOR SHALL PREPARE AND SUBMIT SITE-SPECIFIC JOINT RESTRAINT LENGTH CALCULATIONS PRIOR TO CONSTRUCTION. CALCULATIONS SHALL INCLUDE PROJECT SPECIFIC PARAMETERS FOR PIPE OF BENCH CONSTRUCTION, TEST PRESSURE OF SYSTEM, SOIL TYPE, DEPTH OF BURIAL, FITTING TYPE, VALVES SHALL BE CONSIDERED AS DEAD-ENDS AND RESTRAINED AS SUCH ON BOTH SIDES OF THE VALVE. THE FACTOR OF SAFETY FOR JOINT RESTRAINT CALCULATIONS SHALL BE A MINIMUM OF 1.5.
  - CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING SERVICES LINES. ALL SERVICES LINES CONNECTED TO THE EXISTING LINE SHALL BE TRANSFERRED TO THE NEW WATER LINE AND CONNECTED WITH A CORPORATION STOP. CONNECTIONS SHALL BE IN ACCORDANCE WITH NTUA STANDARD DETAILS. CONTRACTOR SHALL NOT SPlice EXISTING SERVICE LINES. SERVICE LINES SHALL BE A CONTINUOUS SINGLE PIPE BETWEEN THE CORPORATION STOP AND THE PROPERTY LINE OR METER, WHICHEVER IS CLOSER TO THE CONNECTION.
  - WATERLINES WITHIN THE 1m FROM THE EXISTING SURFACE SHALL BE REMOVED TO AVOID CONFLICTS WITH SUBGRADE PREPARATION. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND DOCUMENTING ALL PIPELINE MATERIALS BEFORE REMOVAL. ASBESTOS CEMENT (TRANSIT) WATER LINES SHALL BE HANDLED IN ACCORDANCE WITH SUPPLEMENTAL TECHNICAL SPECIFICATION 02 S170 - HANDLING ASBESTOS CEMENT PIPE, AND SHALL FOLLOW ALL REQUIREMENTS FOR REMOVAL, HANDLING, AND DISPOSAL. OTHER PIPE MATERIALS SHALL BE REMOVED AND DISPOSED OF FOLLOWING STANDARD INDUSTRY PRACTICES AT A QUALIFIED DISPOSAL SITE.
  - WATERLINES GREATER THAN 1m FROM THE EXISTING SURFACE SHALL BE ABANDONED IN PLACE AND GROUT FILLED IN ACCORDANCE WITH SUPPLEMENTAL TECHNICAL SPECIFICATION 33 3300.13 - ABANDONMENT IN-PLACE OF PIPELINES USING FLOWABLE FILL.
  - IF INS - EXISTING WATERLINE LOCATION AND EXISTING PIPE SIZES AND MATERIAL SHOULD BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. PROPER TOOLS AND FITTINGS TO SUIT ACTUAL CONDITIONS ENCOUNTER IN THE FIELD IN EACH CASE SHALL BE UTILIZED, EACH TIE-IN SHALL BE MADE IN STRICT ACCORDANCE WITH RECOMMENDATIONS OF THE PIPE MANUFACTURERS, WITHOUT DAMAGE TO PIPES, OR COATING, TO THE SATISFACTION OF NTUA. SEE SECTION 3.02.03 OF NTUA SPECIFICATIONS.
  - FOLLOW TYPICAL LAYOUT OF WATERLINE MARKER POST INSTALLATION PER NTUA SPECIFICATIONS UNDER MARKER DETAIL.

SCP 6, Rebar with Cap  
Sta 0+012.516,  
Offset 15.791 m Rt.  
EL 2105.276

- KEY NOTES:
- 250mm GATE VALVE, MJ X MJ WITH BOX AND RESTRAINTS
  - 250mmX150mm TEE MJ X MJ WITH RESTRAINTS
  - 250mm-11-1/4" BEND MJ X MJ WITH RESTRAINTS
  - 250mmX45" BEND MJ X MJ WITH RESTRAINTS
  - 150mm GATE VALVE, MJ X MJ WITH BOX AND RESTRAINTS
  - 150mmX150mm TEE MJ X MJ WITH RESTRAINTS
  - 150mmX11-1/4" BEND MJ X MJ WITH RESTRAINTS
  - 150mmX45" BEND MJ X MJ WITH RESTRAINTS
  - 150mm 22" BEND MJ X MJ WITH RESTRAINTS
  - 50MMX11-1/4" BEND MJ X MJ WITH RESTRAINTS
  - 150mmx50mm TEE MJ X MJ WITH RESTRAINTS
  - 50MM GATE VALVE MJ X MJ WITH RESTRAINTS
  - INSTALL 1" COMBINATION AIR/VACUUM VALVE WITH MANHOLE PER NTUA STANDARD DETAILS. VALVE VAULT SHALL BE CONSTRUCTED OUTSIDE OF THE ROADWAY WITH FINAL LOCATION FIELD VERIFIED BY ENGINEER AND OWNER

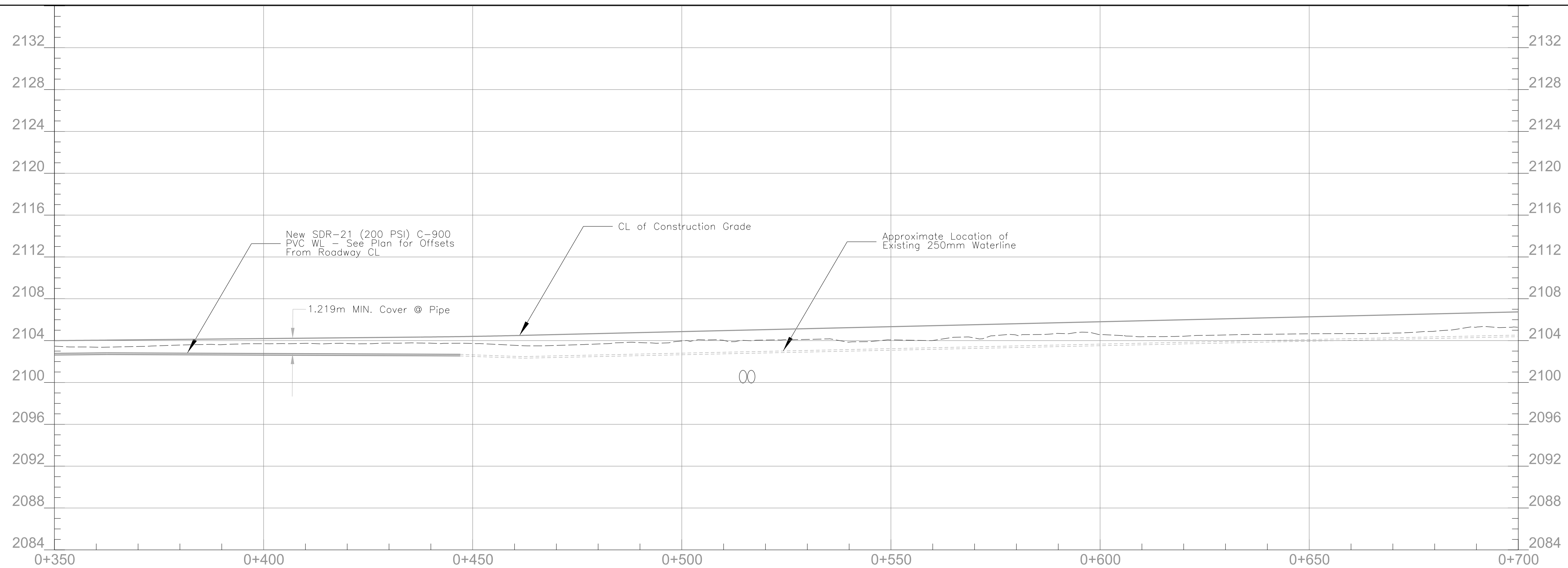
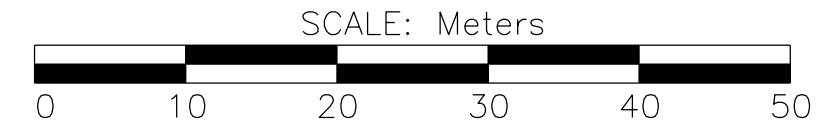




- KEY NOTES:
- 1] 250mm GATE VALVE, MJ X MJ WITH BOX AND RESTRAINTS
  - 2] 250mmX150mm TEE MJ X MJ WITH RESTRAINTS
  - 3] 250mm-11-1/4' BEND MJ X MJ WITH RESTRAINTS
  - 4] 250mmX45' BEND MJ X MJ WITH RESTRAINTS
  - 5] 150mm GATE VALVE, MJ X MJ WITH BOX AND RESTRAINTS
  - 6] 150mmX150mm TEE MJ X MJ WITH RESTRAINTS
  - 7] 150MMX11-1/4' BEND MJ X MJ WITH RESTRAINTS
  - 8] 150mmX45' BEND MJ X MJ WITH RESTRAINTS
  - 9] 150mm 22j' BEND MJ X MJ WITH RESTRAINTS
  - 10] 50MMX11-1/4' BEND MJ X MJ WITH RESTRAINTS
  - 11] 150mmx50mm TEE MJ X MJ WITH RESTRAINTS
  - 12] 50MM GATE VALVE MJ X MJ WITH RESTRAINTS

- GENERAL NOTES:
1. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ON PLANS ARE APPROXIMATE.
  2. CONTRACTOR SHALL RESTORE EXISTING SURFACES TO ORIGINAL CONDITIONS AFTER CONSTRUCTION.
  3. CONTRACTOR SHALL MAINTAIN A VERTICAL MINIMUM DISTANCE OF 457.2mm BETWEEN THE WATERLINE AND OTHER UTILITIES. IF 457.2mm MINIMUM DISTANCE CANNOT BE ACHIEVED, FLOWABLE FILL BACKFILL AROUND WATERLINE MAY BE CONSIDERED. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UTILITY CROSSINGS WITH LESS THAN 457.2mm OF CLEARANCE.
  4. PIPE JOINT DEFLECTIONS SHALL NOT EXCEED 50% OF MANUFACTURERS' RECOMMENDATIONS.
  5. WATERLINES SHALL HAVE A MINIMUM OF 3.048m HORIZONTAL SEPARATION FOR SANITARY SEWER PIPES, AND A MINIMUM OF 457.2mm VERTICAL CLEARANCE. WHERE THIS CLEARANCE IS NOT ACHIEVABLE, BOTH WATER AND SEWER SHALL BE CONSTRUCTED USING PRESSURE RATED PIPING, FITTINGS, AND CONNECTIONS. WHERE WATERLINES AND SANITARY SEWER CROSS, THE WATERLINE SHALL BE CONSTRUCTED SO THAT THE SEWER LINE CROSSES AT THE MID-POINT OF A 6.096m STICK OF PIPE. FLOWABLE FILL SHALL BE USED BETWEEN WATERLINE AND SEWER PIPES THAT CROSS FOR THE WIDTH OF THE TRENCH.

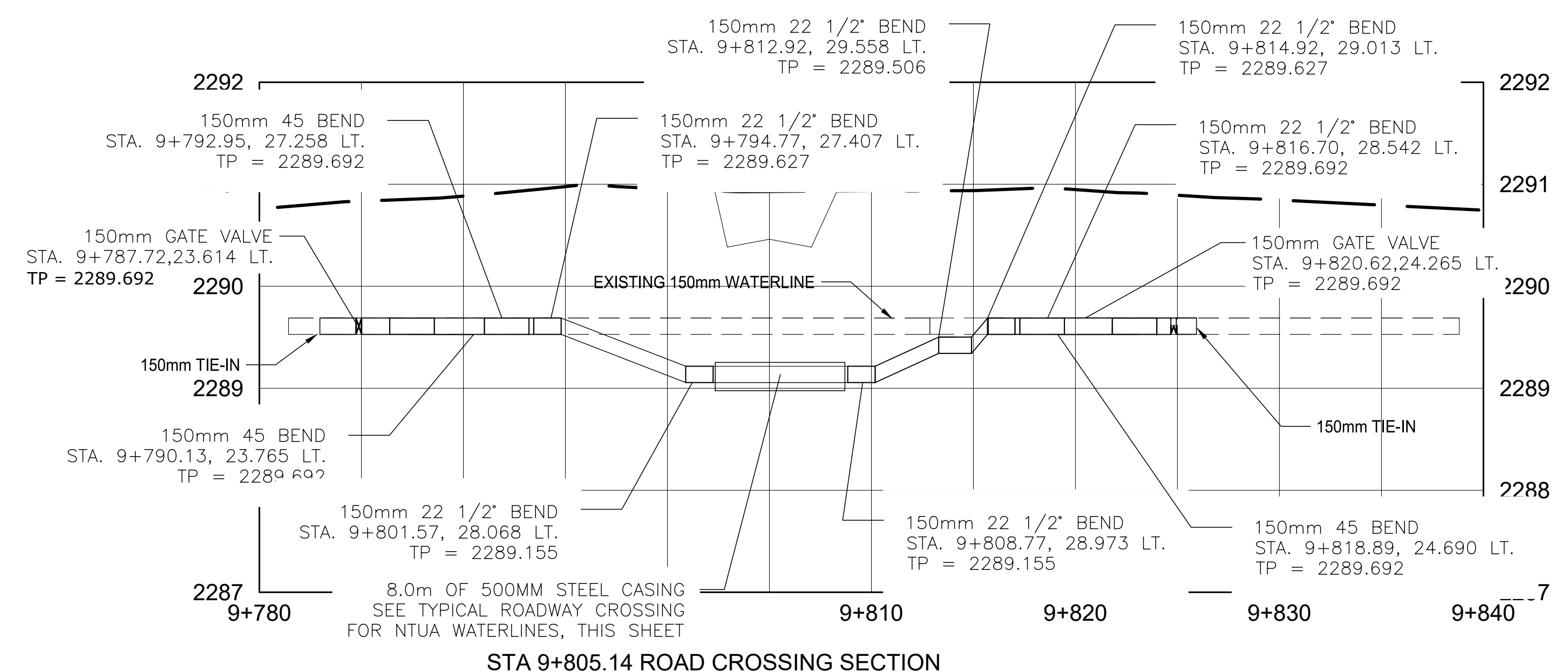
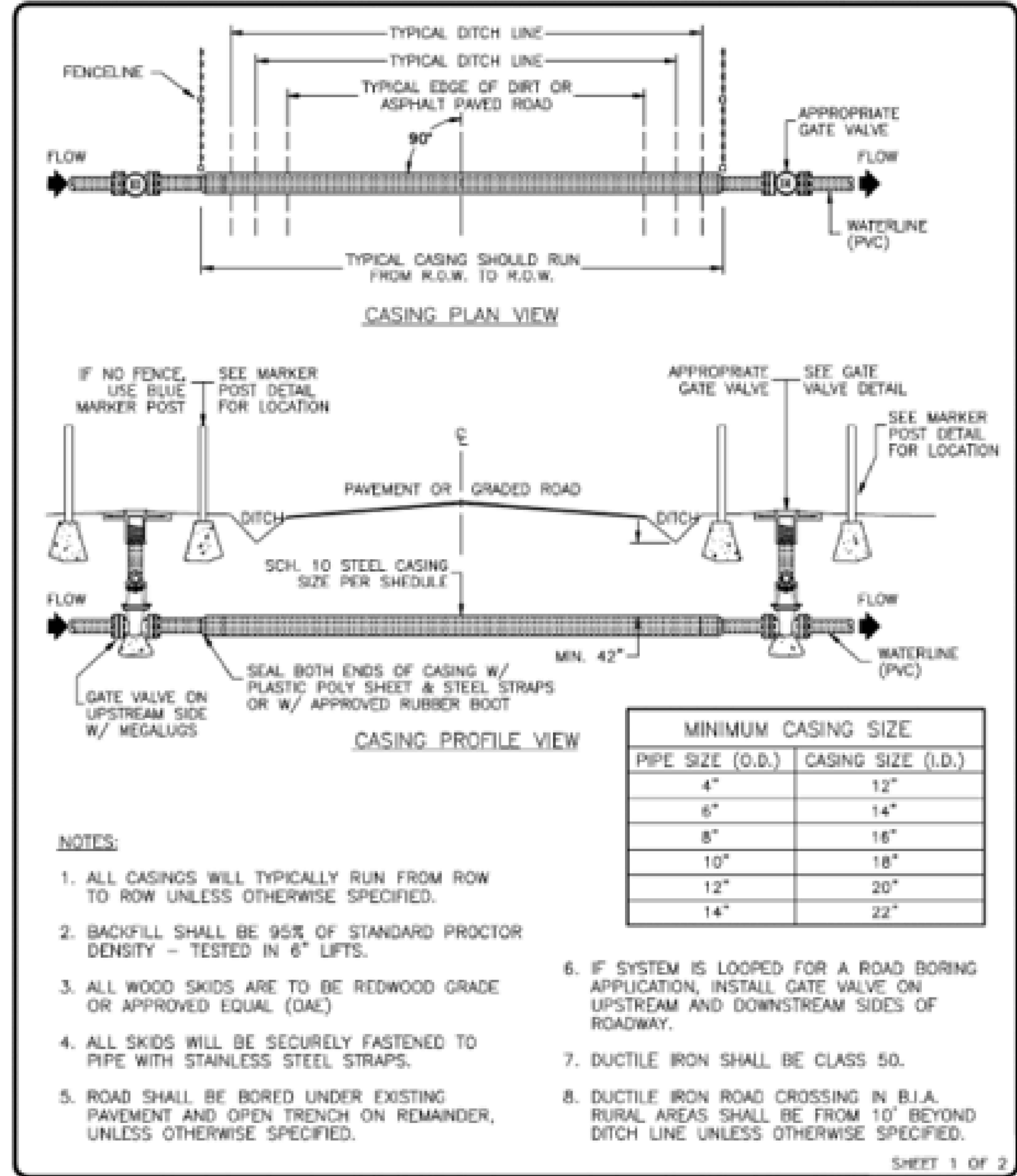
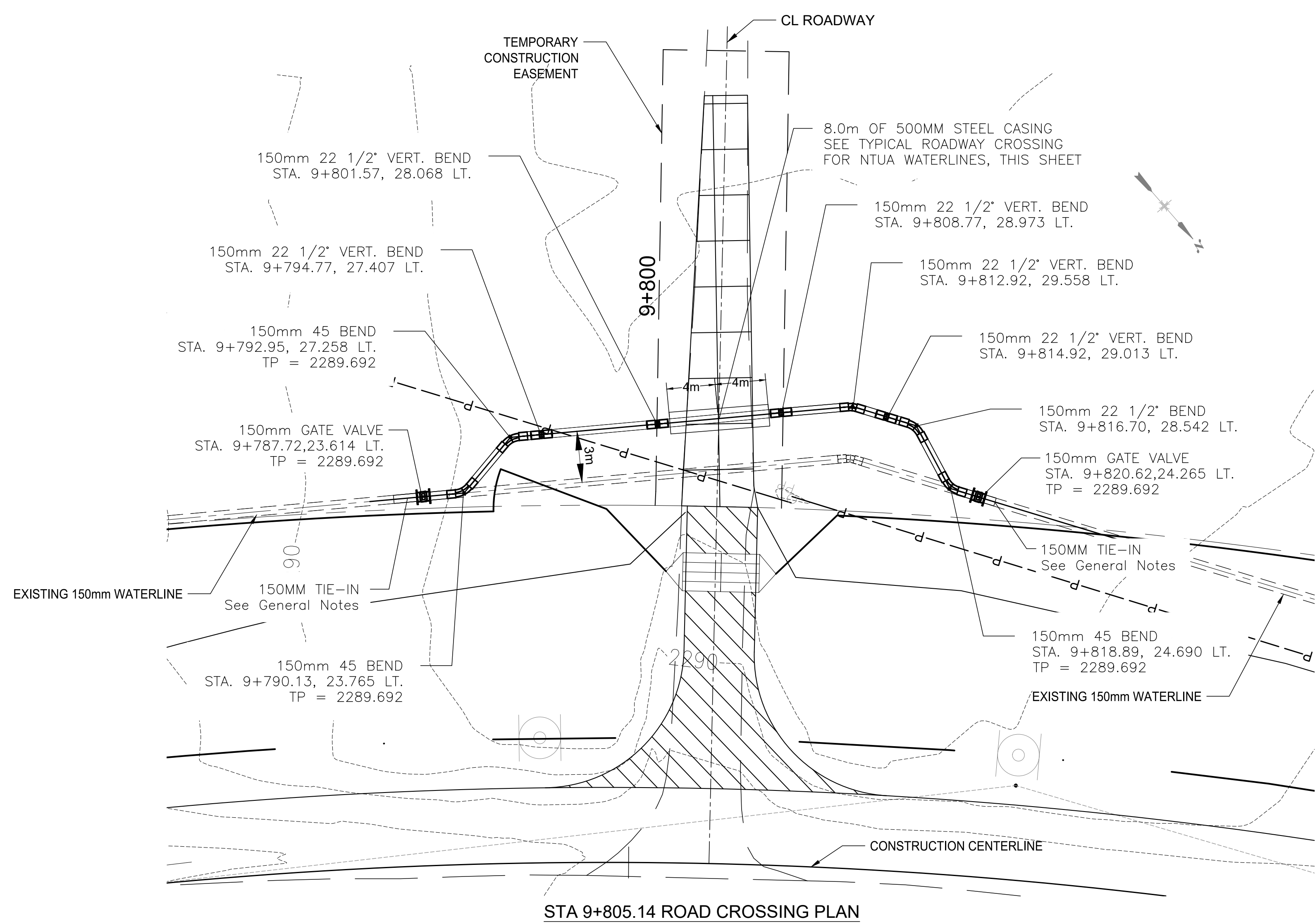
- GENERAL NOTES (CONTINUED):
6. MECHANICAL JOINT RESTRAINTS SHALL BE USED ON ALL FITTINGS, VALVES, AND PIPE JOINTS WITHIN THE REQUIRED RESTRAINT LENGTH. THRUST BLOCKING SHALL ONLY BE USED WHERE THE REQUIRED RESTRAINT LENGTH IS NOT ACHIEVABLE. MECHANICAL JOINTS AND CONCRETE THRUST BLOCKING SHALL NOT BE USED ON THE SAME FITTING, VALVE, OR PIPE JOINT AS THE USE OF CONCRETE THRUST BLOCKING VOIDING MECHANICAL JOINT RESTRAINT WARRANTIES.
  7. CONTRACTOR SHALL PREPARE AND SUBMIT SITE-SPECIFIC JOINT RESTRAINT LENGTH CALCULATIONS PRIOR TO CONSTRUCTION. CALCULATIONS SHALL INCLUDE PROJECT SPECIFIC PARAMETERS FOR TYPE OF TRENCH CONSTRUCTION, TEST PRESSURE OF SYSTEM, SOIL TYPE, DEPTH OF BURY, FITTING TYPE. VALVES SHALL BE CONSIDERED AS DEAD-ENDS AND RESTRAINED AS SUCH ON BOTH SIDES OF THE VALVE. THE FACTOR OF SAFETY FOR JOINT RESTRAINT CALCULATIONS SHALL BE A MINIMUM OF 1.5.
  8. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING SERVICES LINES. ALL SERVICES LINES CONNECTED TO THE EXISTING LINE SHALL BE TRANSFERRED TO THE NEW WATER LINE AND CONNECTED WITH A CORPORATION STOP. CONNECTIONS SHALL BE IN ACCORDANCE WITH NTUA STANDARD DETAILS. CONTRACTOR SHALL NOT SPlice EXISTING SERVICE LINES. SERVICE LINES SHALL BE A CONTINUOUS SINGLE PIPE BETWEEN THE CORPORATION STOP AND THE PROPERTY LINE OR METER, WHICHEVER IS CLOSER TO THE CONNECTION.
  9. WATERLINES WITHIN THE 1m FROM THE EXISTING SURFACE SHALL BE REMOVED TO AVOID CONFLICTS WITH SUBGRADE PREPARATION. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND DOCUMENTING ALL PIPELINE MATERIALS BEFORE REMOVAL. ASBESTO CEMENT (TRANSITE) WATER LINES SHALL BE HANDLED IN ACCORDANCE WITH SUPPLEMENTAL TECHNICAL SPECIFICATION 02 5170 - HANDLING ASBESTOS CEMENT PIPE, AND SHALL FOLLOW ALL REQUIREMENTS FOR REMOVAL, HANDLING, AND DISPOSAL. OTHER PIPE MATERIALS SHALL BE REMOVED AND DISPOSED OF FOLLOWING STANDARD INDUSTRY PRACTICES AT A QUALIFIED DISPOSAL SITE.
  10. WATERLINES GREATER THAN 3-FEET FROM THE EXISTING SURFACE SHALL BE ABANDONNED IN PLACE AND GROUT FILLED IN ACCORDANCE WITH SUPPLEMENTAL TECHNICAL SPECIFICATION 33 3300.13 - ABANDONNED-IN-PLACE OF PIPELINES USING FLOWABLE FILL.
  11. TIE INS - EXISTING WATERLINE LOCATION AND EXISTING PIPE SIZES AND MATERIAL SHOULD BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. PROPER TOOLS AND FITTINGS TO SUIT ACTUAL CONDITIONS ENCOUNTERED IN THE FIELD IN EACH CASE SHALL BE UTILIZED. EACH TIE-IN SHALL BE MADE IN STRICT ACCORDANCE WITH RECOMMENDATIONS OF THE PIPE MANUFACTURERS, WITHOUT DAMAGE TO PIPES, OR COATING, TO THE SATISFACTION OF NTUA. SEE SECTION 3.02.03 OF NTUA SPECIFICATIONS.
  12. FOLLOW TYPICAL LAYOUT OF WATERLINE MARKER POST INSTALLATION PER NTUA SPECIFICATIONS UNDER MARKER DETAIL.



**WATERLINE CROSSINGS, OPEN-CUT**

N9402	Removal of Waterline	Item No. 61102-2950, 150mm PVC	Item No. 61103-1480, 500mm STEEL PIPE	Item No. 61104-0800, 150mm Gate Valve	Item No. 61114-1000, Water System Accessory Bends	Item No. 61114-1500, Tie-Ins	Description	
Existing Crossing Station at CL	LOC	Length (m)	Length (m)	Each	Each	Each		
9+805	TO	None	43	8	2	9	2	INSTALL NEW 150mm WATERLINE WITH 18-INCH STEEL CASING. LAY NEW PIPE & CASING PARALLEL 10 FEET FROM EXISTING. NEW ELEVATION OF PIPE TO MEET 42 INCHES OF COVER OVER TOP OF CASING. ABANDON EXISTING WATER LINE AND CASING IN-PLACE. REMOVE EXISTING GATE VALVES/BOXES IF ANY. ADD NEW GATEVALVES/BOXES. PROVIDE HORIZ AND VERTICAL BENDS TO RE-ESTABLISH CONNECTION TO EXISTING LINE. FINAL LOCATION & LIMITS TO BE VERIFIED IN THE FIELD.

NOTE:  
THIS DETAIL IS IN CUSTOMARY UNITS.



REVISIONS NO. DATE BY 1. 4/26 MLL 2. 4/26 RW	<b>NAVAJO NATION DIVISION OF TRANSPORTATION</b> <b>TYPICAL ROAD CROSSING FOR NTUA WATERLINES</b> PREPARED BY: [Signature] CHECKED BY: [Signature]	REVISIONS NO. DATE BY 1. 4/26 MLL 2. 4/26 RW	
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NOTE:  
SEE GENERAL NOTES SHEET 77

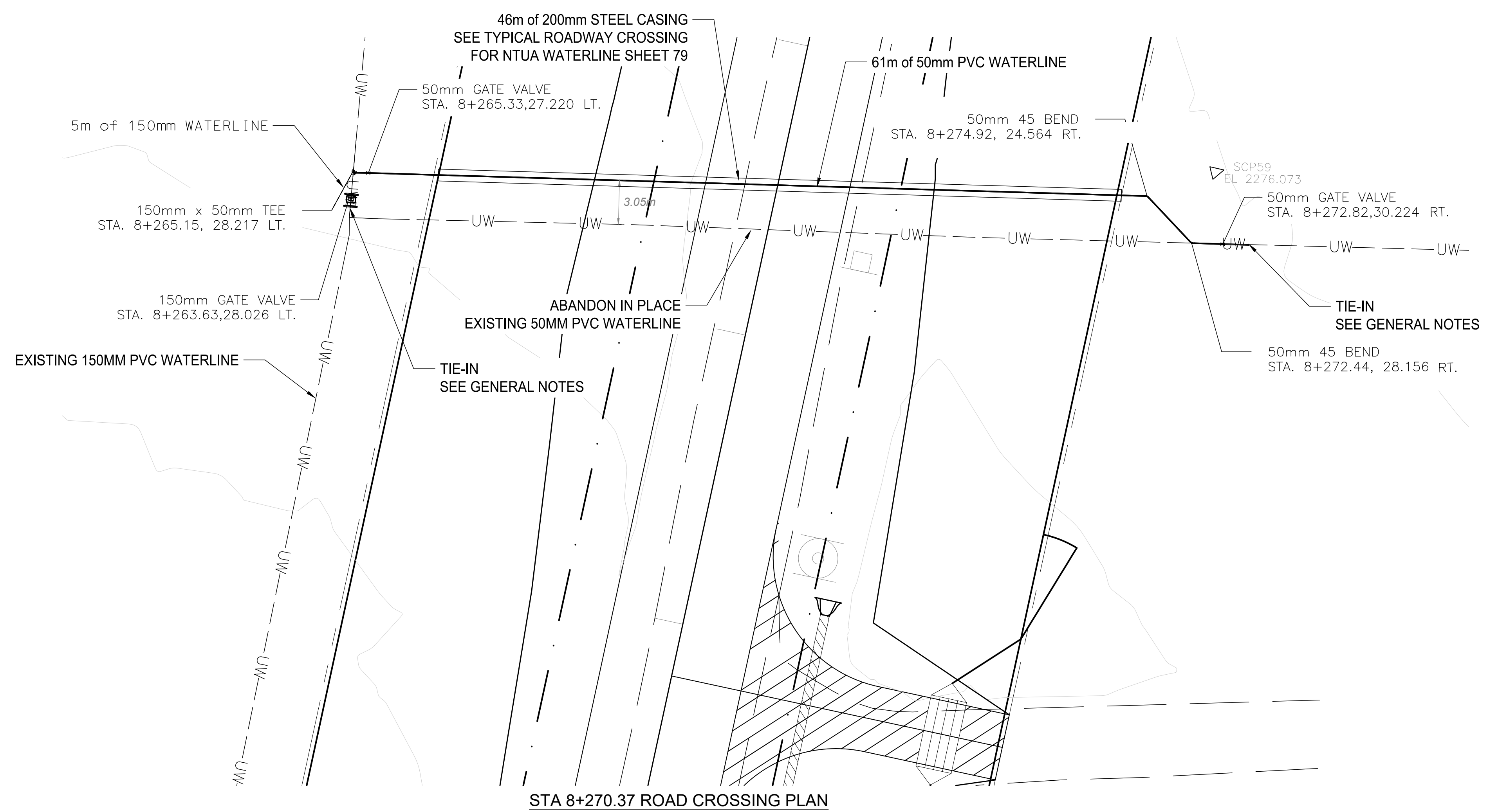
REVISION	BY	DATE
NAVAJO NATION DIVISION OF TRANSPORTATION N90072(1) 1, 2&3		
<b>WATERLINE RELOCATION</b>		
PROJECT MANAGER: MLL	DATE: 4/26	DRAWING
LEAD DESIGNER: RW	DATE: 4/26	SHEET
ASBUILT BY:	DATE:	22X34 79

Professional Engineer  
72156  
BRIAN AMBROSE  
ARIZONA, U.S.A.

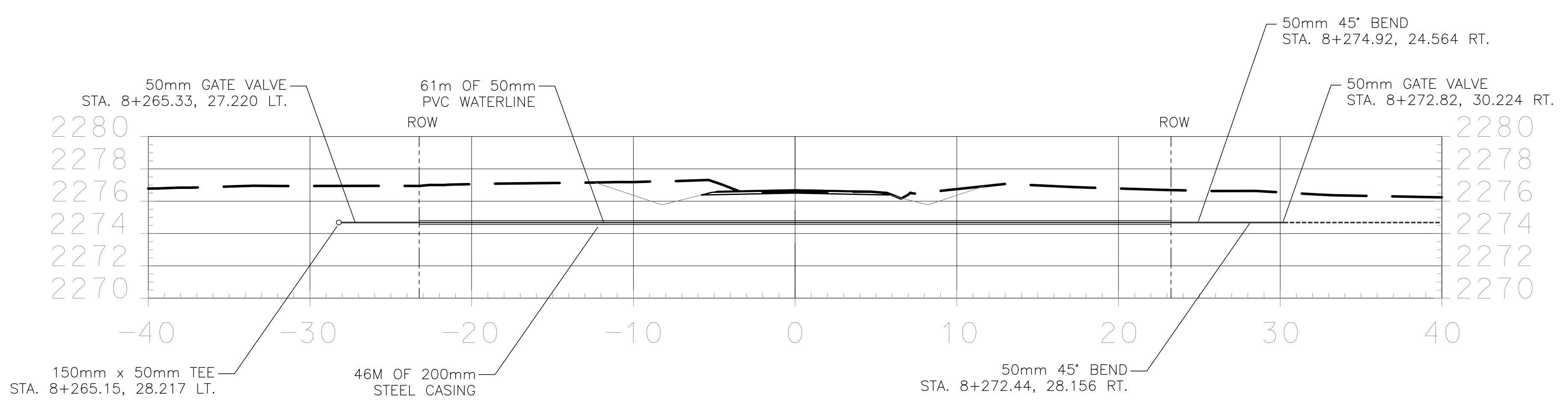
STATE	PROJECT	SHEET NUMBER
AZ	N9073(1) 1, 2 & 4	80

**WATERLINE CROSSINGS, OPEN-CUT**

N9073	Removal of Waterline	Item No. 61102-1700, 50mm PVC	Item No. 61102-2950, 150mm PVC	Item No. 61103-0700, 200mm Encasement Pipe, Galv. Steel	Item No. 61104-0600, 50mm Gate Valve	Item No. 61104-0800, 150mm Gate Valve	Item No. 61114-0000, Water System Accessory	Item No. 61114-1500, Water System Accessory, Tie-Ins	Description	
Existing Crossing Station at C.L.	LOC	Length (m)	Length (m)	Length (m)	Each	Each	Each	Each		
8+267	RT/LT	None	61	5	46	2	1	3	2	INSTALL NEW 2-INCH WATERLINE WITH 8-INCH STEEL CASING. LAY NEW PIPE & CASING PARALLEL 10 FEET FROM EXISTING. NEW ELEVATION OF PIPE TO MEET 42 INCHES OF COVER OVER TOP OF CASING. ABANDON EXISTING WATER LINE AND CASING IN-PLACE. REMOVE EXISTING GATE VALVES/BOXES IF ANY. ADD NEW GATE VALVES/BOXES. PROVIDE HORIZ AND VERTICAL BENDS TO RE-ESTABLISH CONNECTION TO EXISTING LINE. FINAL LOCATION & LIMITS TO BE VERIFIED IN THE FIELD.




STA 8+270.37 ROAD CROSSING PLAN



STA 8+270.37 ROAD CROSSING SECTION

NOTE:  
SEE GENERAL NOTES SHEET 77



REVISION		BY	DATE
 NAVAJO NATION DIVISION OF TRANSPORTATION			
N90072(1) 1, 2&3			
WATERLINE RELOCATION			
PROJECT MANAGER: MLL	DATE: 4/26	DRAWING	SHEET
LEAD DESIGNER: RW	DATE: 4/26	22X34	80
ASBUILT BY:	DATE:		