



BOARD OF COUNTY COMMISSIONERS
WARREN COUNTY, OHIO

406 Justice Drive, Lebanon, Ohio 45036

www.co.warren.oh.us

commissioners@co.warren.oh.us

Telephone (513) 695-1250

Facsimile (513) 695-2054

TOM GROSSMANN
SHANNON JONES
DAVID G. YOUNG

22-0270

February 22, 2022

ENTER INTO CONTRACT WITH EAGLE BRIDGE COMPANY FOR THE KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT

WHEREAS, pursuant to Resolution #22-0174 dated February 1, 2022 this Board approved a Notice of Intent to Award Bid for the King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project to Eagle Bridge Company, for a total bid price of \$22,047,747.70 ; and

WHEREAS, all documentation, including performance bonds, insurance certificates, etc., has been submitted by the contractor; and

NOW THEREFORE BE IT RESOLVED, to enter into contract with Eagle Bridge Company, P. O. Box 59 , Sidney, Ohio 45365, for a total contract price of \$22,047,747.70; as attached hereto and made a part hereof.

Mrs. Jones moved for adoption of the foregoing resolution being seconded by Mr. Grossmann. Upon call of the roll, the following vote resulted:

Mr. Young – absent
Mr. Grossmann – yea
Mrs. Jones – yea

Resolution adopted this 22nd day of February 2022.

BOARD OF COUNTY COMMISSIONERS

Krystal Powell, Deputy Clerk

KP/

cc: c/a— Eagle Bridge Company
Engineer (file)
OMB Bid file



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TOM GROSSMANN
SHANNON JONES
DAVID G. YOUNG

22-0174

February 01, 2022

APPROVE NOTICE OF INTENT TO AWARD BID TO EAGLE BRIDGE COMPANY FOR THE KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT

WHEREAS, bids were closed at 9:30 a.m., on January 25, 2022, and the bids received were opened and read aloud for the King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project, and the results are on file in the Commissioners' Office; and

WHEREAS, upon review of such bids by Roy Henson, Bridge Engineer, Eagle Bridge Company has been determined to be the lowest and best bidder; and

NOW THEREFORE BE IT RESOLVED, upon recommendation of the Warren County Engineer, that it is the intent of this Board to award the contract to Eagle Bridge Company, P.O. Box 59, Sidney, Ohio 45365, for a total bid price of \$22,047,747.70; and

BE IT FURTHER RESOLVED, that the President of the Board is hereby authorized to execute a "Notice of Intent to Award."

Mrs. Jones moved for adoption of the foregoing resolution being seconded by Mr. Young. Upon call of the roll, the following vote resulted:

Mr. Grossmann – yea

Mr. Young – yea

Mrs. Jones – yea

Resolution adopted this 1st day of February 2022.

BOARD OF COUNTY COMMISSIONERS

Tina Osborne, Clerk

cc: Engineer (file)
OMB Bid file



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***TOM GROSSMANN
SHANNON JONES
DAVID G. YOUNG***

BID OPENING

January 25, 2022

BID OPENING –

Bids were closed at 9:30 a.m. this 25th day of January and the following bids were received, opened, and read aloud for the King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project for the Warren County Engineer's Office.

Sunesis Construction Co. West Chester, Ohio	\$24,975,373.00
Eagle Bridge Co. Sidney, Ohio	\$22,047,747.70
Complete General Construction Columbus, Ohio	\$24,216,028.76

Roy Henson, Bridge Engineer, will review bids for a recommendation at a later date.

cc: Bid File

OMB

E/O (file)



January 21, 2022

Re: Addendum No. 1 – King Avenue Bridge Replacement #282-0.97 Over Little Miami River Improvements Project

Dear Prospective Bidder:

Listed below is Addendum No. 1 for the referenced project. Please note the following clarifications/modifications to be included in your bid price. The bid opening for this project will remain as scheduled on Tuesday, January 25, 2022 at 9:30 am at the Warren County Commissioners, 406 Justice Drive, Lebanon, Ohio 45036.

ADDENDUM NO. 1

1. **Clarification/Modification: (Plan)**
The cost of the 4” conduit as referenced on sheet 179 should be included in the cost of Item 511 - Class QC 3 Concrete, Misc.: Concrete with QC/QA, Superstructure, As Per Plan. The plan note is incorrect in stating that it is included in the cost of Item 511 - Class QC 1 Concrete, Misc.: Concrete with QC/QA, Superstructure, As Per Plan.
2. **Clarification/Modification: (Plan)**
ODOT Standard Drawing HL-30.31 shall replace HL-30.32 on the title sheet under standard construction drawings. The 4” conduit shall be carried off the river bridge following HL-30.31.
3. **Clarification/Modification: (Plan)**
Supplemental Specification 800 dated 10/15/21 shall be utilized instead of Supplemental Specification 800 dated 1/22/22 as shown on the title sheet.
4. **Clarification/Modification: (Plan)**
The Contractor has the option of leaving the casings for the drilled shafts in place or turning/rotating the DS801 bar tops to be inside the diameter of the shaft as detailed on sheet 171.
5. **Clarification/Modification: (Plan)**
For bidding purposes, the 600 ft contour shall be used as the OHWM for Wetland B that is located inside the limits of construction, near the existing bridge over the river.
6. **Clarification/Modification: (Plan)**
The work associated with the temporary extension of the 24”x38” conduit, temporary shoring, work zone traffic signals, and the detour route signing shall all be included in the cost of Item 614 – Maintaining Traffic.

WARREN COUNTY ENGINEER'S OFFICE

ADMINISTRATION and ENGINEERING
210 W Main St. Lebanon, OH 45036
Telephone (513) 695-3301 Fax (513) 695-7714

HIGHWAY MAINTENANCE, PERMITS, and INSPECTION
105 Markey Rd. Lebanon, OH 45036
Telephone (513) 695-3336 Fax (513) 695-3323

7. Clarification/Modification: (Plan)

All metallizing of the structural steel in this project shall be performed in the shop. ODOT does not have a Shop Metallizing of Structural Steel bid item, therefore this work is bid under Item 845 - Field Metallizing of Existing Structural Steel with notes stating that all metallizing shall be completed in the shop. The Contractor has the option to hot dip galvanize the cross frames and pipe support angles if they choose to.

8. Clarification/Modification: (Bid Proposal)

The unit of measure for Item 601 – Paved Gutter, Type 1-2 in the bid proposal should be FT, to match the plans, instead of SY. A revised bid proposal that reflects the updated unit of measure is part of this addendum. Please remove and discard the original bid proposal that was included with the bid documents.

9. Clarification/Modification: (Bid Proposal)

The unit of measure for Item 638 – 6” Fire Hydrant in the bid proposal should be Each, to match the plans, instead of FT. A revised bid proposal that reflects the updated unit of measure is part of this addendum. Please remove and discard the original bid proposal that was included with the bid documents.

10. Clarification/Modification: (Bid Proposal)

The quantities for wick drains and granular embankment have been reduced to remove the area of the precast concrete arch structure carrying Grandin Road over the Little Miami Scenic Trail at the forward abutment side. Wick drains are to consolidate the ground where there is significant fill, since this structure will be on piling and will not cause consolidation, the drains are not needed in this area. As stated in the plans, the limits at the forward abutment are 50 feet left and 40 feet right, unless restricted by a wingwall. A revised bid proposal with the following changes is part of this addendum: Item Special – Wick Drains, As Per Plan 19,635 FT, and Item 203 – Granular Embankment, As Per Plan 4,249 CY. Please remove and discard the original bid proposal that was included with the bid documents.

11. Clarification/Modification: (Bid Proposal)

Structural steel quantities have been reviewed by the designer and an error has been found. A revised bid proposal with the following change is part of this addendum: Item 513 – Structural Steel Members, Hybrid Girder, Level Six (6) Fabrication, As Per Plan 2,061,300 Pound. Please remove and discard the original bid proposal that was included with the bid documents.

12. Clarification/Modification: (Plan)

The temporary 10” Water Main is connecting to the existing 10” Water Main, sheet 127A is incorrect showing the connection to an existing 24” Water Main.

13. Clarification/Modification: (Plan)

The proposed 24” Water Main on the bridge over the Little Miami River shall be US Pipe TR Flex Restrained Joint Pipe, American Ductile Iron Pipe Flex-ring Restrained Joint Pipe, or approved equal. Mechanical joints with megalugs are to be utilized on all other 24” Water Main. Mechanical joint field locks can be used on Water Main joints less than 24” in diameter.

14. Clarification/Modification: (Plan)

The water main trench (W-2) detail on sheet 129 and the sanitary sewer trench (S-6) detail on sheet 116 shows that control density fill is required above the pipe bedding if within 3 ft of the edge of pavement. Granular fill (ODOT 703.11, Type 1) is an acceptable substitution for the control density

fill over the pipe bedding for the proposed water mains and sanitary sewer portions that are constructed in or within 3 ft of new roadways.

15. Clarification/Modification: (Plan)

The existing 8" and 10" Water Mains that are to be abandoned as part of the project can be cut and capped, the abandoned mains do not have to be removed or plugged and filled in place.

16. Clarification/Modification: (Plan)

The Warren County Water and Sewer Department will only require one pressure test on the Water Mains. The last sentence on Note 3 under the Water Main Installation section on sheet 117 does not apply.

17. Clarification/Modification: (Plan)

Tapping sleeve costs are to be included in the pertinent Water Main bid item unit cost per FT.

18. Clarification/Modification: (Plan)

The 12"x12" tapping sleeve (W7) as shown on sheet 119 should actually be a 12"x12" tee and will require a shutdown of the existing 12" Water Main for installation. The cost of the tee shall be included in the cost of Item 638 – 12" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings (With Restrained Joints).

19. Clarification/Modification: (Plan)

All 24" Gate Valves associated with the Water Main work shall be horizontal.

20. Clarification/Modification: (Plan)

All 24" Butterfly Valves associated with the Water Main work are to be rated for 250 PSI.

21. Clarification/Modification: (Plan)

The proposed 8" Sanitary Sewer on the bridge over the Little Miami River shall be US Pipe TR Flex Restrained Joint Pipe, American Ductile Iron Pipe Flex-ring Restrained Joint Pipe, or approved equal. This pipe shall be Class 53, P401 lined.

22. Clarification/Modification: (Plan)

The follow data for the existing 8" sanitary sewer at the Kings Mills lift station sees 13,000 gallon/day on average with a maximum day of 50,000 gallon/day. The follow data for the existing 21" sanitary sewer along the Little Miami Scenic Trail sees 250,000 gallon/day on average with a maximum day of 650,000 gallon/day.

23. Provided: (Bid Proposal)

An electronic bid proposal unit cost spreadsheet is attached to this Addendum No. 1 email. The bidder may use the provided spreadsheet in creating an electronic unit cost Bid Proposal to include in the bid or complete by hand if preferred. Both methods of completing the unit cost Bid Proposal shall be accepted.

Addendum No. 1 shall be signed and included with the submission of the bid. Please sign below and enter the date you received this addendum. **Any bid submitted without the signed Addendum No. 1 shall be rejected.** If you have any questions please call me at 513-695-3310.

Sincerely,

Neil F. Tunison, P.E., P.S.
WARREN COUNTY ENGINEER



Roy G. Henson, P.E., P.S.
Bridge Engineer

cc: file

Received by

Signature

Company

Date

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
	ROADWAY				
201	Clearing and Grubbing, As Per Proposal Note	1	Lump		
202	Structure Removed	1	Lump		
202	Portions of Structure Removed	1	Lump		
202	Pavement Removed, As Per Proposal Note	865	SY		
202	Walk Removed	332	SF		
202	Steps Removed	1	Lump		
202	Concrete Barrier Removed	114	FT		
202	Curb Removed	92	FT		
202	Pipe Removed, 24" and Under	307	FT		
202	Pipe Removed, Over 24"	160	FT		
202	Guardrail Removed	1,793.75	FT		
202	Manhole Removed	1	Each		
202	Catch Basin Removed	4	Each		
203	Excavation Including Pavement Removal, As Per Proposal Note	15,572	CY		
203	Excavation, As Per Plan	732	CY		
203	Embankment	38,898	CY		
203	Embankment, As Per Plan	14,376	CY		
204	Subgrade Compaction	10,890	SY		
204	Proof Rolling	1	Hour		
206	Cement	53	Ton		
206	Curing Coat	1,507	SY		
206	Cement Stablized Subgrade, 14 Inches Deep	1,507	SY		
Special	Undercutting Subgrade, As Per Proposal Note	1,000	CY		
Special	Granular Repair of Subgrade, As Per Proposal Note	1,000	CY		
606	Guardrail, Type MGS	262.5	FT		
606	Guardrail, Type MGS with Long Posts	925	FT		
606	Guardrail, Barrier Design, Type MGS, As Per Plan	12.5	FT		
606	Guardrail, Type MGS, 25' Long-Span	50	FT		
606	Anchor Assembly, MGS Type E	2	Each		
606	Anchor Assembly, MGS Type T	4	Each		
606	Bridge Terminal Assembly, MGS Type 1	3	Each		
606	Bridge Terminal Assembly, MGS Type 1, Barrier Design, As Per Plan	1	Each		
607	Fence, Snow	1,300	FT		
607	Fence, Misc.: Wood Fence	449	FT		
607	Fence, Misc.: Barricade Gate, As Per Plan	1	Each		
609	Curb, Type 4-C	74	FT		
609	Curb, Type 6	3,199	FT		
609	Combination Curb and Gutter, Type 9	251	FT		
609	4" Concrete Traffic Island	303	SY		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
622	Concrete Barrier, Single Slope, Type D	1,059	FT		
622	Concrete Barrier End Section, Type D	2	Each		
622	Concrete Barrier End Anchorage, Reinforced, Type D	5	Each		
623	Reference Monument	14	Each		
Special	Spill Prevention Control and Countermeasures Plan, As Per Plan	1	Lump		
878	Inspection and Compaction Testing of Unbound Material	1	Lump		
				Sub-Total =	
	EROSION CONTROL				
601	Tied Concrete Block Mat, With Type 1 Underlayment	109	SY		
601	Seeding and Erosion Control With Turf Reinforcing Mat, Type 3 & Percussion Driven Earth Anchors	432	SY		
601	Rock Channel Protection, Type B with Filter	470	CY		
601	Rock Channel Protection, Type C with Filter	52	CY		
601	Paved Gutter, Type 1-2	1,026	FT		
601	Bioretention Cell, As Per Plan	778	CY		
659	Soils Analysis Test	2	Each		
659	Topsoil	2,729	CY		
659	Topsoil, As Per Plan	41	CY		
659	Seeding and Mulching, As Per Plan	25,132	SY		
659	Commercial Fertilizer	3.32	Ton		
659	Lime	5.08	Acre		
659	Water	133	M Gal		
670	Slope Erosion Protection	911	SY		
670	Ditch Erosion Protection	59	SY		
671	Erosion Control Mat	549	SY		
832	Storm Water Pollution Prevention Plan, As Per Proposal Note	1	Lump		
832	Storm Water Pollution Prevention Inspections	1	Lump		
832	Storm Water Pollution Prevention Inspection Software	1	Lump		
832	Erosion Control, As Per Proposal Note	65,000	Each	\$ 1.00	\$ 65,000.00
836	Seeding and Erosion Control With Turf Reinforcing Mat, Type 1	331	SY		
				Sub-Total =	
	ENVIRONMENTAL				
Special	Site Specific Health and Safety Plan (SSHSP), As Per Plan	1	Lump		
Special	Work Involving Non-Regulated Materials	1,500	Ton		
Special	Work Involving Hazardous Waste	250	Ton		
Special	Work Involving Solid Waste	250	Ton		
Special	Work Involving Non-Regulated Water	1,000	Gal		
Special	Work Involving Regulated Water	1,000	Gal		
				Sub-Total =	

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
	DRAINAGE				
602	Concrete Masonry	5.1	CY		
605	4" Unclassified Pipe Underdrains, As Per Plan	257	FT		
605	6" Shallow Pipe Underdrains	2,918	FT		
605	6" Unclassified Pipe Underdrains	30	FT		
611	4" Conduit, Type B, As Per Plan	75	FT		
611	6" Conduit, Type F for Underdrain Outlets	156	FT		
611	12" Conduit, Type B	486	FT		
611	12" Conduit, Type C	13	FT		
611	15" Conduit, Type B	158	FT		
611	15" Conduit, Type C	265	FT		
611	15" Conduit, Type D	232	FT		
611	18" Conduit, Type B	25	FT		
611	24" Conduit, Type A, 706.02, 707.01 (Aluminized), 707.04, 707.33, 707.34, 707.35	71	FT		
611	24" Conduit, Type B	131	FT		
611	24" Conduit, Type C	143	FT		
611	30" Conduit, Type C	29	FT		
611	36" Conduit, Type A, 706.02, 707.01 (Aluminized), 707.04, 707.33, 707.34, 707.35	118	FT		
611	24" x 38" Conduit, Type D, 706.04	58	FT		
611	Catch Basin, No. 2-2B	10	Each		
611	Catch Basin, No. 2-5	2	Each		
611	Catch Basin, No. 3	8	Each		
611	Catch Basin, No. 3A	6	Each		
611	Catch Basin, No. 8	1	Each		
				Sub-Total =	
	PAVEMENT				
254	Pavement Planing, Asphalt Concrete, As Per Proposal Note	345	SY		
301	Asphalt Concrete Base, PG 64-22	1,496	CY		
301	Asphalt Concrete Base, PG 64-22 (Driveways)	25	CY		
304	Aggregate Base	2,296	CY		
407	Non-Tracking Tack Coat	1,234	Gal		
441	Asphalt Concrete Surface Course, Type 1, (448), PG 64-22	323	CY		
441	Asphalt Concrete Intermediate Course, Type 1, (448) PG 64-22	372	CY		
441	Asphalt Concrete Surface Course, Type 1, (448), PG 64-22 (Driveways)	6	CY		
441	Asphalt Concrete Intermediate Course, Type 1, (448) PG 64-22, (Under Guardrail), As Per Plan	1	CY		
452	8" Non-Reinforced Concrete Pavement, Class QC 1P	450	SY		
452	12" Non-Reinforced Concrete Pavement, Class QC 1P	374	SY		
823	Asphalt Concrete Surface Course, Type 1, (448)	89	CY		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
823	Asphalt Concrete Intermediate Course, Type 1, (448)	104	CY		
				Sub-Total =	
	WATER WORK (CITY OF MASON RAW WATER MAIN)				
202	Abandon Misc: Existing 8" Water Main	458	FT		
638	8" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	824	FT		
				Sub-Total =	
	WATER WORK (WARREN COUNTY TEMPORARY WATER MAIN)				
202	Abandon Misc: Existing 10" Water Main	134	FT		
638	10" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	287	FT		
638	10" Gate Valve and Valve Box	2	EACH		
				Sub-Total =	
	WATER WORK (WARREN COUNTY RAW WATER MAIN)				
Special	Fill and Plug Existing 24" Conduit	830	FT		
202	Abandon Existing 24" Valve and Valve Box	1	Each		
638	Water Work, Misc.: 24" Water Main Ductile Iron Pipe ANSI Pressure Class 350, Mechanical Joints and Fittings	756	FT		
638	4" Butterfly Valve and Valve Box	2	Each		
638	24" Butterfly Valve and Valve Box	1	Each		
				Sub-Total =	
	WATER WORK (WARREN COUNTY WATER MAIN)				
202	Abandon Misc.: Existing 10" Water Main	2,233	FT		
638	6" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	14	FT		
638	8" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	18	FT		
638	10" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	15	FT		
638	12" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	23	FT		
638	Water Work Misc.: 24" Water Main Ductile Iron Pipe ANSI Pressure Class 350, Mechanical Joints and Fittings	1,876	FT		
638	Water Work Misc.: 24" Water Main Ductile Iron Pipe ANSI Pressure Class 350, Push on Joints and Fittings	520	FT		
638	Water Work Misc.: 30" Spiral Insulated Aluminum Jacket	520	FT		
638	Water Work Misc.: Abutment Connection	2	Each		
638	Water Work, Misc.: EBAA XTEND Expansion Joint	2	Each		
638	Water Work Misc.: Pipe Hanger	58	Each		
638	6" Gate Valve and Valve Box	1	Each		
638	10" Gate Valve and Valve Box	1	Each		
638	12" Gate Valve and Valve Box	1	Each		
638	24" Gate Valve and Valve Box	4	Each		
638	6" Fire Hydrant	1	Each		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
638	Fire Hydrant Removed	1	Each		
				Sub-Total =	
	SANITARY SEWER (WARREN COUNTY)				
202	Removal Misc.: Existing Lift Station and Valve Vault	1	Lump		
202	Abandon Misc.: Existing 12" Sewer or Less, As Per Plan	40	FT		
638	8" Conduit, Type B, 748.01 Class 53	585	FT		
611	8" Conduit, Type B, SDR 26, As Per Plan	1,000	FT		
611	Manhole Reconstructed to Grade	2	Each		
611	Manhole, Misc.: Warren Co. Type S-1	5	Each		
611	Manhole, Misc.: Warren Co. Type S-1 Modified	1	Each		
611	Manhole, Misc.: Warren Co. Type S-2	3	Each		
638	Water Work, Misc.: 12.7" Spiral Insulated Aluminum Jacket	520	FT		
638	Water Work, Misc.: Sewer Abutment Connection	2	Each		
638	Water Work, Misc.: EBAA XTEND Expansion Joint	2	Each		
638	Water Work, Misc.: Pipe Hanger	58	Each		
				Sub-Total =	
	LIGHTING				
625	Conduit, 2", 725.04	726	FT		
625	Conduit, 4", 725.04	235	FT		
625	Trench	726	FT		
625	Junction Box	4	Each		
625	Pull Box, 725.08, 18" (Installation Only)	6	Each		
625	Pull Box, 725.08, 32" (Installation Only)	4	Each		
625	Light Pole Removed	2	Each		
625	Lighting, Misc.: Temporary Light, As Per Proposal Note	1	Each		
				Sub-Total =	
	TRAFFIC CONTROL				
621	RPM	62	Each		
626	Barrier Reflector, Type 1 (Bi-Directional)	14	Each		
626	Barrier Reflector, Type 3 (Bi-Directional)	22	Each		
630	Ground Mounted Support, No. 3 Post	527.4	FT		
630	Sign Post Reflector	24	Each		
630	Sign Support Assembly, Pole Mounted	2	Each		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
630	Sign Support Assembly, Bridge Mounted, Type 1	3	Each		
630	Sign Support Assembly, Bridge Mounted, Type 2	2	Each		
630	Sign Support Assembly, Barrier Mounted	3	Each		
630	Sign, Flat Sheet	207	SF		
630	Removal of Ground Mounted Sign and Disposal	65	Each		
630	Removal of Ground Mounted Sign and Reerection	1	Each		
630	Removal of Ground Mounted Post Support and Disposal	56	Each		
630	Removal of Ground Mounted Post Support and Reerection	1	Each		
630	Removal of Private Advertising Sign and Delivery, As Per Proposal Note	1	Lump		
630	Removal of Private Advertising Sign Foundation, As Per Proposal Note	1	Lump		
644	Edge Line, 4"	0.97	Mile		
644	Center Line	0.47	Mile		
644	Stop Line	13	FT		
644	Transverse/Diagonal Line	137	FT		
644	Parking Lot Stall Marking	540	FT		
644	Lane Arrow	4	Each		
644	Word on Pavment, 96"	4	Each		
644	Dotted Line, 8"	119	FT		
644	Handicap Symbol Marking	2	Each		
644	Yield Line	56	FT		
646	Edge Line, 4"	0.34	Mile		
646	Center Line	0.12	Mile		
646	Transverse/Diagonal Line	20	FT		
646	Word on Pavment, 96"	1	Each		
646	Dotted Line, 8"	32	FT		
646	Yield Line	16	FT		
				Sub-Total =	
	LANDSCAPING				
661	Evergreen Shrub, 18" Height, Broadmoor Juniper	85	Each		
661	Deciduous Tree, 1" Caliper	250	Each		
				Sub-Total =	
	RETAINING WALL				
202	Portions of Structure Removed, As Per Plan	1	Lump		
505	Pile Driving Equipment Mobilization	1	Lump		
507	Steel Piles, Misc.: Soldier Piles HP14x102, As Per Plan	428	FT		
518	Porous Backfill with Geotextile Fabric	42	CY		
Special	Structures: Precast Concrete Panels, As Per Plan	54	Each		
				Sub-Total =	

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
	BUILDING DEMOLITION				
202	Building Demolished, Building 19	1	Each		
202	Building Demolished, Building R21	1	Each		
202	Building Demolished, Building R22	1	Each		
202	Building Demolished, Building 29	1	Each		
202	Building Demolished, Building 53, As Per Plan	1	Each		
				Sub-Total =	
	BOX CULVERT (GRANDIN ROAD)				
202	Structure Removed	1	Lump		
503	Cofferdams and Excavation Bracing	1	Lump		
503	Unclassified Excavation	1	Lump		
509	Epoxy Coated Reinforcing Steel	4,312	Pound		
511	Class QC1 Concrete, Retaining/Wingwall Not Including Footing	12	CY		
511	Class QC 1 Concrete, Footing	25	CY		
511	Class QC 1 Concrete, Headwall, As Per Plan	2	CY		
512	Sealing of Concrete Surfaces (Epoxy-Urethane), As Per Proposal Note	66	SY		
512	Type 2 Waterproofing	250	SY		
516	1" Preformed Expansion Joint Filler	29	SF		
518	Porous Backfill with Geotextile Fabric	1	Lump		
518	Riprap, Type D	32	SY		
611	8' x 4' Conduit, Type A, 706.05, As Per Plan	100	FT		
				Sub-Total =	
	BRIDGE (WAR 282-0.89)				
202	Structure Removed, Over 20 Foot Span (Ex. King Avenue Bridge Over LMR), As Per Proposal Note	1	Lump		
Special	Wick Drain, As Per Plan	19,635	FT		
203	Granular Embankment, As Per Plan	4,249	CY		
Special	Settlement Platform, As Per Plan	4	Each		
503	Cofferdams and Excavating Bracing	1	Lump		
503	Cofferdams and Excavating Bracing, As Per Plan	1	Lump		
503	Unclassified Excavation, As Per Plan	1	Lump		
505	Pile Driving Equipment Mobilization	1	Lump		
507	Steel Piles HP 10x42, Furnished	3,800	FT		
507	Steel Piles HP 10x42, Driven	3,480	FT		
507	Steel Points or Shoes, As Per Plan	40	Each		
509	Epoxy Coated Reinforcing Steel	297,785	Pound		
509	No. 4 GFRP Deformed Bars	15,793	FT		
511	Class QC1 Concrete with QC/QA, Pier Above Footing	171	CY		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
511	Class QC1 Concrete QC/QA, Abutment not Including Footing	187	CY		
511	Class QC1 Concrete with QC/QA, Footing	326	CY		
511	Class QC3 Concrete, Misc.: Concrete with QC/QA, Superstructure, As Per Plan	963	CY		
512	Sealing of Concrete Surfaces (Epoxy Urethane), As Per Proposal Note	2,041	SY		
512	Treating of Concrete Bridge Deck with SRS, Including Approach Slabs, As Per Proposal Note	2,737	SY		
513	Structural Steel Members, Hybrid Girder, Level Six (6) Fabrication, As Per Plan	2,061,300	Pound		
513	Welded Stud Shear Connectors	3,990	Each		
516	Structural Expansion Joint Including Elastomeric Strip Seal	98	FT		
516	Elastomeric Bearing with Internal Laminates and Load Plate (Neoprene) 13" x 27" x 3.948"	5	Each		
516	Elastomeric Bearing with Internal Laminates and Load Plate (Neoprene) 18" x 27" x 4.848"	5	Each		
517	Railing (Concrete Parapet With Twin Steel Tube Railing), As Per Plan	517	FT		
518	Porous Backfill with Geotextile Fabric	168	CY		
518	6" Perforated Corrugated Plastic Pipe	164	FT		
518	6" Non-Perforated Corrugated Plastic Pipe, Including Specials	50	FT		
524	Drilled Shafts, 42" Diameter, Above Bedrock	1,226	FT		
524	Drilled Shafts, 42" Diameter, Into Bedrock	149	FT		
526	Reinforced Concrete Approach Slabs with QC/QA (T=17"), As Per Plan and As Per Proposal Note	236	SY		
526	Type A Installation	80	FT		
845	Field Metallizing of Existing Structural Steel, As Per Plan	78,023	SF		
867	Temporary Wire Faced Mechanically Stabilized Earth Wall, As Per Plan	1	Lump		
869	High Load Multi-Rotational (HLMR) Bearings	5	Each		
				Sub-Total =	
	BRIDGE (WAR 150-0.01)				
503	Cofferdams and Excavation Bracing	1	Lump		
503	Unclassified Excavation	1	Lump		
504	Steel Sheet Piling Left In Place (Min. Section Modulus = 18.1), As Per Plan	905	SF		
505	Pile Driving Equipment Mobilization	1	Lump		
507	Steel Piles HP10x42, Furnished	2,830	FT		
507	Steel Piles HP10x42, Driven	2,500	FT		
509	Epoxy Coated Reinforcing Steel	22,194	Pound		
511	Class QC1 Concrete With QC/QA, Retaining/Wingwall Not Including Footing	110	CY		
511	Class QC1 Concrete With QC/QA, Footing	192	CY		
512	Sealing of Concrete Surfaces (Epoxy-Urethane), As Per Proposal Note	425	SY		
512	Type 2 Waterproofing	399	SY		
516	1" Prefomed Expansion Joint Filler	120	SF		
517	Railing Post, As Per Plan	4	Each		
518	Porous Backfill With Geotextile Fabric	105	CY		
518	6" Perforated Corrugated Plastic Pipe	209	FT		
518	6" Non-Perforated Corrugated Plastic Pipe, Including Specials, As Per Plan	74	FT		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
611	Conduit, Type A, Precast Reinforced Concrete Arch Sections (32'x12'), As Per Proposal Note	60	FT		
				Sub-Total =	
	MAINTENANCE OF TRAFFIC				
410	Traffic Compacted Surface, Type A	150	CY		
502	Structure for Maintaining Traffic, As Per Plan	1	Lump		
503	Cofferdams and Excavation Bracing	1	Lump		
614	Work Zone Impact Attenuator, 24" Wide Hazards, (Uni-Directional)	1	Each		
614	Work Zone Impact Attenuator, 24" Wide Hazards, (Bi-Directional)	2	Each		
614	Asphalt Concrete for Maintaining Traffic	50	CY		
614	Barrier Reflector, Type 1, (One Way)	6	Each		
614	Barrier Reflector, Type 1, (Bi-Directional)	10	Each		
614	Object Marker, (Two Way)	16	Each		
614	Portable Changeable Message Sign, As Per Plan	1	SNMT		
614	Work Zone Center Line, Class I	0.13	Mile		
614	Work Zone Edge Line, Class I, 4"	0.80	Mile		
614	Work Zone Dotted Line, Class I	185	FT		
614	Work Zone Transverse/Diagonal Line, Class I	18	FT		
614	Work Zone Center Line, Class III, 642 Paint	0.09	Mile		
614	Work Zone Edge Line, Class III, 4", 642 Paint	0.08	Mile		
614	Work Zone Stop Line, Class I	48	FT		
614	Work Zone Arrow, Class I, 642 Paint	2	Each		
614	Work Zone Crosswalk Line, Class I, 24"	45	FT		
614	Busines Entrance Sign, As Per Plan	1	Each		
614	Work Zone Pavement Marking, Misc.: Work Zone Yeild Line, Type 1, 642 Paint	48	FT		
615	Pavement for Maintaining Traffic, Class B	845	SY		
616	Water	173	M Gal		
622	Portable Barrier 32", Unanchored	975	FT		
				Sub-Total =	
	MISCELLANEOUS				
108	CPM Progress Schedule, As Per Proposal Note	1	Lump		
614	Maintaining Traffic, As Per Proposal Note	1	Lump		
619	Field Office, Type C	24	MNTH		
623	Construction Layout Stakes and Surveying, As Per Proposal Note	1	Lump		
624	Mobilization	1	Lump		
Special	Contingency, As Per Proposal Note	350,000	Each	\$ 1.00	\$ 350,000.00
				Sub-Total =	
				Total Bid Price =	

PLAN HOLDERS LIST

King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project

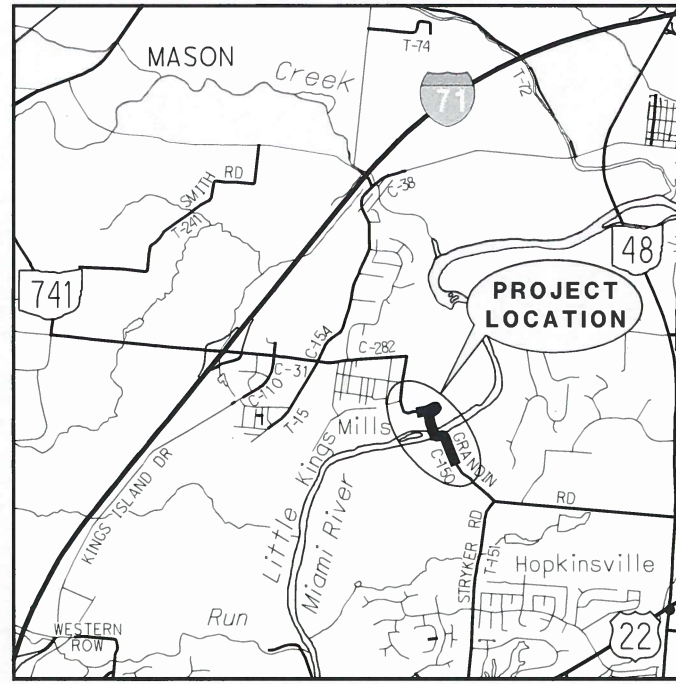
Individuals or companies can be added to the plan holders list by contacting Krystal Powell at krystal.powell@co.warren.oh.us

Name	Company	Phone Number	E-mail Address
Lou Ann Morgan	Sunesis Construction Co.	513-326-6000	lmorgan@sunesiscc.com
Sean Wade	Eagle Bridge Co.	937-492-5654	quotes@eaglebridge.net
Rick Comer	Complete General Construction	614-258-9515	estimators@completegeneral.com
Seth Roberts and Brad Bowers	Kokosing Construction Company	614-384-7114	kcchhyest@kokosing.biz
Rob Dierig	John R. Jurgensen	513-771-082	rob.dierig@jrjnet.com
Wess Kroll	Barrett Paving Materials, Inc.	513-422-4662	wkroll@barrettpaving.com
Tyler Holden	KT Supply Ltd.	513-200-3432	Holden.tyler@gmail.com
Sara Clark	The Ruhlin Company	330-239-2800	sclark@ruhlin.com
Tracy Powell	Bansal Construction Inc.	513-874-5410 ext. 12	tracy.powell@bansalinc.com
Dru Kocina	JD Fields and Company, Inc.	847-226-7459	dkocina@jdfields.com
Ken Schibi	Tri State Construction, Inc.	513-984-3909	tristate.kschibi@gmail.com

WARREN COUNTY ENGINEER'S OFFICE

WAR-C.R.282-0.97

DEERFIELD TOWNSHIP
HAMILTON TOWNSHIP
WARREN COUNTY, OHIO



LOCATION MAP

LATITUDE: 39°21'09" LONGITUDE: -84°14'35"



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	—————
FEDERAL ROUTES	—————
STATE ROUTES	—————
COUNTY & TOWNSHIP ROADS	—————
OTHER ROADS	—————

DESIGN DESIGNATION

SEE SCHEMATIC FOR DESIGN DESIGNATION

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

Contact Two Working Days Before You Dig



OHIO811, 8-1-1, or 1-800-362-2764 (Non-members must be called directly)

PLAN PREPARED BY:



11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

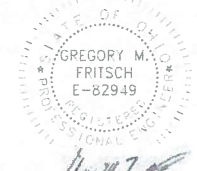
ENGINEERS SEAL:



SIGNED: *[Signature]*
DATE: OCTOBER 22, 2021

ENGINEERS SEAL:

FOR SHEETS 108-130



SIGNED: *[Signature]*
DATE: OCTOBER 22, 2021

ENGINEERS SEAL:

FOR SHEETS 150-202



SIGNED: *[Signature]*
DATE: OCTOBER 22, 2021

INDEX OF SHEETS:

TITLE SHEET	1	STORM SEWER PROFILES	95-96A
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STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS	
BP-1.1	7/28/00	DM-4.4	1/15/16	RM-4.2	4/17/20	LA-1.2	1/16/09	TC-41.30	10/18/13	800-2021	1/22/22	ENVIRONMENTAL
BP-2.1	7/17/15			RM-4.5	7/21/17			TC-41.40	10/18/13	823	7/18/14	SPECIAL
BP-2.2	1/15/21	MH-3	7/16/21	RM-4.6	7/19/13			TC-42.20	10/18/13	832	10/19/18	PROVISIONS
BP-3.1	1/17/20			RM-5.2	1/18/19	MT-96.11	4/16/21	TC-52.10	10/18/13	836	1/19/18	
		BP-5.1	7/16/21			MT-96.20	7/15/16	TC-52.20	1/15/21	845	4/20/18	WATERWAY
CB-2-2A,2B,2C	7/16/21			AS-1-15	7/17/15	MT-96.26	1/18/19	TC-61.30	7/19/19	846	4/17/15	PERMIT
CB-2-5, 2-6	7/16/21	MGS-1.1	7/16/21	AS-2-15	1/18/19	MT-97.10	4/19/19	TC-65.10	1/17/14	867	1/15/21	SPECIAL
CB-3	7/16/21	MGS-2.1	1/19/18	BR-2-15	7/17/15	MT-97.12	1/20/17	TC-65.11	7/21/17	869	10/17/14	PROVISIONS
CB-3A	7/16/21	MGS-2.3	7/18/14	HW-2.1	7/20/18	MT-99.20	4/19/19	TC-71.10	7/16/21	878	4/16/21	
CB-8	7/16/21	MGS-3.1	1/19/18	HW-2.2	7/20/18	MT-101.60	1/17/20			902	7/19/19	INSTALLATION
		MGS-4.2	7/19/13	SBR-1-20	7/17/20	MT-101.70	1/17/20	ITS-14.11	1/15/21			OF WICK DRAINS
DM-1.1	7/17/20	MGS-4.3	1/18/13			MT-101.75	1/17/20					2/25/2021
DM-1.2	7/16/21	MGS-5.3	7/15/16	HL-30.11	1/15/21	MT-101.90	7/17/20					
DM-2.1	1/18/13			HL-30.21	4/17/20	MT-105.10	1/17/20					
DM-4.1	7/17/20	RM-1.1	1/15/21	HL-30.32	4/17/20							
DM-4.3	1/15/16	RM-3.1	7/20/18	HL-30.41	4/17/20	TC-41.20	10/18/13					

PROJECT DESCRIPTION

CONSTRUCT A NEW BRIDGE OVER THE LITTLE MIAMI RIVER, UPSTREAM OF THE DETERIORATING EXISTING BRIDGE. THE PROJECT WILL IMPROVE SAFETY FOR MOTORISTS AND PEDESTRIANS BY IMPROVING THE ALIGNMENT OF THE APPROACH ROADWAY AND WILL GRADE SEPARATE THE ROADWAY FROM THE LITTLE MIAMI TRAIL.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 8.49 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 3.51 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 12.00 ACRES

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

FEDERAL PROJECT NO.
E190 (797)

PID NO.
106724

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

WAR-CR 282-0.97

1
256

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 33-36, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: *[Signature]*
DATE: 10/20/21 WARREN COUNTY ENGINEER



CALCULATED PJD CHECKED SNS

2

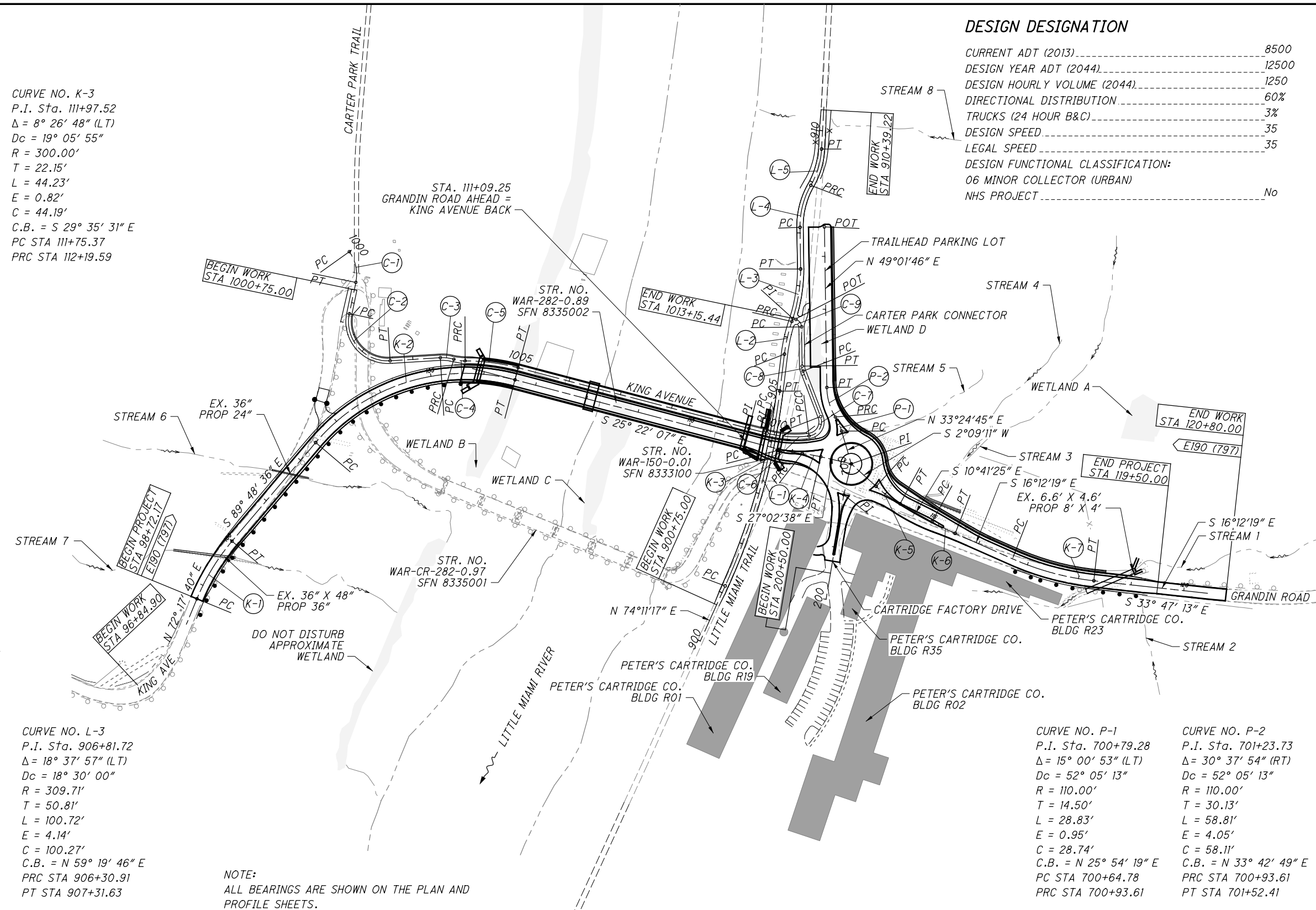
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WAR-CR 282-0.97

SCHMATIC PLAN

DESIGN DESIGNATION

CURRENT ADT (2013)	8500
DESIGN YEAR ADT (2044)	12500
DESIGN HOURLY VOLUME (2044)	1250
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	3%
DESIGN SPEED	35
LEGAL SPEED	35
DESIGN FUNCTIONAL CLASSIFICATION:	
06 MINOR COLLECTOR (URBAN)	
NHS PROJECT	No



CURVE NO. K-1 P.I. Sta. 99+36.61 Δ = 17° 53' 44" (RT) Dc = 14° 00' 00" R = 409.26' T = 64.44' L = 127.83' E = 5.04' C = 127.31' C.B. = N 81° 14' 32" E PC STA 98+72.17 PT STA 100+00.00	CURVE NO. K-2 P.I. Sta. 104+76.95 Δ = 64° 26' 29" (RT) Dc = 15° 30' 00" R = 369.65' T = 232.97' L = 415.75' E = 67.29' C = 394.18' C.B. = S 57° 35' 21" E PC STA 102+43.99 PT STA 106+59.74	CURVE NO. K-3 P.I. Sta. 111+97.52 Δ = 8° 26' 48" (LT) Dc = 19° 05' 55" R = 300.00' T = 22.15' L = 44.23' E = 0.82' C = 44.19' C.B. = S 29° 35' 31" E PC STA 111+75.37 PRC STA 112+19.59
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CURVE NO. K-4 P.I. Sta. 112+37.34 Δ = 6° 46' 17" (RT) Dc = 19° 05' 55" R = 300.00' T = 17.75' L = 35.45' E = 0.52' C = 35.43' C.B. = S 30° 25' 47" E PRC STA 112+19.59 PT STA 112+55.05	CURVE NO. K-5 P.I. Sta. 114+05.53 Δ = 12° 50' 36" (LT) Dc = 22° 55' 06" R = 250.00' T = 28.14' L = 56.04' E = 1.58' C = 55.92' C.B. = S 4° 16' 07" E PC STA 113+77.39 PT STA 114+33.43
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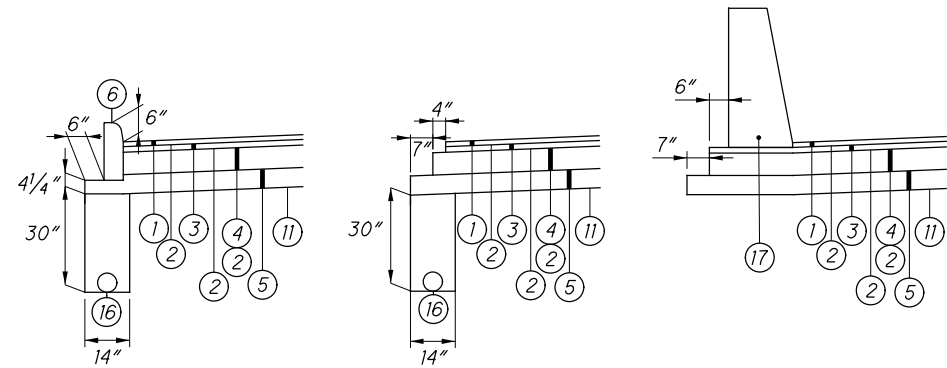
CURVE NO. K-6 P.I. Sta. 115+26.74 Δ = 5° 30' 53" (LT) Dc = 11° 14' 04" R = 510.00' T = 24.56' L = 49.09' E = 0.59' C = 49.07' C.B. = S 13° 26' 52" E PC STA 115+02.18 PT STA 115+51.27	CURVE NO. K-7 P.I. Sta. 117+50.05 Δ = 17° 34' 55" (LT) Dc = 11° 00' 00" R = 520.87' T = 80.55' L = 159.83' E = 6.19' C = 159.21' C.B. = S 24° 59' 46" E PC STA 116+69.50 PT STA 118+29.34
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CURVE NO. L-1 P.I. Sta. 903+07.17 Δ = 17° 15' 07" (LT) Dc = 4° 30' 00" R = 1,273.24' T = 193.15' L = 383.38' E = 14.57' C = 381.93' C.B. = N 65° 33' 43" E PC STA 901+14.01 PT STA 904+97.39	CURVE NO. L-2 P.I. Sta. 905+99.38 Δ = 11° 42' 36" (RT) Dc = 18° 30' 00" R = 309.71' T = 31.76' L = 63.30' E = 1.62' C = 63.19' C.B. = N 62° 47' 27" E PC STA 905+67.62 PRC STA 906+30.91	CURVE NO. L-3 P.I. Sta. 906+81.72 Δ = 18° 37' 57" (LT) Dc = 18° 30' 00" R = 309.71' T = 50.81' L = 100.72' E = 4.14' C = 100.27' C.B. = N 59° 19' 46" E PRC STA 906+30.91 PT STA 907+31.63
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CURVE NO. L-4 P.I. Sta. 908+52.85 Δ = 30° 37' 18" (RT) Dc = 37° 00' 00" R = 154.85' T = 42.39' L = 82.76' E = 5.70' C = 81.78' C.B. = N 64° 20' 25" E PC STA 908+10.46 PRC STA 908+93.22	CURVE NO. L-5 P.I. Sta. 909+29.95 Δ = 26° 41' 03" (LT) Dc = 37° 00' 00" R = 154.85' T = 36.73' L = 72.12' E = 4.30' C = 71.47' C.B. = N 66° 18' 32" E PRC STA 908+93.22 PT STA 909+65.34	CURVE NO. C-1 P.I. Sta. 1000+32.30 Δ = 47° 09' 53" (RT) Dc = 77° 25' 36" R = 74.00' T = 32.30' L = 60.92' E = 6.74' C = 59.21' C.B. = S 37° 59' 20" W PC STA 1000+00.00 PT STA 1000+60.92	CURVE NO. C-2 P.I. Sta. 1002+17.98 Δ = 105° 09' 45" (LT) Dc = 77° 25' 36" R = 74.00' T = 96.72' L = 135.82' E = 47.78' C = 117.54' C.B. = S 8° 59' 24" W PC STA 1001+21.25 PT STA 1002+57.08	CURVE NO. C-3 P.I. Sta. 1003+65.06 Δ = 20° 03' 27" (RT) Dc = 77° 25' 36" R = 74.00' T = 13.09' L = 25.91' E = 1.15' C = 25.77' C.B. = S 33° 34' 22" E PC STA 1003+51.98 PRC STA 1003+77.88	CURVE NO. C-4 P.I. Sta. 1003+88.66 Δ = 16° 34' 50" (LT) Dc = 77° 25' 36" R = 74.00' T = 10.78' L = 21.41' E = 0.78' C = 21.34' C.B. = S 31° 50' 03" E PRC STA 1003+77.88 PT STA 1003+99.30	CURVE NO. C-5 P.I. Sta. 1004+50.20 Δ = 14° 45' 22" (RT) Dc = 14° 34' 25" R = 393.15' T = 50.91' L = 101.25' E = 3.28' C = 100.97' C.B. = S 32° 44' 48" E PRC STA 1003+99.30 PT STA 1005+00.55	CURVE NO. C-6 P.I. Sta. 1010+26.56 Δ = 21° 58' 07" (LT) Dc = 27° 30' 07" R = 208.33' T = 40.44' L = 79.88' E = 3.89' C = 79.39' C.B. = S 36° 21' 10" E PC STA 1009+86.12 PCC STA 1010+66.01	CURVE NO. C-7 P.I. Sta. 1011+00.46 Δ = 103° 49' 55" (LT) Dc = 212° 12' 24" R = 27.00' T = 34.45' L = 48.93' E = 16.77' C = 42.50' C.B. = N 80° 44' 49" E PCC STA 1010+66.01 PT STA 1011+14.93	CURVE NO. C-8 P.I. Sta. 1012+11.78 Δ = 20° 11' 55" (RT) Dc = 212° 12' 24" R = 27.00' T = 4.81' L = 9.52' E = 0.42' C = 9.47' C.B. = N 38° 55' 48" E PC STA 1012+06.97 PT STA 1012+16.49	CURVE NO. C-9 P.I. Sta. 1013+01.44 Δ = 71° 30' 03" (LT) Dc = 381° 58' 19" R = 15.00' T = 10.80' L = 18.72' E = 3.48' C = 17.53' C.B. = N 13° 16' 44" E PC STA 1012+90.64 POT STA 1013+09.36
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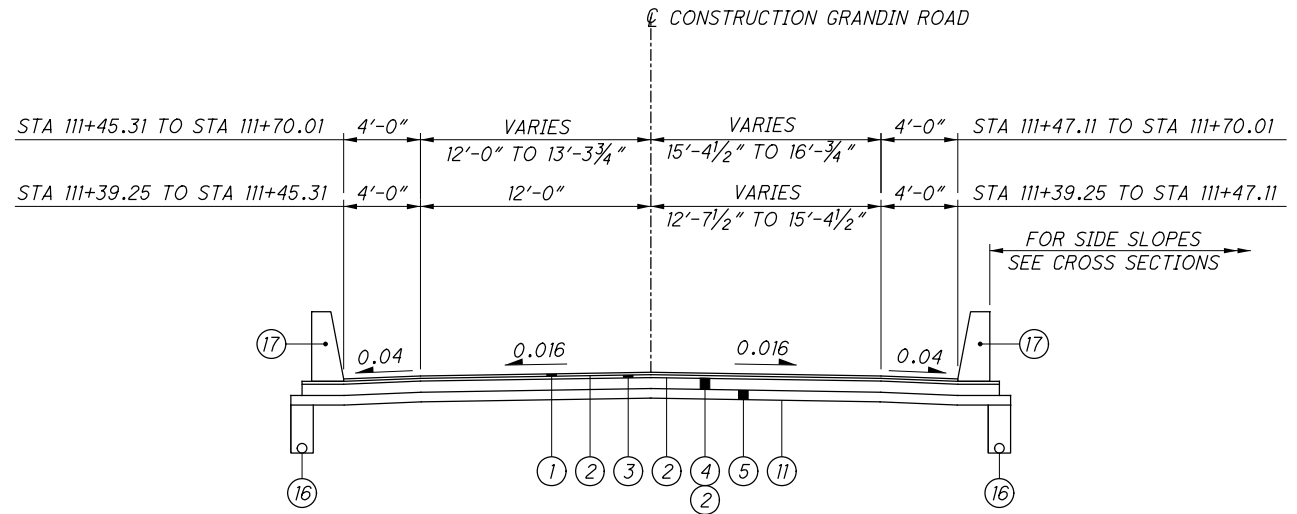


STEP DETAILS

LEGEND

- ① ITEM 441, 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ② ITEM 407, NON-TRACKING TACK COAT
- ③ ITEM 441, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)
- # ④ ITEM 301, 7" ASPHALT CONCRETE BASE, PG64-22
- ⑤ ITEM 304, 6" AGGREGATE BASE
- ⑥ ITEM 609, CURB, TYPE 6
- ⑦ ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, 1.5" DEPTH
- ⑧ ITEM 452, 12" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P
- ⑨ ITEM 452, 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P
- ⑩ ITEM 304, 9" AGGREGATE BASE
- ⑪ ITEM 204, SUBGRADE COMPACTION
- ⑫ ITEM 606, GUARDRAIL, TYPE MGS
- ⑬ ITEM 607, FENCE, MISC.: BIKEWAY RAILING
- ⑭ ITEM 659, SEEDING & MULCHING, AS PER PLAN
- ⑮ ITEM 659, TOPSOIL
- ⑯ ITEM 605, 6" SHALLOW PIPE UNDERDRAIN
- ⑰ ITEM 622, CONCRETE BARRIER, TYPE D
- ⑱ ITEM 601, PAVED GUTTER, TYPE 1-2
- ⑲ ITEM 609, COMBINATION CURB AND GUTTER, TYPE 9
- ⑳ ITEM 206, CEMENT STABILIZED SUBGRADE, 14 INCHES DEEP
- ㉑ ITEM 204, PROOF ROLLING
- ㉒ ITEM 304, AGGREGATE BASE
- ㉓ ITEM 659, TOPSOIL, AS PER PLAN
- ㉔ ITEM 661, EVERGREEN SHRUB, 18" SPREAD, BROADMOOR JUNIPER
- ㉕ ITEM 823, 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448)
- ㉖ ITEM 823, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)
- ㉗ ITEM 605, 6" UNCLASSIFIED PIPE UNDERDRAIN
- ㉘ ITEM 609, 4" CONCRETE TRAFFIC ISLAND
- Ⓐ EXISTING PAVEMENT

NOTE: ITEM 301 ASPHALT CONCRETE BASE COURSE SHALL BE PLACED IN TWO 3½" LIFTS. ITEM 407 NON-TRACKING TACK COAT SHALL BE PLACED BETWEEN LIFTS.

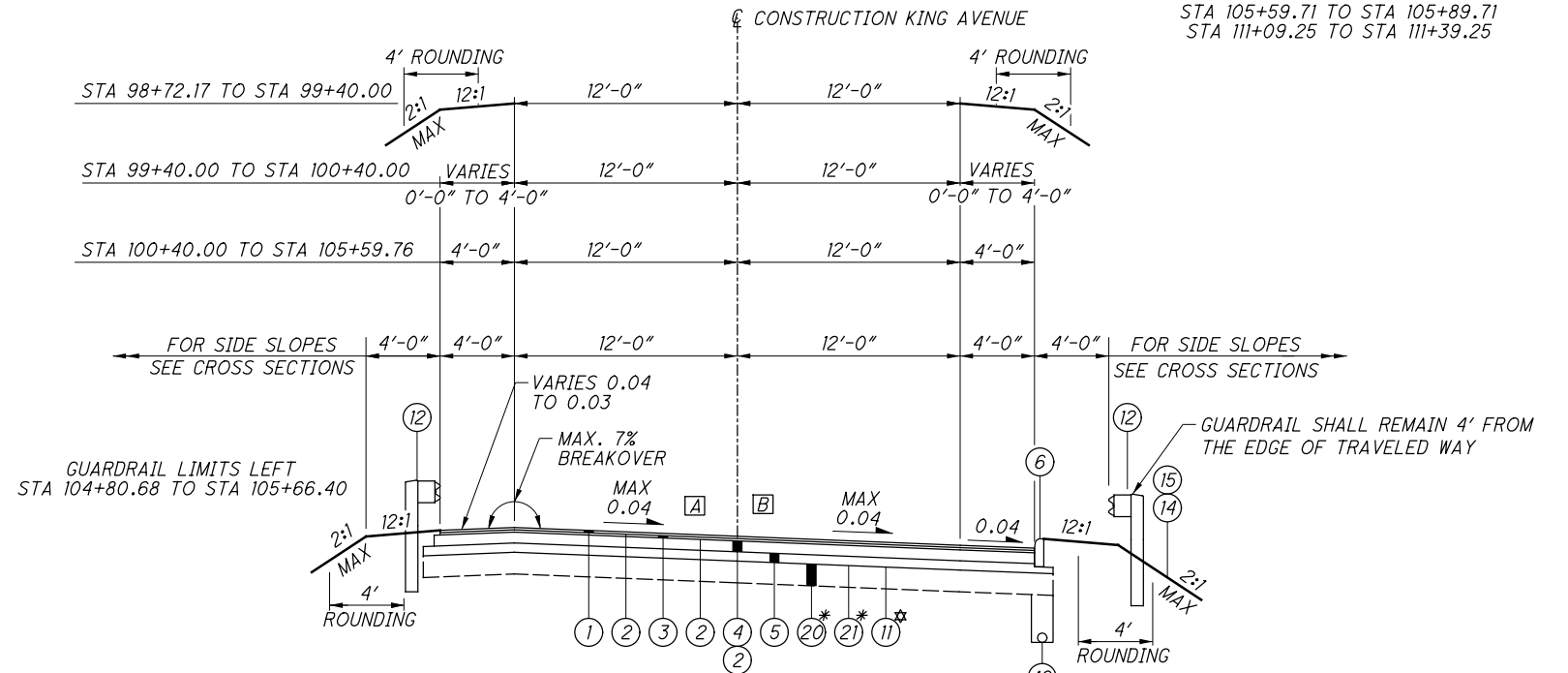


NORMAL TWO LANE SECTION GRANDIN ROAD

STA 111+39.25 TO STA 111+70.01

BRIDGE LIMITS
STA 105+89.71 TO STA 111+09.25

APPROACH SLAB LIMITS
STA 105+59.71 TO STA 105+89.71
STA 111+09.25 TO STA 111+39.25



SUPERELEVATED TWO LANE SECTION KING AVENUE

STA 98+72.17 TO STA 98+91.49 (TRANS)
STA 98+91.49 TO STA 99+92.27 (.02)
STA 99+92.27 TO STA 100+00.00 (TRANS)
STA 100+00.00 TO STA 102+22.74 (.016)
STA 102+22.74 TO STA 102+69.11 (TRANS)
STA 102+69.11 TO STA 105+59.71 (.04)

Ⓐ TRANSITION PAVEMENT SLOPE FROM
-0.01 AT STA. 98+72.17 TO
-0.02 AT STA. 98+91.49

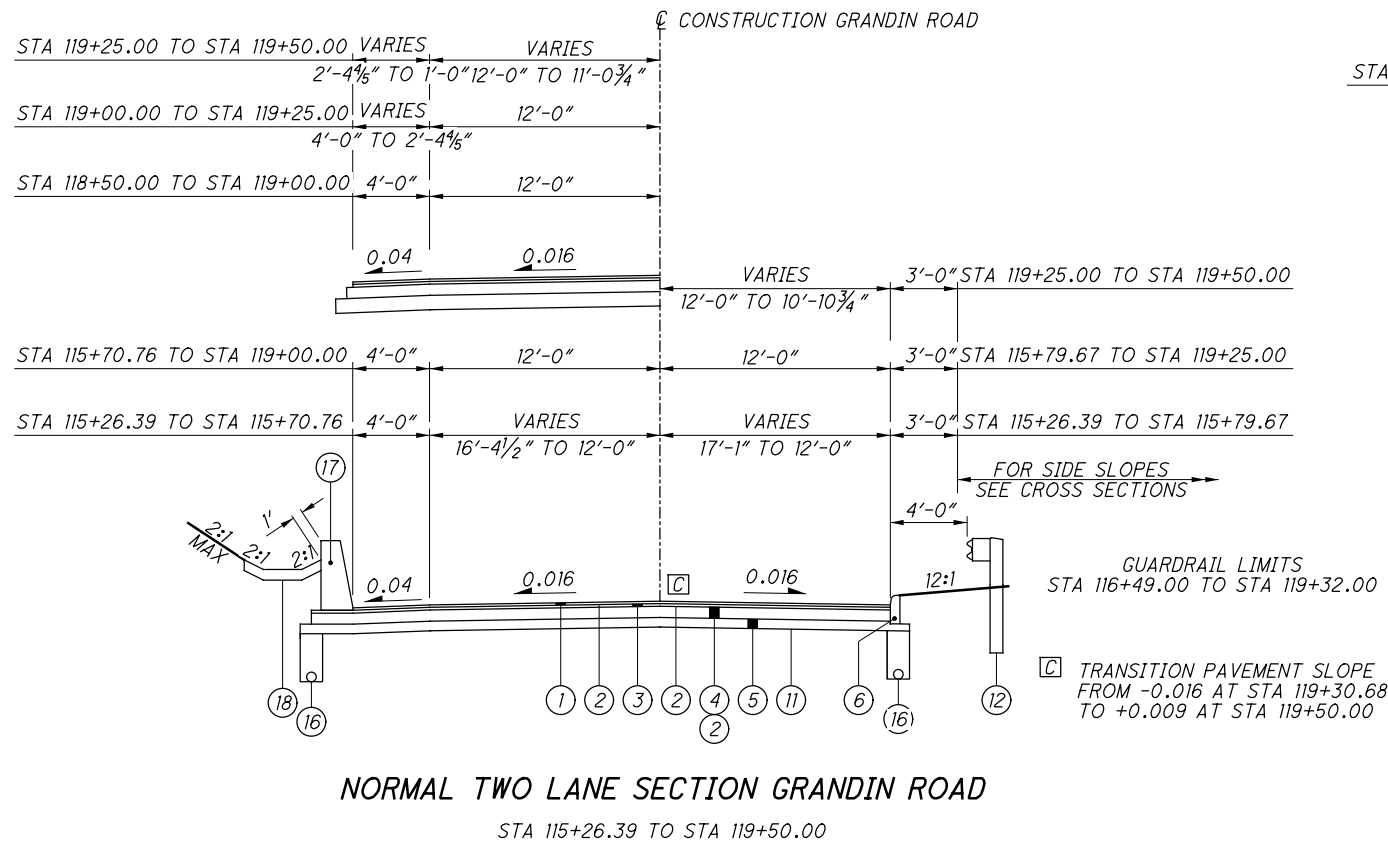
Ⓑ TRANSITION PAVEMENT SLOPE FROM
-0.01 AT STA. 98+72.17 TO
-0.02 AT STA. 98+91.49

* APPLY TO STA 98+72.17 TO STA 103+00.00
* APPLY TO STA 103+00.00 TO STA 105+59.71

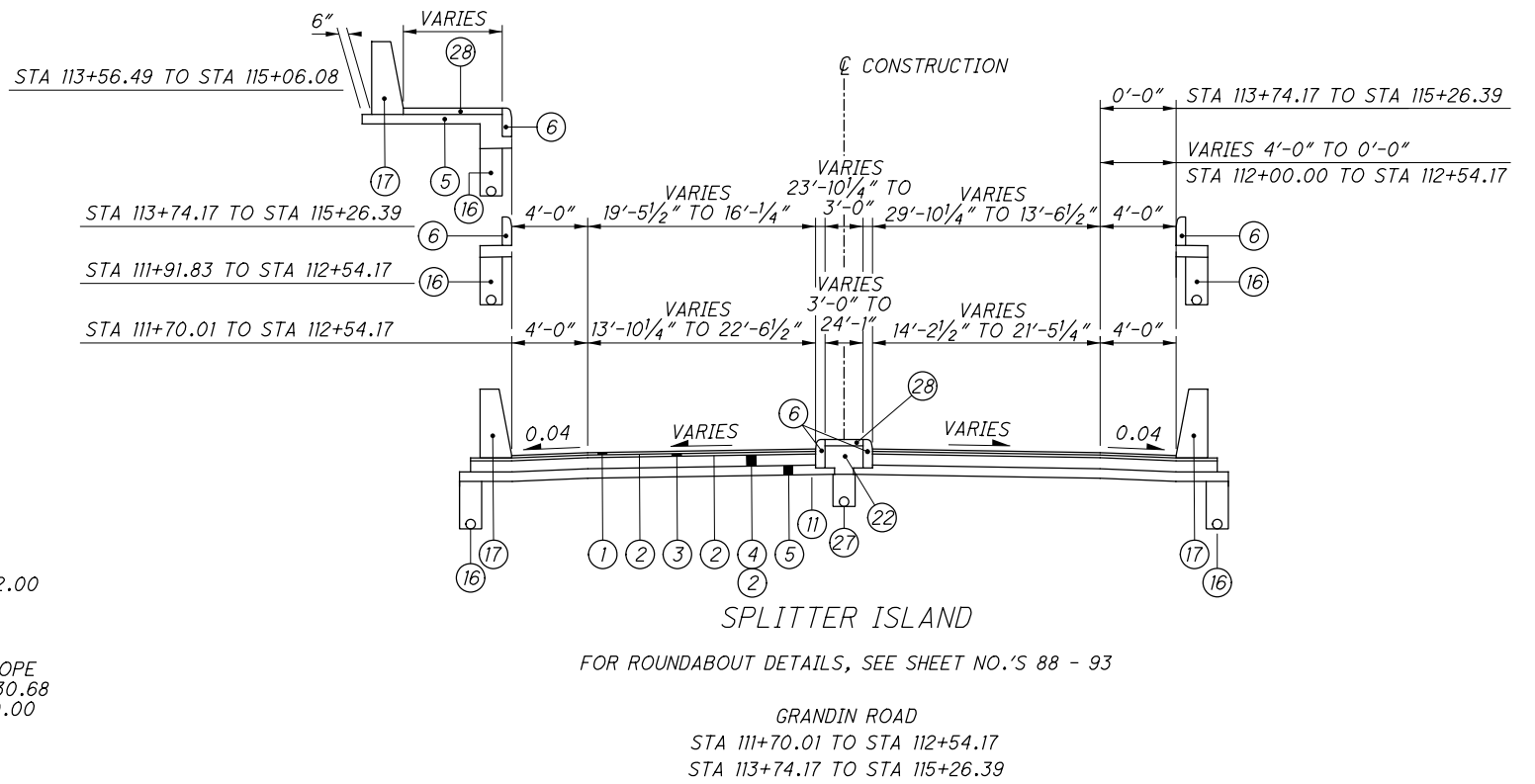
TYPICAL SECTIONS

WAR-CR 282-0.97

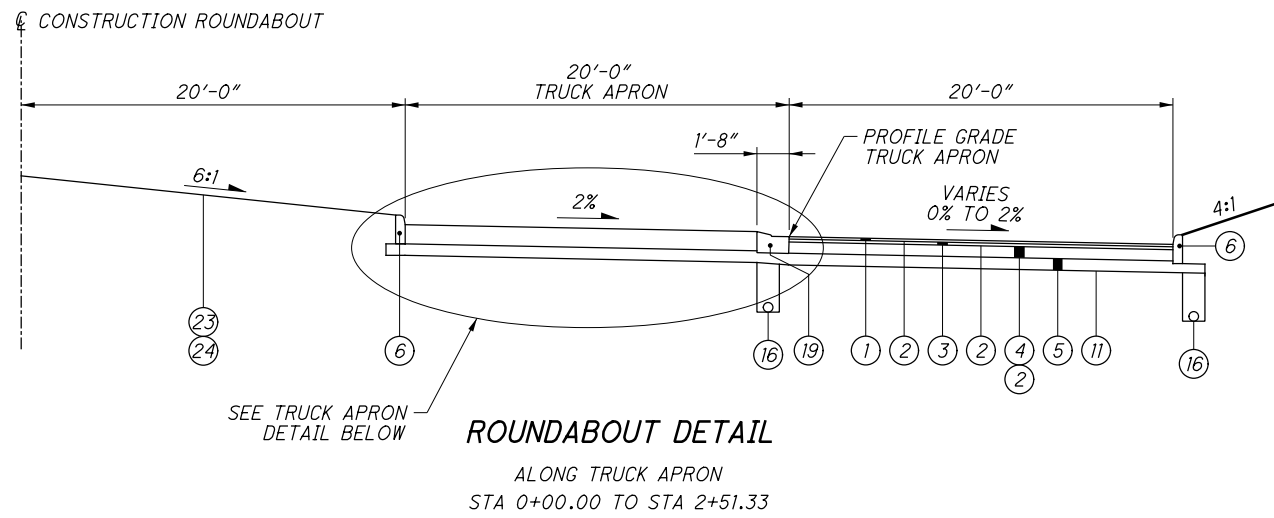
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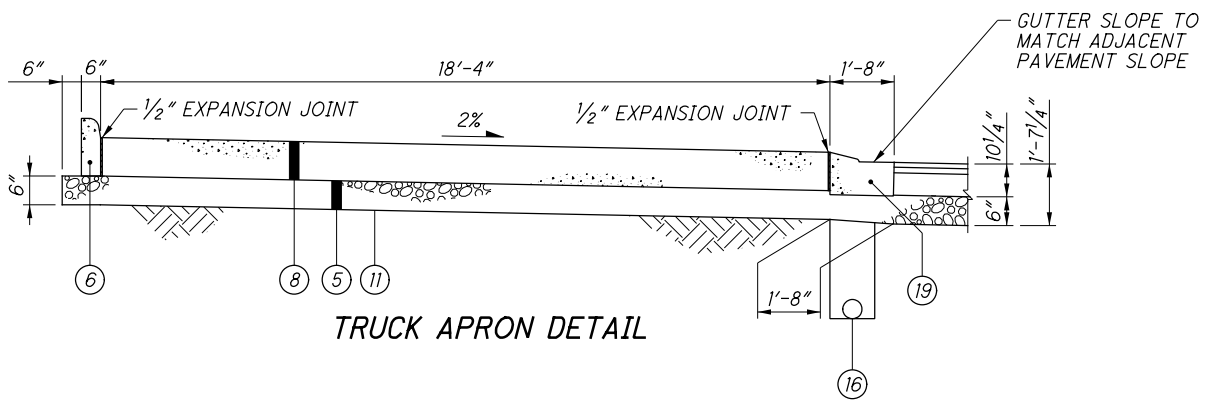
NORMAL TWO LANE SECTION GRANDIN ROAD
STA 115+26.39 TO STA 119+50.00



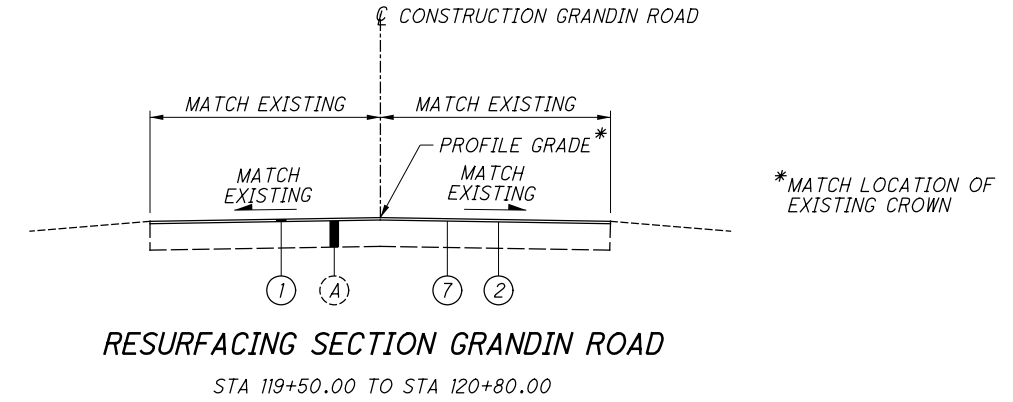
SPLITTER ISLAND
FOR ROUNDABOUT DETAILS, SEE SHEET NO.'S 88 - 93
GRANDIN ROAD
STA 111+70.01 TO STA 112+54.17
STA 113+74.17 TO STA 115+26.39



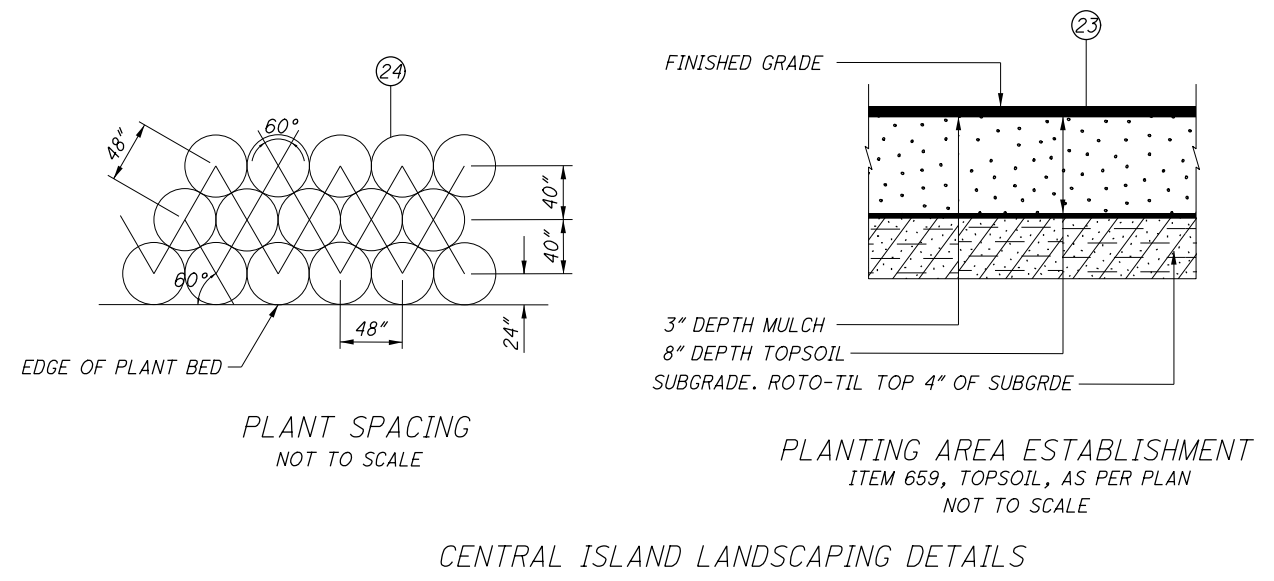
ROUNDABOUT DETAIL
ALONG TRUCK APRON
STA 0+00.00 TO STA 2+51.33



TRUCK APRON DETAIL



RESURFACING SECTION GRANDIN ROAD
STA 119+50.00 TO STA 120+80.00

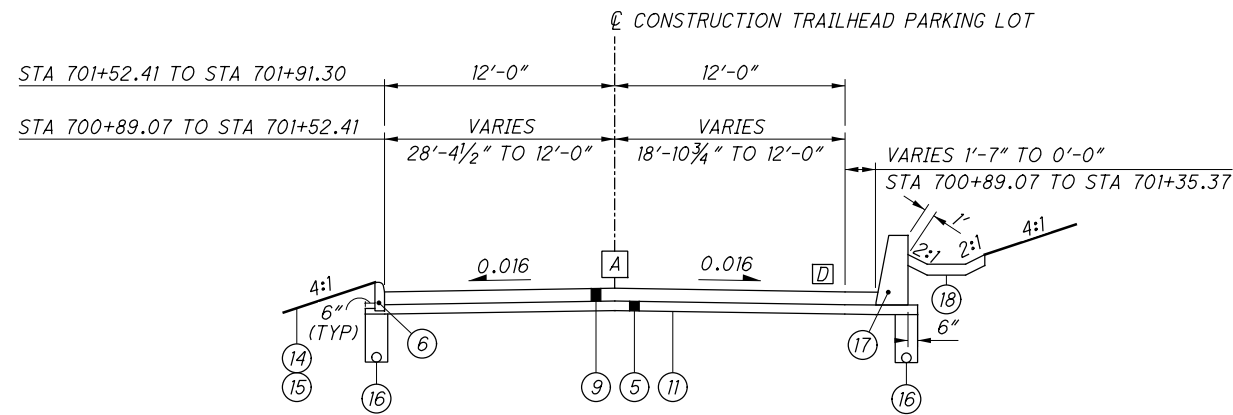


CENTRAL ISLAND LANDSCAPING DETAILS

FOR LEGEND, SEE SHEET NO. 3

TYPICAL SECTIONS

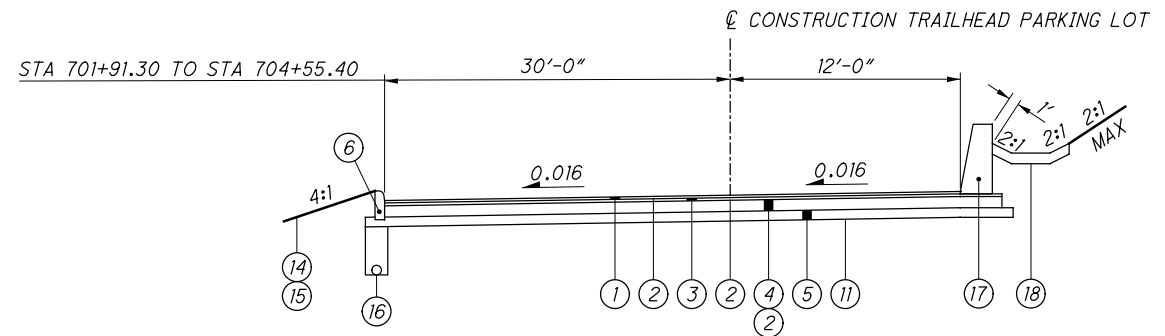
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TRAILHEAD PARKING LOT RIGID PAVEMENT SECTION

STA 700+60.00 TO STA 701+91.30

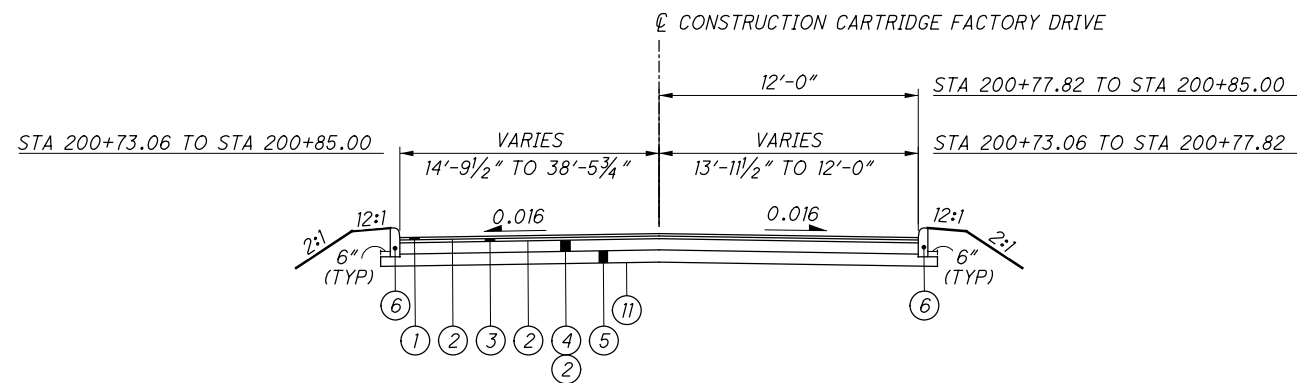
A SPLITTER ISLAND BETWEEN STA 700+60.00 AND 700+89.07
SEE SPLITTER ISLAND TYPICAL ON SHEET NO. 4 FOR DETAILS



TRAILHEAD PARKING LOT FLEXIBLE PAVEMENT SECTION

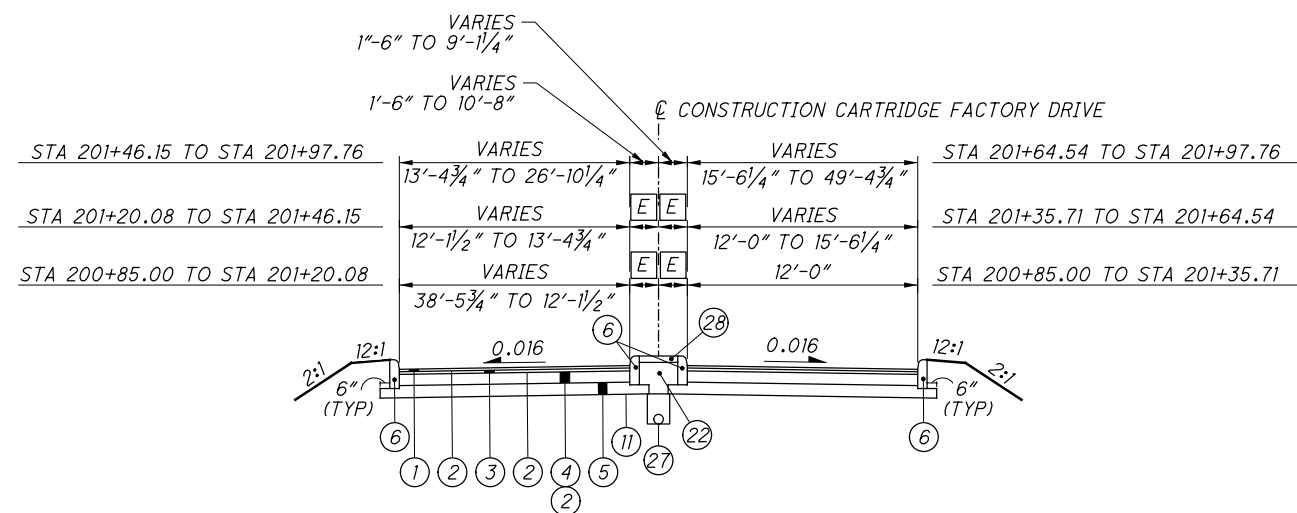
STA 701+91.30 TO STA 704+55.40

D TRANSITION PAVEMENT SLOPE
FROM -0.016 AT STA 701+27.58
TO 0.016 AT STA 701+91.30



CARTRIDGE FACTORY DRIVE NORMAL SECTION

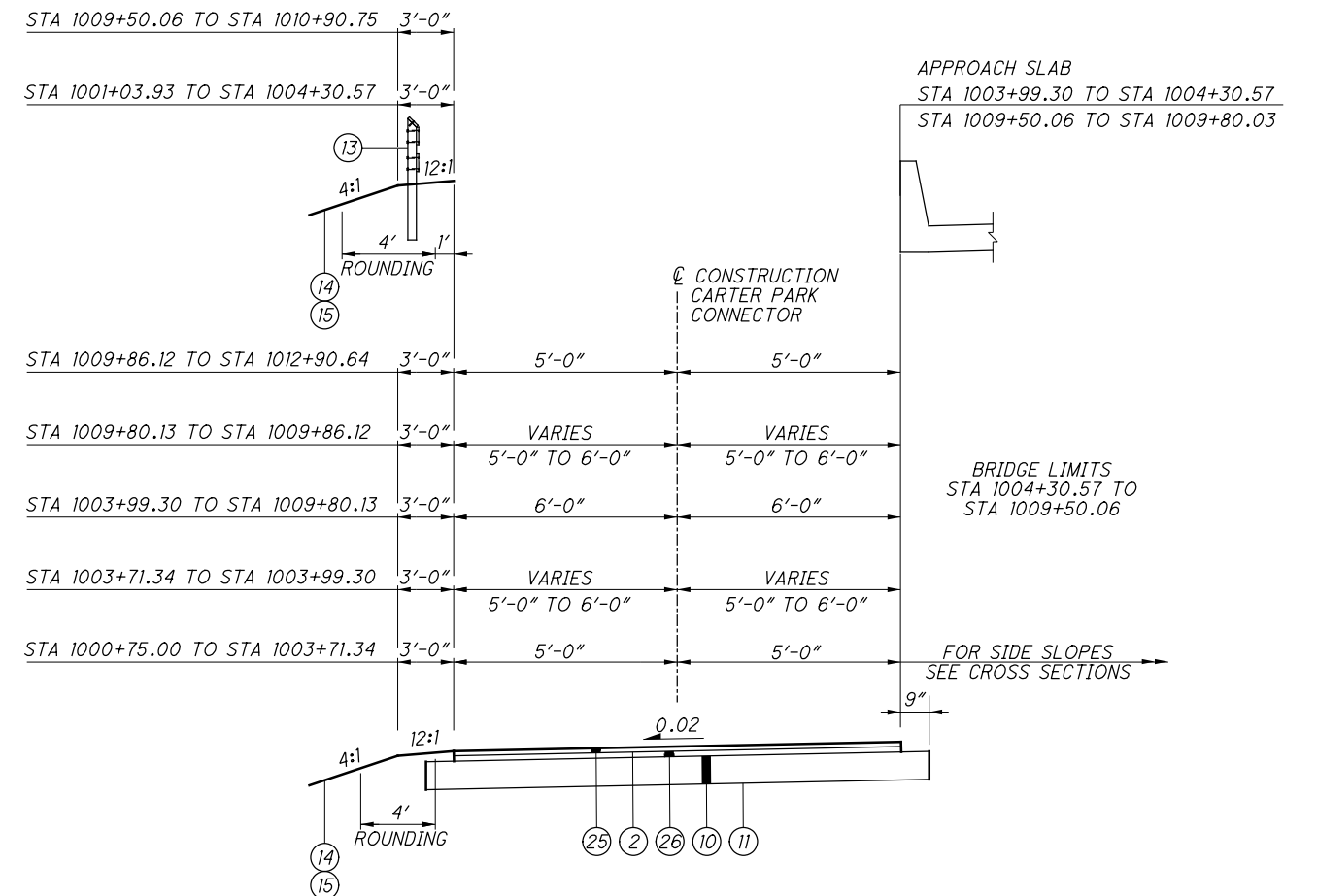
STA 200+73.06 TO STA 200+85.00



CARTRIDGE FACTORY DRIVE NORMAL SECTION

STA 200+85.00 TO STA 201+97.76

E 1'-6"



CARTER PARK CONNECTOR NORMAL SECTION

STA 1000+75.00 TO STA 1004+30.57
STA 1009+50.06 TO STA 1012+90.64

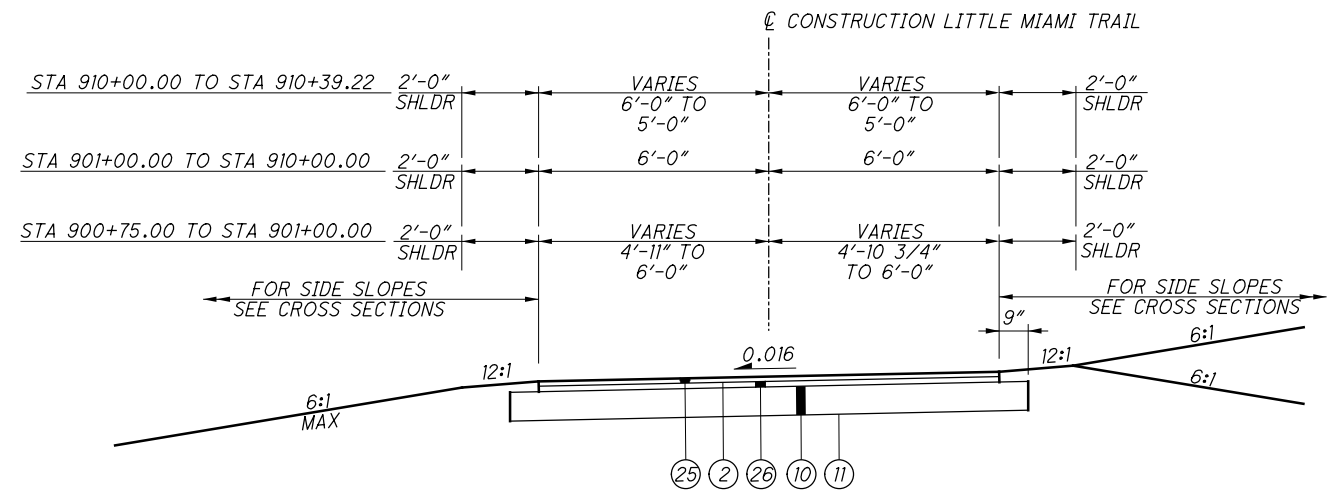
FOR LEGEND, SEE SHEET NO. 3

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TYPICAL SECTIONS

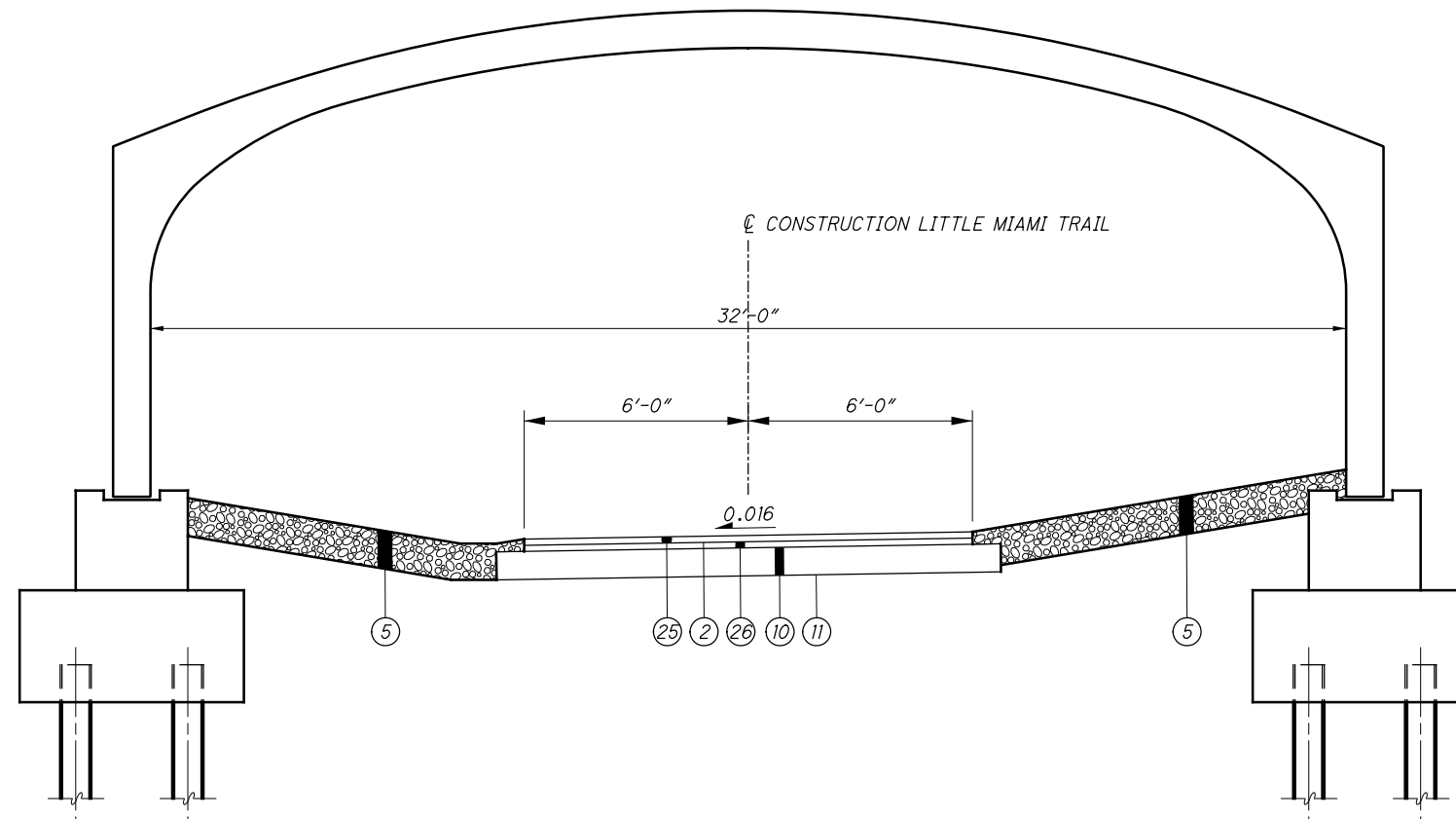
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LITTLE MIAMI TRAIL NORMAL SECTION

STA 900+75.00 TO STA 903+63.67
STA 904+23.68 TO STA 910+39.22



LITTLE MIAMI TRAIL NORMAL SECTION

STA 903+63.67 TO STA 904+23.68

TYPICAL SECTIONS

WAR-CR 282-0.97

FOR LEGEND, SEE SHEET NO. 3

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

TELEPHONE:
CINCINNATI BELL TELEPHONE
221 EAST FOURTH ST, BLDG 121-900
CINCINNATI, OH 45201
PHONE: (513) 565-1336 (BEN OTTEN)

ELECTRIC:
DUKE ENERGY
2010 DANA AVE, ROOM 324
CINCINNATI, OH 45207
PHONE: (513) 458-3844 (TROY DITTMER)

GAS:
DUKE ENERGY
139 E FOURTH ST, ROOM 460A
CINCINNATI, OH 45273-9598
PHONE: (513) 906-0128 (BRIAN HOLLMAN)

CITY OF MASON PUBLIC UTILITIES
3200 MASON-MORROW-MILLGROVE ROAD
MASON, OHIO 45040
PHONE: (513) 229-8570 (SHAWN HOLLON)
PHONE: (513) 229-8570 (ED SMITH)

CABLE:
CHARTER COMMUNICATIONS
11252 CORNELL PARK DRIVE
CINCINNATI, OH 45242
PHONE: (513) 386-5499 (KENT RIEGER)

SEWER & WATER:
WARREN COUNTY WATER & SEWER
P.O. BOX 530
LEBANON, OHIO 45036
PHONE: (513) 695-1646 (CHIRS WOJNICZ)

TELEPHONE:
CENTURYLINK
20 N. MECHANIC STREET
LEBANON, OHIO 45036
PHONE: (513) 885-9444 (JORDAN LANGSTON)

UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON WARREN COUNTY PROJECTS. SEE SHEET 9 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: GPS - FAST STATIC
MONUMENT TYPE: 30" X 3/4" IRON PIN W/ CAP

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: 12B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: (GRS 80)
MAP PROJECTION: LAMBERT CONFORMAL
COORDINATE SYSTEM: SPC (3402 OH SOUTH)
COMBINED SCALE FACTOR: 1.000094820
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

REMOVE ALL TREES WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES TO BE REMOVED.

SIZES	NO. TREES
12"-18"	116
19"-30"	26
31"-48"	8

MONUMENT ASSEMBLIES

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 9.

ASBESTOS NOTIFICATION

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE. THE CONTRACTOR SHALL COMPLETE THE 10 DAY OEPA NOTIFICATION OR DEMOLITION FORM AND SUBMIT IT ELECTRONICALLY TO <https://epa.ohio.gov/dapc/atw/asbestos> AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. BASIS FOR PAYMENT - THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202, SHOWN ON SHT 159 AS ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN.

NON-USE OF ASBESTOS-CONTAINING MATERIALS

THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 203 EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 105+00.00 TO STA 112+75.00

DRINKING WATER SOURCE AREA

THIS PROJECT IS LOCATED IN OR NEAR THE SOURCE OF A PUBLIC DRINKING WATER SUPPLY. IN ORDER TO MINIMIZE THE POTENTIAL TO CONTAMINATE THIS WATER SUPPLY, PROJECT-RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED WITHIN A BUFFER OF FIFTY FEET FROM THE LITTLE MIAMI RIVER AND WILL BE PERFORMED IN AN ENVIRONMENTALLY RESPONSIBLE MANNER USING BEST MANAGEMENT PRACTICES. ANY FUEL IN EXCESS OF 300 GALLONS TO BE STORED ONSITE SHALL BE IN A DOUBLE WALL CONTAINMENT TANK. IN ADDITION, CHEMICALS IN EXCESS OF 55 GALLONS USED ON THE PROJECT SHALL NOT BE STORED AT THE PROJECT SITE FOR LONGER THAN 14 CONSECUTIVE DAYS. THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. ANY SUCH SPILL OR EVENT SHALL BE REPORTED IMMEDIATELY TO CHRIS BRAUSCH OF WARREN COUNTY WATER AND SEWER DEPARTMENT AT 513-695-1377. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT OHIO EPA'S 24-HOUR A DAY EMERGENCY SPILL HOTLINE AT 1-800-282-9378 FOR CLEAN-UP OF THE SPILL.

ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606, GUARDRAIL, BARRIER DESIGN, TYPE MGS, AS PER PLAN MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, BARRIER DESIGN, AS PER PLAN

ALL ASPECTS OF ITEM 606 SHALL APPLY EXCEPT THAT BLOCKOUTS SHALL NOT BE INSTALLED ON THE BACK SIDE OF THE GUARDRAIL OR BRIDGE TERMINAL ASSEMBLY

INSTALL A SPACER BLOCK CUT TO SIZE AND BOLTED TO GUARDRAIL AND A 6'-3" EXTENSION TO TAPER THE TRAILING SIDE GUARDRAIL TO THE WIDTH OF THE CONCRETE BARRIER AS SHOWN ON SCD MGS-3.1. NO MODIFICATIONS TO THE STANDARD CONCRETE BARRIER END SECTION, TYPE D ARE NECESSARY.

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GENERAL NOTES

WAR-CR 282-0.97

PAVING UNDER GUARDRAIL

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:

- 1. SET GUARDRAIL POSTS
- 2. PLACE ITEM 441

METHOD B:

- 1. PLACE ITEM 441
- 2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
- 3. SET GUARDRAIL POSTS
- 4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1 (448), UNDER GUARDRAIL, AS PER PLAN.

ITEM 607, FENCE, MISC.: WOOD FENCE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A WOODEN BIKEWAY RAILING AS DETAILED IN STANDARD CONSTRUCTION DRAWING RM-5.2 AT THE LOCATIONS SPECIFIED IN THE PLANS. FOUR SPECIAL POSTS AND SUPPORTS ARE REQUIRED OVER THE WAR-150-0001 STRUCTURE. THESE POST SUPPORTS ARE DETAILED ON SHEET 201 AND SHALL BE PAID FOR WITH ITEM 517 RAILING POST. ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE BID ITEM UNIT PRICE PER FOOT FOR ITEM 607, FENCE, MISC.: WOOD FENCE.

PREVENTING IMPACTS TO WETLAND B

A PORTION OF WETLAND B IS SHOWN WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT, HOWEVER, THE CONTRACTOR SHALL NOT DISTURB WETLAND B AS SHOWN AND LABELED IN THE PLANS. DISTURBANCES INCLUDE, BUT AREN'T LIMITED TO, EXCAVATION OR EMBANKMENT, CHANGING THE HYDRAULIC NATURE/CAPACITY OF THE WETLAND BY MODIFYING INFLOWS OR OUTFLOWS, OR REMOVING VEGETATION WITHIN THE WETLAND. THE CONTRACTOR SHALL CONSTRUCT A TEMPORARY STRUCTURE TO SPAN THE WETLAND AS SPECIFIED IN THE ITEM 502 NOTE ON THIS SHEET. BEFORE ANY WORK BEGINS CONSTRUCTION FENCING SHALL BE PLACED ALONG THE WETLAND EDGE AND PAID FOR ACCORDING TO ITEM 607, FENCE, SNOW AND INCLUDED IN THE QUANTITY SHOWN ON SHEET 8.

ITEM 502, STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN

THIS WORK CONSISTS OF DESIGNING, PREPARING PLANS, MAINTAINING, AND SUBSEQUENTLY REMOVING A TEMPORARY STRUCTURE TO PREVENT ANY TEMPORARY OR PERMANENT IMPACTS TO WETLAND B AS LABELED IN THE PLANS. PERFORM THE WORK IN ACCORDANCE WITH CMS ITEM 502 EXCEPT AS MODIFIED BY THIS NOTE. DESIGN THE STRUCTURE TO SPAN OVER WETLAND B. DO NOT PLACE ANY MATERIALS BELOW THE ORDINARY HIGH WATER MARK OF WETLAND B. DESIGN THE STRUCTURE FOR THE LIVE LOAD OF ANY ANTICIPATED CONSTRUCTION LOADINGS OR THE LIVE LOADING SPECIFIED IN CMS 502, WHICHEVER IS GREATER. INCLUDE STRUCTURE SELF-WEIGHT IN THE DESIGN DEAD LOAD. AT LEAST 60 DAYS PRIOR TO STARTING CONSTRUCTION ON THE TEMPORARY STRUCTURE, SUBMIT CALCULATIONS SEALED BY AN OHIO PROFESSIONAL ENGINEER TO THE WARREN COUNTY ENGINEER'S OFFICE AND THE ODOT D8 DISTRICT ENVIRONMENTAL COORDINATOR FOR REVIEW AND APPROVAL. NO WORK MAY BEGIN UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE ENGINEER'S OFFICE AND ODOT. INCLUDE THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO DESIGN, FURNISH, INSTALL, MAINTAIN, AND REMOVE THE TEMPORARY STRUCTURE. PAYMENT SHALL BE MADE AT THE LUMP SUM CONTRACT PRICE FOR ITEM 502, STRUCTURE FOR MAINTAINING TRAFFIC, AS PER PLAN. THIS LUMP SUM QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 611, 4" CONDUIT, TYPE B, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A 4" CONDUIT AT THE LOCATION SHOWN IN THE PLANS. THIS PURPOSE OF THIS CONDUIT IS TO FACILITATE THE FUTURE INSTALLATION OF IRRIGATION TO THE CENTRAL ISLAND. THE CONDUIT SHALL BE CAPPED ON BOTH ENDS TO PREVENT DIRT AND MOISTURE FROM ENTERING THE CONDUIT. THE CONDUIT SHALL BE INSTALLED AT LEAST 42" BELOW THE FINISHED GRADE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 611 4" CONDUIT, TYPE B, AS PER PLAN AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO PERFORM THIS WORK.

ITEM 659, TOPSOIL, AS PER PLAN

THIS ITEM SHALL CONSIST OF PREPARING LANDSCAPING SUBGRADE AND FURNISHING AND INSTALLING TOPSOIL AND MULCH ACCORDING TO ITEM 659 AND AS MODIFIED BELOW FOR THE ESTABLISHMENT OF LANDSCAPING PLANTINGS.

REMOVE ROCK OR OTHER FOREIGN MATERIAL OF 3 INCHES OR GREATER IN ANY DIMENSION AND PROVIDE A SMOOTH SURFACE FOR TOPSOIL PLACEMENT BY "ROTO-TILLING" THE SUBGRADE TO A DEPTH OF 4 INCHES IMMEDIATELY BEFORE PLACING TOPSOIL.

ALL TOPSOIL SHALL BE SHREDDED, CLEAN, AND UNIFORM IN QUALITY FREE FROM HARD CLODS, STIFF CLAY, PARTIALLY DISINTEGRATED STONE, LIME, CEMENT, SLAG, OR OTHER UNDESIRABLE MATERIAL.

TOPSOIL SHALL CONFORM TO THE FOLLOWING: - ORGANIC CONTENT - BETWEEN 4% - 20% ORGANIC MATTER AS DETERMINED BY LOSS OF IGNITION (AASHTO T267)

- pH - SHALL RANGE BETWEEN 6.0 - 7.5

- SOIL TEXTURE - TOPSOIL SHALL CONSIST OF THE FOLLOWING PERCENTAGES OF SAND, SILT, AND CLAY PASSING THROUGH A 2.00 MM (#10) SIEVE

- a. SAND - 30%-75%
- b. SILT - 15%-70%
- c. CLAY - 10%-30%

TOPSOIL MUST BE APPROVED PRIOR TO PLACEMENT. TOPSOIL TEST RESULTS SHALL SHOW RECOMMENDATION FOR SOIL ADDITIVES FOR FERTILIZERS TO CORRECT NUTRIENT DEFICIENCIES AS NECESSARY INORGANIC SOIL AMENDMENTS INCLUDE THE FOLLOWING:

- LIME - ASTM C 602, AGRICULTURAL LIMING MATERIAL CONTAINING A MINIMUM OF 80% CALCIUM CARBONATE EQUIVALENT AS FOLLOWS:

a. PROVIDE LIME IN FORM OF GROUND DOLOMITIC LIMESTONE PER ASTM 605, CONTAINING NO LESS THAN 85% OF TOTAL CARBONATES AND SHALL BE GROUND TO SUCH A FINENESS THAT 50% WILL PASS THROUGH A 100 MESH SIEVE AND 90% WILL PASS THROUGH A MESH SIEVE. COARSER MATERIAL WILL BE ACCEPTABLE, PROVIDED THE SPECIFIED RATES OF APPLICATION ARE INCREASED PROPORTIONALLY ON THE BASIS OF QUANTITIES PASSING THE 100 MESH SIEVE.

- SULFUR - GRANULAR, BIODEGRADABLE, AND CONTAINING A MINIMUM OF 90% SULFUR, WITH A MINIMUM OF 99% PASSING THROUGH NUMBER 6 SIEVE AND A MAXIMUM OF 10% PASSING THROUGH A NUMBER 40 SIEVE.

ORGANIC MULCH - FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS, CONSISTING OF ONE DOUBLE SHREDDED HARDWOOD BARK.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR ITEM 659 TOPSOIL, AS PER PLAN AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO PERFORM THIS WORK.

ITEM 601 SLOPE PROTECTION MISC.: SEEDING & EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 AND PERCUSSION DRIVEN EARTH ANCHORS

SLOPE PROTECTION SHALL CONSIST OF SEEDING & EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 FURNISHED AND INSTALLED ACCORDING TO ITEM 836 AS WELL AS FURNISHING AND INSTALLING PERCUSSION DRIVEN EARTH ANCHORS OVER TOP OF THE TURF REINFORCING MAT. THE PERCUSSION DRIVEN EARTH ANCHORS SHOULD HAVE THE FOLLOWING MINIMUM PROPERTIES AND REQUIREMENTS:

- MAT GRAB TENSILE STRENGTH ASTM D-6818 (MARV) OF 4000 x 3000 LB/FT.

- MANUFACTURER SHALL HAVE A DOCUMENTED HISTORY OF SLOPE STABILITY APPLICATIONS USING ANCHOR DEPTHS OF AT LEAST 6 FEET.

- ANCHOR LOAD RANGE UP TO 1500 LBS.

- ANCHOR EMBEDMENT DEPTH 6 FT.

- THE SPACING OF THE ANCHORS SHALL BE ALONG THE SLOPE FACE 4 FT HORIZONTAL AND 5 FT VERTICAL.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 601 SLOPE PROTECTION MISC.: SEEDING & EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 AND PERCUSSION DRIVEN EARTH ANCHORS, SQUARE YARD, AND SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO PERFORM THE WORK.

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GENERAL NOTES

WAR-CR 282-0.97

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ITEM 202 - BUILDING DEMOLISHED, AS PER PLAN: BUILDING 53

THIS ITEM SHALL CONSIST OF DEMOLISHING THE CONCRETE/CINDER BLOCK WALLS OF BUILDING NUMBER 53 OF THE KING POWDER COMPANY RUINS, SEE SHEET NO. 52. THE CONTRACTOR SHALL ONLY DEMOLISH THE WALLS OF THE STRUCTURE. THE WALLS SHOULD BE REMOVED DOWN TO AN ELEVATION THAT IS PROTRUDING NO MORE THAN THREE FEET ABOVE THE EXISTING GROUND. DISTURBANCE TO THE BUILDING FOUNDATION SHALL BE MINIMIZED TO THE EXTENT POSSIBLE. THE CONTRACTOR SHOULD NOT REMOVE ANY PORTION OF THE STRUCTURE BELOW EXISTING GRADE, SHOULD NOT BREAK UP THE FOUNDATION, SHOULD NOT CLEAR THE BASEMENT (IF ANY), SHOULD NOT SEAL DRAINS, AND SHOULD NOT PERFORM ANY OTHER ACTIVITY IMPLIED BY ITEM 202 THAT WOULD DISTURB THE BUILDING FOUNDATION OR OTHER SUBSTRUCTURE. THE CONTRACTOR SHALL TAKE OWNERSHIP OF ALL DEMOLISHED MATERIALS ACCORDING TO ITEM 202.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH ITEM 202, BUILDING DEMOLISHED, AS PER PLAN, BUILDING 53 AND SHALL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM 659, SEEDING AND MULCHING, AS PER PLAN

ALL ASPECTS OF SPECIFICATION 659 SHALL APPLY EXCEPT THOSE MODIFIED BELOW

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	2729 CY
659, SEEDING AND MULCHING, AS PER PLAN	24583 SY
659, COMMERCIAL FERTILIZER	3.32 TON
659, LIME	5.08 AC
659, WATER	133 M GAL

VEGETATION OUTSIDE OF THE PROJECT CONSTRUCTION LIMITS SHALL BE LEFT UNDISTURBED. ALL DISTURBED/EXPOSED AREAS WITHIN THE CONSTRUCTION LIMITS (INCLUDING STAGING AND CONSTRUCTION ACCESS AREAS) SHALL BE PROPERLY STABILIZED (SEEDED/MULCHED) IMMEDIATELY AFTER GRADING TO PREVENT EROSION AND ESTABLISHMENT OF INVASIVE PLANT SPECIES. THE ABOVE ESTIMATED QUANTITY CALCULATIONS ARE BASED ON THESE LIMITS.

FURNISH GRASS SEED MIXTURE CLASS 1 ALONG ROADSIDES AND IN OTHER AREAS EXPECTED TO BE MOWED REGULARLY. FURNISH NATIVE GRASS SEED CLASS 4B ALONG TRAILSIDES. FURNISH GRASS SEED MIXTURE CLASS 3B ON SLOPES STEEPER THAN 3:1. FURNISH GRASS SEED & WILDFLOWER SEED MIXTURE CLASS 5B ALONG STREAMBANKS AND IN ALL OTHER AREAS AS OUTLINED ABOVE. SEED CLASS SELECTION FOR ALL AREAS SHALL BE AT THE APPROVAL OF THE ENGINEER.

THE CONTRACTOR SHALL PERFORM WATERING AND MAINTENANCE, AS NECESSARY, UNTIL THE SEEDED AREAS HAVE BECOME FULLY ESTABLISHED.

PAYMENT FOR ALL THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SQUARE YARD FOR ITEM 659, SEEDING AND MULCHING, AS PER PLAN, OR OTHER PERTINENT PAY ITEM LISTED ABOVE.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FROM THE ENVIRONMENTAL COMMITMENTS/SPECIAL PROVISIONS PACKAGE.

ITEM 607 FENCE, SNOW 1300 FT

ITEM SPECIAL - SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

THE CONTRACTOR SHALL DEVELOP A SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC) FOR REVIEW AND APPROVAL BY THE ENGINEER WHICH SHALL ALSO INCLUDE ALL AREAS OF FUEL STORAGE, EQUIPMENT REFUELING, AND EQUIPMENT MAINTENANCE, AND SPILL KITS. ALL AREAS UTILIZED BY THE CONTRACTOR NOT WITHIN THE PROJECT LIMITS SHALL BE ASSESSED FOR POTENTIAL GROUNDWATER CONTAMINATION AND BE INDICATED ON THE SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN.

THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS. ANY SUCH SPILL OR EVENT SHALL BE REPORTED IMMEDIATELY TO THE EMERGENCY CONTACT LISTED BELOW FOR EACH DRINKING WATER SOURCE. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT OHIO EPA SW OHIO DISTRICT OFFICE AT (937) 285-6446 OR (800) 282-9378 FOR CLEANUP OF THE SPILL.

ALL WORK DESCRIBED IN THIS NOTE SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM FOR ITEM SPECIAL - SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN.

ITEM SPECIAL - SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN LS

PAVEMENT RESTORATION FOR PIPE INSTALLATION AND PIPE REMOVAL.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING THE INSTALLATION OF PIPE D1 AND THE REMOVAL OF PIPE R5.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 6 CU YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 12" AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

STREAMBANK VEGETATION

THE CONTRACTOR SHOULD LEAVE ALL LITTLE MIAMI RIVER STREAMBANK VEGETATION UNDISTURBED TO THE MAXIMUM EXTENT POSSIBLE. ALL DISTURBED STREAMBANKS SHALL BE RETURNED TO THE PREVIOUSLY EXISTING CONTOURS AND ELEVATIONS, EXCEPT AS INDICATED OTHERWISE IN THE PLANS. AREAS WHERE VEGETATION IS REMOVED SHALL BE RE-VEGETATED WITH NATIVE TREE SPECIES. THE CONTRACTOR SHALL CONTACT AARON ROURKE, SOUTHWEST REGIONAL SCENIC RIVERS MANAGER AT 614-230-8534 OR AARON.ROURKE@DNR.STATE.OH.US TO OBTAIN A LIST OF SPECIFIC SPECIES TO BE PLANTED AND APPROPRIATE PLANTING DENSITY/SPACING.

IT IS ANTICIPATED THAT APPROXIMATELY 60 TREES SHOULD BE PLANTED IN THE BANK AREAS DISTURBED BY THE CONSTRUCTION OF THE NEW BRIDGE OVER THE LITTLE MIAMI RIVER AND THE REMOVAL OF THE EXISTING BRIDGE.

AN ADDITIONAL 190 TREES SHALL BE PLANTED AT LOCATIONS TO BE IDENTIFIED BY THE ENGINEER TO REPLACE EXISTING TREES BEING REMOVED BY THE CONSTRUCTION OF THIS PROJECT.

TREE SPECIES SHALL BE PROVIDED AS ABOVE WITH THE FOLLOWING MINIMUM REQUIREMENTS:

EASTERN COTTONWOOD (POPULUS DELTOIDES)	20%
DOGWOOD (CORNUS SPP.)	10%
MAPLE (ACER SPP.)	15%
OAK (QUERCUS SPP.)	15%
TULIPTREE (LIRIODENDRON TULIPEFERA)	5%
SYCAMORE (PLATANUS OCCIDENTALIS)	5%

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 661 DECIDUOUS TREE, 1" CALIPER AND SHALL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK. ALL ASPECTS OF ITEM 661 SHALL APPLY.

PAYMENT FOR VEGETATION WILL BE LIMITED TO DISTURBED AREAS WHICH ARE NECESSARY FOR CONSTRUCTION AS DETERMINED BY THE ENGINEER. ANY ADDITIONAL AREAS WHICH ARE DISTURBED BY THE CONTRACTOR SHALL BE REGRADED AND REVEGETATED AT THE CONTRACTORS EXPENSE.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED FOR THIS WORK.

ITEM 661, DECIDUOUS TREE, 1" CALIPER 250 EA

ENVIRONMENTAL COMMITMENTS

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. THE CONTRACTOR SHALL NOT REMOVE TREES UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THE CONTRACTOR SHALL DEMARCAT CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ACCESS TO CARTER PARK, INCLUDING TRAILS AND SHARED USED PATHS, FROM KING AVENUE WILL BE RESTRICTED FOR THE DURATION OF CONSTRUCTION ACTIVITIES DUE TO SAFETY CONCERNS AND LACK OF A FEASIBLE AND SAFE DETOUR. TO PROTECT CARTER PARK AND THE PUBLIC, THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY CONSTRUCTION FENCING ALONG THE KNOWN BOUNDARIES OF THE PARK WITHIN THE PROJECT CONSTRUCTION LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AND INSTALL SIGNAGE TO ALERT USERS OF CARTER PARK OF CONSTRUCTION ACTIVITIES, ACCESS RESTRICTIONS OR CLOSURES, AND TO DIRECT USERS TO SECONDARY ACCESS POINTS.

PRIOR TO PROJECT CONSTRUCTION, THE CONTRACTOR AND THE PROJECT ENGINEER SHALL MEET WITH THE ODNR TRAILS ADMINISTRATOR THOMAS ARBOUR (614-265-6575 OR THOMAS.ARBOUR@DNR.STATE.OH.US) FOR A SITE VISIT TO REVIEW NECESSARY SIGNAGE, COORDINATION, AND COMMUNICATIONS WITH AREA CANOE LIVERIES, INCLUDING LOVELAND CANOE AND KAYAK.

THE PROJECT ENGINEER SHALL NOTIFY THE ODNR TRAILS ADMINISTRATOR AND CANOE LIVERIES THAT USE THE LITTLE MIAMI RIVER AT LEAST 14 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AND 14 DAYS PRIOR TO THE START OF BRIDGE DEMOLITION ACTIVITIES TO ALLOW APPROPRIATE NOTIFICATIONS TO BE POSTED ON ODNR'S ONLINE BOATING WEBPAGE AND TO ALLOW CANOE LIVERIES TO POST INFORMATION AND MAKE ITINERARY CHANGES, AS NEEDED.

IF ON-THE-WATER LAW ENFORCEMENT ASSISTANCE IS NEEDED DURING ANY PORTION OF THE DEMOLITION OR CONSTRUCTION PHASE, THE CONTRACTOR SHALL NOTIFY THE ODNR LAW ENFORCEMENT OFFICER (937-902-4950 OR SHANNON.HOFFER@DNR.STATE.OH.US).

WORK INVOLVING CONTAMINATED SOILS

ENVIRONMENTAL STUDIES HAVE SHOWN THAT THERE IS A POTENTIAL OF ENCOUNTERING ELEVATED LEVELS OF LEAD, ARSENIC, BENZO(A) PYRENE AND NAPHTHALENE, IN SOILS AND ELEVATED METAL LEVELS IN GROUNDWATER, DURING THE CONSTRUCTION PROJECT. IN ADDITION, A PORTION OF THE PROJECT IS A USEPA SUPERFUND SITE AND AN OEPA VOLUNTARY ACTION PROGRAM (VAP) SITE. COPIES OF THE ENVIRONMENTAL STUDIES AND SOIL MANAGEMENT PLAN (JAN. 2017) ARE AVAILABLE FOR EXAMINATION IN THE WARREN COUNTY ENGINEERS OFFICE, 210 W MAIN ST, LEBANON, OH. POTENTIALLY CONTAMINATED SOIL MAY BE ENCOUNTERED ON PARCEL 27 IN THE FOLLOWING WARREN COUNTY AUDITOR PARCELS:

- 16-12-400-004
- 16-12-400-012
- 16-12-400-020
- 16-12-453-007

THE CONTRACTOR SHALL CERTIFY IN WRITING TO THE ENGINEER, WITHIN TWO WEEKS AFTER CONTRACT EXECUTION AND PRIOR TO ANY EXCAVATION, THAT THE CONTRACTOR HAS PREPARED A SITE SPECIFIC HEALTH AND SAFETY PLAN (SSHSP) IN ACCORDANCE WITH 29 CFR PART 1910.120. THE CONTRACTOR SHALL MAKE THE SSHSP AVAILABLE ON THE PROJECT SITE.

PAYMENT FOR THE SSHSP SHALL BE MADE IN THE LUMP SUM CONTRACT PRICE FOR ITEM SPECIAL, SITE SPECIFIC HEALTH AND SAFETY PLAN.

THE CONTRACTOR SHALL PROVIDE NOTIFICATION TO THE ENGINEER WITH TEN (10) DAY NOTICE PRIOR TO ANY EXCAVATION AND/OR OTHER EARTH DISTURBING WORK TO PERMIT ARRANGING FOR AN INSPECTOR.

ALL EXCAVATIONS AND EARTH DISTURBING WORK IN THE PROJECT IS TO BE PAID FOR UNDER THE APPROPRIATE ITEM 203 BID ITEMS. THE AREA WEST OF THE EXISTING BRIDGE AND NORTH OF THE LITTLE MIAMI TRAIL CONTAINS A MONITORING WELL AND A BIO-REMEDIAL AREA CONSISTING OF PRAIRIE GRASSES. THIS AREA IS OUTSIDE OF THE CONSTRUCTION LIMITS. THIS AREA IS TO BE FENCED OFF AND NOT DISTURBED BY THE CONSTRUCTION OF THE NEW BRIDGE OR THE DEMOLITION AND REMOVAL OF THE EXISTING BRIDGE. THE LOCATION OF THE FENCING IS SHOWN ON SHEET NO. 134.

PAYMENT FOR THE FENCING SHALL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 607 FENCE, SNOW AND IS INCLUDED IN THE QUANTITY SHOWN ON SHEET 8.

A 2-FOOT LAYER OF CLEAN NON-REGULATED SOIL WAS PREVIOUSLY PLACED FROM KING AVE./GRANDIN RD STA 111+50 TO STA 114+25; LITTLE MIAMI TRAIL STA 902+50 TO STA 905+00; AND PETERS CARTRIDGE FACTORY DR. STA 201+25 TO STA 202+00. THESE AREAS ARE SHOWN AND CROSS HATCHED ON SHEET NO. 134. ANY MATERIAL THAT IS REMOVED FROM THIS 2-FOOT LAYER IS TO BE CONSIDERED NON-REGULATED. THIS MATERIAL IS TO BE STORED AND REUSED FOR OTHER PROJECT PURPOSES PROVIDED IT MEETS ODOT CMS 203.

WORK INVOLVING CONTAMINATED SOILS (CONTINUED)

MATERIAL EXCAVATED BETWEEN KING AVE./GRANDIN RD STA 111+50 TO STA 114+25; LITTLE MIAMI TRAIL STA 902+50 TO STA 906+00; AND PETERS CARTRIDGE FACTORY DR. STA 201+25 TO STA 202+00 BELOW THE 2- FOOT CLEAN, NON-REGULATED LAYER IS TO BE STOCKPILED AT A LOCATION PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE ENGINEER MAY PERMIT THE CONTRACTOR TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLL-OFF BOX. THE ENGINEER MAY PERMIT THE CONTRACTOR TEMPORARY STORAGE OF THE EXCAVATED MATERIAL ON AND COVERED BY AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECT SOILS FROM COMING INTO CONTACT WITH THE ORIGINAL SOILS.

THE ENGINEER WILL TEST THE EXCAVATED MATERIALS WITHIN THE ABOVE STATIONING AND PLACE THEM INTO ONE OF THE FOLLOWING CATEGORIES.

1. ITEM SPECIAL - WORK INVOLVING NON-REGULATED MATERIALS

THE WORK INVOLVED IN THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE SSHSP, HANDLING AND STORAGE AND DISPOSAL OF NON-REGULATED MATERIAL IF THE MATERIAL CAN'T BE REUSED.

2. ITEM SPECIAL - WORK INVOLVING SOLID WASTE

THE WORK INVOLVED IN THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE SSHSP, HANDLING, STORAGE, DISPOSAL TESTING AND DISPOSAL OF SOLID WASTE. THIS MATERIAL MAY BE USED AS FILL IN THE PROJECT PROVIDED IT IS COVERED WITH AT LEAST 2-FOOT LAYER OF CLEAN, NON-REGULATED MATERIAL ON THE PROJECT. IF ADDITIONAL MATERIAL IS BROUGHT INTO THE PROJECT TO CREATE THE 2-FOOT LAYER, THE CONTRACTOR WILL ENSURE THE MATERIAL MEETS THE OHIO EPA VAP COMMERCIAL/INDUSTRIAL GENERIC STANDARDS EFFECTIVE MARCH 1, 2009. IF THE REGULATED MATERIAL CAN'T BE REUSED ON THE PROJECT, IT IS TO BE DISPOSED OF AS A SOLID WASTE AT A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE STATE ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL THE NECESSARY PERMITS AND APPROVALS FOR DISPOSAL.

3. ITEM SPECIAL - WORK INVOLVING HAZARDOUS WASTE

WASTE MATERIALS CHARACTERIZED AS HAZARDOUS WASTE SHALL IMMEDIATELY BE PLACED IN AN APPROPRIATE, LINED, COVERED CONTAINERS, LABELED AS HAZARDOUS WASTE AND SECURED FOR TEMPORARY STORAGE. NOTIFY THE ENGINEER IMMEDIATELY IF SAMPLING RESULTS INDICATE THAT ANY WASTE MATERIALS ARE CHARACTERIZED AS HAZARDOUS. THE ENGINEER WILL SUBMIT A REQUEST FOR A RCRA SUBTITLE C SITE GENERATOR ID FROM OHIO EPA. UTILIZE PROPER HANDLING, STORAGE AND TRANSPORTATION METHODS UNTIL PROPERLY DISPOSED OF IN A LICENSE HAZARDOUS WASTE FACILITY. THE CONTRACTOR SHALL COMPLETE ALL MANIFESTS AND PROVIDE THE COMPLETED MANIFESTS TO THE ENGINEER FOR SIGNATURE AS THE GENERATOR. PROVIDE THE ENGINEER WITH A COPY OF THE MANIFEST SIGNED BY THE DESIGNATED HAZARDOUS WASTE DISPOSAL FACILITY.

WORK INVOLVING CONTAMINATED SOILS (CONTINUED)

IF THE EXCAVATIONS WITHIN THE CROSS-HATCHING LIMITS ON SHEET NO. 134 REQUIRE DEWATERING FOR CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL DEWATER, CONTAINERIZE AND DISPOSE OF THE LIQUID WASTE IN A LICENSED DISPOSAL FACILITY. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND CONDUCTING ALL TESTING NEEDED TO STORE, TRANSPORT, AND DISPOSE OF THE LIQUID WASTE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. INCLUDE DETAILS OF THE WASTEWATER SAMPLING AND TESTING AS PART OF THE WASTE MATERIAL SAMPLING AND TESTING PLAN. THE CONTRACTOR SHALL FILL OUT AND SIGN ALL LIQUID WASTE DISPOSAL FACILITY FORMS REQUIRED BY THE DISPOSAL FACILITY INCLUDING, BUT NOT LIMITED TO MATERIAL PROFILES, DATA SHEETS AND MATERIAL CERTIFICATIONS. PROVIDE A COPY OF ALL COMPLETED DISPOSAL FACILITY FORMS TO THE ENGINEER.

WATER REMOVED FROM WITHIN THE ABOVE LIMITS WILL FALL INTO ONE OF TWO FOLLOWING CATEGORIES.

1. ITEM SPECIAL - WORK INVOLVING NON-REGULATED WATER

THE METHOD FOR DISPOSING OF THE NON-REGULATED WATER WILL BE APPROVED BY THE ENGINEER. THE WATER MAY NOT BE DISCHARGED DIRECTLY INTO THE LITTLE MIAMI RIVER OR ITS TRIBUTARIES. WORK INVOLVED WITH THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE SSHSP, HANDLING, STORAGE, AND DISPOSAL OF NON-REGULATED WATER.

2. ITEM SPECIAL - WORK INVOLVING REGULATED WATER

THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSAL OF REGULATED WATER. THE METHOD FOR DISPOSING OF THE REGULATED WATER WILL BE APPROVED OF BY THE ENGINEER. THE WORK INVOLVED WITH THIS ITEM SPECIAL INCLUDES COMPLYING WITH THE SSHSP, HANDLING, STORING, TESTING (FOR DISPOSAL), AND DISPOSAL/ TREATMENT OF THE REGULATED WATER.

THE CONTRACTOR IS TO COMPLETE ALL MANIFESTS FOR MATERIAL TO BE TRANSPORTED AND PROVIDE TO THE ENGINEER FOR SIGNATURE. ALL TRANSPORT VEHICLES USED FOR THE MOVEMENT OF REGULATED SOILS OR WATERS SHALL MEET APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE CONTRACTOR WILL MAINTAIN RECORDS, SUCH AS MANIFESTS, LANDFILL TICKETS, DAILY LOGS, ETC., TO DOCUMENT THE SOURCE, MOVEMENT, AND DESTINATION OF EACH TRUCK LOAD OF REGULATED SOILS AND/OR WATERS. ONE COPY OF EACH OF THESE RECORDS WILL BE SUBMITTED TO THE ENGINEER.

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER CUBIC YARD, TON, OR GALLON.

WORK INVOLVING CONTAMINATED SOILS (CONTINUED)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

- ITEM SPECIAL-SITE SEPCIFIC HEALTH & SAFETY PLAN LS
- ITEM SPECIAL-WORK INVOLVING NON-REGULATED MATERIALS 1500 TONS
- ITEM SPECIAL-WORK INVOLVING SOLID WASTE 250 TONS
- ITEM SPECIAL-WORK INVOLVING HAZARDOUS WASTE 250 TONS
- ITEM SPECIAL-WORK INVOLVING NON-REGULATED WATER 1000 GAL
- ITEM SPECIAL-WORK INVOLVING REGULATED WATER 1000 GAL

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GENERAL NOTES

WAR-CR 282-0.97

PROJECT CONTROL

WAR-CR-282-0.97 Stantec Job#173620099

CONTROL POINT COORDINATES AND MONUMENT LOCATION

SOURCE OF CONTROL	Grid North	Grid East	C.S.F.	Project North	Project East	Mon. Type	Elevation
Trav. Pt. 1	495009.893	1477198.360	0.999905189	495056.830	1477338.428	I Pin Set	769.797
Trav. Pt. 2	495452.040	1477211.392	0.999905189	495499.019	1477351.461	I Pin Set	772.135
Trav. Pt. 3	497927.756	1474473.945	0.999905189	497974.970	1474613.755	I Pin Set	735.790
Trav. Pt. 4	498094.515	1474275.039	0.999905189	498141.744	1474414.830	I Pin Set	750.160
TRAVERSE	Grid North	Grid East	C.S.F.	Project North	Project East	TYPE	ELEVATION
Trav. Pt. 100	495609.506	1476963.066	0.999905189	495656.500	1477103.112	I Pin Set	760.164
Trav. Pt. 101	495853.875	1476811.186	0.999905189	495900.892	1476951.217	I Pin Set	725.604
Trav. Pt. 102	496038.938	1476532.159	0.999905189	496085.972	1476672.164	I Pin Set	683.631
Trav. Pt. 103	496421.148	1476241.953	0.999905189	496468.219	1476381.930	I Pin Set	632.147
Trav. Pt. 104	496941.092	1476099.115	0.999905189	496988.212	1476239.079	I Pin Set	612.664
Trav. Pt. 105	496976.739	1475800.967	0.999905189	497023.863	1475940.902	I Pin Set	620.744
Trav. Pt. 106	497529.068	1475603.366	0.999905189	497576.244	1475743.283	I Pin Set	619.609
Trav. Pt. 107	497789.133	1475754.487	0.999905189	497836.334	1475894.418	I Pin Set	634.114
Trav. Pt. 108	497671.968	1475370.378	0.999905189	497719.157	1475510.273	I Pin Set	669.302
Trav. Pt. 109	497622.070	1474950.245	0.999905189	497669.255	1475090.100	I Pin Set	707.126
Trav. Pt. 110	497939.380	1474833.281	0.999905189	497986.595	1474973.125	Mag Nail Set	732.819
BENCHMARKS	Grid North	Grid East	C.S.F.	Project North	Project East	TYPE	ELEVATION
TBM D	496270.145	1476414.042	0.999905189	496317.201	1476554.036	RSPK 28" Sycamore	646.405
TBM E	496603.588	1476177.505	0.999905189	496650.676	1476317.476	RSPK Abandoned Pole	627.601
TBM F	497079.420	1476054.615	0.999905189	497126.553	1476194.575	RSPK Pole #W92-24E	612.173
TBM G	497020.538	1475764.473	0.999905189	497067.665	1475904.405	Cut Square SW Abutment	616.709
TBM H	497444.463	1475625.566	0.999905189	497491.631	1475765.485	Cut Square NW Abutment	617.140
TBM I	497743.785	1475783.324	0.999905189	497790.981	1475923.258	RSPK 24" Hackberry	625.177
TBM J	497689.570	1475546.552	0.999905189	497736.761	1475686.463	RSPK Pole #W92-32E	654.690
TBM K	497658.895	1475212.033	0.999905189	497706.083	1475351.913	RSPK Pole #W92-11E	683.699

MONUMENT TABLE

☉ OF CONSTR. KING AVE./ GRANDIN RD.	PROJECT COORDINATES (SEE CONVERSION NOTE)		MONUMENTS TO BE SET DURING CONSTRUCTION	
	STATION	NORTH (Y)	EAST (X)	REF. MON. OFFSET
	P.T. 100+00.00	497711.038	1475441.078	1 24.06 RT.
	P.T. 100+00.00	497750.099	1475441.208	1 15.00 LT.
	P.C. 102+43.99	497714.290	1475685.080	1 20.00 RT.
	P.C. 102+43.99	497754.290	1475685.212	1 20.00 LT.
	P.T. 112+55.05	496988.130	1476278.608	1 0.00 RT.
	P.I. 113+14.17	496935.475	1476305.488	1 0.00 RT.
	P.C. 113+77.39	496872.293	1476303.113	1 0.00 RT.
	P.T. 114+33.43	496816.526	1476307.275	1 0.00 RT.
	P.T. 115+51.27	496694.272	1476307.432	1 25.00 RT.
	P.T. 115+51.27	496709.622	1476360.247	1 30.00 LT.
	P.C. 116+69.50	496582.133	1476345.230	1 20.00 RT.
	P.C. 116+69.50	496594.691	1476388.442	1 25.00 LT.
	P.T. 118+29.34	496429.515	1476410.932	1 25.00 RT.
	P.T. 118+29.34	496457.320	1476452.488	1 25.00 LT.
	TOTAL CARRIED TO GENERAL SUMMARY SHEET			14

SEQUENCE OF CONSTRUCTION

THE SEQUENCE OF CONSTRUCTION OUTLINED BELOW IS INTENDED TO GUIDE THE WORK IN A MANNER THAT PROVIDES A BASIC LEVEL OF SERVICE TO ALL MOTORISTS.

ALTHOUGH THIS SEQUENCE OF CONSTRUCTION LISTS TASKS IN A SPECIFIC ORDER, NOT EVERY ITEM LISTED MUST BE COMPLETED BEFORE COMMENCING THE NEXT ITEM, AND SOME TASKS MAY BE PERFORMED CONCURRENTLY. WHEN CONSTRUCTION ACTIVITIES ARE SUSPENDED DURING THE WINTER MONTHS, THROUGH TRAFFIC MUST BE MAINTAINED ON KING AVENUE/GRANDIN ROAD.

PHASE 1: MAINTAIN TRAFFIC ON THE EXISTING KING AVENUE PAVEMENT WHILE CONSTRUCTING THE RELOCATED ALIGNMENT FROM STA. 105+00 TO APPROXIMATELY STA. 105+92, THE REAR ABUTMENT FOR WAR-282-0089, AND THE PIER FOR THE SAME STRUCTURE. BUILD AS MUCH OF THE EMBANKMENT NORTH OF THE LITTLE MIAMI RIVER AS POSSIBLE WITHOUT IMPACTING EXISTING TRAFFIC OR GUARDRAIL.

PHASE 2: CLOSE THE LITTLE MIAMI TRAIL TO TRAFFIC BEGINNING WITH THIS PHASE, SEE SHEET 36 FOR TRAIL CLOSURE SIGNS AND PLACEMENT. USE FLAGGER OPERATIONS AS NECESSARY TO CONVERT GRANDIN ROAD AND CARTRIDGE FACTORY DRIVE TO A ONE LANE, TWO-WAY OPERATION USING STANDARD CONSTRUCTION DRAWING MT-97.10 TO COMPLETE THE FOLLOWING ACTIVITIES:

1. CONSTRUCT THE PROPOSED RAW WATER LINE FROM STA. 34+18.07 TO THE CONNECTION OF THE EXISTING RAW WATERLINE AT STA. 37+55.08, A SHORT-TERM ROAD CLOSURE OF GRANDIN ROAD WILL BE NECESSARY TO CONSTRUCT THE RAW WATER LINE CROSSING UNDER GRANDIN ROAD FROM STA. 34+80.69 TO STA. 35+80.97. FOLLOW THE NOTICE OF CLOSURE SIGN TIME TABLE FOR THE TIME PERIOD FOR SIGN PLACEMENT PRIOR TO ROAD CLOSURE AND INSTALL DETOUR SIGNS FOR PHASE 4, SEE SHEET 34. WHEN THE GRANDIN ROAD IS REOPENED TO TRAFFIC, DETOUR SIGNS SHALL BE COVERED.

2. CONSTRUCT THE PROPOSED STORM SEWER SYSTEM STARTING ON THE SOUTH SIDE OF CARTRIDGE FACTORY DRIVE FROM STA. 201+22 TO STA. 201+80 AND CROSSING AT STA. 201+78 AND STA. 201+22; ALONG THE WEST SIDE OF GRANDIN ROAD FROM STA. 113+37 TO STA. 113+98, CROSSING AT STA. 114+04 AND ON THE EAST SIDE OF GRANDIN ROAD FROM STA. 114+15 TO STA. 114+40; AND A TEMPORARY STORM SEWER PIPE INSTALLED UNDER THE EXISTING GRANDIN ROAD PAVEMENT TO EXTEND THE PROPOSED STORM SYSTEM TO DISCHARGE INTO THE LITTLE MIAMI RIVER. IN ORDER TO MAINTAIN THE STORM SYSTEM DURING PARTIAL CONSTRUCTION OF GRANDIN ROAD, TEMPORARY ACCOMMODATIONS OF DRAINAGE STRUCTURES WILL BE NECESSARY. THE CONTRACTOR MAY PARTIALLY CONSTRUCT THE STRUCTURES AND USE TEMPORARY CAPS, CONSTRUCT TEMPORARY STRUCTURES, OR REPLACE STRUCTURES WITH PIPE BENDS DURING THIS PHASE.

3. CONSTRUCT TEMPORARY PAVEMENT ON THE SOUTH SIDE OF THE LITTLE MIAMI RIVER AND ALONG THE CARTRIDGE FACTORY DRIVE RELOCATING THE EXISTING GRANDIN ROAD ALIGNMENT AWAY FROM THE PROPOSED WORK TO CONSTRUCT THE REMAINDER OF WAR-282-0.89 STRUCTURE AND CONSTRUCT STRUCTURE WAR-150-0.01.

SEQUENCE OF CONSTRUCTION (CONTINUED)

4. CONSTRUCT THE TEMPORARY WATER LINE CONNECTION CROSSING UNDER GRANDIN ROAD ON THE SOUTH SIDE OF THE LITTLE MIAMI RIVER. ONCE THE TEMPORARY WATER LINE IS COMPLETED, SWITCH SERVICE TO THE NEW TEMPORARY ALIGNMENT.

5. CLEAR AND GRADE THE AREA ON THE EAST SIDE OF GRANDIN ROAD FROM STA. 115+00.00 TO STA. 117+00.00 FOR PLACEMENT OF THE PORTABLE BARRIER AND IMPACT ATTENAUATOR.

CONSTRUCT THE REMAINING SECTION OF THE RAW WATER LINE FROM THE CONNECTION TO THE EXISTING RAW WATER LINE AT STA. 30+02.00 TO STA. 34+18.07, GRADE AREA AROUND THE PROPOSED WATER LINE TO PROVIDE A MINIMUM OF 4 FEET OF COVERAGE, AND TRANSFER SERVICE TO THE PROPOSED RAW WATER LINE FROM THE EXISTING RAW WATER LINE. CONSTRUCT THE 24" WATER LINE FROM FLEXIBLE COUPLING JOINT AT STA. 78+07.75 TO STA. 80+33.67. INSTALL SHEET PILING ALONG THE LEFT SIDE OF THE EXISTING PAVEMENT OF GRANDIN ROAD AND TRANSFER TRAFFIC TO THE NEW TEMPORARY ALIGNMENT. CONSTRUCT PORTIONS OF GRANDIN ROAD FROM STA. 111+39.32 TO STA. 115+00, INCLUDING THE PROPOSED RETAINING WALL FROM STA. 114+79.88 TO STA. 115+42.49, AND STRUCTURE WAR-150-0.01. COMPLETE CONSTRUCTION OF STRUCTURE WAR-282-0.89, INCLUDING THE 24" WATER AND 8" SANITARY LINES HANGING ON THE BRIDGE AND THE PORTION OF THE 8" SANITARY LINE THAT RUNS FROM THE STRUCTURE, UNDER THE FOOTER, TO THE MANHOLE LOCATED AT STA. 0+74.72.

PHASE 3: CONSTRUCT THE RELOCATED LITTLE MIAMI TRAIL FROM STA. 900+75 TO STA. 902+90 AND FROM STA. 903+63 TO STA. 910+39.22, USE ITEM 410 TRAFFIC COMPACTED SURFACE TO TRANSITION FROM THE TRAIL ELEVATION TO THE EXISTING PAVEMENT ELEVATION WITH A SLOPE NO STEEPER THAN 4:1, AND OPEN THE TRAIL TO TRAFFIC. CONSTRUCT THE TRAILHEAD PARKING LOT AND THE CARTER PARK CONNECTOR FROM STA. 1010+60 TO THE CONNECTION TO THE TRAILHEAD PARKING LOT.

PHASE 4: CLOSE GRANDIN ROAD TO THROUGH TRAFFIC IN ORDER TO BEGIN CONSTRUCTION OF THE REMAINDER OF THE ROUNDABOUT AND THE GRANDIN ROAD TIE-IN BETWEEN STA. 112+50 AND STA. 119+50, INCLUDING THE PROPOSED 24 INCH WATER LINE FROM STA. 81+30 TO THE END OF THE WATER LINE AT STA. 88+92.80. FOLLOW THE NOTICE OF CLOSURE SIGN TIME TABLE FOR THE TIME PERIOD FOR SIGN PLACEMENT PRIOR TO THE ROAD CLOSURE AND UNCOVER THE DETOUR SIGNS FOR PHASE 4, SEE SHEET 34, PLACED IN PHASE 2. MAINTAIN ACCESS TO PETERS CARTRIDGE FACTORY WITH A TWO LANE, TWO-WAY DRIVE USING THE PHASE 3 ALIGNMENT APPROACHING FROM THE NORTH AND PLACING TWO TYPE 3 BARRICADES MOUNTED WITH ROAD CLOSED (R11-2) SIGNS AND TYPE B FLASHING (YELLOW) WARNING LIGHTS ON THE SOUTH SIDE OF THE CARTRIDGE FACTORY DRIVE/GRANDIN ROAD INTERSECTION TO CLOSE GRANDIN ROAD SOUTH OF CARTRIDGE FACTORY DRIVE TO TRAFFIC. AT THE END OF PHASE 4, CONVERT THE EXISTING CARTRIDGE FACTORY DRIVE TO A ONE LANE, TWO-WAY ACCESS DRIVE BY PLACING PORTABLE BARRIER ALONG THE EAST EDGE OF GRANDIN ROAD AND IN THE MIDDLE OF THE EXISTING CARTRIDGE FACTORY DRIVE AND SETUP A WORK ZONE TRAFFIC SIGNAL TO MAINTAIN ACCESS, SEE SHEET 26. PLACE TEMPORARY SHORING ALONG THE NEW TEMPORARY ALIGNMENT AND CONSTRUCT THE SOUTH SIDE OF THE PROPOSED CARTRIDGE FACTORY DRIVE, REPLACING THE PROPOSED TRAFFIC ISLAND WITH TEMPORARY PAVEMENT. NOTE: TEMPORARY SHORING IN CONFLICT WITH THE PROPOSED STORM PIPE AT STA. 201+22 AND STA. 201+78 WILL HAVE TO STRADDLE THE STORM PIPE TO AVOID DISRUPTION OF THE STORM SYSTEM.

SEQUENCE OF CONSTRUCTION (CONTINUED)

PHASE 5A: ONCE THE SOUTH END OF THE PROJECT (GRANDIN ROAD) IS COMPLETE, MOVE THE POINT OF CLOSURE TO THE BEGINNING OF THE PROJECT AND MAINTAIN ACCESS TO PETERS CARTRIDGE FACTORY FROM THE SOUTH (GRANDIN ROAD). BEGIN CONSTRUCTION ON THE NORTH SIDE OF CARTRIDGE FACTORY DRIVE BY SETTING UP A ONE LANE, TWO-WAY OPERATION WITH A WORK ZONE TRAFFIC SIGNAL ON THE SOUTH SIDE OF CARTRIDGE FACTORY DRIVE AND SHIFT TRAFFIC TO THE SECTION OF THE DRIVE COMPLETED IN PHASE 4, SEE SHEET 28. CUT THE TEMPORARY SHORING ALONG CARTRIDGE FACTORY DRIVE, PLACED IN PHASE 4, TO A DEPTH THAT WILL NOT INTERFERE WITH THE PROPOSED PAVEMENT BASE AND LEAVE THE REMAINING SHORING IN PLACE. CONSTRUCT THE NORTH SIDE OF THE PROPOSED CARTRIDGE FACTORY DRIVE AND THE REMAINING SECTION OF THE ROUNDABOUT. CONSTRUCT THE 24 INCH WATER LINE FROM STA. 80+33.67 TO STA. 81+30, BUT KEEP THE TEMPORARY WATER LINE CONNECTION IN SERVICE. AFTER COMPLETION OF THE CARTRIDGE FACTORY DRIVE, REMOVE WORK ZONE TRAFFIC SIGNAL AND OPEN THE ROUNDABOUT, WITH THE NORTHERN LEG TOWARDS KING AVENUE REMAINING CLOSED, AND CARTRIDGE FACTORY DRIVE TO TRAFFIC, SEE SHEET 32A. USE DRUMS TO REDUCE THE DRIVE WIDTHS ON THE SOUTH SIDE OF THE DRIVE TO 10 FOOT LANES TO DELINEATE A WORK ZONE TO REMOVE TEMPORARY PAVEMENT AND COMPLETE THE MEDIAN ISLAND CURB.

PHASE 5: CLOSE LITTLE MIAMI TRAIL, SEE SHEET 36 FOR TRAIL CLOSURE SIGNS AND PLACEMENT, AND BEGIN DEMOLITION OF EXISTING GRANDIN ROAD PAVEMENT THAT CONFLICTS WITH THE CONSTRUCTION OF THE PROPOSED LITTLE MIAMI TRAIL. CONSTRUCT THE CONNECTION OF THE 8" SANITARY LINE FROM THE MANHOLE LOCATED AT STA. 0+74.72 TO THE EXISTING SANITARY LINE AND COMPLETE CONSTRUCTION OF THE LITTLE MIAMI TRAIL FROM 902+90 TO STA. 903+63. REOPEN THE LITTLE MIAMI TRAIL AND OPEN THE TRAIL PARKING LOT TO TRAFFIC. CONSTRUCT KING AVE. FROM STA. 98+72.17 TO STA. 105+00 AND REMOVE THE REMAINING UNUSED EXISTING KING AVENUE PAVEMENT. COMPLETE CONSTRUCTION OF THE 24" WATER MAIN AND 8" SANITARY LINE ON THE NORTH SIDE OF THE LITTLE MIAMI RIVER, TRANSFER SERVICE TO THE PROPOSED LINES AND DECOMMISSION THE EXISTING PUMP STATION AND REMOVE THE TEMPORARY WATER LINE CONNECTION.

PHASE 6: USE STANDARD CONSTRUCTION DRAWING MT-97.11, TO APPLY THE FINAL SURFACE COURSE TO PAVEMENT. DEMOLITION AND REMOVAL OF THE EXISTING KING AVENUE BRIDGE OVER THE LITTLE MIAMI RIVER CAN BEGIN ONCE THE NEW BRIDGE IS IN SERVICE. DEMOLITION OF THE EXISTING KING AVENUE BRIDGE AND IN-STREAM WORK SHALL BE PERFORMED FROM AUGUST 1 THROUGH OCTOBER 31 DURING LOW FLOW CONDITIONS AND SHALL NOT BEGIN WITHOUT THE APPROVAL OF THE ENGINEER.

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ALONG KING AVENUE /GRANDIN ROAD SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDAR DAYS DURING PHASE 4 AND 120 CONSECUTIVE CALENDAR DAYS DURING PHASE 5, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEETS 34 AND 35. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$5,400 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON THE CARTRIDGE FACTORY DRIVE SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 30 CONSECUTIVE CALENDAR DAYS AT THE END OF PHASE 4 AND THE BEGINNING OF PHASE 5, WHEN TRAFFIC SHALL BE MAINTAINED WITH A ONE LANE, TWO-WAY CONFIGURATION WITH A WORK ZONE TRAFFIC SIGNAL. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$400 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

ITEM 614, MAINTAINING TRAFFIC (CONTINUED)

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS AND SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE.

NOTICE OF CLOSURE SIGN TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
ROAD CLOSURES	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	>12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	≤ 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN SHALL LIST THE WARREN COUNTY ENGINEER'S OFFICE PHONE NUMBER, 513-695-3301, WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

DURING PHASE 4 - GRANDIN ROAD AT THE INTERSECTION OF STRIKER ROAD

DURING PHASE 4 (WHILE MAINTAINING THE EXISTING CARTRIDGE FACTORY DRIVE) - GRANDIN ROAD ON THE SOUTH SIDE OF THE INTERSECTION WITH CARTRIDGE FACTORY DRIVE

DURING PHASE 5A - GRANDIN ROAD ON THE NORTH AND TRAIL PARKING LOT LEGS OF ROUNDABOUT (ROAD CLOSED SIGN ONLY)

DURING PHASE 5 - KING AVENUE 150 FEET SOUTH OF MIAMI STREET INTERSECTION

DURING PHASE 5 - GRANDIN ROAD ON THE NORTH LEG OF THE ROUNDABOUT

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 50 CU. YD.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-CR 282-0.97

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

- EXCAVATION FOR MAINTAINING TRAFFIC 50 CU. YD.
- EMBANKMENT FOR MAINTAINING TRAFFIC 10 CU. YD.

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

DELINEATION OF PORTABLE AND PERMANENT BARRIER (CONTINUED)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

- ITEM 614, BARRIER REFLECTOR, TYPE 1 ONE-WAY 6 EACH
- ITEM 614, BARRIER REFLECTOR, TYPE 1 BIDIRECTIONAL 10 EACH
- ITEM 614, OBJECT MARKER, TWO-WAY 16 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ITEM 614, BUSINESS ENTRANCE SIGN, AS PER PLAN

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO #3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90° TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS. PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM.

- ITEM 614, BUSINESS ENTRANCE SIGN, AS PER PLAN 1 EACH

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONTINUED)

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE WCEO PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE WCEO TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE WCEO DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

- ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 1 SIGN MONTH ASSUMING 4 PCMS SIGNS FOR 1 WEEK EACH.

2 SIGNS PLACED 7 DAYS IN ADVANCE OF THE ROAD CLOSURE OF GRANDIN ROAD ON THE SOUTH SIDE OF THE PROJECT AND 2 SIGNS PLACED 7 DAYS IN ADVANCE OF THE ROAD CLOSURE OF KING AVENUE ON THE NORTH SIDE OF THE PROJECT.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

- ITEM 616, WATER 173 M. GAL.

MAINTENANCE OF CANOE TRAFFIC

CANOE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING RIVER CHANNEL OR THROUGH PORTAGE TRAIL APPROVED BY THE ENGINEER.

ADEQUATE SIGNING BOTH UPSTREAM AND DOWNSTREAM SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT:

1. APPROXIMATELY ONE-QUARTER MILE UPSTREAM, ADVANCED WARNING TYPE SIGNS ON BOTH BANKS;
2. APPROXIMATELY 300 FEET UPSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST ON BOTH BANKS;
3. APPROXIMATELY ONE-QUARTER MILE DOWNSTREAM, ADVANCE WARNING TYPE SIGNS ON BOTH BANKS; AND
4. APPROXIMATELY 300 FEET DOWNSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST OF BOTH BANKS.

THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 4 FEET ABOVE THE WATER LEVEL, UNOBSTRUCTED BY TREE BRANCHES, AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY FROM THE MAIN CLEAR CHANNEL. THE METHOD OF SUPPORTING THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE RIVER CHANNEL. THE CONTRACTOR SHALL NOTIFY LOCAL CANOE LIVERIES USING THIS PORTION OF THE RIVER AT LEAST 10 DAYS PRIOR TO ANY CHANGES AFFECTING CANOE TRAFFIC. PORTAGE TRAILS IF USED SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR WITH THE LEAST POSSIBLE DISTURBANCE TO THE SURROUNDING AREA. THE TRAIL SHALL BE ADEQUATELY MARKED IN BOTH DIRECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RIGHT-OF-WAY FOR THE PORTAGE TRAILS IF REQUIRED. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE RESTORATION OF THE RIPARIAN AREA DISTURBED BY THE CONSTRUCTION OF ANY PORTAGE TRAIL IF REQUIRED.

IN THE EVENT PIPES ARE USED TO DIVERT OR CARRY RIVER WATER, BOTH THE INLET AND OUTLET ENDS SHALL BE ADEQUATELY PROTECTED BY GRATES OR FENCE SO THAT PEOPLE OR CANOES ARE NOT DRAWN THROUGH OR HELD BY THEM.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-CR 282-0.97

ITEM 614, NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE WARREN COUNTY ENGINEER'S OFFICE. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS. INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE

ITEM	DURATION	NOTICE DUE TO PERMITS & PIO
ROAD CLOSURES	< 12 HOURS	4 BUSINESS DAYS
	>= 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS
	>= 2 WEEKS	21 CALENDAR DAYS
LANE CLOSURES & RESTRICTIONS	< 2 WEEKS	5 BUSINESS DAYS
	>= 2 WEEKS	21 CALENDAR DAYS
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 BUSINESS DAYS

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

FULLY-ACTUATED OPERATION OF WORK ZONE TRAFFIC SIGNAL

THE WORK ZONE SIGNAL CONTROL REQUIRED FOR THIS PROJECT AND SHOWN ON SHEETS 26 & 28 AND TRAFFIC SCDS MT-96.11, 96.20, AND 96.26 SHALL BE FULLY TRAFFIC-ACTUATED AND OPERATE IN A MANNER SIMILAR TO THAT DESCRIBED IN SECTION 733.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

THE INITIAL CONTROLLER TIMING FOR PHASE 4 SHALL BE AS FOLLOWS:

	PHASE			
	1 (ALL RED) DUMMY PHASE	2 MAINLINE SOUTH BOUND	3 (ALL RED) DUMMY PHASE	4 MAINLINE NORTH BOUND
MIN. GREEN	---	10	---	10
EXTENSION	---	3	---	3
MAX. GREEN	---	30	---	30
YELLOW	---	3.5	---	3.5
ALL RED	6.5	---	6.5	---
RECALL	ON	OFF	OFF	OFF

THE INITIAL CONTROLLER TIMING FOR PHASE 5 SHALL BE AS FOLLOWS:

	PHASE			
	1 (ALL RED) DUMMY PHASE	2 MAINLINE SOUTH BOUND	3 (ALL RED) DUMMY PHASE	4 MAINLINE NORTH BOUND
MIN. GREEN	---	10	---	10
EXTENSION	---	3	---	3
MAX. GREEN	---	30	---	30
YELLOW	---	3.5	---	3.5
ALL RED	7.5	---	7.5	---
RECALL	ON	OFF	OFF	OFF

PROVIDE TIMING APPROPRIATE FOR THE SIGNAL LOCATION UNDER CONSIDERATION. TYPICAL FLOW RATES ARE DISPLAYED IN TABLE 697-2 IN THE ODOT TRAFFIC ENGINEERING MANUAL (TEM).

THE CONTRACTOR SHALL ALSO DESIGN, FURNISH, INSTALL AND MAINTAIN A TRAFFIC DETECTOR ON EACH TRAFFIC APPROACH WHICH WILL RELIABLY DETECT ALL LEGAL TRAFFIC APPROACHING (BUT NOT LEAVING) THE SIGNAL AS IT PASSES OR WAITS IN THE DESIGNATED DETECTOR ZONE SHOWN IN THE PLANS. DETECTOR DESIGNS WHICH DO NOT PROVIDE RELIABLE DETECTION, FREE FROM FALSE CALLS, SHALL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.

PERMITTED LANE CLOSURE TIMES

SHORT TERM CLOSURES ARE THOSE WHICH ARE PERMITTED BY THE PERMITTED LANE CLOSURE NOTE. THESE TIMES SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL FROM THE WARREN COUNTY ENGINEER'S OFFICE. SHORT TERM CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED. PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE UNAUTHORIZED LANE USAGE TABLE INCLUDED IN THESE PLANS. NO LANE OR SHOULDER CLOSURES SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

PERMITTED LANE CLOSURE AND UNAUTHORIZED LANE USAGE TABLE								
LOCATION	DIRECTION	EXISTING NO. OF THRU LANES	1 LANE CLOSED		FULL CLOSURE		TIME UNIT	DISCENTIVE \$ PER TIME UNIT PER LANE
			MONDAY - FRIDAY	SATURDAY - SUNDAY	MONDAY - FRIDAY	SATURDAY - SUNDAY		
KING AVENUE / GRANDIN ROAD	EB/WB	1	7 PM - 7 AM 9 AM - 3 PM	ANYTIME	7 PM - 7 AM 9 AM - 3 PM	ANYTIME	15 MINUTE PERIOD	\$1,000

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MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-CR 282-0.97

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PHASE	SHEETS	410	503	614														615	622
		TRAFFIC COMPACTED SURFACE, TYPE A CY	COFFERDAMS & EXCAVATION BRACING LS	WORK ZONE CENTER LINE, CLASS I MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT MILE	WORK ZONE EDGE LINE, CLASS I, 4" (WHITE) MILE	WORK ZONE EDGE LINE, CLASS I, 4" (YELLOW) MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT (WHITE) MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT (YELLOW) MILE	WORK ZONE DOTTED LINE, CLASS I FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I FT	WORK ZONE STOP LINE, CLASS I FT	WORK ZONE CROSSWALK LINE, CLASS I, 24" FT	WORK ZONE PAVEMENT MARKING, MISC.: YIELD LINE, TYPE I, 642 PAINT FT	WORK ZONE ARROW, TYPE I, 642 PAINT EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL) EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL) EACH	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B SY	PORTABLE BARRIER, UNANCHORED FT
PHASE 2	16-20		LS	0.02	0.12										1	2	845	610	
PHASE 3	21-22	150										44.78							
PHASE 4	23-27		LS	0.02	0.10				50.00		20.00							195	
PHASE 5a	28-29			0.09	0.50				134.14	17.50	27.49			2				170	
PHASE 5	30-32A				0.03	0.05							47.33						
PHASE 6				0.09			0.03	0.05											
SUBTOTAL		150	LS	0.13	0.09	0.75	0.05	0.03	0.05	184.14	17.50	47.49	44.78	47.33	2	1	2	845	975
TOTALS CARRIED TO GENERAL SUMMARY		150	LS	0.13	0.09	0.80		0.08		185	18	48	45	48	2	1	2	845	975

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MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-CR 282-0.97

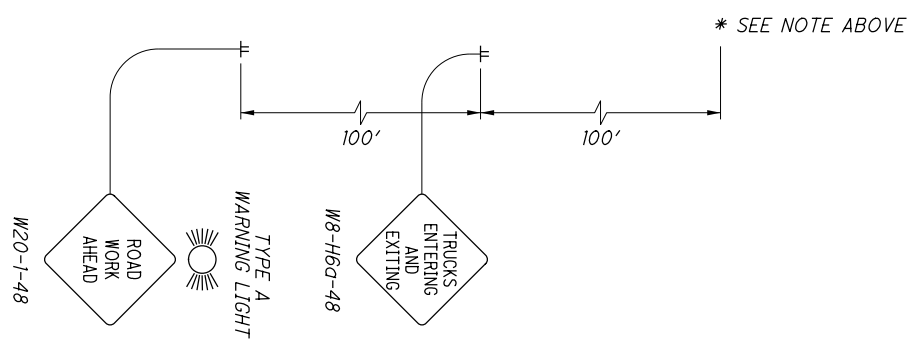
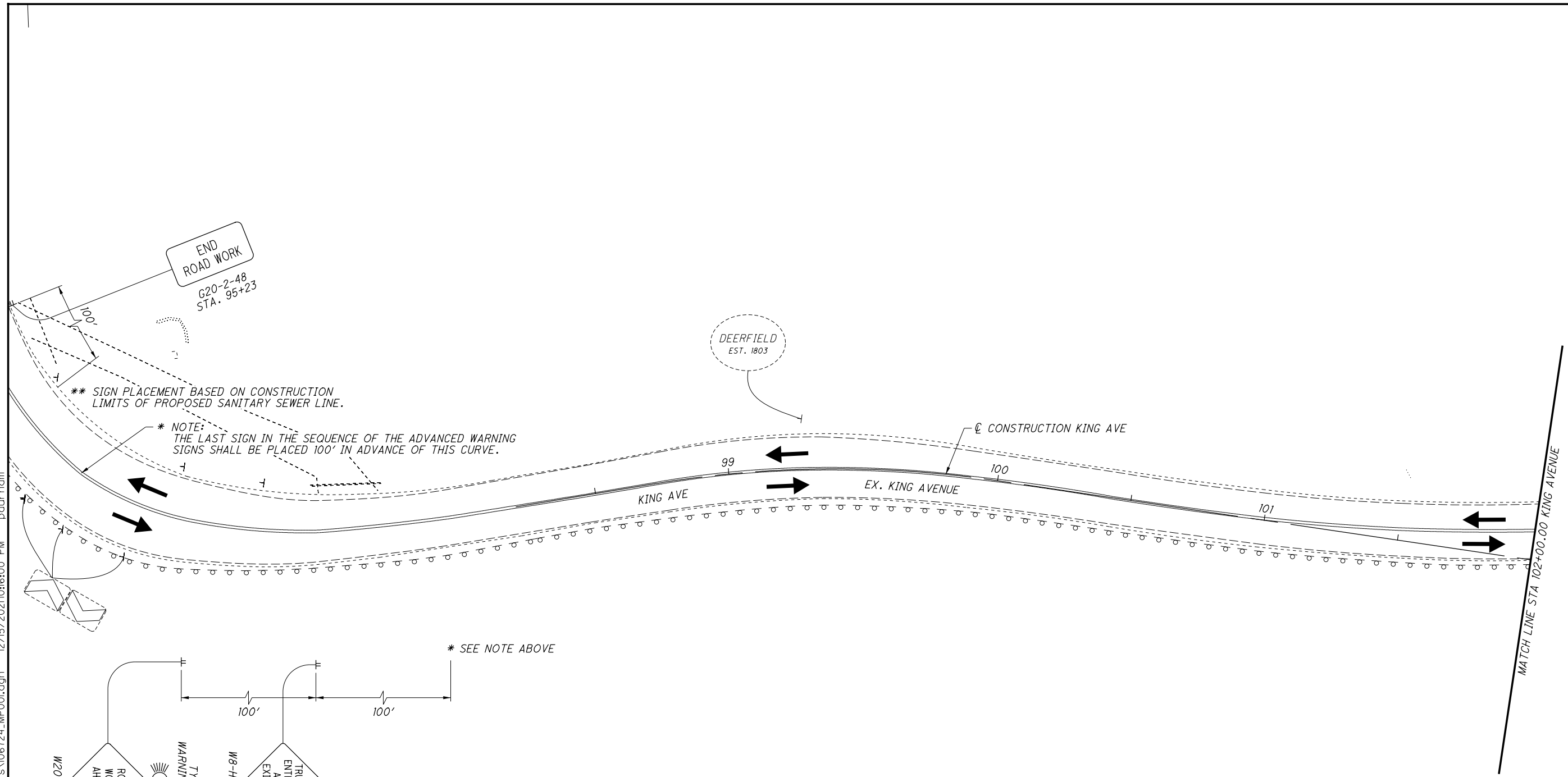


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MAINTENANCE OF TRAFFIC PHASE 1

WAR-CR 282-0.97

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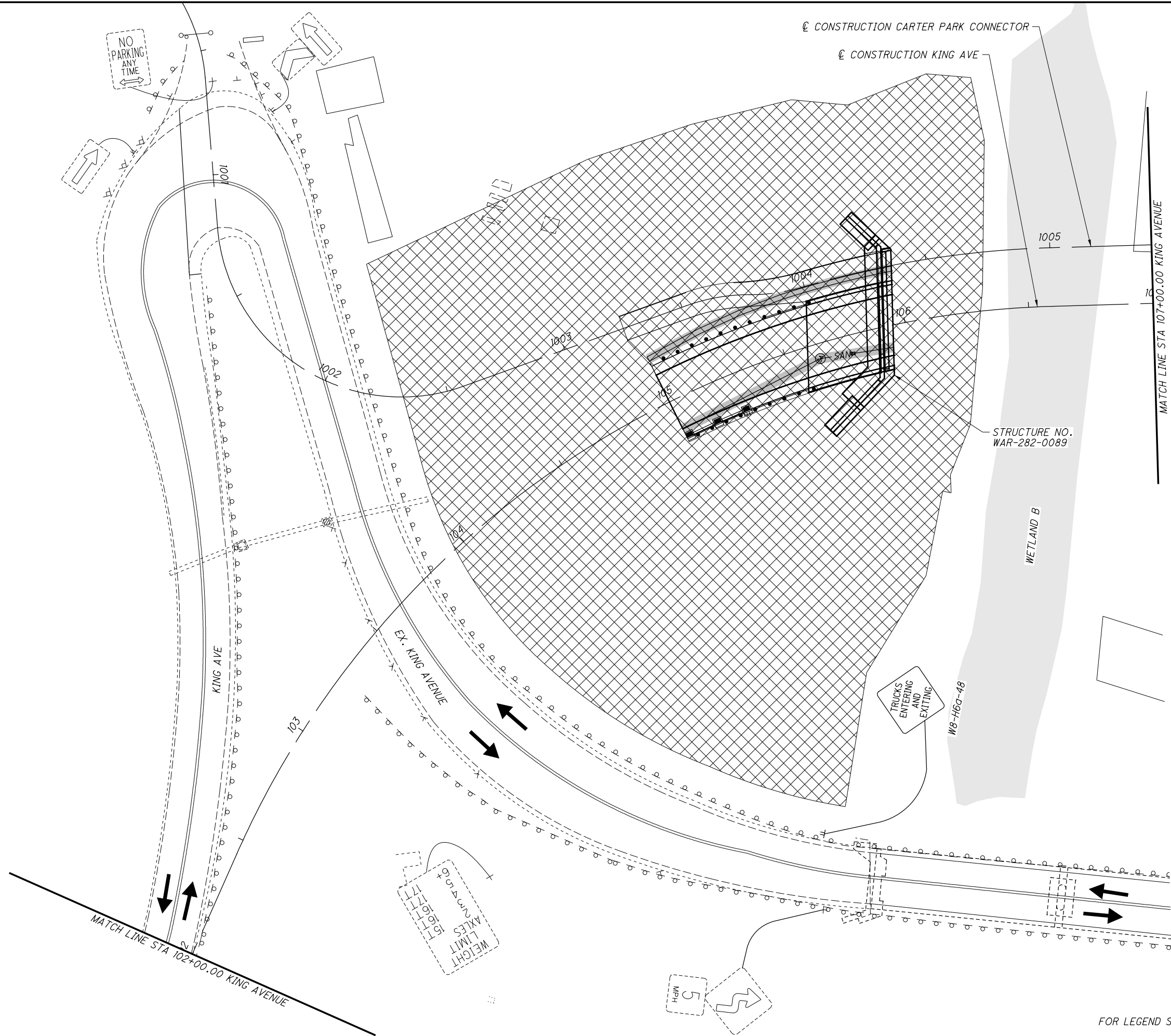


LEGEND			
	WORK AREA		DRAINAGE STRUCTURE WITH TEMPORARY CAP, TEMPORARY PIPE BEND, OR OTHER TEMPORARY STRUCTURE
	PAVEMENT FOR MAINTAINING TRAFFIC		TEMPORARY TRAFFIC SIGNAL
	SIGN POST		WORK ZONE EDGE LINE WHITE
	DIRECTION OF TRAVEL		WORK ZONE EDGE LINE YELLOW
	TYPE 3 BARRICADE		WORK ZONE CENTER LINE
	DRUMS		WORK ZONE YIELD LINE
	PORTABLE BARRIER		WORK ZONE DOTTED LINE
			WORK ZONE STOP LINE
			PORTABLE BARRIER
			WORK ZONE CROSSWALK LINE
			TEMPORARY SHORING *
			TRAFFIC COMPACTED SURFACE **

* ERECTION, MAINTENANCE AND SUBSEQUENT REMOVAL OR PARTIAL REMOVAL OF TEMPORARY SHORING SHALL BE PAID FOR ACCORDING TO THE CONTRACT LUMP SUM PRICE FOR ITEM 503 COFFERDAMS & EXCAVATION BRACING.

** PLACEMENT AND REMOVAL OF TRAFFIC COMPACTED SURFACE IS CONSIDERED INCIDENTAL TO THE TRAFFIC COMPACTED SURFACE BID ITEM.

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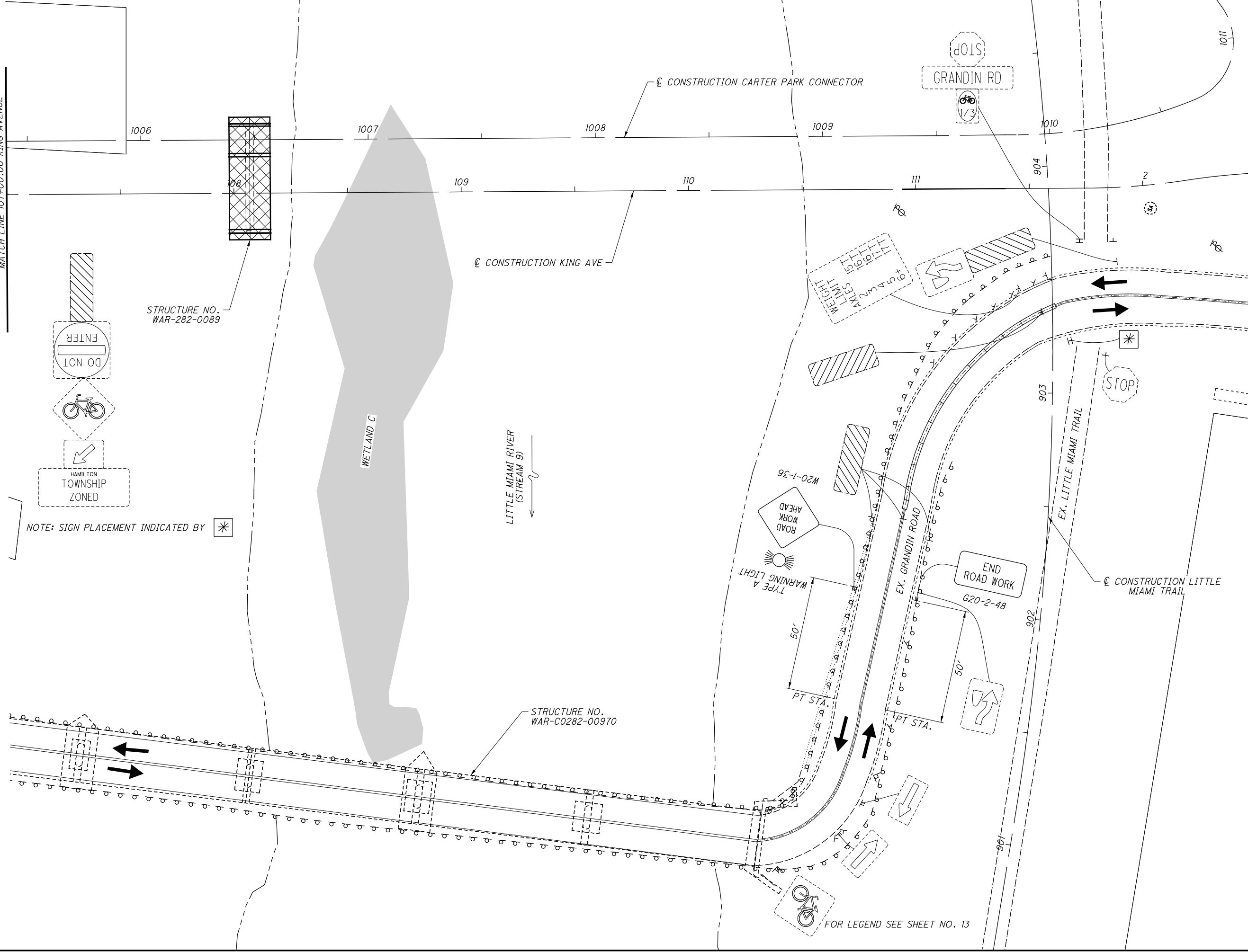
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HORIZONTAL
SCALE IN FEET

**MAINTENANCE OF TRAFFIC
PHASE 1**

WAR-CR 282-0.97

FOR LEGEND SEE SHEET NO. 13

MATCH LINE 107+00.00 KING AVENUE



NOTE: SIGN PLACEMENT INDICATED BY *

STRUCTURE NO.
WAR-282-0089

STRUCTURE NO.
WAR-C0282-00970

CONSTRUCTION KING AVE

CONSTRUCTION CARTER PARK CONNECTOR

GRANDIN RD

WETLAND C

LITTLE MIAMI RIVER
(STREAM 9)

W20-1-36

G20-2-48

EX. LITTLE MIAMI TRAIL

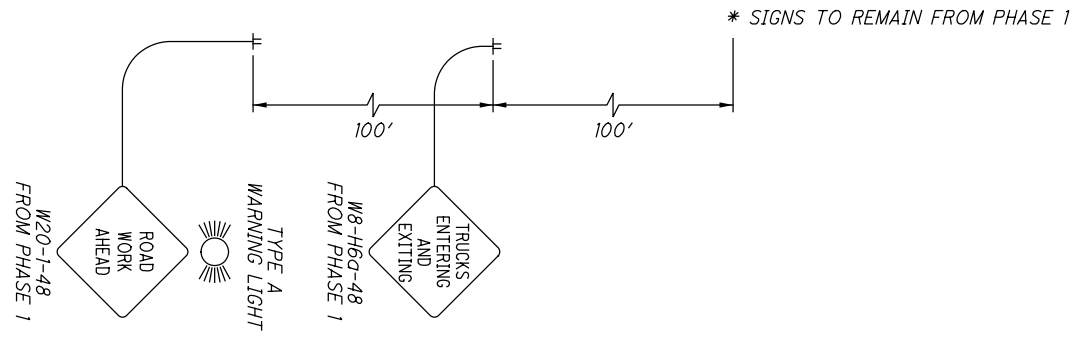
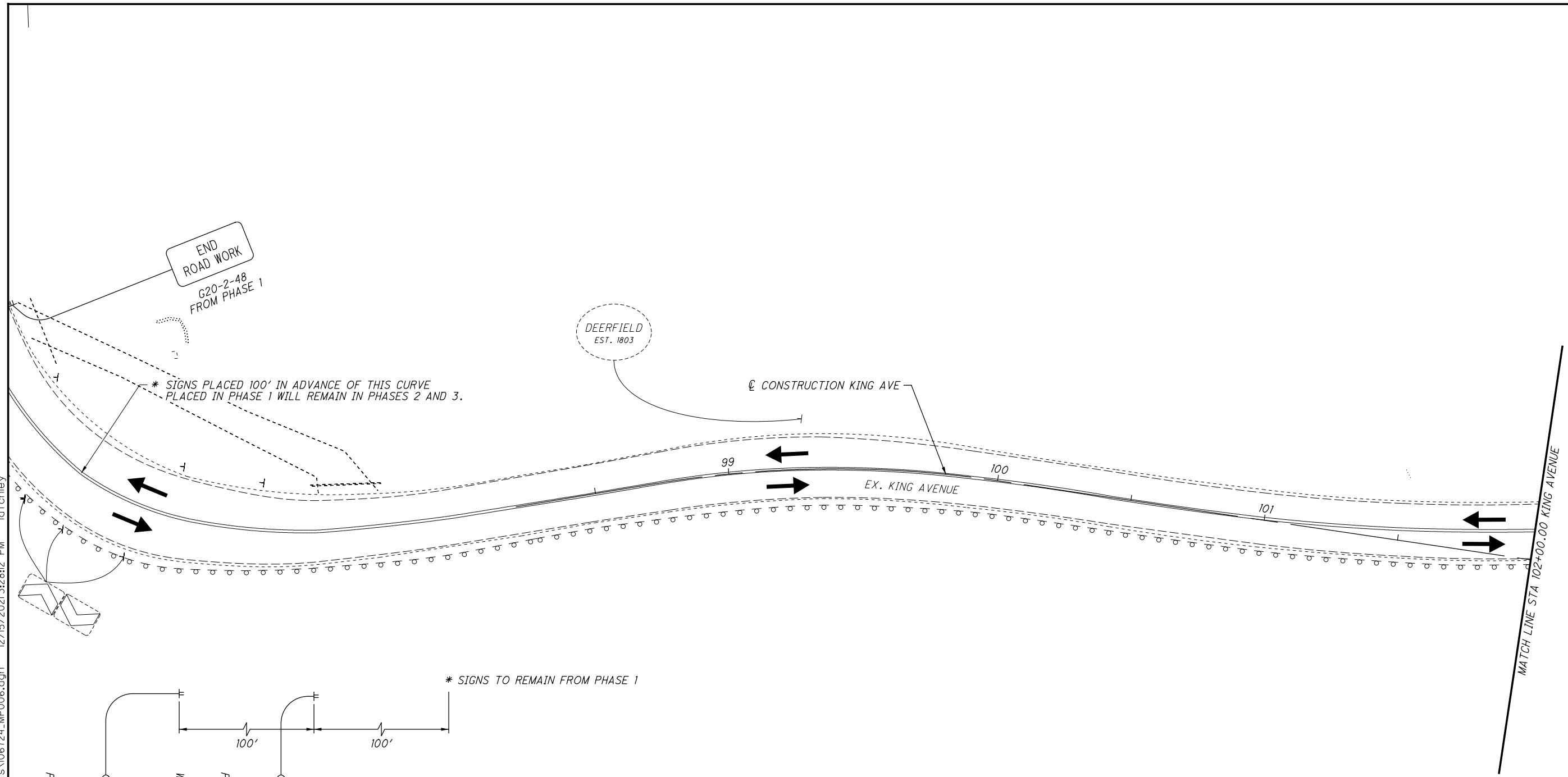
CONSTRUCTION LITTLE MIAMI TRAIL

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MAINTENANCE OF TRAFFIC
PHASE 1

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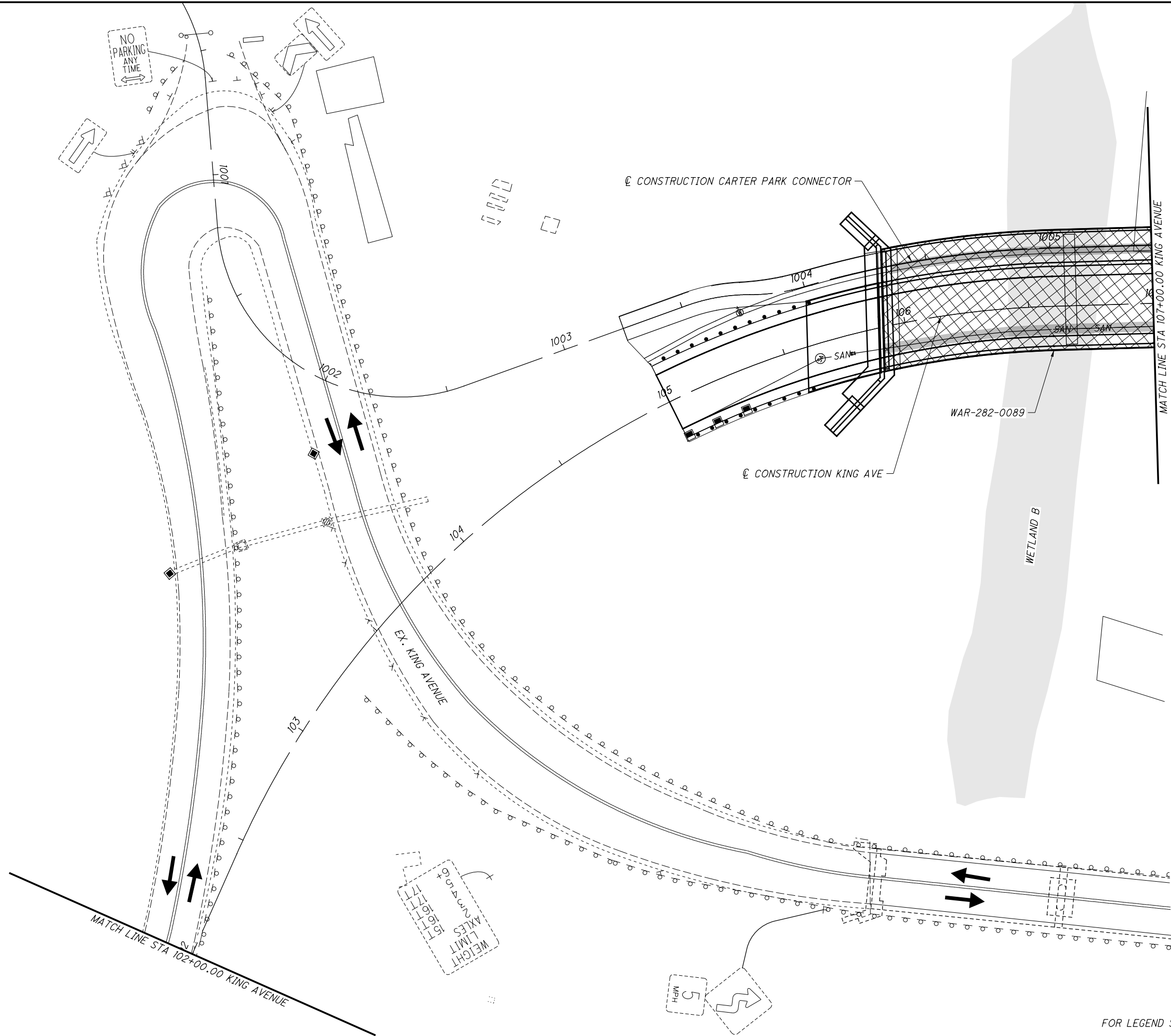
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**MAINTENANCE OF TRAFFIC
PHASE 2**

WAR-CR 282-0.97

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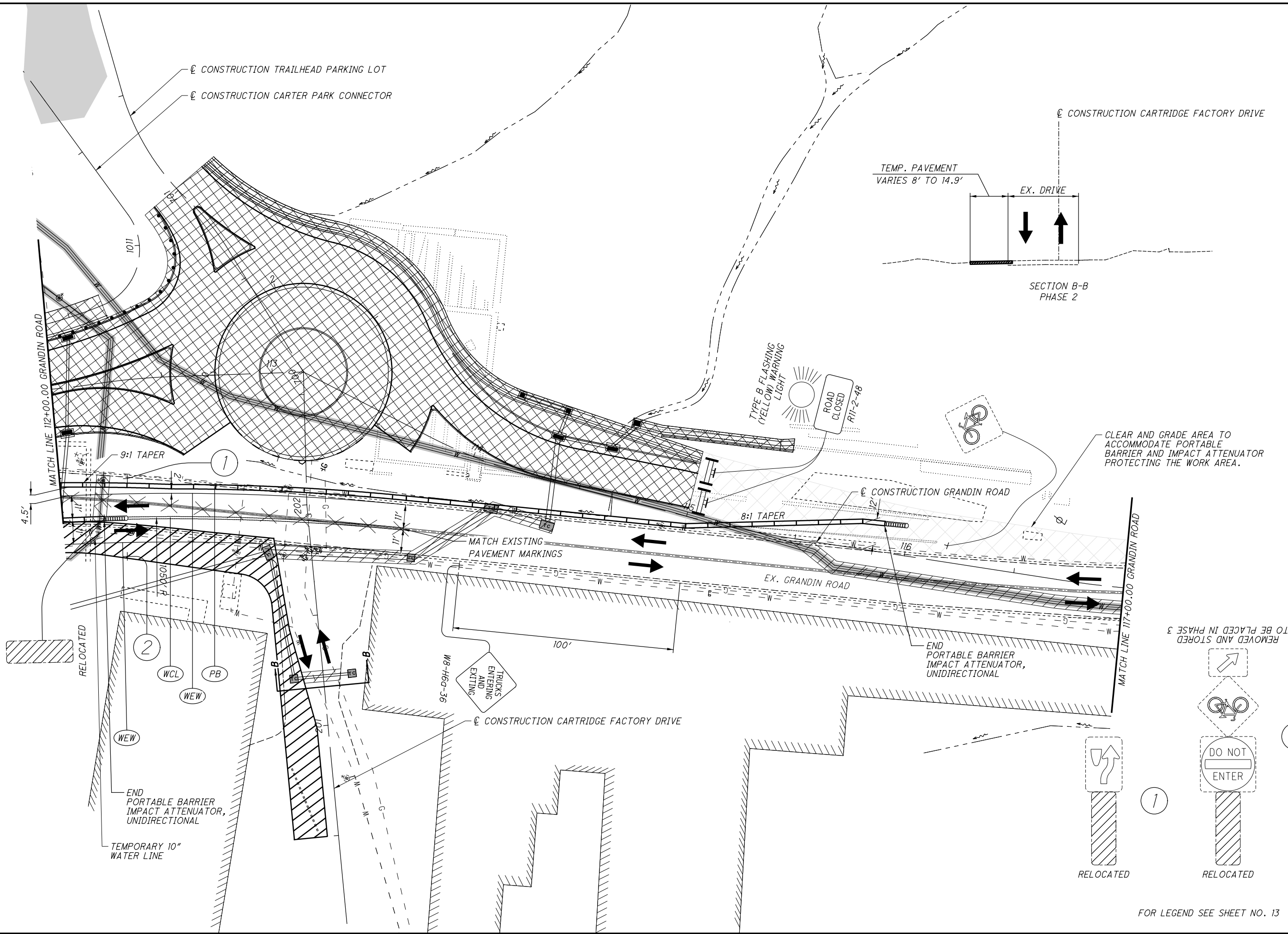
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**MAINTENANCE OF TRAFFIC
PHASE 2**

WAR-CR 282-0.97

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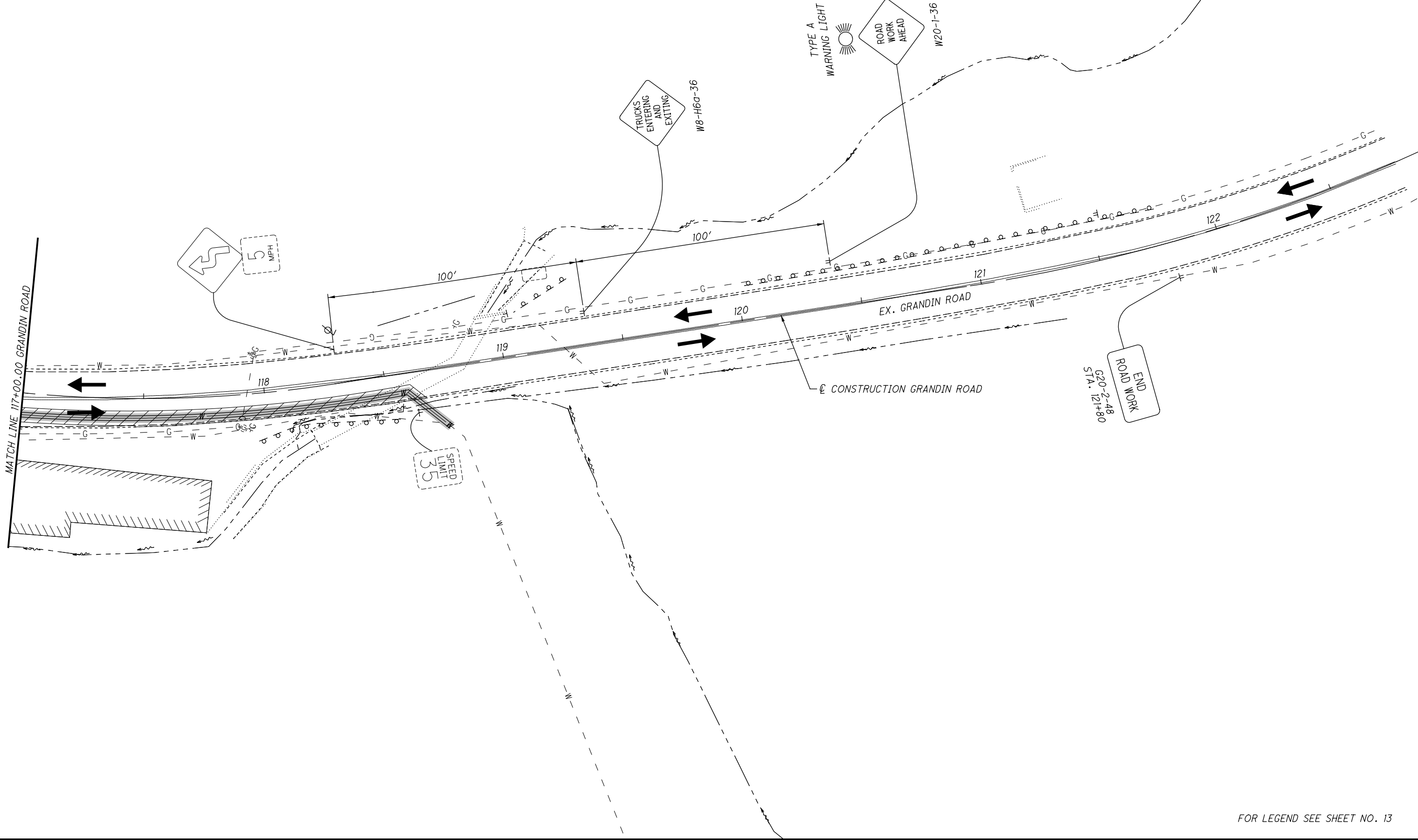
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MAINTENANCE OF TRAFFIC PHASE 2

WAR-CR 282-0.97

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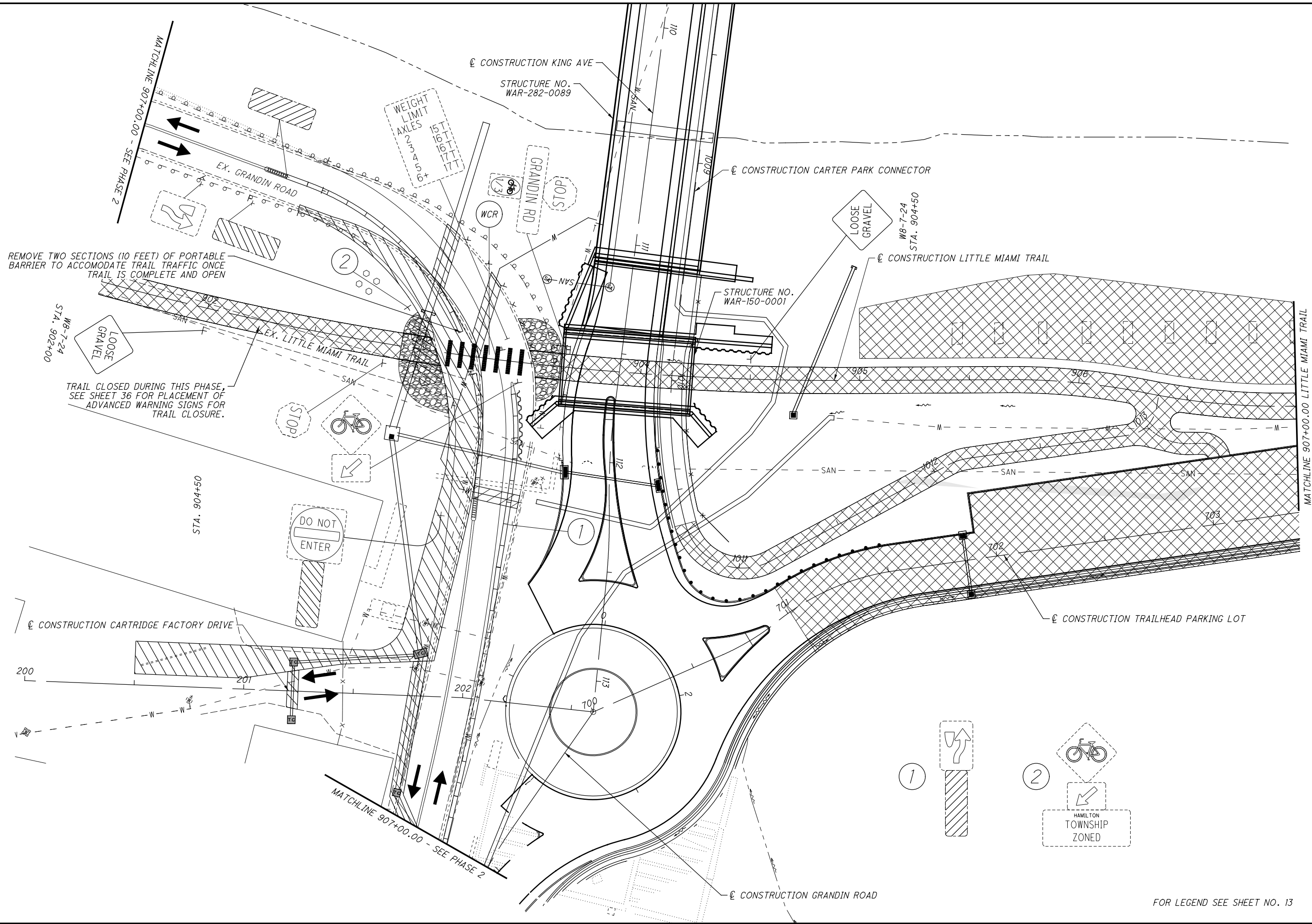
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**MAINTENANCE OF TRAFFIC
PHASE 2**

WAR-CR 282-0.97

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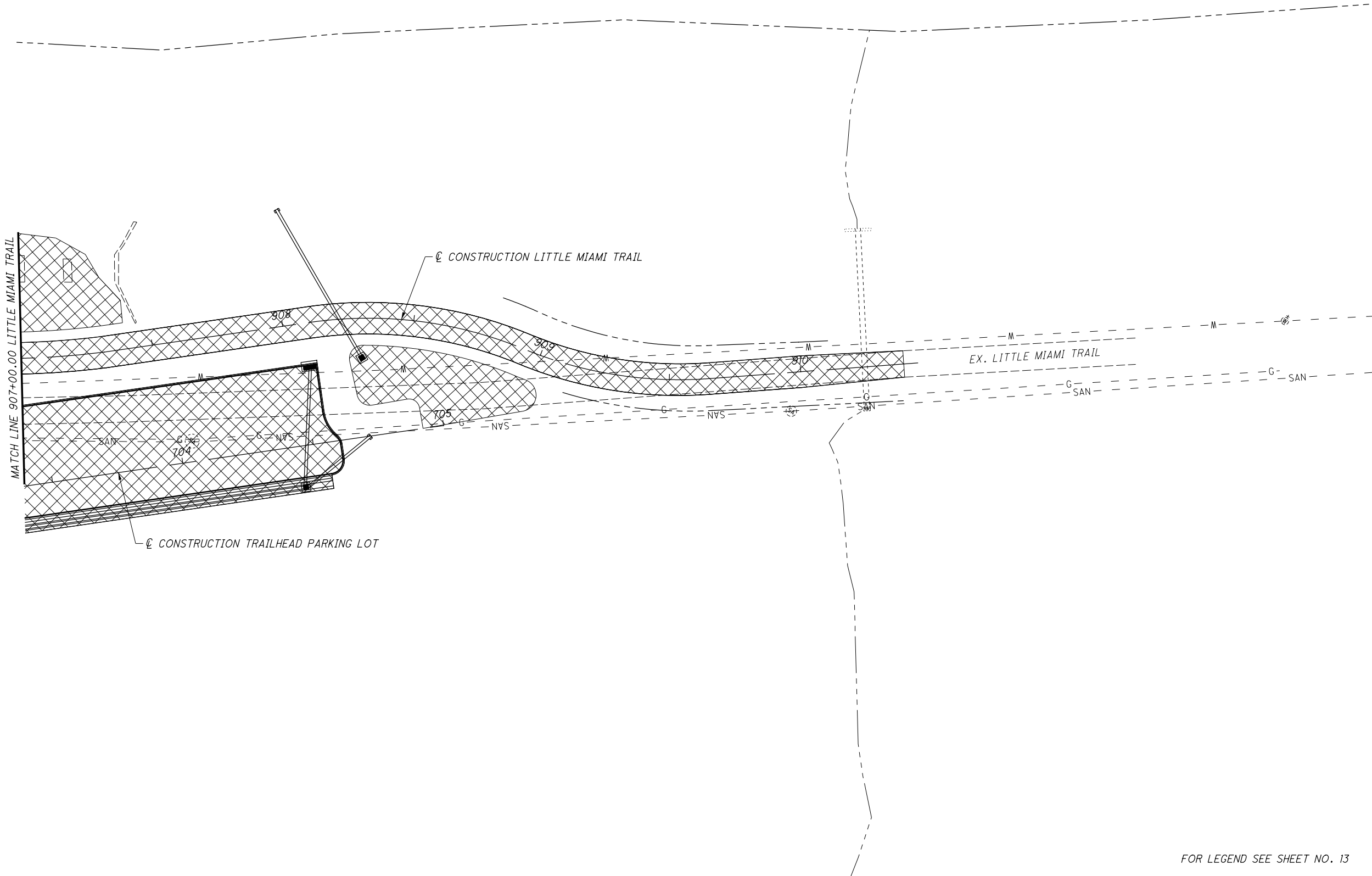
**MAINTENANCE OF TRAFFIC
PHASE 3**

WAR-CR 282-0.97

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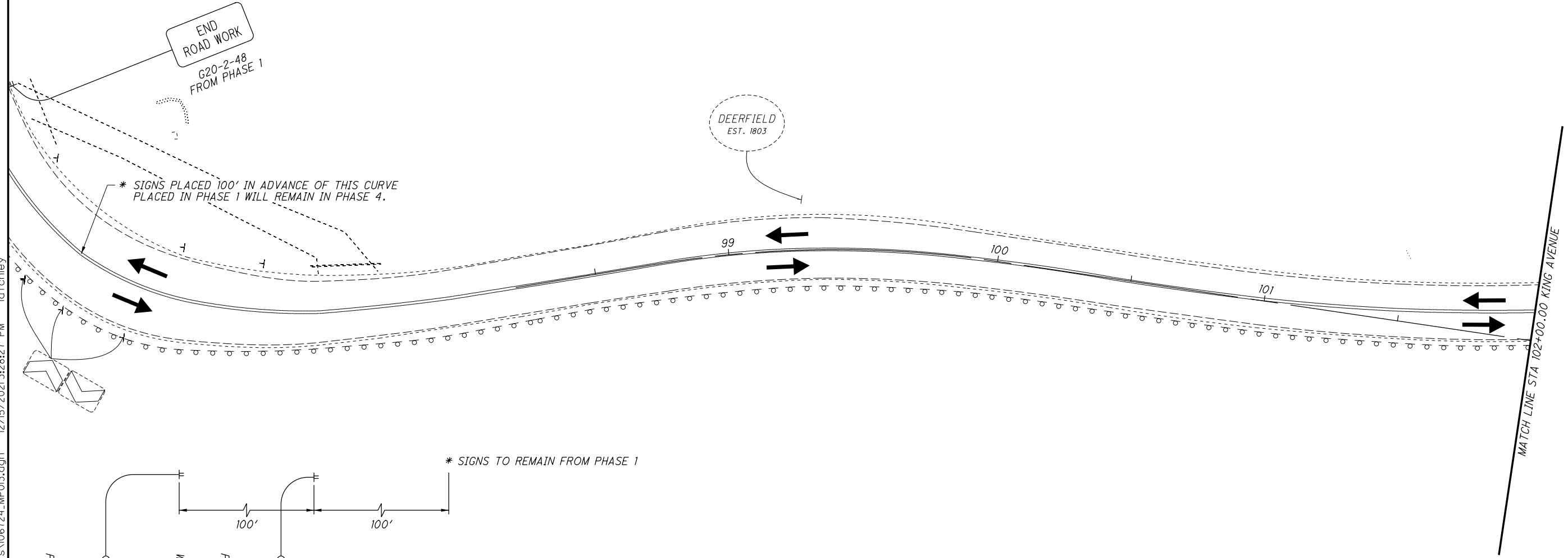
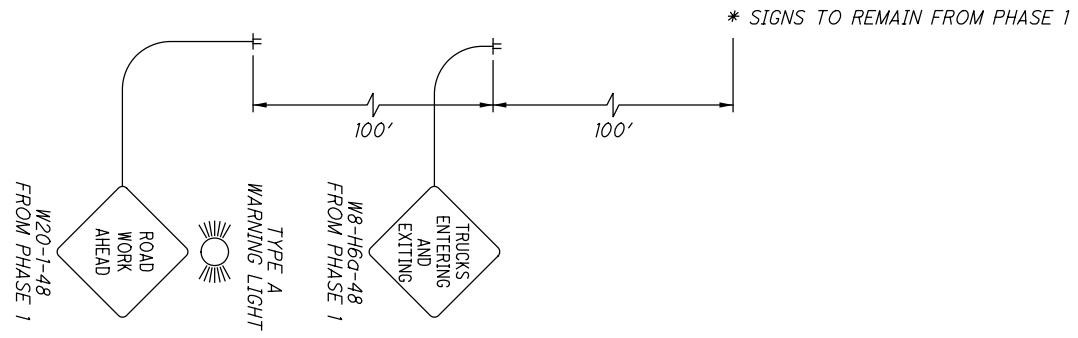
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**MAINTENANCE OF TRAFFIC
PHASE 3**

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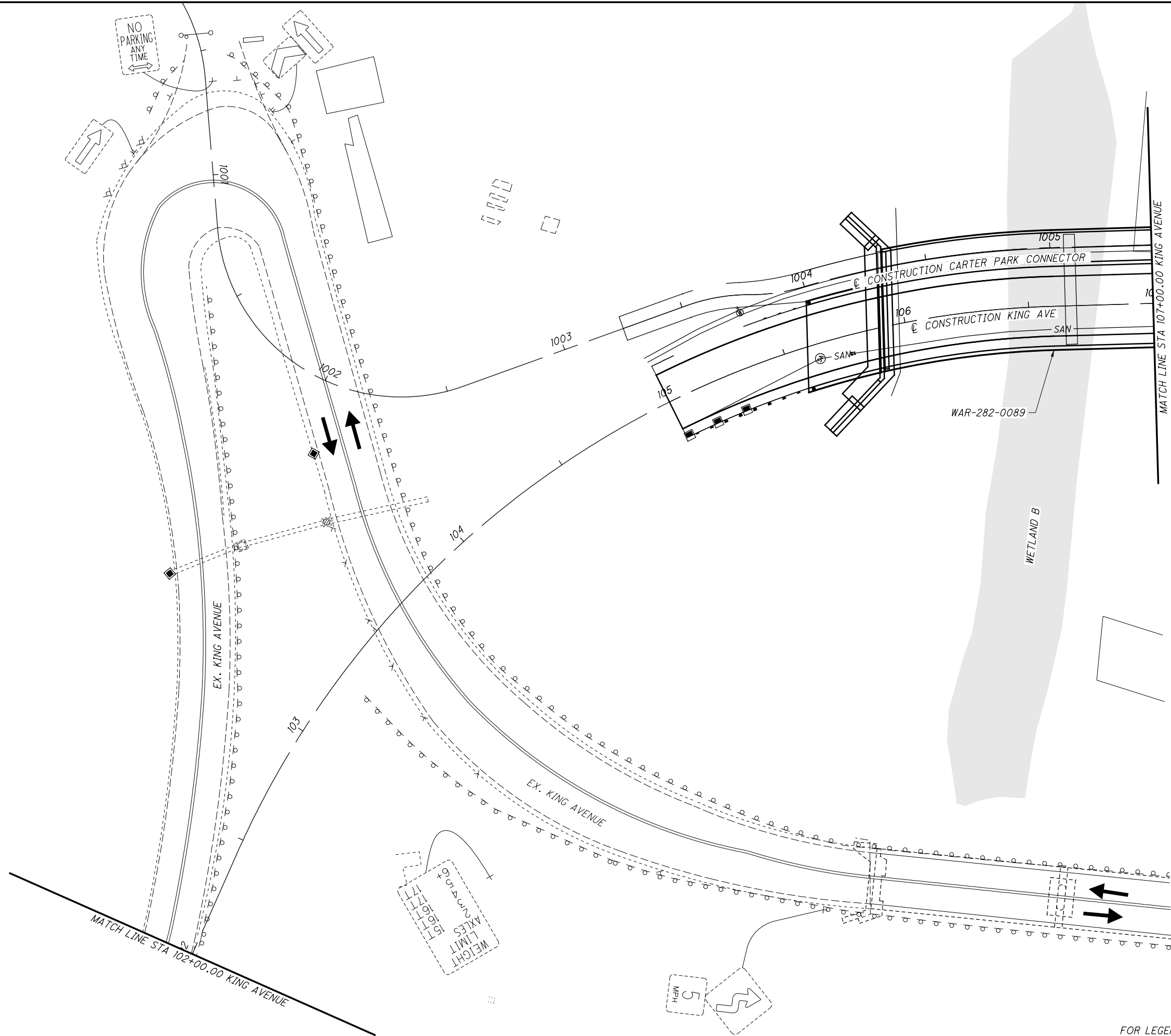
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**MAINTENANCE OF TRAFFIC
PHASE 4**

WAR-CR 282-0.97

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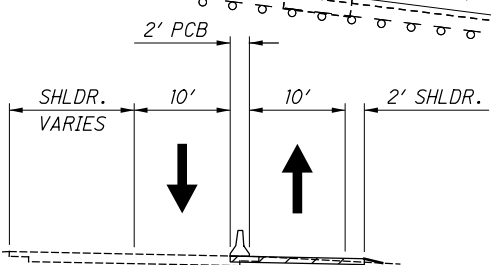
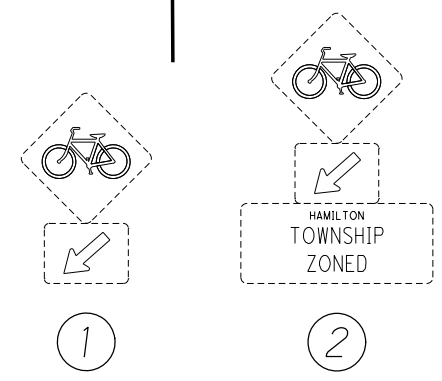
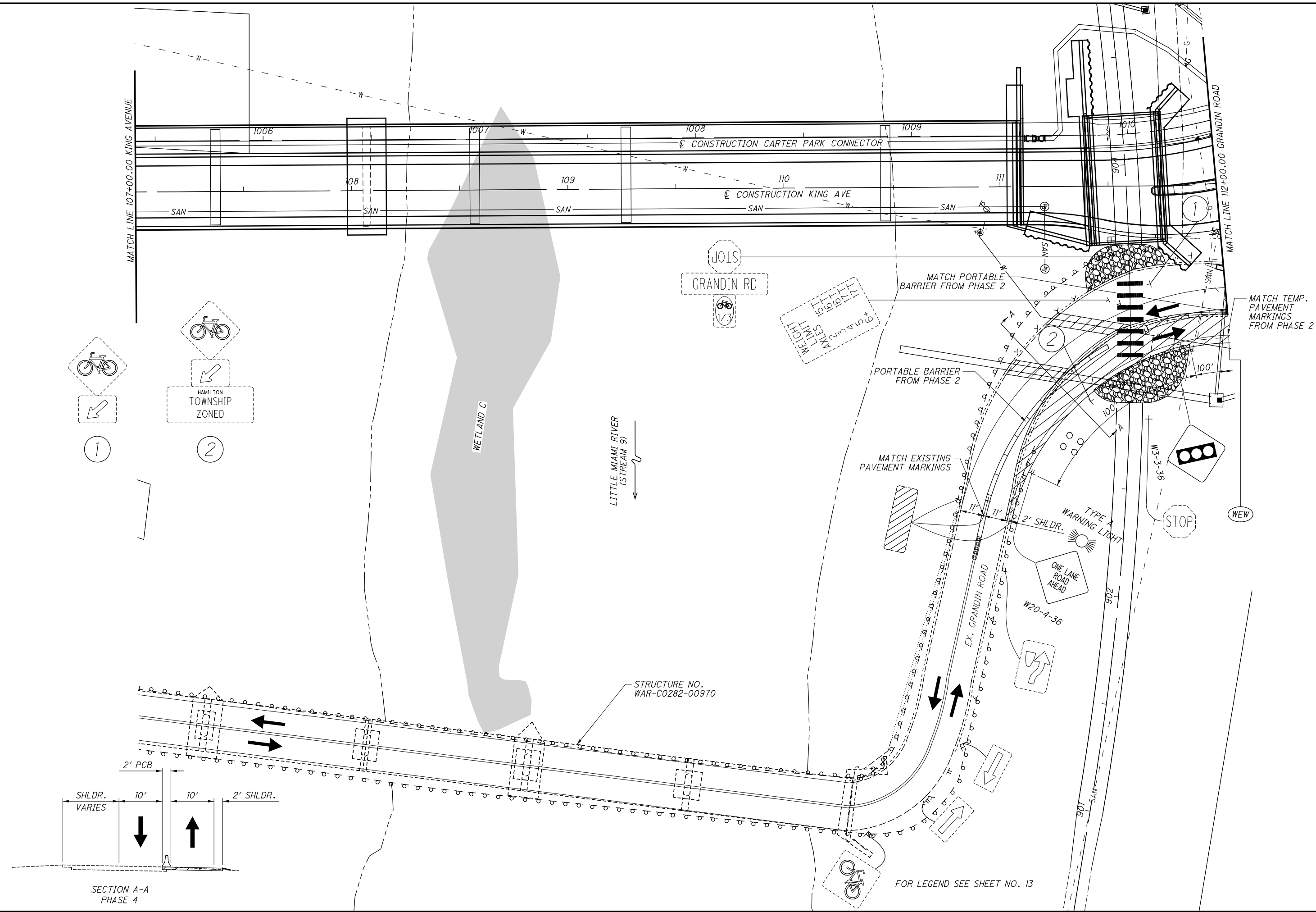
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**MAINTENANCE OF TRAFFIC
PHASE 4**

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MAINTENANCE OF TRAFFIC

PHASE 4

WAR-CR 282-0.97

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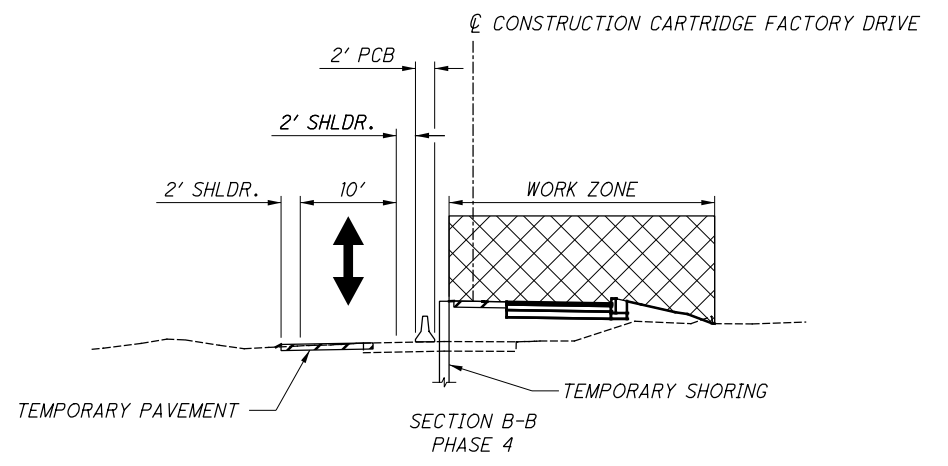
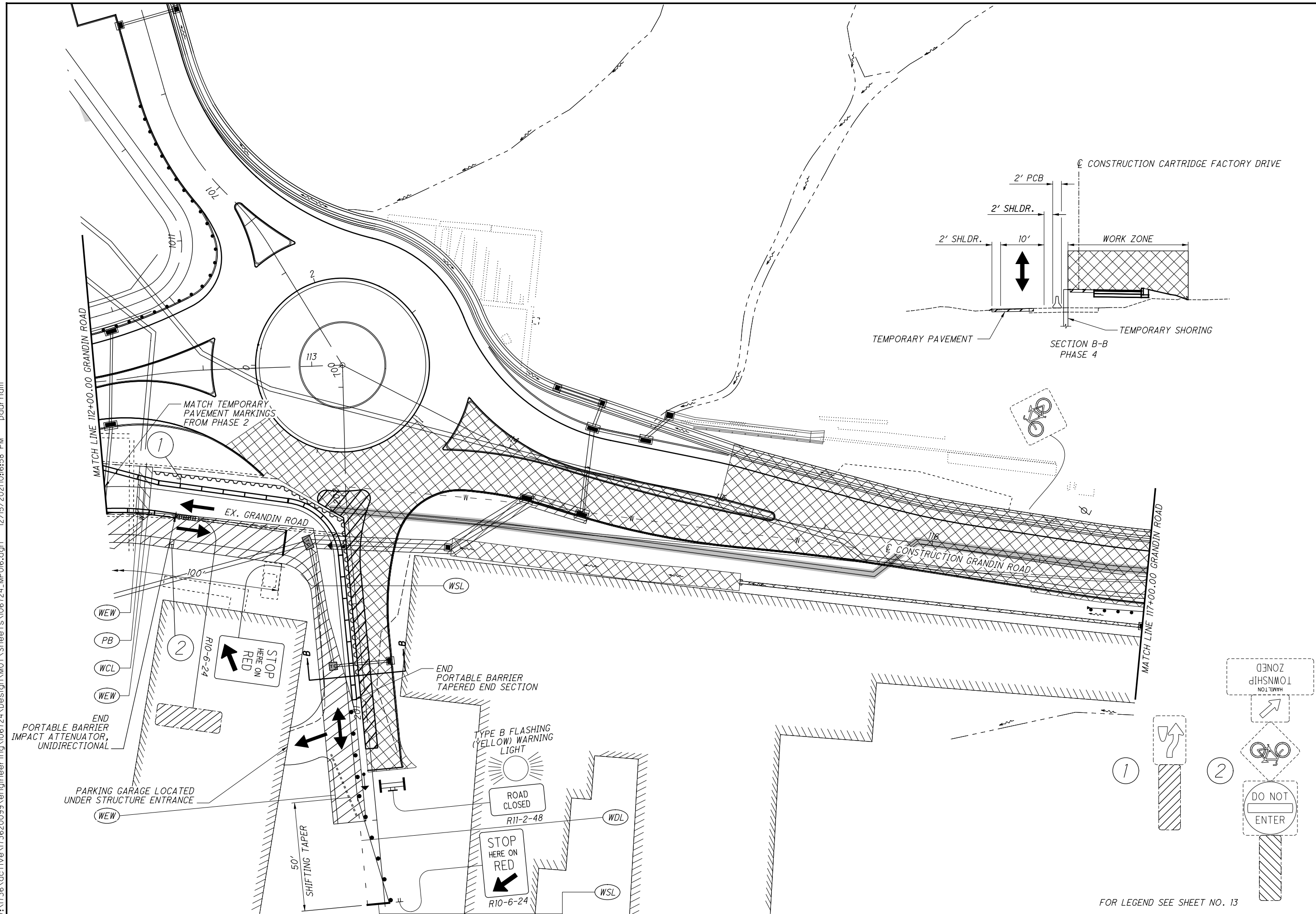
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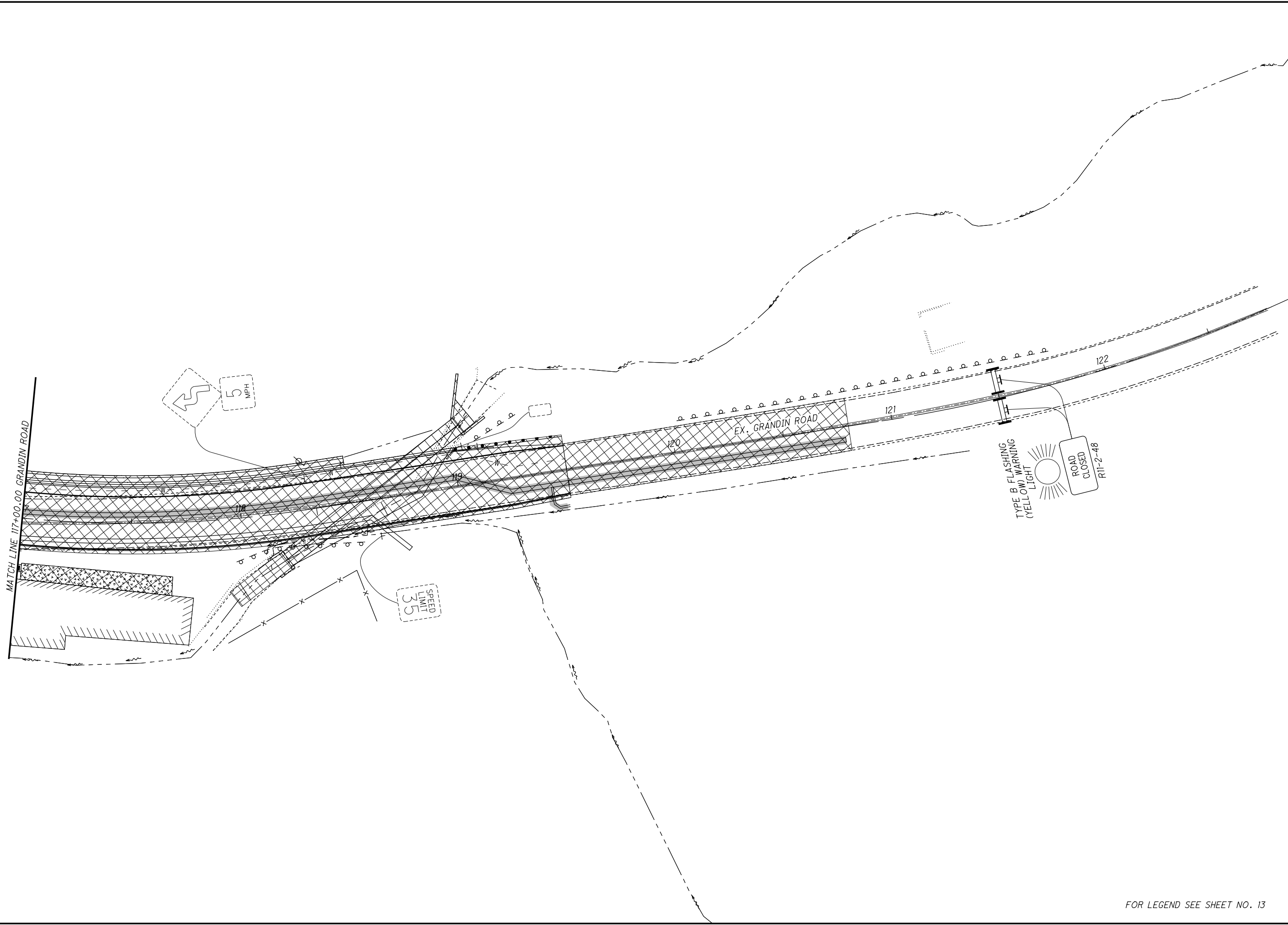
MAINTENANCE OF TRAFFIC PHASE 4

WAR-CR 282-0.97



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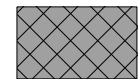
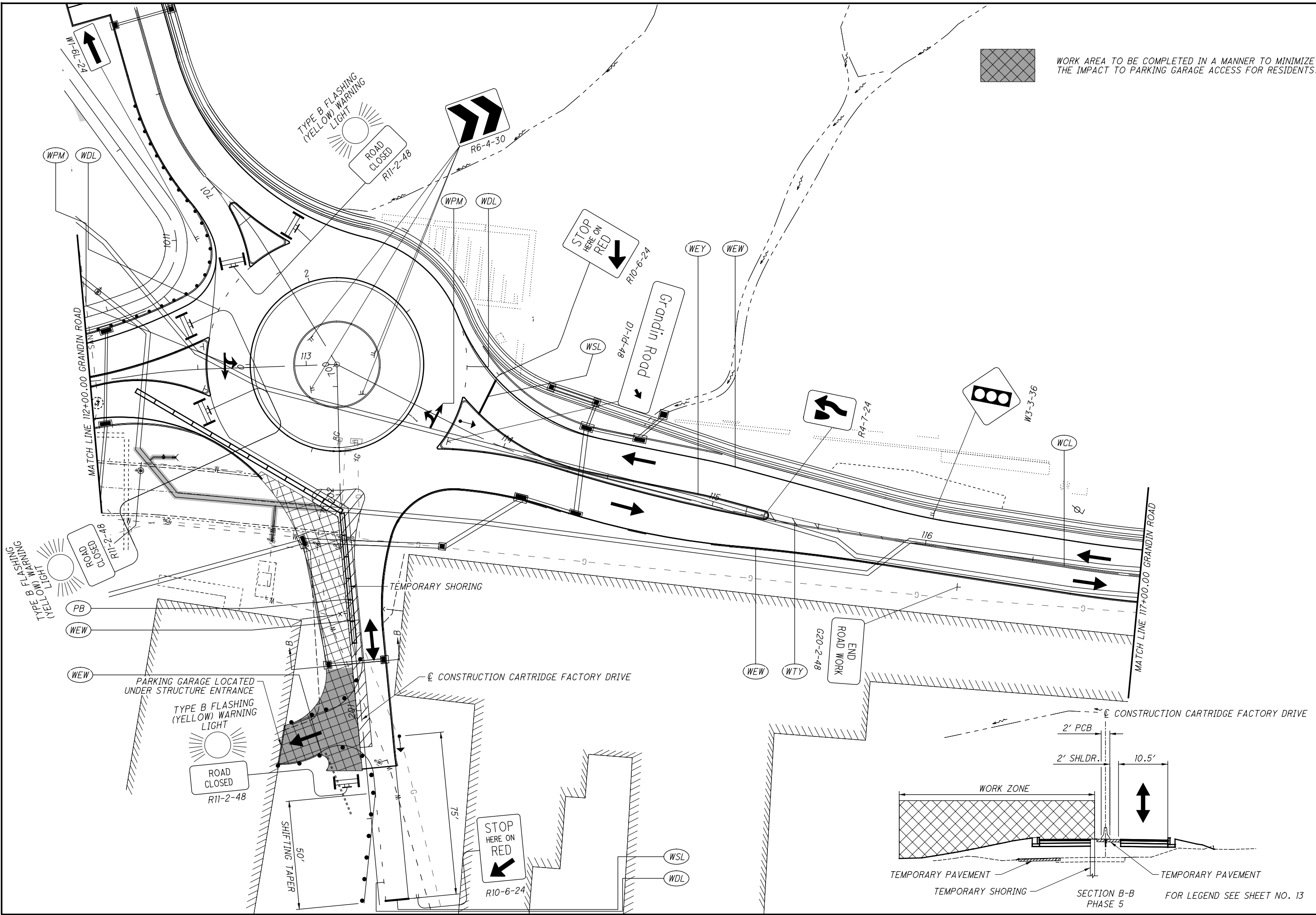
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**MAINTENANCE OF TRAFFIC
PHASE 4**

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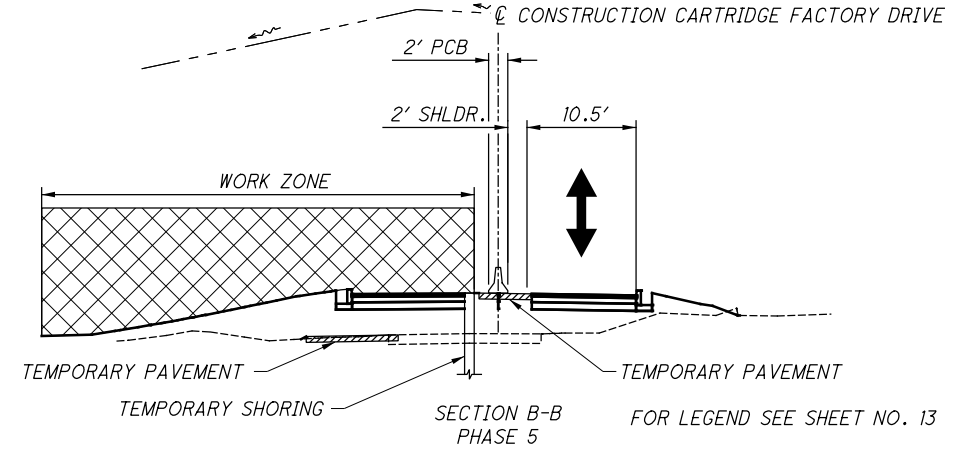
WORK AREA TO BE COMPLETED IN A MANNER TO MINIMIZE THE IMPACT TO PARKING GARAGE ACCESS FOR RESIDENTS.

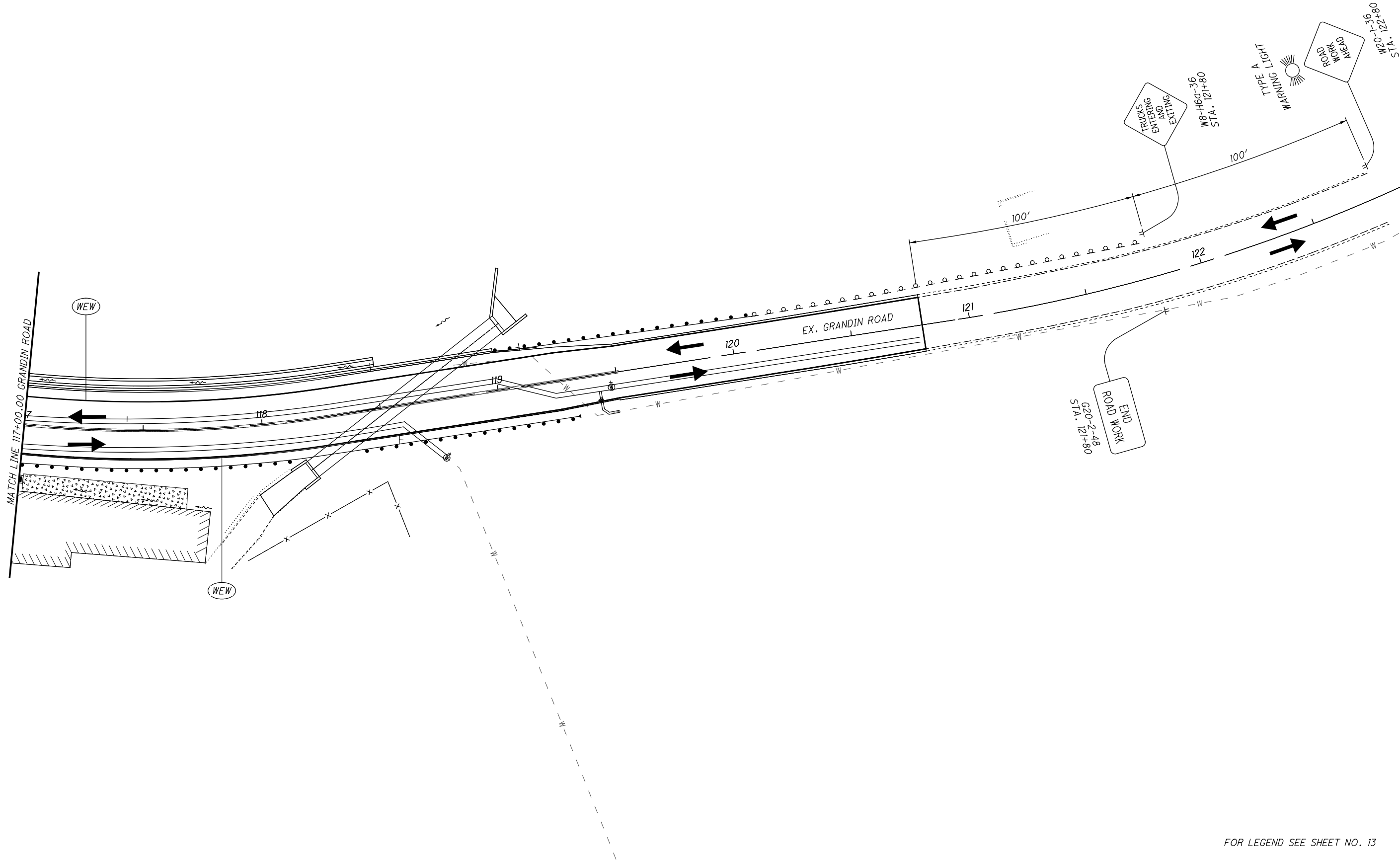
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**MAINTENANCE OF TRAFFIC
PHASE 5a**

WAR-CR 282-0.97





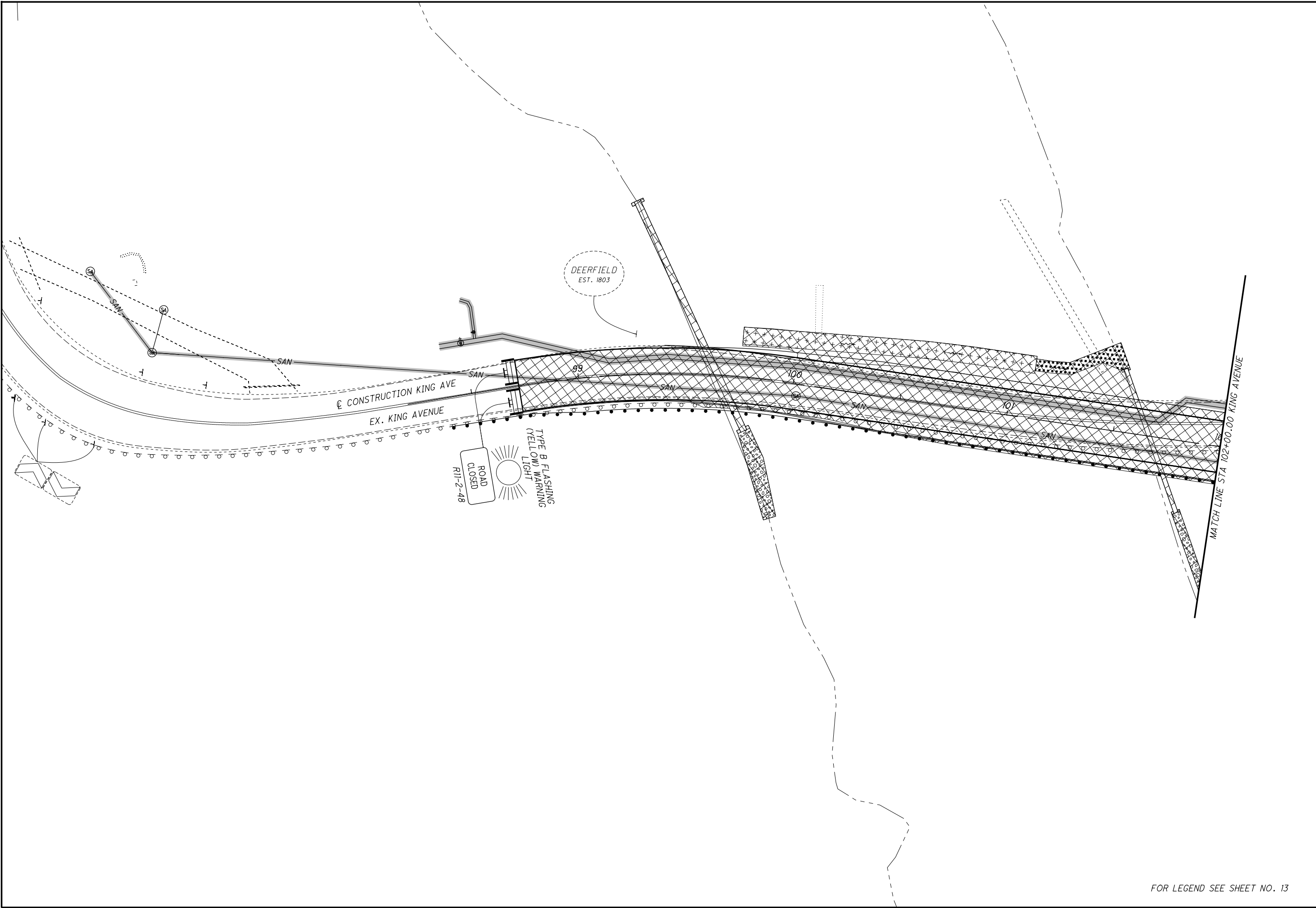
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**MAINTENANCE OF TRAFFIC
PHASE 5a**

WAR-CR 282-0.97

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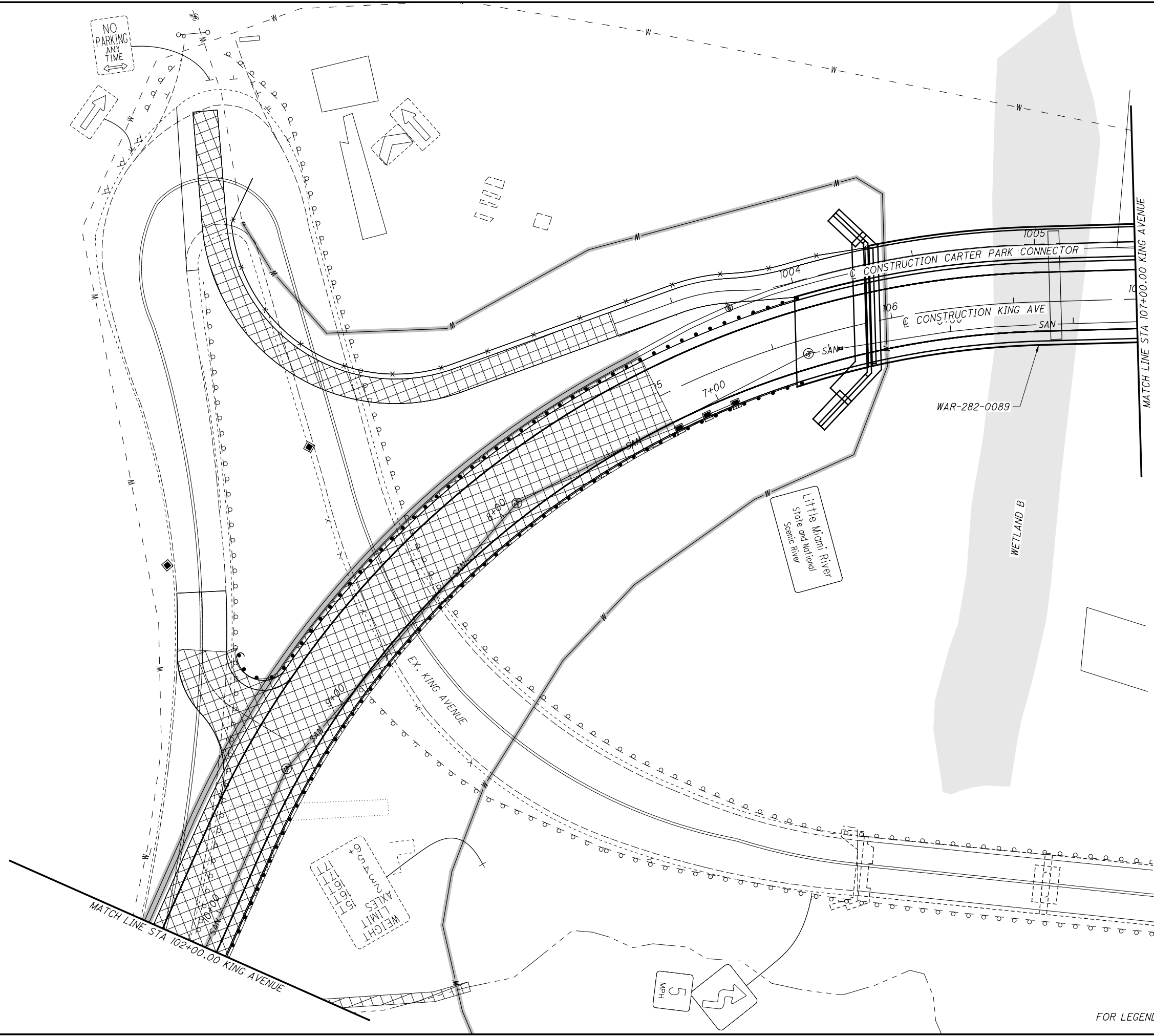


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MAINTENANCE OF TRAFFIC
PHASE 5

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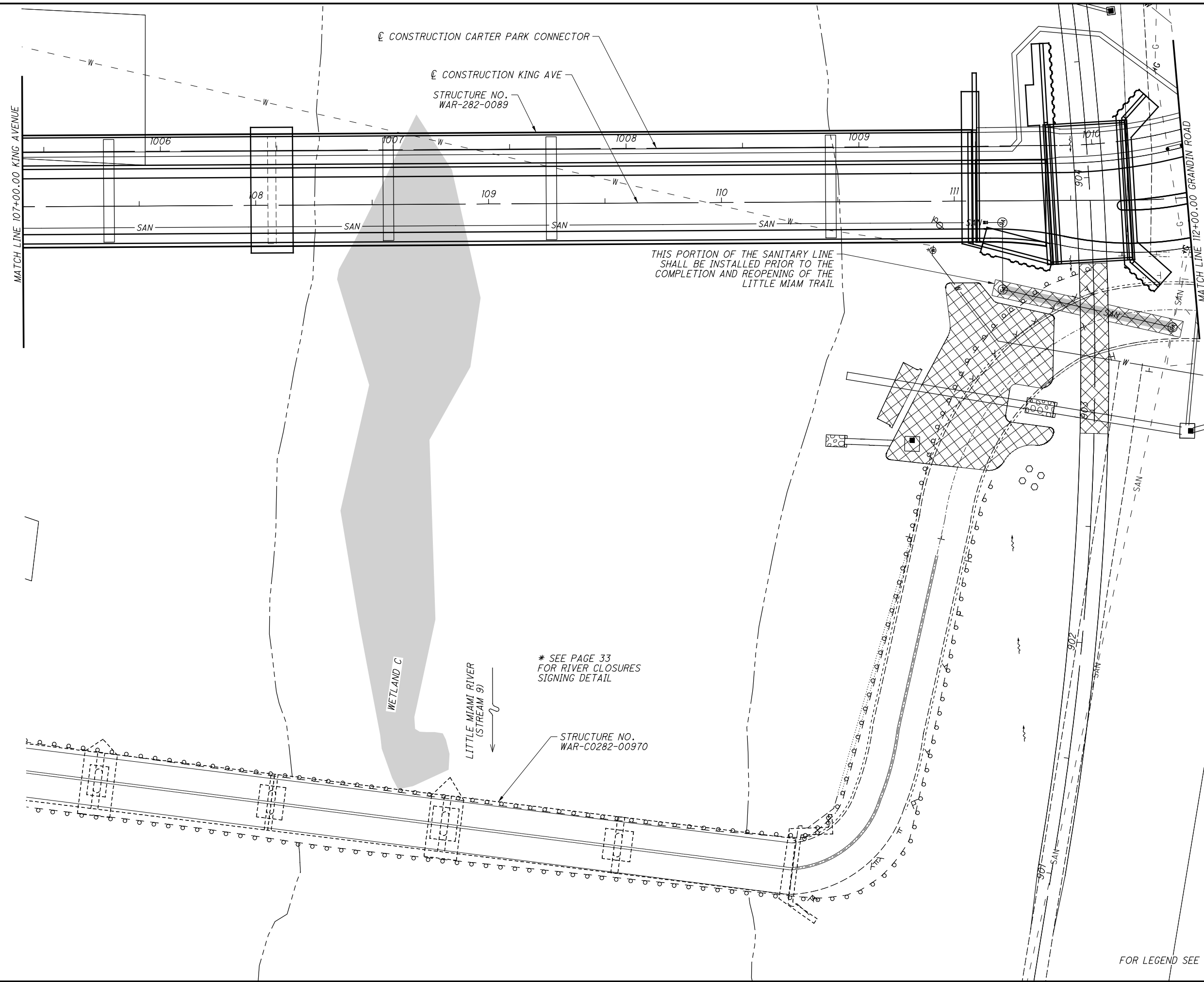
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**MAINTENANCE OF TRAFFIC
PHASE 5**

WAR-CR 282-0.97

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THIS PORTION OF THE SANITARY LINE SHALL BE INSTALLED PRIOR TO THE COMPLETION AND REOPENING OF THE LITTLE MIAM TRAIL

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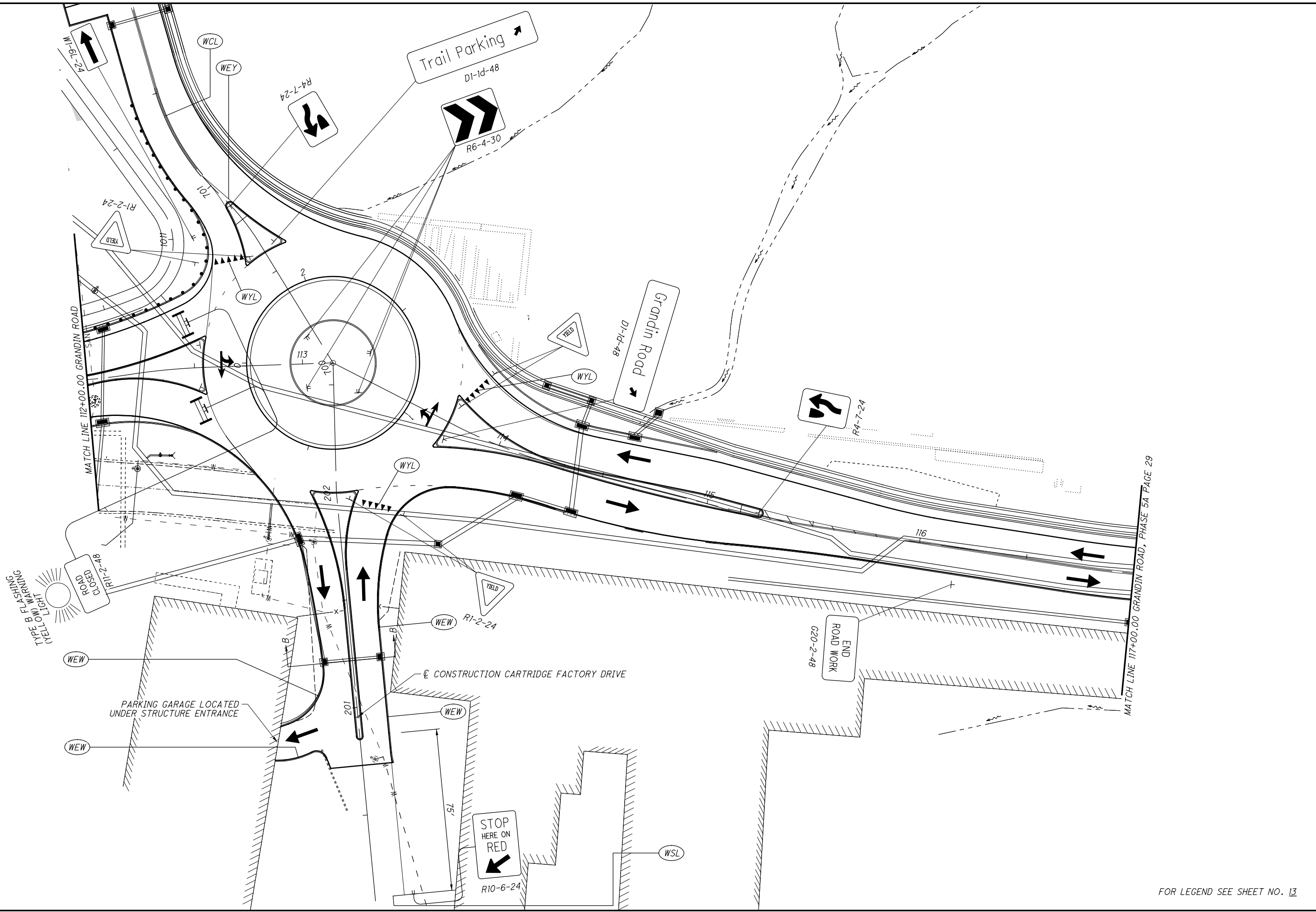
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**MAINTENANCE OF TRAFFIC
PHASE 5**

WAR-CR 282-0.97

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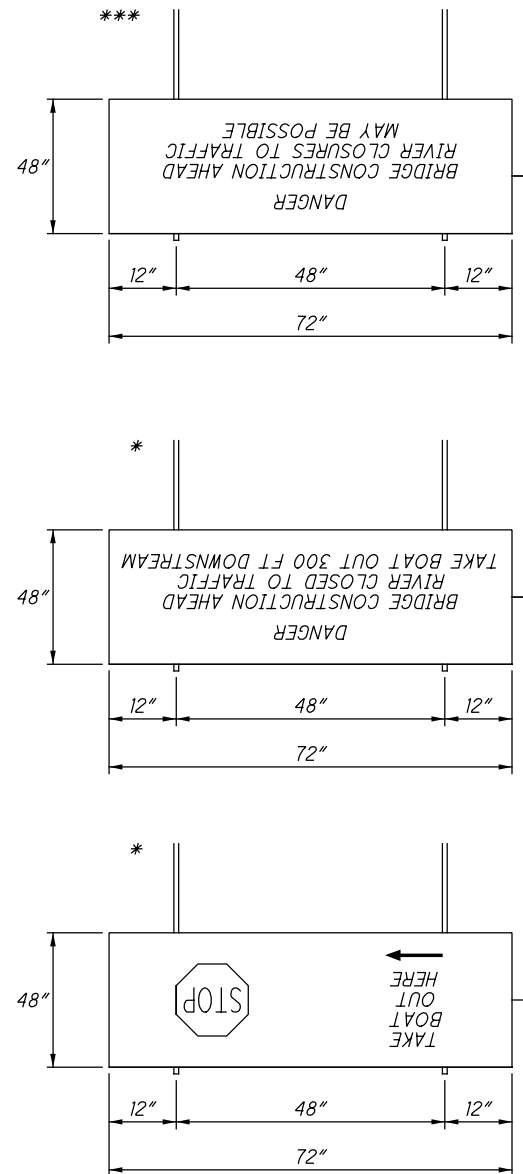
**MAINTENANCE OF TRAFFIC
PHASE 5**

WAR-CR-282-0.97

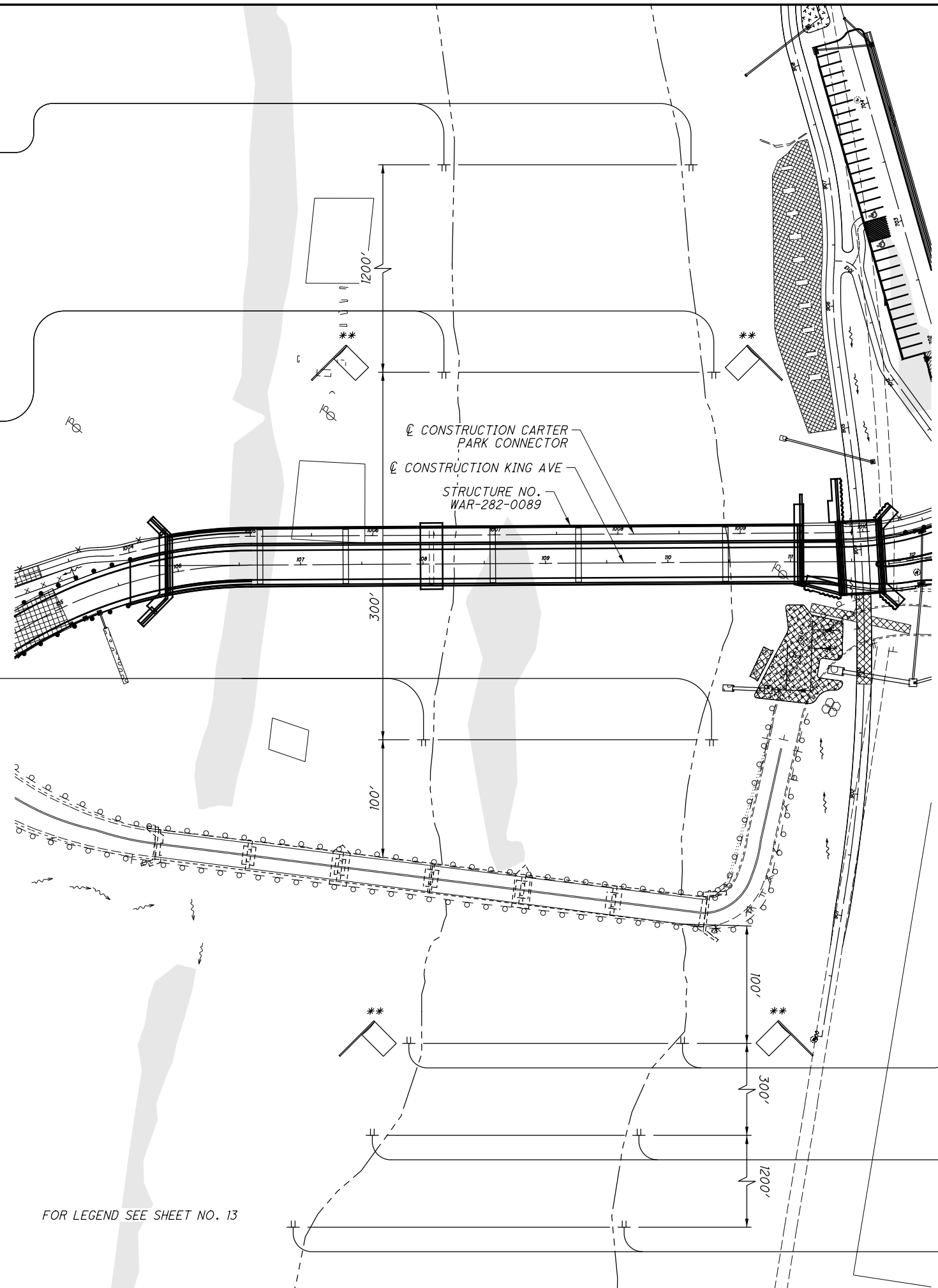
32A
256

FOR LEGEND SEE SHEET NO. 13

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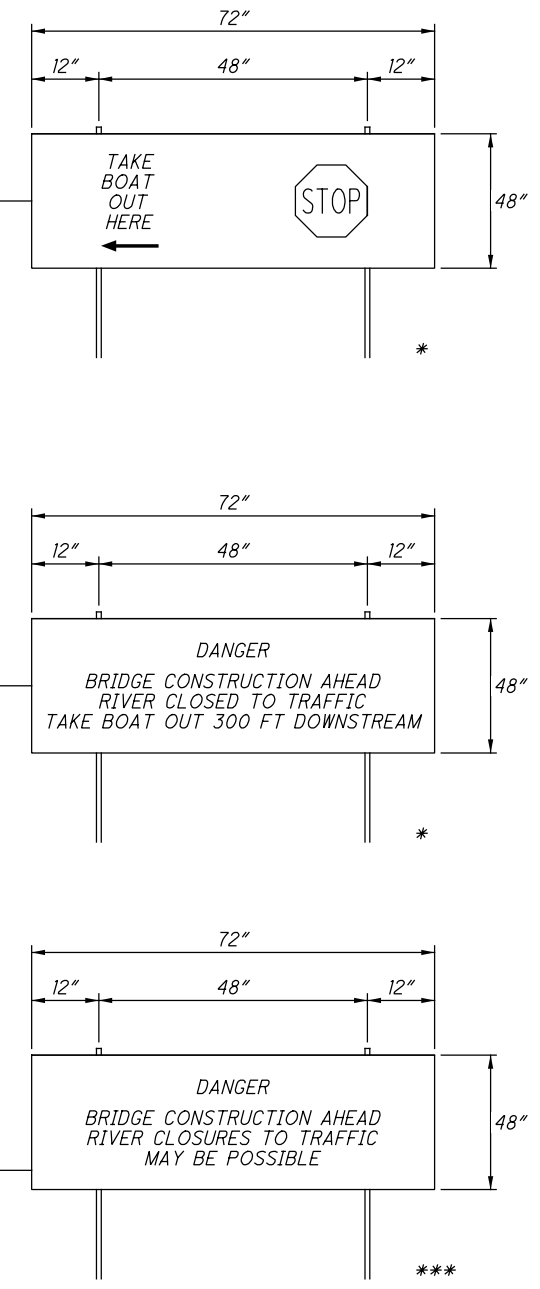
- NOTES:**
1. THE RIVER TRAFFIC SIGNAGE PLAN IS INTENDED TO SUPPLEMENT THE MAINTENANCE OF CANOE TRAFFIC NOTE, AS STATED IN THE MAINTENANCE OF CANOE TRAFFIC NOTE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR THE ACQUISITION, CONSTRUCTION AND MAINTENANCE OF ANY PORTAGE TRAIL AS REQUIRED BY THE PROJECT ENGINEER.
 2. ONLY SHORT DURATION CLOSURES OF THE RIVER WILL BE REQUIRED WHILE PLACING THE PROPOSED BRIDGE BEAMS IN PHASE 2. THESE CLOSURES WILL NOT REQUIRE THE INSTALLATION OF ALL SIGNS (SEE NOTES BELOW FOR INFORMATION ON WHICH SIGNS WILL BE REQUIRED FOR SHORT TERM CLOSURES) AND RIVER TRAFFIC WILL NOT BE REQUIRED TO EXIT THE RIVER TO NAVIGATE AROUND THE WORK ZONE. BUT, WILL REQUIRE RIVER TRAFFIC TO WAIT IN THE RIVER, AT THE DIRECTION OF FLAGGER STATIONED ON THE RIVER BANKS, FOR THE WORK ZONE TO BE SECURED AND IT IS DETERMINED THAT IT IS SAFE FOR PASSAGE. SAFETY NETS WILL BE USED TO KEEP MATERIALS FROM FALLING ONTO RIVER TRAFFIC WHILE THE BRIDGE DECK IS BEING CONSTRUCTED SO THE RIVER WILL REMAIN OPEN.
- * SIGNS WILL ONLY BE ERECTED DURING THE DEMOLITION OF THE EXISTING BRIDGE OVER THE LITTLE MIAMI RIVER.
 - ** FLAGGERS WILL BE PLACED AT THIS LOCATION ON BOTH SIDES OF THE RIVER DURING SHORT TERM RIVER CLOSURES IN PHASE 2 TO DIRECT RIVER TRAFFIC AND KEEP TRAFFIC FROM ENTERING THE WORK ZONE.
 - *** SIGN WILL BE ERECTED DURING THE PLACEMENT OF THE BEAMS OF THE PROPOSED BRIDGE AND WILL REMAIN IN PLACE UNTIL THE COMPLETION OF THE DEMOLITION OF THE EXISTING BRIDGE OVER THE LITTLE MIAMI RIVER.



FOR LEGEND SEE SHEET NO. 13

ADDITIONAL SIGN REQUIREMENTS:

1. THE CONTRACTOR SHALL ERECT AND MAINTAIN SIGNS AT THE NEAREST PUBLIC ACCESS POINTS UPSTREAM AND DOWNSTREAM OF THE WORK BEING PERFORMED WARNING RIVER TRAFFIC TO POTENTIAL IMPACTS TO RECREATION. SIGNS SHALL ADDRESS ALL DETAILS ADDRESSED IN THE ENVIRONMENTAL COMMITMENT SPECIAL PROVISIONS.



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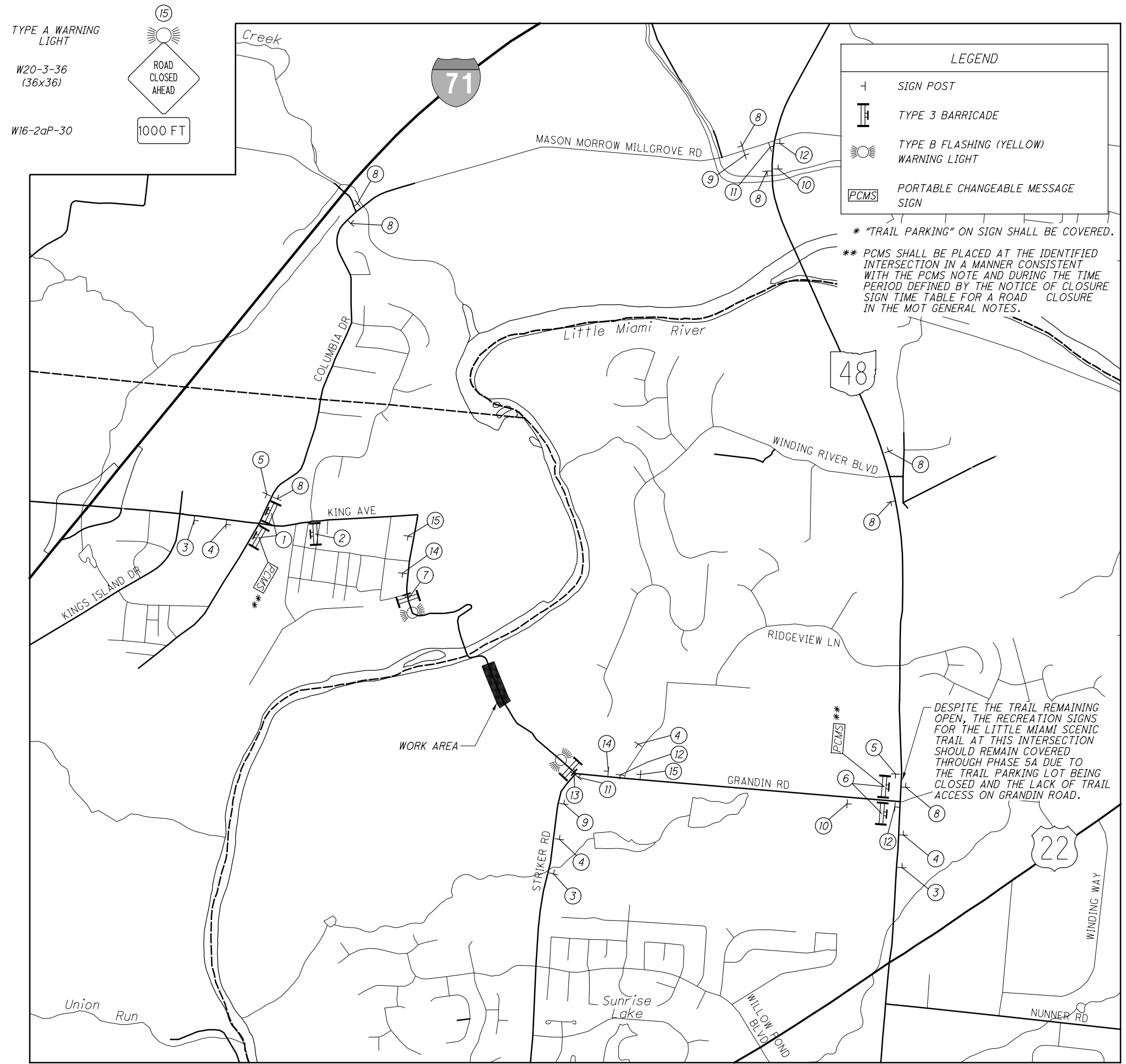
HORIZONTAL SCALE IN FEET

**LITTLE MIAMI RIVER DETOUR
PHASES 2 AND 5**

WAR-CR 282-0.97

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(48x24) *	① OPEN TO CARTRIDGE FACTORY	D3-2-58 (58x24)	⑧ GRANDIN RD / KING AVE
R11-3a-60 (60x30)	ROAD CLOSED 1.25 MILES AHEAD LOCAL TRAFFIC ONLY	M4-8-30 (30x15)	DETOUR
M4-10L-48 (48x24)	DETOUR	M6-3-21 (21x15)	↑
(48x24) *	② OPEN TO CARTRIDGE FACTORY	D3-2-58 (58x24)	⑨ GRANDIN RD / KING AVE
R11-3a-60 (60x30)	ROAD CLOSED 1.11 MILES AHEAD LOCAL TRAFFIC ONLY	M4-8-30 (30x15)	DETOUR
		M5-1-21 (21x15)	↗
TYPE A WARNING LIGHT	③ ROAD CLOSED AHEAD	D3-2-58 (58x24)	⑩ GRANDIN RD / KING AVE
W20-3-36 (36x36)		M4-8-30 (30x15)	DETOUR
D3-2-58 (58x24)	GRANDIN RD / KING AVE	M5-1-21 (21x15)	↖
TYPE A WARNING LIGHT	④ DETOUR AHEAD	D3-2-58 (58x24)	⑪ GRANDIN RD / KING AVE
W20-2-36 (36x36)		M4-9R-30 (30x21)	DETOUR
D3-2-58 (58x24)	GRANDIN RD / KING AVE		→
M4-8a-24 (24x18)	⑤ END DETOUR	D3-2-58 (58x24)	⑫ GRANDIN RD / KING AVE
(24x18)	OPEN TO STRIKER ROAD	M4-9L-30 (30x21)	DETOUR
R11-3a-60 (60x30)	ROAD CLOSED 1.25 MILES AHEAD LOCAL TRAFFIC ONLY		←
M4-10R-48 (48x24)	DETOUR		⑬ ROAD CLOSED
(48x24) *	⑦ OPEN TO CARTRIDGE FACTORY	TYPE A WARNING LIGHT	⑭ ROAD CLOSED AHEAD
R11-4-60 (60x30)	ROAD CLOSED TO THRU TRAFFIC	W20-3-36 (36x36)	
		W16-2aP-30	⑮ 500 FT



LEGEND

- ⊥ SIGN POST
- ▬ TYPE 3 BARRICADE
- ☀ TYPE B FLASHING (YELLOW) WARNING LIGHT
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

* "TRAIL PARKING" ON SIGN SHALL BE COVERED.
 ** PCMS SHALL BE PLACED AT THE IDENTIFIED INTERSECTION IN A MANNER CONSISTENT WITH THE PCMS NOTE AND DURING THE TIME PERIOD DEFINED BY THE NOTICE OF CLOSURE SIGN TIME TABLE FOR A ROAD CLOSURE IN THE MOT GENERAL NOTES.

DESPITE THE TRAIL REMAINING OPEN, THE RECREATION SIGNS FOR THE LITTLE MIAMI SCENIC TRAIL AT THIS INTERSECTION SHOULD REMAIN COVERED THROUGH PHASE 5A DUE TO THE TRAIL PARKING LOT BEING CLOSED AND THE LACK OF TRAIL ACCESS ON GRANDIN ROAD.

800
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HORIZONTAL SCALE IN FEET

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**DETOUR PLAN
PHASES 2 AND 4**

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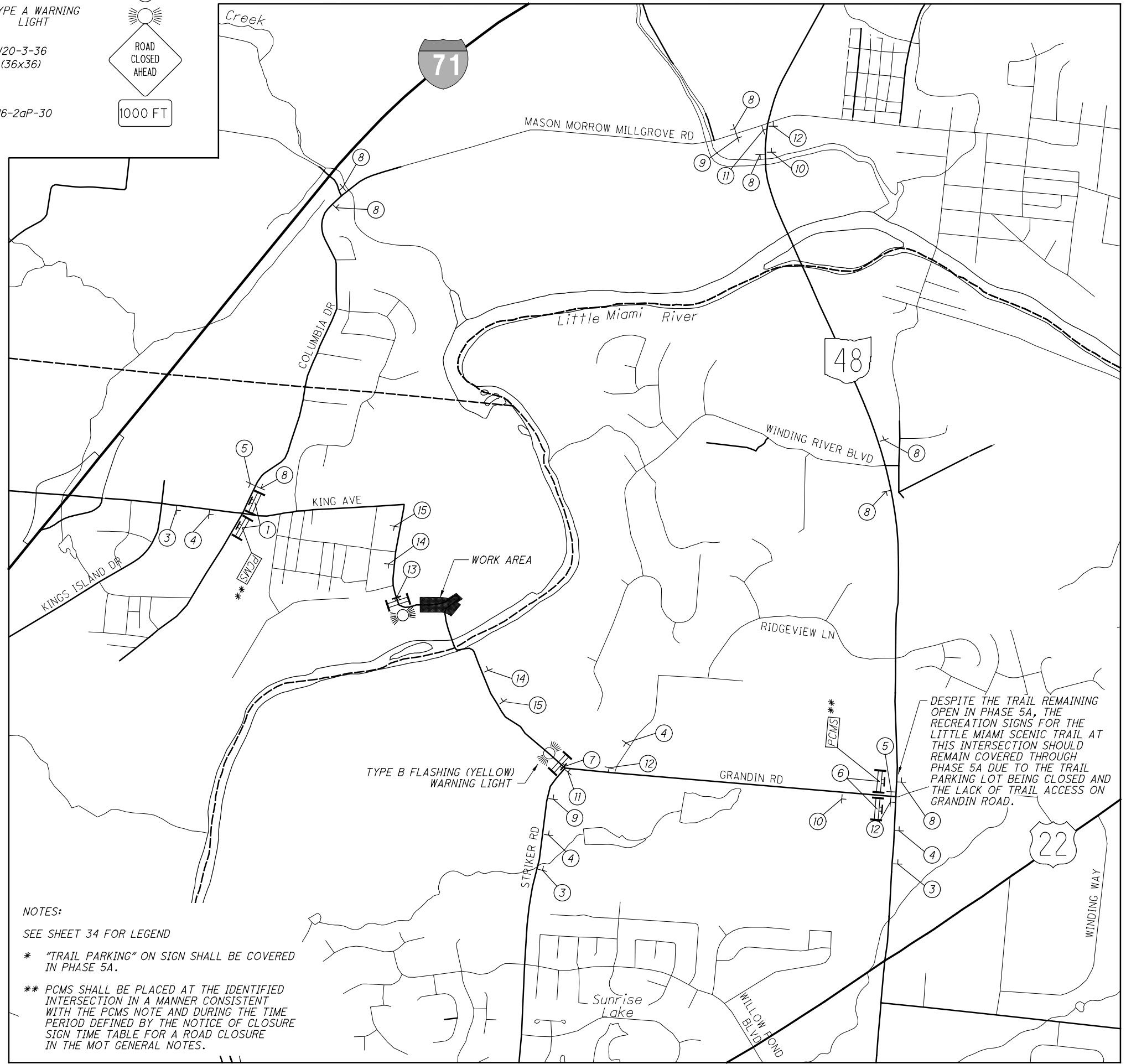
(36x24)	① OPEN TO 1535 KING AVE ROAD CLOSED 0.75 MILES AHEAD LOCAL TRAFFIC ONLY	D3-2-58 (58x24)	⑧ GRANDIN RD / KING AVE DETOUR ↑
R11-3a-60 (60x30)	② OPEN TO 1535 KING AVE ROAD CLOSED 0.6 MILES AHEAD LOCAL TRAFFIC ONLY	M4-8-30 (30x15)	⑨ GRANDIN RD / KING AVE DETOUR ↘
M4-10L-48 (48x24)	③ TYPE A WARNING LIGHT ROAD CLOSED AHEAD	M5-1-21 (21x15)	⑩ GRANDIN RD / KING AVE DETOUR ↙
	④ TYPE A WARNING LIGHT DETOUR AHEAD	D3-2-58 (58x24)	⑪ GRANDIN RD / KING AVE DETOUR →
	⑤ GRANDIN RD / KING AVE	M4-9R-30 (30x21)	⑫ GRANDIN RD / KING AVE DETOUR ←
	⑥ OPEN TO CARTRIDGE FACTORY DRIVE TRAIL PARKING ROAD CLOSED 1.50 MILES AHEAD LOCAL TRAFFIC ONLY	D3-2-58 (58x24)	⑬ GRANDIN RD / KING AVE DETOUR ←
M4-8a-24 (24x18)	⑦ OPEN TO CARTRIDGE FACTORY DRIVE TRAIL PARKING ROAD CLOSED 0.50 MILES AHEAD LOCAL TRAFFIC ONLY	M4-9L-30 (30x21)	⑭ ROAD CLOSED AHEAD 500 FT
(48x24) *		R11-2-48 (48x30)	⑮ TYPE A WARNING LIGHT ROAD CLOSED AHEAD 1000 FT
R11-3a-60 (60x30)			
M4-10R-48 (48x24)			
(48x24) *			
R11-3a-60 (60x30)			

TYPE A WARNING
LIGHT

W20-3-36
(36x36)

W16-2aP-30

ROAD
CLOSED
AHEAD
1000 FT



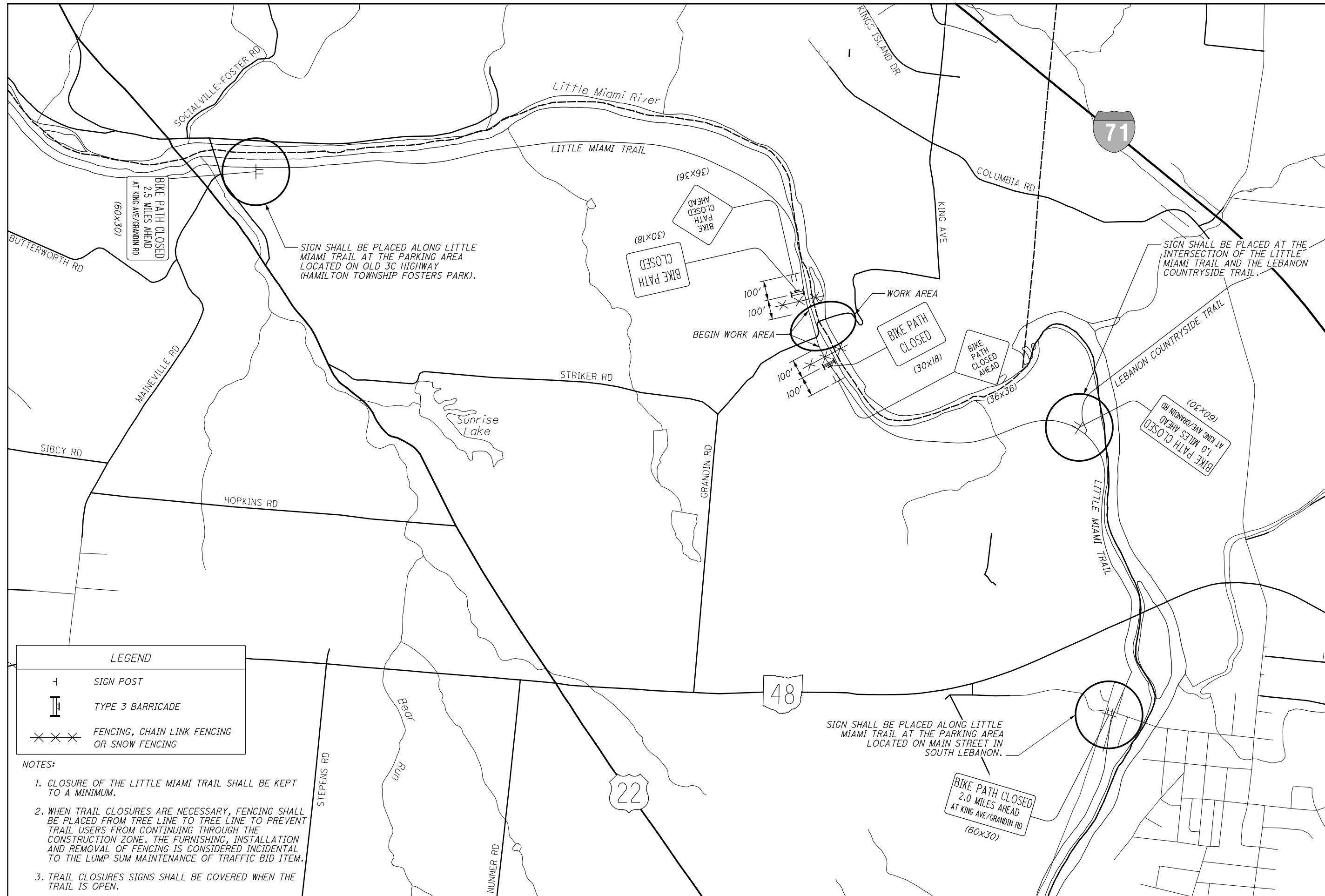
NOTES:
SEE SHEET 34 FOR LEGEND
* "TRAIL PARKING" ON SIGN SHALL BE COVERED
IN PHASE 5A.
** PCMS SHALL BE PLACED AT THE IDENTIFIED
INTERSECTION IN A MANNER CONSISTENT
WITH THE PCMS NOTE AND DURING THE TIME
PERIOD DEFINED BY THE NOTICE OF CLOSURE
SIGN TIME TABLE FOR A ROAD CLOSURE
IN THE MOT GENERAL NOTES.

DESPIITE THE TRAIL REMAINING
OPEN IN PHASE 5A, THE
RECREATION SIGNS FOR THE
LITTLE MIAMI SCENIC TRAIL AT
THIS INTERSECTION SHOULD
REMAIN COVERED THROUGH
PHASE 5A DUE TO THE TRAIL
PARKING LOT BEING CLOSED AND
THE LACK OF TRAIL ACCESS ON
GRANDIN ROAD.



**DETOUR PLAN
PHASES 5A AND 5**

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LEGEND

- ⊥ SIGN POST
- ⊥ TYPE 3 BARRICADE
- ××× FENCING, CHAIN LINK FENCING OR SNOW FENCING

NOTES:

1. CLOSURE OF THE LITTLE MIAMI TRAIL SHALL BE KEPT TO A MINIMUM.
2. WHEN TRAIL CLOSURES ARE NECESSARY, FENCING SHALL BE PLACED FROM TREE LINE TO TREE LINE TO PREVENT TRAIL USERS FROM CONTINUING THROUGH THE CONSTRUCTION ZONE. THE FURNISHING, INSTALLATION AND REMOVAL OF FENCING IS CONSIDERED INCIDENTAL TO THE LUMP SUM MAINTENANCE OF TRAFFIC BID ITEM.
3. TRAIL CLOSURES SIGNS SHALL BE COVERED WHEN THE TRAIL IS OPEN.

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HORIZONTAL SCALE IN FEET

↑ N

LITTLE MIAMI TRAIL CLOSURE
PHASES 2, 3, AND 5

WAR-CR 282-0.97

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SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
6-9	42	43	44	45	46	47						1	EXT	TOTAL					
ROADWAY																			
LS												LS	201	11000	LS	CLEARING AND GRUBBING			
			LS									LS	202	11000	LS	STRUCTURE REMOVED			
			LS									LS	202	11200	LS	PORTIONS OF STRUCTURE REMOVED			
			865									865	202	23000	865	SY PAVEMENT REMOVED			
			332									332	202	30000	332	SF WALK REMOVED			
			LS									LS	202	30204	LS	STEPS REMOVED			
			114									114	202	30700	114	FT CONCRETE BARRIER REMOVED			
			92									92	202	32000	92	FT CURB REMOVED			
			262			45						307	202	35100	307	FT PIPE REMOVED, 24" AND UNDER			
						160						160	202	35200	160	FT PIPE REMOVED, OVER 24"			
			1,793.75									1,793.75	202	38000	1,793.75	FT GUARDRAIL REMOVED			
			1									1	202	58000	1	EACH MANHOLE REMOVED			
			4									4	202	58100	4	EACH CATCH BASIN REMOVED			
	15,572											15,572	203	10000	15,572	CY EXCAVATION			
						732						732	203	10001	732	CY EXCAVATION, AS PER PLAN			
	38,898											38,898	203	20000	38,898	CY EMBANKMENT			
	14,376											14,376	203	20001	14,376	CY EMBANKMENT, AS PER PLAN			
		10,890										10,890	204	10000	10,890	SY SUBGRADE COMPACTION			
	1											1	204	45000	1	HOUR PROOF ROLLING			
	53											53	206	10500	53	TON CEMENT			
	1,507											1,507	206	11000	1,507	SY CURING COAT			
		1,507										1,507	206	15020	1,507	SY CEMENT STABILIZED SUBGRADE, 14 INCHES DEEP			
			262.5									262.5	606	15050	262.5	FT GUARDRAIL, TYPE MGS			
			925									925	606	15100	925	FT GUARDRAIL, TYPE MGS WITH LONG POSTS			
			12.5									12.5	606	15551	12.5	FT GUARDRAIL, BARRIER DESIGN, TYPE MGS, AS PER PLAN			
			50									50	606	17350	50	FT GUARDRAIL, TYPE MGS, 25' LONG-SPAN			
			2									2	606	26150	2	EACH ANCHOR ASSEMBLY, MGS TYPE E, (INCHRP 350 OR MASH 2016)			
			4									4	606	26550	4	EACH ANCHOR ASSEMBLY, MGS TYPE T			
			3									3	606	35002	3	EACH MGS BRIDGE TERMINAL ASSEMBLY, TYPE I			
			1									1	606	35007	1	EACH MGS BRIDGE TERMINAL ASSEMBLY, TYPE I, BARRIER DESIGN, AS PER PLAN			
	1,300											1,300	607	30000	1,300	FT FENCE, SNOW			
			449									449	607	98000	449	FT FENCE, MISC.: WOOD FENCE			
			1									1	607	98100	1	EACH FENCE, MISC.: BARRICADE GATE			
			74									74	609	24510	74	FT CURB, TYPE 4-C			
			3,199									3,199	609	26000	3,199	FT CURB, TYPE 6			
			251									251	609	31000	251	FT COMBINATION CURB AND GUTTER, TYPE 9			
			303									303	609	50000	303	SY 4" CONCRETE TRAFFIC ISLAND			
			1,059									1,059	622	10160	1,059	FT CONCRETE BARRIER, SINGLE SLOPE, TYPE D			
			2									2	622	25000	2	EACH CONCRETE BARRIER END SECTION, TYPE D			
			5									5	622	25050	5	EACH CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D			
	14											14	623	40500	14	EACH REFERENCE MONUMENT			
LS												LS	SPECIAL	69098400	LS	SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN			
												LS	878	25000	LS	INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS			
EROSION CONTROL																			
						109						109	601	21050	109	SY TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT			
						432						432	601	21100	432	SY SLOPE PROTECTION, MISC.: SEEDING & EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 AND PERCUSSION DRIVEN EARTH ANCHORS			
						470						470	601	32100	470	CY ROCK CHANNEL PROTECTION, TYPE B WITH FILTER			
					20	32						52	601	32200	52	CY ROCK CHANNEL PROTECTION, TYPE C WITH FILTER			
						1,026						1,026	601	37500	1,026	FT PAVED GUTTER, TYPE I-2			
						778						778	601	45050	778	CY BIORETENTION CELL			
	2											2	659	00100	2	EACH SOIL ANALYSIS TEST			
	2,729											2,729	659	00300	2,729	CY TOPSOIL			
		41										41	659	00301	41	CY TOPSOIL, AS PER PLAN			
	24,583					549						25,132	659	10001	25,132	SY SEEDING AND MULCHING, AS PER PLAN			
	3.32											3.32	659	20000	3.32	TON COMMERCIAL FERTILIZER			
	5.08											5.08	659	31000	5.08	ACRE LIME			
	133											133	659	35000	133	MGAL WATER			

GENERAL SUMMARY

WAR-CR 282-0.97

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SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED	PJD	CHECKED	SNS
6-9	42	43	45	46	47	48	49	118			1		EXT	TOTAL							
EROSION CONTROL CONTINUED																					
					911						911	670	00500	911	SY	SLOPE EROSION PROTECTION					
					59						59	670	00700	59	SY	DITCH EROSION PROTECTION					
					549						549	671	14000	549	SY	EROSION CONTROL MAT					
							LS				LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN					
							LS				LS	832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS					
							LS				LS	832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE					
								65,000			65,000	832	30000	65,000	EACH	EROSION CONTROL					
					331						331	836	10000	331	SY	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1					
ENVIRONMENTAL / REMEDIATION																					
LS											LS	SPECIAL	69021000	LS		SITE SPECIFIC HEALTH AND SAFETY PLAN (SSHSP)				7	
1,500											1,500	SPECIAL	69065000	1,500	TON	WORK INVOLVING NON-REGULATED MATERIALS				8A	
250											250	SPECIAL	69065002	250	TON	WORK INVOLVING HAZARDOUS WASTE				8A	
250											250	SPECIAL	69065010	250	TON	WORK INVOLVING SOLID WASTE				8A	
1,000											1,000	SPECIAL	69065022	1,000	GAL	WORK INVOLVING NON-REGULATED WATER				8A	
1,000											1,000	SPECIAL	69065024	1,000	GAL	WORK INVOLVING REGULATED WATER				8A	
DRAINAGE																					
				2.66	2.44						5.1	602	20000	5.1	CY	CONCRETE MASONRY					
					257						257	605	05201	257	FT	4" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN				107	
							2,918				2,918	605	11100	2,918	FT	6" SHALLOW PIPE UNDERDRAINS					
							30				30	605	13300	30	FT	6" UNCLASSIFIED PIPE UNDERDRAINS					
	75										75	611	00101	75	FT	4" CONDUIT, TYPE B, AS PER PLAN				7	
								156			156	611	00510	156	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS					
				486							486	611	04400	486	FT	12" CONDUIT, TYPE B					
				13							13	611	04600	13	FT	12" CONDUIT, TYPE C					
				158							158	611	05900	158	FT	15" CONDUIT, TYPE B					
				265							265	611	06100	265	FT	15" CONDUIT, TYPE C					
					232						232	611	06400	232	FT	15" CONDUIT, TYPE D					
					25						25	611	07400	25	FT	18" CONDUIT, TYPE B					
							71				71	611	10200	71	FT	24" CONDUIT, TYPE A, 706.02, 707.01 (ALUMINIZED), 707.04, 707.33, 707.34, 707.35					
											131	611	10400	131	FT	24" CONDUIT, TYPE B					
											143	611	10600	143	FT	24" CONDUIT, TYPE C					
											29	611	13600	29	FT	30" CONDUIT, TYPE C					
							118				118	611	16200	118	FT	36" CONDUIT, TYPE A, 706.02, 707.01 (ALUMINIZED), 707.04, 707.33, 707.34, 707.35					
											58	611	52506	58	FT	24" X 38" CONDUIT, TYPE D, 706.04					
											8	611	98150	8	EACH	CATCH BASIN, NO. 3					
											6	611	98180	6	EACH	CATCH BASIN, NO. 3A					
											1	611	98410	1	EACH	CATCH BASIN, NO. 8					
											10	611	98470	10	EACH	CATCH BASIN, NO. 2-2B					
											2	611	98570	2	EACH	CATCH BASIN, NO. 2-5					
PAVEMENT																					
6		345									345	254	01000	345	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"					
		1,490									1,496	301	46000	1,496	CY	ASPHALT CONCRETE BASE, PG64-22					
		25									25	301	48000	25	CY	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)					
		2,103	193								2,296	304	20000	2,296	CY	AGGREGATE BASE					
		1,234									1,234	407	20000	1,234	GAL	NON-TRACKING TACK COAT					
											323	441	50000	323	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22					
											372	441	50200	372	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)					
											6	441	50400	6	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)					
											1	441	50701	1	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN				7	
											450	452	12010	450	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P					
											374	452	15010	374	SY	12" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P					
											89	823	10000	89	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448)					
											104	823	15000	104	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)					
WATER WORK																					
								830			830	SPECIAL	20270000	830	FT	FILL AND PLUG EXISTING CONDUIT, 24"				117	
								1			1	202	98600	1	EACH	ABANDON MISC.: EXISTING 24" VALVE AND VALVE BOX				117	
								458			458	202	98700	458	FT	ABANDON MISC.: EXISTING 8" WATER LINE				117	
								2,367			2,367	202	98700	2,367	FT	ABANDON MISC.: EXISTING 10" WATER LINE				117	
								14			14	638	00700	14	FT	6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, MECHANICAL JOINTS AND FITTINGS					

GENERAL SUMMARY

WAR-CR 282-0.97

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SHEET NUM.												PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
44	45	109	118	137	139	148					1	EXT	TOTAL					
WATER WORK CONTINUED																		
			842									842	638	01300	842 FT	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, MECHANICAL JOINTS AND FITTINGS		
			302									302	638	01900	302 FT	10" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 52, MECHANICAL JOINTS AND FITTINGS		
			23									23	638	02510	23 FT	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 56, MECHANICAL JOINTS AND FITTINGS		
			1									1	638	07800	1 EACH	6" GATE VALVE AND VALVE BOX		
			3									3	638	08000	3 EACH	10" GATE VALVE AND VALVE BOX		
			1									1	638	08100	1 EACH	12" GATE VALVE AND VALVE BOX		
			4									4	638	08108	4 EACH	24" GATE VALVE, VALVE AND VALVE BOX		
			1									1	638	10200	1 EACH	6" FIRE HYDRANT		
			1									1	638	10480	1 EACH	FIRE HYDRANT REMOVED		
			2									2	SPECIAL	63820530	2 EACH	4" BUTTERFLY VALVE WITH VALVE BOX		
			1									1	SPECIAL	63820682	1 EACH	24" BUTTERFLY VALVE WITH VALVE BOX		
			2									2	638	98000	2 EACH	WATER WORK, MISC.: EBAA XTEND EXPANSION JOINT	128	
			58									58	638	98000	58 EACH	WATER WORK, MISC.:PIPE HANGER	128	
			2									2	638	98000	2 EACH	WATER WORK, MISC.:ABUTMENT CONNECTION	128	
			520									520	638	98600	520 FT	WATER WORK, MISC.:30" SPRIAL INSULATED ALUMINUM JACKET	128	
			520									520	638	98600	520 FT	WATER WORK, MISC.:24" WATER MAIN, DUCTILE IRON PIPE ANSI PRESSURE CLASS 350, PUSH ON JOINTS AND FITTINGS	128	
			2,632									2,632	638	98600	2,632 FT	WATER WORK, MISC.:24" WATER MAIN, DUCTILE IRON PIPE ANSI PRESSURE CLASS 350, MECHANICAL JOINTS AND FITTINGS	128	
SANITARY SEWER																		
		LS										LS	202	98000	LS	REMOVAL MISC.: EXISTING LIFT STATION AND VALVE VAULT	110	
		40										40	202	98700	40 FT	ABANDON MISC.: EXISTING SEWER 12" OR LESS	114	
		580										580	611	01800	580 FT	8" CONDUIT, TYPE B, 748.01 CLASS 53		
		1,000										1,000	611	01801	1,000 FT	8" CONDUIT, TYPE B, AS PER PLAN, SDR 26	114	
		2										2	611	99660	2 EACH	MANHOLE RECONSTRUCTED TO GRADE		
		5										5	611	99690	5 EACH	MANHOLE, MISC.: WARREN CO. TYPE S-1	116	
		1										1	611	99690	1 EACH	MANHOLE, MISC.: WARREN CO. TYPE S-1 MODIFIED	114	
		3										3	611	99690	3 EACH	MANHOLE, MISC.: WARREN CO. TYPE S-2	116	
		2										2	638	98000	2 EACH	WATER WORK, MISC.: EBBA XTEND EXPANSION JOINT	115	
		58										58	638	98000	58 EACH	WATER WORK, MISC.: PIPE HANGER	115	
		2										2	638	98000	2 EACH	WATER WORK, MISC.: SEWER ABUTMENT CONNECTION	115	
		520										520	638	98600	520 FT	WATER WORK, MISC.: 12.7" SPIRAL INSULATED ALUMINUM JACKET	115	
LIGHTING																		
							726					726	625	25400	726 FT	CONDUIT, 2", 725.04		
							235					235	625	25600	235 FT	CONDUIT, 4", 725.04		
							726					726	625	29000	726 FT	TRENCH		
							4					4	625	29900	4 EACH	JUNCTION BOX		
							6					6	625	30700	6 EACH	PULL BOX, 725.08, 18"		
							4					4	625	30710	4 EACH	PULL BOX, 725.08, 32"		
2												2	625	75400	2 EACH	LIGHT POLE REMOVED		
							1					1	625	98000	1 EACH	LIGHTING, MISC.:TEMPORARY LIGHT	147	
TRAFFIC CONTROL																		
							62					62	621	00100	62 EACH	RPM		
	14											14	626	00102	14 EACH	BARRIER REFLECTOR, TYPE 1, BIDIRECTIONAL		
	22											22	626	00112	22 EACH	BARRIER REFLECTOR, TYPE 3, BIDIRECTIONAL		
												527.4	630	03100	527.4 FT	GROUND MOUNTED SUPPORT, NO. 3 POST		
							24					24	630	08600	24 EACH	SIGN POST REFLECTOR		
							2					2	630	79500	2 EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED		
							3					3	630	79600	3 EACH	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 1		
							2					2	630	79604	2 EACH	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 2		
							3					3	630	79610	3 EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED		
							207					207	630	80100	207 SF	SIGN, FLAT SHEET		
							65					65	630	84900	65 EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
							1					1	630	85100	1 EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		
							56					56	630	86002	56 EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
							1					1	630	86010	1 EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION		
							LS					LS	630	95000	LS	SIGNING, MISC.: REMOVAL OF PRIVATE ADVERTISING SIGN AND DELIVERY	145	
							LS					LS	630	95000	LS	SIGNING, MISC.:REMOVAL OF PRIVATE ADVERTISING SIGN FOUNDATION	145	

GENERAL SUMMARY

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SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
6-8	42	44	100	137	151	159							1	EXT	TOTAL				
TRAFFIC CONTROL CONTINUED																			
				0.97									0.97	644	00100	0.97	MILE	EDGE LINE, 4"	
				0.47									0.47	644	00300	0.47	MILE	CENTER LINE	
				13									13	644	00500	13	FT	STOP LINE	
				137									137	644	00700	137	FT	TRANSVERSE/DIAGONAL LINE	
				540									540	644	01200	540	FT	PARKING LOT STALL MARKING	
				4									4	644	01300	4	EACH	LANE ARROW	
				4									4	644	01410	4	EACH	WORD ON PAVEMENT, 96"	
				119									119	644	01514	119	FT	DOTTED LINE, 8"	
				2									2	644	01600	2	EACH	HANDICAP SYMBOL MARKING	
				56									56	644	20800	56	FT	YIELD LINE	
				0.34									0.34	646	10000	0.34	MILE	EDGE LINE, 4"	
				0.12									0.12	646	10200	0.12	MILE	CENTER LINE	
				20									20	646	10600	20	FT	TRANSVERSE/DIAGONAL LINE	
				1									1	646	20410	1	EACH	WORD ON PAVEMENT, 96"	
				32									32	646	20506	32	FT	DOTTED LINE, 8"	
				16									16	646	20800	16	FT	YIELD LINE	
LANDSCAPING																			
	85												85	661	30040	85	EACH	EVERGREEN SHRUB, 18" HEIGHT, BROADMOOR JUNIPER	
250													250	661	40040	250	EACH	DECIDUOUS TREE, 1" CALIPER	
RETAINING WALLS																			
				LS									LS	202	11201	LS		PORIONS OF STRUCTURE REMOVED, AS PER PLAN	
				LS									LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
				428									428	507	00400	428	FT	STEEL PILES, MISC.:HP14X102	
				42									42	518	21200	42	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
				54									54	SPECIAL	53000400	54	EACH	STRUCTURES: PRECAST CONCRETE PANELS	
BUILDING DEMOLITION																			
		1											1	202	56100	1	EACH	BUILDING DEMOLISHED, BUILDING 19	
		1											1	202	56100	1	EACH	BUILDING DEMOLISHED, BUILDING R21	
		1											1	202	56100	1	EACH	BUILDING DEMOLISHED, BUILDING R22	
		1											1	202	56100	1	EACH	BUILDING DEMOLISHED, BUILDING 29	
		1											1	202	56101	1	EACH	BUILDING DEMOLISHED, AS PER PLAN, BUILDING 53	
STRUCTURE 20 FOOT SPAN AND UNDER																			
				LS									LS	202	11000	LS		STRUCTURE REMOVED	
				LS									LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
				LS									LS	503	21300	LS		UNCLASSIFIED EXCAVATION	
				4,312									4,312	509	10000	4,312	LB	EPOXY COATED REINFORCING STEEL	
				12									12	511	46010	12	CY	CLASS QCI CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
				25									25	511	46510	25	CY	CLASS QCI CONCRETE, FOOTING	
				2									2	511	46611	2	CY	CLASS QCI CONCRETE, HEADWALL, AS PER PLAN	
				66									66	512	10100	66	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
				250									250	512	33000	250	SY	TYPE 2 WATERPROOFING	
				29									29	516	13600	29	SF	1" PREFORMED EXPANSION JOINT FILLER	
				LS									LS	518	21230	LS		POROUS BACKFILL WITH GEOTEXTILE FABRIC	
				32									32	601	11000	32	SY	RIPRAP, TYPE D	
				100									100	611	94801	100	FT	8' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN	
STRUCTURE OVER 20 FOOT SPAN (WAR-282-0089)																			
				LS									LS	202	11002	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN	
				24,057									24,057	SPECIAL	20307504	24,057	FT	WICK DRAIN	
				4,900									4,900	203	35001	4,900	CY	GRANULAR EMBANKMENT, AS PER PLAN	
				4									4	SPECIAL	20365000	4	EACH	SETTLEMENT PLATFORM	
				LS									LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
				LS									LS	503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN	
				LS									LS	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	
				LS									LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
				3,800									3,800	507	00100	3,800	FT	STEEL PILES HP10X42, FURNISHED	
				3,480									3,480	507	00150	3,480	FT	STEEL PILES HP10X42, DRIVEN	

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SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
6-8	10-11	12	159	193								1	EXT	TOTAL		SHEET NO.			
STRUCTURE OVER 20 FOOT SPAN (WAR-282-0089) CONTINUED																			
			40									40	507	93300	40	EACH	STEEL POINTS OR SHOES		
			297,785									297,785	509	10000	297,785	LB	EPOXY COATED REINFORCING STEEL		
			15,793									15,793	509	30020	15,793	FT	NO. 4 GFRP DEFORMED BARS		
			171									171	511	40512	171	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		
			187									187	511	44112	187	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING		
			326									326	511	46512	326	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		
			963									963	511	53014	963	CY	CLASS QC3 CONCRETE, MISC.: CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN		
			2,041									2,041	512	10100	2,041	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
			2,737									2,737	512	10400	2,737	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS		
			2,172,800										513	10401	2,172,800	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN		
			3,990									3,990	513	20000	3,990	EACH	WELDED STUD SHEAR CONNECTORS		
			98									98	516	11210	98	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL		
			5									5	516	44200	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (13" X 27" X 3.948")		
			5									5	516	44300	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (17" X 27" X 4.848")		
			517									517	517	75121	517	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING), AS PER PLAN		
			168									168	518	21200	168	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
			164									164	518	40000	164	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		
			50									50	518	40010	50	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		
			1,226									1,226	524	94802	1,226	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK		
			149									149	524	94804	149	FT	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK		
			236									236	526	30011	236	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN		
			80									80	526	90010	80	FT	TYPE A INSTALLATION		
			78,023									78,023	845	62000	78,023	SF	FIELD METALLIZING OF EXISTING STRUCTURAL STEEL		
			LS									LS	867	00101	LS		TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN		
			5									5	869	00100	5	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS		
																	STRUCTURE OVER 20 FOOT SPAN (WAR-150-0001)		
			LS									LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING		
			LS									LS	503	21300	LS		UNCLASSIFIED EXCAVATION		
			905									905	504	11100	905	SF	STEEL SHEET PILING LEFT IN PLACE (MIN. SECTION MODULUS = 18.1)		
			LS									LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION		
			2,830									2,830	507	00100	2,830	FT	STEEL PILES HPI0X42, FURNISHED		
			2,500									2,500	507	00150	2,500	FT	STEEL PILES HPI0X42, DRIVEN		
			22,194									22,194	509	10000	22,194	LB	EPOXY COATED REINFORCING STEEL		
			110									110	511	46012	110	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING		
			192									192	511	46512	192	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		
			425									425	512	10100	425	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
			399									399	512	33000	399	SY	TYPE 2 WATERPROOFING		
			120									120	516	13600	120	SF	1" PREFORMED EXPANSION JOINT FILLER		
			4									4	517	76400	4	EACH	RAILING POST		
			105									105	518	21200	105	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
			209									209	518	40000	209	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		
			74									74	518	40011	74	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN		
			60									60	611	71000	60	FT	CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE ARCH SECTIONS (32'X12')		
																	MAINTENANCE OF TRAFFIC		
			150									150	410	10000	150	CY	TRAFFIC COMPACTED SURFACE, TYPE A		
LS												LS	502	11100	LS		STRUCTURE FOR MAINTAINING TRAFFIC		
			LS									LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING		
			1									1	614	12380	1	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)		
			2									2	614	12384	2	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)		
			50									50	614	13000	50	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		
			6									6	614	13310	6	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY		
			10									10	614	13310	10	EACH	BARRIER REFLECTOR, TYPE 1, BIDIRECTIONAL		
			16									16	614	13360	16	EACH	OBJECT MARKER, TWO WAY		
			1									1	614	18601	1	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN		

GENERAL SUMMARY

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SHEET NUM.												PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
11	12											1	EXT	TOTAL				
MAINTENANCE OF TRAFFIC CONTINUED																		
	0.13											0.13	614	21000	0.13	MILE	WORK ZONE CENTER LINE, CLASS I	
	0.8											0.8	614	22000	0.8	MILE	WORK ZONE EDGE LINE, CLASS I, 4"	
	185											185	614	24000	185	FT	WORK ZONE DOTTED LINE, CLASS I	
	18											18	614	25000	18	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	
	0.09											0.09	614	21550	0.09	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
	0.08											0.08	614	22350	0.08	MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT	
	48											48	614	26000	48	FT	WORK ZONE STOP LINE, CLASS I	
	45											45	614	27020	45	FT	WORK ZONE CROSSWALK LINE, CLASS I, 24"	
	2											2	614	30200	2	EACH	WORK ZONE ARROW, CLASS I, 642 PAINT	
1												1	614	40051	1	EACH	BUSINESS ENTRANCE SIGN, AS PER PLAN	
	48											48	614	98100	48	FT	WORK ZONE PAVEMENT MARKING, MISC.: WORK ZONE YIELD LINE, TYPE 1, 642 PAINT	
	845											845	615	25000	845	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
173												173	616	10000	173	MGAL	WATER	
	975											975	622	41100	975	FT	PORTABLE BARRIER, UNANCHORED	
INCIDENTALS																		
												LS	614	11000	LS		MAINTAINING TRAFFIC	
												24	619	16020	24	MNTH	FIELD OFFICE, TYPE C	
												LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
												LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

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LANDSCAPING QUANTITIES						
REF. NO.	SHEET NO.	STATION		611	659	661
		FROM	TO	4" CONDUIT TYPE B, AS PER PLAN	TOPSOIL, AS PER PLAN	EVERGREEN SHRUB, 18" HEIGHT, BROADMOOR JUNIPER
				EACH	CU YD	EACH
L1	53	CENTRAL ISLAND LANDSCAPING		75	41	85
TOTALS CARRIED TO GENERAL SUMMARY				75	41	85

EARTHWORK QUANTITIES					
STATION		203			659
		EXCAVATION	EMBANKMENT	EMBANKMENT, AS PER PLAN	SEEDING & MULCHING, AS PER PLAN
		CU YD	CU YD	CU YD	SQ YD
KING AVENUE					
98+72.17	105+59.71	6137	26730	10416	9770
GRANDIN ROAD					
111+39.25	112+00.00	0		2240	500
ROUNDABOUT		2145	2243	1720	710
114+00.00	120+80.00	3799	334		2297
LITTLE MIAMI TRAIL					
900+75.00	910+39.22	3352	9053		10451
CARTRIDGE FACTORY DRIVE					
200+73.06	201+50.00	1	176		261
CARTER PARK CONNECTOR					
1000+75.00	1002+00.00	138	362		594
SUBTOTAL		15572	38898	14376	24583
TOTALS CARRIED TO GENERAL SUMMARY		15572	38898	14376	

ITEM 204 PROOF ROLLING

AREA OF ITEM 206 CEMENT STABILIZED SUBGRADE 14" DEEP = 1507 SQ YD (FROM PAVT CALCULATIONS)
 1507 SQ YD x 1 HR/2000 SQ YD = 0.75 HOURS, USE 1 HOURS *

ITEM 206 CEMENT

AREA OF ITEM 206 CEMENT STABILIZED SUBGRADE 14" DEEP = 1507 SQ YD (FROM PAVT CALCULATIONS)
 1507 SQ YD x (0.75 x 14" x 110 x 0.06) LBS/SQ YD x 1 TON/2000 LBS = 52.22 TONS
 USE 53 TONS *

ITEM 206 CURING COAT

AREA OF ITEM 206 CEMENT STABILIZED SUBGRADE 14" DEEP = 1507 SQ YD * (FROM PAVT CALCULATIONS)

*QUANTITIES CARRIED TO GENERAL SUMMARY

SEEDING AND MULCHING QUANTITIES
(QUANTITIES CARRIED TO GENERAL NOTES)
ITEM 659 SEEDING & MULCHING, AS PER PLAN 24583 SQ YD
ITEM 659 SOIL ANALYSIS TEST 24583 SQ YD x 9 x 1/43560 ACRES x 1 EACH /10 ACRES = 0.6 EACH USE 2 EACH
ITEM 659 TOPSOIL 24583 SQ YD x 111 CY/1000 SY = 2728.71 USE 2729 SQ YD
ITEM 659 COMMERCIAL FERTILIZER 24583 SQ YD x 1 TON/7410 SQ YD = 3.32 TONS
ITEM 659 LIME 24583 SQ YD x 9 x 1/43560 = 5.08 ACRES
ITEM 659 WATER 24583 SQ YD x 0.0027 M GAL/SQ YD x 2 = 132.75 M GAL USE 133 M GAL

CALCULATED
PJD
CHECKED
SNS

SUBSUMMARY

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PAVEMENT SUBSUMMARY

SHEET NO.	REFERENCE NO.	LOCATION	STATION		AREA (COMPUTER GENERATED) SF	204	206	254	301		304		407			441				452		823		COMMENTS AND ADDITIONAL AREAS FOR STEPS		
			FROM	TO		SUBGRADE COMPACTION SY	CEMENT STABILIZED SUBGRADE, 14" DEEP SY	1.5" PAVEMENT PLANING, ASPHALT CONCRETE SY	5" ASPHALT CONCRETE BASE, PG64-22 (FOR DRIVEWAYS) (AREA*0.417/27) CY	7" ASPHALT CONCRETE BASE, PG64-22 (AREA*0.583/27) CY	6" AGGREGATE BASE (AREA*0.5/27) CY	9" AGGREGATE BASE (AREA*0.75/27) CY	NON-TRACKING TACK COAT (IN BETWEEN 301 LIFTS) (AREA OF 301)*0.055/9) GAL	NON-TRACKING TACK COAT (AREA*2*0.055/9) GAL	NON-TRACKING TACK COAT (AREA*0.085/9) GAL	1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 (FOR DRIVEWAYS)(AREA*0.125/27) CY	1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 (AREA*0.125/27) CY	1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448) (AREA*0.146/27) CY	1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), UNDER GUARDRAIL, AS PER PLAN (AREA*0.146/27) CY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS OC IP (AREA/9) SY	12" NON-REINFORCED CONCRETE PAVEMENT, CLASS OC IP (AREA/9) SY	1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) (AREA*0.125/27) CY	1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448) (AREA*0.146/27) CY			
																								407 REFERS TO ONLY THE BOTTOM COAT		
50	P1	KING AVE	98+72.17	102+00.00	9548		1130.12		209.04	188.4		59.17	116.7												ADD 133 SF TO 301, ADD 623 SF TO 304	
51	P2	KING AVE	102+00.00	105+59.71	11511	1010.00	376.81		251.28	225.9		71.12	140.69												ADD 779 SF TO 204, ADD 126 SF TO 301, ADD 688 SF TO 304	
52	P3	KING AVE/GRANDIN RD	111+39.25	112+00.00	2254	324.67			54.33	49.06		15.38	29.15												ADD 668 SF TO 204, ADD 262 SF TO 301, 407, 441 (INTERMEDIATE), ADD 395 SF TO 304	
53	P4	GRANDIN RD	112+00.00	115+50.00	16463	2148.78			369.65	333.3		104.62	205.23												ADD 2876 SF TO 204, ADD 656 SF TO 301, 407, 441 (INTERMEDIATE), ADD 1537 SF TO 304	
53	P5	GRANDIN RD	112+74.17	113+54.17	3359	401.23				64.49										373.23					ADD 252 SF TO 204, ADD 123 SF TO 304	
54	P6	GRANDIN RD	115+50.00	119+50.00	11209	1556.56			258.53	233.5		73.17	141.57												ADD 2800 SF TO 204, ADD 764 SF TO 301, ADD 1398 SF TO 304, ADD 747 SF TO 407, ADD 747 SF TO 441 (INTERMEDIATE)	
54	P7	GRANDIN RD	119+50.00	120+80.00	3100			344.45						29.28			14.36									
55	P8	LITTLE MIAMI TRAIL	900+75.00	905+00.00	5073	705.34																23.49	27.44		ADD 1275 SF TO 204, ADD 638 SF TO 304	
55	P9	TRAILHEAD PARKING LOT	700+60.00	701+91.30	4048	551.89				86.02										449.78					ADD 919 SF TO 204, ADD 597 SF TO 304	
55	P10	CARTER PARK CONNECTOR	1009+50.06	1011+70.01	2264	324.89					72.06											10.49	12.25		ADD 660 SF TO 204, ADD 330 SF TO 304	
56	P11	TRAILHEAD PARKING LOT	701+91.30	704+55.40	11167	1482.89			253.48	226.4		71.74	139.99				51.7	63.48							ADD 2179 SF TO 204, ADD 572 SF TO 301, 407, 441 (INTERMEDIATE), ADD 1057 SF TO 304	
56	P12	CARTER PARK CONNECTOR	1011+70.01	1013+15.44	1808	249.34					57.17											8.38	9.78		ADD 436 SF TO 204, ADD 250 SF TO 304	
56	P13	LITTLE MIAMI TRAIL	905+00.00	910+39.22	6431	894.34					200.6											29.78	34.78		ADD 1618 SF TO 204, ADD 790 SF TO 304	
58	P14	CARTRIDGE FACTORY DRIVE	200+73.06	202+00.00	4334	523.89			93.59	90.86		26.49													ADD 381 SF TO 204, ADD 572 SF TO 304	
59	P15	CARTER PARK CONNECTOR	1000+75.00	1004+30.57	3630	521.89					115.7											16.81	19.63		ADD 1067 SF TO 204, ADD 534 SF TO 304	
51	P16	DRIVE	102+92.60	103+19.48	1513	193.78			24.16				9.25		5.84										ADD 231 SF TO 204, ADD 52 SF TO 301, ADD 90 SF TO 304, ONLY 1 LAYER OF TACK COAT	
60	P17	GRANDIN RD	111+91.83	112+40.00	135																		0.73			
59	P18	CARTER PARK CONNECTOR	1000+75.73	1001+35.03	310				6.7	5.75		1.9	1.9	2.93			1.44	1.68								
SUBTOTAL						10889.49	1506.93	344.45	24.16	1489.9	1498	604.1	421.69	782.58	29.28	5.84	322.2	371.64	0.73	449.78	373.23	88.95	103.88			
TOTALS CARRIED TO GENERAL SUMMARY						10890	1507	345	25	1490	2103		1234			6	323	372	1	450	374	89	104			

CALCULATED PJD CHECKED SNS
PAVEMENT SUBSUMMARY
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REF. NO.	SHEET NO.	STATION		SIDE	202													625		REMARKS
		FROM	TO		STRUCTURE REMOVED LUMP	PORTIONS OF STRUCTURE REMOVED LUMP	PAVEMENT REMOVED SQ YD	WALK REMOVED SQ FT	STEPS REMOVED LUMP	CONCRETE BARRIER REMOVED FOOT	CURB REMOVED FOOT	PIPE REMOVED, 24" AND UNDER FOOT	GUARDRAIL REMOVED FOOT	BUILDING DEMOLISHED EACH	BUILDING DEMOLISHED, AS PER PLAN EACH	MANHOLE REMOVED EACH	CATCH BASIN REMOVED EACH	LIGHT POLE REMOVED EACH		
KING AVENUE																				
R1	50	98+75.98	103+93.96	LT/RT								600								
R2	50	100+08.43		LT				LUMP												
R3	50	101+20.31	101+40.61	LT			112													
R4	51	102+49.50	102+91.37	RT				LUMP												
R5	51	103+20.10	104+00.97	LT							108					2				
R6	51	103+26.13	104+49.00	RT							200									
R7	51	104.37.96	104+8.00	LT/RT							450									
R8	51	104+87.44	104+94.32	LT								1					BUILDING 19			
R9	51	102+61.10	102+80.95	RT								1					BUILDING 29			
R10	52	106+99.83	107+53.06	LT									1				BUILDING 53			
GRANDIN ROAD																				
R11	52	110+93.15	111+51.76	RT					114								*			
R12	52	111+82.73	112+13.36	RT							100			1			OUTLET LOCATION UNKNOWN			
R13	53	112+13.36	112+07.52	RT							54				2					
R14	53	113+13.35	113+67.76	LT								1					BUILDING R21			
R15	53	113+61.03	115+24.85	LT/RT								1					BUILDING R22			
R16	53-54	115+21.94	116+13.54	LT						92										
R17	53-54	115+41.79	116+08.16	LT		LUMP											RETAINING WALL			
R18	54	115+31.07	115+86.44	LT							145									
R19	54	115+54.21	116+33.18	LT			110													
R20	54	116+66.69		LT													1			
R21	54	118+29.89		LT													1			
R23	54	117+96.12	118+56.67	RT							62.5									
R24	54	120+02.97	120+11.89	LT							6.25									
EX. GRANDIN ROAD																				
R25	55	110+48.46	110+79.78	RT	LUMP												RETAINING WALL			
R26	55	110+32.09	111+59.00	RT							250									
R27	55	110+27.41	111+16.19	RT							225									
R28	131	103+28.00	104+85.00	RT			520													
CARTER PARK CONNECTOR																				
R29	94	1000+68.72	1002+00.00	LT/RT			235													
GRANDIN ROAD																				
R30	58	112+17.22	112+38.80	RT			75													
TOTALS CARRIED TO GENERAL SUMMARY					LUMP	LUMP	865	332	LUMP	114	92	262	1793.75	4	1	1	4	2		

* CONCRETE BARRIER MAY BE USED FOR MOT DURING CONSTRUCTION. SEE SHEE NO. 18

CALCULATED
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CHECKED
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ROADWAY SUBSUMMARY

WAR-CR 282-0.97

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REF. NO.	SHEET NO.	STATION		SIDE	304		606						607		609				622			626			
					AGGREGATE BASE (ASSUME 18.25" THICKNESS)	6" AGGREGATE BASE (COMPUTER GENERATED AREA)	GUARDRAIL, TYPE MGS	GUARDRAIL, TYPE MGS WITH LONG POST	GUARDRAIL, BARRIER DESIGN, TYPE MGS, AS PER PLAN	GUARDRAIL, TYPE MGS, 25' LONG-SPAN	ANCHOR ASSEMBLY, MGS TYPE E (NCHRP 350 OR MASH 2016)	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE I	MGS BRIDGE TERMINAL ASSEMBLY, TYPE I, BARRIER DESIGN, AS PER PLAN	FENCE, MISC.: BARRICADE GATE	FENCE, MISC.: WOOD FENCE	CURB, TYPE 4C	CURB, TYPE 6	COMBINATION CURB AND GUTTER, TYPE 9	4" CONCRETE TRAFFIC ISLAND	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	CONCRETE BARRIER END SECTION, TYPE D	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	BARRIER REFLECTOR, TYPE 1, 1 BIDIRECTIONAL	BARRIER REFLECTOR, TYPE 3, 1 BIDIRECTIONAL
		FROM	TO		CU YD	CU YD	FOOT	FOOT	FOOT	FT	EACH	EACH	EACH	EACH	EACH	FOOT	FOOT	FOOT	FOOT	SQ YD	FOOT	EACH	EACH	EACH	EACH
		KING AVENUE																							
G1	50-51	98+37.44	105+57.68	RT				675.0					1				18.5								8
G2	51	103+04.00	105+66.35	LT				250.0				1	1				18.5								4
C1	50-51	98+72.17	105+35.55	RT														647							
F1	51	102+96.52	103+07.71	LT										1											
		GRANDIN ROAD																							
B1	52-53	111+39.22	112+00.00	RT																	33			2	3
B2	52-53	111+39.25	111+91.83	LT		57															38	1		1	3
B3	53-54	113+03.75	119+00.00	LT																	631	1	1	1	8
G3	53, 60	111+91.19	701+50.96	LT			87.5		12.5			3		1			18.5								3
G4	54	116+49.00	116+75.00	RT			87.5			50	2														4
G5	54	118+99.40	120+11.89	LT			87.5						1				18.5								3
C2	52-53	111+70.01	112+55.20	LT/RT	36													199		71					
C3	53	112+00.00	200+95.99 (CFD)	RT/LT														216							
C4	53	111+91.75	701+90.80 (PARKING)	LT														183.5							
C5	53	112+74.16	113+54.17	LT/RT																		251			
C6	53	112+94.17	113+34.17	LT/RT														126							
C7	53	113+74.17	115+25.98	LT/RT	46													339		91					
C8	53	113+56.50	115+06.08	LT		10												118		55					
C9	53-54	200+72.27 (CF DRIVE)	119+50.00	RT														721							
		CARTRIDGE FACTORY DRIVE																							
C10	58	200+73.78	200+79.32	RT														30							
C11	58	200+85.00	202+00.00	LT/RT	29													254		56					
		TRAILHEAD PARKING LOT																							
B4	56	113+03.75 (GRANDIN)	704+55.40	LT/RT																	357			2	
C12	60	700+60.00	700+89.07	LT/RT	15													82		30					
C13	56	701+01.64	704+55.40	LT														283							
		CARTER PARK CONNECTOR																							
F2	59	1001+03.93	1003+99.00	LT																					
F3	60	1009+50.59	1010+90.75	LT																					
SUBTOTAL					126	67	262.5	925	12.5	50	2	4	3	1	1	449	74	3198.5	251	303	1059	2	5	14	22
TOTALS CARRIED TO GENERAL SUMMARY					193		262.5	925	12.5	50	2	4	3	1	1	449	74	3199	251	303	1059	2	5	14	22

CALCULATED	PJD
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ROADWAY SUBSUMMARY	
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REF. NO.	SHEET NO.	STATION		SIDE	601		602		611													
		FROM	TO		ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER	CONCRETE MASONRY	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	15" CONDUIT, TYPE B	15" CONDUIT, TYPE C	15" CONDUIT, TYPE D	18" CONDUIT, TYPE B	24" CONDUIT, TYPE B	24" CONDUIT, TYPE C	30" CONDUIT, TYPE C	24" x 38" CONDUIT, TYPE D, 706.04	CATCH BASIN, NO. 2-2B	CATCH BASIN, NO. 2-5	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 8	
					CU YD	CU YD	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	FOOT	EACH	EACH	EACH	EACH	EACH	
CARTER PARK CONNECTOR																						
D1	51,59	1001+89.21	1002+05.59	RT					75								1					
D2	51,59	1002+05.59	1002+62.15	RT/LT	1.56	0.27				94							1					
KING AVENUE																						
D3	51,59	105+01.45	105+27.62	RT	10.67	0.27	25	13												3		
GRANDIN ROAD																						
D4	53,58	114+67.91	114+60.02	LT					16												1	
D5	53,58	114+60.02	114+35.09	LT							25									1		
D6	53,58	114+35.09	114+39.83	LT/RT								40								1		
D7	53,58	114+39.83	114+15.00	RT								26								1		
D8	53,58,60	114+15.00	113+92.50	RT									43							1		
D9	53,58,60	113+92.50	201+80.00	RT									65				1					
LITTLE MIAMI TRAIL																						
D10	52,53,58,60	201+80.00	902+92.00	LT/RT										100						1		
D11	52,55,58,60	902+82.00	903+00.00	LT/RT	4.33	0.44										58		1				
GRANDIN ROAD																						
D12	53,58	114+11.69	114+36.51	LT					22								1					
D13	53,58	114+36.51	114+35.08	LT					13								1					
D14	55,60	112+10.00	112+05.00	LT/RT			44													1		
D15	52,53,55,60	112+05.00	902+92.00	RT								80								1		
CARTRIDGE FACTORY DRIVE																						
D16	53,58,60	201+22.33	201+22.33	LT/RT			27														1	
D17	53,58,60	201+22.33	201+80.00	LT			58														1	
GRANDIN ROAD																						
D18	53,54	117+00.00	115+18.22	RT		0.27											1					
TRAIL HEAD PARKING LOT																						
D19	56	701+86.00	701+86.00	LT/RT			27														1	
D20	56,60	701+86.00	704+45.00	RT			259										1					
D21	56	704+45.00	704+72.36	RT		0.27											1					
D22	56	704+52.86	704+45.00	LT/RT			46		32											1		
LITTLE MIAMI TRAIL																						
D23	55,60	904+70.00	904+97.88	RT/LT	1.11	0.27				73							1					
D24	55	902+85.00	902+83.76	LT	2.22	0.6								29				1		1		
D25	56	908+35.00	908+04.00	RT/LT		0.27				65							1					
SUBTOTALS					19.89	2.66	486	13	158	265	232	25	131	143	29	58	10	2	8	6	1	
TOTALS CARRIED TO GENERAL SUMMARY					20	2.66	486	13	158	265	232	25	131	143	29	58	10	2	8	6	1	

CALCULATED	ZTM	CHECKED	PJD
DRAINAGE SUBSUMMARY			
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REF. NO.	SHEET NO.	STATION		SIDE	202		203	601			602	605	611		659	670		671	836			
		FROM	TO		PIPE REMOVED, 24" AND UNDER FOOT	PIPE REMOVED, OVER 24" FOOT	EXCAVATION, AS PER PLAN CY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT SY	SLOPE EROSION PROTECTION MISC.: SEEDING & EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 3 AND PERCUSSION DRIVEN EARTH ANCHORS SY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CY	PAVED GUTTER, TYPE 1-2 FOOT	BIORETENTION CELL CY	CONCRETE MASONRY CY	4" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN FOOT	24" CONDUIT, TYPE A, 706.02, 707.01 (ALUMINIZED), 707.04, 707.33, 707.34, 707.35 FOOT	36" CONDUIT, TYPE A, 706.02, 707.01 (ALUMINIZED), 707.04, 707.33, 707.34, 707.35 FOOT	SEEDING AND MULCHING, AS PER PLAN SY	SLOPE EROSION PROTECTION SY	DITCH EROSION PROTECTION SY	EROSION CONTROL MAT SY	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 SY
KING AVENUE																						
E1	50	99+75.00	101+10.00	LT															122			
E2	50	101+10.00	101+53.14	LT			31															
CARTER PARK CONNECTOR																						
E3	51	1002+06.42	1002+50.00	RT			37															
E4	51	1002+50.00	1003+50.49	RT															90			
E5		NOT USED																				
GRANDIN ROAD																						
E6	53,54,55,56	704+55.40	118+50.00	LT						956												
E7	53	113+92.79	115+17.37	RT															119			
E8	53	114+64.42	114+96.52	LT			41															
E9		NOT USED																				
E10	53	114+69.88	115+42.40	LT						70												
E11	53	114+25.00	115+45.00	LT				432														
LITTLE MIAMI TRAIL																						
E12	52,56	905+00.00	907+30.00	LT													911					
KING AVENUE																						
E13	51	105+60.39	106+33.72	LT/RT					441.77													
CULVERTS																						
	97	99+64.86		LT/RT		160			27.6			1.52		118								
	98	101+66.75		LT/RT	45				20.22			0.92	71									
BIORETENTION CELLS																						
CELL 1	55,105	902+73.00	903+56.00	LT			520		11.56		554	166			390			390				
CELL 2	56,106	908+26.00	909+03.00	RT			212				224	91			159			159				
GRANDIN ROAD																						
E14	54	117+01.57	117+67.90	LT													59					
SUBTOTALS					45	160	732	109	432	469.37	31.78	1026	778	2.44	257	71	118	549	911	59	549	331
TOTALS CARRIED TO GENERAL SUMMARY					45	160	732	109	432	470	32	1026	778	2.44	257	71	118	549	911	59	549	331

CALCULATED ZTM CHECKED PJD
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 EROSION CONTROL SUBSUMMARY
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REF. NO.	SHEET NO.	STATION		SIDE	BEGINNING ELEVATION	ENDING ELEVATION	OUTLET STATION	OUTLET OFFSET	OUTLET FLOW ELEVATION	605		611	FOR INFORMATION ONLY																											
		6" SHALLOW PIPE UNDERDRAINS	6" UNCLASSIFIED PIPE UNDERDRAINS							6" CONDUIT TYPE F FOR UNDERDRAIN OUTLETS	11.25° BEND	22.50° BEND	45° BEND	PLUS	TEE																									
		FROM	TO							FOOT	FOOT	FOOT	EACH	EACH	EACH	EACH	EACH	EACH																						
U1	50,51	98+72.17	105+01.45	RT	684.78	633.76	105+01.45	16.50	632.82	603		10		1	1			1																						
U2	52	111+78.09	111+98.96	RT	620.99	619.97	112+02.95	21.13	617.45	23		5		1		1		1																						
U3	52,53	111+80.21	112+75.26	LT/RT	621.35	617.41	112+75.26	0.66	617.41	95			1					1	1																					
U4	52,53,55,56	111+76.00	701+75.01	LT	621.02	615.52	701+86.00	12.00	615.52	195		10		1	1			1																						
U5	53	112+07.73	201+91.18	LT/RT	619.40	615.65	201+80.00	19.75	610.93	98		10		1	1			1																						
U6	53,57	201+74.84	201+33.27	LT	615.15	611.51	201+22.33	13.63	611.51	42		10		1	1			1																						
U7	53,57	200+86.50	201+22.37	CL	611.25	611.16	201+22.37	12.13	611.01		30	14		1		1		1																						
U8	53,57	201+22.37	201+98.77	CL	611.90	615.55	700+93.00	12.13	611.01	71		14		1		1		1																						
U9	53,55	700+61.45	700+96.77	LT	617.56	616.76	700+96.77	16.92	616.76	45			1		1			1	1																					
U10	53	112+83.18	113+49.30	LT/RT	617.77	615.54	113+49.30	16.73	615.54	190			1					1																						
U11	53	113+49.30	114+14.88	RT	615.54	614.83	114+14.88	0.00	614.83	75							2		1																					
U12	53	114+14.88	115+24.39	LT/RT	614.83	617.43	114+15.00	19.53	612.55	110		18		1				1																						
U13	53	201+33.31	114+10.45	RT	612.03	614.65	201+22.33	13.50	611.78	110		10		1	1			1																						
U14	53	114+26.38	114+34.77	RT	614.74	614.85	114+15.00	19.53	612.55	9		10		1	1																									
U15	53,54	114+52.14	119+50.00	RT	615.00	639.68	114+40.00	19.86	612.94	504		10		1	1			1																						
U16	53,55,56	113+14.17	701+75.11	LT/RT	616.75	615.70	701+86.00	15.67	615.43	134		10		1	1																									
U17	53	113+14.17	114+22.48	LT	616.75	614.71	114+34.98	19.71	613.59	130		10		1	1																									
U18	53	114+41.71	114+54.93	LT	614.74	614.88	114+34.98	19.71	613.59	13		5		1		1		1																						
U19	53,54	114+71.91	119+50.00	LT	615.19	639.66	114+60.02	20.83	615.19	471		10		1	1			1																						
SUBTOTALS										2918	30	156	3	15	10	5	2	14	4																					
TOTALS CARRIED TO GENERAL SUMMARY										2918	30	156																												

CALCULATED: _____
 STC: _____
 CHECKED: _____
 PJD: _____
UNDERDRAIN SUBSUMMARY
WAR - CR 282 - 0.97
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PROJECT DESCRIPTION

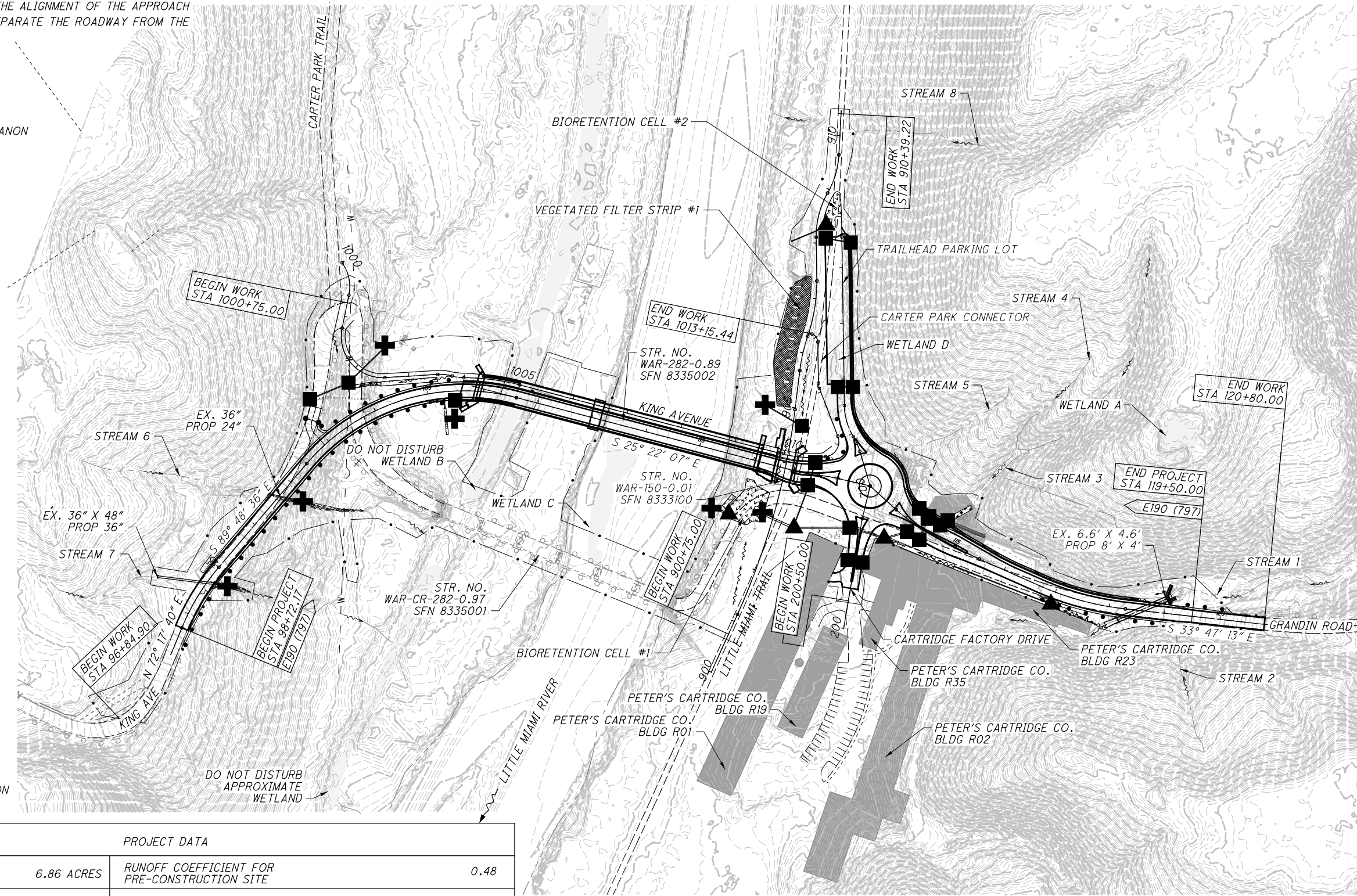
CONSTRUCT A NEW BRIDGE OVER THE LITTLE MIAMI RIVER, UPSTREAM OF THE DETERIORATING EXISTING BRIDGE. THE PROJECT WILL IMPROVE SAFETY FOR MOTORISTS AND PEDESTRIANS BY IMPROVING THE ALIGNMENT OF THE APPROACH ROADWAY AND WILL GRADE SEPARATE THE ROADWAY FROM THE LITTLE MIAMI TRAIL.

LATITUDE: 39°21'09"
LONGITUDE: -84°14'35"

USGS QUADRANT: SOUTH LEBANON

THE FOLLOWING ITEMS HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 832, STORM WATER POLLUTION PREVENTION PLAN LS
 ITEM 832, STORM WATER POLLUTION PREVENTION INSPECTION LS
 ITEM 832, STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE LS
 ITEM 832 EROSION CONTROL 65,000 EACH



- LEGEND**
- CATCH BASIN/INLET
 - ▲ CATCH BASIN (DITCH)
 - MANHOLE
 - ⊕ ROCK CHANNEL PROTECTION

PROJECT DATA			
TOTAL AREA (RIGHT-OF-WAY)	6.86 ACRES	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.48
PROJECT EARTH DISTURBED AREA	8.49 ACRES	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.51
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	3.51 ACRES	POST CONSTRUCTION BMP:	BIORETENTION CELLS AND VEGETATED FILTER STRIP
NOTICE OF INTENT EARTH DISTURBED AREA	12.00 ACRES	IMMEDIATE RECEIVING WATERS	LITTLE MIAMI RIVER
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	1.99 ACRES	SUBSEQUENT RECEIVING WATERS	OHIO RIVER
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	2.46 ACRES		

LINEAR BMP LOCATION					
DESCRIPTION	START LAT.	START LONG.	END LAT.	END LONG.	EDA TREATMENT CREDIT
VEGETATED FILTER STRIP #1	39.351921	-84.240634	39.352272	-84.239925	0.33+
BIORETENTION CELL #1			39.351809	-84.241395	2.40
BIORETENTION CELL #2			39.352380	-84.239632	1.16+
TREATMENT PROVIDED					2.4
*TREATMENT REQUIRED					2.30

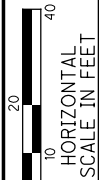
*CALCULATED PER L&D VOL. 2, SECTION 1115.7
 +TREATMENT PROVIDED ON ODNR PROPERTY



PROJECT SITE PLAN

WAR-CR 282-0.97

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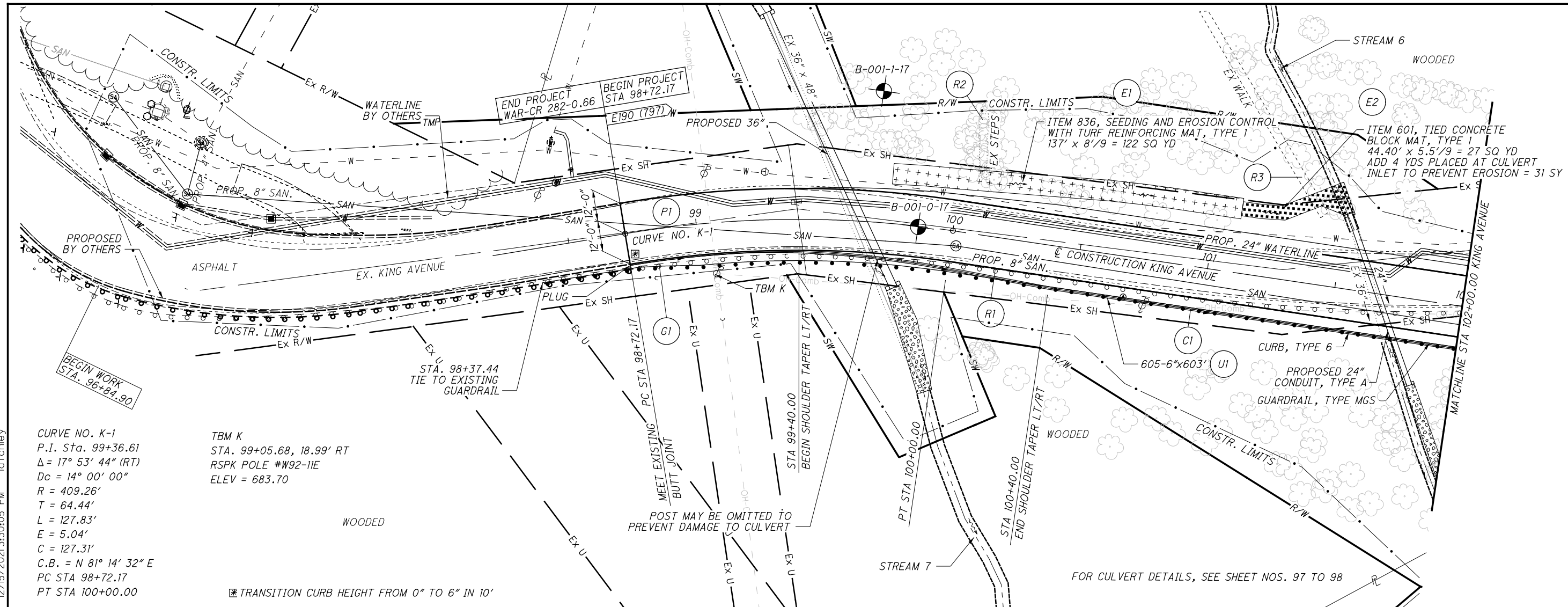


CALCULATED PJD CHECKED SNS

**PLAN AND PROFILE KING AVENUE
BEGINNING TO STA 102+00.00**

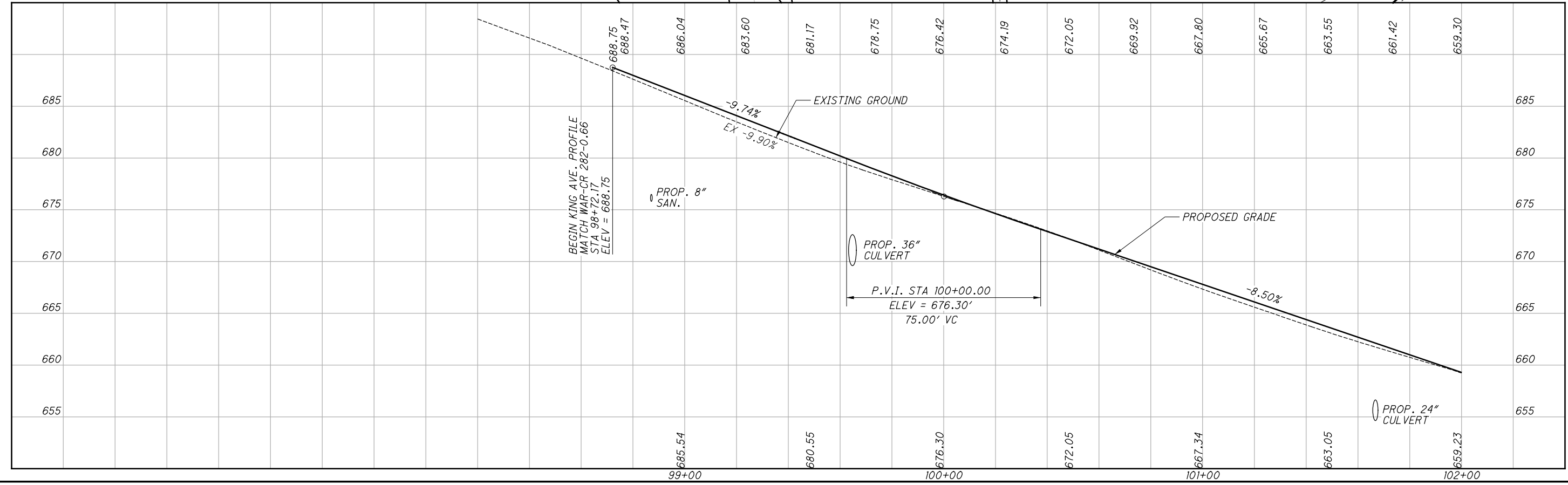
WAR-CR 282-0.97

50
256



CURVE NO. K-1
 P.I. Sta. 99+36.61
 $\Delta = 17^\circ 53' 44''$ (RT)
 $D_c = 14^\circ 00' 00''$
 $R = 409.26'$
 $T = 64.44'$
 $L = 127.83'$
 $E = 5.04'$
 $C = 127.31'$
 C.B. = N 81° 14' 32" E
 PC STA 98+72.17
 PT STA 100+00.00

TBM K
 STA. 99+05.68, 18.99' RT
 RSPK POLE #W92-11E
 ELEV = 683.70

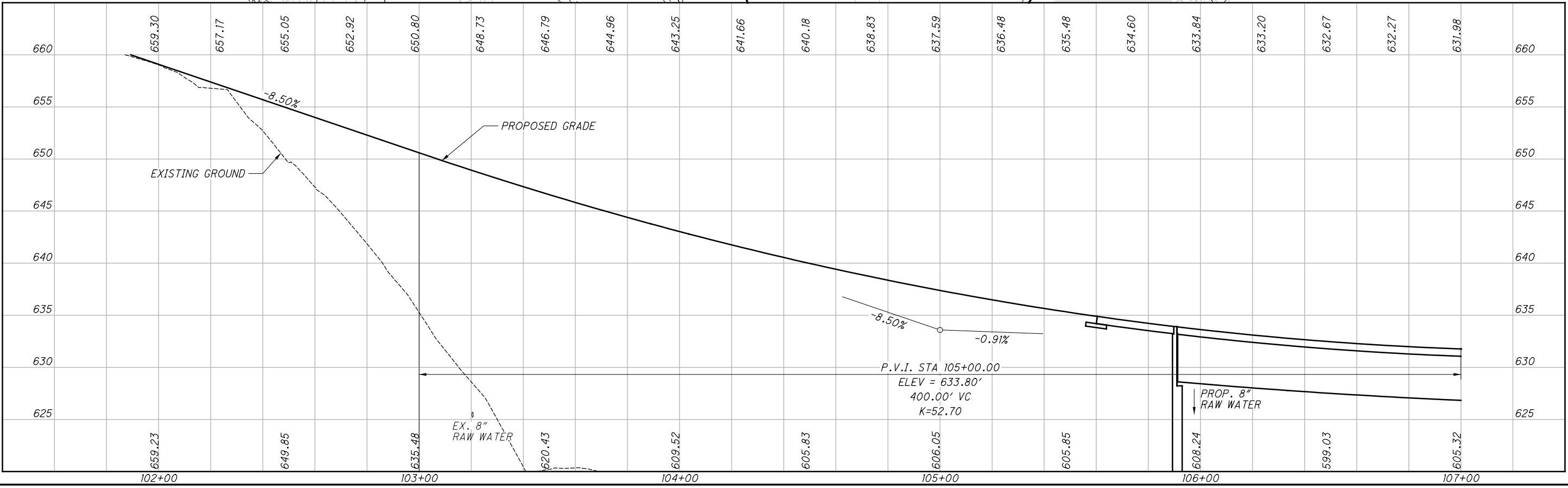


TBM J
 STA 102+45.29, 2.48' LT
 RSPK POLE #W92-32E
 ELEV = 654.69

FOR PAVEMENT REPAIR, FOR PIPE
 INSTALLATION AND REMOVAL, SEE
 GENERAL NOTES

TBM H
 STA 104+53.81, 218.72' RT
 CUT SQUARE NW ABUTMET
 ELEV = 617.14

FOR STORM SEWER PROFILE, SEE SHEET NO. 95 TO 96A
 FOR DRIVE PROFILE, SEE SHEET NO. 94
 FOR CARTER PARK CONNECTOR, SEE SHEET NO. 59
 FOR STRUCTURE WAR-282-0089, SEE SHEET NOS. 153 TO 190



CURVE NO. K-2
 P.I. Sta. 104+76.95
 $\Delta = 64^\circ 26' 29''$ (RT)
 $D_c = 15^\circ 30' 00''$
 $R = 369.65'$
 $T = 232.97'$
 $L = 415.75'$
 $E = 67.29'$
 $C = 394.18'$
 $C.B. = S 57^\circ 35' 21'' E$

PC STA 102+43.99
 PT STA 106+59.74

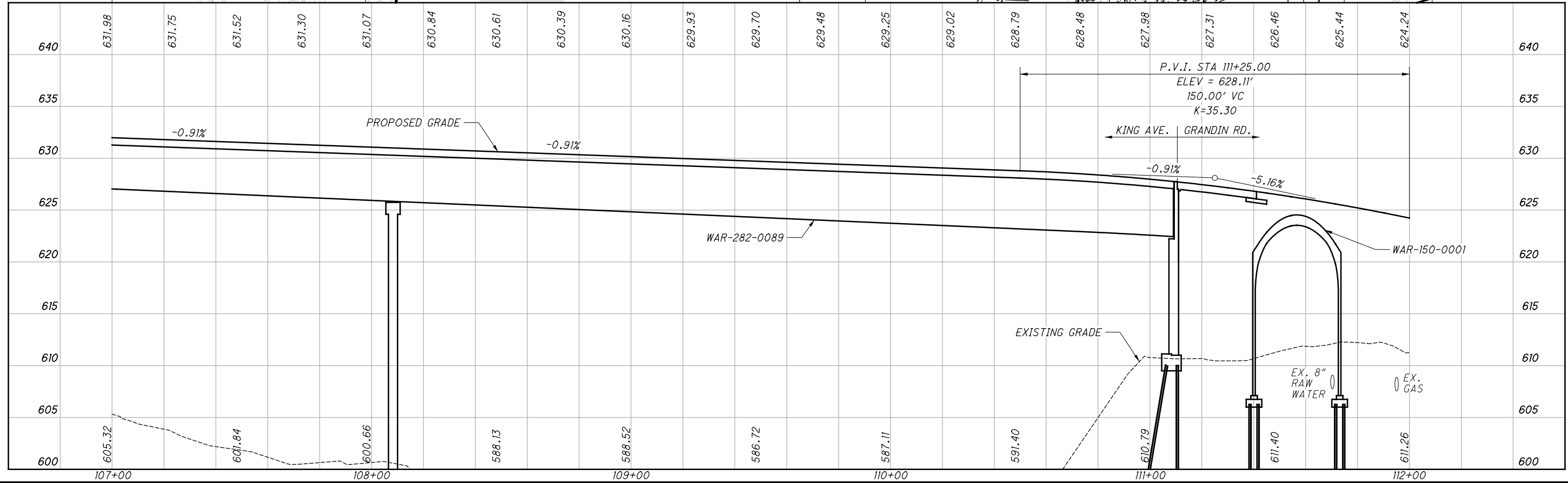
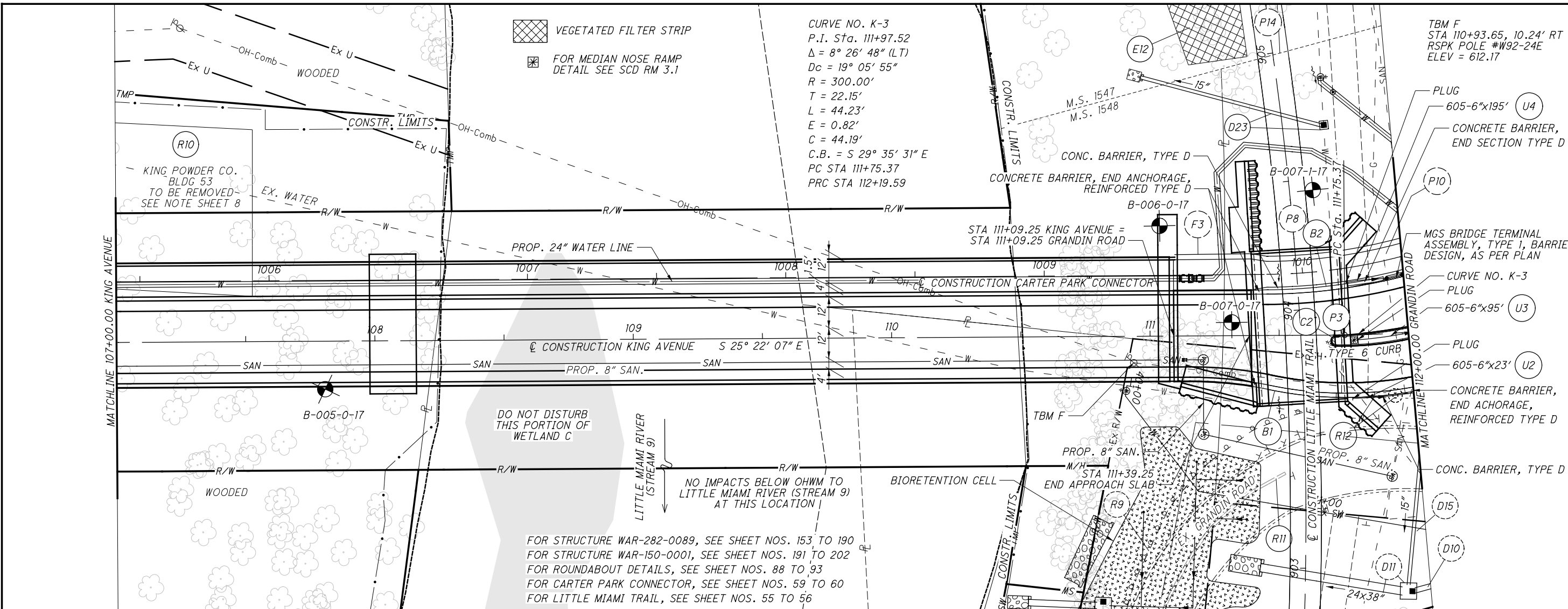


PLAN AND PROFILE KING AVENUE
 STA 102+00.00 TO STA 107+00.00

WAR-CR 282-0.97

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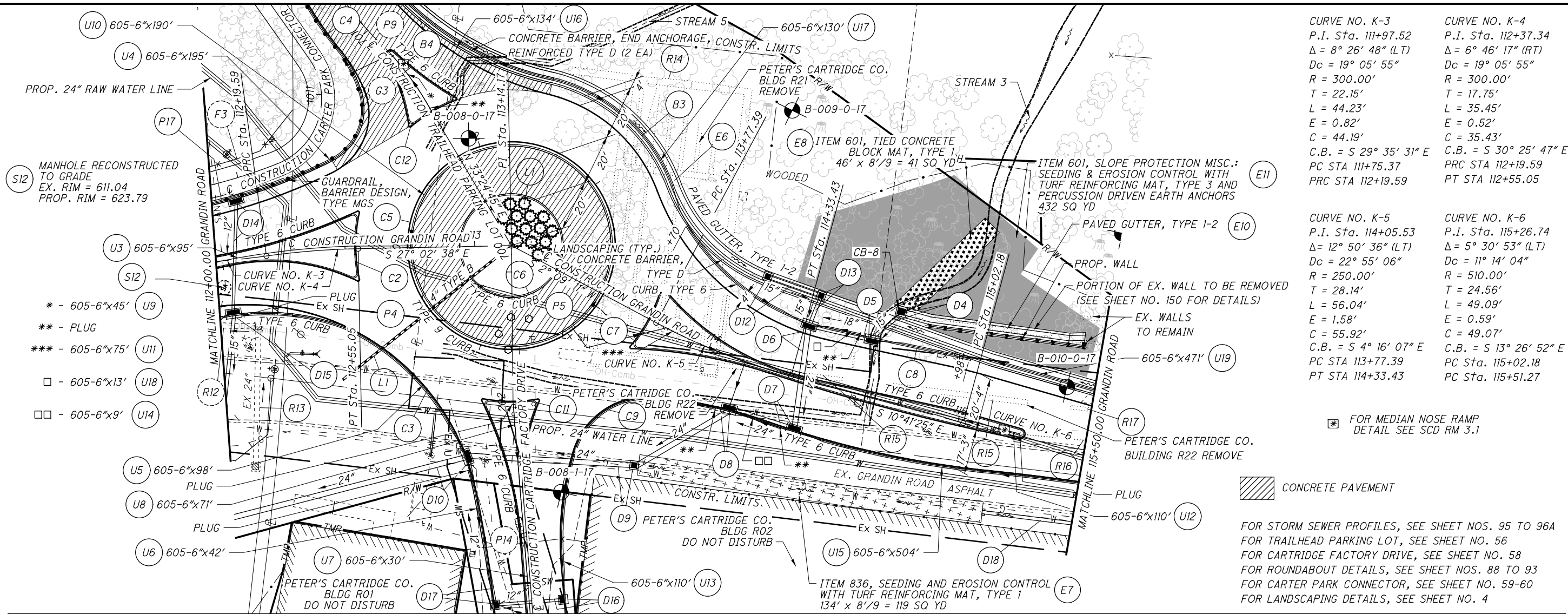
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PLAN AND PROFILE KING AVE./ GRANDIN ROAD
 STA 107+00.00 TO STA 112+00.00
 WAR-CR 282-0.97
 52
 256

CALCULATED PJD CHECKED SNS
 HORIZONTAL SCALE IN FEET
 0 20 40

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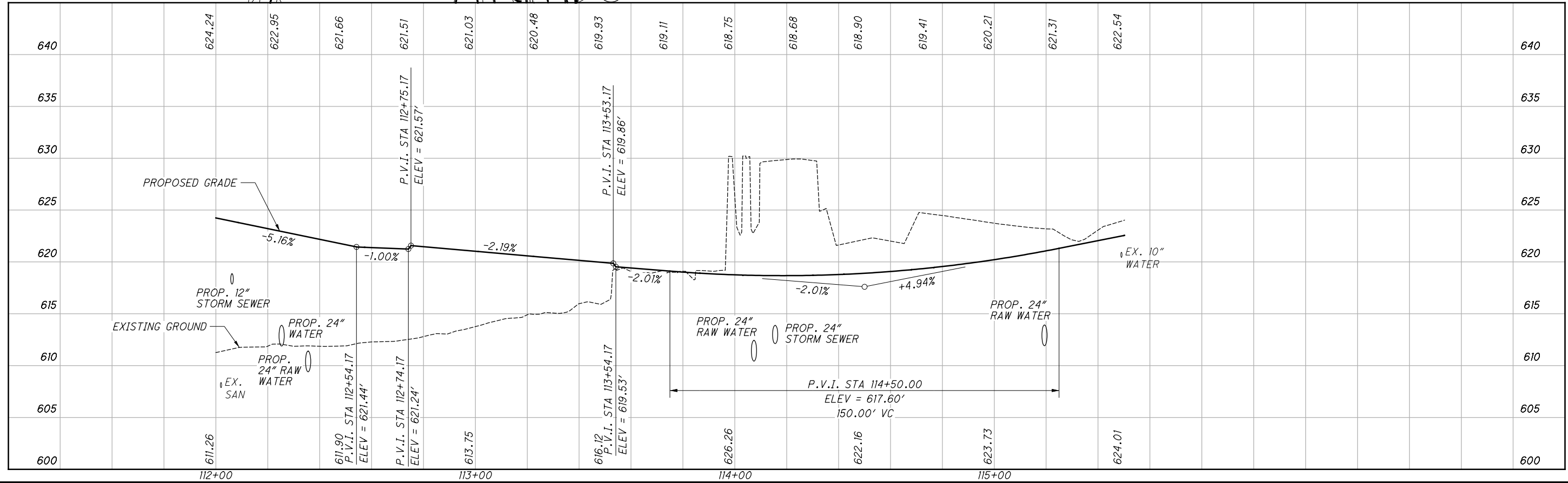
CURVE NO. K-3 P.I. Sta. 111+97.52 $\Delta = 8^\circ 26' 48''$ (LT) $D_c = 19^\circ 05' 55''$ $R = 300.00'$ $T = 22.15'$ $L = 44.23'$ $E = 0.82'$ $C = 44.19'$ C.B. = S $29^\circ 35' 31''$ E PC STA 111+75.37 PRC STA 112+19.59	CURVE NO. K-4 P.I. Sta. 112+37.34 $\Delta = 6^\circ 46' 17''$ (RT) $D_c = 19^\circ 05' 55''$ $R = 300.00'$ $T = 17.75'$ $L = 35.45'$ $E = 0.52'$ $C = 35.43'$ C.B. = S $30^\circ 25' 47''$ E PRC STA 112+19.59 PT STA 112+55.05
---	---

CURVE NO. K-5 P.I. Sta. 114+05.53 $\Delta = 12^\circ 50' 36''$ (LT) $D_c = 22^\circ 55' 06''$ $R = 250.00'$ $T = 28.14'$ $L = 56.04'$ $E = 1.58'$ $C = 55.92'$ C.B. = S $4^\circ 16' 07''$ E PC STA 113+77.39 PT STA 114+33.43	CURVE NO. K-6 P.I. Sta. 115+26.74 $\Delta = 5^\circ 30' 53''$ (LT) $D_c = 11^\circ 14' 04''$ $R = 510.00'$ $T = 24.56'$ $L = 49.09'$ $E = 0.59'$ $C = 49.07'$ C.B. = S $13^\circ 26' 52''$ E PC Sta. 115+02.18 PC Sta. 115+51.27
--	--

FOR MEDIAN NOSE RAMP
DETAIL SEE SCD RM 3.1

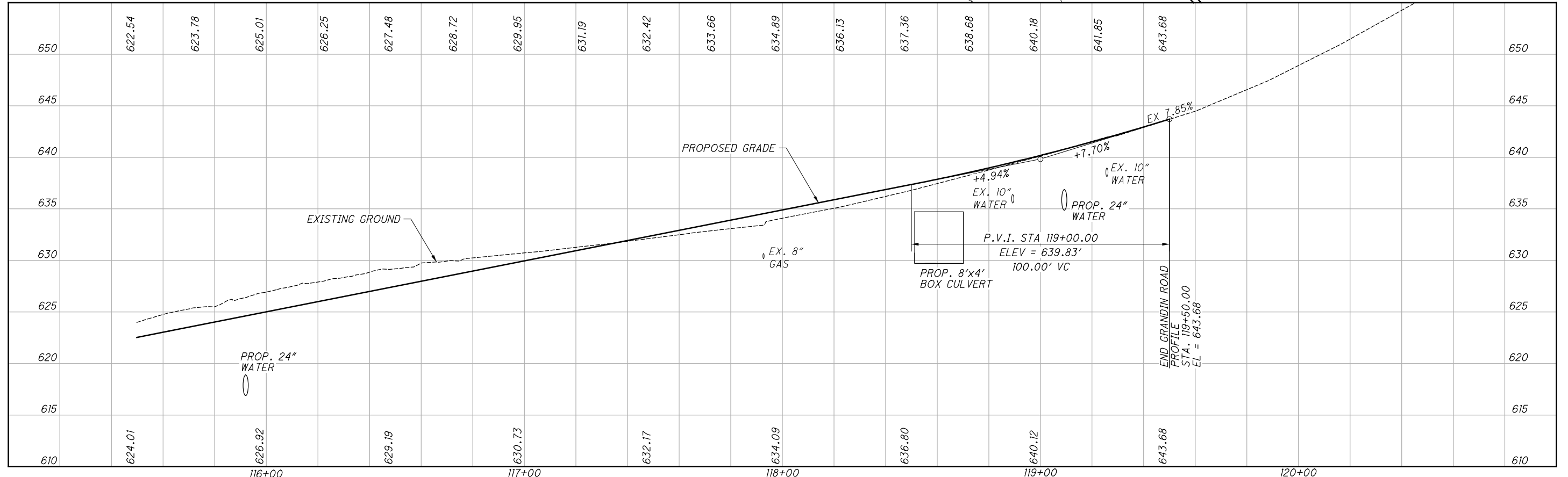
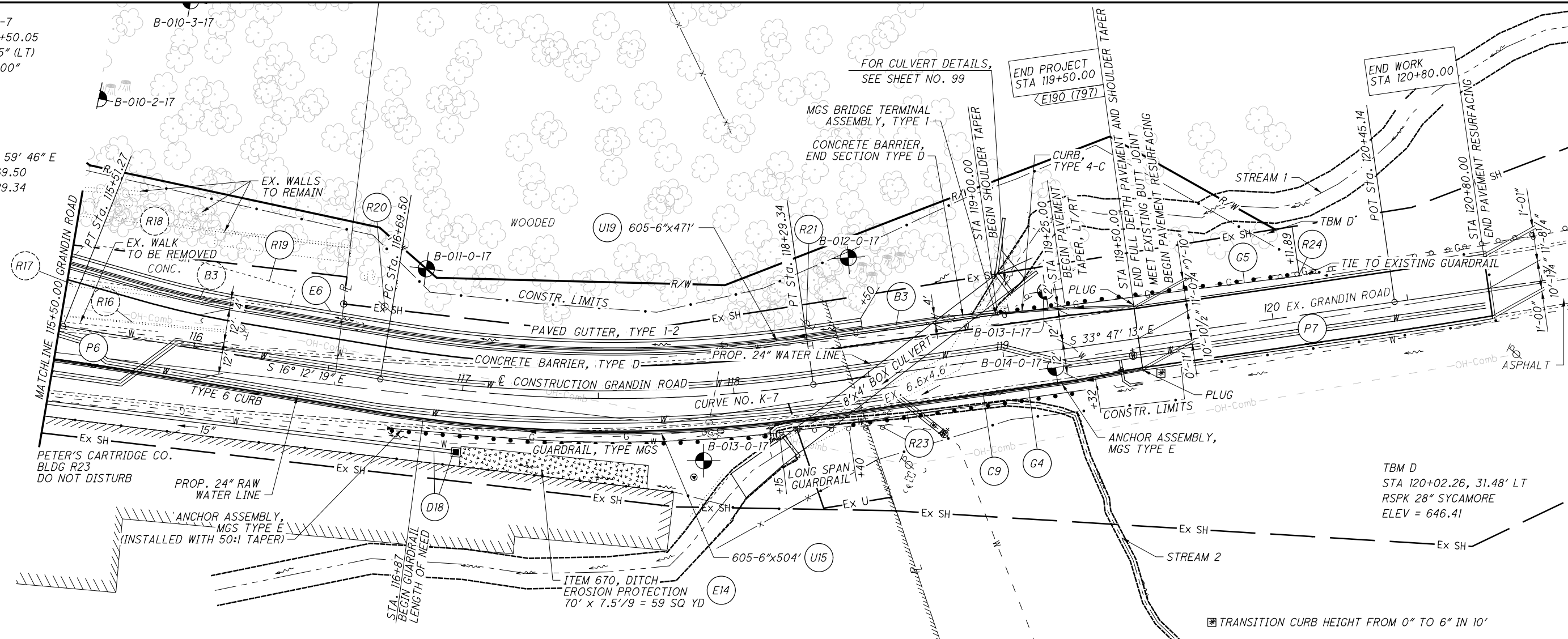
CONCRETE PAVEMENT

FOR STORM SEWER PROFILES, SEE SHEET NOS. 95 TO 96A
FOR TRAILHEAD PARKING LOT, SEE SHEET NO. 56
FOR CARTRIDGE FACTORY DRIVE, SEE SHEET NO. 58
FOR ROUNDABOUT DETAILS, SEE SHEET NOS. 88 TO 93
FOR CARTER PARK CONNECTOR, SEE SHEET NO. 59-60
FOR LANDSCAPING DETAILS, SEE SHEET NO. 4



PLAN AND PROFILE GRANDIN RD.
STA 112+00 TO STA 115+50.00
WAR-CR 282-0.97
 53
 256

CURVE NO. K-7
 P.I. Sta. 117+50.05
 $\Delta = 17^\circ 34' 55''$ (LT)
 $D_c = 11^\circ 00' 00''$
 $R = 520.87'$
 $T = 80.55'$
 $L = 159.83'$
 $E = 6.19'$
 $C = 159.21'$
 $C.B. = S 24^\circ 59' 46'' E$
 PC STA 116+69.50
 PT STA 118+29.34



**PLAN AND PROFILE GRANDIN ROAD
 STA 115+50.00 TO END**

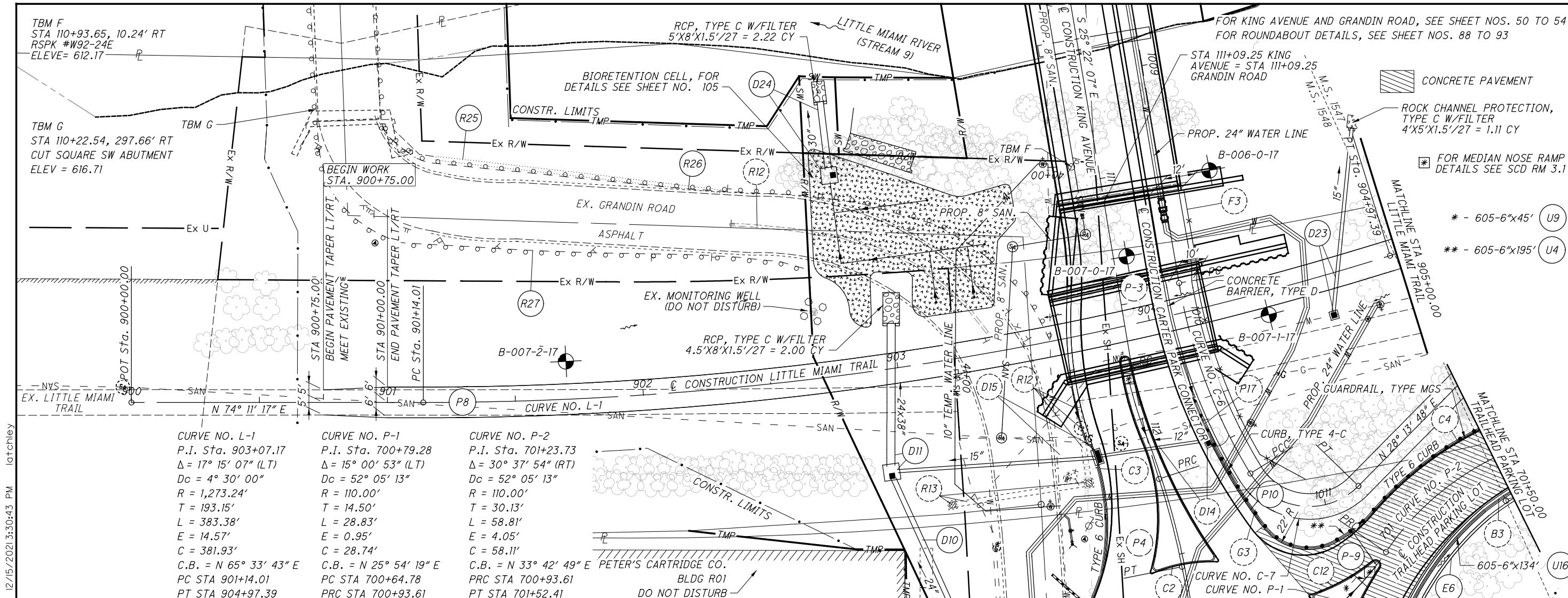
WAR-CR 282-0.97

54
256

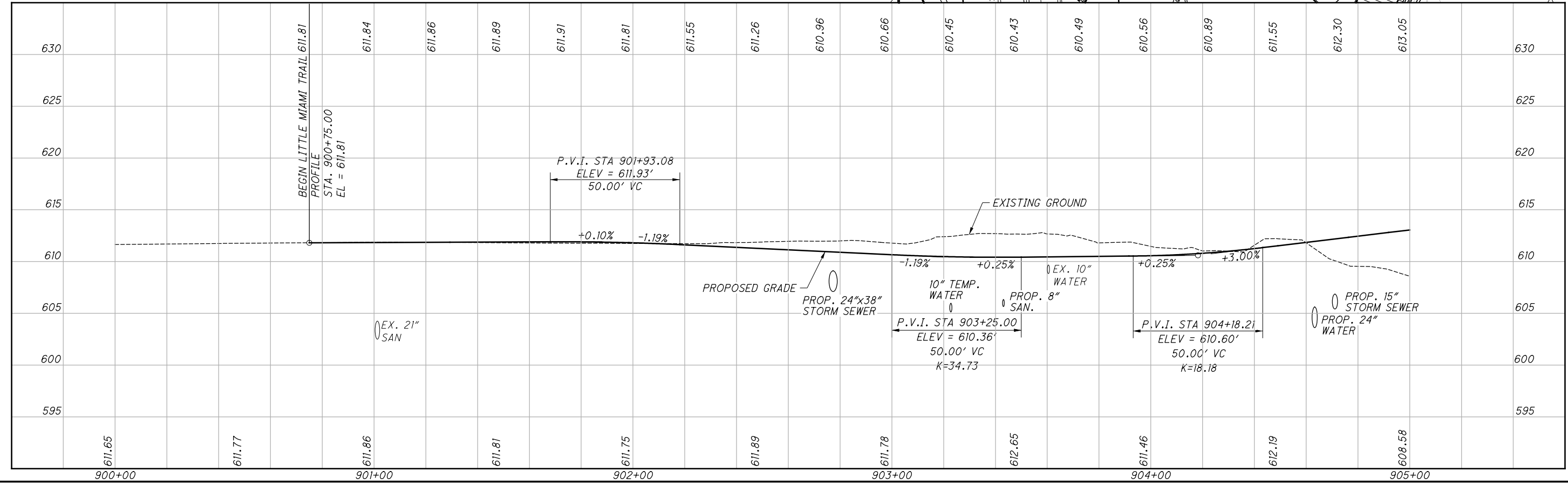
CALCULATED PJD CHECKED SNS

HORIZONTAL SCALE IN FEET

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CURVE NO. L-1	CURVE NO. P-1	CURVE NO. P-2
P.I. Sta. 903+07.17	P.I. Sta. 700+79.28	P.I. Sta. 701+23.73
$\Delta = 17^\circ 15' 07''$ (LT)	$\Delta = 15^\circ 00' 53''$ (LT)	$\Delta = 30^\circ 37' 54''$ (RT)
$D_c = 4^\circ 30' 00''$	$D_c = 52^\circ 05' 13''$	$D_c = 52^\circ 05' 13''$
$R = 1,273.24'$	$R = 110.00'$	$R = 110.00'$
$T = 193.15'$	$L = 14.50'$	$T = 30.13'$
$L = 383.38'$	$L = 28.83'$	$L = 58.81'$
$E = 14.57'$	$E = 0.95'$	$E = 4.05'$
$C = 381.93'$	$C = 28.74'$	$C = 58.11'$
C.B. = $N 65^\circ 33' 43'' E$	C.B. = $N 25^\circ 54' 19'' E$	C.B. = $N 33^\circ 42' 49'' E$
PC STA 901+14.01	PC STA 700+64.78	PRC STA 700+93.61
PT STA 904+97.39	PRC STA 700+93.61	PT STA 701+52.41



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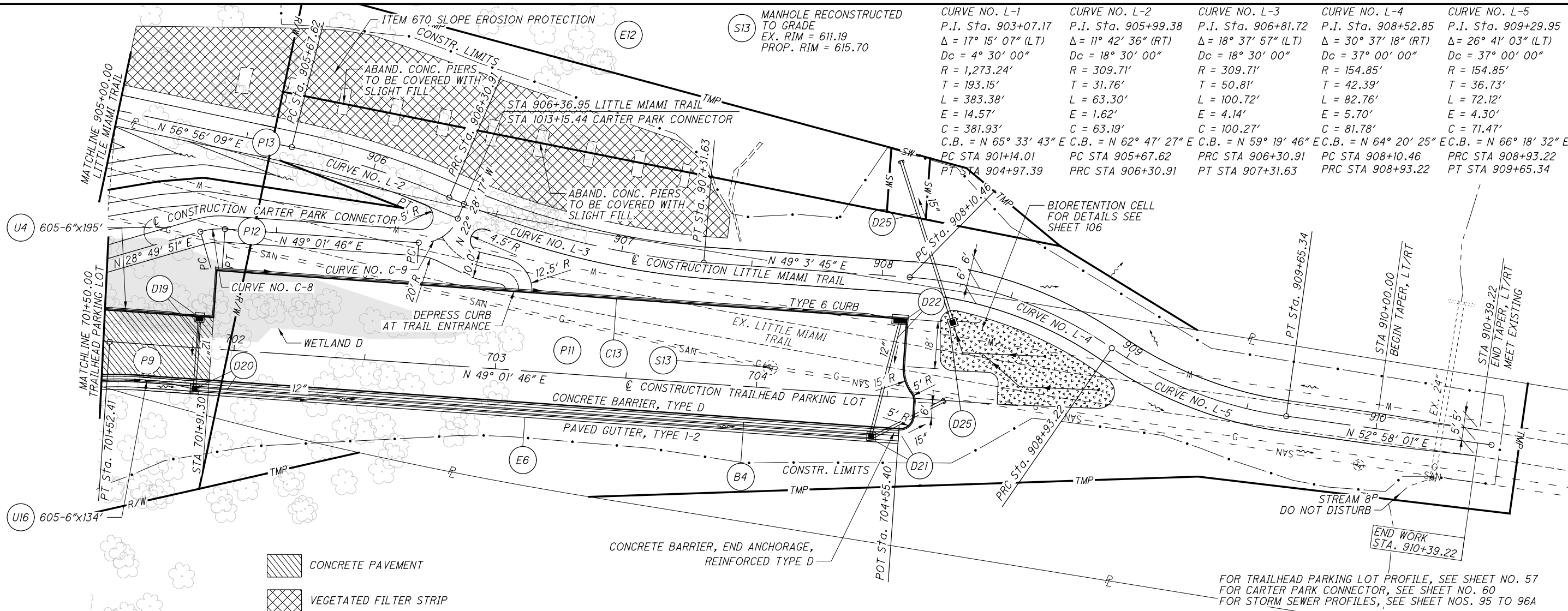
CALCULATED
PJD
CHECKED
SNS

HORIZONTAL
SCALE IN FEET

PLAN AND PROFILE LITTLE MIAMI TRAIL
 STA 900+00.00 TO STA 905+00.00

WAR-CR 282-0.97
55
256

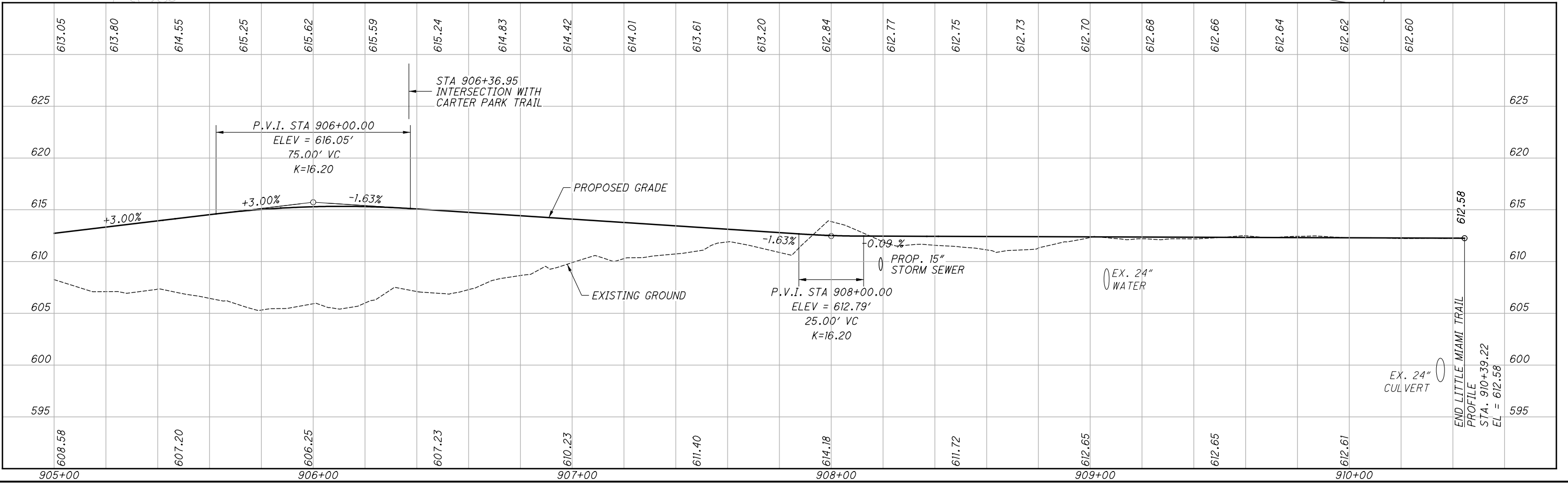
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CURVE NO. L-1	CURVE NO. L-2	CURVE NO. L-3	CURVE NO. L-4	CURVE NO. L-5
P.I. Sta. 903+07.17	P.I. Sta. 905+99.38	P.I. Sta. 906+81.72	P.I. Sta. 908+52.85	P.I. Sta. 909+29.95
$\Delta = 17^\circ 15' 07''$ (LT)	$\Delta = 11^\circ 42' 36''$ (RT)	$\Delta = 18^\circ 37' 57''$ (LT)	$\Delta = 30^\circ 37' 18''$ (RT)	$\Delta = 26^\circ 41' 03''$ (LT)
Dc = 4° 30' 00"	Dc = 18° 30' 00"	Dc = 18° 30' 00"	Dc = 37° 00' 00"	Dc = 37° 00' 00"
R = 1,273.24'	R = 309.71'	R = 309.71'	R = 154.85'	R = 154.85'
T = 193.15'	T = 31.76'	T = 50.81'	T = 42.39'	T = 36.73'
L = 383.38'	L = 63.30'	L = 100.72'	L = 82.76'	L = 72.12'
E = 14.57'	E = 1.62'	E = 4.14'	E = 5.70'	E = 4.30'
C = 381.93'	C = 63.19'	C = 100.27'	C = 81.78'	C = 71.47'
C.B. = N 65° 33' 43" E	C.B. = N 62° 47' 27" E	C.B. = N 59° 19' 46" E	C.B. = N 64° 20' 25" E	C.B. = N 66° 18' 32" E
PC STA 901+14.01	PC STA 905+67.62	PC STA 906+30.91	PC STA 908+10.46	PC STA 908+93.22
PT STA 904+97.39	PT STA 906+30.91	PT STA 907+31.63	PT STA 908+93.22	PT STA 909+65.34

CONCRETE PAVEMENT
 VEGETATED FILTER STRIP

FOR TRAILHEAD PARKING LOT PROFILE, SEE SHEET NO. 57
 FOR CARTER PARK CONNECTOR, SEE SHEET NO. 60
 FOR STORM SEWER PROFILES, SEE SHEET NOS. 95 TO 96A



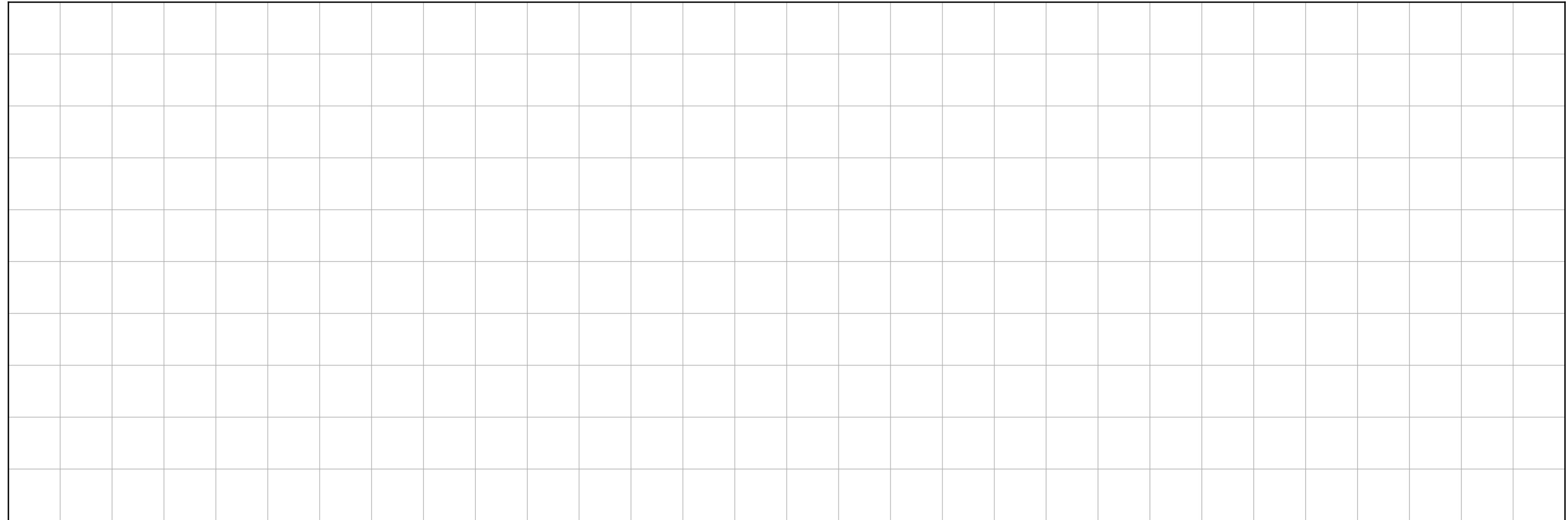
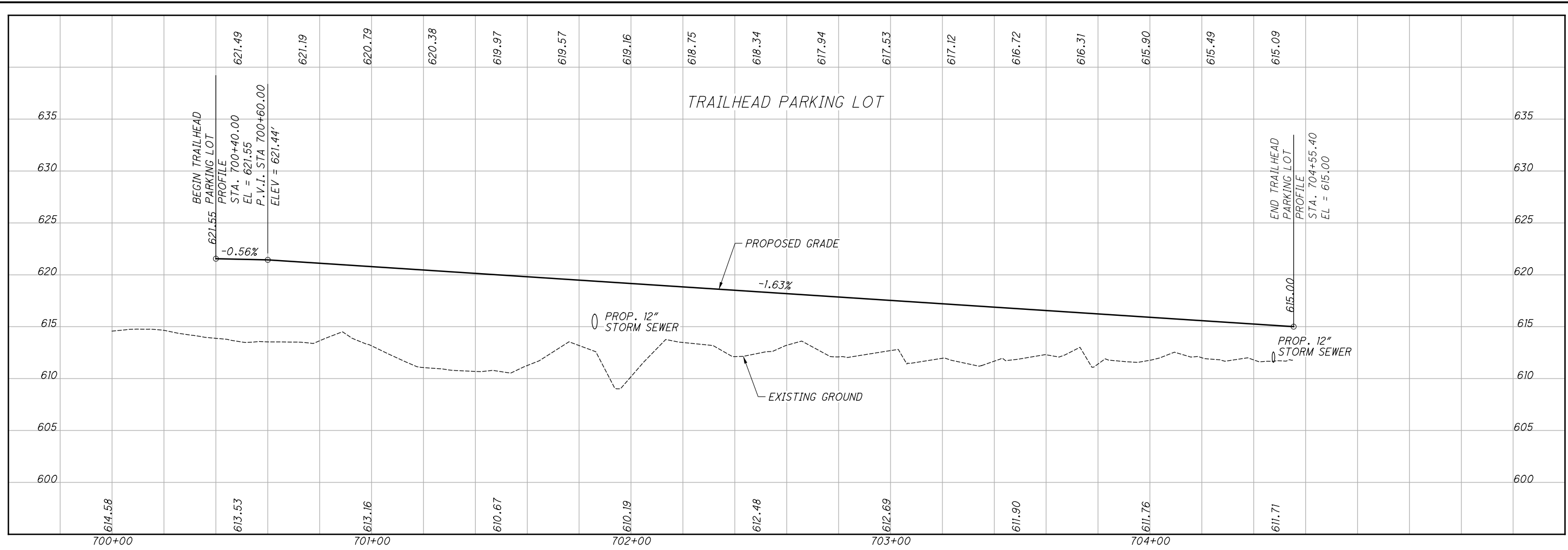
CALCULATED	PJD	CHECKED
		SNS

PLAN AND PROFILE LITTLE MIAMI TRAIL STA 905+00.00 TO END

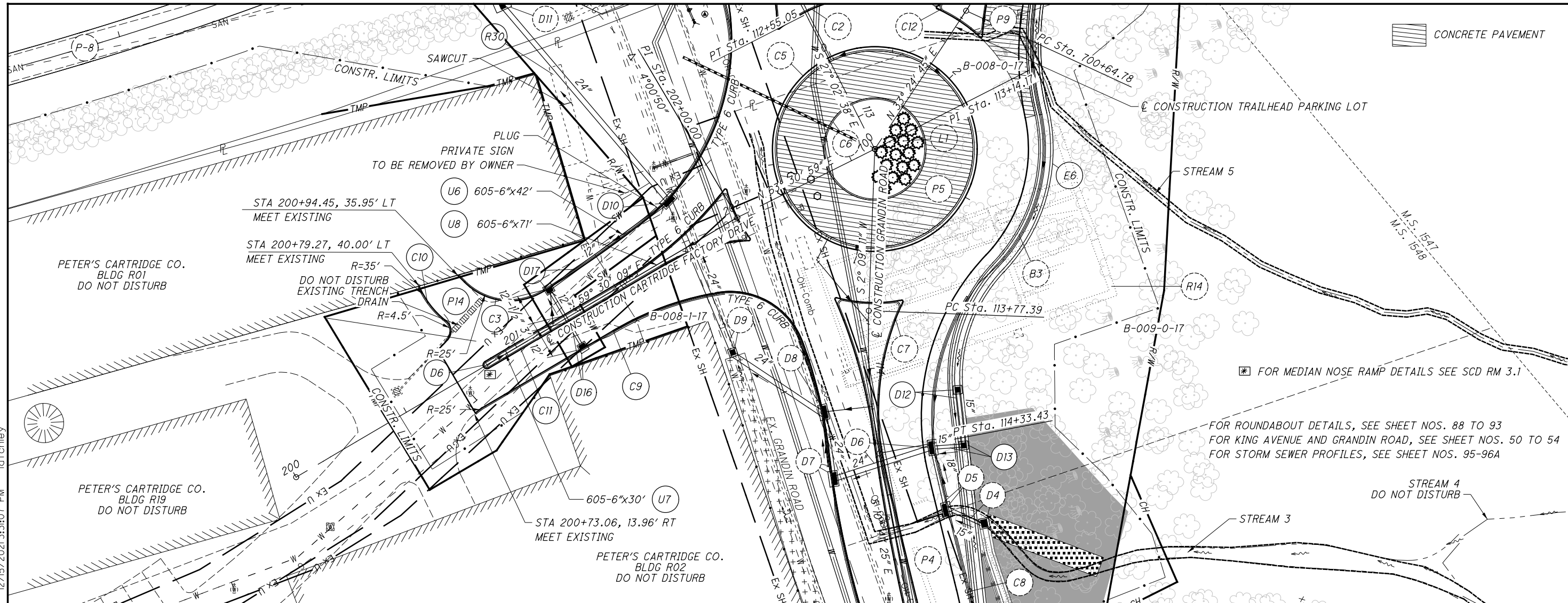
WAR-CR 282-0.97

56
256

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CONCRETE PAVEMENT

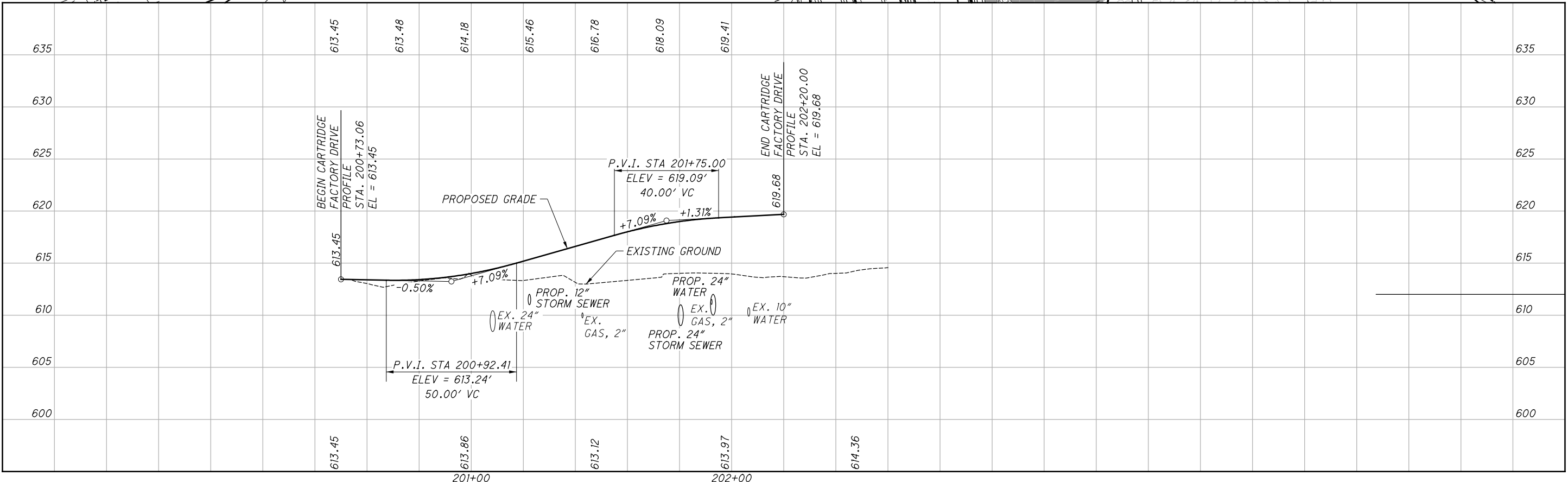


0 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED PJD CHECKED SNS

WAR-CR 282-0.97 PLAN AND PROFILE CARTRIDGE FACTORY DRIVE

58
256



CURVE NO. C-1
P.I. Sta. 1000+32.30
 $\Delta = 47^\circ 09' 53''$ (RT)
 $D_c = 77' 25' 36''$
 $R = 74.00'$
 $T = 32.30'$
 $L = 60.92'$
 $E = 6.74'$
 $C = 59.21'$
C.B. = S $37^\circ 59' 20''$ W
PC STA 1000+00.00
PT STA 1000+60.92

CURVE NO. C-2
P.I. Sta. 1002+17.98
 $\Delta = 105^\circ 09' 45''$ (LT)
 $D_c = 77' 25' 36''$
 $R = 74.00'$
 $T = 96.72'$
 $L = 135.82'$
 $E = 47.78'$
 $C = 117.54'$
C.B. = S $8^\circ 59' 24''$ W
PC STA 1001+21.25
PT STA 1002+57.08

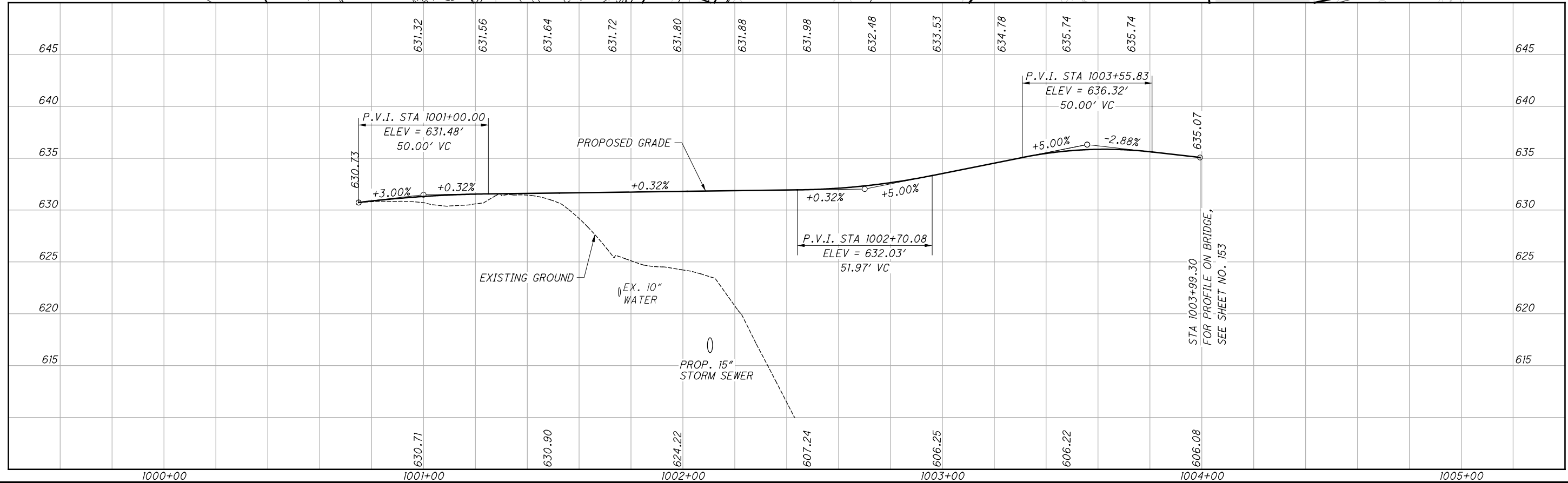
CURVE NO. C-3
P.I. Sta. 1003+65.06
 $\Delta = 20^\circ 03' 27''$ (RT)
 $D_c = 77' 25' 36''$
 $R = 74.00'$
 $T = 13.09'$
 $L = 25.91'$
 $E = 1.15'$
 $C = 25.77'$
C.B. = S $33^\circ 34' 22''$ E
PC STA 1003+51.98
PT STA 1003+77.88

CURVE NO. C-4
P.I. Sta. 1003+88.66
 $\Delta = 16^\circ 34' 50''$ (LT)
 $D_c = 77' 25' 36''$
 $R = 74.00'$
 $T = 10.78'$
 $L = 21.41'$
 $E = 0.78'$
 $C = 21.34'$
C.B. = S $31^\circ 50' 03''$ E
PC STA 1003+77.88
PT STA 1003+99.30

CURVE NO. C-5
P.I. Sta. 1004+50.20
 $\Delta = 14^\circ 45' 22''$ (RT)
 $D_c = 14' 34' 25''$
 $R = 393.15'$
 $T = 50.91'$
 $L = 101.25'$
 $E = 3.28'$
 $C = 100.97'$
C.B. = S $32^\circ 44' 48''$ E
PC STA 1003+99.30
PT STA 1005+00.55

TBM I
STA 104+31.85, 119.27' LT
RSPK 24" HACKBERRY
ELEV = 625.18

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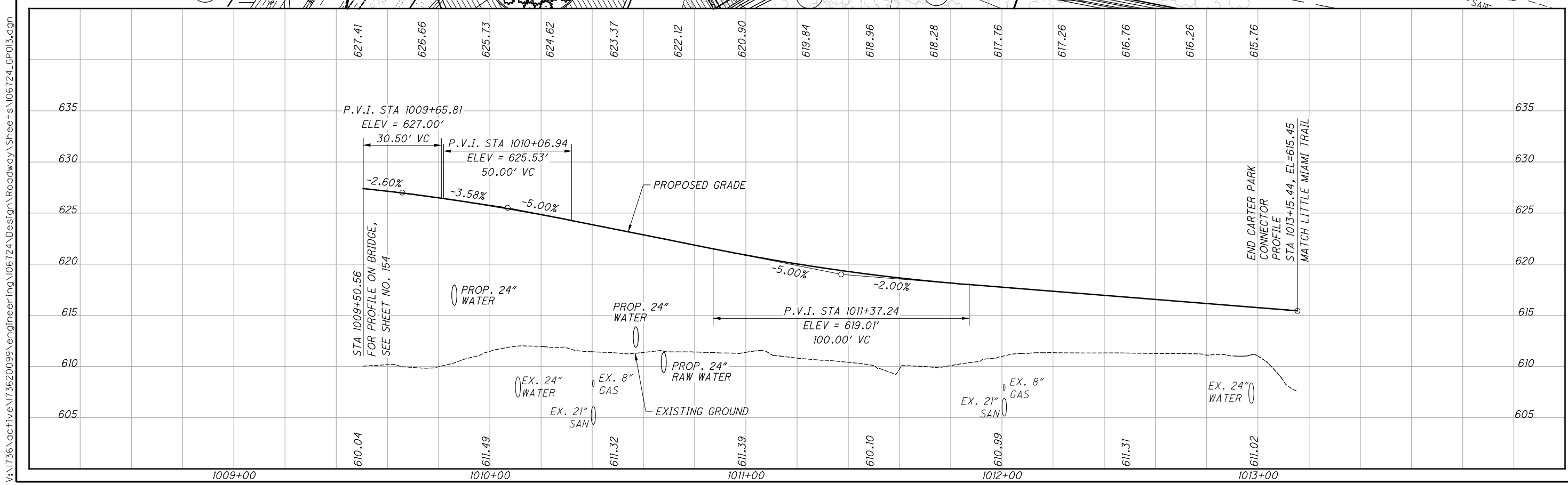
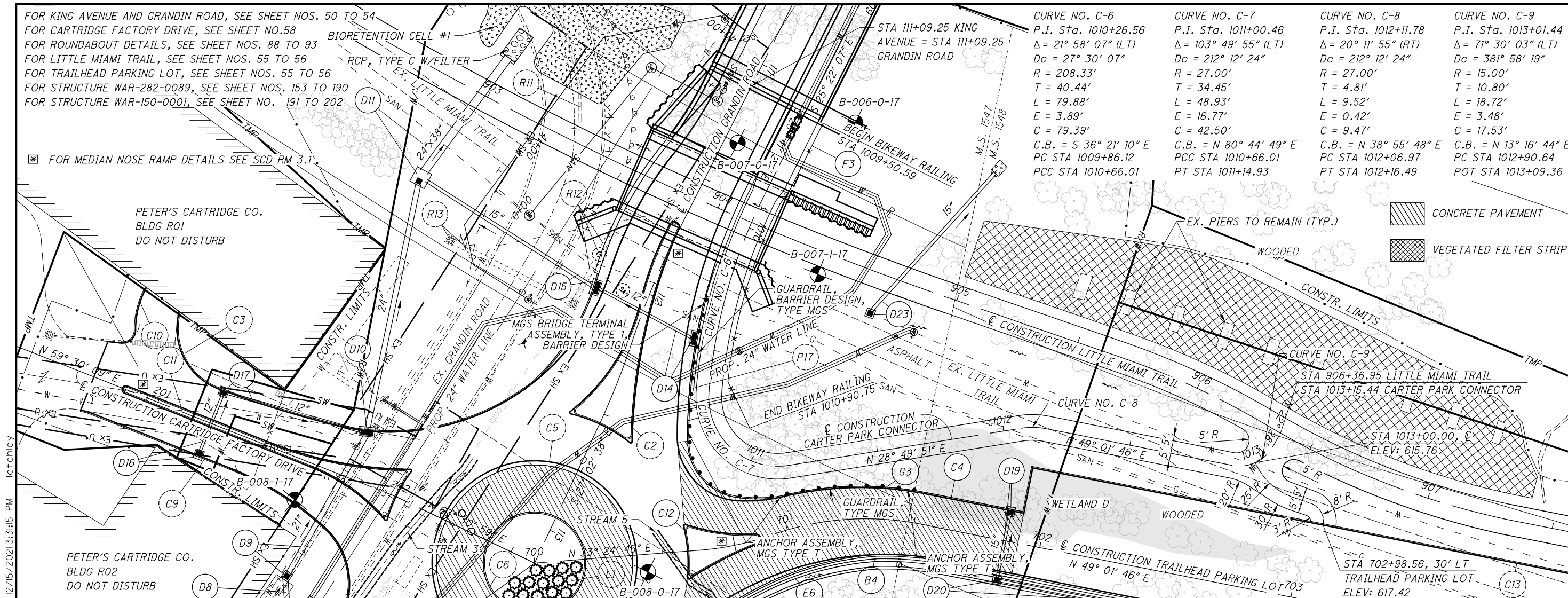
CALCULATED PJD CHECKED SNS

10' HORIZONTAL SCALE IN FEET

**PLAN AND PROFILE CARTER PARK CONNECTOR
STA 1000+75.00 TO STA 1003+99.30**

WAR-CR 282-0.97

59
256



PLAN AND PROFILE CARTER PARK CONNECTOR
 STA 1009+50.56 TO STA 1013+15.44

WAR-CR 282-0.97

60
256

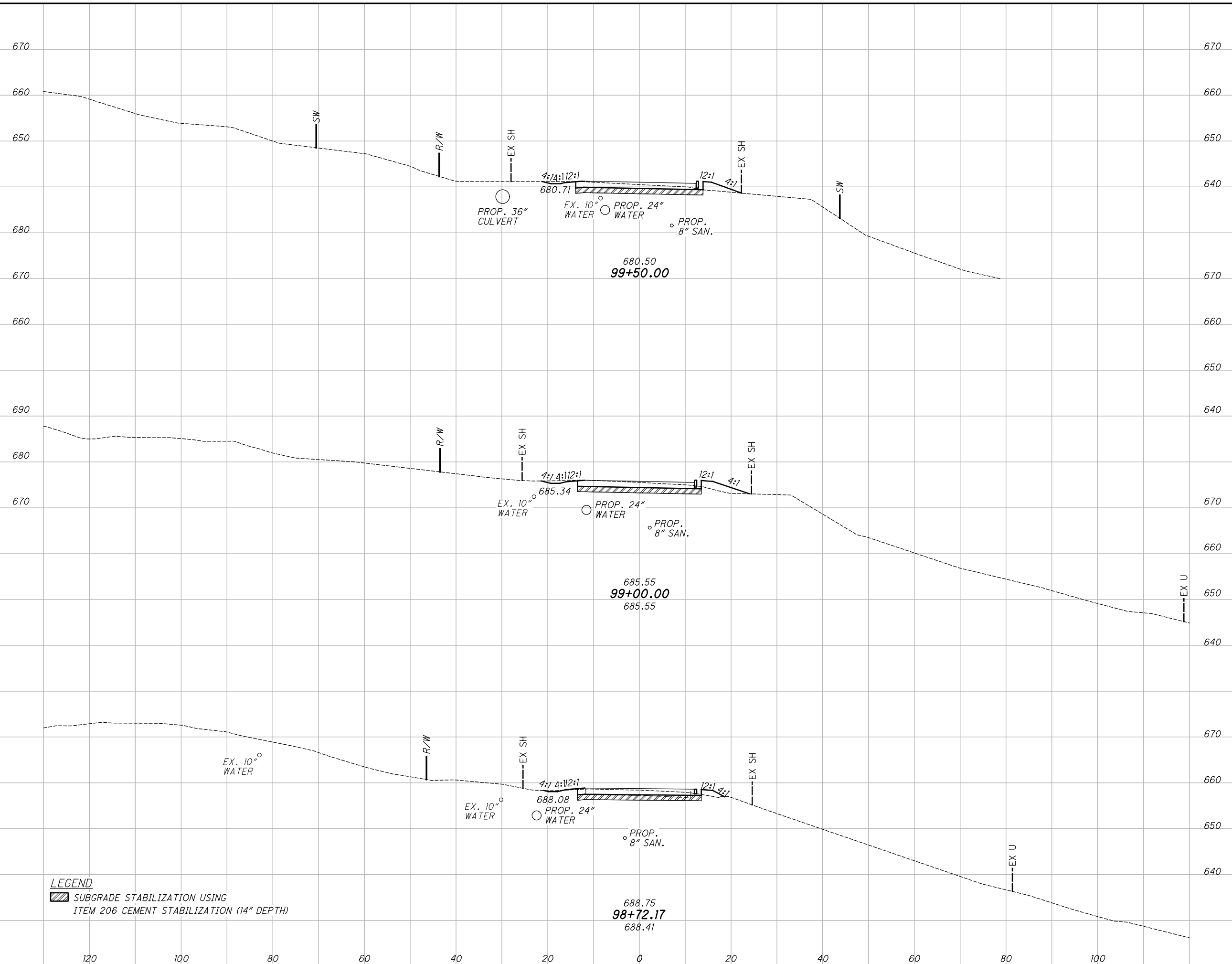
CALCULATED PJD CHECKED SNS

10 HORIZONTAL SCALE IN FEET

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SEEDING	END AREA		VOLUME		CALCULATED	JTK	CHECKED	PJD
	END WIDTH	SO. YDS.	CUT	FILL				
194	670	670	94	11				
27	650	640	25	7				
158	660	670	53	15				
30	680	670	32	9				
118	670	640	30	7				
46	670	640	27	4				
470	120	100	177	33				

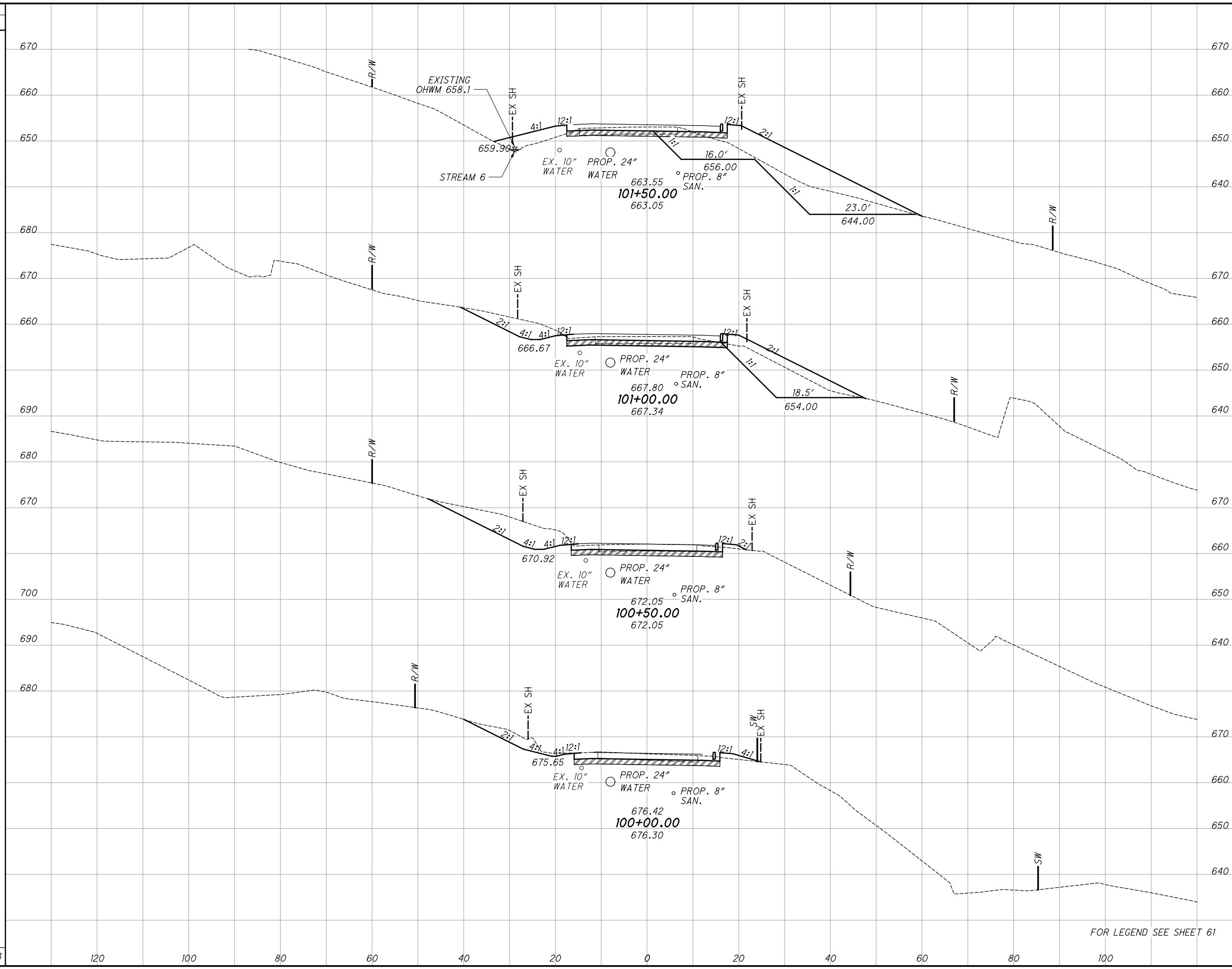


LEGEND
 SUBGRADE STABILIZATION USING
 ITEM 206 CEMENT STABILIZATION (14" DEPTH)

**CROSS SECTIONS KING AVE
 STA 100+00.00 TO STA 101+50.00**

WAR-CR 282-0.97

SEEDING
 END SO. WIDTH YDS.
 664 670
 72 660
 650
 386 640
 680
 67 670
 660
 325 650
 690 640
 50 680
 670
 258 660
 700 650
 690 640
 43 680
 670
 660
 650
 640
 1633 120 100 80 60 40 20 0 20 40 60 80 100



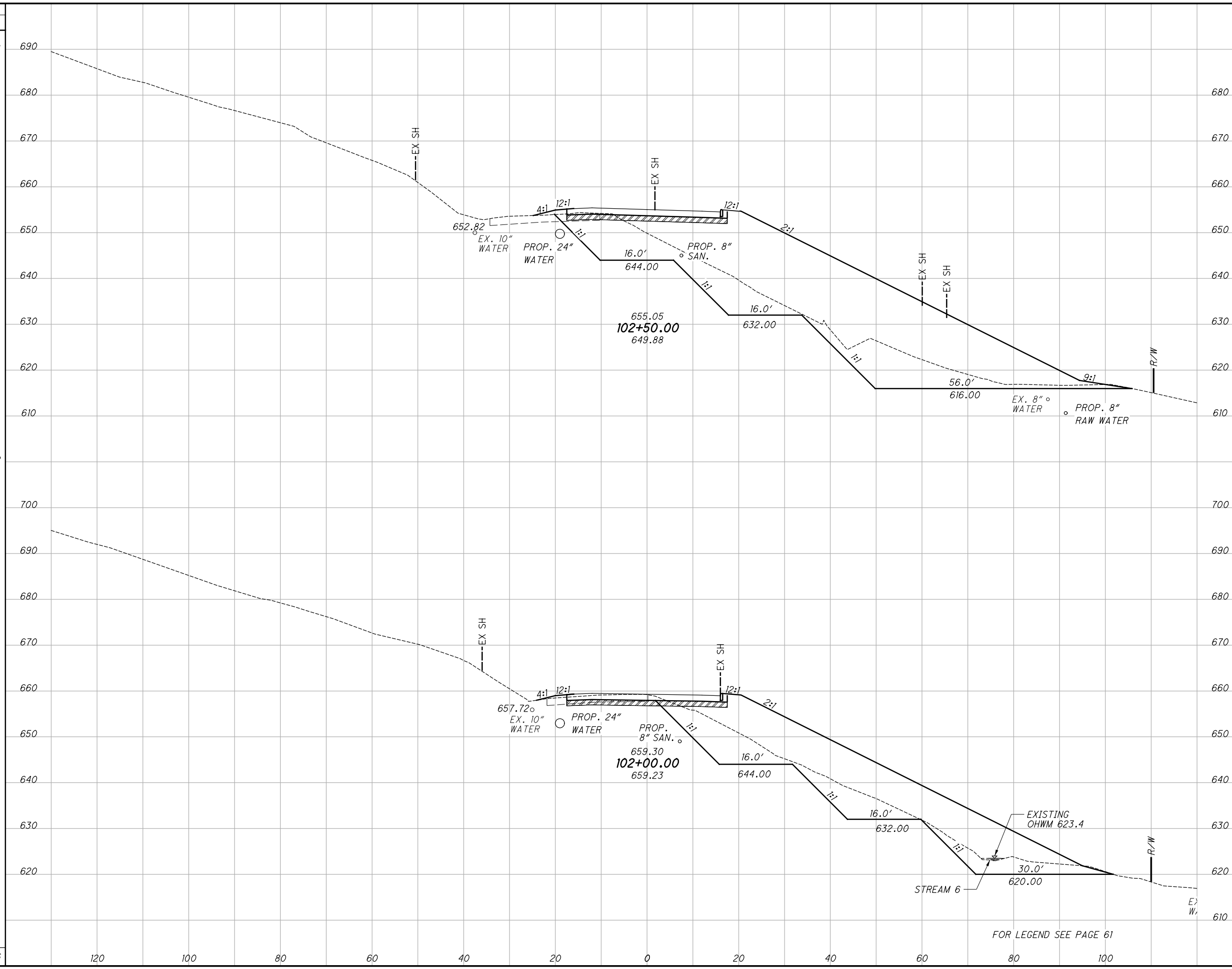
END STA	AREA		VOLUME		CALCULATED	JTK	CHECKED	PJD
	CUT	FILL	CUT	FILL				
670			529	1256				
660								
650	199	406						
640								
680			356	528				
670								
660								
650	185	164						
640								
690			302	155				
680								
670								
660								
650	141	3						
640								
690			201	8				
680								
670								
660	77	5						
650								
640								
			1387	1947				

**CROSS SECTIONS KING AVE
 STA 100+00.00 TO STA 101+50.00**

WAR-CR 282-0.97

FOR LEGEND SEE SHEET 61

SEEDING
 END SO. YDS.
 WIDTH YDS.
 594
 129
 822
 167
 1416



END AREA		VOLUME		CALCULATED JTK	CHECKED PJD
CUT	FILL	CUT	FILL		
		842	3284		
538	1625				
		843	2385		
372	951				
		1684	5669		

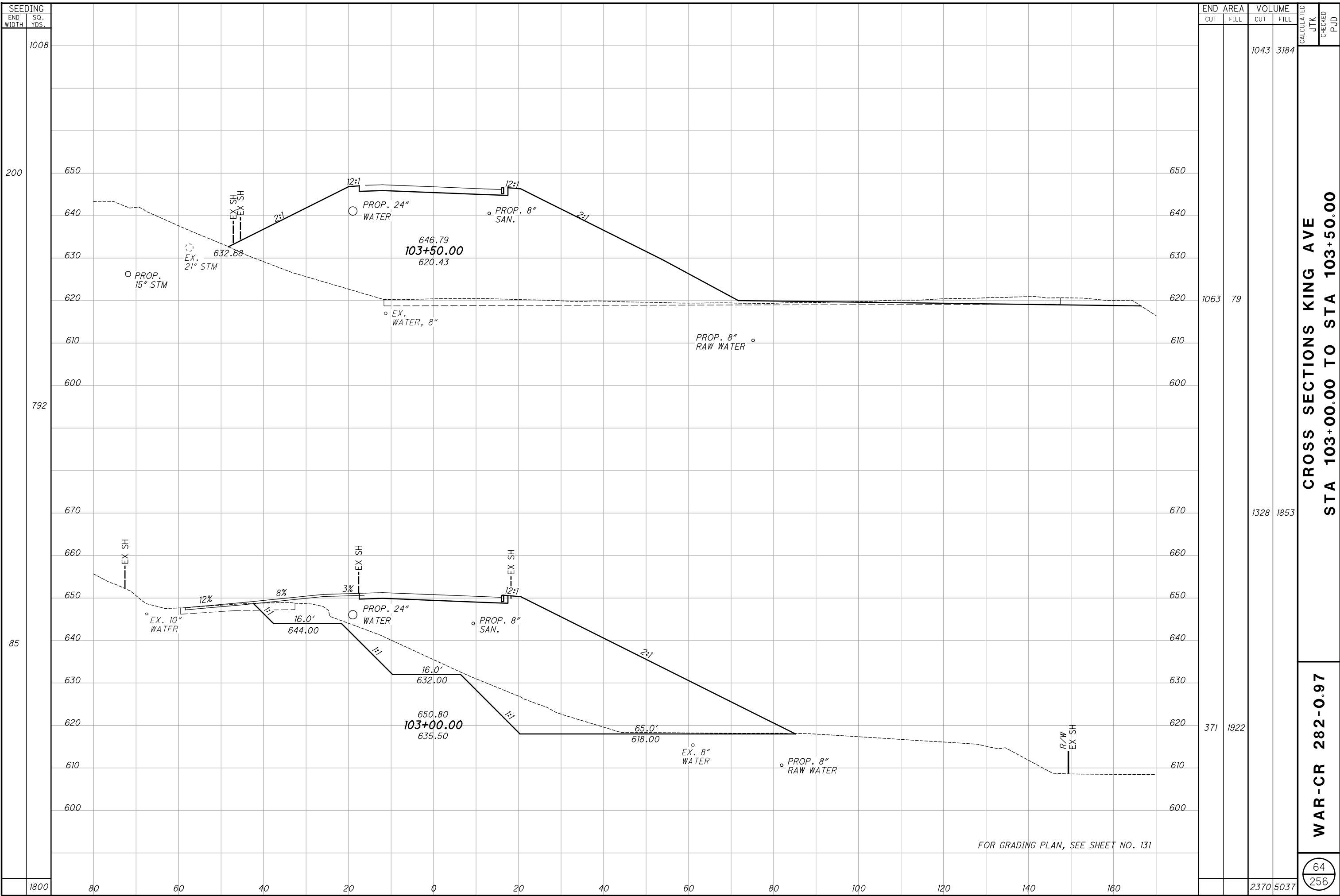
**CROSS SECTIONS KING AVE
 STA 102+00.00 TO STA 102+50.00**

WAR-CR 282-0.97

63
 256

FOR LEGEND SEE PAGE 61

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FOR GRADING PLAN, SEE SHEET NO. 131

SEEDING		END AREA		VOLUME		CALCULATED		
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL	JTK	CHECKED	PJD
1008				1043	3184			
200								
792		1063	79					
85				1328	1853			
1800		371	1922					
				2370	5037			

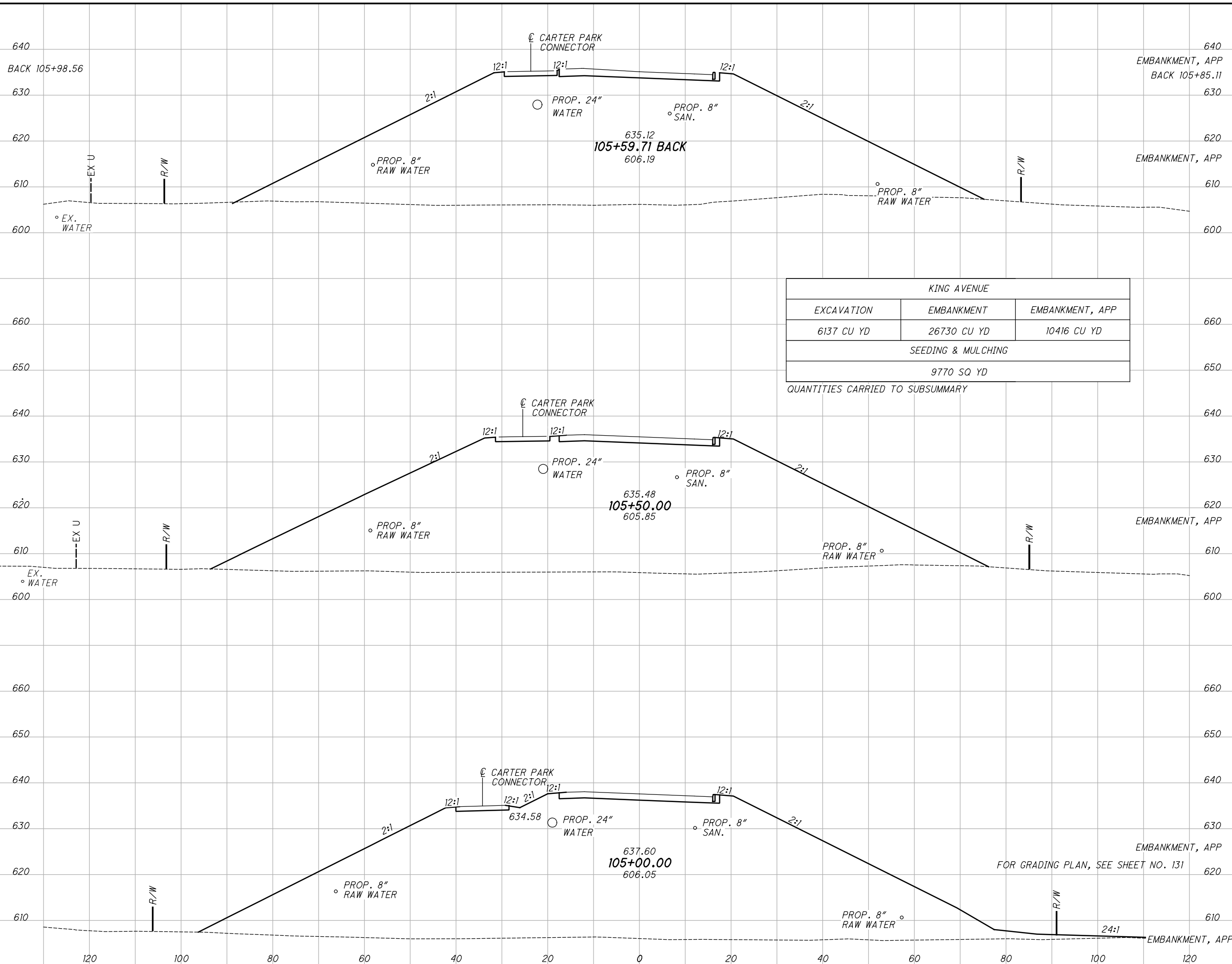
CROSS SECTIONS KING AVE
STA 103+00.00 TO STA 103+50.00

WAR-CR 282-0.97

64
256

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SEEDING	END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED	CHECKED	PJD
			CUT	FILL	CUT	FILL			
	140	105+98.56	0	2983	0	2806			
	154		0	2983	0	1146			
	146		0	3223	0	6464			
	294		84	3652	3652	10416			
	1771		79	0	0	0			

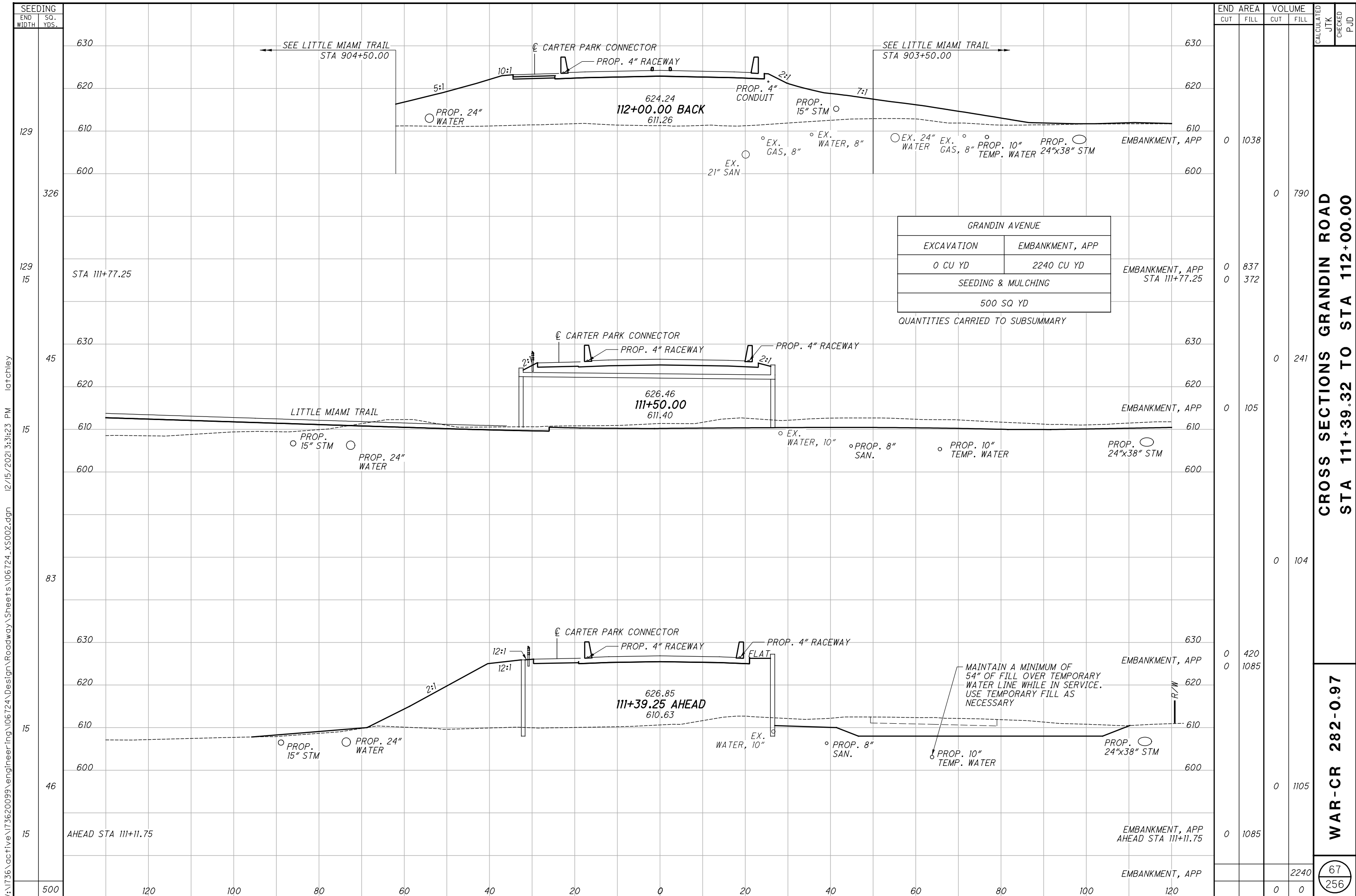


KING AVENUE		
EXCAVATION	EMBANKMENT	EMBANKMENT, APP
6137 CU YD	26730 CU YD	10416 CU YD
SEEDING & MULCHING		
9770 SQ YD		
QUANTITIES CARRIED TO SUBSUMMARY		

CROSS SECTIONS KING AVE
STA 105+00.00 TO STA 105+59.76

WAR-CR 282-0.97

66
256



END STA	END AREA		VOLUME		CALCULATED	JTK	CHECKED	PJD
	CUT	FILL	CUT	FILL				
630								
620								
610								
600	0	1038						
326			0	790				
129								
15	0	837	0	372				
630								
620								
610								
600	0	105						
45			0	241				
15								
630								
620								
610								
600	0	420	0	1085				
83								
15								
630								
620								
610								
600	0	1105						
46								
15	0	1085						
500								
120								
100								
80								
60								
40								
20								
0								
20								
40								
60								
80								
100								
120								
				2240				
			0	0				

CROSS SECTIONS GRANDIN ROAD
STA 111+39.32 TO STA 112+00.00

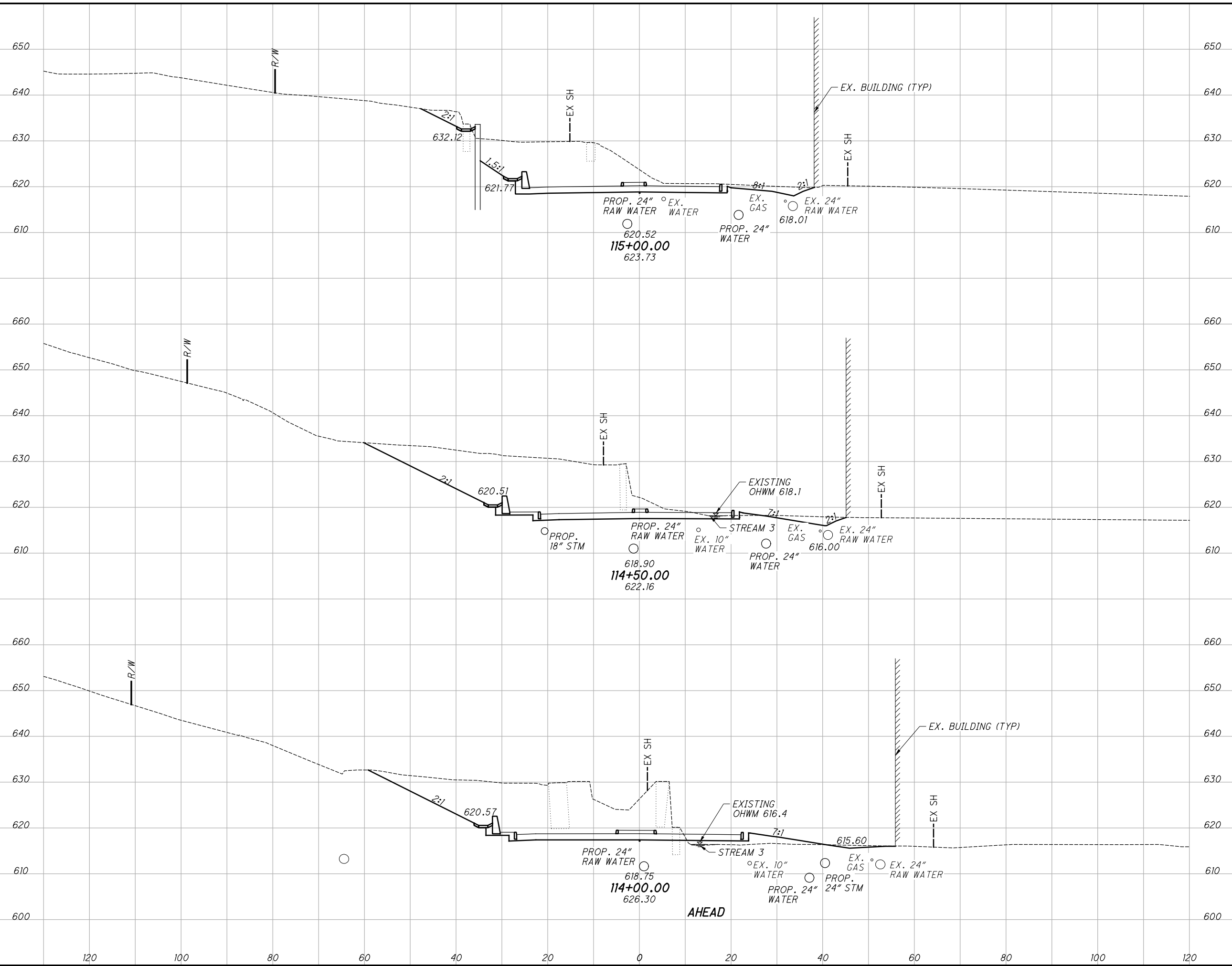
WAR-CR 282-0.97

67
256

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SEEDING	
END WIDTH	SO. YDS.
808	203
	39
	269
	58
	336
	63
808	



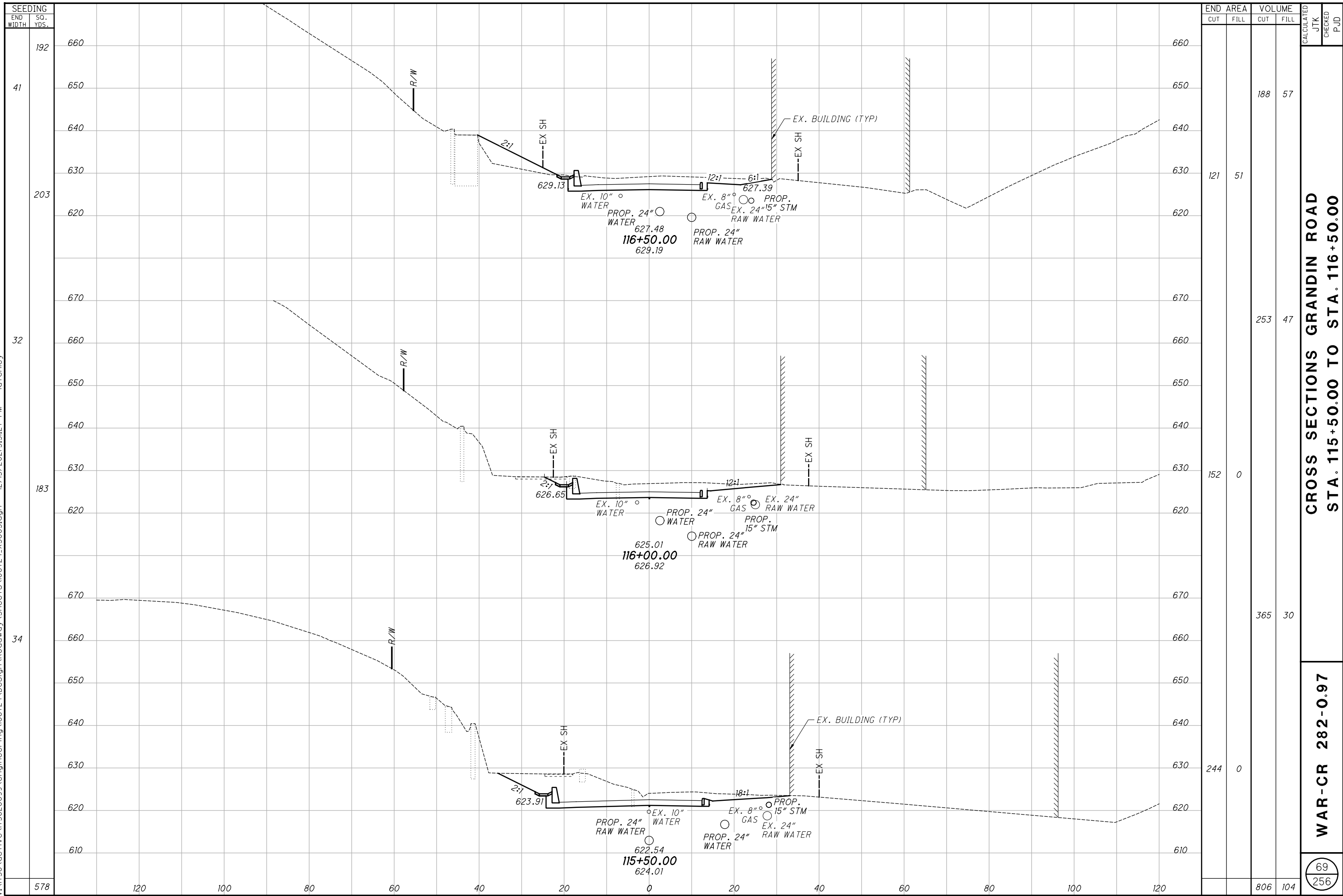
END AREA		VOLUME		CALCULATED		
CUT	FILL	CUT	FILL	JTK	CHECKED	PJD
431	1	611	1			
611	2	964	2			
579	32	1045	30			
		2620	33			

**CROSS SECTIONS GRANDIN ROAD
STA. 114+00.00 TO STA. 115+00.00**

WAR-CR 282-0.97

68
256

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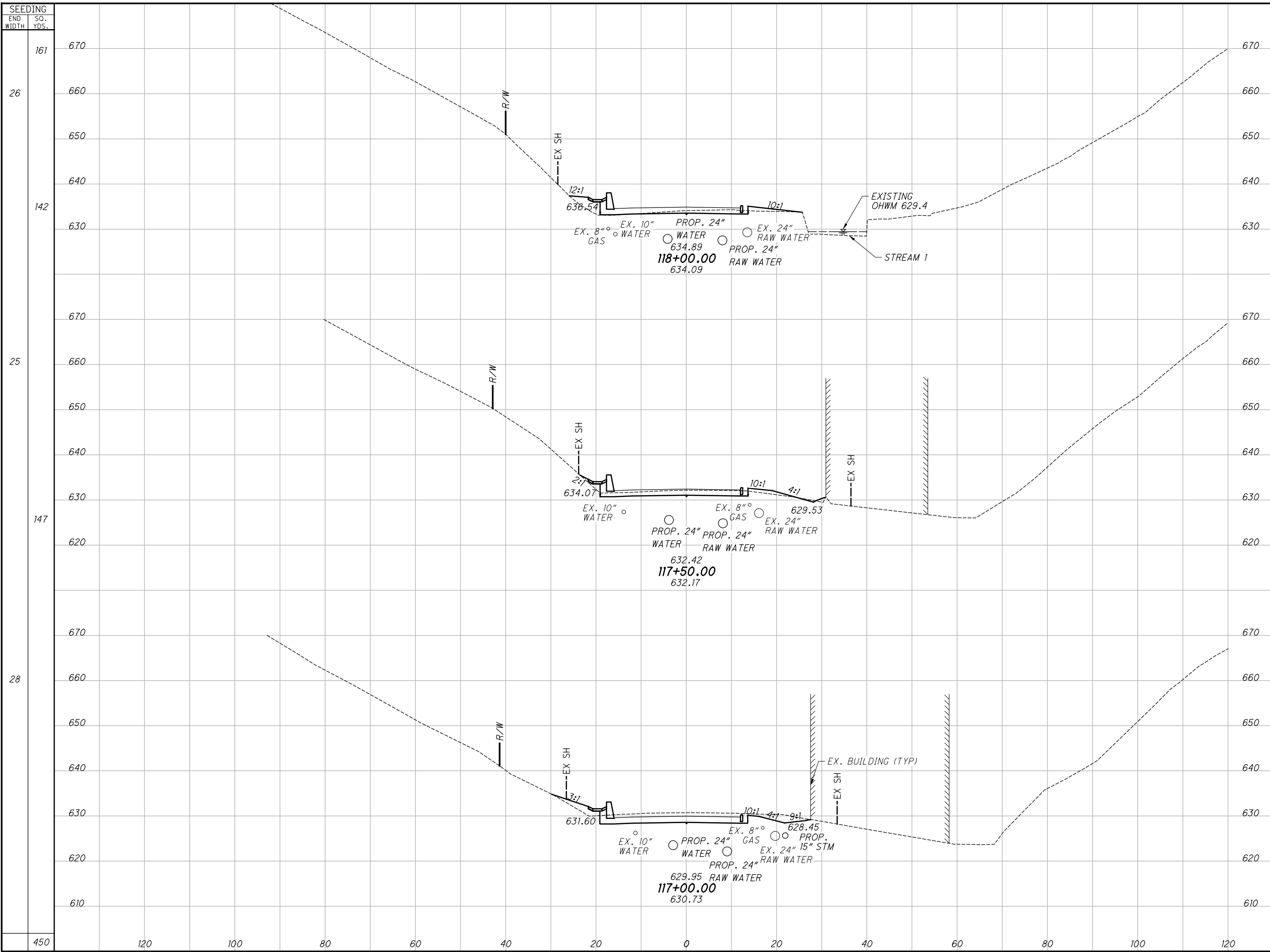


CROSS SECTIONS GRANDIN ROAD
STA. 115+50.00 TO STA. 116+50.00

WAR-CR 282-0.97

69
256

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SEEDING	END AREA		VOLUME		CALCULATED	JTK	CHECKED	PJD
	CUT	FILL	CUT	FILL				
161								
26			36	44				
142	14	19						
25			45	23				
147	36	6						
28			111	16				
450			192	83				

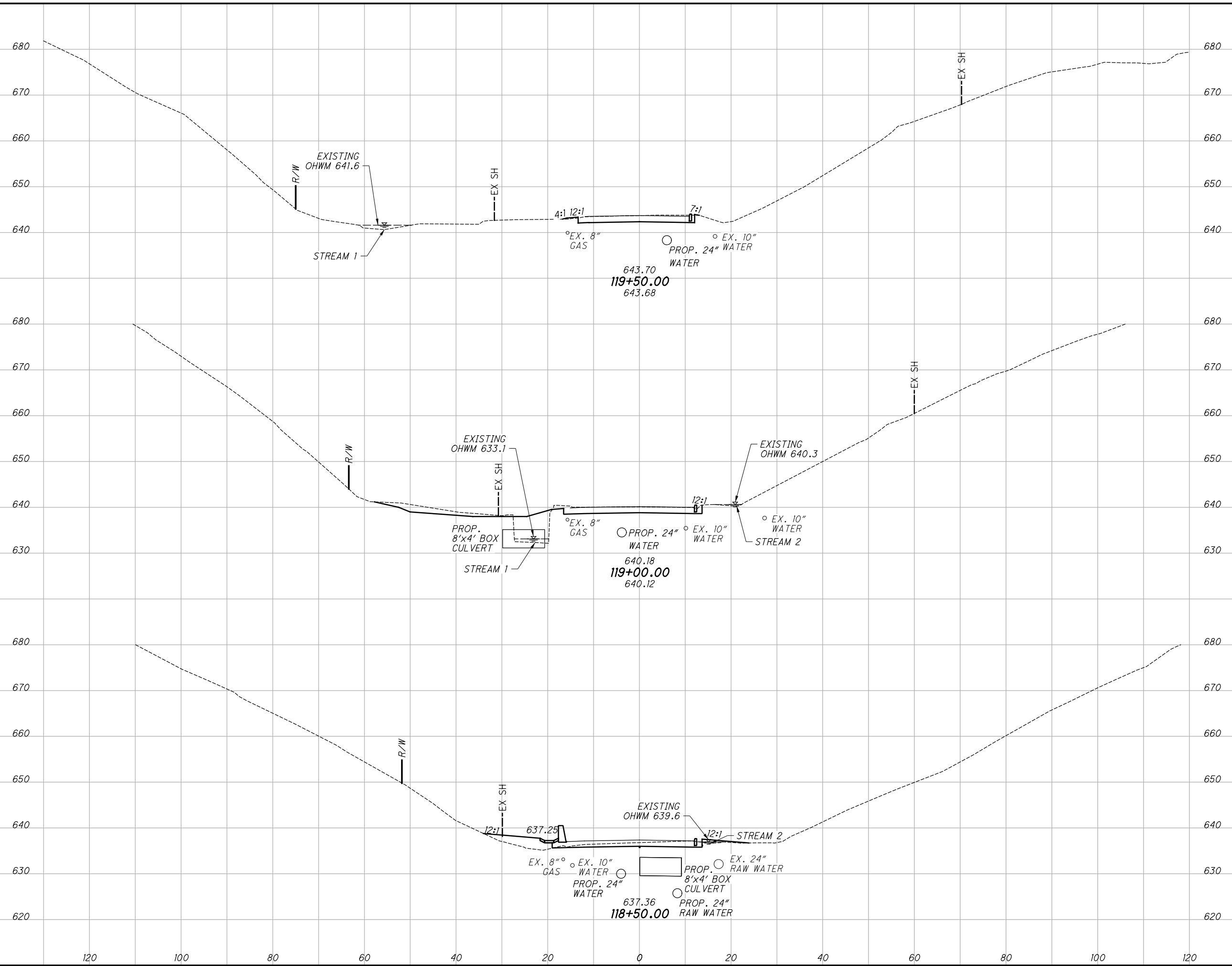
CROSS SECTIONS GRANDIN ROAD
STA. 117+00.00 TO STA. 118+00.00

WAR-CR 282-0.97

70
256

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SEEDING	
END WIDTH	SO. YDS.
42	680
15	670
186	640
52	670
233	630
32	670
461	620



END AREA		VOLUME	
CUT	FILL	CUT	FILL
36	1	95	44
67	47	86	70
26	28	181	114

CROSS SECTIONS GRANDIN ROAD
STA. 118+50.00 TO STA. 119+50.00

WAR-CR 282-0.97

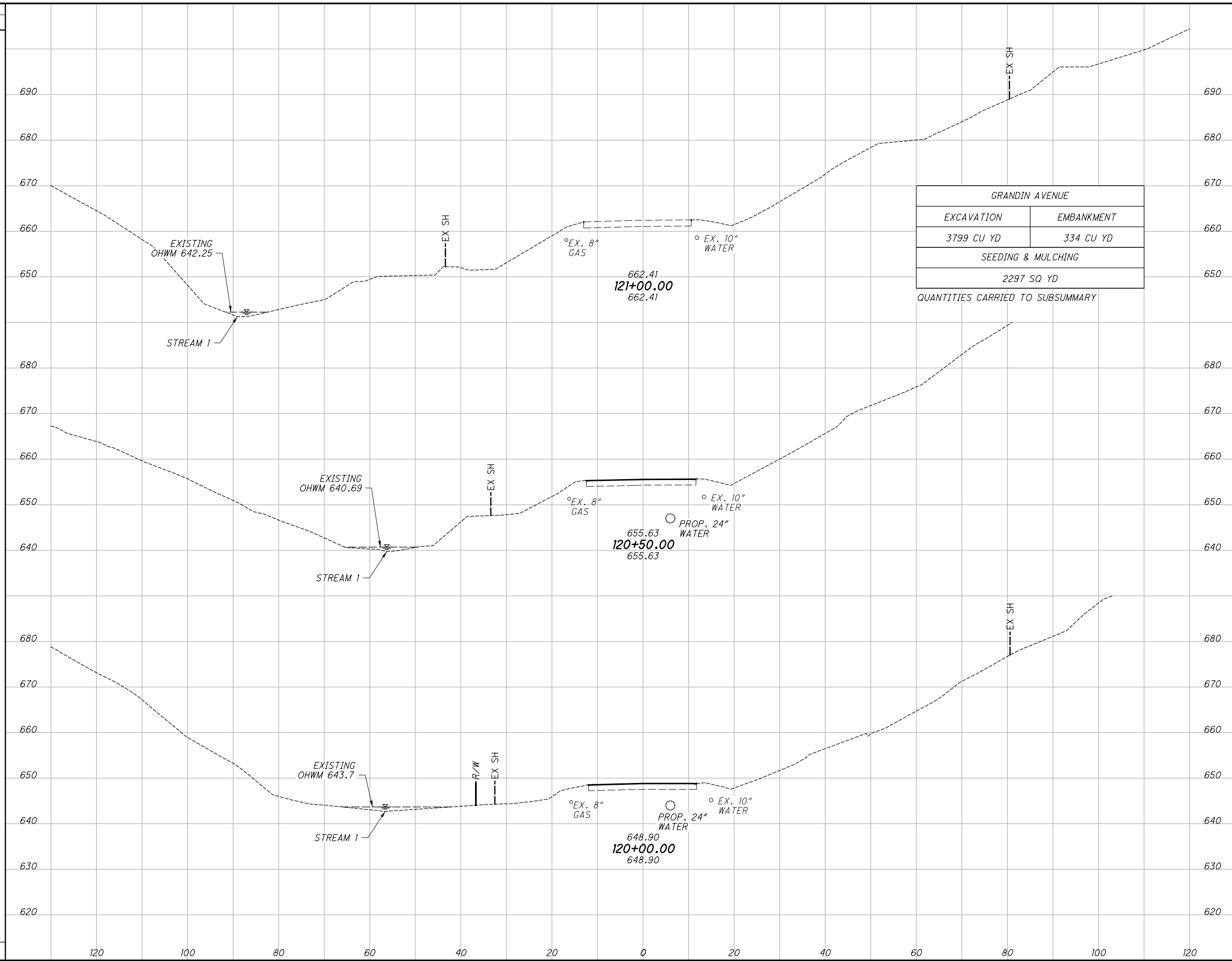
71
256

CALCULATED
JTK
CHECKED
PJD

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SEEDING

END WIDTH	SO. YDS.



GRANDIN AVENUE	
EXCAVATION	EMBANKMENT
3799 CU YD	334 CU YD
SEEDING & MULCHING	
2297 SQ YD	

QUANTITIES CARRIED TO SUBSUMMARY

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	JTK	PJD

CROSS SECTIONS GRANDIN ROAD
STA. 118+50.00 TO STA. 119+00.00

WAR-CR 282-0.97

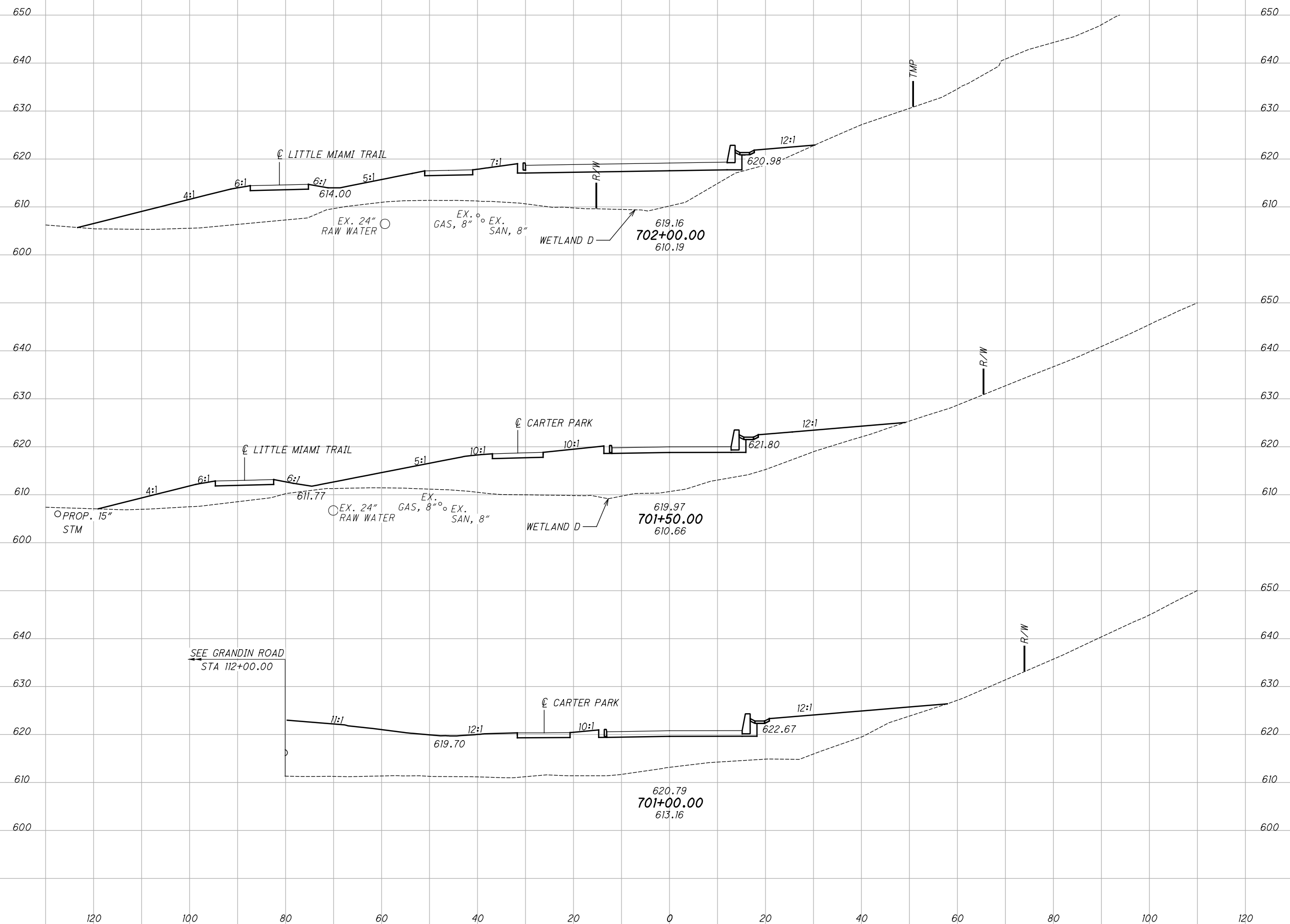
SEEDING
END SO.
WIDTH YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
JTK
CHECKED
PJD

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SEE LITTLE MIAMI TRAIL FOR EARTHWORK QUANTITIES

SEE LITTLE MIAMI TRAIL FOR EARTHWORK QUANTITIES



CROSS SECTIONS TRAILHEAD PARKING LOT
STA 701+00.00 TO STA 702+00.00

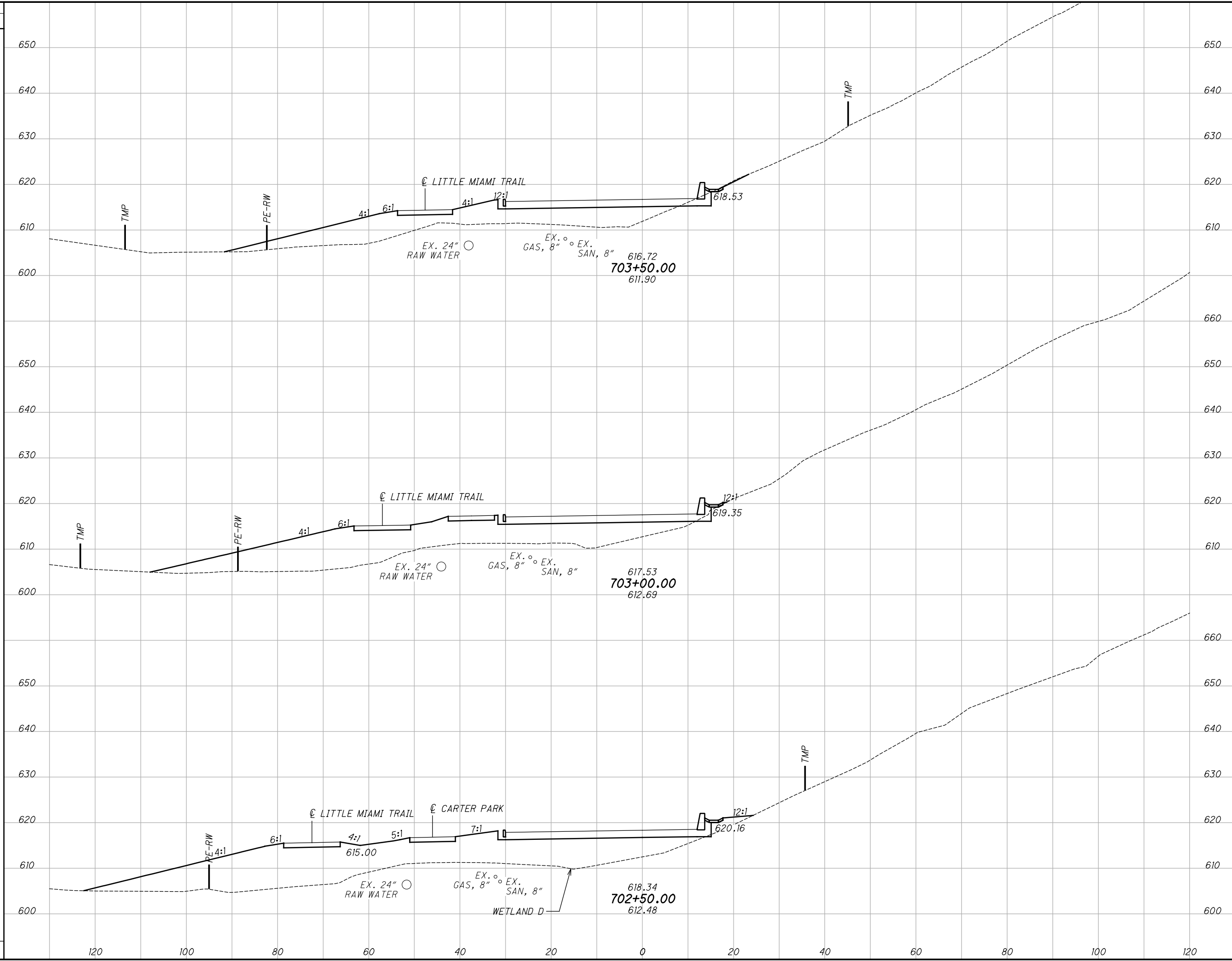
WAR-CR 282-0.97

73
256

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SEEDING

END WIDTH	SO. YDS.



END AREA	VOLUME		CALCULATED	CHECKED	PJD
	CUT	FILL			

SEE LITTLE MIAMI TRAIL FOR EARTHWORK QUANTITIES

CROSS SECTIONS TRAILHEAD PARKING LOT
STA 702+50.00 TO STA 703+50.00

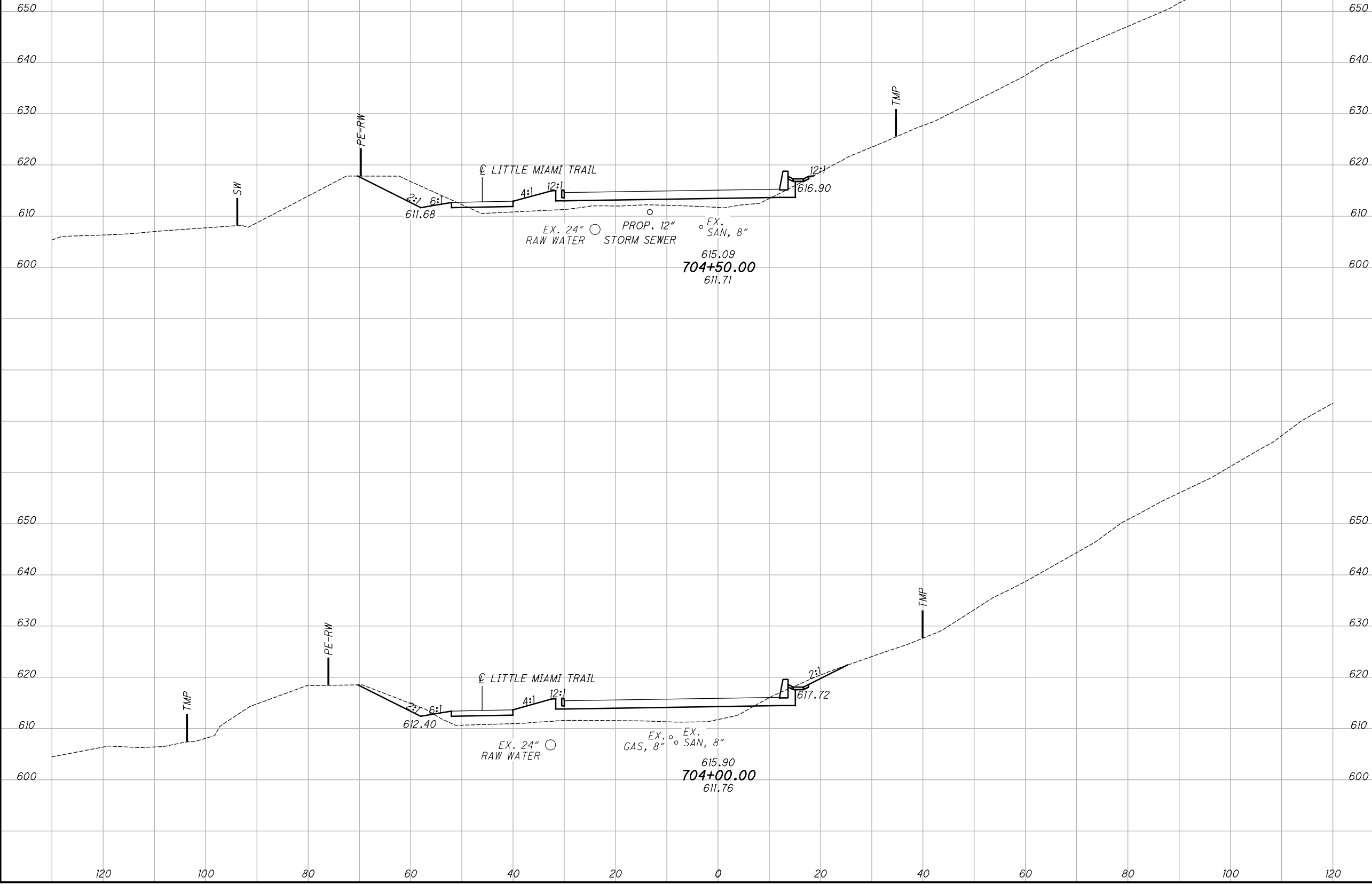
WAR-CR 282-0.97

74
256

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SEEDING
END SO.
WIDTH YDS.

END AREA		VOLUME		CALCULATED JTK	CHECKED PJD
CUT	FILL	CUT	FILL		



SEE LITTLE MIAMI TRAIL FOR EARTHWORK QUANTITIES

SEE LITTLE MIAMI TRAIL FOR EARTHWORK QUANTITIES

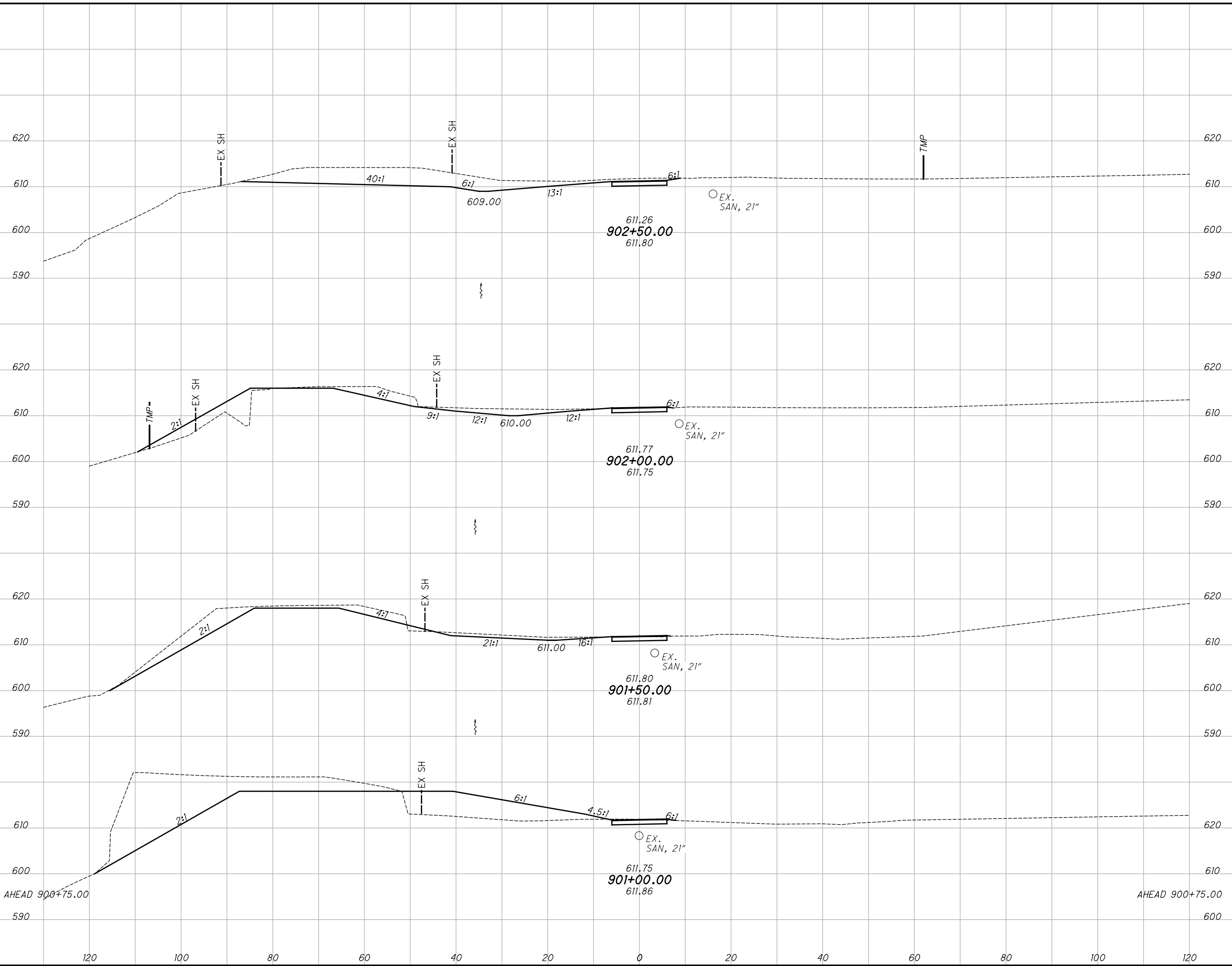
CROSS SECTIONS TRAILHEAD PARKING LOT
STA 704+00.00 TO STA 704+50.00

WAR-CR 282-0.97

75
256

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SEEDING	END	
	WIDTH	SO. YDS.
544		
92		
581		
117		
1003		
244		
1033		
128		
356		
128		
3517		

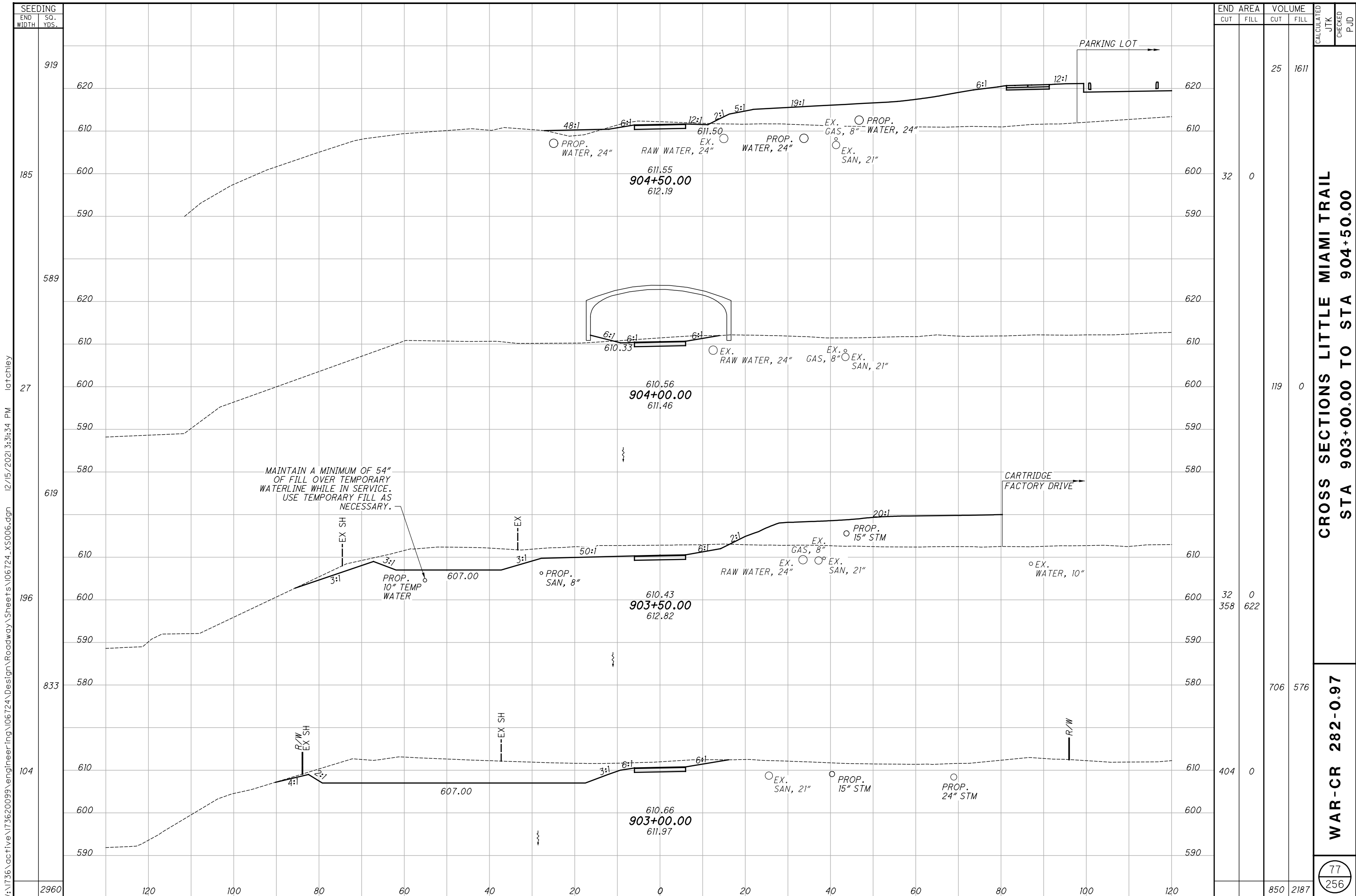


END	AREA		VOLUME	
	CUT	FILL	CUT	FILL
544			577	0
92	219	0		
581			269	63
117	269	68		
1003			194	68
244	138	5		
1033			498	167
128	400	175		
356			364	93
128	385	25		
3517			1902	391

**CROSS SECTIONS LITTLE MIAMI TRAIL
STA 901+00.00 TO STA 902+50.00**

WAR-CR 282-0.97	CALCULATED JTK CHECKED PJD
------------------------	-------------------------------------

76
 256



SEEDING	
END WIDTH	SO. YDS.
120	919
100	185
80	589
60	27
40	619
20	196
0	833
20	104
40	2960

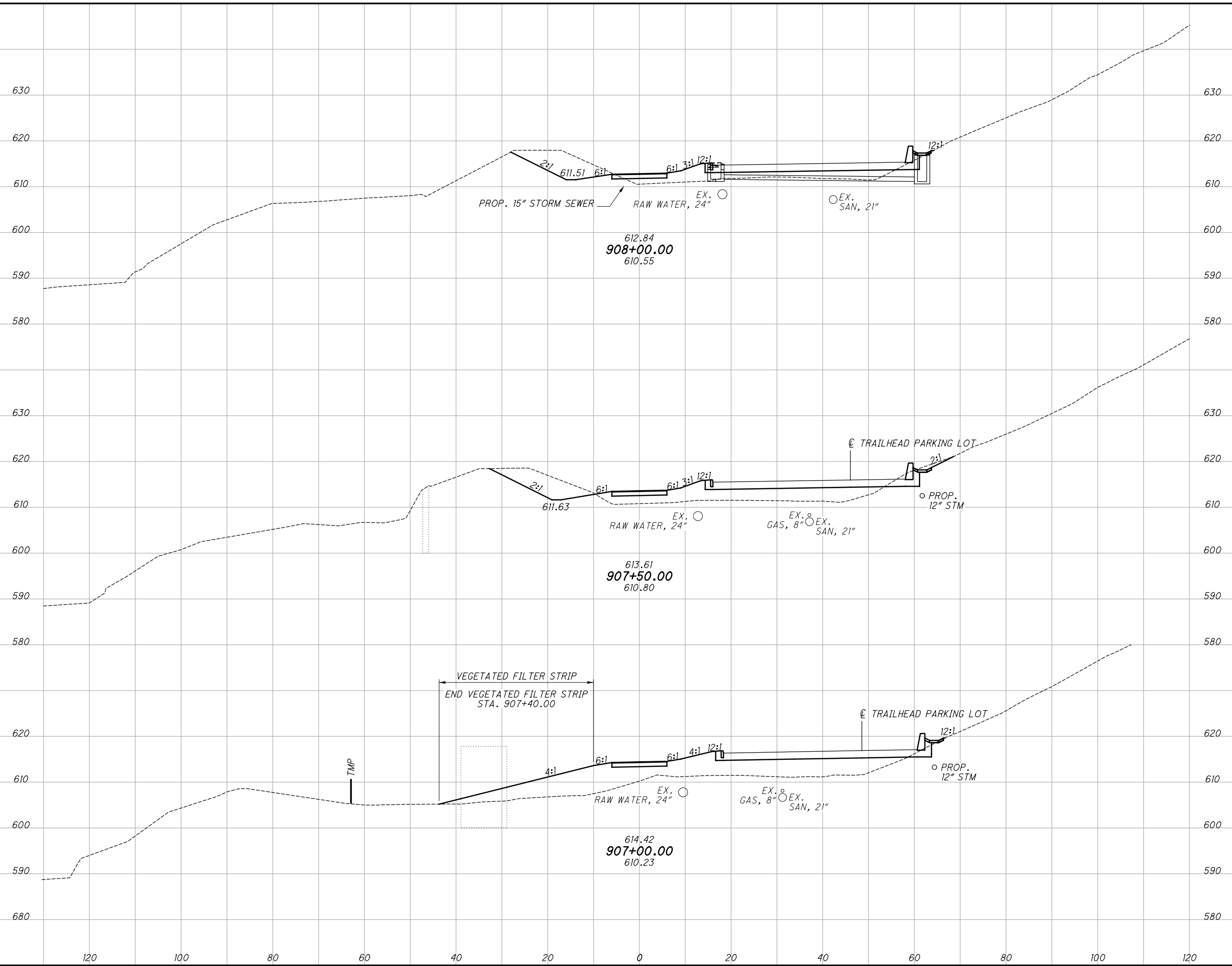
END AREA		VOLUME		CALCULATED		
CUT	FILL	CUT	FILL	JTK	CHECKED	PJD
		25	1611			
32	0					
		119	0			
32	0					
358	622					
		706	576			
404	0					
		850	2187			

CROSS SECTIONS LITTLE MIAMI TRAIL
STA 903+00.00 TO STA 904+50.00
WAR-CR 282-0.97
 77
 256

MAINTAIN A MINIMUM OF 54"
 OF FILL OVER TEMPORARY
 WATERLINE WHILE IN SERVICE.
 USE TEMPORARY FILL AS
 NECESSARY.

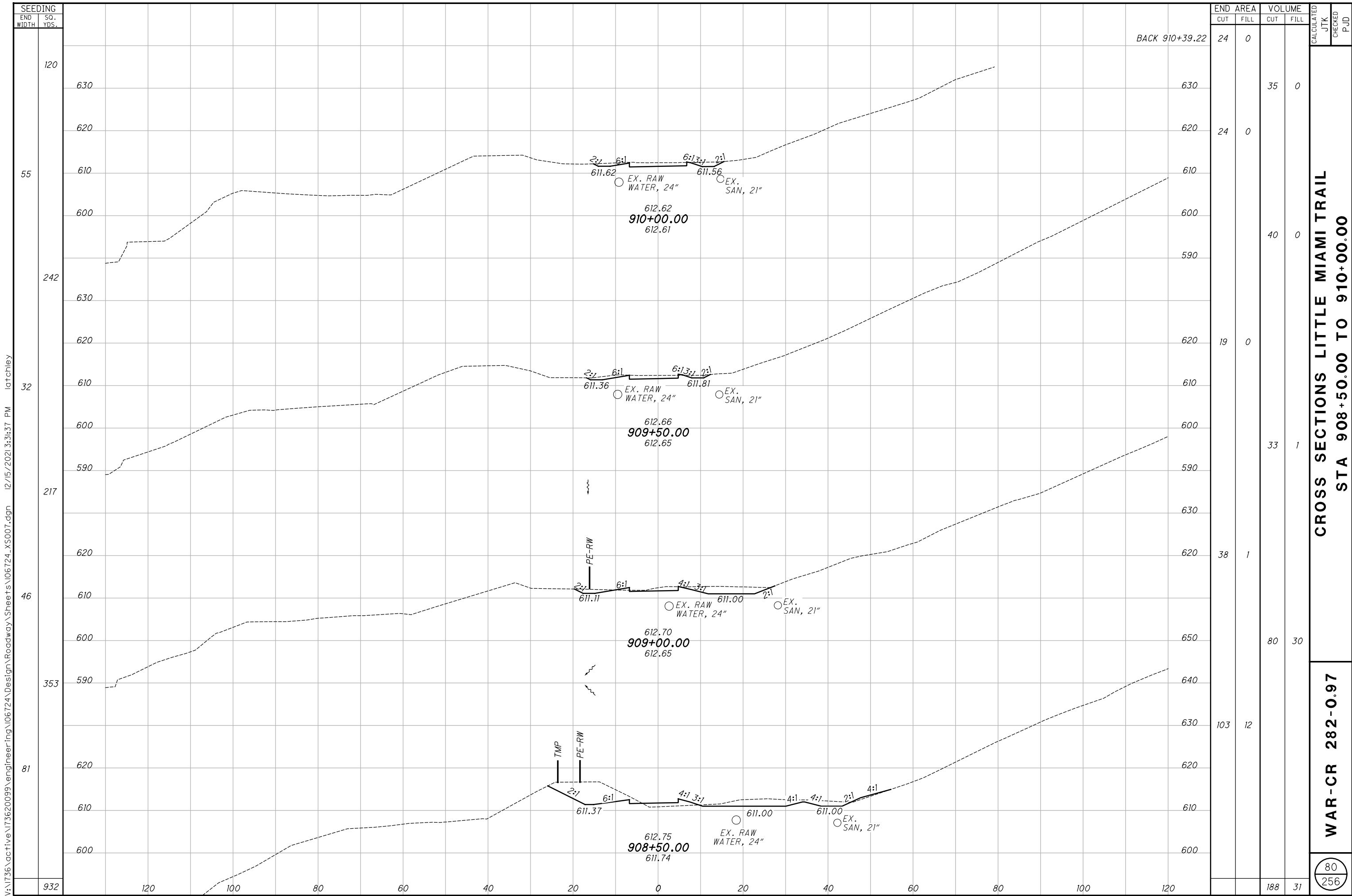
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SEEDING	
END WIDTH	SO. YDS.
342	
42	
52	
308	
59	
911	



END AREA		VOLUME		CALCULATED		
CUT	FILL	CUT	FILL	JTK	CHECKED	PJD
86	96	143	118			
90	154	162	231			
92	482					
7	353					
		397	831			

CROSS SECTIONS LITTLE MIAMI TRAIL
STA 907+00.00 TO STA 908+00.00
WAR-CR 282-0.97
 79
 256



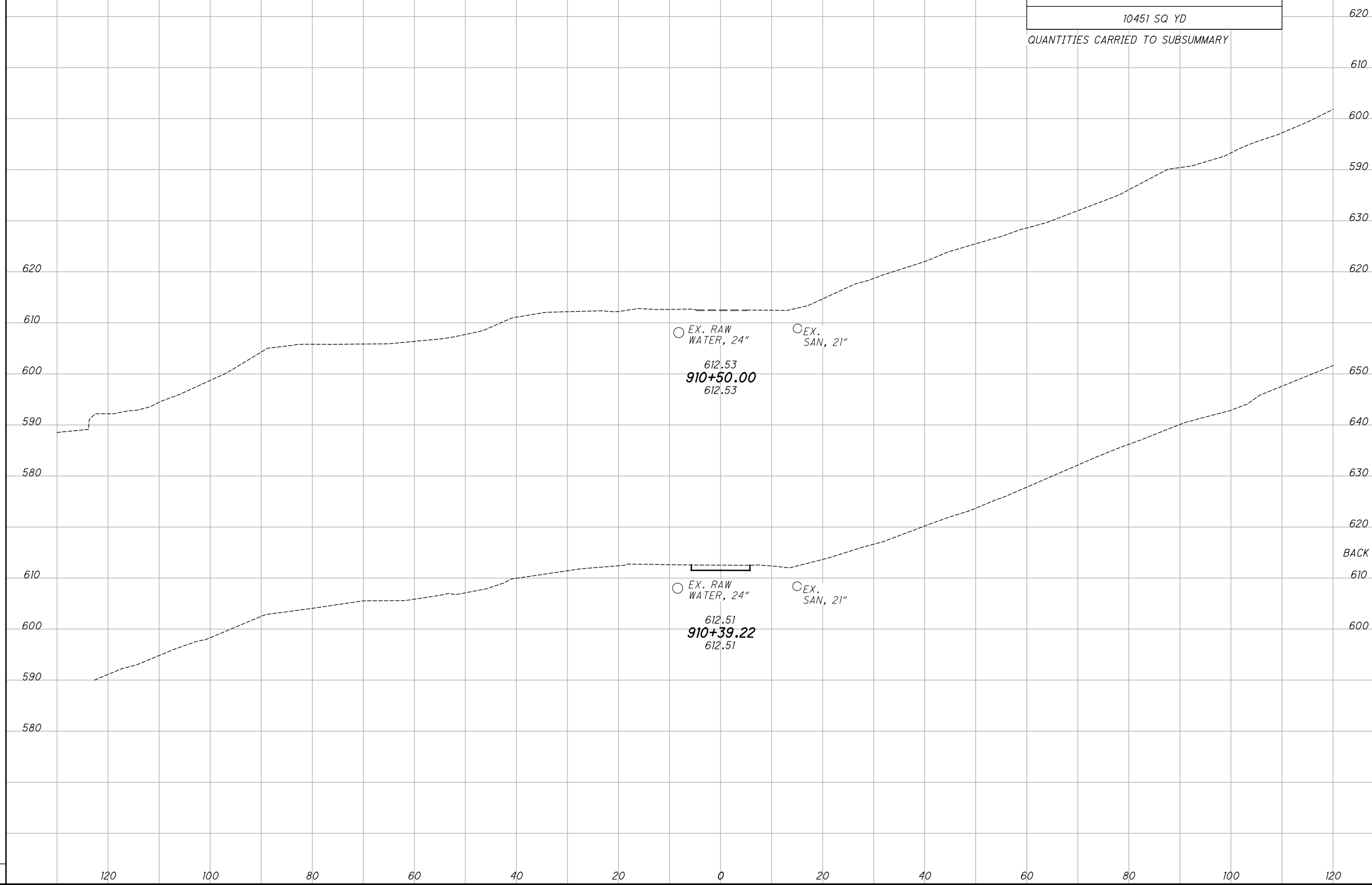
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SEEDING
END SO.
WIDTH YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	JTK	PJD

LITTLE MIAMI TRAIL	
EXCAVATION	EMBANKMENT
3352 CU YD	9053 CU YD
SEEDING & MULCHING	
10451 SQ YD	
QUANTITIES CARRIED TO SUBSUMMARY	

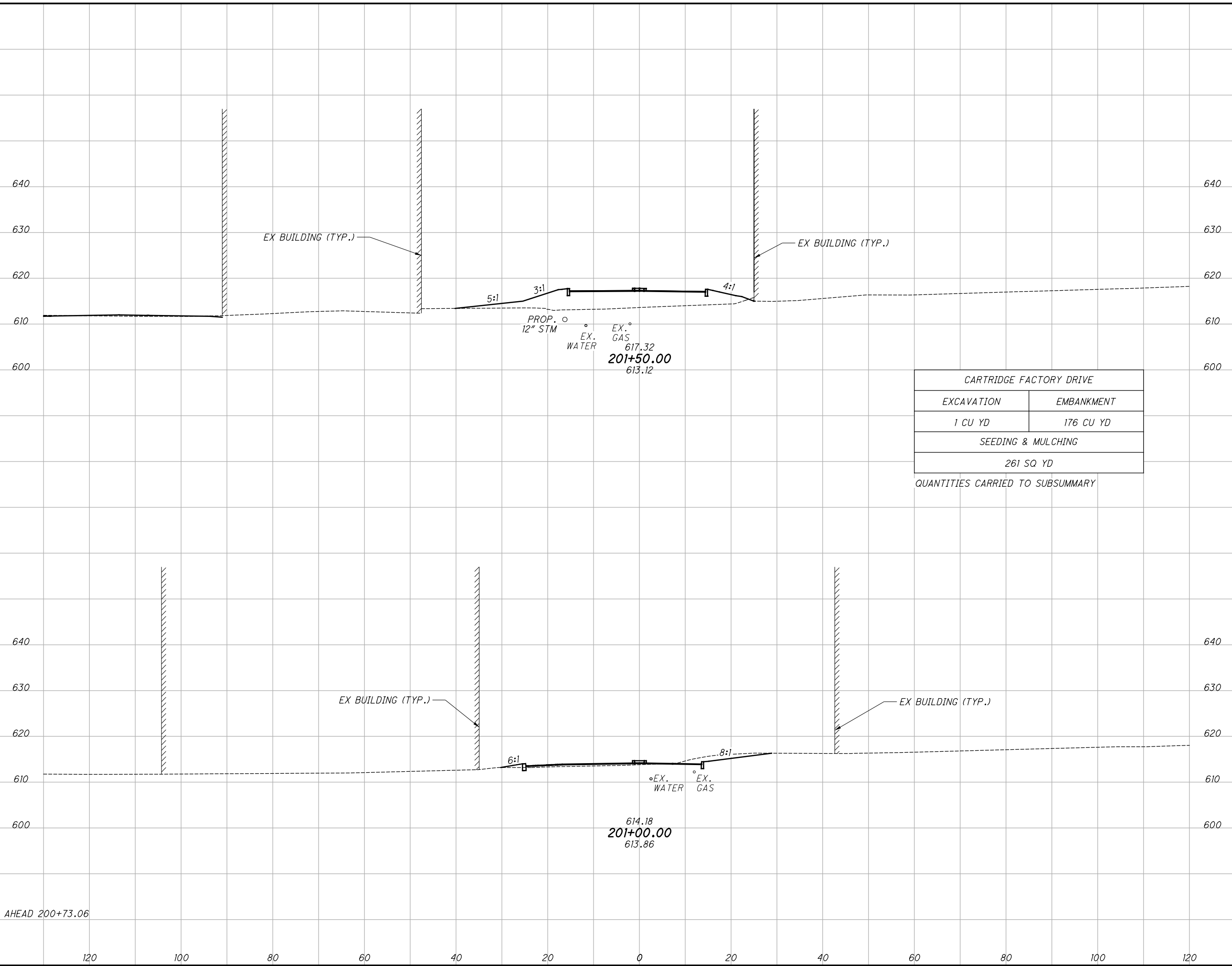


620					
610					
600					
590					
630					
620					
650					
640					
630					
620					
BACK	24	0			
610					
600					
590					
600					
580					
		0	0		

CROSS SECTIONS LITTLE MIAMI TRAIL
STA 910+39.22 TO STA 910+50.00
WAR-CR 282-0.97
 81
 256

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SEEDING	
END WIDTH	SO. YDS.
261	0
42	0
28	219
51	0



CARTRIDGE FACTORY DRIVE	
EXCAVATION	EMBANKMENT
1 CU YD	176 CU YD
SEEDING & MULCHING	
261 SQ YD	
QUANTITIES CARRIED TO SUBSUMMARY	

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL	JTK	PJD
0	117	0	117		
1	73	1	176		
1	176	1	176		

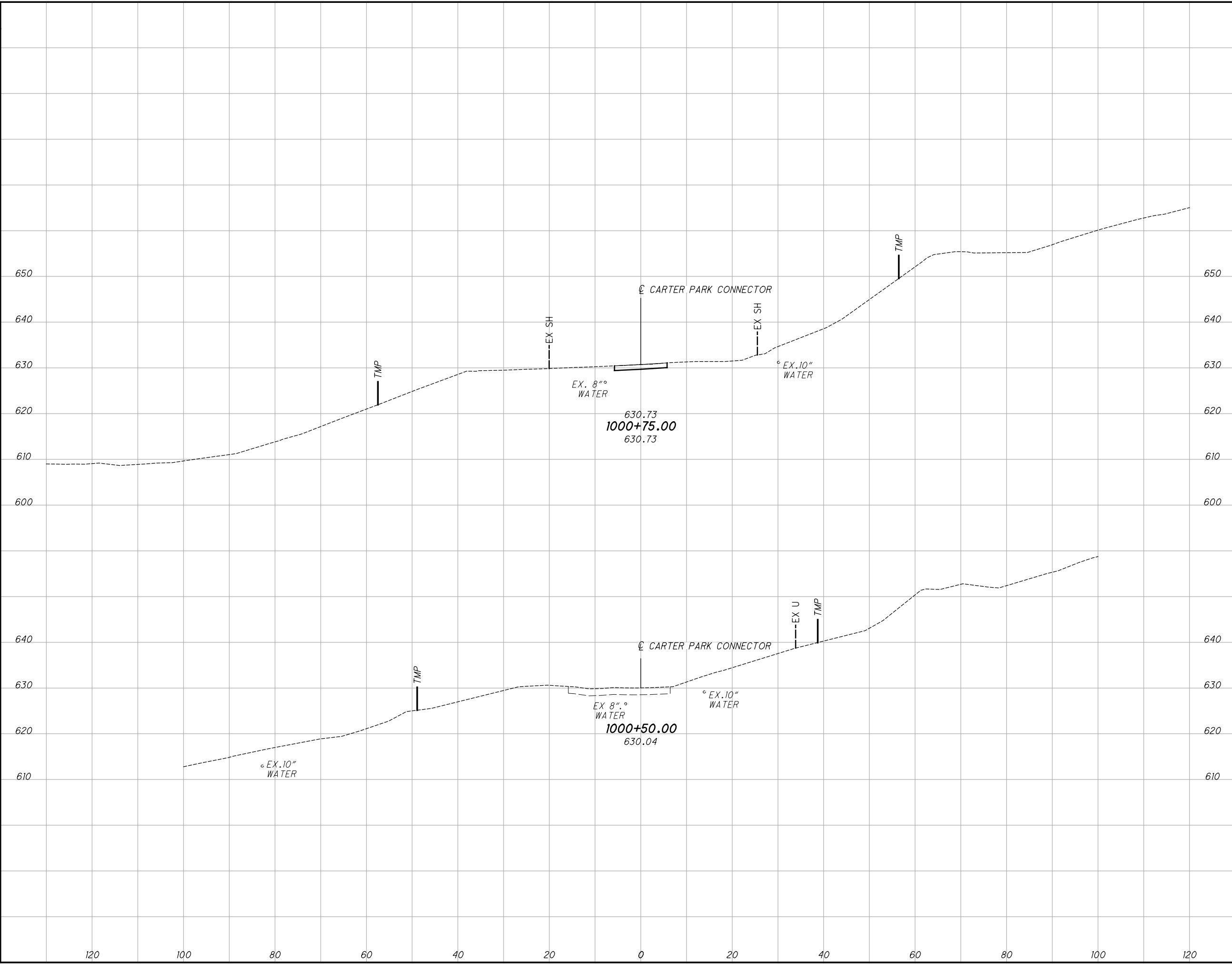
**CROSS SECTIONS CARTRIDGE FACTORY DRIVE
STA 200+50.00 TO STA 201+50.00**

WAR-CR 282-0.97

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SEEDING

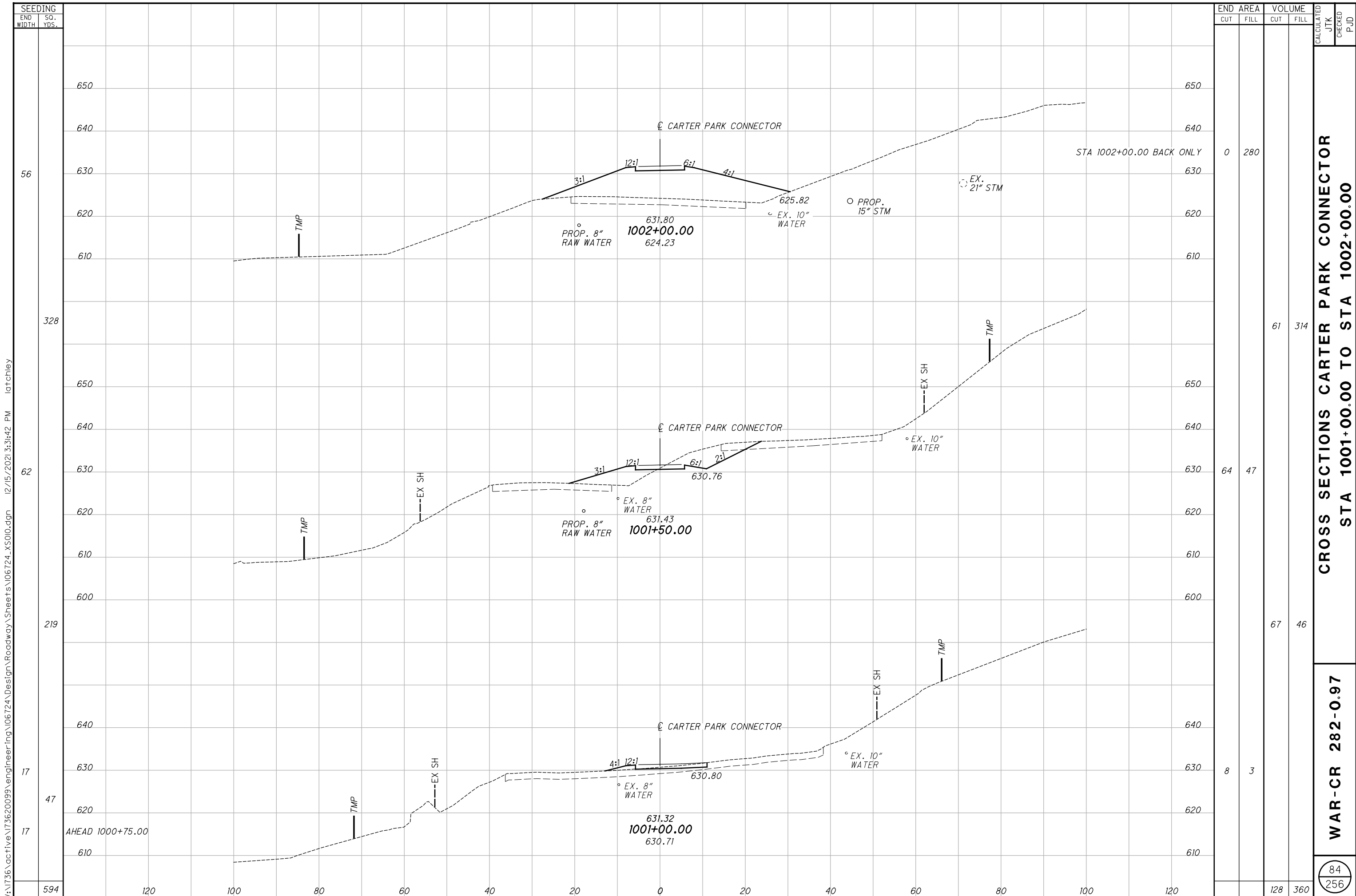
END WIDTH	SO. YDS.



END AREA		VOLUME		CALCULATED		
CUT	FILL	CUT	FILL	JTK	CHECKED	PJD
12	0	10	2			
0	0					

**CROSS SECTIONS CARTER PARK CONNECTOR
STA 1001+00.00 TO STA 1002+00.00**

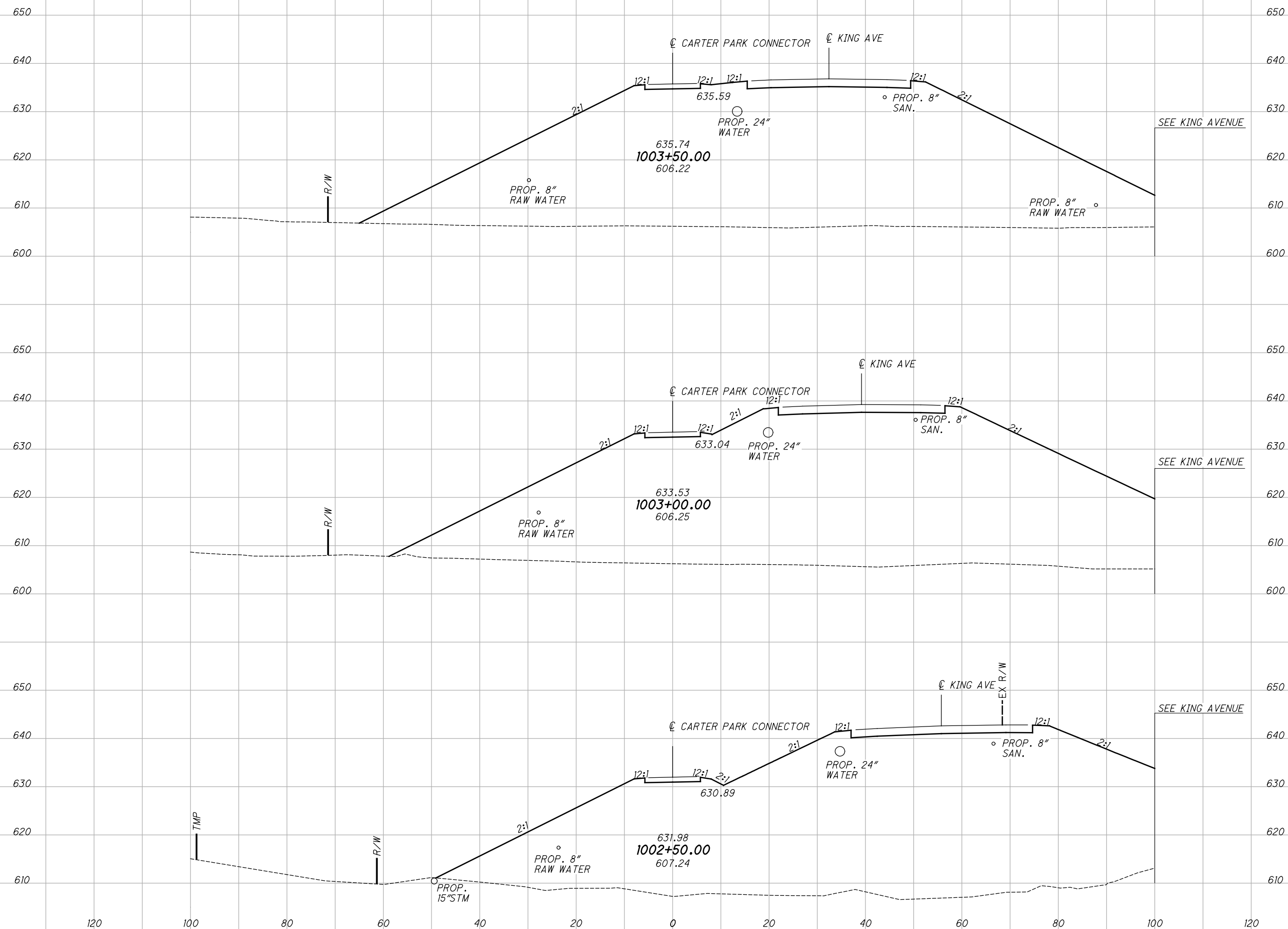
WAR-CR 282-0.97



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SEEDING
END SO.
WIDTH YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	JTK	PJD



SEE KING AVENUE FOR EARTHWORK QUANTITIES

SEE KING AVENUE FOR EARTHWORK QUANTITIES

**CROSS SECTIONS CARTER PARK CONNECTOR
STA 1002+50.00 TO STA 1003+50.00**

WAR-CR 282-0.97

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SEEDING
END SO.
WIDTH YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
JTK
CHECKED
PJD

CARTER PARK CONNECTOR	
EXCAVATION	EMBANKMENT
138 CU YD	362 CU YD
SEEDING & MULCHING	
594 SQ YD	

QUANTITIES CARRIED TO SUBSUMMARY

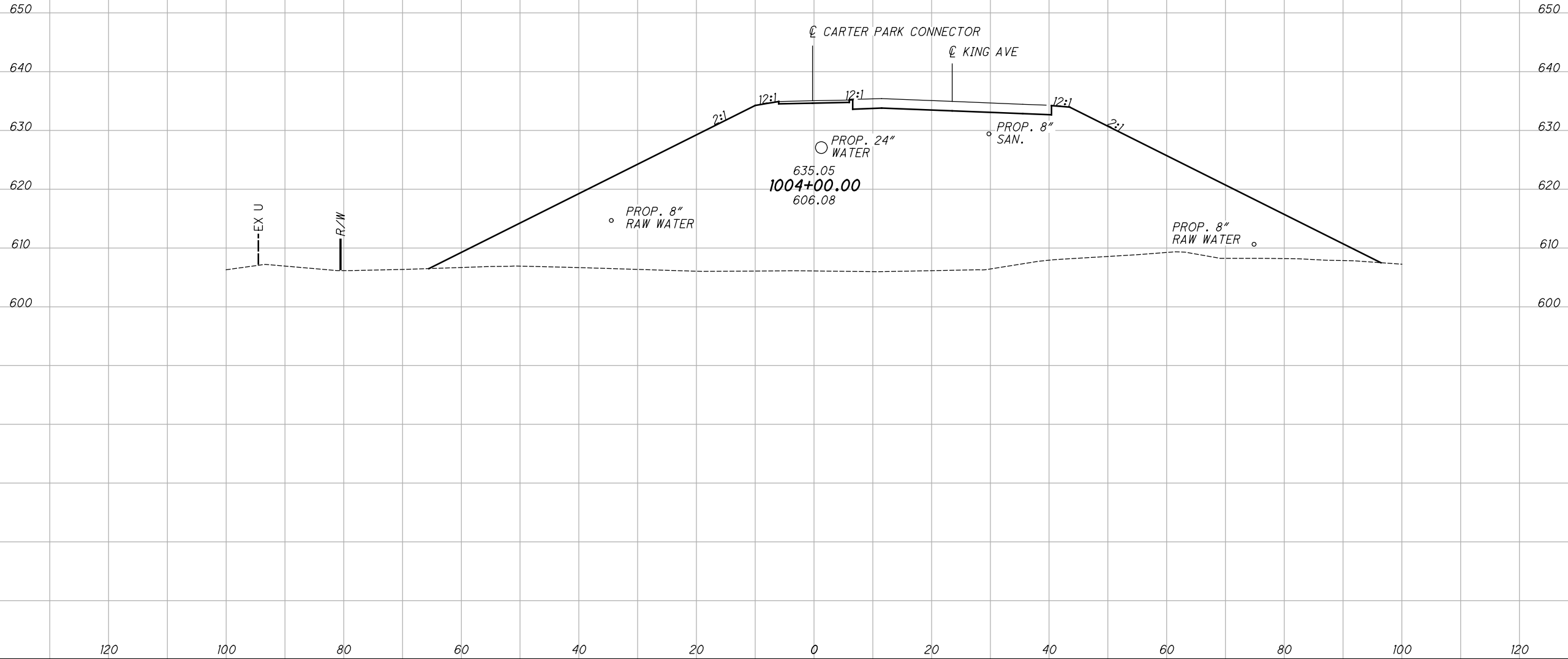
SEE KING AVENUE FOR EARTHWORK QUANTITIES

SEE KING AVENUE FOR EARTHWORK QUANTITIES

CROSS SECTIONS CARTER PARK CONNECTOR
STA 1004+00.00

WAR-CR 282-0.97

86
256



SUPERELEVATION TABLE

P.I. STATION 99+36.31

Dc 14°00'00"

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
688.53	6:H	0.12	0.010	12.00	98+72.17	688.41	12.00	-0.010	-0.12	6:H	688.29	PC
687.80		0.13	0.011	12.00	98+75.00	687.67	12.00	-0.011	-0.13		687.54	FS
686.82	6:H	0.24	0.020	12.00	98+91.49	686.58	12.00	-0.020	-0.24	6:H	686.34	PC
686.01		0.24	0.020	12.00	99+00.00	685.77	12.00	-0.020	-0.24		685.53	FS
683.65	6:H	0.24	0.020	12.00	99+25.00	683.41	12.00	-0.020	-0.24	6:H	683.17	
681.28		0.24	0.020	12.00	99+50.00	681.04	12.00	-0.020	-0.24		680.80	
678.91	6:H	0.24	0.020	12.00	99+75.00	678.67	12.00	-0.020	-0.24	6:H	678.43	
677.23		0.20	0.017	12.00	99+92.27	677.03	12.00	-0.017	-0.20		676.83	FS
676.49	6:H	0.19	0.016	12.00	100+00.00	676.30	12.00	-0.016	-0.19	6:H	676.11	RC

SUPERELEVATION TABLE

P.I. STATION 104+76.95

Dc 15° 30'

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
657.56	6:H	0.19	0.016	12.00	102+22.74	657.37	12.00	-0.016	-0.19	6:H	657.18	RC
657.38		0.20	0.017	12.00	102+25.00	657.18	12.00	-0.017	-0.20		656.98	
655.88	6:H	0.32	0.027	12.00	102+43.99	655.56	12.00	-0.027	-0.32	6:H	655.24	PC
655.41		0.36	0.030	12.00	102+50.00	655.05	12.00	-0.030	-0.36		654.69	
653.91	6:H	0.48	0.040	12.00	102+69.11	653.43	12.00	-0.040	-0.48	6:H	652.95	FS
653.41		0.48	0.040	12.00	102+75.00	652.93	12.00	-0.040	-0.48		652.45	
651.28	6:H	0.48	0.040	12.00	103+00.00	650.80	12.00	-0.040	-0.48	6:H	650.32	
649.21		0.48	0.040	12.00	103+25.00	648.73	12.00	-0.040	-0.48		648.25	
647.27	6:H	0.48	0.040	12.00	103+50.00	646.79	12.00	-0.040	-0.48	6:H	646.31	
645.44		0.48	0.040	12.00	103+75.00	644.96	12.00	-0.040	-0.48		644.48	
643.73	6:H	0.48	0.040	12.00	104+00.00	643.25	12.00	-0.040	-0.48	6:H	642.77	
642.14		0.48	0.040	12.00	104+25.00	641.66	12.00	-0.040	-0.48		641.18	
640.66	6:H	0.48	0.040	12.00	104+50.00	640.18	12.00	-0.040	-0.48	6:H	639.70	
639.31		0.48	0.040	12.00	104+75.00	638.83	12.00	-0.040	-0.48		638.35	
638.07	6:H	0.48	0.040	12.00	105+00.00	637.59	12.00	-0.040	-0.48	6:H	637.11	
636.96		0.48	0.040	12.00	105+25.00	636.48	12.00	-0.040	-0.48		636.00	
635.96	6:H	0.48	0.040	12.00	105+50.00	635.48	12.00	-0.040	-0.48	6:H	635.00	
635.08		0.48	0.040	12.00	105+75.00	634.60	12.00	-0.040	-0.48		634.12	
634.32	6:H	0.48	0.040	12.00	106+00.00	633.84	12.00	-0.040	-0.48	6:H	633.36	
633.68		0.48	0.040	12.00	106+25.00	633.20	12.00	-0.040	-0.48		632.72	
633.45	6:H	0.48	0.040	12.00	106+34.62	632.97	12.00	-0.040	-0.48	6:H	632.49	FS
633.05		0.38	0.032	12.00	106+50.00	632.67	12.00	-0.032	-0.38		632.29	
632.82	6:H	0.32	0.027	12.00	106+59.74	632.50	12.00	-0.027	-0.32	6:H	632.18	PT
632.50		0.23	0.019	12.00	106+75.00	632.27	12.00	-0.019	-0.23		632.04	
632.38	6:H	0.19	0.016	12.00	106+80.99	632.19	12.00	-0.016	-0.19	6:H	632.00	RC
632.05		0.07	0.006	12.00	107+00.00	631.98	12.00	-0.016	-0.19		631.79	
631.67	6:H	-0.08	-0.007	12.00	107+25.00	631.75	12.00	-0.016	-0.19	6:H	631.56	
631.40		-0.19	-0.016	12.00	107+42.82	631.59	12.00	-0.016	-0.19		631.40	NC

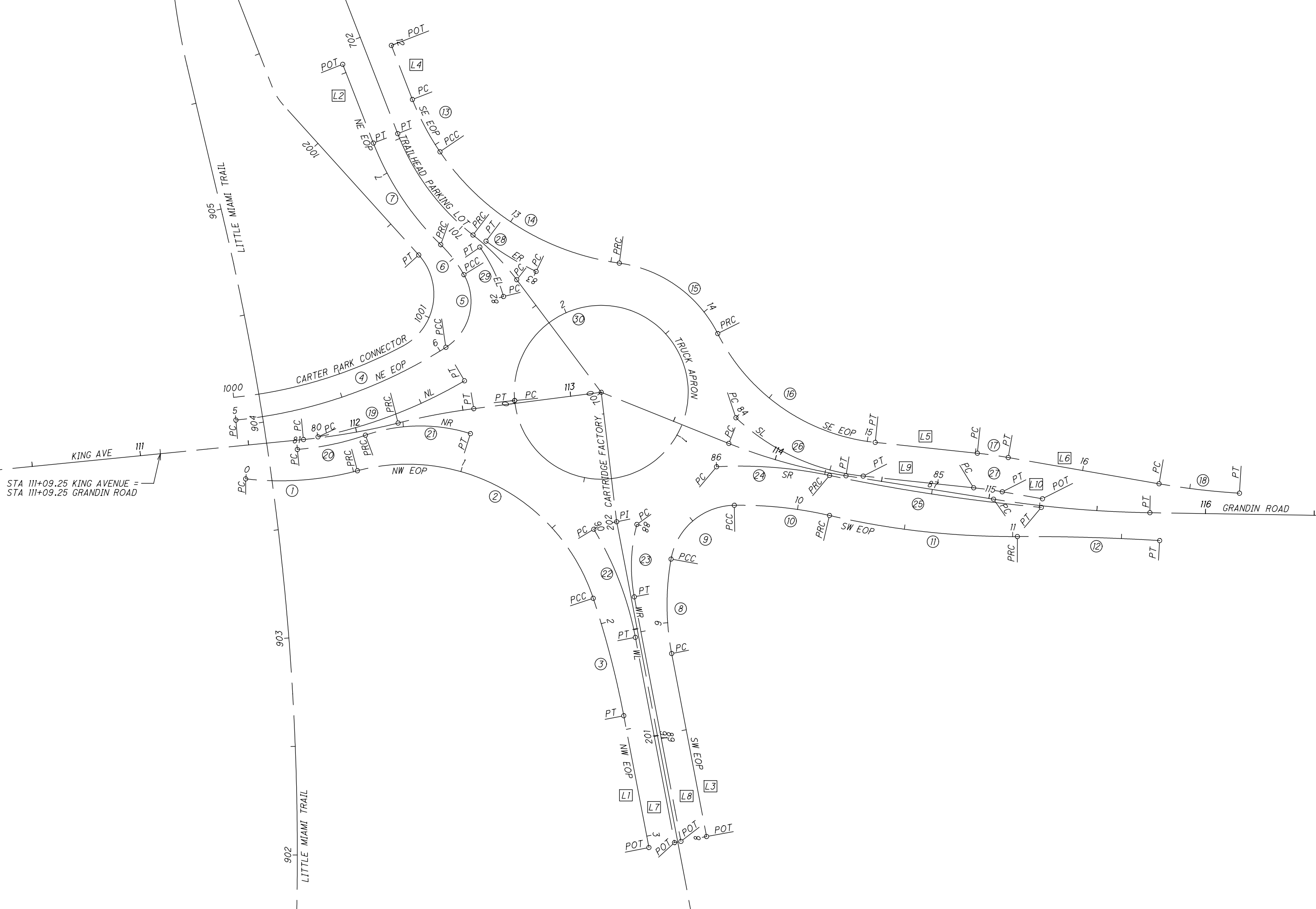
SUPERELEVATION TABLE

WAR-CR 282-0.97

87
256

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STA 111+09.25 KING AVENUE =
STA 111+09.25 GRANDIN ROAD



CALCULATED PJD
CHECKED SNS

0 20 40
HORIZONTAL SCALE IN FEET

**ROUNDABOUT DETAILS
REFERENCE LINES**

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NW EOP ALIGNMENT								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
1	PC 0+00.00 PRC 0+51.84	497076.046 497028.9119	1476212.8373 1476233.6886	21°22'07"	41°13'12"	139.00'	26.22'	51.84
2	PRC 0+51.84 PCC 1+87.74	497028.9119 496906.9817	1476233.6886 1476215.0073	86°31'03"	63°39'43.12"	90.00'	84.69'	135.90'
3	PCC 1+87.74 PT 2+43.62	496906.9817 496875.5452	1476215.0073 1476168.8607	7°31'59"	13°28'53"	425.00'	27.98'	55.88'
LINE #	LOCATION	NORTHING	EASTING	BEARING	LENGTH			
L1	PT 2+43.62 POT 3+05.33	496875.5452 496844.2257	1476168.8607 1476115.6855	S 59°30'09" W	61.71'			
NE EOP ALIGNMENT								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
4	PC 5+00.00 PCC 6+03.18	497089.4032 497009.7289	1476236.8075 1476300.8783	26°52'21"	26°02'37"	220.00'	52.56'	103.18'
5	PCC 6+03.18 PCC 6+41.17	497009.7389 497013.1925	1476300.8783 1476335.1412	87°03'45"	229°10'59"	25.00'	23.75'	37.99'
6	PCC 6+41.17 PRC 6+58.69	497013.1925 497027.8980	1476013.1925 1476344.5470	16°11'08"	92°24'45"	62.00'	8.82'	17.51'
7	PRC 6+58.69 PT 7+15.17	497027.8980 497072.8018	1476344.5470 1476378.1028	24°31'07"	43°24'21"	132.00'	28.68'	56.49'
LINE #	LOCATION	NORTHING	EASTING	BEARING	LENGTH			
L2	PT 7+15.17 POT 7+54.06	497072.8018 497098.2974	1476378.1028 1476407.4626	N 49°01'46" E	38.88'			
SW EOP ALIGNMENT								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
8	PC 8+85.71 PCC 9+29.40	496864.4589 496879.3679	1476203.2400 1476244.0552	20°51'44"	47°44'47"	120.00'	22.09'	43.69'
9	PCC 9+29.40 PRC 9+70.82	496879.3679 496860.3149	1476244.0552 1476277.1700	79°05'58"	190°59'09"	30.00'	24.77'	41.42'
10	PCC 9+70.82 PRC 10+14.96	496860.3149 496817.5114	1476277.1700 1476287.5152	13°53'49"	31°28'52"	182.00'	22.18'	44.14'
11	PRC 10+14.96 PRC 11+02.13	496817.5114 496732.8694	1476287.5152 1476307.5207	13°19'07"	15°16'44"	375.00'	43.78'	87.17'
12	PRC 11+02.13 PT 11+67.62	496732.8694 496670.6262	1476307.5207 1476327.8424	3°45'08"	5°43'46"	1000.00'	32.76'	65.49'
LINE #	LOCATION	NORTHING	EASTING	BEARING	LENGTH			
L3	POT 8+00.00 PC 8+85.71	496820.9611 496864.4589	1476129.3880 1476203.2400	N 59°30'09" E	85.71'			
SE EOP ALIGNMENT								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
13	PC 12+26.69 PCC 12+53.94	497062.6772 497042.6322	1476403.0475 1476384.6652	13°00'50"	47°44'47"	120.00'	13.69'	27.26'
14	PCC 12+53.94 PRC 13+53.94	497042.6322 496947.6737	1476384.6652 1476364.2345	47°44'47"	47°44'47"	120.00'	53.11'	100.00'
15	PRC 13+53.94 PRC 14+11.83	496947.6737 496894.1393	1476364.2345 1476348.9778	55°16'34"	95°29'35"	60.00'	31.42'	57.88'
16	PRC 14+11.83 PT 15+03.68	496894.1393 496809.0392	1476348.9778 1476326.2629	57°12'00"	62°16'41"	92.00'	50.16'	91.85'
17	PC 15+50.91 PT 15+65.27	496763.1407 496749.0864	1476337.4136 1476340.3348	3°49'34"	26°38'57"	215.00'	7.18'	14.36'
18	PC 16+35.68 PT 16+72.97	496679.7022 496643.3982	1476352.3557 1476360.7485	6°22'34"	17°06'12"	335.00'	18.66'	37.28'
LINE #	LOCATION	NORTHING	EASTING	BEARING	LENGTH			
L4	POT 12+00.00 PC 12+26.69	497080.1763 497053.7030	1476423.1987 1476392.7132	S 49°01'46" W	26.69'			
L5	PT 15+03.68 PC 15+50.91	496809.0392 496763.1407	1476326.2629 1476337.4136	S 13°39'18" W	47.23'			
L6	PT 15+65.27 PC 16+35.68	496749.0864 496679.7022	1476340.3348 1476352.3557	S 9°49'44" W	70.42'			
SPLITTER ISLAND - NORTHERN LEG LEFT (NL)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
19	PC 80+00.00 PT 80+72.48	497051.2215 496996.4840	1476242.2525 1476289.2576	18°52'33"	26°02'37"	220.00'	36.57'	72.48'

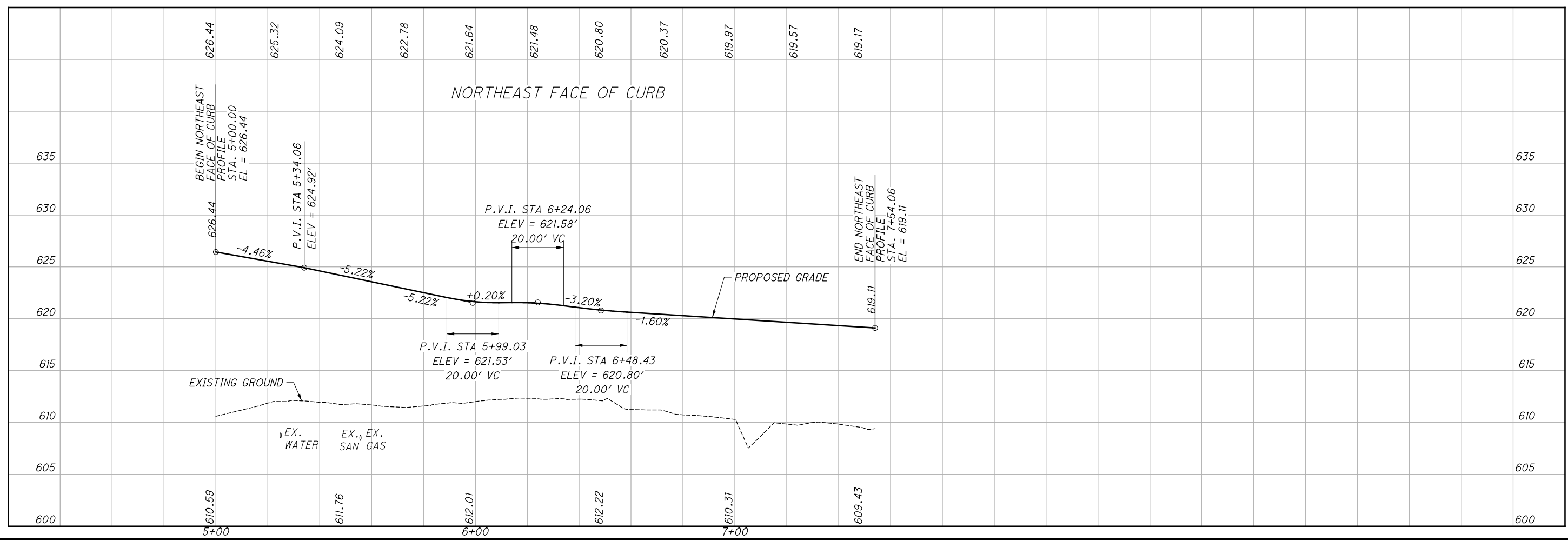
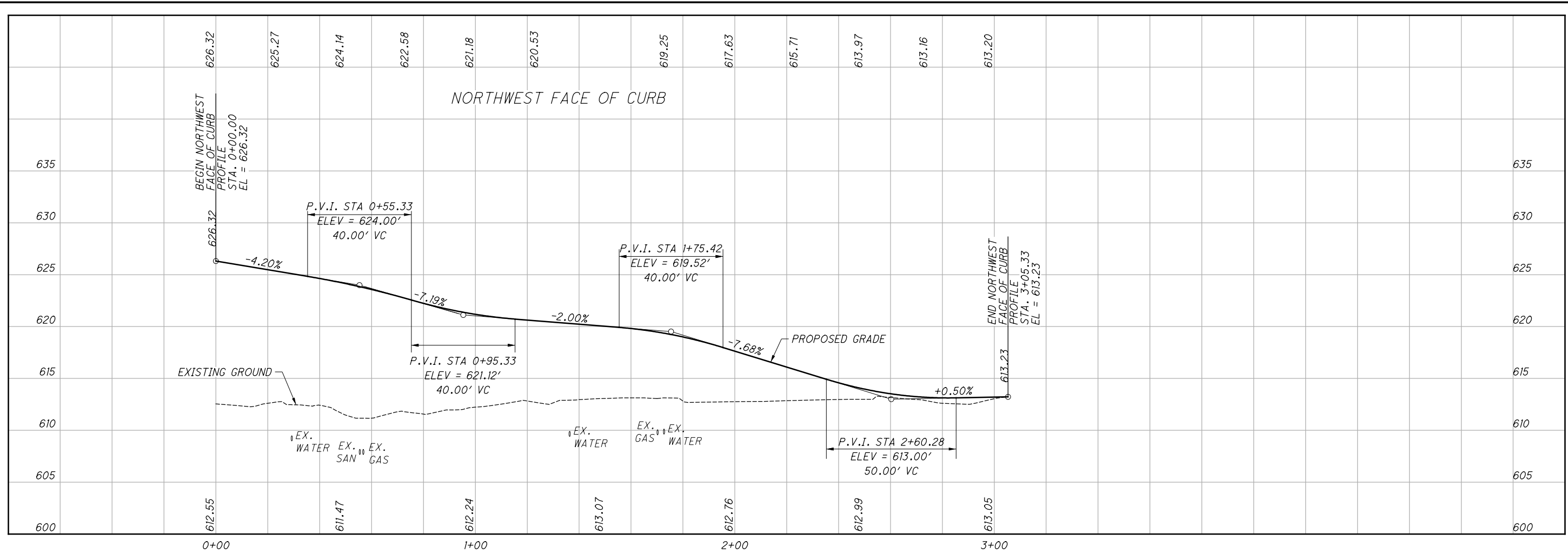
SPLITTER ISLAND - NORTHERN LEG RIGHT (NR)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
20	PC 81+00.00 PRC 81+32.09	497058.2285 497030.9357	1476233.6221 1476250.3328	14°42'33"	45°50'12"	125.00'	16.13'	32.09'
21	PRC 81+32.09 PT 81+81.20	497030.9357 496985.7296	1476250.3328 1476267.2897	36°32'34"	74°24'36"	77.00'	25.42'	49.11'
SPLITTER ISLAND - WESTERN LEG LEFT (WL)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
22	PC 90+00.00 PT 90+53.57	496917.4543 496882.6831	1476245.0083 1476204.6250	20°27'50"	38°11'50"	150.00'	27.08'	53.57'
LINE #	LOCATION	NORTHING	EASTING	BEARING	LENGTH			
L7	PT 90+53.57 POT 91+49.73	496882.6831 496833.8859	1476204.6250 1476121.7755	S 59°30'09" W	96.15'			
SPLITTER ISLAND - WESTERN LEG RIGHT (WR)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
23	PC 88+00.00 PT 88+33.63	496899.5426 496889.4303	1476253.7696 1476221.9920	25°41'26"	76°23'40"	75.00'	17.10'	33.63'
LINE #	LOCATION	NORTHING	EASTING	BEARING	LENGTH			
L8	PT 88+33.63 POT 89+48.17	496889.4303 496831.3009	1476221.9920 1476123.2980	S 59°30'09" W	114.54'			
SPLITTER ISLAND - SOUTHERN LEG RIGHT (SR)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
24	PC 86+00.00 PRC 86+52.29	496873.9808 496823.6865	1476291.1054 1476304.8751	14°58'52"	28°38'52"	200.00'	26.30'	52.29'
25	PRC 86+52.29 PT 87+50.85	496823.6865 496727.0284	1476304.8751 1476323.8649	6°35'16"	6°41'03"	857.19'	49.33'	98.56'
SPLITTER ISLAND - SOUTHERN LEG LEFT (SL)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
26	PC 84+00.00 PT 84+65.55	496873.1976 496809.0277	1476315.3452 1476309.8002	37°11'15"	56°43'43"	101.00'	33.98'	65.55'
27	PC 85+16.66 PT 85+29.95	496759.3634 496746.3549	1476321.8659 1476324.5697	3°49'34"	28°47'31"	199.00'	6.65'	13.29'
LINE #	LOCATION	NORTHING	EASTING	BEARING	LENGTH			
L9	PT 84+65.55 PC 85+16.66	496809.0277 496759.3634	1476309.8002 1476321.8659	S 13°39'18" E	51.11'			
L10	PT 85+29.95 POT 85+48.71	496746.3549 496727.8675	1476324.5697 1476327.7727	S 9°49'44" E	18.76'			
SPLITTER ISLAND - EASTERN LEG RIGHT (ER)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
28	PC 83+00.00 PT 83+26.98	496982.4249 497008.8262	1476347.7316 1476353.0923	11°12'11"	41°31'17"	138.00'	13.53"	26.98"
SPLITTER ISLAND - EASTERN LEG LEFT (EL)								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
29	PC 82+00.00 PT 82+25.30	496992.6637 497010.5618	1476331.8307 1476349.5430	19°19'41"	76°23'40"	75.00'	12.77'	25.30'
TRUCK APRON EOP								
CURVE #	LOCATION	NORTHING	EASTING	DELTA	Dc	RADIUS	TANGENT	LENGTH
30	PC 0+00.00 PT 2+51.33	496935.4747 496935.4747	1476345.4877 1476345.4877	360°00'00"	143°14'22"	40.00'	0.00'	251.33'

CALCULATED
PJD
CHECKED
SNS

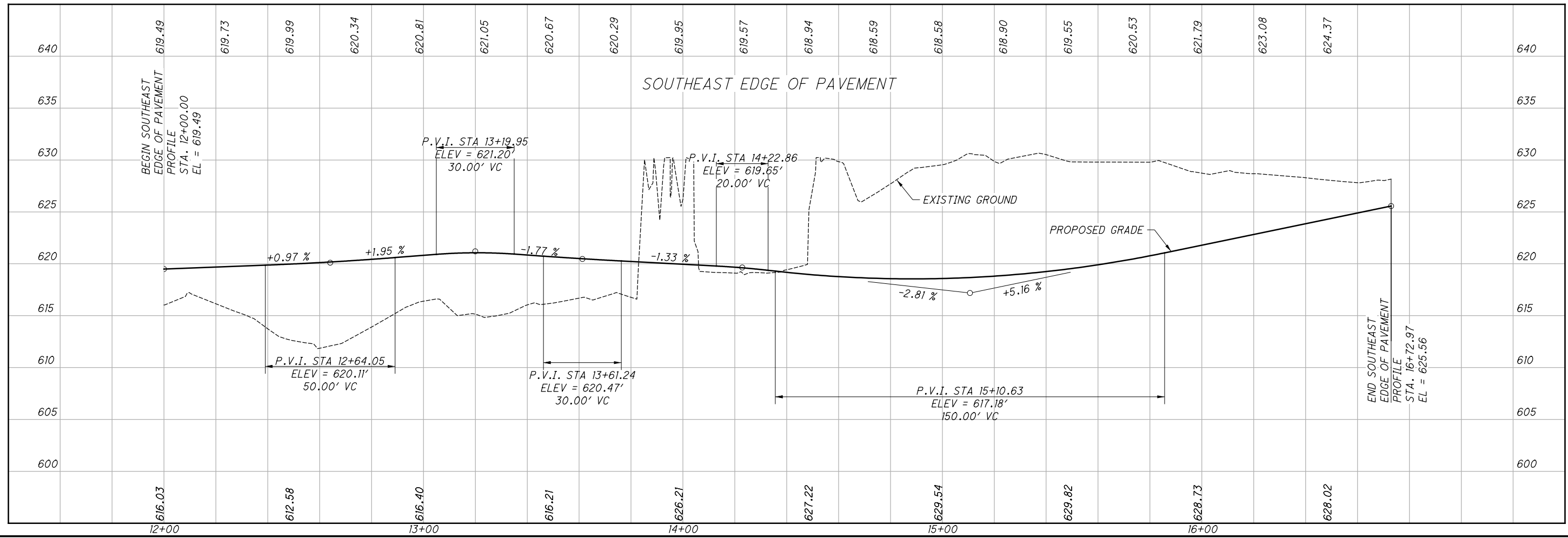
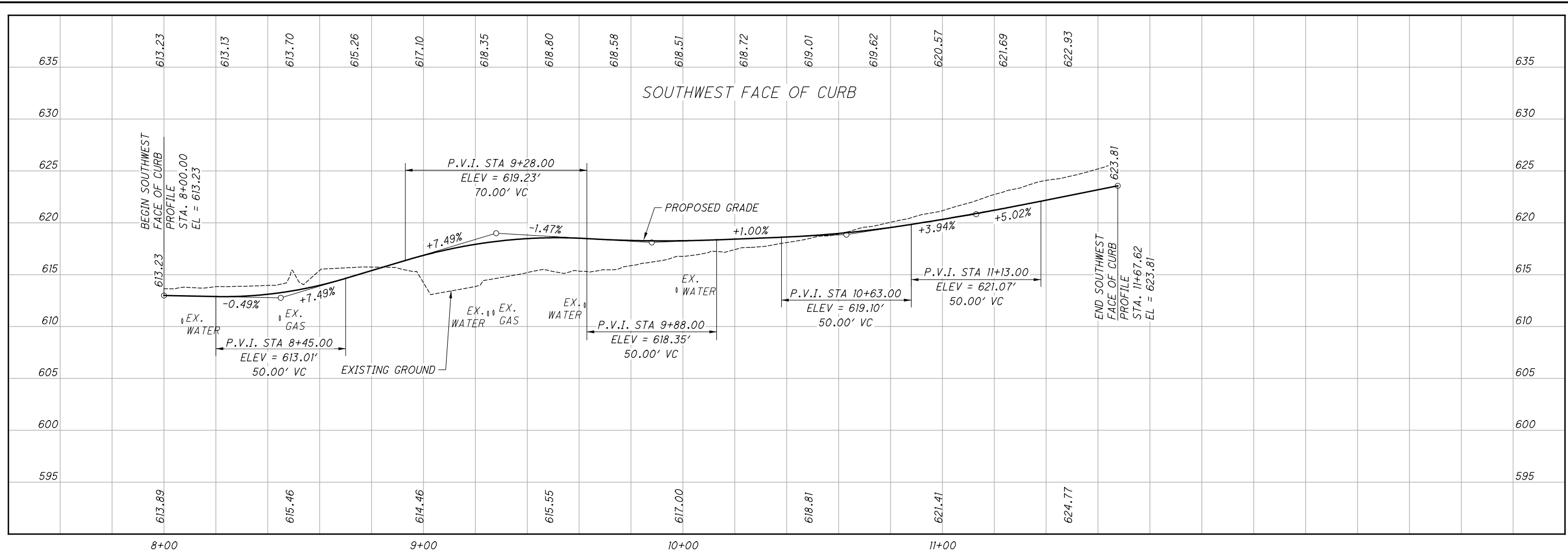
ROUNDABOUT DETAILS REFERENCE LINE TABLES

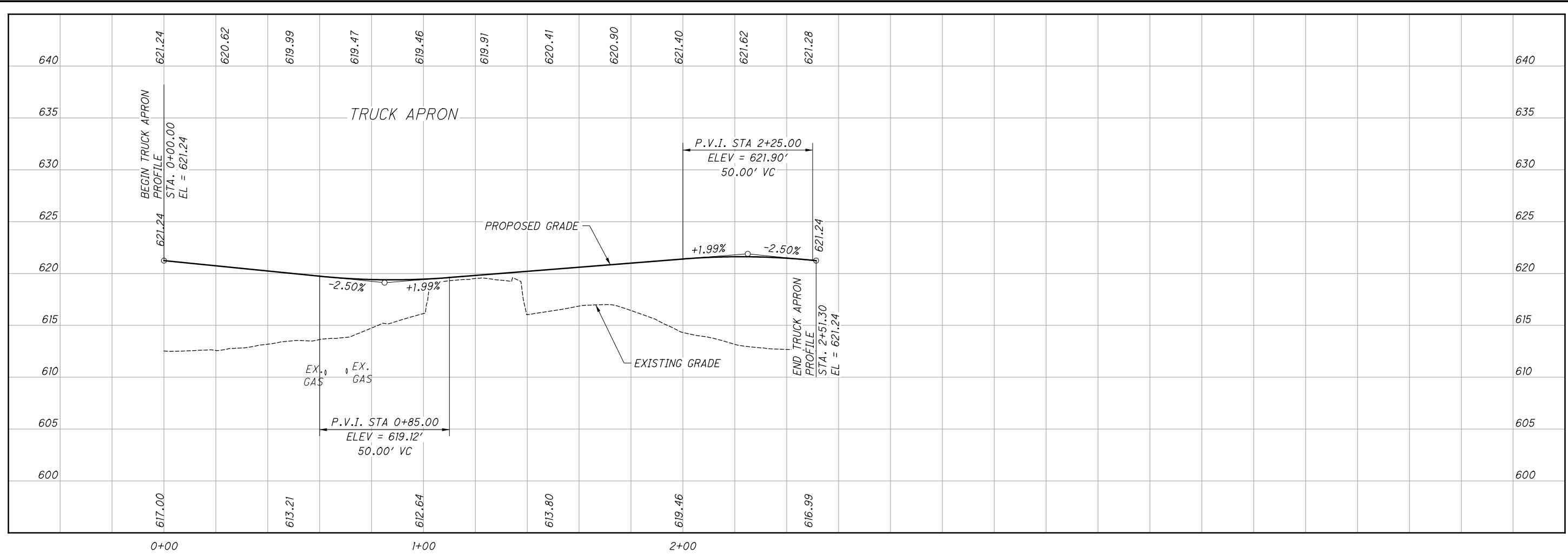
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NOTE: ELEVATIONS SHOWN ARE AT THE FACE OF CURB

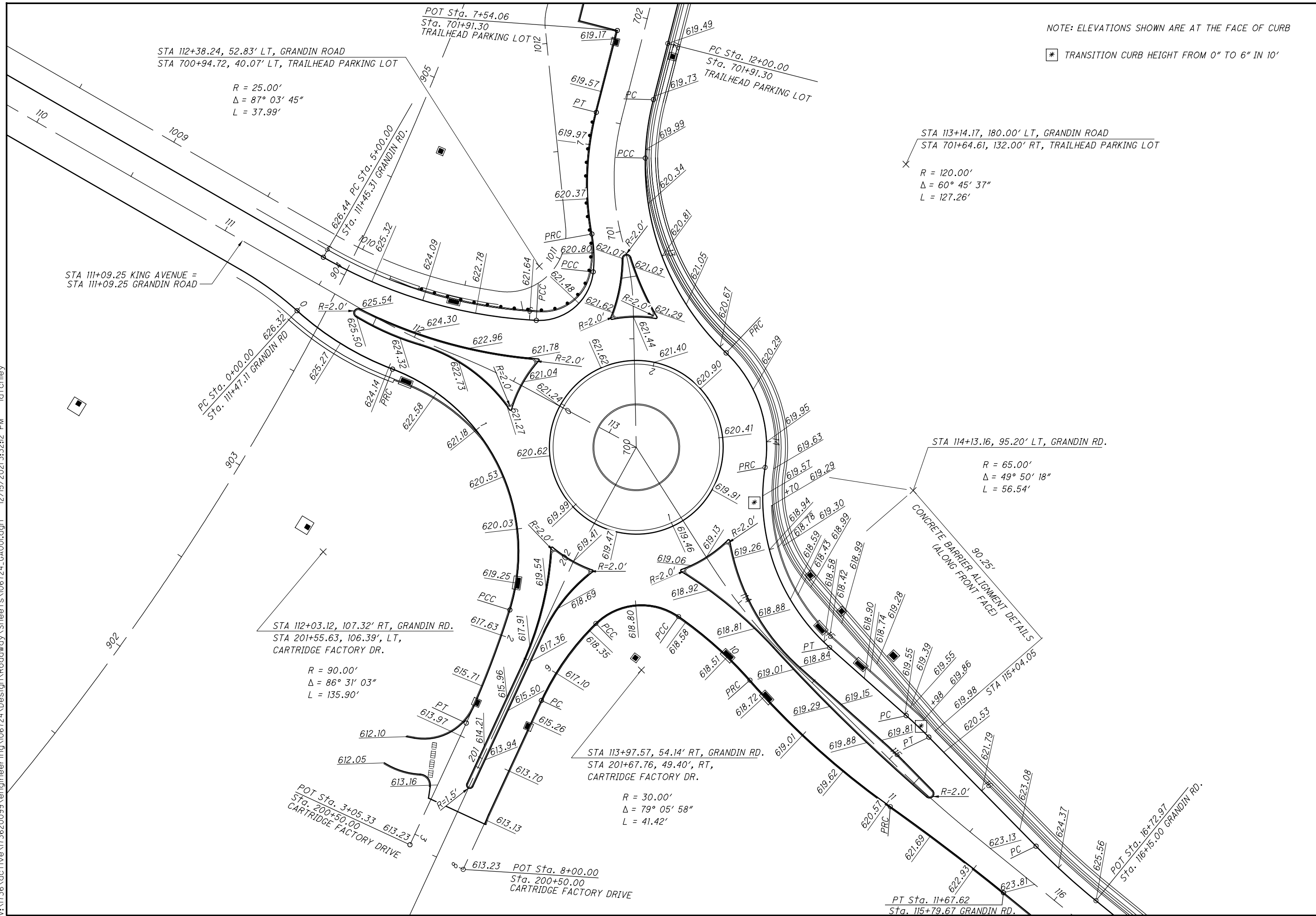
* TRANSITION CURB HEIGHT FROM 0" TO 6" IN 10'



CALCULATED PJD CHECKED SNS

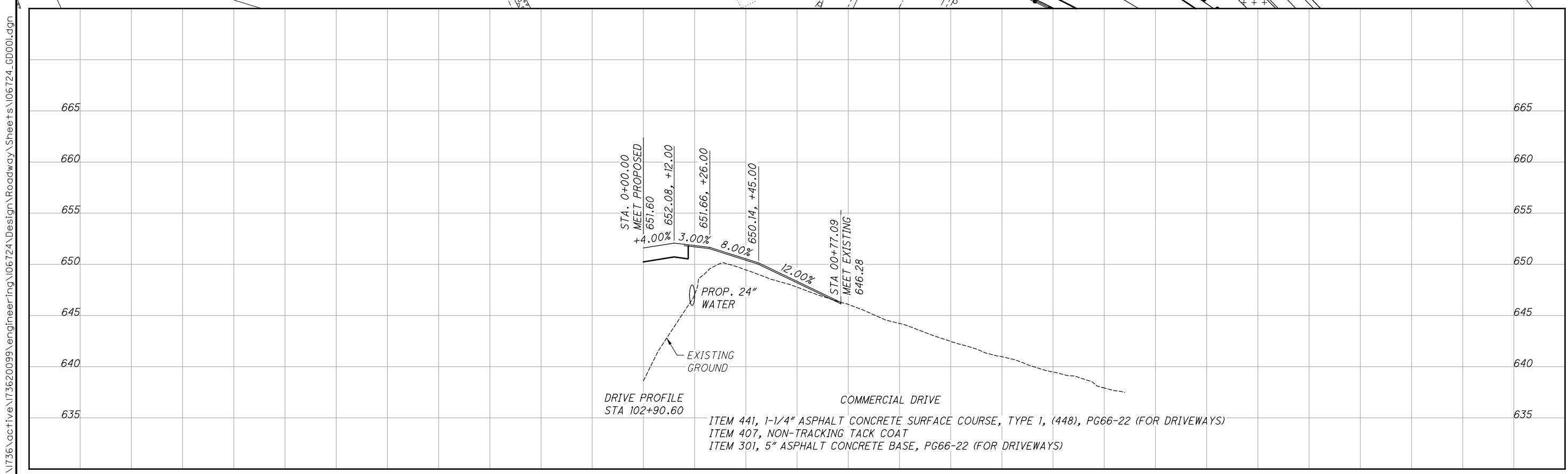
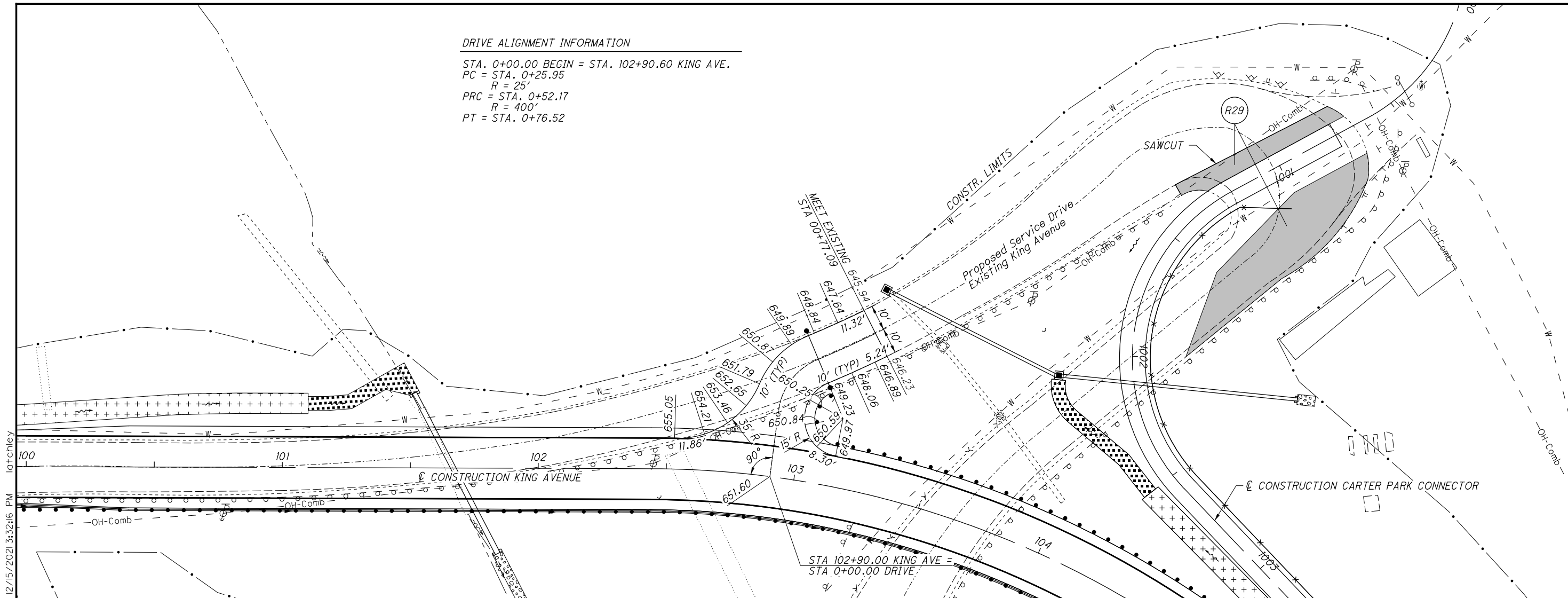
PAVEMENT DETAIL SHEET
ROUNDABOUT

WAR-CR 282-0.97



DRIVE ALIGNMENT INFORMATION

STA. 0+00.00 BEGIN = STA. 102+90.60 KING AVE.
 PC = STA. 0+25.95
 R = 25'
 PRC = STA. 0+52.17
 R = 400'
 PT = STA. 0+76.52



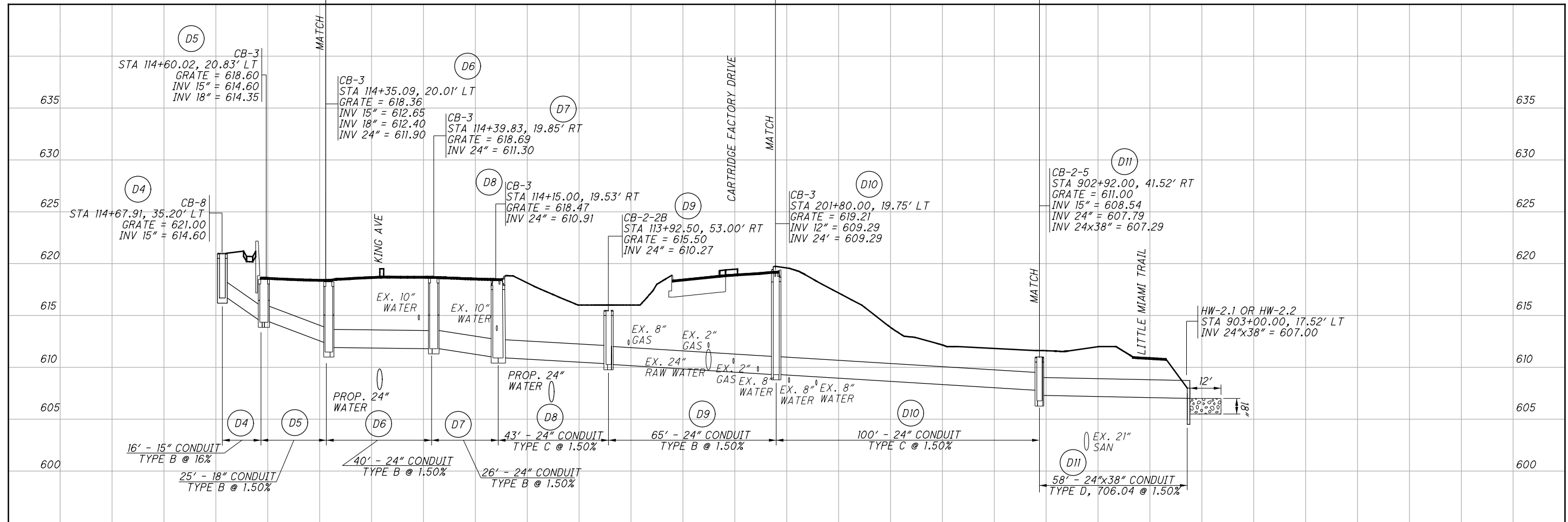
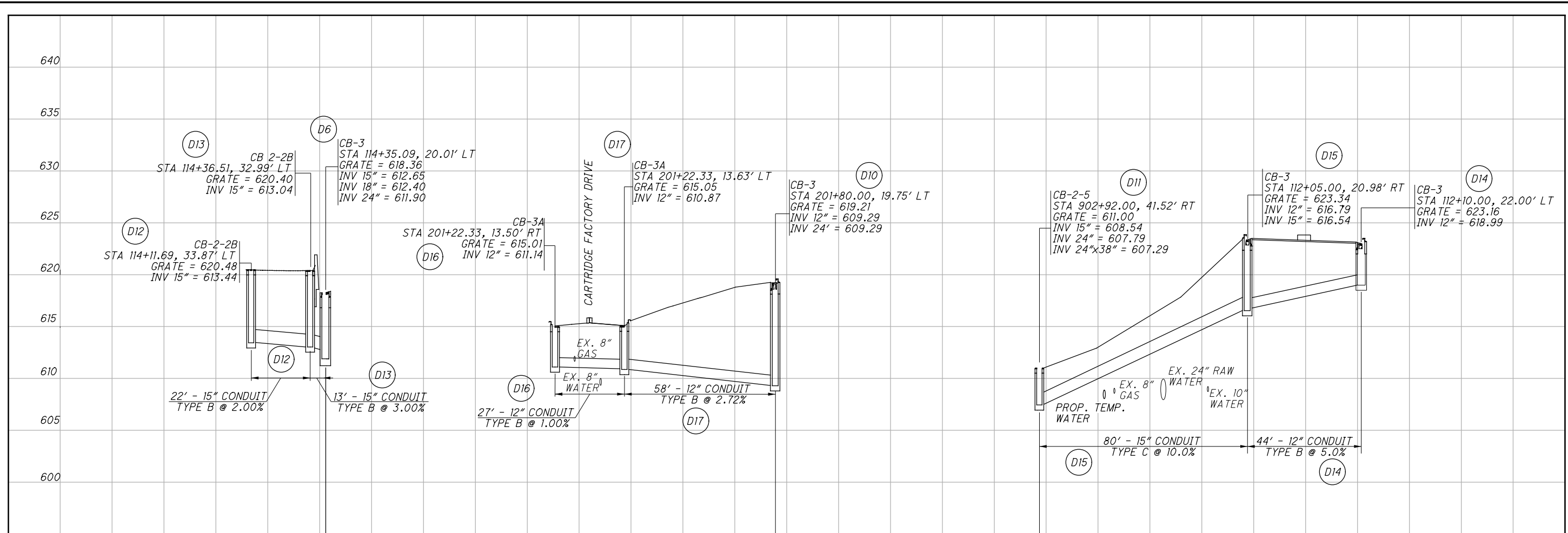
CALCULATED 20
 ZTM
 CHECKED
 PJD

0 20 40
 HORIZONTAL SCALE IN FEET

**DRIVE DETAILS
 SERVICE DRIVE**

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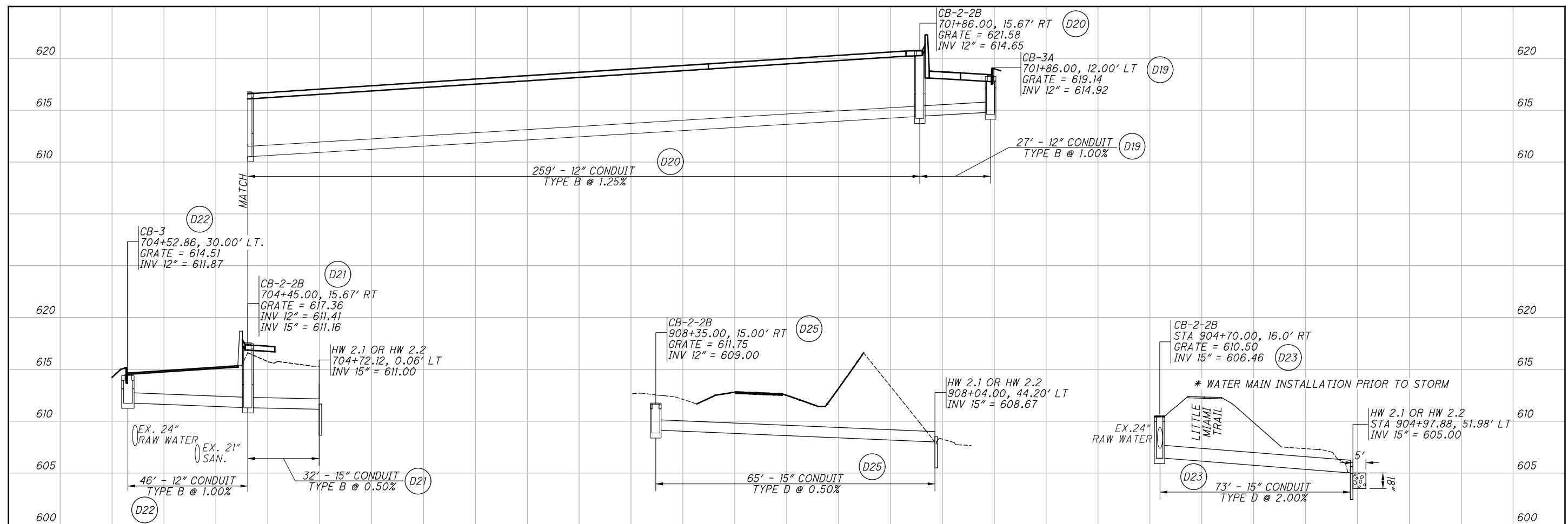
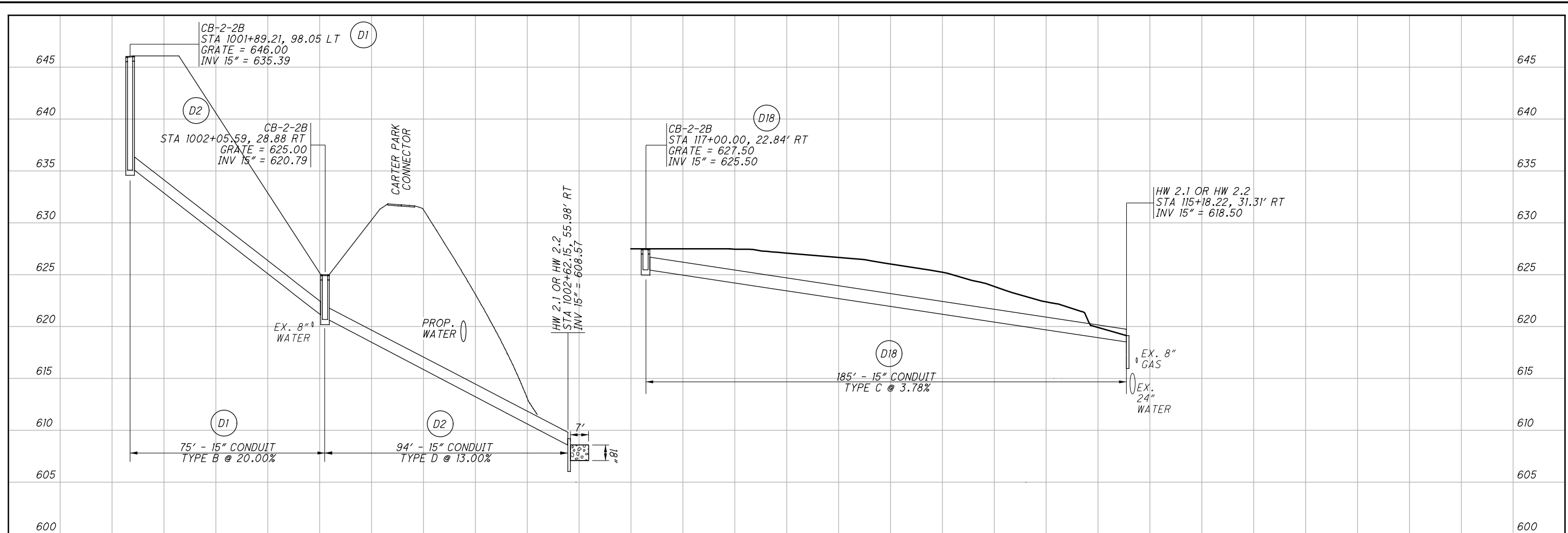


CALCULATED
JTK
CHECKED
PJD

STORM SEWER PROFILES

WAR-CR 282-0.97

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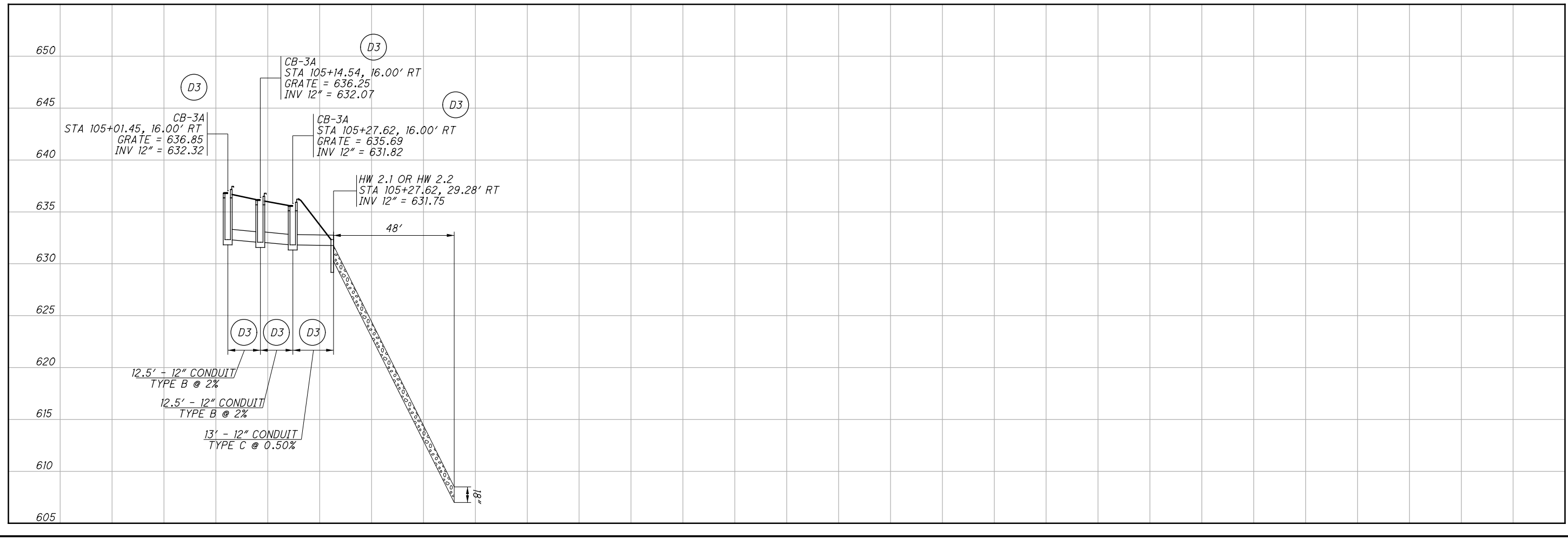
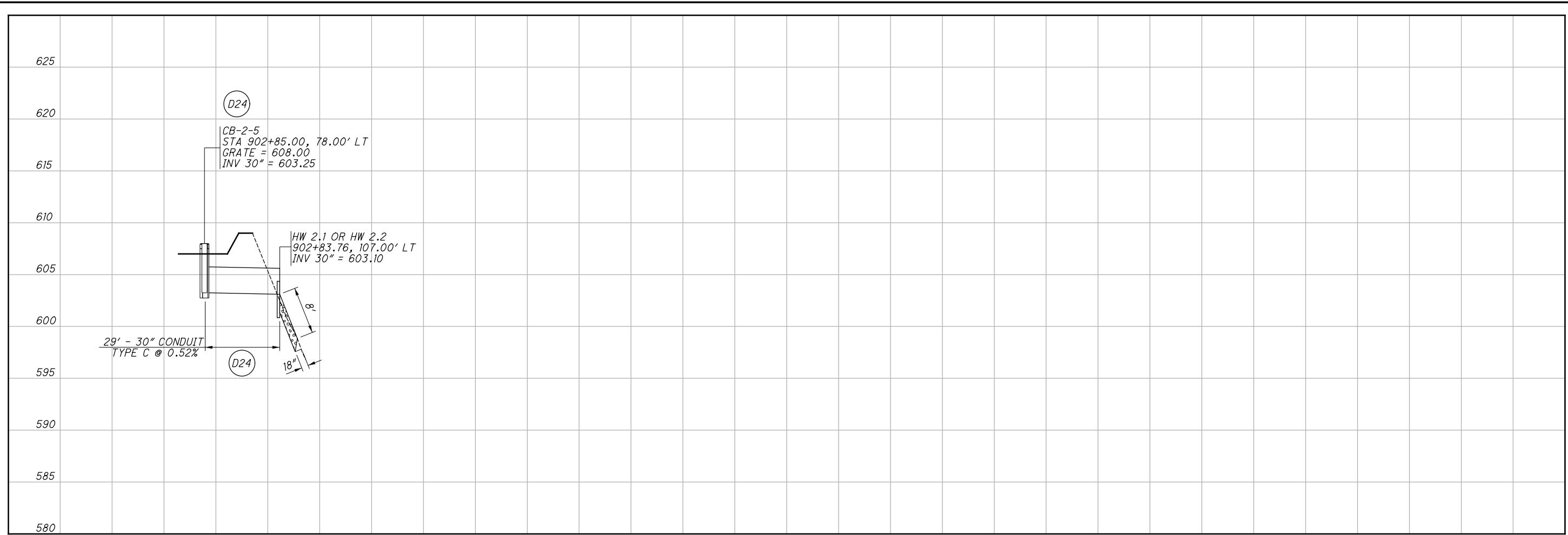


CALCULATED
JTK
CHECKED
PJD

STORM SEWER PROFILES

WAR-CR 282-0.97

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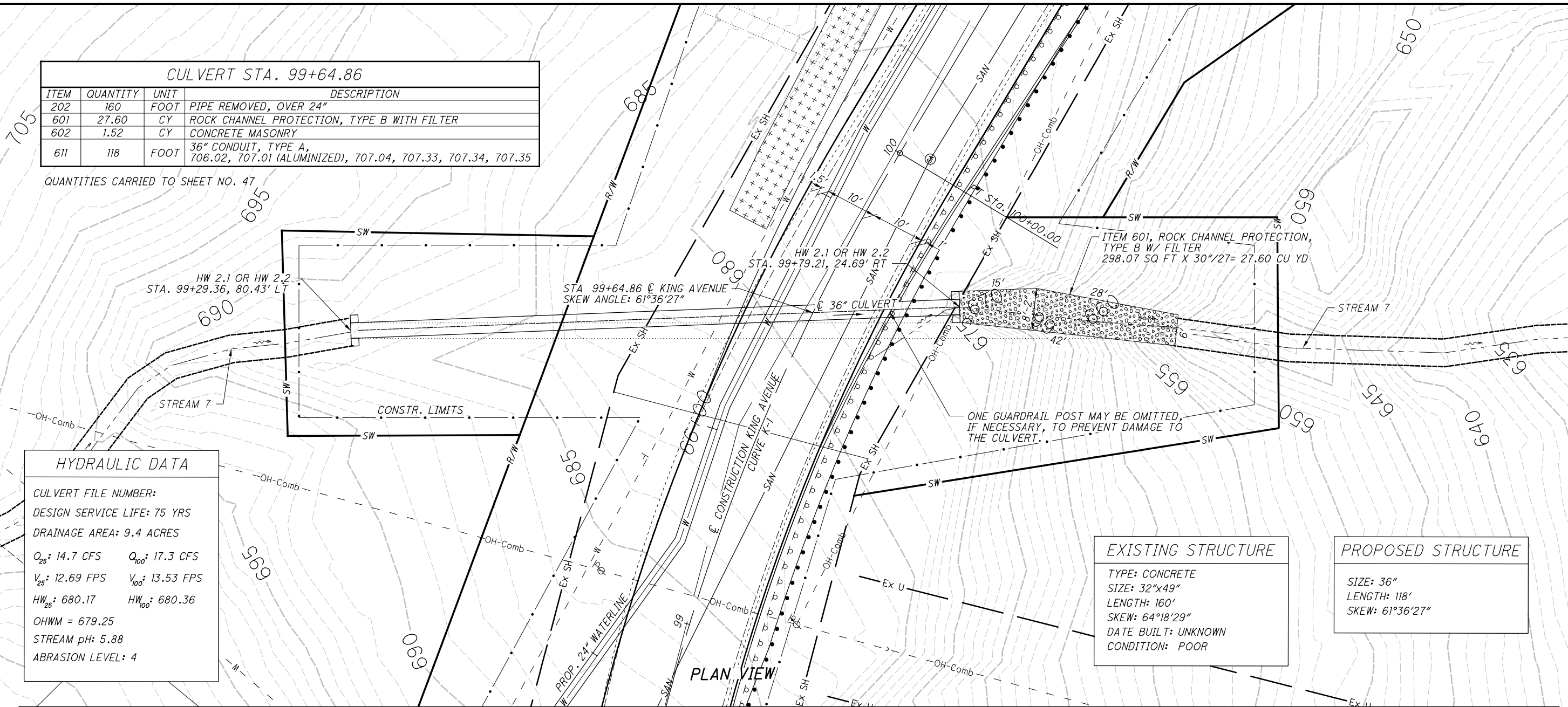
CALCULATED
SLP
CHECKED
PJD

STORM SEWER PROFILES

WAR-CR 282-0.97

CULVERT STA. 99+64.86			
ITEM	QUANTITY	UNIT	DESCRIPTION
202	160	FOOT	PIPE REMOVED, OVER 24"
601	27.60	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER
602	1.52	CY	CONCRETE MASONRY
611	118	FOOT	36" CONDUIT, TYPE A, 706.02, 707.01 (ALUMINIZED), 707.04, 707.33, 707.34, 707.35

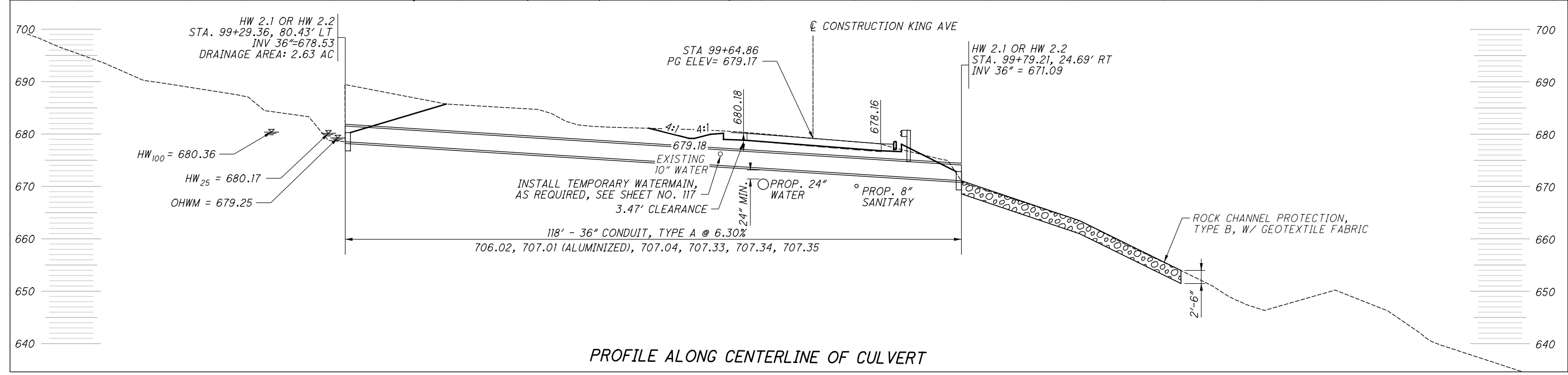
QUANTITIES CARRIED TO SHEET NO. 47



HYDRAULIC DATA	
CULVERT FILE NUMBER:	
DESIGN SERVICE LIFE: 75 YRS	
DRAINAGE AREA: 9.4 ACRES	
Q_{25} : 14.7 CFS	Q_{100} : 17.3 CFS
V_{25} : 12.69 FPS	V_{100} : 13.53 FPS
HW_{25} : 680.17	HW_{100} : 680.36
OHWM = 679.25	
STREAM pH: 5.88	
ABRASION LEVEL: 4	

EXISTING STRUCTURE
TYPE: CONCRETE
SIZE: 32"x49"
LENGTH: 160'
SKEW: 64°18'29"
DATE BUILT: UNKNOWN
CONDITION: POOR

PROPOSED STRUCTURE
SIZE: 36"
LENGTH: 118'
SKEW: 61°36'27"



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HYDRAULIC DATA

CULVERT FILE NUMBER:
 DESIGN SERVICE LIFE: 75 YRS
 DRAINAGE AREA: 2.63 ACRES
 Q_{25} : 5.27 CFS Q_{100} : 6.16 CFS
 HW_{25} : 659.56 HW_{100} : 659.67
 V_{25} : 7.02 FPS V_{100} : 6.30 FPS
 OHWM = 661.40
 STREAM pH: 6.5
 ABRASION LEVEL: 2

CULVERT STA. 101+66.75

ITEM	QUANTITY	UNIT	DESCRIPTION
202	45	FOOT	PIPE REMOVED, 24" AND UNDER
601	20.22	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
602	0.92	CY	CONCRETE MASONRY
611	71	FOOT	24" CONDUIT, TYPE A, 706.02, 707.01 (ALUMINIZED), 707.04, 707.34, 707.35

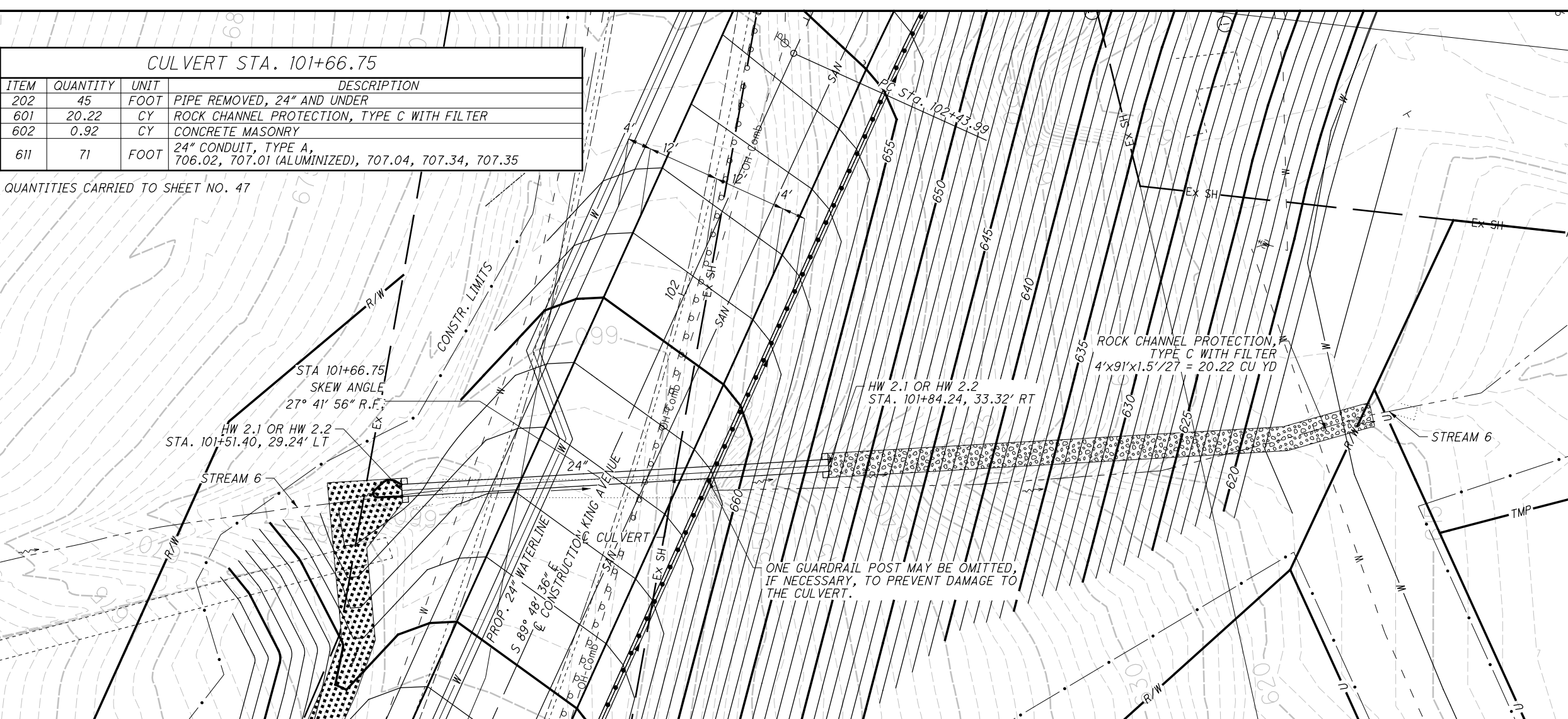
QUANTITIES CARRIED TO SHEET NO. 47

EXISTING STRUCTURE

TYPE: CONCRETE
 SIZE: 36"
 LENGTH: 45'
 SKEW: 114° 20' 23.9"
 DATE BUILT: UNKNOWN
 CONDITION: GOOD

PROPOSED STRUCTURE

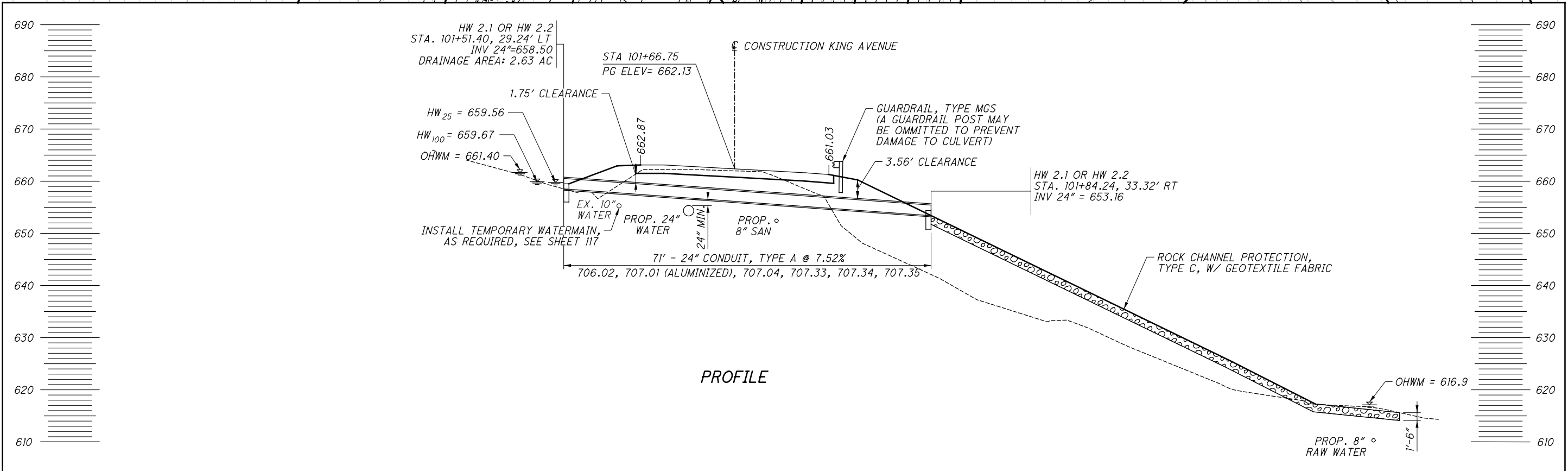
SIZE: 24"
 LENGTH: 70.65'
 SKEW: 27° 41' 56"



ONE GUARDRAIL POST MAY BE OMITTED, IF NECESSARY, TO PREVENT DAMAGE TO THE CULVERT.



CULVERT DETAIL SHEET
STA 101+66.75

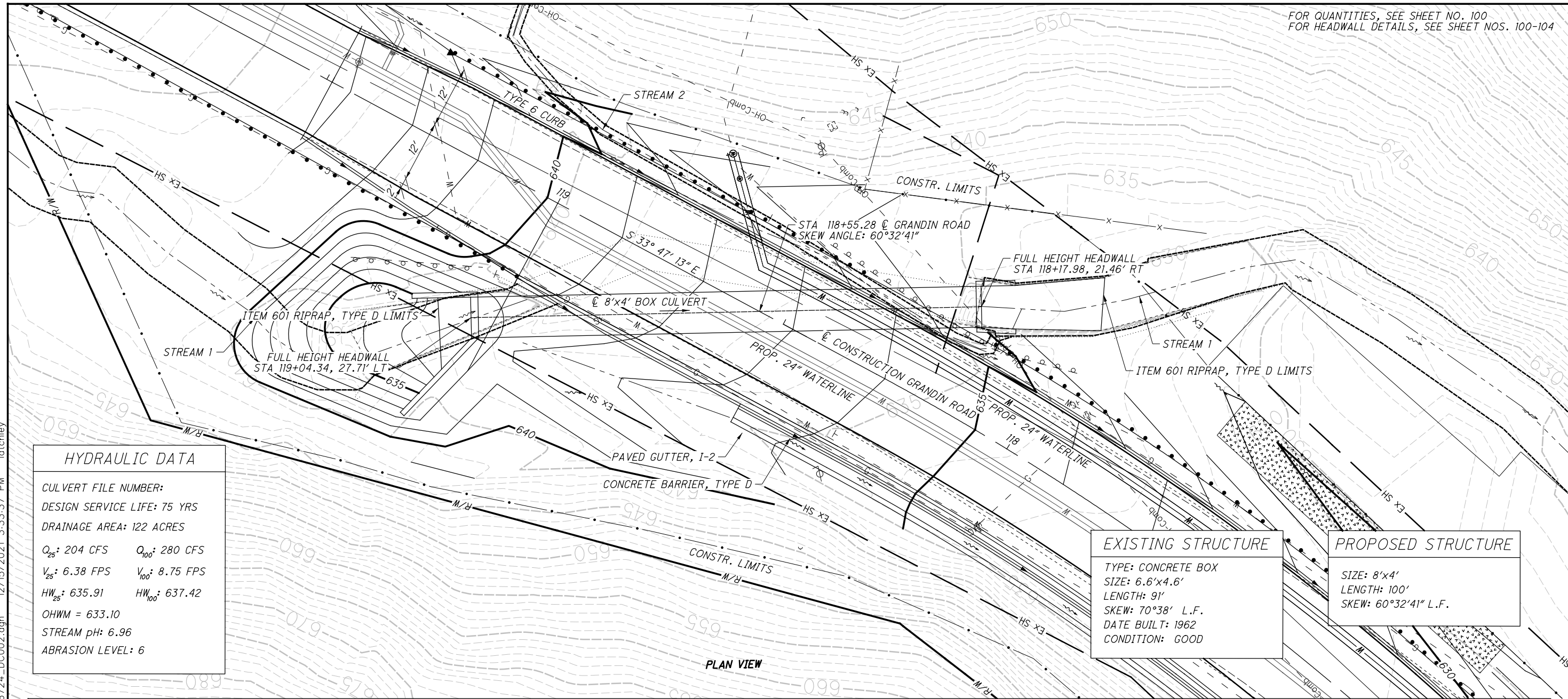


PROFILE

WAR-CR 282-0.97
 98
 256

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FOR QUANTITIES, SEE SHEET NO. 100
FOR HEADWALL DETAILS, SEE SHEET NOS. 100-104



HYDRAULIC DATA

CULVERT FILE NUMBER:
DESIGN SERVICE LIFE: 75 YRS
DRAINAGE AREA: 122 ACRES

Q_{25} : 204 CFS	Q_{100} : 280 CFS
V_{25} : 6.38 FPS	V_{100} : 8.75 FPS
HW_{25} : 635.91	HW_{100} : 637.42

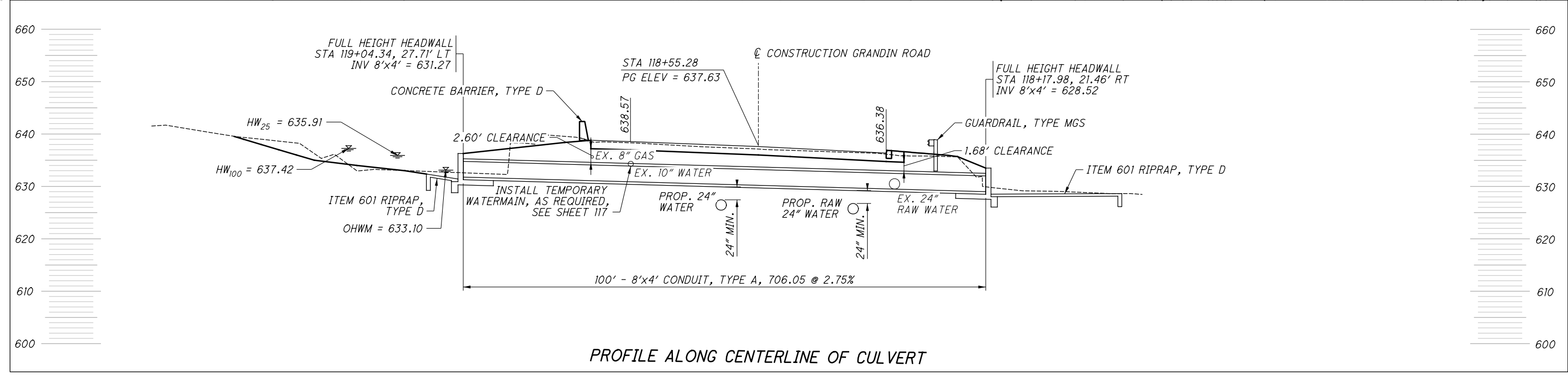
OHWM = 633.10
STREAM pH: 6.96
ABRASION LEVEL: 6

EXISTING STRUCTURE

TYPE: CONCRETE BOX
SIZE: 6.6'x4.6'
LENGTH: 91'
SKEW: 70°38' L.F.
DATE BUILT: 1962
CONDITION: GOOD

PROPOSED STRUCTURE

SIZE: 8'x4'
LENGTH: 100'
SKEW: 60°32'41" L.F.



CULVERT DETAIL SHEET
GRANDIN ROAD STA 118+58.28

WAR-CR 282-0.97

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GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STANDARD DRAWING CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL, $\phi = 28^\circ$
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL, $S = 1500$ PSF.
 COEFFICIENT OF FRICTION (ϕ) = 0.30
 UNIT WEIGHT OF SOIL = 120 PCF
 UNIT WEIGHT OF CONCRETE = 150 PCF
 SLOPE OF BACKFILL = 2:1 (TYPE A & B HEADWALLS)
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT (TYPE C HEADWALLS)
 MAXIMUM FOUNDATION BEARING PRESSURE = 2000 P.S.F.

CONCRETE - COMPRESSIVE STRENGTH 4000 PSI
 (FOOTING, WINGWALL AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617
 GRADE 60 MINIMUM YIELD STRENGTH
 60,000 PSI (ALL REINFORCING SHALL BE
 EPOXY COATED)

BASED ON THE ASSUMED DESIGN DATA, THE WINGWALLS ACHIEVE FACTORED BEARING RESISTANCES THAT ARE GREATER THAN THEIR RESPECTIVE BEARING PRESSURES. IF A BACKFILL MATERIAL WITH A HIGHER INTERNAL ANGLE OF FRICTION OR A LIGHTER TOTAL UNIT WEIGHT IS USED, OR IF A FOUNDATION SOIL WITH A HIGHER DRAINED INTERNAL ANGLE OF FRICTION OR A HIGHER UNDRAINED SHEAR STRENGTH IS ENCOUNTERED, THEN THE STABILITY OF THE WINGWALLS IS SATISFACTORY.

FORESLOPE WALL ANCHOR DOWELS: ANCHOR PER CMS 510 WITH NONSHRINK, NONMETALLIC GROUT CONFORMING TO CMS 705.20 AND TO A DEPTH SPECIFIED ON SHEET 3/5 AND 4/5. PAYMENT FOR DOWEL HOLES, GROUT AND INSTALLATION SHALL BE INCLUDED WITH ITEM 511, CLASS QC1 CONCRETE, HEADWALL, AS PER PLAN.

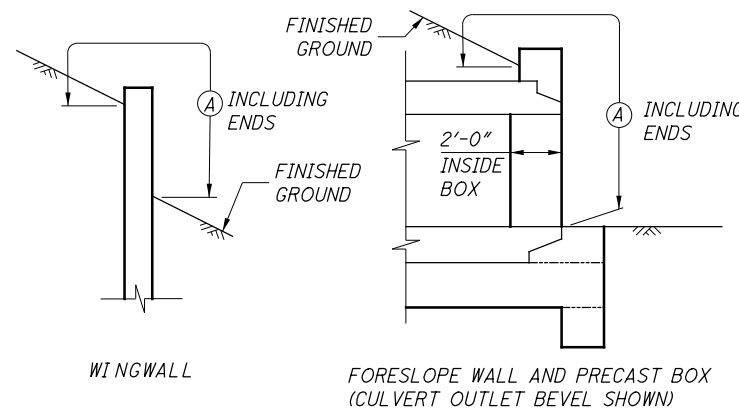
AS AN ALTERNATIVE TO RESIN BONDING, THREADED INSERTS OR NONPROTRUDING MECHANICAL CONNECTORS CAST INTO THE CULVERT BY THE MANUFACTURER MAY BE USED PROVIDED THEY CAN RESIST AN ULTIMATE PULL-OUT STRENGTH OF 12 KIPS AND MAINTAIN A MINIMUM COVER OF 3 INCHES AT THE BOTTOM OF THE CULVERT SLAB. MECHANICAL CONNECTORS MUST PROVIDE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. PAYMENT FOR INSERTS OR MECHANICAL CONNECTORS SHALL BE INCLUDED WITH ITEM 611, 8'-0" SPAN X 4'-0" RISE CONDUIT, TYPE A, 706.05, AS PER PLAN.

BACKFILL LIMITATION: WHEN THE DESIGN HEIGHT IS GREATER THAN 10 FT, THE BACKFILL BEHIND THE WINGWALLS SHALL NOT BE PLACED HIGHER THAN THE ELEVATION OF THE SOIL ABOVE THE TOE. WHEN THE SOIL ABOVE THE TOE IS AT ITS FINISHED ELEVATION, THE REMAINDER OF THE BACKFILL MAY BE PLACED.

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE. WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER: PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

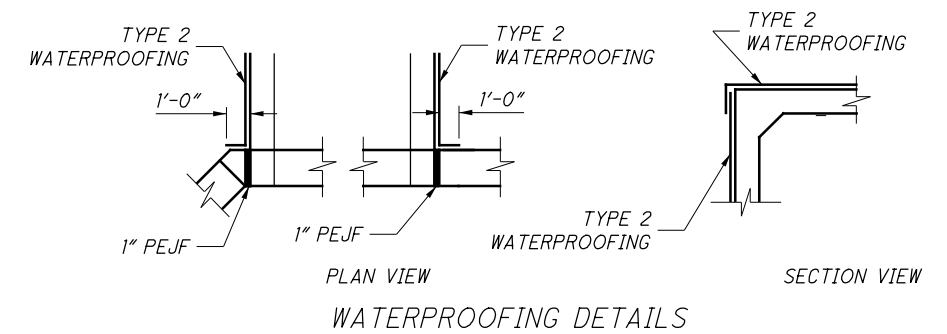
SEALING OF FORESLOPE WALL AND WINGWALLS: ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.



LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

Ⓐ - SEAL ENTIRE CONCRETE SURFACE AREA

WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.
 TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.



BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH THE APPROPRIATE ITEM 511 QUANTITY FOR PAYMENT. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

ESTIMATED QUANTITIES				
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	11000	LUMP		STRUCTURE REMOVED
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING
503	21300	LUMP		UNCLASSIFIED EXCAVATION (WINGWALL FOOTING)
509	10000	4312	LB.	EPOXY COATED REINFORCING STEEL
511	46010	12	CU. YD.	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING
511	46510	25	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	46611	2	CU. YD.	CLASS QC1 CONCRETE, HEADWALL, AS PER PLAN
512	10100	66	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	250	SQ. YD.	TYPE 2 WATERPROOFING
516	13600	29	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC
601	11000	32	SQ. YD.	RIPRAP, TYPE D
611	94801	100	LIN. FT.	8'-0" SPAN X 4'-0" RISE CONDUIT, TYPE A, 706.05, AS PER PLAN

NOTE: TOTALS CARRIED TO GENERAL SUMMARY SHEET

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CULVERT LAYOUT SHEET
 STA. 118+55.28

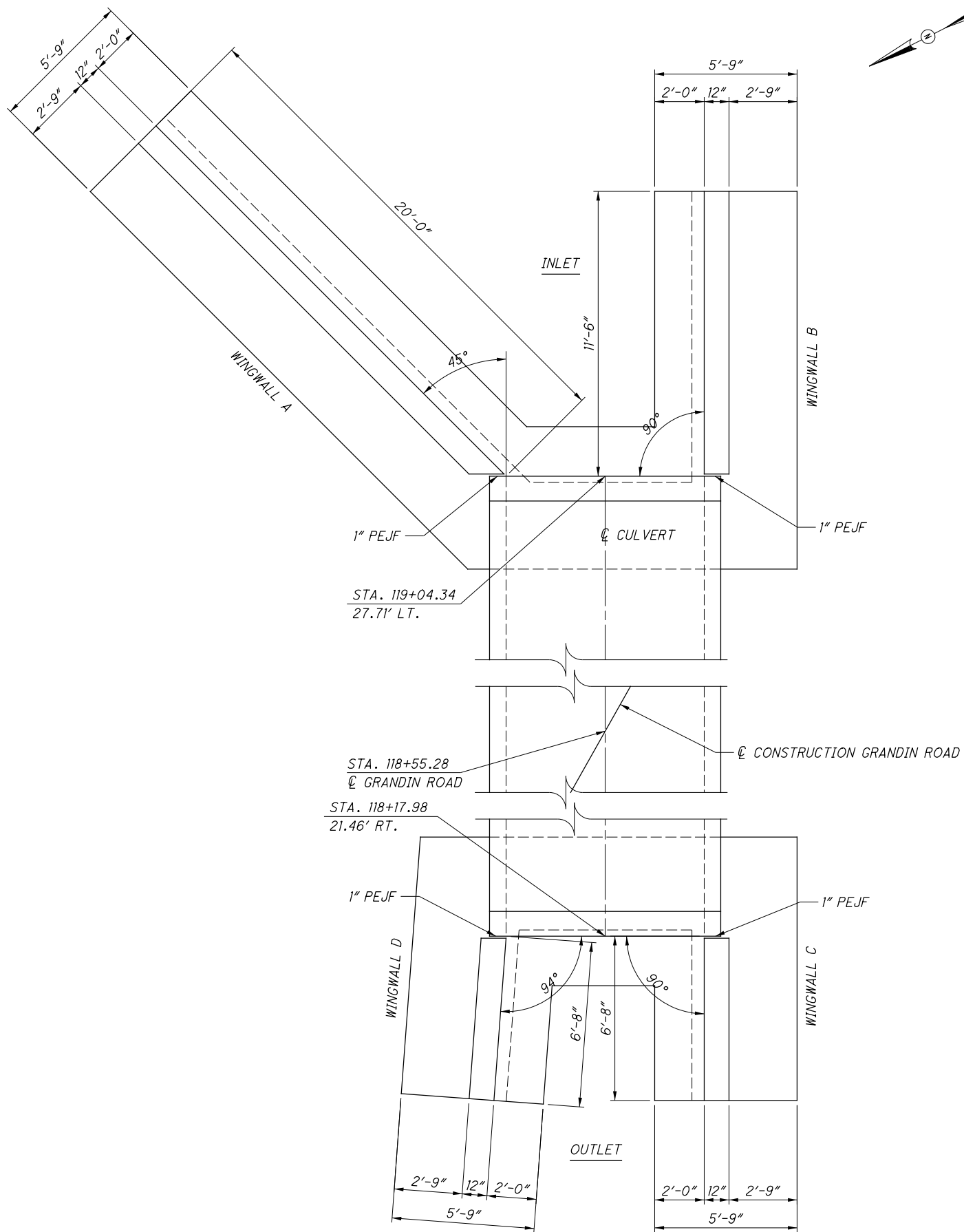
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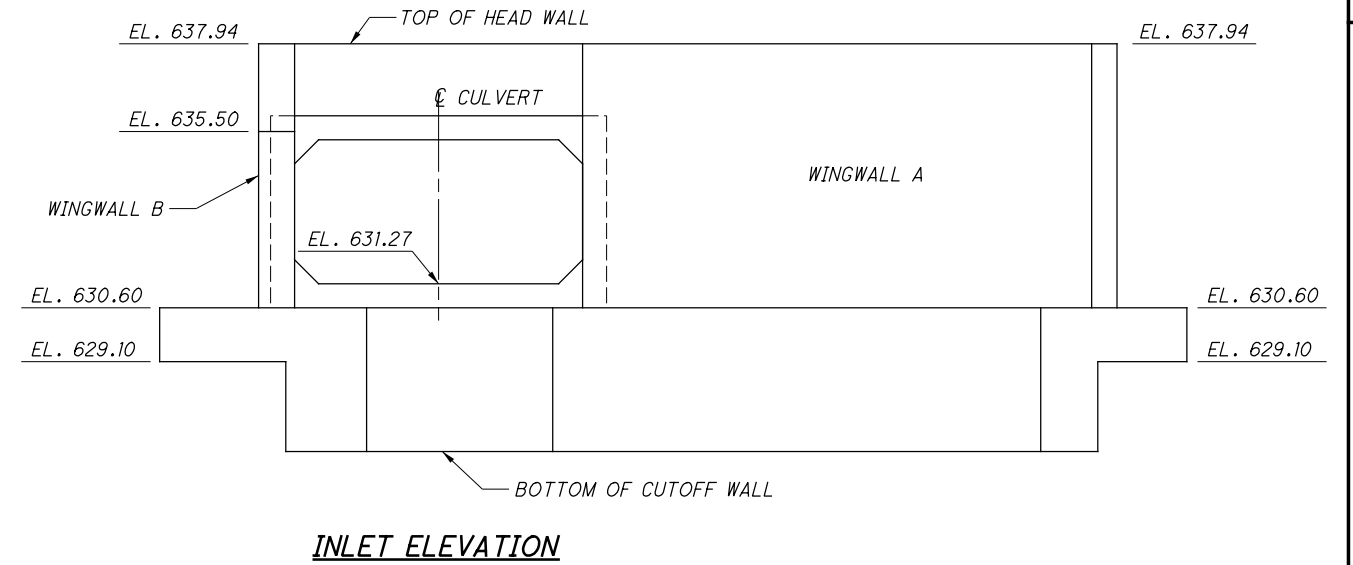
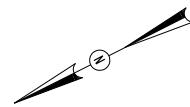
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DESIGNED MRS BSM
 CHECKED EDA

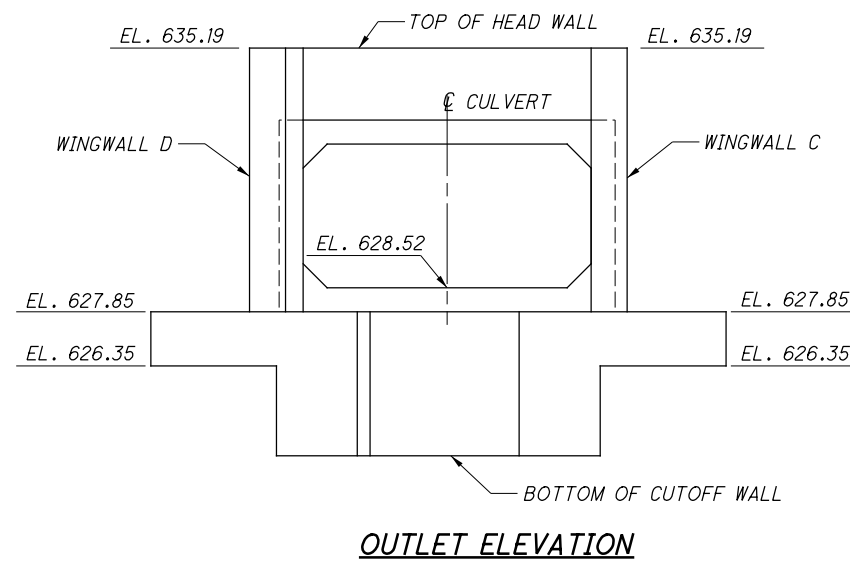
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CULVERT & WINGWALL LAYOUT



INLET ELEVATION



OUTLET ELEVATION

DESIGNED: MRS
CHECKED: EDA
REVIEWED: BSM

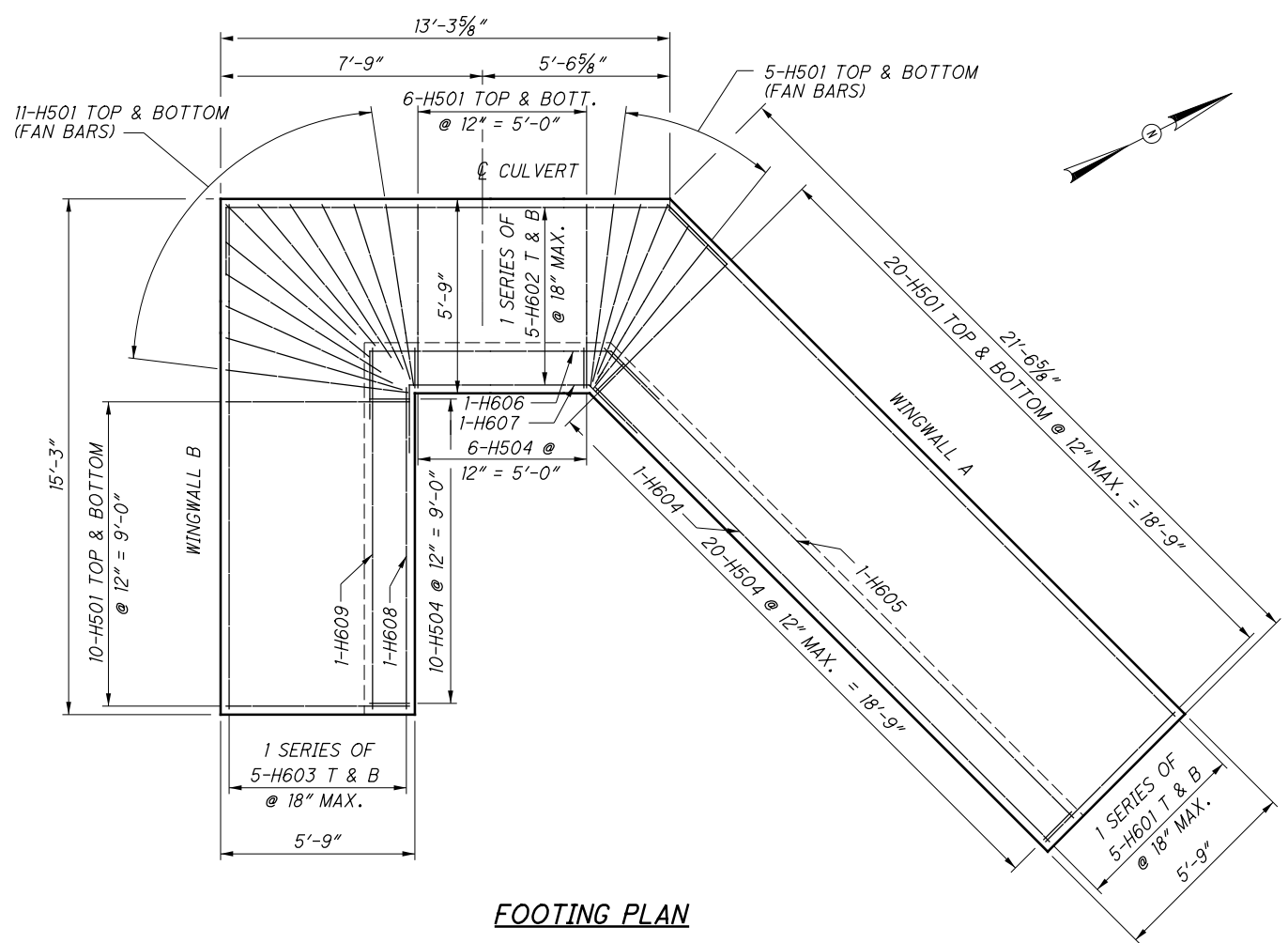
CULVERT LAYOUT SHEET
STA. 118+55.28

WAR-CR 282-0.97

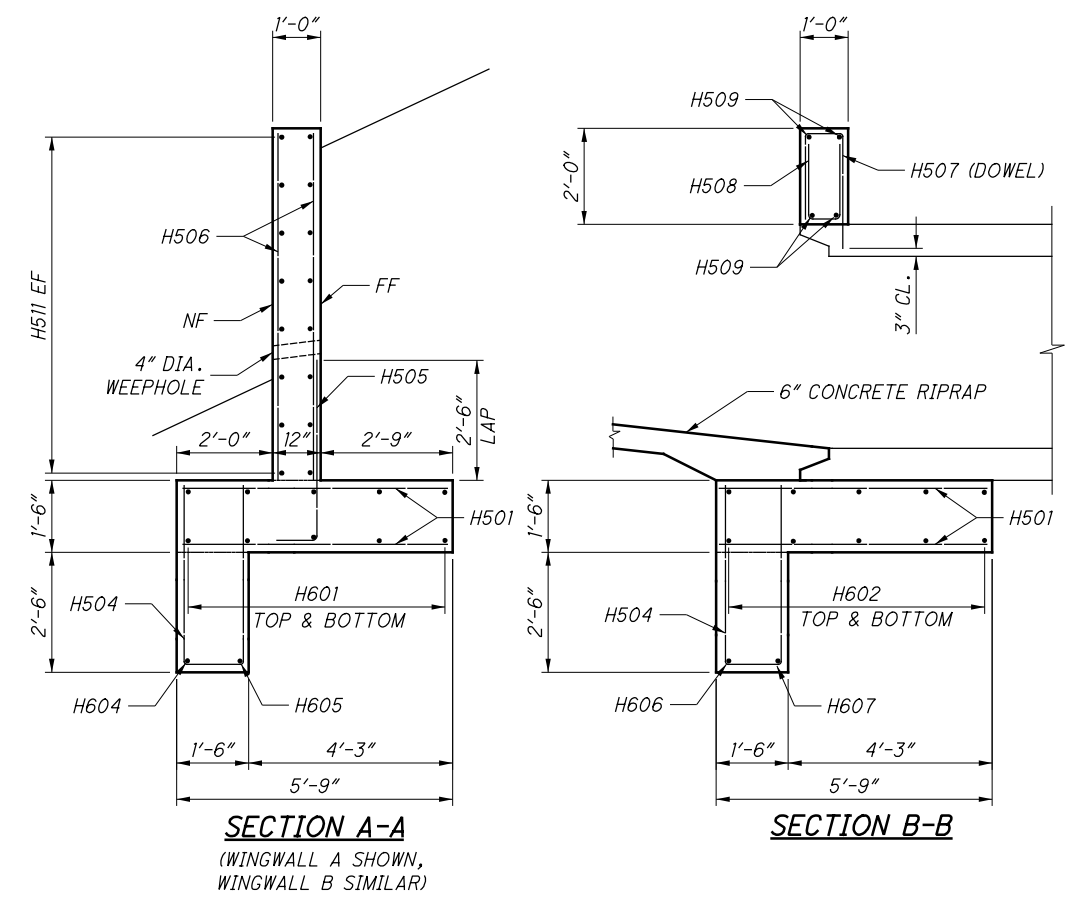
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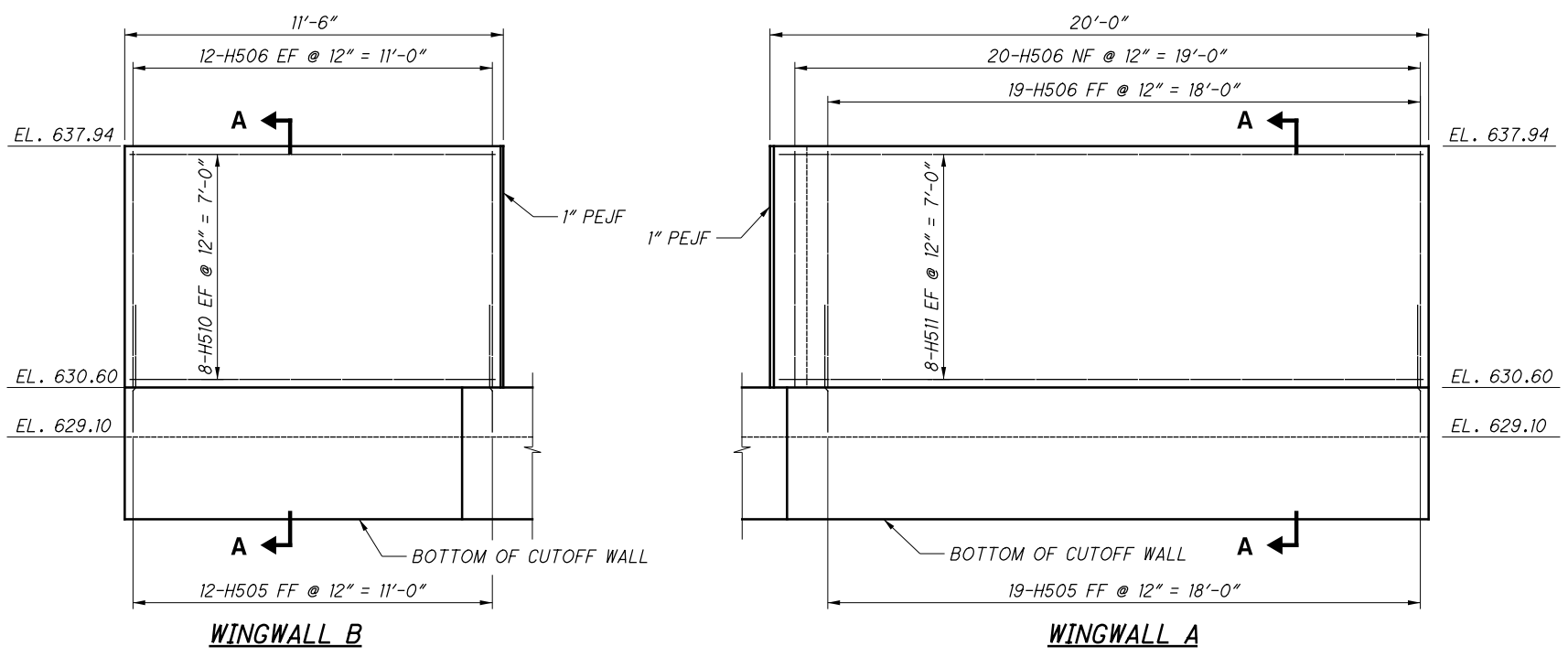


FOOTING PLAN



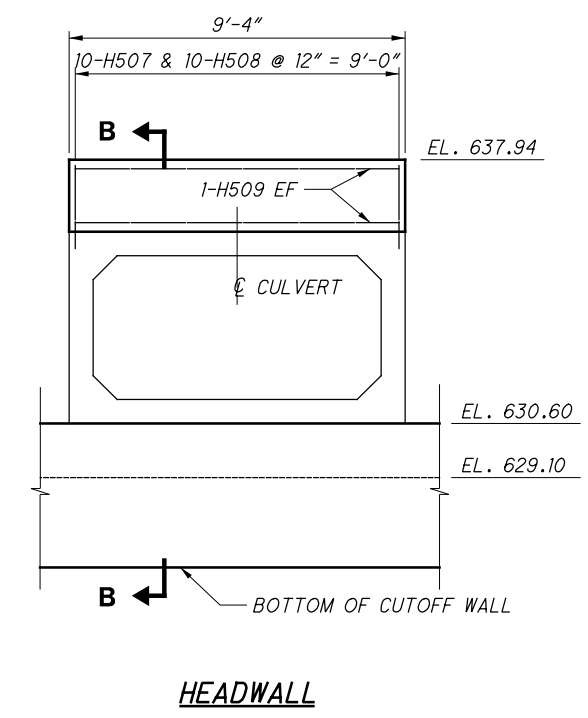
SECTION A-A
(WINGWALL A SHOWN,
WINGWALL B SIMILAR)

SECTION B-B



WINGWALL B

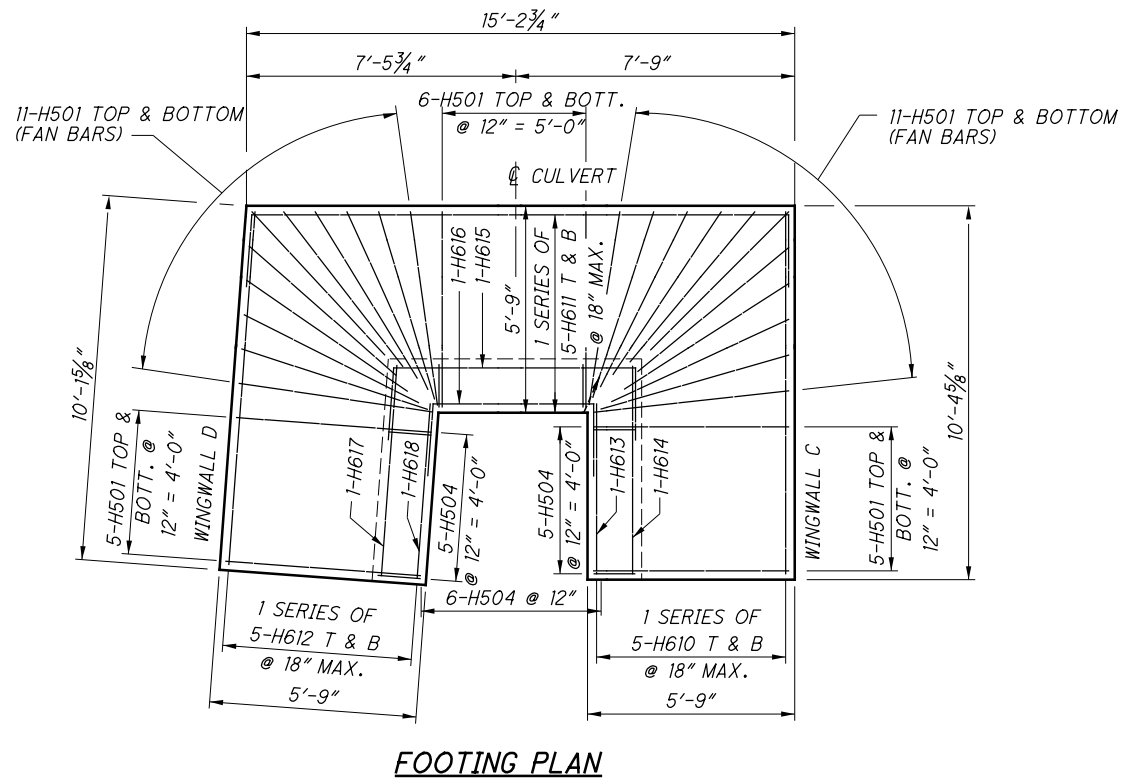
WINGWALL A



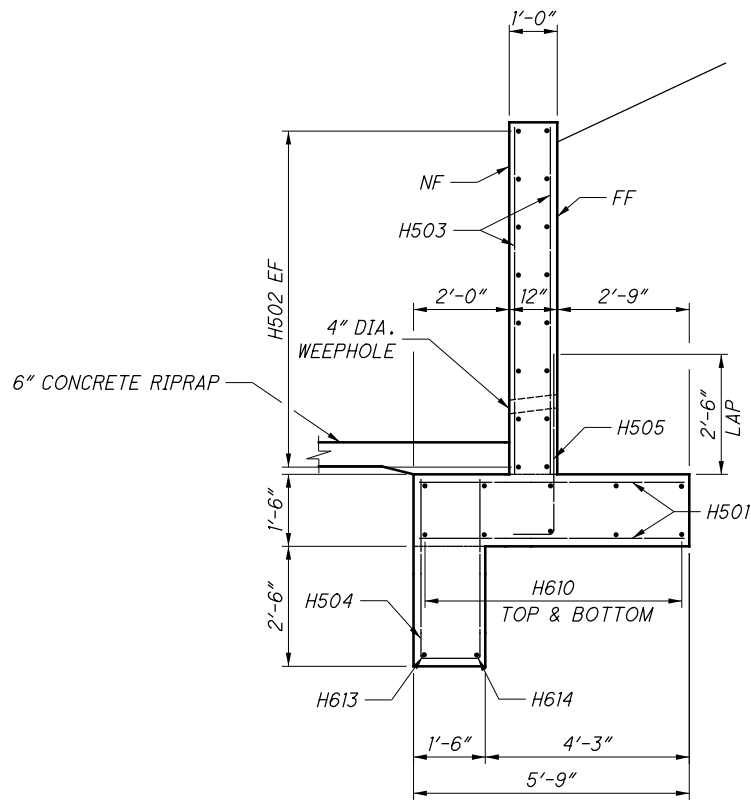
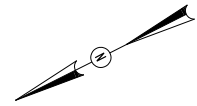
HEADWALL

DESIGNED	MRS
CHECKED	EDA
REVIEWED	BSM
CULVERT INLET DETAIL SHEET	
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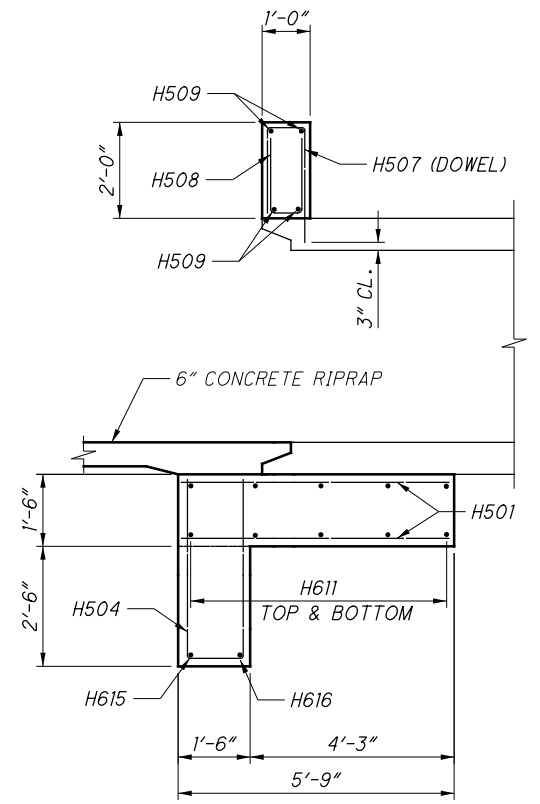


FOOTING PLAN

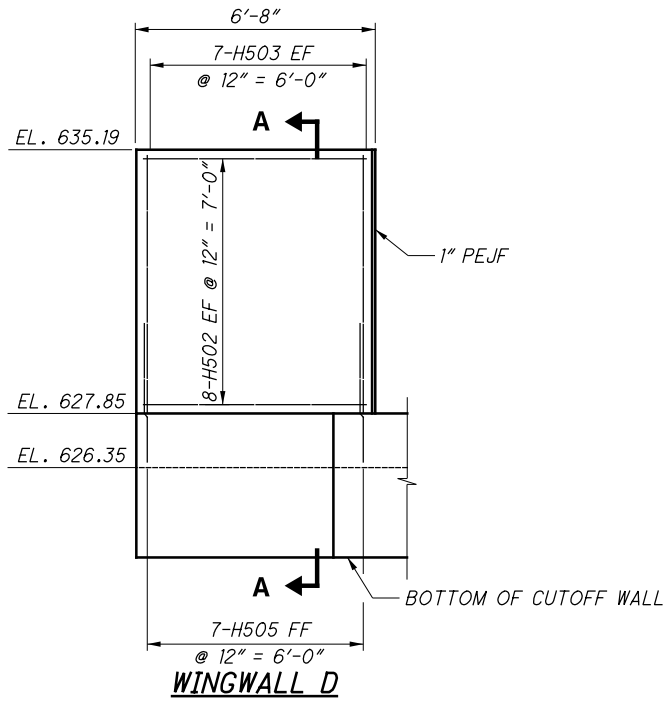


SECTION A-A

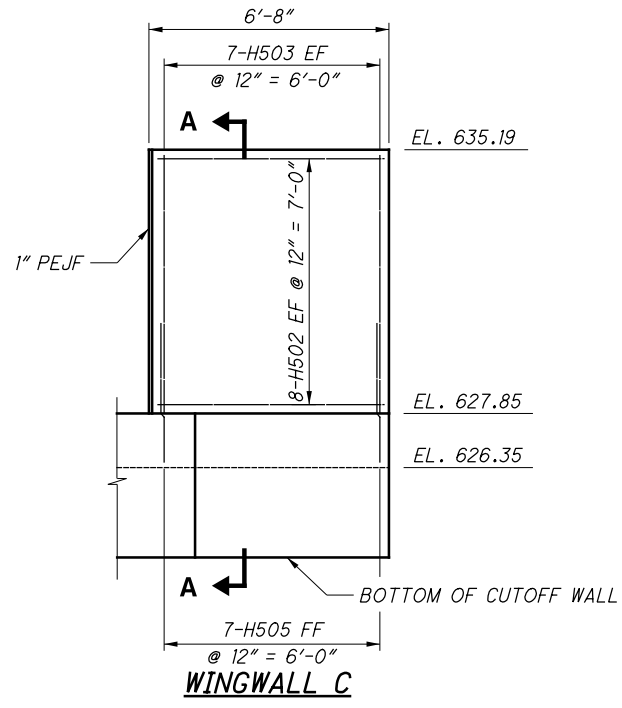
(WINGWALL C SHOWN, WINGWALL D SIMILAR)



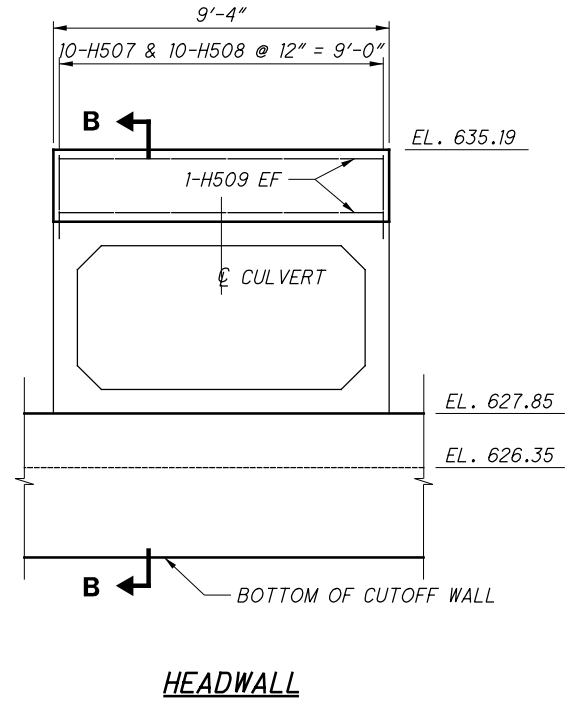
SECTION B-B



WINGWALL D



WINGWALL C



HEADWALL

DESIGNED MRS
CHECKED EDA
REVIEWED BSM

CULVERT OUTLET DETAIL SHEET
STA. 118+55.28

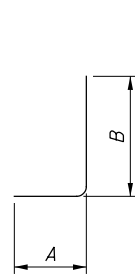
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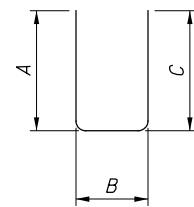
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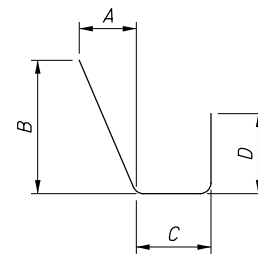
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						R	INC
					A	B	C	D	E			
INLET/OUTLET												
	2	19'-0"										
H601	SERIES OF	TO	302	STR.								7"
	5	21'-2"										
	2	10'-10"					7'-1"					
H602	SERIES OF	TO	208	10	1'-5"	1'-5"	TO	2'-0"				1'-6"
	5	16'-10"					13'-1"					
	2	9'-7"										
H603	SERIES OF	TO	183	STR.								1'-4"
	5	14'-11"										
H604	1	19'-0"	29	STR.								
H605	1	21'-2"	32	STR.								
H606	1	9'-10"	15	10	1'-5"	1'-5"	7'-1"	2'-0"				
H607	1	9'-1"	14	10	1'-5"	1'-5"	5'-4"	2'-0"				
H608	1	9'-5"	14	STR.								
H609	1	10'-8"	16	STR.								
	2	4'-9"										
H610	SERIES OF	TO	111	STR.								1'-3 ³ / ₄ "
	5	10'-0"										
	2	8'-2"					4'-6"					
H611	SERIES OF	TO	201	10	2"	1'-11 ⁷ / ₈ "	TO	2'-0"				2'-7 ¹ / ₄ "
	5	18'-7"					14'-11"					
	2	4'-10"										
H612	SERIES OF	TO	110	STR.								1'-3"
	5	9'-10"										
H613	1	5'-6"	8	STR.								
H614	1	6'-6"	10	STR.								
H615	1	9'-8"	15	10	2"	1'-11 ⁷ / ₈ "	5'-11"	2'-0"				
H616	1	11'-11"	18	10	2"	1'-11 ⁷ / ₈ "	8'-2"	2'-0"				
H617	1	6'-7"	10	STR.								
H618	1	5'-6"	8	STR.								
H501	160	4'-2"	695	STR.								
H502	32	6'-4"	211	STR.								
H503	28	7'-2"	209	STR.								
H504	56	8'-1"	472	2	3'-7"	1'-2"	3'-7"					
H505	45	4'-5"	207	1	10"	3'-8"						
H506	63	7'-2"	471	STR.								
H507	20	4'-5"	92	2	1'-8"	8"	2'-4"					
H508	20	3'-9"	78	2	1'-8"	8"	1'-8"					
H509	8	9'-0"	75	STR.								
H510	16	11'-2"	186	STR.								
H511	16	18'-8"	312	STR.								
		TOTAL	4312									



TYPE-1



TYPE-2



TYPE-10

DESIGNED ALH
CHECKED EDA
REVIEWED BSM

REINFORCING STEEL LIST
STA. 118 +55.28

WAR-CR 282-0.97

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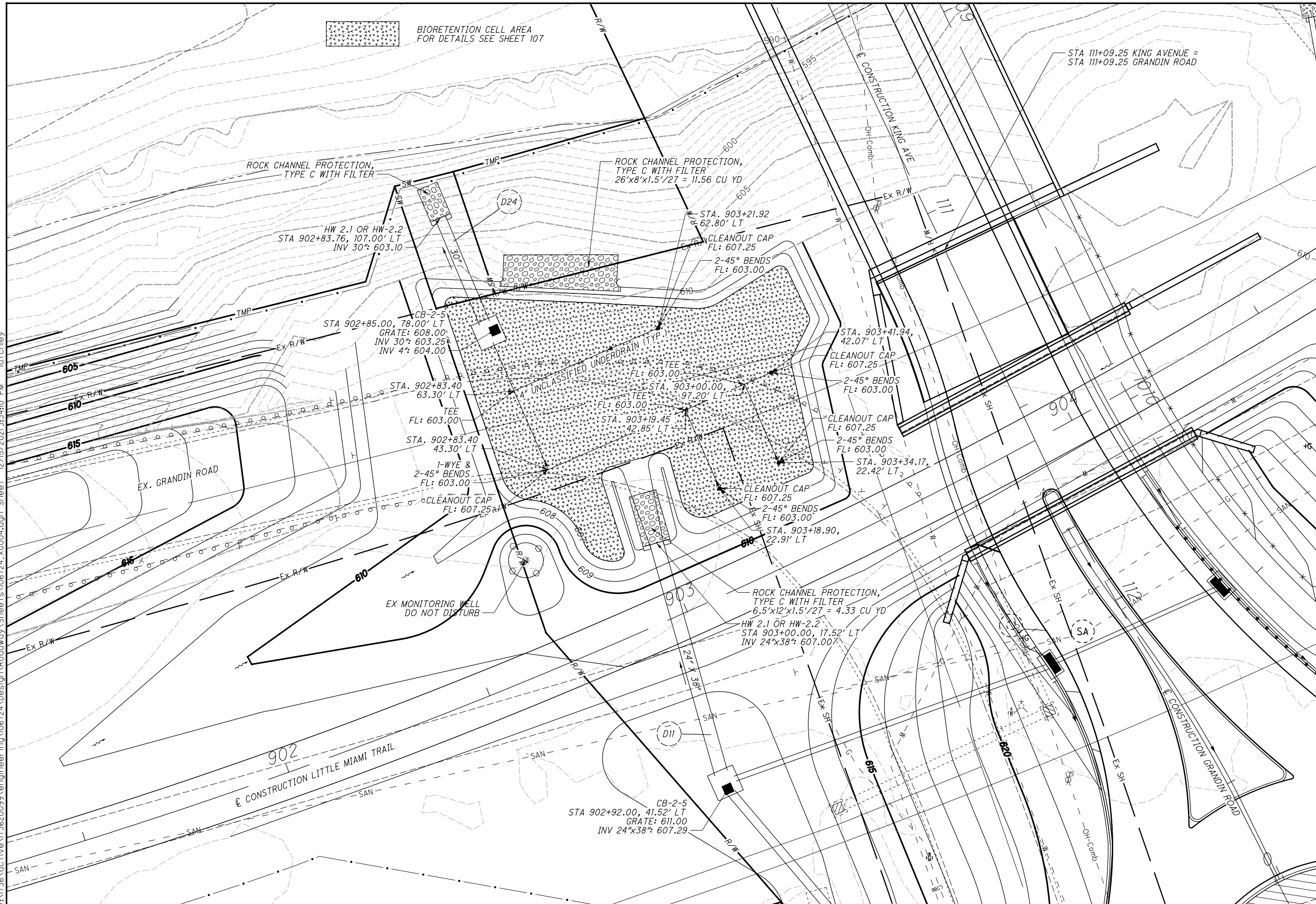
BIORETENTION CELL AREA
FOR DETAILS SEE SHEET 107

0 5 10 20
HORIZONTAL SCALE IN FEET

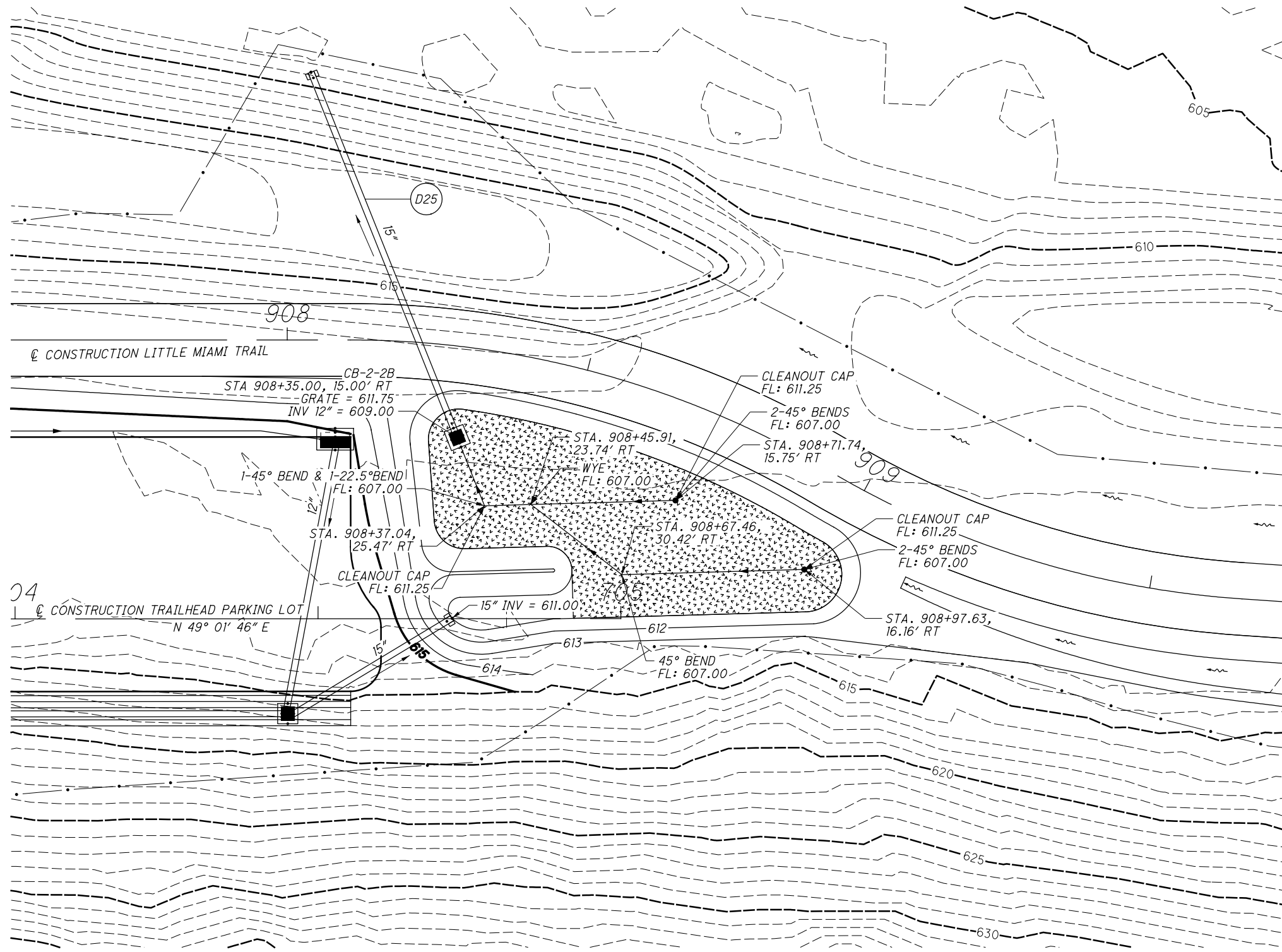
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BIORETENTION CELL #1 PLAN

WAR-CR 282-0.97



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BIORETENTION CELL AREA
FOR DETAILS SEE SHEET 107

CALCULATED
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0 5 10 20
HORIZONTAL
SCALE IN FEET

BIORETENTION CELL #2 PLAN

WAR-CR-282-0.97

BIORETENTION CELLS

CONSTRUCT THE BIORETENTION CELLS AFTER ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED AS SHOWN ON THE CONTRACT PLANS. DO NOT OPERATE HEAVY EQUIPMENT WITHIN THE PERIMETER OF A BIORETENTION CELL. USE ALL SUITABLE EXCAVATED MATERIAL IN THE WORK. ALTERNATIVELY, LEGALLY USE, RECYCLE, OR DISPOSE OF ALL EXCAVATED MATERIALS ACCORDING TO 105.16 AND 105.17.

EXCAVATE THE BIORETENTION CELL TO THE DIMENSIONS, WITH VERTICAL SIDES, TO THE ELEVATIONS SPECIFIED. MINIMIZE THE COMPACTION OF THE BOTTOM OF THE BIORETENTION CELL. EXCAVATION WILL BE MEASURED AND PAID AS ITEM 203, EXCAVATION AS PER PLAN.

THE BIORETENTION CELL CONSISTS OF FOUR DISCRETE LAYERS: BIORETENTION PLANTING SOIL LAYER, FINE AGGREGATE LAYER, COARSE AGGREGATE NO. 78 LAYER, AND COARSE AGGREGATE NO. 57 LAYER AND AN UNDERDRAIN SYSTEM. THE MATERIALS AND VOLUMES FOR EACH LAYER ARE AS SHOWN:

BIORETENTION CELL		#1	#2
BIORETENTION PLANTING SOIL LAYER PLUS 3 INCH COVER			
COMPOSITION BY VOLUME			
5	PARTS SAND - CMS FINE AGGREGATE AS PER 703.20	224	91
1	PART TOPSOIL = CMS 659.05	45	18
2	PARTS COMPOST - CMS 659.06	89	36
FINE AGGREGATE AS PER CMS 703.20		33	13
COARSE AGGREGATE SIZE NO. 78 PER 703.20		33	13
COARSE AGGREGATE SIZE NO. 57 PER 703.20		130	53
TOTAL CUBIC YARDS		554	224

CONSTRUCT THE UNDERDRAIN SYSTEM AS SPECIFIED.

PLACE THE BIORETENTION PLANTING SOIL IN 12 INCH LIFTS. THE BIORETENTION PLANTING SOIL LAYER PLUS 3 INCH COVER IS 3 INCHES GREATER THAN THE DEPTH SPECIFIED TO ACCOUNT FOR EXPECTED SETTLING OF THE UNCOMPACTED SOIL.

THE BIORETENTION PLANTING SOIL SHALL BE A UNIFORM MIX THAT IS FREE OF STONES, STUMPS, ROOTS, OR ANY OTHER OBJECT LARGER THAN TWO INCHES. THE SOIL MAY CONSIST OF EXISTING SOIL, FURNISHED SOIL, OR A COMBINATION OF BOTH COMPOSITION REQUIREMENTS LISTED ABOVE. PHOSPHORUS CONCENTRATIONS OF THE PLANTING SOIL SHALL FALL BETWEEN 15 AND 60 MG/KG (PPM) AND DETERMINED BY THE MEHLICH III TEST.

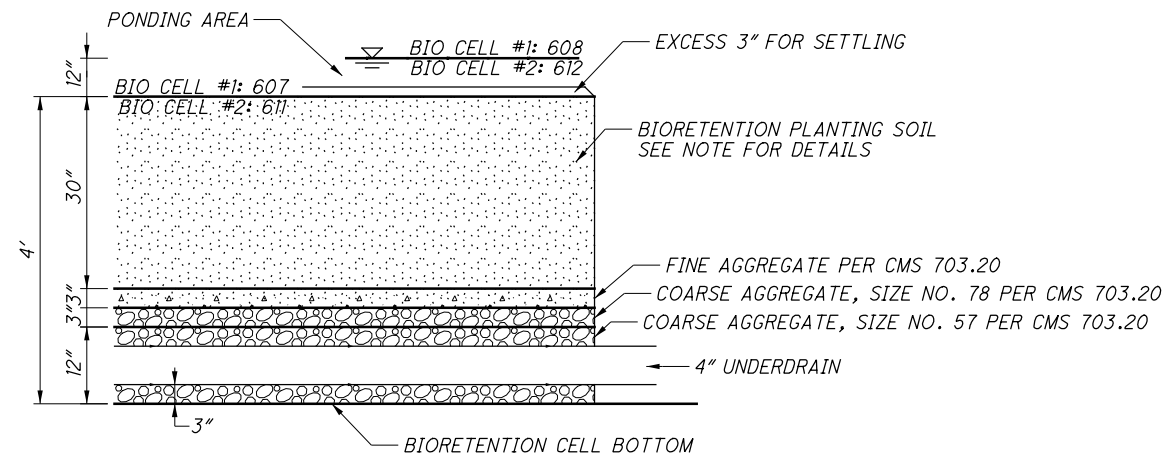
THOROUGHLY MIX THE BIORETENTION PLANTING SOIL PRIOR TO PLACEMENT.

PLACE OBSERVATION WELL AND CLEANOUT WHERE SPECIFIED. CONNECT THE OBSERVATION WELL AND CLEANOUT TO THE PERFORATED UNDERDRAIN WITH THE APPROPRIATE MANUFACTURED CONNECTIONS. EXTEND THE OBSERVATION WELL AND CLEANOUT 4 INCHES ABOVE THE SURFACE ELEVATION. CAP THE OBSERVATION WELL AND CLEANOUT WITH A THREADED SCREW CAP. CAP THE ENDS OF PERFORATED UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL AND CLEANOUT OR CONNECTED TO OTHER CONDUITS. PLACE SEED, TURF, TREES, SHRUBS, OR OTHER PLANT MATERIALS FOR BIORETENTION FACILITIES AS SPECIFIED. PLANT MATERIALS WILL BE MEASURED AND PAID FOR PER CMS ITEM(S) 659, 660, OR 661 DEPENDING ON THE PLANT MATERIALS SPECIFIED. APPLY NO PESTICIDES, HERBICIDES, LIME, AND FERTILIZERS. INSTALL ITEM 611 AS SPECIFIED. INSTALL TEMPORARY EROSION CONTROL MAT TYPE A, B, C, OR E PER CMS 671 WITH EITHER STRAW MULCH OR COMPOST OR AS SPECIFIED IN THE PLANS.

BIORETENTION CELLS (CONTINUED)

BIORETENTION CELLS WILL BE PAID FOR AS ITEM 601, BIORETENTION CELL CU. YD. EXCAVATION FOR BIORETENTION CELLS SHALL BE FOR VERTICAL SIDES ONLY AS SPECIFIED AND PAID FOR AS ITEM 203, EXCAVATION AS PER PLAN CU. YD. PERFORATED UNDERDRAINS, OBSERVATION WELLS, AND ASSOCIATED FITTINGS AND COUPLERS WILL BE PAID FOR AS ITEM 605, 4" UNCLASSIFIED UNDERDRAIN AS PER PLAN. SEEDING AND MULCHING FOR THE BIORETENTION CELL SHALL BE PAID FOR AS ITEM 659 SEEDING AND MULCHING, AS PER PLAN SQ. YD. EROSION CONTROL MATS SHALL BE PAID FOR AS ITEM 671, EROSION CONTROL MAT SQ. YD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF BIORETENTION CELLS FOR THE DURATION OF THE PROJECT. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO PAYMENT FOR CORRESPONDING BIORETENTION CELL PAY ITEMS AND SHALL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO MAINTAIN THE BIORETENTION CELLS IN WORKING CONDITION, TO THE SATISFACTION OF THE ENGINEER.



BIORETENTION CELL SECTION

BIORETENTION CELL QUANTITIES						
ITEM	ITEM EXT	BIO CELL #1	BIO CELL #2	TOTAL	UNIT	DESCRIPTION
203	10001	520	212	732	CU YD	EXCAVATION, AS PER PLAN
601	32200	11.56	0	11.56	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER
601	51000	554	224	778	CU YD	BIORETENTION CELL
605	05201	166	91	257	FT	4" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN
659	10000	390	159	549	SQ YD	SEEDING AND MULCHING, AS PER PLAN
671	14000	390	159	549	SQ YD	EROSION CONTROL MAT

QUANTITIES CARRIED TO SHEET NO. 47

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CALCULATED
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BIORETENTION CELL DETAILS

WAR-CR 282-0.97

107
256

WARREN COUNTY SANITARY SEWER STANDARDS

THE STANDARDS OUTLINED ON THIS SHEET AND ON SHEET 116 SHALL SUPERCEDE ODOT SPECIFICATIONS FOR ITEM 611 WHERE CONFLICTS EXIST. PAYMENT TO COMPLY WITH THESE STANDARDS SHALL BE INCIDENTAL TO THE PERTINENT BID ITEM.

DETAILED PROCEDURES FOR SANITARY SEWER

1. PROCEDURE FOR MAKING SEWER LATERAL CONNECTIONS TO EXISTING SEWER:
 - A. IF ABS COMPOSITE – EXCAVATE TO POINT OF LATERAL ON MAIN; CLEAN EXISTING PIPE; ALIGN SADDLE TO PROPER POSITION AND MARK AREA TO BE CUT; CUT HOLE IN PIPE AS REQUIRED MAKING SURE THE CUT OUT DOESN'T ENTER THE MAIN; ATTACH AND SEAL SADDLE WITH STAINLESS STEEL STRAPS AND MASTIC SEALER BETWEEN SADDLE AND PIPE. INSERTA TEES ARE NOT PERMITTED.
 - B. IF CLAY OR CONCRETE – EXCAVATE TO POINT OF LATERAL ON MAIN; PLUG OUTLET PIPE AT UPSTREAM MANHOLE – PUMP TO DOWNSTREAM MANHOLE IF NECESSARY; REMOVE CLOSEST LENGTH OF PIPE AND REPLACE WITH TEE LATERAL SECTION OF PIPE OR CORE EXISTING PIPE IN PLACE.
2. PROCEDURE FOR MAKING SEWER EXTENSIONS FROM EXISTING MANHOLES: CONSTRUCT LINE TO WITHIN ONE JOINT OF EXISTING MANHOLE; AFTER LINE PASSES LEAKAGE TEST AND WARREN COUNTY SANITARY ENGINEER GIVES GO AHEAD – CONNECTION IS TO BE MADE; PLUG OUTLET PIPE AT UPSTREAM MANHOLE – PUMP TO DOWNSTREAM MANHOLE IF NECESSARY; A HOLE IS CUT AT THE PROPOSED INLET POINT AND THE LAST JOINT IS LAID; EXISTING BENCH AND CHANNEL OF MANHOLE IS REBUILT AND SHAPED AS REQUIRED; NEW CONNECTION IS TO BE SEALED AS REQUIRED.
3. PROCEDURE FOR MAKING NEW MANHOLES ON EXISTING SEWER MAINS: EXCAVATE AND EXPOSE EXISTING SEWER AT POINT OF NEW MANHOLE; BUILD MANHOLE OVER EXISTING LINE WHILE NOT DISTURBING EXISTING LINE; BUILD NEW LINE(S) FROM NEW MANHOLE; AFTER NEW LINE(S) PASS(ES) LEAKAGE TEST AND WARREN COUNTY SANITARY ENGINEER GIVES GO AHEAD – PLUG OUTLET PIPE AT EXISTING UPSTREAM MANHOLE (PUMP TO EXISTING DOWNSTREAM MANHOLE IF NECESSARY); BREAKOUT TOP OF EXISTING SEWER AS REQUIRED AND FORM A BENCH AND CHANNEL AS REQUIRED.
4. STORM WATER AND EXTRANEIOUS FLOWS ARE PROHIBITED FROM ENTERING THE EXISTING SYSTEM DURING CONSTRUCTION. NO OPEN CUT TRENCHES WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT. STORM DRAINS, DIVERSION DITCHES, PUMPS ETC., SHALL BE USED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE SYSTEM AT ALL TIMES
5. ALL SANITARY SEWER PIPE MUST BE BEDDED WITH NUMBER 57 STONE EXTENDING FROM A POINT NOT LESS THAN 6" BELOW THE BOTTOM OF THE PIPE TO THE SPRINGLINE OF THE PIPE. BACKFILL WITH NUMBER 9 GRITS FROM THE SPRINGLINE TO A POINT NOT LESS THAN 12" ABOVE THE CROWN OF THE PIPE. BEDDING SHALL PROVIDE A UNIFORM SUPPORT ALONG THE ENTIRE PIPE BARREL, WITHOUT LOAD CONCENTRATION AT JOINT COLLARS OR BELLS. BEDDING DISTURBED BY PIPE MOVEMENT OR BY REMOVAL OF SHORING OR MOVEMENT OF THE TRENCH SHIELD OR BOX SHALL BE RECONSOLIDATED PRIOR TO BACKFILL. BEDDING TO BE COMPACTED TO 95% PROCTOR.

PIPE CONNECTIONS INTO MANHOLES

SEWER PIPE TO MANHOLE CONNECTIONS ON ALL SANITARY SEWERS SHALL BE FLEXIBLE AND WATERTIGHT. SEWER PIPE SHALL BE SEALED IN THE MANHOLE SECTION PIPE OPENINGS WITH A RESILIENT CONNECTOR MEETING THE REQUIREMENTS OF ASTM C923. THE CONNECTION MAY BE ANY OF THE FOLLOWING TYPES:

1. RUBBER SLEEVE WITH STAINLESS STEEL BANDING
 - A) KOR-N-SEAL AS MANUFACTURED BY POLLUTION CONTROL SYSTEMS, INC.
 - B) LOCK JOINT FLEXIBLE MANHOLE SLEEVE AS MANUFACTURED BY INTERSPACE CORPORATION OR EQUAL
2. RUBBER GASKET COMPRESSION
 - A) PRESS WEDGE II AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION
 - B) DURA-SEAL MANUFACTURED BY DURA TECH, INC.
 - C) OR EQUAL RESILIENT CONNECTOR SHALL BE CAST INTEGRALLY INTO THE WALL OF THE MANHOLE SECTION AT TIME OF MANUFACTURE OR SHALL BE INSTALLED BY MECHANICAL MEANS IN OPENINGS CUT INTO MANHOLE WALL PER ASTM C923. ANY CONNECTION TO AN EXISTING MANHOLE MUST BE MADE BY CORING THE MANHOLE. ANY CORE TO A MANHOLE MUST BE CENTERED IN THE BARREL SECTION. NO CORE SHALL BE MADE ALONG THE SEAM OF THE BARREL SECTION(S).

SEWER TESTING

1. THE CONTRACTOR MUST INSTALL MECHANICAL PLUG(S) AT THE POINT(S) OF CONNECTION TO THE EXISTING SEWER PRIOR TO INITIATING ANY CONSTRUCTION. THE MECHANICAL PLUG(S) SHALL REMAIN IN PLACE UNTIL THE NEW MAINS HAVE BEEN FLUSHED, CLEANED, TESTED, TELEVISED, AND APPROVED FOR USE BY WARREN COUNTY. THE MECHANICAL PLUG(S) CAN ONLY BE REMOVED IN THE PRESENCE OF A WARREN COUNTY SEWER INSPECTOR.
2. ALL NEW MANHOLES SHALL BE VACUUM TESTED. A VACUUM OF 10" OF MERCURY SHALL BE DRAWN ON THE MANHOLE. FOR A 4' MANHOLE LESS THAN 20' DEEP, MANHOLE SHALL HOLD 9" OF MERCURY FOR AT LEAST 1 MINUTE.
3. ALL SANITARY SEWER MAINS MUST BE AIR TESTED. THE STANDARD TEST IS AN AIR PRESSURE TEST OF 5.0 PSI FOR A FIVE (5) MINUTE PERIOD WITH A MAXIMUM OF 1.0 PSI LOSS.
4. ALL NON-TRUSS PIPE SHALL BE TESTED FOR DEFLECTION AFTER BACKFILLING IS COMPLETED (30 DAY MINIMUM REQUIRED). A DEFLECTION TEST WITH A NINE POINT MANDREL WILL BE REQUIRED. NO MECHANICAL PULLING DEVICE SHALL BE USED. A VERTICAL RING DEFLECTION GREATER THAN FIVE PERCENT (5%) WILL NOT BE ALLOWED. THIS DEFLECTION IS DEFINED AS A FIVE PERCENT REDUCTION IN THE VERTICAL BASE OR AVERAGE INSIDE DIAMETER.
5. AT THE TIME THE SANITARY SEWER IS TESTED, THE SEWER MUST BE CLEANED AND TELEVISED WITH VIDEO DOCUMENTATION (DVD) PROVIDED TO WARREN COUNTY. THE VIDEO MUST INCLUDE AUDIO IDENTIFICATION OF PIPE SPANS FROM MANHOLE TO MANHOLE, FLOW DIRECTION, TILT AND PAN OF ALL LATERALS AND CALL OUT ANY SUSPECT PROBLEMS IN THE SYSTEM. ALL PROBLEMS MUST BE IDENTIFIED BY THE CONTRACTOR. THE NECESSARY REPAIRS MUST BE MADE AND THE SEWER MUST THEN BE RE-CLEANED, RE-TESTED AND RE-TELEVISED.
6. A SECOND VIDEO INSPECTION IS REQUIRED ONE YEAR AFTER INSTALLATION AND/OR PRIOR TO THE RELEASE OF THE MAINTENANCE BOND. IF A DEFICIENCY IS IDENTIFIED DURING THIS TELEVISED INSPECTION, THE FAILED SEWER PIPE MUST BE TESTED AND REPAIRED TO THE SATISFACTION OF THE COUNTY SANITARY ENGINEER.
7. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE THE TELEVISING, TESTING AND REPAIRS OF THE SANITARY SEWER.

SEWER

1. ALL SANITARY PIPE SHALL CONFORM TO ASTM D-2680 FOR ABS/PVC GASKETED COMPOSITE PIPE (TRUSS), ASTM D-3034 FOR SDR 26 GASKETED 4" – 15" DIAMETER OR ASTM F-679 FOR SDR 26 GASKETED 18" – 30" DIAMETER. PIPE LARGER THAN 15" SHALL CONFORM TO ASTM F-949 (A2000) OR ASTM F-1803. CERAMIC COATED CLASS 53 DUCTILE IRON PIPE OR EQUAL MUST BE USED WHERE SPECIFIED BY THE COUNTY SANITARY ENGINEER. JOINTS FOR PVC GRAVITY SEWER PIPE SHALL BE PUSH-ON TYPES WITH RUBBER GASKETS. PIPE ENDS SHALL NOT BE BEVELED. PIPE ENDS MUST BE SEALED.
2. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SYSTEM ARE PROHIBITED.
3. NO MANHOLE, OR ANY PORTION OF THE MANHOLE, SHALL BE LOCATED UNDER A SIDEWALK OR DRIVEWAY.
4. SANITARY SEWER LATERALS SHALL BE CONSTRUCTED OF THE FOLLOWING MATERIALS:
 - A) ABS PIPE – ASTM D-2751 WITH SDR 23.5 (6" GLUE JOINT)
 - B) PVC PIPE – ASTM D-3034 WITH SDR 23.5 (6" GLUE OR GASKET JOINT)
 - C) ASTM D-2665 SCHEDULE 40 ASTM D-3034 WITH SDR 35 (6" ONLY)
 - D) DUCTILE IRON – CLASS 53 (6")
5. SEWER LATERALS MUST BE EXTENDED TO THE HOUSE SIDE OF UTILITY EASEMENTS AND SHALL BE MARKED BY TWO INCHES (2") BY FOUR INCHES (2" X 4") OR LARGER POSTS. POSTS SHALL BE PAINTED GREEN. A SIX FOOT (6') LENGTH OF #6 REINFORCED BAR SHALL BE INSTALLED AGAINST THE POST. END OF SEWER LATERAL SHALL NOT EXCEED 4' IN DEPTH UNLESS APPROVED BY THE COUNTY SANITARY ENGINEER. SEE DETAIL S-14A.
6. ONLY SANITARY WYES WITH 45° BENDS SHALL BE USED FOR SANITARY LATERAL INSTALLATION. ALL WYES TO BE GLUE JOINTS ON TRUSS AND COMPOSITE PIPE. ALL SANITARY LATERALS MUST BE SIX INCHES (6") IN DIAMETER WITHIN THE RIGHT-OF-WAY NO CONNECTION SHALL BE MADE TO THE CROWN OF THE SEWER MAIN.
7. ALL LATERALS TO BE NOT LESS THAN SIX INCHES (6") INSIDE DIAMETER.
8. THE LOCATION OF SEWER LATERALS MUST BE STAMPED IN THE CURB AT THE TIME THE CURB IS PLACED TO PERMANENTLY INDICATE THE LOCATION OF SAID LATERALS.
9. THE LOCATION OF ALL SEWER LATERALS MUST BE PROVIDED ON THE AS-BUILT PLANS
10. MANHOLE LATERALS SHALL HAVE AN INVERT TWO INCHES (2") ABOVE MAIN-LINE INVERT.

SEWER (CONTINUED)

11. EXISTING MANHOLE CASTINGS ARE TO BE RAISED BY EITHER A MANHOLE ADJUSTING RING OR A BARREL SECTION ADDED. IF THE HEIGHT OF NECESSARY ADJUSTMENT IS OVER ONE FOOT (1') OR THERE IS ALREADY AN EXISTING ADJUSTMENT RING BEING USED, THE CONTRACTOR IS TO USE A NEW BARREL SECTION ONLY. EXTRA CARE IS TO BE TAKEN TO INSURE A PROPER AND TIGHT SEAL AT ALL NEW JOINTS.
12. THE CONTRACTOR MUST INSTALL MECHANICAL PLUG(S) AT THE POINT(S) OF CONNECTION TO THE EXISTING SEWER PRIOR TO INITIATING ANY CONSTRUCTION. THE BULK HEAD(S) OR MECHANICAL PLUG(S) SHALL REMAIN IN PLACE UNTIL THE NEW MAINS HAVE BEEN FLUSHED, CLEANED, TESTED, TELEVISED, AND APPROVED FOR USE BY WARREN COUNTY. THE MECHANICAL PLUG(S) CAN ONLY BE REMOVED IN THE PRESENCE OF A WARREN COUNTY SEWER INSPECTOR.
13. TRENCH SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MUST INSURE THAT ALL APPLICABLE OSHA OPEN TRENCH SAFETY REQUIREMENTS ARE FOLLOWED. IT IS NOT WARREN COUNTY'S RESPONSIBILITY TO INSPECT EACH SITE FOR COMPLIANCE.
14. HDPE PIPE MAY BE USED FOR DIRECTIONAL BORING OF FORCE MAINS WITH APPROVAL FROM THE COUNTY SANITARY ENGINEER. ALL DIRECTIONAL DRILLING SHOULD BE ACCOMPANIED BY DRILLING LOGS AT 25' STATION INCREMENTS. PVC PIPE SHALL BE PERMITTED FOR FORCE MAINS SIX INCHES (6") OR SMALLER IN DIAMETER. FORCE MAINS EIGHT INCHES (8") OR LARGER MUST BE CLASS 53 DUCTILE IRON WITH AN INTERIOR LINING OF EPOXY OR CERAMIC. PVC SHALL CONFORM TO AWWA C900 REQUIREMENTS AND HAVE AN EQUIVALENT OUTSIDE DIAMETER OF DR 14.
15. MINIMUM SLOPE SHALL BE AS FOLLOWS:

PIPE SIZE	MINIMUM SLOPE (%)
6"	.200
8"	.50
10"	.35
12"	.28
15"	.19
18"	.15
16. ALL MATERIALS USED SHALL BE DOMESTIC, MADE IN THE UNITED STATES OF AMERICA.
17. SEWER PIPE ON BRIDGE SHALL BE DIP CLASS 53 WITH RESTRAINED PUSH-ON JOINTS. LINING SHALL BE FUSION BONDED EPOXY COATED TO 6 MIL AND CONFORMING TO ANSI/AWWA C116/A21.16.
18. EXPANSION JOINTS SHALL BE CONNECTED TO D.I. SEWER PIPE WITH RESTRAINED, M.J. FITTINGS, BOTH ENDS.
19. PIPE SLEEVES FOR PASSING THROUGH BRIDGE ABUTMENTS SHALL BE TYPE 304 STAINLESS STEEL, PARALLEL TO PIPE, AND IMBEDDED IN CONCRETE FLUSH WITH ABUTMENT WALLS.
20. PAYMENT FOR 8" SANITARY SEWER (SDR 26) CONDUIT SHALL BE MADE PER THE UNIT BID PRICE PER FOOT FOR ITEM 611 –8" CONDUIT, TYPE B, AS PER PLAN, SDR 26 AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.
21. PAYMENT FOR 8" SANITARY SEWER DIP CLASS 53 CONDUIT SHALL BE MADE PER THE UNIT BID PRICE PER FOOT FOR ITEM 611 –8" CONDUIT, TYPE B, 748.01 CLASS 53 AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.

PRE-CONSTRUCTION

1. THE EXACT LOCATION AND ELEVATION OF ALL CROSSINGS OF PROPOSED AND EXISTING PIPES MUST BE CONFIRMED BY EXPOSING THE PIPES AND SURVEYING BEFORE CONSTRUCTION OF PROPOSED SANITARY SEWERS.
- SUGGESTED SEQUENCE OF CONSTRUCTION AND CRITICAL REQUIREMENTS FOR WATER AND SEWER UTILITY INSTALLATION
- GENERAL
 1. ALL EXISTING UTILITIES MUST BE KEPT IN SERVICE AT ALL TIMES DURING THE CONSTRUCTION OF PROPOSED UTILITIES.
 2. WARREN COUNTY WATER AND SEWER AND THE ENGINEER MUST APPROVE UTILITY LOCATION CHANGES, COORDINATE TIE-IN PROCEDURES TO EXISTING UTILITY PIPES AND EQUIPMENT, AND PRE-APPROVED TEMPORARY INTERRUPTION IN SERVICE. THE CONTRACTOR MUST GIVE WARREN COUNTY WATER AND SEWER AND THE ENGINEER FIVE (5) WORKING DAYS OF NOTICE OF TIE-INS AND/OR TEMPORARY INTERRUPTION OF SERVICE.
 3. ALL POTENTIAL CONFLICTS WITH EXISTING UNDERGROUND STRUCTURES AND UTILITY MUST BE CONFIRMED BY EXPOSING PIPES AND MAKING VERTICAL AND HORIZONTAL SURVEY PRIOR TO INSTALLING NEW UTILITY PIPES. EXPOSED BURIED PIPES AND STRUCTURES MUST BE OBSERVED BY WARREN COUNTY WATER AND SEWER AND THE ENGINEER.
- GRAVITY SEWER INSTALLATION
 1. INSTALL SEWER PIPES AND MANHOLES COMPLETE AND TESTED PRIOR TO MAKING ANY TIE TO EXISTING SEWER UTILITIES. THE TIE-IN SHALL NOT PROCEED UNTIL APPROVAL TO DO SO HAS BEEN OBTAINED FROM THE WATER COUNTY WATER AND SEWER AND THE ENGINEER.
 2. INSTALLATION OF GRAVITY SEWER ON THE KING AVENUE BRIDGE AND ITS APPROACHES SHALL PROCEED AFTER ALL PILINGS HAVE BEEN DRIVEN, BRIDGE SUPPORTS COMPLETED, AND RETAINING WALLS HAVE BEEN CONSTRUCTED.
 3. INSTALLATION OF PIPES UNDER OTHER PROPOSED UTILITIES AND STORM DRAINS MUST BE INSTALLED AND PRESSURE TESTED BEFORE THE WORK ABOVE IS BEGUN. NOTE: THE NEED TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL ALIGNMENT OF ALL UTILITIES TO BE CROSSED BY THE PROPOSED SEWERS MUST BE OBTAINED BY EXPOSING AND SURVEY LOCATING.
 4. TIE-IN MANHOLES MAY BE CONSTRUCTED AND/OR MODIFIED AT ANYTIME BUT EXISTING FLOW CONDITIONS SHALL NOT BE INTERRUPTED UNTIL THE EXISTING PUMPING STATION HAS BEEN APPROVED FOR DEMOLITION BY THE WARREN COUNTY WATER AND SEWER AND THE ENGINEER.
 5. SEWER SERVICE CANNOT BE INTERRUPTED AT ANY TIME DURING CONSTRUCTION. TEMPORARY PUMPING AROUND CONSTRUCTION LOCATIONS WILL BE REQUIRED AND IS TO BE INCLUDED IN THE BID PRICE FOR RELATED WORK. THE PROPOSED PHASED CONSTRUCTION SHALL BE APPROVED BY WARREN COUNTY WATER AND SEWER AND THE ENGINEER BEFORE BEGINNING WORK ON THE SANITARY SEWER. PUMPING AROUND CONSTRUCTION AREA SHALL BE KEPT TO A MINIMUM. MAINTENANCE OF THESE FACILITIES AND RESPONSIBILITY FOR SPILLAGE CLEAN-UP AND POTENTIAL FINES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
 6. DEMOLITION OF THE EXISTING PUMPING STATION, ELECTRICAL SERVICE, AND SEWER PIPE CONNECTIONS SHALL BE ALLOWED AFTER THE PROPOSED SEWER IS DEEMED COMPLETED AND APPROVED FOR SERVICE BY WARREN COUNTY WATER AND SEWER AND THE APPROPRIATE REGULATORY AGENCIES.

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CALCULATED	GMF	CHECKED	BSC		
SANITARY SEWER NOTES					
WAR - CR 282 - 0.97					
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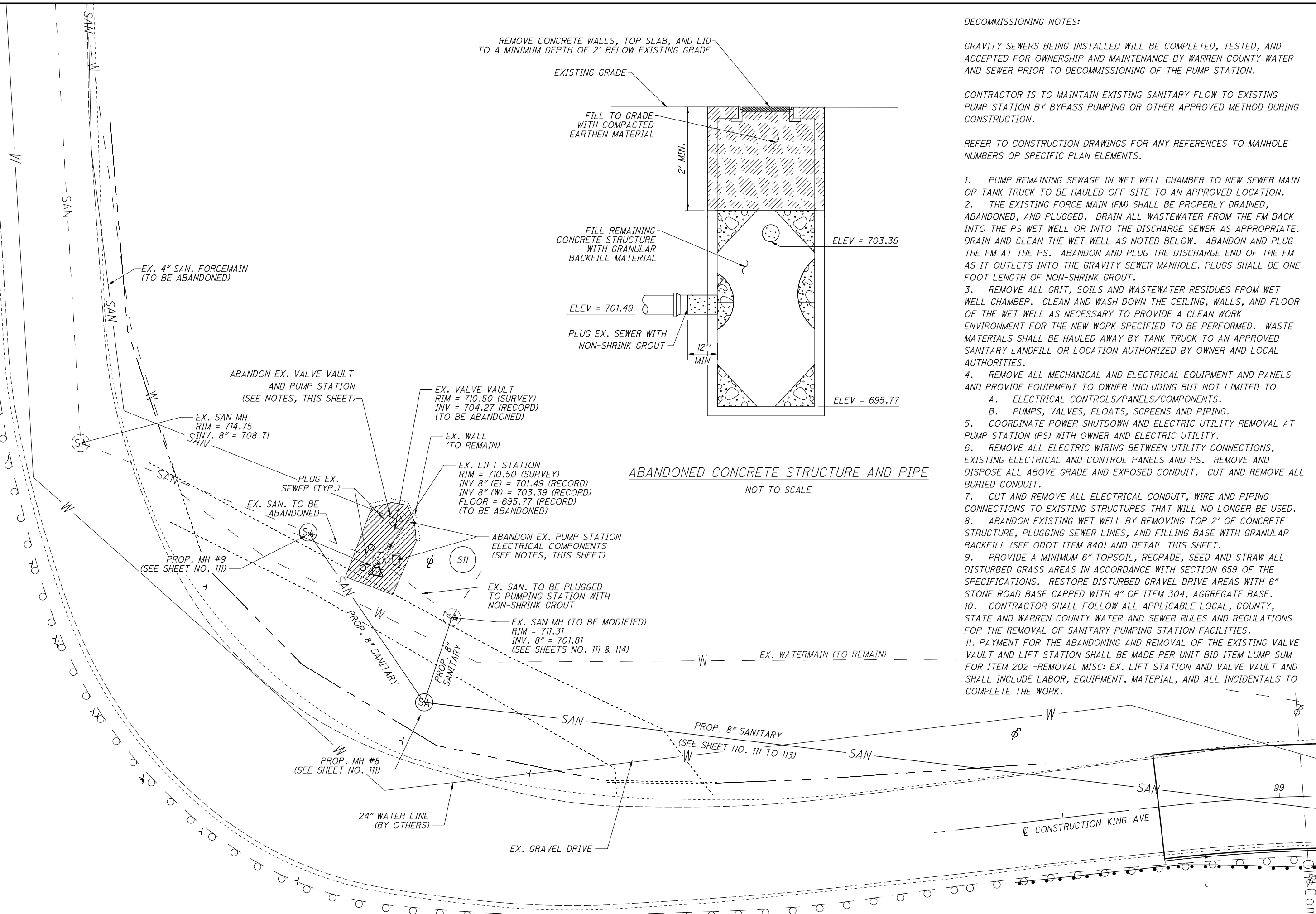
REF. NO.	SHEET NO.	SANITARY SEWER STATION		202		611					638				
		FROM	TO	REMOVAL MISC: EX.LIFT STATION AND VALVE VAULT LS	ABANDON MISC: EXISTING SEWER 12" OR LESS FOOT	MANHOLE MISC: WARREN CO TYPE S-1 EACH	MANHOLE MISC: WARREN CO. TYPE S-2 EACH	MANHOLE MISC: WARREN CO. TYPE S-1-MODIFIED EACH	MANHOLE RECONSTRUCTED TO GRADE EACH	8" CONDUIT, TYPE B, AS PER PLAN, SDR 26 FOOT	8" CONDUIT, TYPE B, 748.01 CLASS 53 FOOT	WATER WORK, MISC.: EBAA XTEND EXPANSION JOINT EACH	WATER WORK, MISC.: PIPE HANGER EACH	WATER WORK, MISC.: SEWER ABUTMENT CONNECTION EACH	WATER WORK, MISC.: 12.7" SPIRAL INSULATED ALUMINUM JACKET FOOT
S1	113	0+00						1							
S2	113	0+00	0+74.72			1				75					
S3	112-113	0+74.72	1+03.57				1				29				
S4	112-113	1+03.57	6+58.75			1					551	2	58	2	520
S5	112	6+58.75	7+92.11			1				134					
S6	112	7+92.11	9+35.23			1				144					
S7	111-112	9+35.23	12+13.19			1				278					
S8	111,114	12+13.19	15+12.28				1			300					
S9	111	15+12.28	15+59.62				1			48					
S10	111	0+00	0+20.24							21					
S11	111,114			LUMP	40										
S12	53,113	112+02.34							1						
S13	56	907+59.81							1						
TOTALS CARRIED TO GENERAL SUMMARY				LUMP	40	5	3	1	2	1000	580	2	58	2	520

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SANITARY SUBSUMMARY

WAR-CR 282-0.97

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DECOMMISSIONING NOTES:

GRAVITY SEWERS BEING INSTALLED WILL BE COMPLETED, TESTED, AND ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY WARREN COUNTY WATER AND SEWER PRIOR TO DECOMMISSIONING OF THE PUMP STATION.

CONTRACTOR IS TO MAINTAIN EXISTING SANITARY FLOW TO EXISTING PUMP STATION BY BYPASS PUMPING OR OTHER APPROVED METHOD DURING CONSTRUCTION.

REFER TO CONSTRUCTION DRAWINGS FOR ANY REFERENCES TO MANHOLE NUMBERS OR SPECIFIC PLAN ELEMENTS.

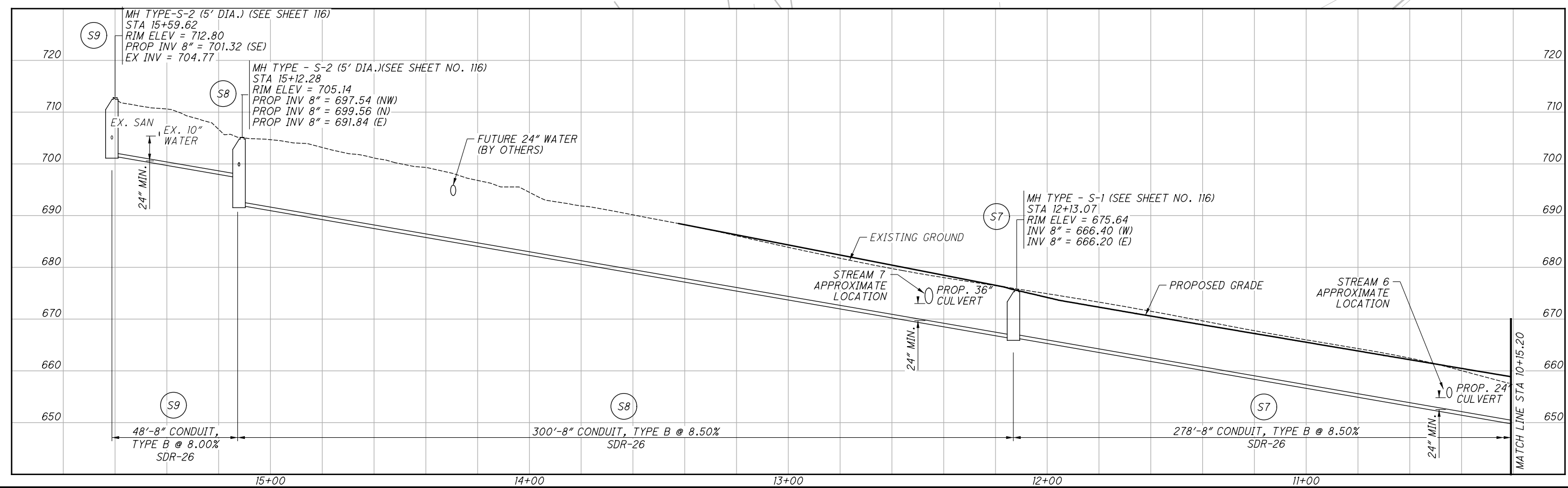
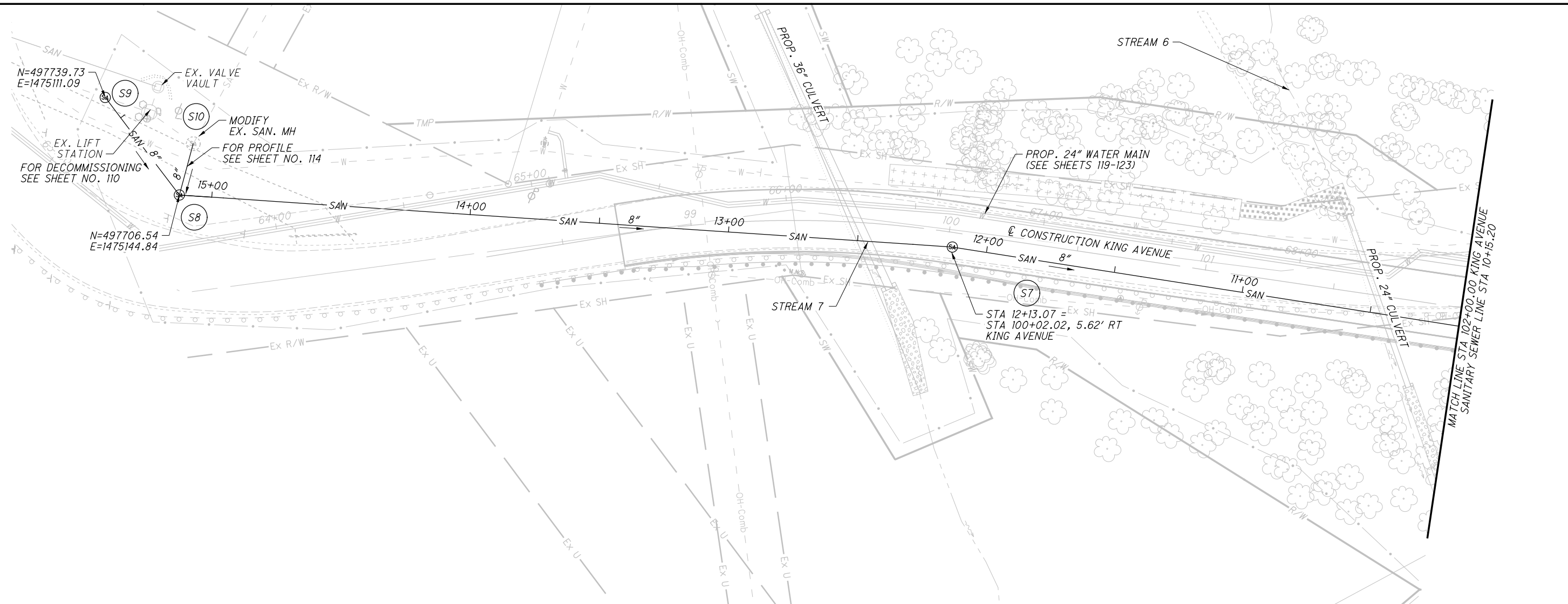
1. PUMP REMAINING SEWAGE IN WET WELL CHAMBER TO NEW SEWER MAIN OR TANK TRUCK TO BE HAULED OFF-SITE TO AN APPROVED LOCATION.
2. THE EXISTING FORCE MAIN (FM) SHALL BE PROPERLY DRAINED, ABANDONED, AND PLUGGED. DRAIN ALL WASTEWATER FROM THE FM BACK INTO THE PS WET WELL OR INTO THE DISCHARGE SEWER AS APPROPRIATE. DRAIN AND CLEAN THE WET WELL AS NOTED BELOW. ABANDON AND PLUG THE FM AT THE PS. ABANDON AND PLUG THE DISCHARGE END OF THE FM AS IT OUTLETS INTO THE GRAVITY SEWER MANHOLE. PLUGS SHALL BE ONE FOOT LENGTH OF NON-SHRINK GROUT.
3. REMOVE ALL GRIT, SOILS AND WASTEWATER RESIDUES FROM WET WELL CHAMBER. CLEAN AND WASH DOWN THE CEILING, WALLS, AND FLOOR OF THE WET WELL AS NECESSARY TO PROVIDE A CLEAN WORK ENVIRONMENT FOR THE NEW WORK SPECIFIED TO BE PERFORMED. WASTE MATERIALS SHALL BE HAULED AWAY BY TANK TRUCK TO AN APPROVED SANITARY LANDFILL OR LOCATION AUTHORIZED BY OWNER AND LOCAL AUTHORITIES.
4. REMOVE ALL MECHANICAL AND ELECTRICAL EQUIPMENT AND PANELS AND PROVIDE EQUIPMENT TO OWNER INCLUDING BUT NOT LIMITED TO
 - A. ELECTRICAL CONTROLS/PANELS/COMPONENTS.
 - B. PUMPS, VALVES, FLOATS, SCREENS AND PIPING.
5. COORDINATE POWER SHUTDOWN AND ELECTRIC UTILITY REMOVAL AT PUMP STATION (PS) WITH OWNER AND ELECTRIC UTILITY.
6. REMOVE ALL ELECTRIC WIRING BETWEEN UTILITY CONNECTIONS, EXISTING ELECTRICAL AND CONTROL PANELS AND PS. REMOVE AND DISPOSE ALL ABOVE GRADE AND EXPOSED CONDUIT. CUT AND REMOVE ALL BURIED CONDUIT.
7. CUT AND REMOVE ALL ELECTRICAL CONDUIT, WIRE AND PIPING CONNECTIONS TO EXISTING STRUCTURES THAT WILL NO LONGER BE USED.
8. ABANDON EXISTING WET WELL BY REMOVING TOP 2' OF CONCRETE STRUCTURE, PLUGGING SEWER LINES, AND FILLING BASE WITH GRANULAR BACKFILL (SEE ODOT ITEM 840) AND DETAIL THIS SHEET.
9. PROVIDE A MINIMUM 6" TOPSOIL, REGRADE, SEED AND STRAW ALL DISTURBED GRASS AREAS IN ACCORDANCE WITH SECTION 659 OF THE SPECIFICATIONS. RESTORE DISTURBED GRAVEL DRIVE AREAS WITH 6" STONE ROAD BASE CAPPED WITH 4" OF ITEM 304, AGGREGATE BASE.
10. CONTRACTOR SHALL FOLLOW ALL APPLICABLE LOCAL, COUNTY, STATE AND WARREN COUNTY WATER AND SEWER RULES AND REGULATIONS FOR THE REMOVAL OF SANITARY PUMPING STATION FACILITIES.
11. PAYMENT FOR THE ABANDONING AND REMOVAL OF THE EXISTING VALVE VAULT AND LIFT STATION SHALL BE MADE PER UNIT BID ITEM LUMP SUM FOR ITEM 202 -REMOVAL MISC: EX. LIFT STATION AND VALVE VAULT AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, AND ALL INCIDENTALS TO COMPLETE THE WORK.



SANITARY LIFT STATION
DECOMMISSIONING PLAN - KING AVE

WAR-CR 282-0.97

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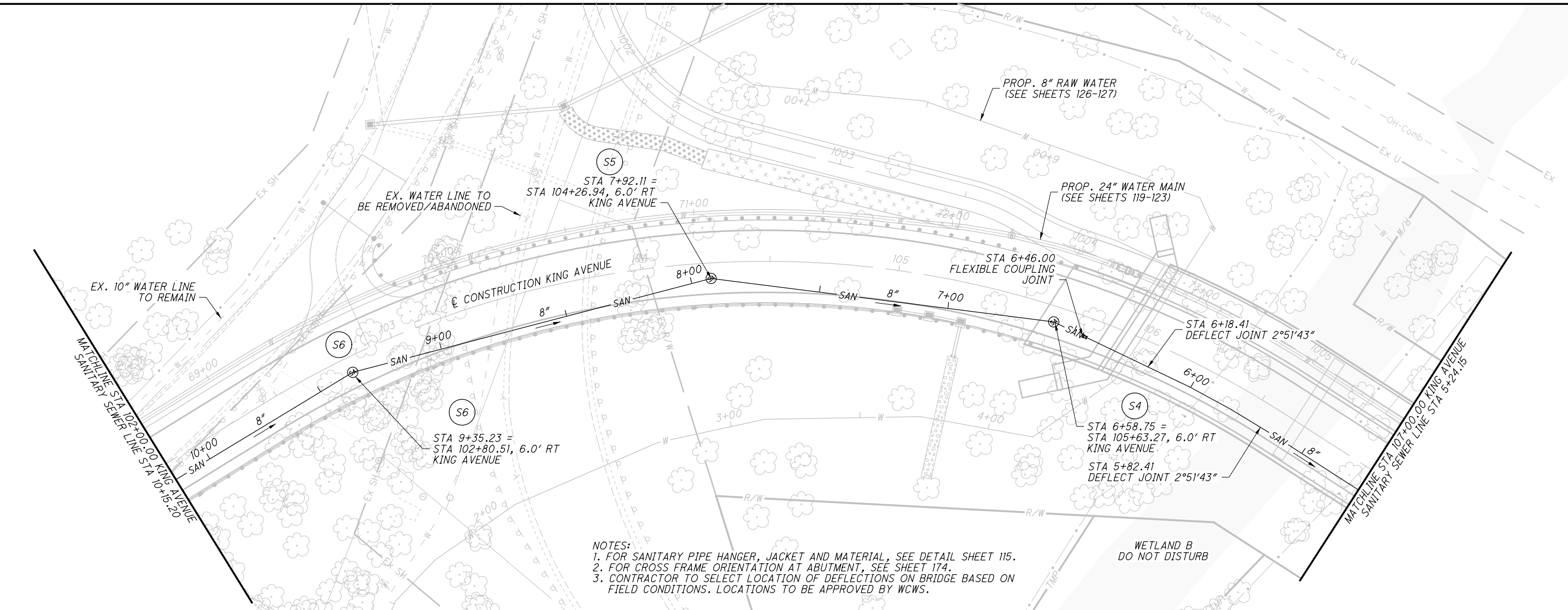


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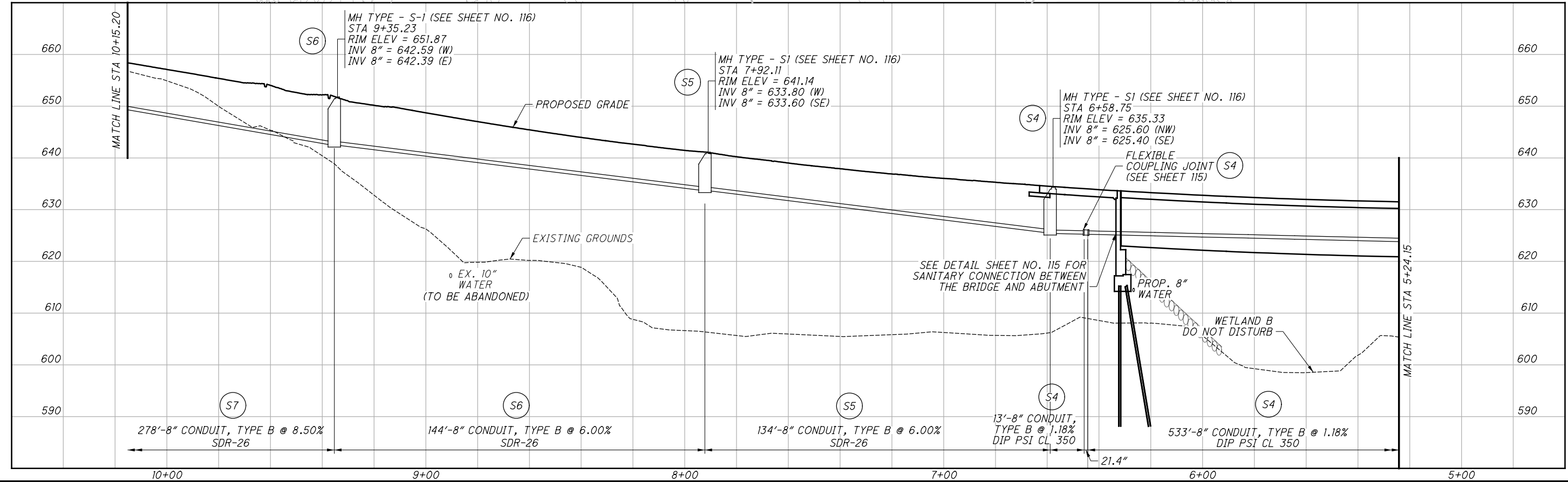
PLAN AND PROFILE
PROPOSED SANITARY SEWER LINE

WAR-CR 282-0.97

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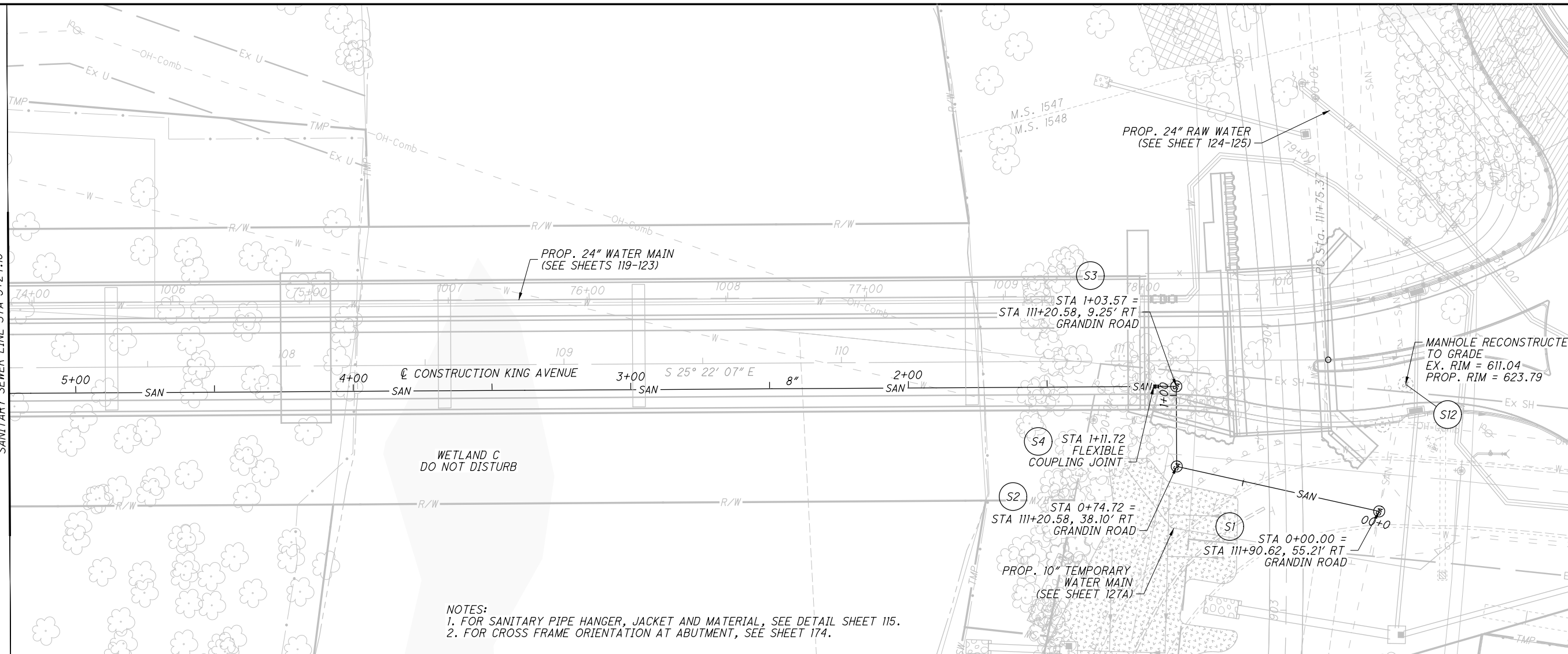
NOTES:
 1. FOR SANITARY PIPE HANGER, JACKET AND MATERIAL, SEE DETAIL SHEET 115.
 2. FOR CROSS FRAME ORIENTATION AT ABUTMENT, SEE SHEET 174.
 3. CONTRACTOR TO SELECT LOCATION OF DEFLECTIONS ON BRIDGE BASED ON FIELD CONDITIONS. LOCATIONS TO BE APPROVED BY WCWS.



PLAN AND PROFILE
 PROPOSED SANITARY SEWER LINE

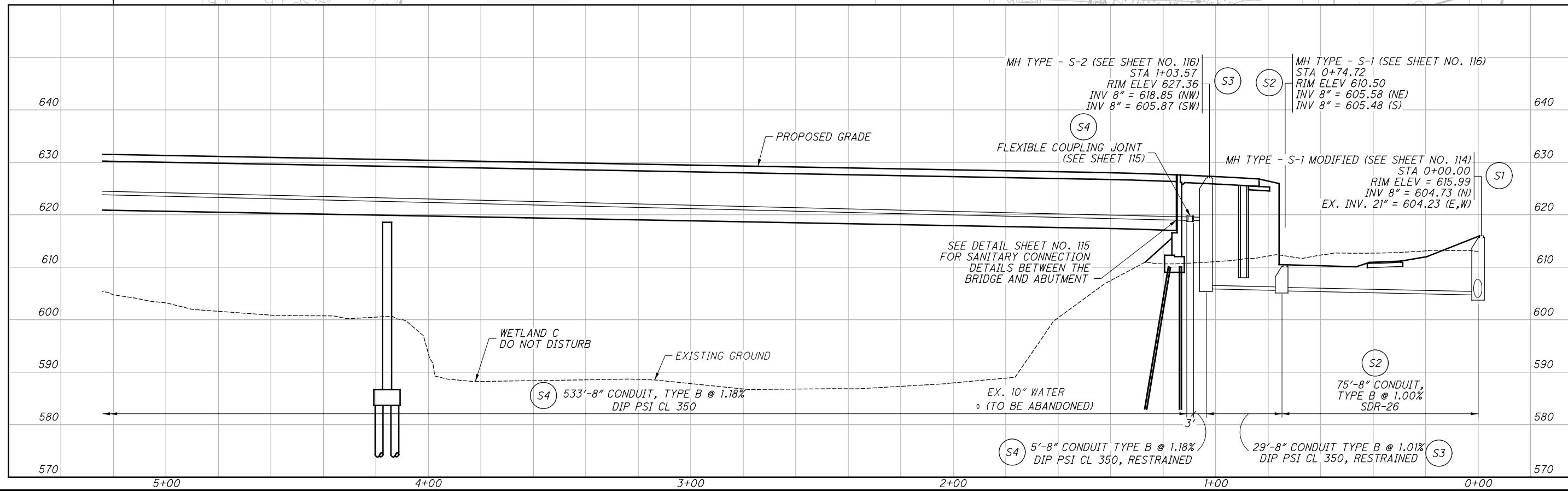
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MATCHLINE 107+00.00 KING AVENUE
SANITARY SEWER LINE STA 5+24.15



NOTES:

- 1. FOR SANITARY PIPE HANGER, JACKET AND MATERIAL, SEE DETAIL SHEET 115.
- 2. FOR CROSS FRAME ORIENTATION AT ABUTMENT, SEE SHEET 174.



PLAN AND PROFILE
PROPOSED SANITARY SEWER LINE

WAR-CR 282-0.97
113
256

ITEM 202 ABANDON MISC: EXISTING SEWER 12" OR LESS

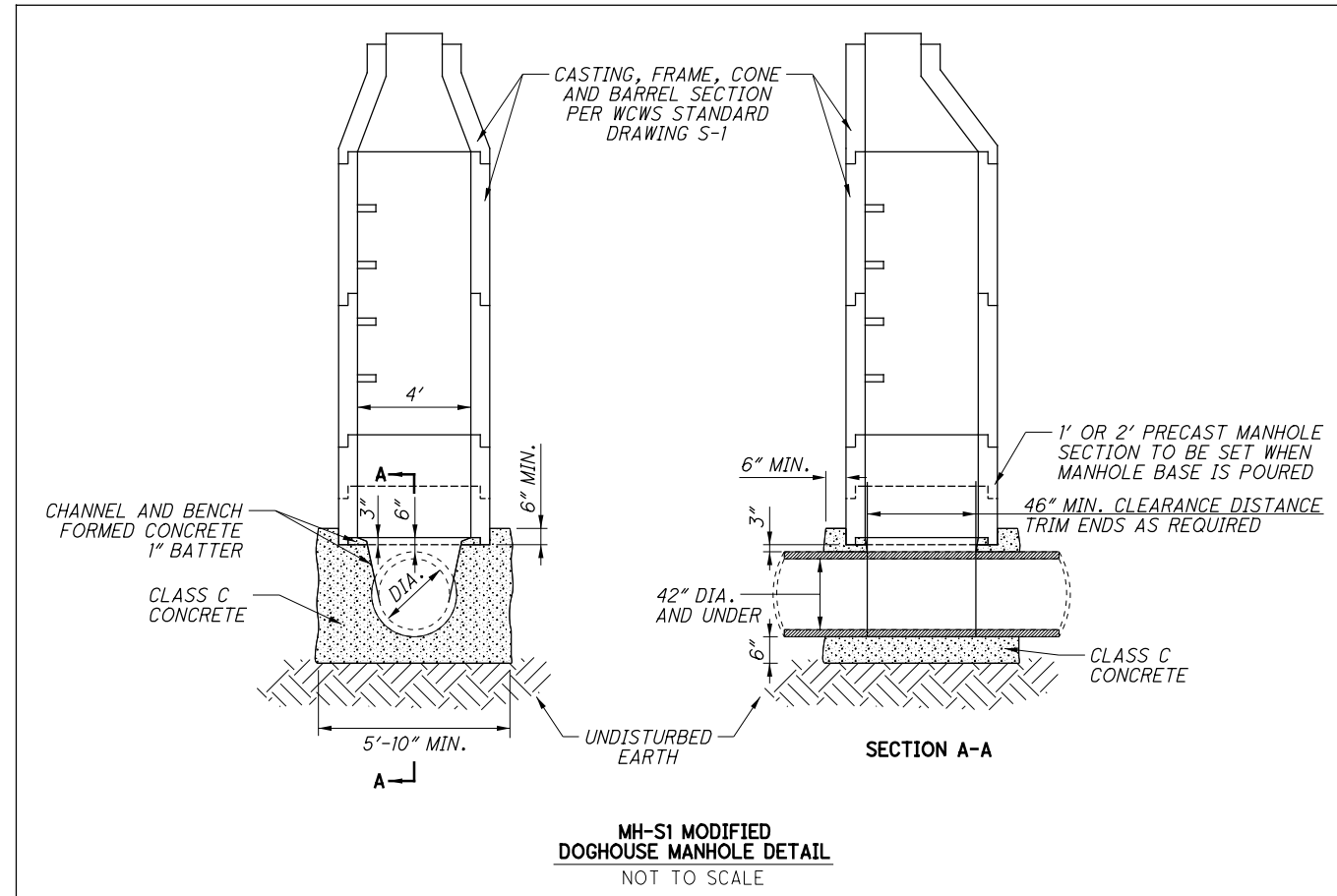
PLUG OR SEAL NOTED SEWERS WHERE THEY JOIN MANHOLES, CATCH BASINS OR INLETS. PLUG OR SEAL AT BOTH ENDS, WHERE BROKEN INTO, ALL EXISTING SEWERS ENCOUNTERED IN CONSTRUCTION OPERATIONS THAT ARE INACTIVE OR ARE TO BE ABANDONED BEFORE PROCEEDING WITH BACKFILLING AND AS DETERMINED BY THE ENGINEER.

SEAL PIPE ONE FOOT OR LESS IN DIAMETER WITH A SUITABLE PRECAST CONCRETE OR VITRIFIED CLAY STOPPER PROPERLY GROUTED WITH NON-SHRINK GROUT INTO PLACE. THE CONTRACTOR HAS THE OPTION TO REMOVE EXISTING SEWERS NOTED ON THE PLANS TO BE ABANDONED.

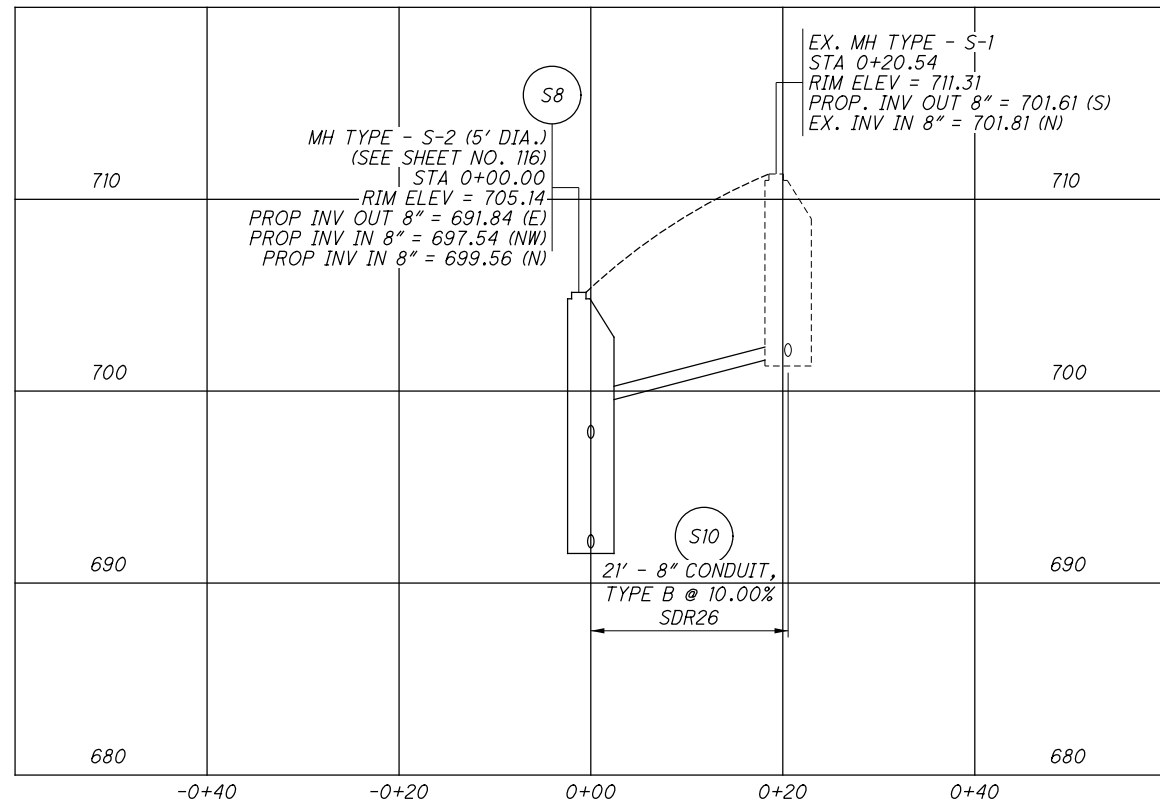
THE UNIT FOR ITEM 202 ABANDON MISC: EXISTING SEWER 12" OR LESS SHALL BE FOOT AND INCLUDE ALL MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM 611 8" CONDUIT, TYPE B, AS PER PLAN

SANITARY CONDUIT USED FOR SEWER MAINS SHALL BE CONSTRUCTED OF SDR 26 PVC AND MEET ASTM D-3034 SPECIFICATIONS. SANITARY SEWERS SHALL BE CONSTRUCTED ACCORDING TO THE WARREN COUNTY DEPARTMENT OF WATER AND SEWER SPECIFICATIONS AS SHOWN ON PLAN SHEET 108.



MH-S1 MODIFIED DOGHOUSE MANHOLE DETAIL
NOT TO SCALE



SANITARY PROFILE

SCALE: 1"=20' HORZ., 1"=10' VERT.

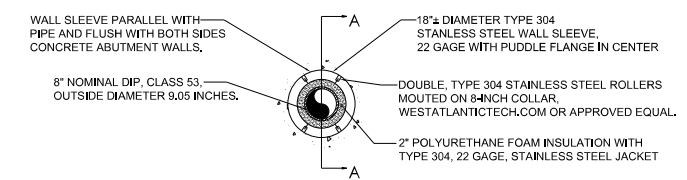
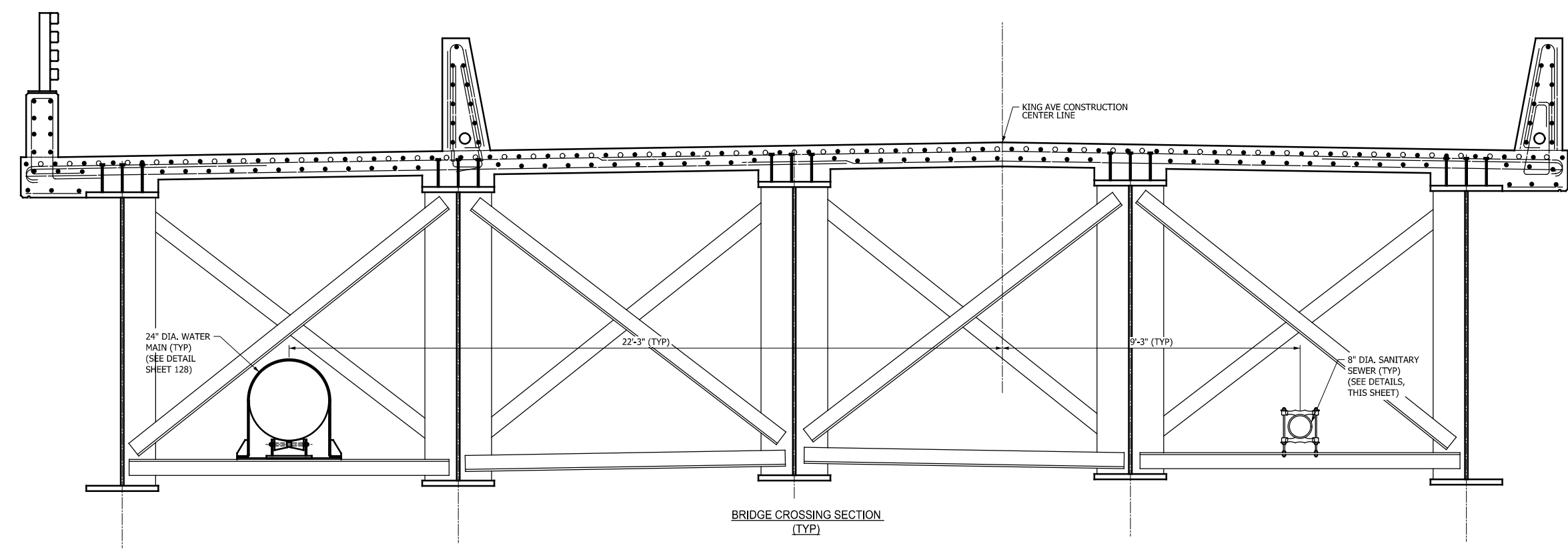
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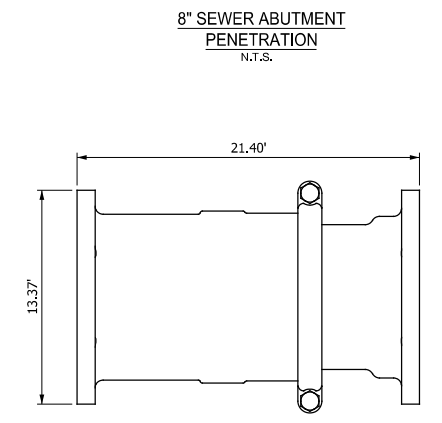
SANITARY SEWER GENERAL NOTES

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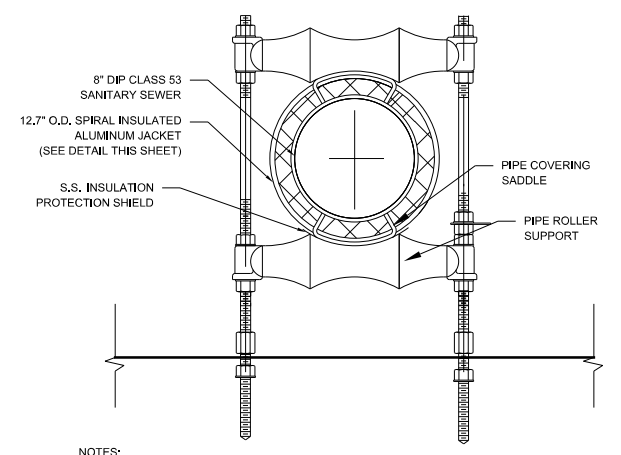


- NOTES:
1. CONFIRM DIAMETER OF WALL SLEEVE WITH ROLLER MANUFACTURER.
 2. SEAL ABUTMENT TO PREVENT MOVEMENT OF SOIL THROUGH PENETRATION WITH RUBBER BOOT INSERTED AROUND PIPE FROM SOIL SIDE AND BOLTED TO SOIL SIDE OF ABUTMENT WITH FOUR (4) 1/2" X 6" LONG TYPE 316 S.S. EPOXY ANCHOR BOLT W/ WASHERS HOLDING A 1/4" TYPE 316 S.S. RING THAT ANCHORS THE BOOT TO THE ABUTMENT WALL.
 3. PAYMENT FOR 8" DIA. SANITARY SEWER ABUTMENT PENETRATION SHALL BE MADE PER THE UNIT BID PRICE PER EACH FOR ITEM 638- WATER WORK, MISC.; SEWER ABUTMENT CONNECTION AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, APPURTENANCES, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.



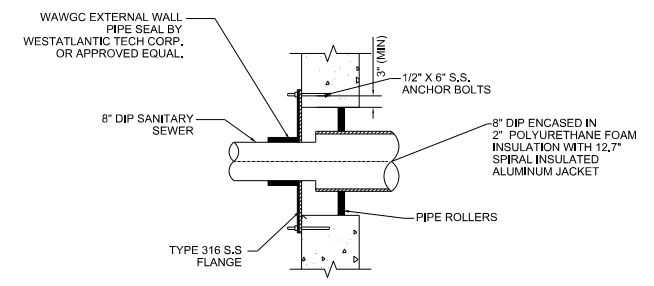
- NOTES:
1. USE EBAA XTEND EXPANSION JOINT OR APPROVED EQUAL.
 2. PAYMENT FOR 8" DIA. SANITARY FLEXIBLE COUPLING SHALL BE MADE PER THE UNIT BID PRICE PER EACH FOR ITEM 638- WATER WORK, MISC.; EBAA XTEND EXPANSION JOINT AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, APPURTENANCES, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.

FLEXIBLE COUPLING DETAIL
N.T.S.

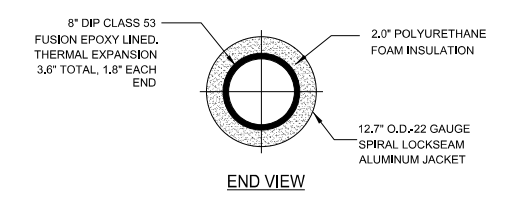


- NOTES:
1. ALL COMPONENTS OF THE DOUBLE ROLLER PIPE SUPPORT ASSEMBLY SHALL BE TYPE 304 STAINLESS STEEL.
 2. SUPPORT ASSEMBLYS, INSULATION AND INSULATION PROTECT SADDLE SHALL BE PREFABRICATED BY ONE COMPANY, EMPIRE INDUSTRIES FIG. 273 A DOUBLE ROLLER GUIDE OR EQUAL.
 3. PAYMENT FOR THE 8" SEWER PIPE HANGER SHALL BE MADE PER THE UNIT BID PRICE PER EACH FOR ITEM 638- WATER WORK, MISC.; PIPE HANGER AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, APPURTENANCES, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.

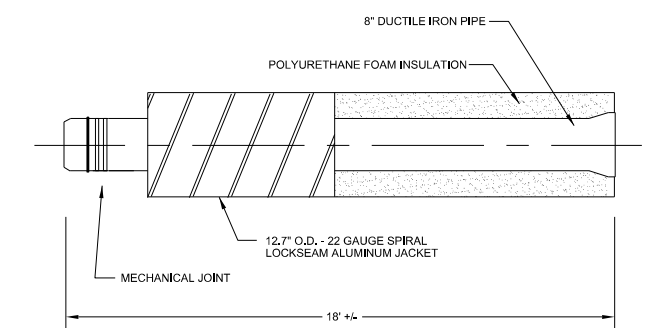
PIPE HANGER- SECTION AND DETAIL
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SECTION A
N.T.S.



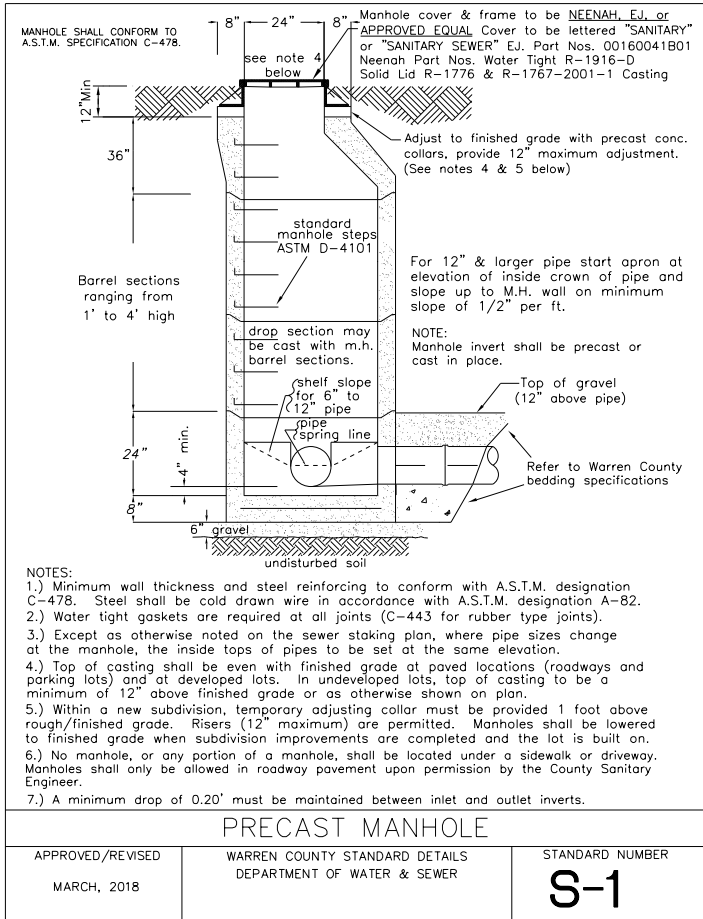
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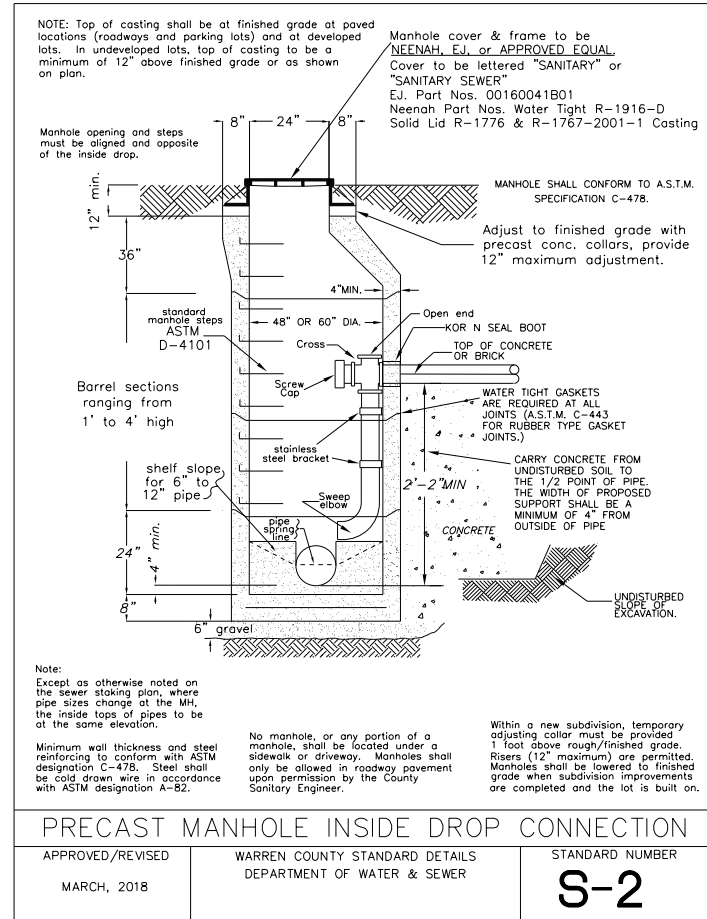
- NOTES:
1. PIPE SHALL BE BROUGHT TO JOBSITE WITH JACKET PRE-INSTALLED, NO TAPE CASING WILL BE ALLOWED.
 2. FIELD APPLY 2" INSULATION AND ALUMINUM JACKET AT JOINTS, OVERLAPPING ADJACENT INSULATION BY ONE FOOT MINIMUM AND NO AIR GAP.
 3. PAYMENT FOR THE SPIRAL INSULATED ALUMINUM JACKET SHALL BE MADE PER THE UNIT BID PRICE PER FOOT FOR ITEM 638- WATER WORK, MISC.; 12.7" SPIRAL INSULATED ALUMINUM JACKET AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIALS, AND ALL INCIDENTALS TO COMPLETE THE WORK.

SPIRAL INSULATED ALUMINUM JACKET DETAIL
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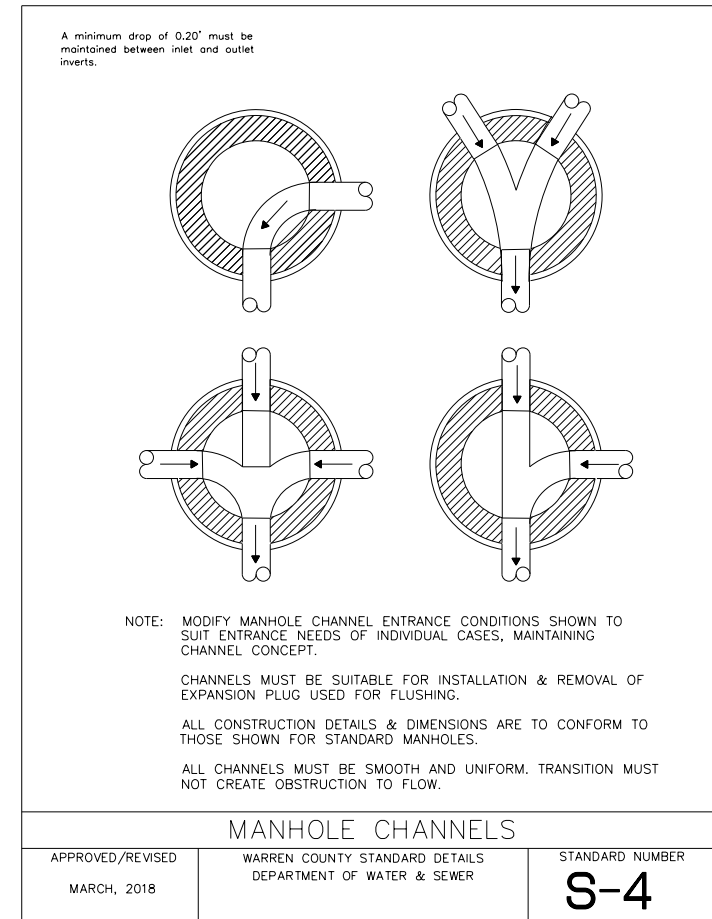
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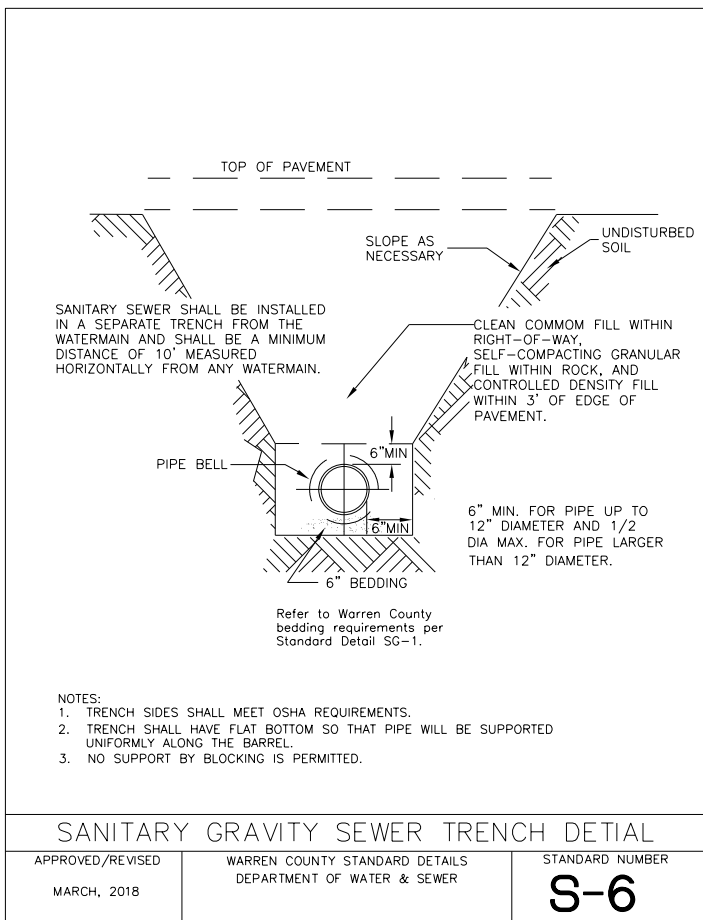
PRECAST MANHOLE		
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-1



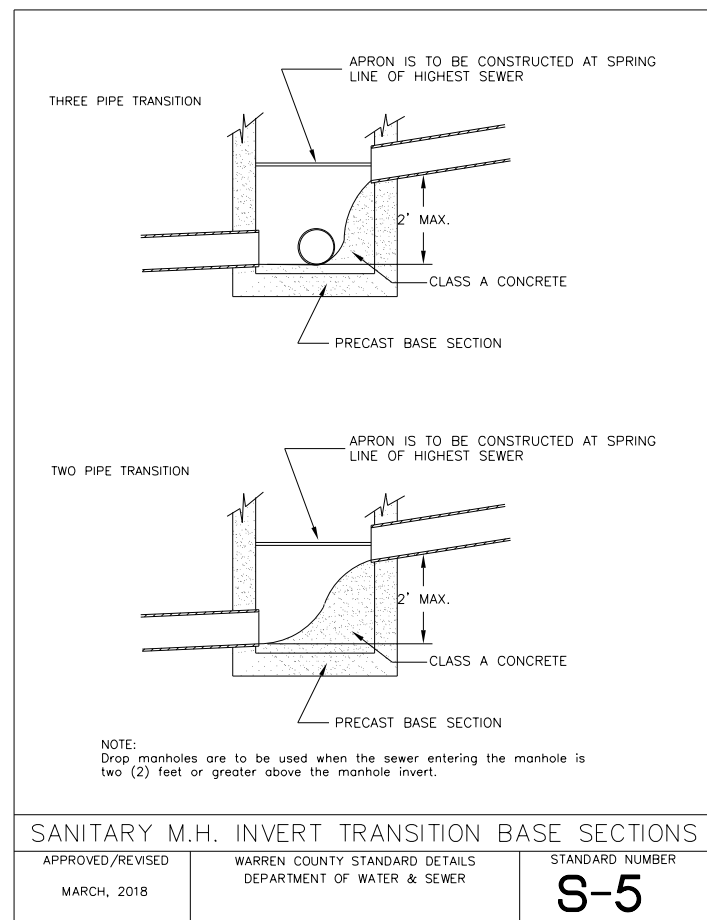
PRECAST MANHOLE INSIDE DROP CONNECTION		
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-2



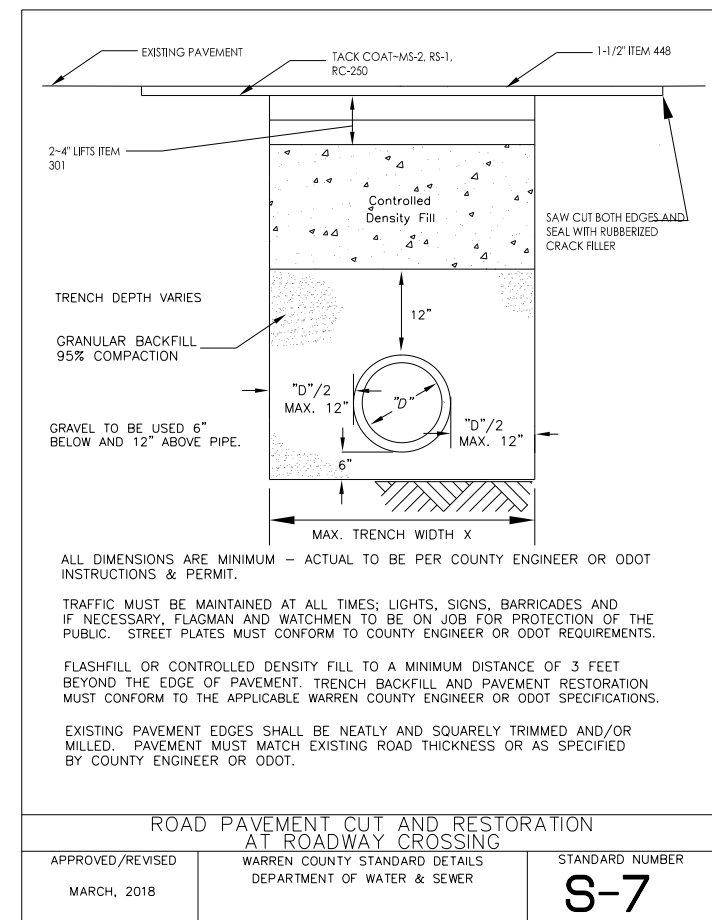
MANHOLE CHANNELS		
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-4



SANITARY GRAVITY SEWER TRENCH DETAIL		
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-6



SANITARY M.H. INVERT TRANSITION BASE SECTIONS		
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-5



ROAD PAVEMENT CUT AND RESTORATION AT ROADWAY CROSSING		
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-7

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WARREN COUNTY WATER WORK STANDARDS

THE STANDARDS OUTLINED ON THIS SHEET AND ON SHEET 167 SHALL SUPERCEDE ODOT SPECIFICATIONS FOR ITEM 638 WHERE CONFLICTS EXIST. PAYMENT TO COMPLY WITH THESE STANDARDS SHALL BE INCIDENTAL TO THE PERTINENT BID ITEM.

WATER GENERAL NOTES

1. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 4'-6".
 - A. ALL WATER SERVICE LATERALS SHALL HAVE A MINIMUM COVER OF 42".
2. ALL WATER MAINS SHALL BE DUCTILE IRON CONFORMING WITH AWWA SPEC. C-151 CLASS 52 IN SIZES 4"-16" AND PSI CLASS 350 FOR 20" AND ABOVE.
3. COMPACT FITTINGS ARE PERMITTED.
4. ALL WATER VALVES MUST OPEN LEFT. ALL VALVE BOX LIDS MUST BE CAST/STAMPED "WCWD" IN 1 1/2" LETTERS AND BE NEENAH NF-19130002 OR EQUAL. ALL VALVE EXTENSIONS TO HAVE SET SCREWS.
5. A CONCRETE SLAB MUST BE PROVIDED AT FINAL GRADE AROUND ALL MAIN VALVE BOXES. THE SLABS MUST BE EIGHTEEN INCHES (18") SQUARE/CIRCLE AND NINE INCHES (9") THICK. PRE-FABRICATED CONCRETE RINGS ARE ACCEPTABLE.
6. WATER AND SEWER LINES SHALL HAVE A MINIMUM OF TEN FEET (10') HORIZONTAL SEPARATION AND/ OR TWO FEET (2') VERTICAL SEPARATION.
7. NO GATE VALVE, METER PIT, BLOW OFF OR CORPORATION STOP SHALL BE LOCATED UNDER OR WITHIN THREE FEET (3') OF DRIVEWAYS, ROADWAYS OR SIDEWALKS.
8. NO DRIVEWAY SHALL BE INSTALLED WITHIN FIVE FEET (5') OF A FIRE HYDRANT.
9. A MINIMUM OF THREE FEET (3') IS REQUIRED BETWEEN CORPORATION STOPS. NO TAP SHALL BE MADE WITHIN THREE FEET (3') OF A BELL.
10. THE LOCATION OF WATER SERVICE LATERALS MUST BE STAMPED IN THE CURB AT THE TIME THE CURB IS PLACED TO PERMANENTLY INDICATE THE LOCATION OF SAID LATERALS.
11. THE LOCATION OF ALL WATER SERVICE LATERALS, BENDS, TEES, ETC. MUST BE PROVIDED ON THE AS-BUILT PLANS. ALL OF THESE APPURTENANCES SHOULD BE SURVEYED IN STATE PLANE COORDINATES AND ELECTRONICALLY DELIVERED WITH AS-BUILTS.
12. CONTRACTOR SHALL SUBMIT AS-BUILT PLANS OF SANITARY AND WATER LATERALS TO THE OWNER.
13. ALL WATER MAINS CROSSING UNDER STORM DRAINS SHALL BE BACK-FILLED WITH GRANULAR MATERIAL, O.D.O.T. ITEM 310.02, BETWEEN MAINS AND DRAINS
14. EACH SERVICE LATERAL MUST BE A CONTINUOUS PIECE OF PIPE FROM THE CORP STOP TO THE METER. COUPLINGS SHALL NOT BE ALLOWED. TYPE K COPPER SHALL BE USED FOR 3/4" AND 1" SERVICES. POLYETHYLENE 200 PSI (COPPER TUBE SIZE) MAY BE USED FOR 1 1/2" AND 2" SERVICES. TRACER WIRE MUST BE USED WITH POLY AND SDR 21.
15. SERVICE LINES 1" AND LARGER MUST BE EITHER TYPE K COPPER, POLY 200 PSI (ASTM D-2737) OR SDR 21 (SLIP JOINT) (ASTM-2241). TRACER WIRE MUST BE TAPED EVENLY EVERY 3' ON POLY AND SDR 21 FROM THE METER PIT INTO THE STRUCTURE BEING SERVED (A 3' LEAD IS REQUIRED INSIDE THE PIT).
16. 1 1/2" AND 2" SERVICE LINES FROM THE CORP STOP TO THE METER PIT MUST BE TYPE K COPPER OR POLYETHYLENE 200 PSI. POLY MUST HAVE A TRACER WIRE. SEE W-10B.

17. FIRE HYDRANTS MUST BE PROVIDED AT THE ENTRANCE TO ALL SUBDIVISIONS AND AT ALL STREET INTERSECTIONS.
18. AN APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED ON ALL WATER SERVICE LATERALS BY THE PROPERTY OWNER PRIOR TO ANY POINT OF CONNECTION OR USAGE. THE FOLLOWING DEVICES AND LOCATIONS ARE REQUIRED.
 - A) RESIDENTIAL DWELLING UNITS (3 FAMILY OR LESS): LOCATED IMMEDIATELY UPON ENTRY OF STRUCTURE. DUEL CHECK VALVE A.S.S.E. 1024.
 - B) LANDSCAPE IRRIGATION SYSTEMS: REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY A.S.S.E. 1013. LOCATED IMMEDIATELY UPON ENTRY OF STRUCTURE.
 - C) FIRE PROTECTION SYSTEMS: DOUBLE CHECK DETECTOR CHECK ASSEMBLY A.S.S.E. 1048 OR REDUCED PRESSURE PRINCIPLE DETECTOR CHECK A.S.S.E. 1047 IF SYSTEM CONTAINS ADDITIVES; A.S.S.E. 1048 LOCATED IN VAULT AND A.S.S.E. 1047 LOCATED IN BUILDING.
 - D) NON-RESIDENTIAL SERVICES: REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY A.S.S.E. 1013, LOCATED IMMEDIATELY UPON ENTRY OF STRUCTURE.
19. SWAB PIPE WITH 50 PPM CHLORINE SOLUTION BEFORE INSTALLATION.
20. ALL NEW WATER MAINS SHALL BE PRESSURE TESTED FOR 2 HOURS AT 200 PSI, WHICHEVER IS GREATER. ALLOWABLE LEAKAGE SHALL BE PER TABLE 6A OF AWWA C-600.
21. DEDUCT METERS SHALL NOT BE ALLOWED.
22. NO IRRIGATION CONNECTIONS SHALL BE ALLOWED IN THE METER PIT.
23. BACK FLOW PREVENTER THAT COMPLIES WITH A.S.S.E. 1013 IS TO BE INSTALLED AHEAD OF ANY SPRINKLER BUT NOT IN METER PIT.
24. ALL MATERIALS USED SHALL BE DOMESTIC, MADE IN THE UNITED STATES OF AMERICA.
25. CONTRACTOR TO SUBMIT A LAYING SCHEDULE FOR THE 24" RAW AND 24" POTABLE WATER MAINS TO WARREN COUNTY WATER AND SEWER FOR REVIEW AND APPROVAL.
26. WATER LINE SEQUENCING PLAN SHALL BE SUBMITTED BY CONTRACTOR TO THE COUNTY FOR REVIEW AND APPROVAL.

PROCEDURE FOR RELOCATING OR LOWERING SERVICE LATERAL AND RELOCATING OR BRINGING TO GRADE METER PITS

1. ALL AFFECTED USERS MUST BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE AS TO THE TIME AND DURATION OF THE SHUTOFF. ANY DISCONTINUANCE OF SERVICE MUST BE COORDINATED THROUGH WARREN COUNTY PRIOR TO ANY SHUT DOWN.
2. ALL WORK MUST BE PERFORMED ACCORDING TO ALL WARREN COUNTY SPECIFICATIONS, PARTICULARLY W-10A, W-10B, AND W-12.
3. EACH SERVICE LATERAL MUST BE A CONTINUOUS PIECE OF PIPE FROM THE CORP STOP TO THE METER. COUPLINGS SHALL NOT BE PERMITTED. TYPE K COPPER SHALL BE USED FOR 3/4" AND 1" SERVICES. POLYETHYLENE 200 PSI MAY BE USED FOR 1 1/2" AND 2" SERVICES.
4. METER PITS MUST BE ADJUSTED TO GRADE USING RING RISERS OR PIT RISERS. METERS MUST BE ADJUSTED WITH METER RESETTERS (FORD V42).
5. ALL PROCEDURES MUST BE DISCUSSED AT A PRECONSTRUCTION MEETING PRIOR TO THE INITIATION OF CONSTRUCTION.

PROCEDURE FOR CONNECTION TO EXISTING WATER SYSTEM

1. MUST NOTIFY WARREN COUNTY WATER DEPARTMENT THREE (3) DAYS IN ADVANCE OF ANY SHUT DOWN. WARREN COUNTY WILL ISSUE THE SHUT DOWN NOTIFICATION AND/OR BOIL ADVISORY TO AFFECTED CUSTOMERS PER OHIO EPA REQUIREMENTS IF DETERMINED NECESSARY BY WARREN COUNTY.
2. EXPOSE EXISTING MAIN AT PROPOSED CONNECTION POINT. NO WET TAP SHALL BE MADE WITHIN THREE (3) FEET OF A BELL OR PIPE CONNECTION.
3. COUNTY PERSONNEL TO OPERATE CLOSING OF APPROPRIATE VALVES TO ISOLATE LINE TO BE TAPPED.
4. INSTALL PROPER TAPPING SLEEVE AND TAPPING VALVE. THE TAPPING SLEEVE AND VALVE SHALL BE TESTED AT 200 PSI FOR A PERIOD OF AT LEAST 5 MINUTES. THE PIPE SLUG MUST BE REMOVED AND INSPECTED BY COUNTY PERSONNEL.
5. IF THE TAPPING SLEEVE AND VALVE WILL BE UNDER FUTURE PAVEMENT, THE BURIED VALVE MUST BE LEFT OPEN AND A NEW VALVE SET OUT OF PAVEMENT.
6. FIELD CUT EXISTING MAIN AS NECESSARY TO ACCOMMODATE TEE AND CLOSE COUPLED VALVES AT EACH END OF TEE. CARE IS TO BE TAKEN SO AS NOT TO GET DIRT IN EXISTING MAIN.
7. THOROUGHLY CLEAN AND DISINFECT PIPE AND APPURTENANCES TO BE INSTALLED.
8. INSTALL TEE AND VALVES - DRESSER COUPLINGS CAN BE USED IF NECESSARY. PROPOSED MAIN VALVE IS TO BE CAPPED AND SHUT OFF. EXISTING MAIN IS THEN TO BE RETURNED TO SERVICE BY COUNTY PERSONNEL.
9. CONSTRUCTION OF PROPOSED MAIN IS TO BE COMPLETED WITHIN A JOINT OF CONNECTION TO TEE AND VALVES INSTALLED ABOVE.
10. ENTIRE LINE IS TO BE PRESSURE TESTED AND DISINFECTED TO COUNTY STANDARDS.
11. ENTIRE LENGTH OF PIPE IS TO BE THOROUGHLY CLEANED AND DISINFECTED PRIOR TO INSTALLATION. PERMATAX CHLORINE TABLETS TO BE USED FOR DISINFECTION. DOSAGE SHALL BE PER MANUFACTURER'S SPECIFICATIONS BASED ON PIPE MATERIAL.
12. NEW MAIN IS TO BE PUT INTO SERVICE BY COUNTY PERSONNEL.
13. TAPPING SLEEVES/SADDLES TO BE TWO-PIECE CAST IRON OR DUCTILE IRON (MUELLER H615). JCM412 OR FORD FTSS TAPPING SLEEVES PERMITTED ON C-900. SIZE ON SIZE TAPPING SLEEVES ARE NOT PERMITTED.
14. WATER PIPE ON BRIDGE SHALL BE DIP CLASS 350 WITH RESTRAINED PUSH ON JOINTS. LINING SHALL BE FUSION BONDED EPOXY COATED TO 6 MIL CONFORMING TO ANSI/AWWA C116/A21.16 AND NSF-61 COMPLIANT.
15. EXPANSION JOINTS SHALL BE CONNECTED TO D.I. WATER PIPE WITH RESTRAINED, M.J. FITTINGS, BOTH ENDS.
16. PIPE SLEEVES FOR PASSING THROUGH BRIDGE ABUTMENT SHALL BE TYPE 304 STAINLESS STEEL, PARALLEL TO PIPE AND IMBEDDED IN CONCRETE FLUSH WITH ABUTMENT WALLS.
17. EVACUATE ALL AIR IN NEW PIPE PRIOR TO PERFORMING PRESSURE TESTING.

SUGGESTED SEQUENCE OF CONSTRUCTION AND CRITICAL REQUIREMENTS FOR WATER AND SEWER UTILITY INSTALLATION GENERAL

1. ALL EXISTING UTILITIES MUST BE KEPT IN SERVICE AT ALL TIMES DURING THE CONSTRUCTION OF PROPOSED UTILITIES.
2. WARREN COUNTY WATER AND SEWER AND THE ENGINEER MUST APPROVE UTILITY LOCATION CHANGES, COORDINATE TIE-IN PROCEDURES TO EXISTING UTILITY PIPES AND EQUIPMENT, AND PRE-APPROVED TEMPORARY INTERRUPTION IN SERVICE. THE CONTRACTOR MUST GIVE WARREN COUNTY WATER AND SEWER AND THE ENGINEER FIVE (5) WORKING DAYS OF NOTICE OF TIE-INS AND/OR TEMPORARY INTERRUPTION OF SERVICE.
3. ALL POTENTIAL CONFLICTS WITH EXISTING UNDERGROUND STRUCTURES AND UTILITY MUST BE CONFIRMED BY EXPOSING PIPES AND MAKING VERTICAL AND HORIZONTAL SURVEY PRIOR TO INSTALLING NEW UTILITY PIPES. EXPOSED BURIED PIPES AND STRUCTURES MUST BE OBSERVED BY WARREN COUNTY WATER AND SEWER AND THE ENGINEER.
4. TEMPORARY RELOCATIONS OF SMALL PORTIONS OF THE EXISTING 10" WATER MAINS MAY BE REQUIRED TO MAINTAIN SERVICE UNTIL THE PROPOSED WATERLINES ARE CONSTRUCTED. A QUANTITY OF 100 FEET OF ITEM 638 10" WATER MAIN, DUCTILE IRON PIPE ANSI CLASS 52, WITH MECHANICAL JOINTS AND FITTINGS HAS BEEN INCLUDED IN THE WATER SUBSUMMARY, TO BE USED AS DIRECTED BY THE ENGINEER, AS NEEDED, TO MAINTAIN THE EXISTING WATER MAINS DURING CONSTRUCTION. EXISTING WATER MAINS HAVE BEEN SHOWN IN THE PLANS WITH AN ASSUMED COVER OF 4.5'. ACTUAL DEPTHS OF EXISTING WATER MAINS WILL DICTATE WHETHER OR NOT TEMPORARY RELOCATIONS WILL BE REQUIRED.

WATER MAIN INSTALLATION

1. INSTALL NEW WATER MAINS COMPLETE, TESTED, DISINFECTED, AND CONFIRMED BACTERIA FREE PRIOR TO MAKING ANY TIE TO EXISTING WATER UTILITIES. THE TIE-IN SHALL NOT PROCEED UNTIL APPROVAL TO DO SO HAS BEEN OBTAINED FROM THE WATER COUNTY WATER AND SEWER AND THE ENGINEER.
2. INSTALLATION OF WATER MAINS ON THE KING AVENUE BRIDGE AND ITS APPROACHES SHALL PROCEED AFTER ALL PILINGS HAVE BEEN DRIVEN, BRIDGE SUPPORTS COMPLETED, AND RETAINING WALLS HAVE BEEN CONSTRUCTED.
3. INSTALLATION OF PIPES UNDER OTHER PROPOSED UTILITIES AND STORM DRAINS MUST BE INSTALLED AND PRESSURE TESTED BEFORE THE WORK ABOVE IS BEGUN. PRESSURE TESTING OF ALL WATER MAINS UNDER CROSSINGS SHALL BE REPEATED AFTER THE WORK ABOVE IS COMPLETED.
4. PROPOSED FITTINGS MAY BE ELIMINATED IF SITE CONDITIONS ALLOW VERTICAL AND HORIZONTAL PIPE DEFLECTION AT FITTINGS NOT TO EXCEED 75% OF THE PIPE MANUFACTURERS RECOMMENDED OFFSET ANGLE. REMOVAL OF FITTINGS MUST HAVE PRIOR APPROVAL OF WARREN COUNTY WATER AND SEWER INSPECTOR.
5. WATER PIPE SHALL BE INSTALLED WITH THE BELL END UPSTREAM OF THE NORMAL FLOW IN THE PIPE.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH LEAN GROUT, ITEM 613, SAND, OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEAD SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM THE OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH MEASURED, AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

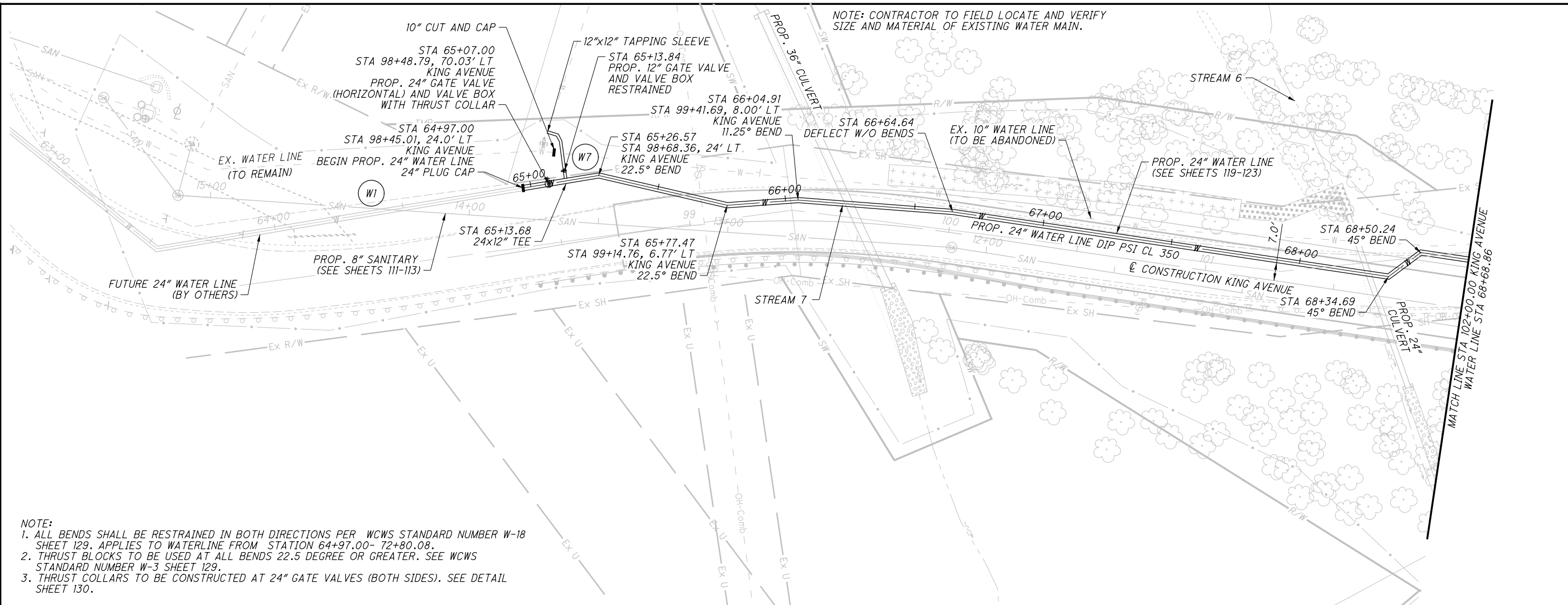
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WATER WORK NOTES

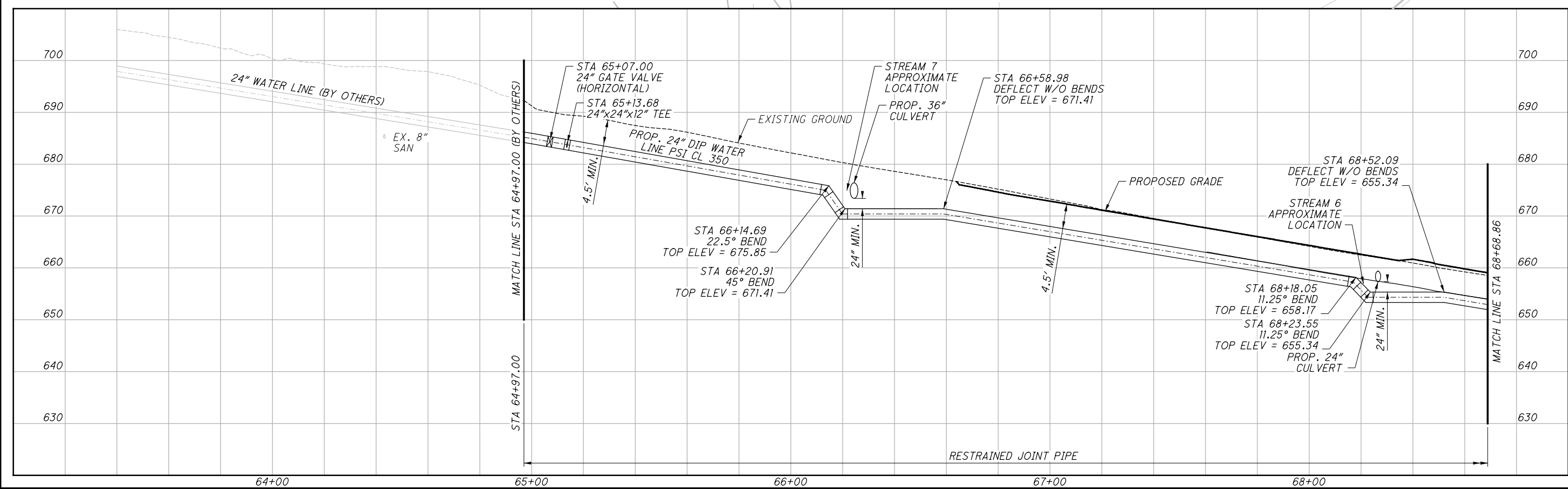
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- NOTE:**
1. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129. APPLIES TO WATERLINE FROM STATION 64+97.00- 72+80.08.
 2. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129.
 3. THRUST COLLARS TO BE CONSTRUCTED AT 24" GATE VALVES (BOTH SIDES). SEE DETAIL SHEET 130.



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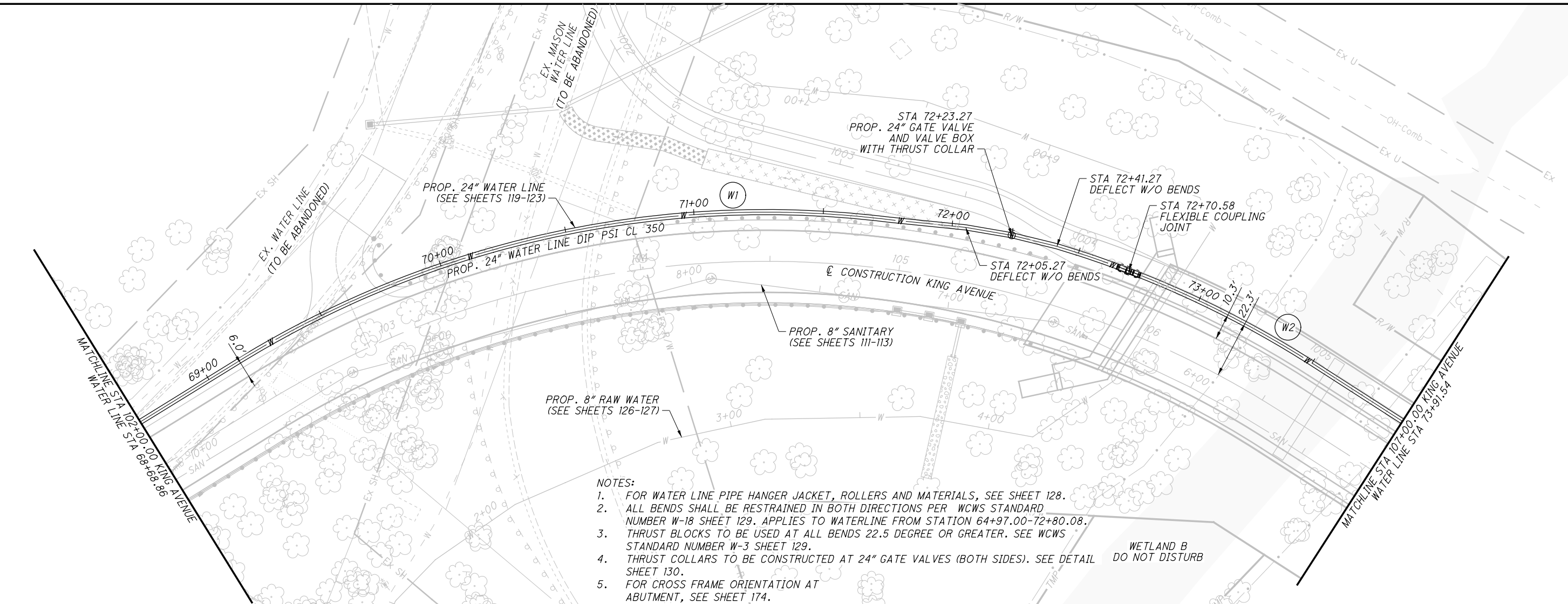
PLAN AND PROFILE

PROPOSED WATER LINE

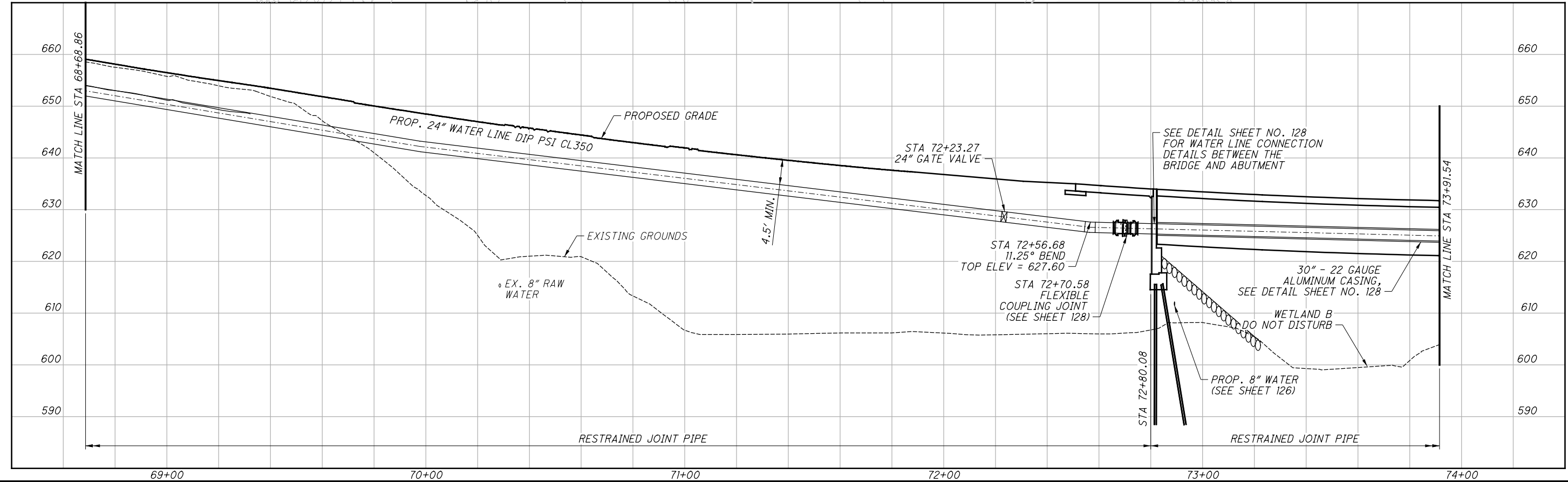
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- NOTES:**
1. FOR WATER LINE PIPE HANGER JACKET, ROLLERS AND MATERIALS, SEE SHEET 128.
 2. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129. APPLIES TO WATERLINE FROM STATION 64+97.00-72+80.08.
 3. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129.
 4. THRUST COLLARS TO BE CONSTRUCTED AT 24" GATE VALVES (BOTH SIDES). SEE DETAIL SHEET 130.
 5. FOR CROSS FRAME ORIENTATION AT ABUTMENT, SEE SHEET 174.

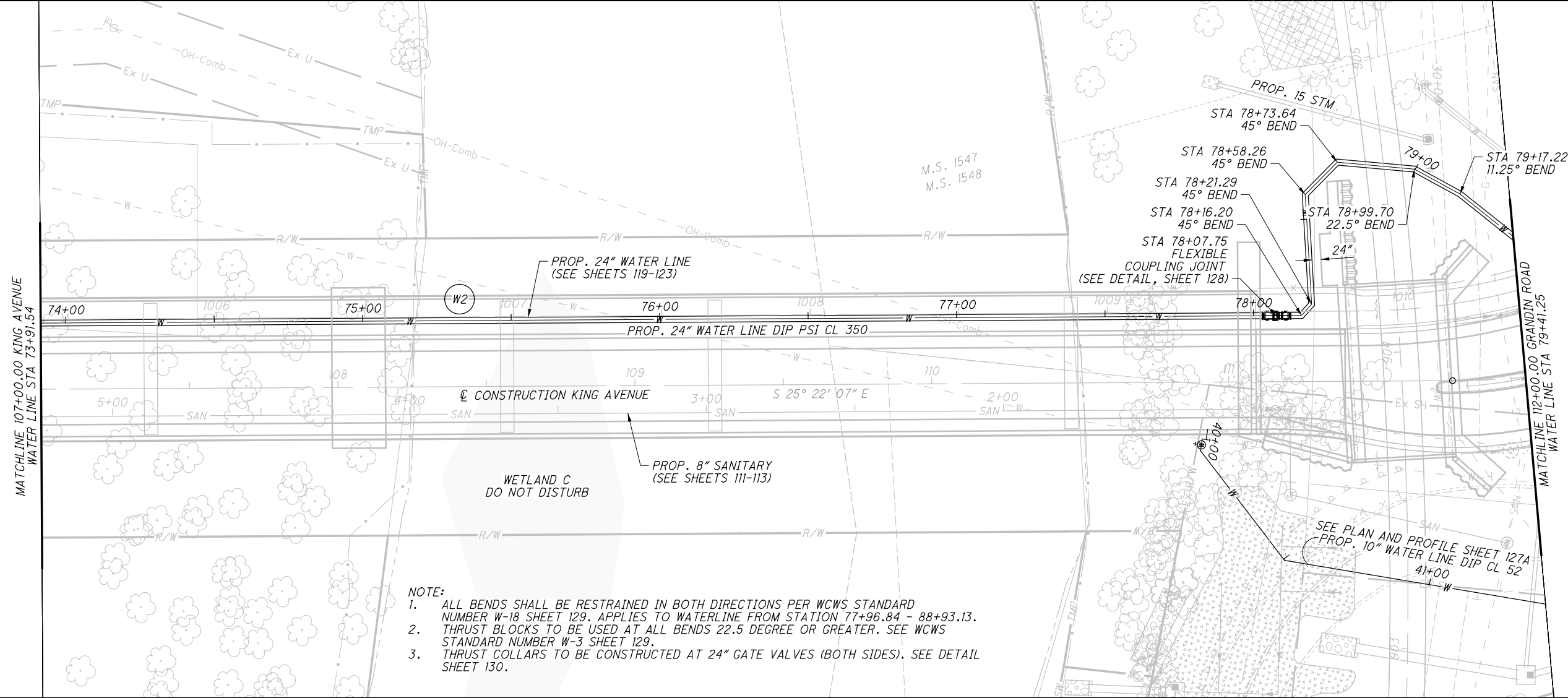


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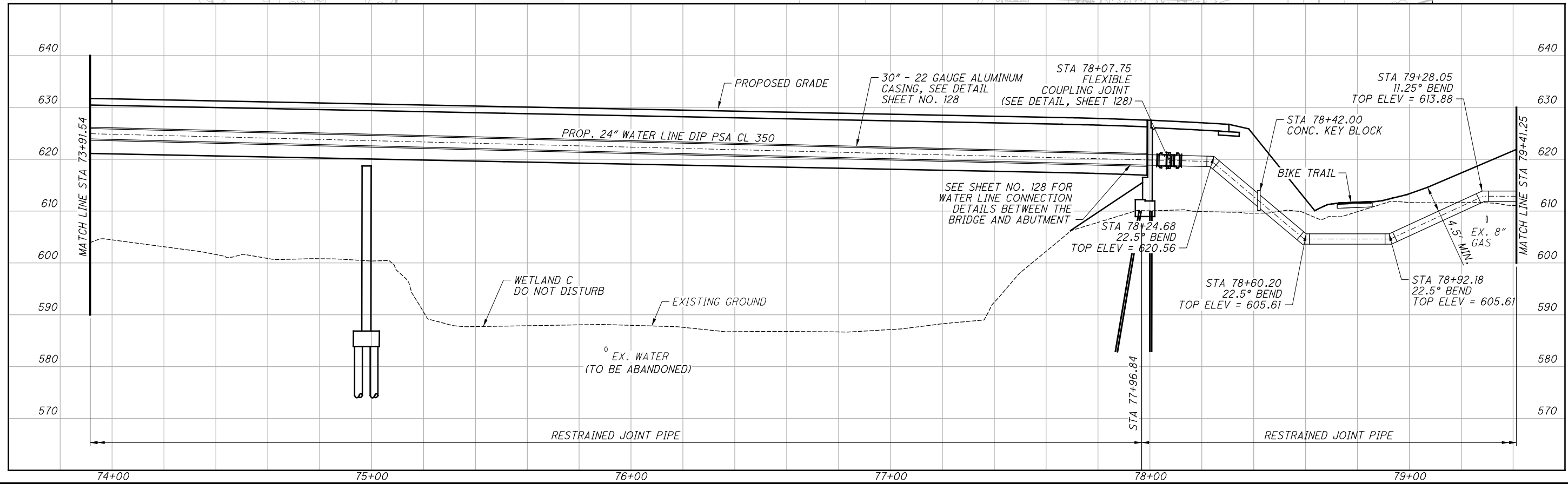
**PLAN AND PROFILE
PROPOSED WATER LINE**

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- NOTE:**
- ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129. APPLIES TO WATERLINE FROM STATION 77+96.84 - 88+93.13. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129.
 - THRUST COLLARS TO BE CONSTRUCTED AT 24" GATE VALVES (BOTH SIDES). SEE DETAIL SHEET 130.

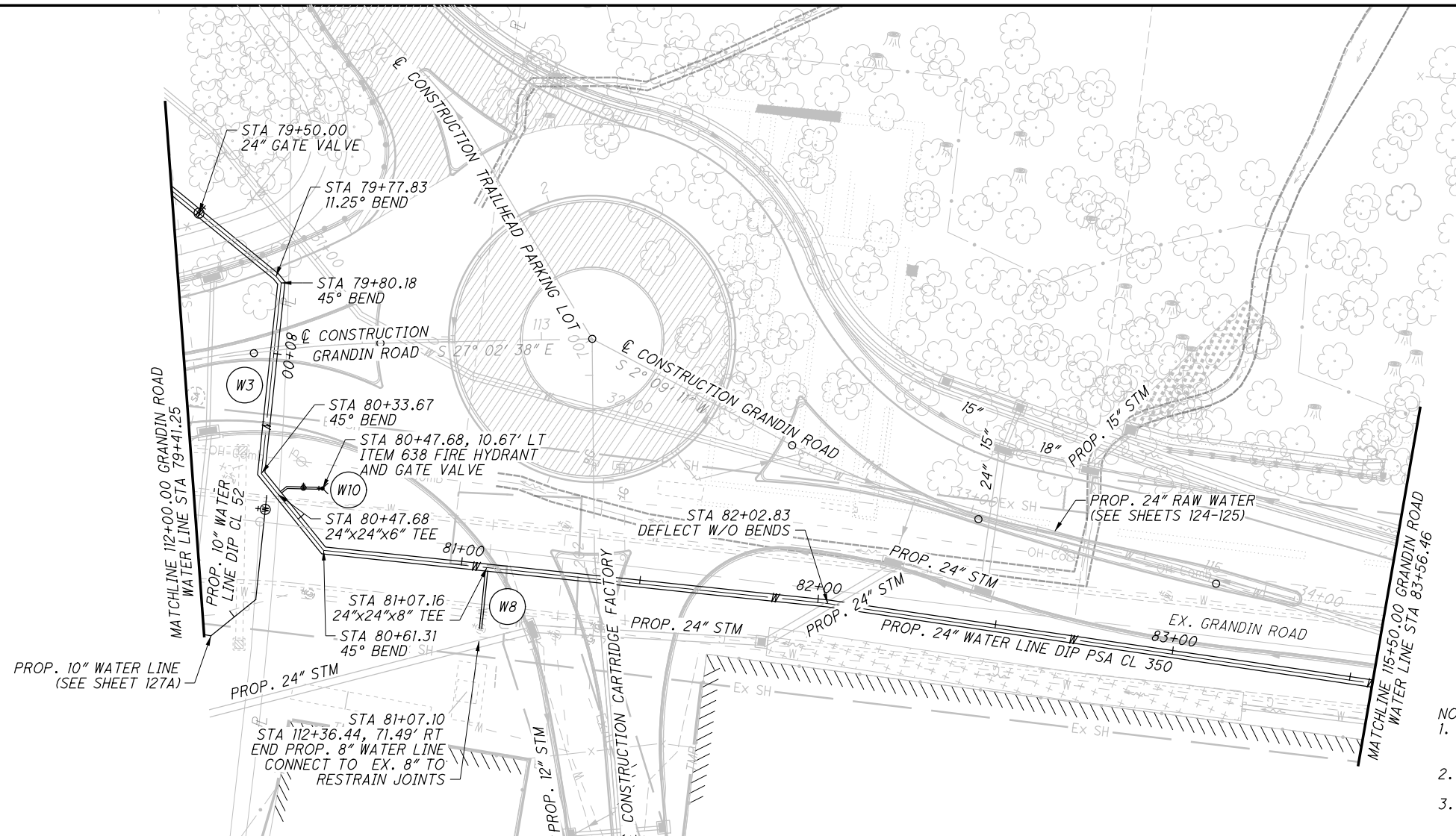


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GMF

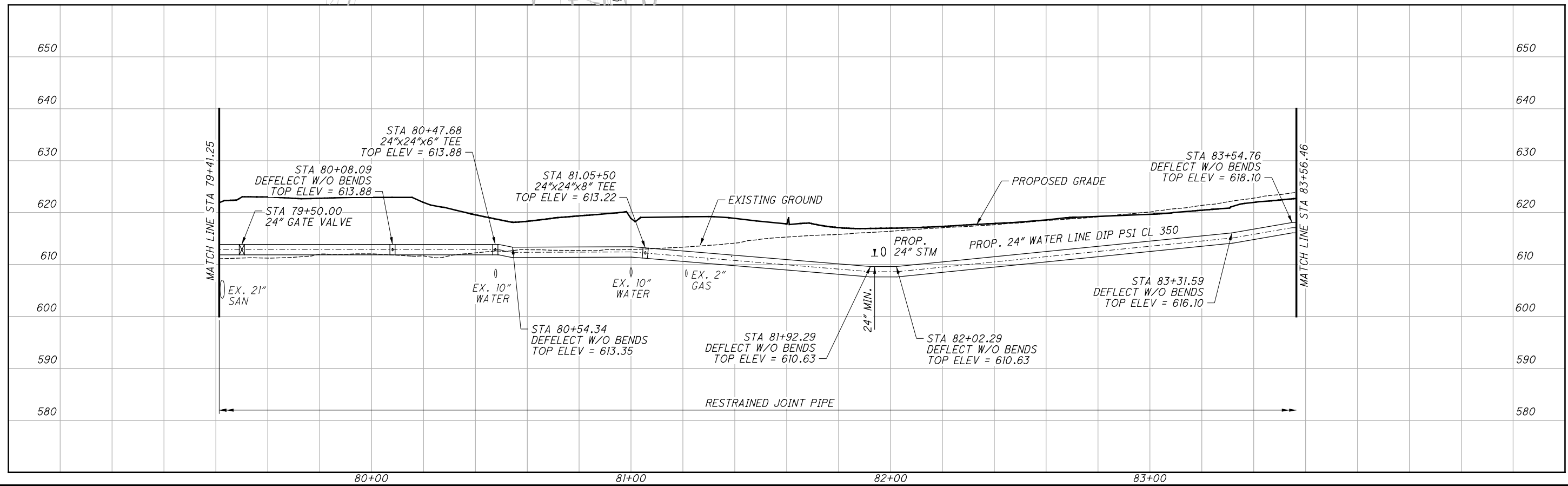
**PLAN AND PROFILE
PROPOSED WATER LINE**

WAR-CR 282-0.97

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- NOTE:
1. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129. APPLIES TO WATERLINE FROM STATION 77+96.84 - 88+93.13.
 2. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129.
 3. THRUST COLLARS TO BE CONSTRUCTED AT 24\"/>



HORIZONTAL SCALE IN FEET

CALCULATED	LBA	CHECKED	GMF

PLAN AND PROFILE

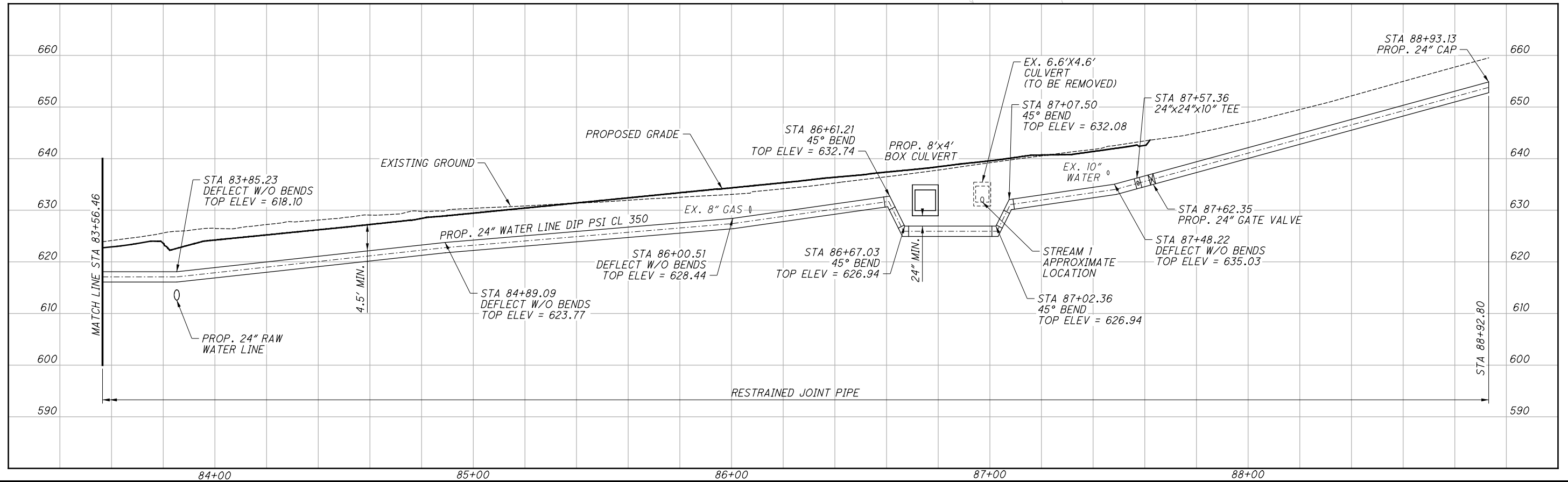
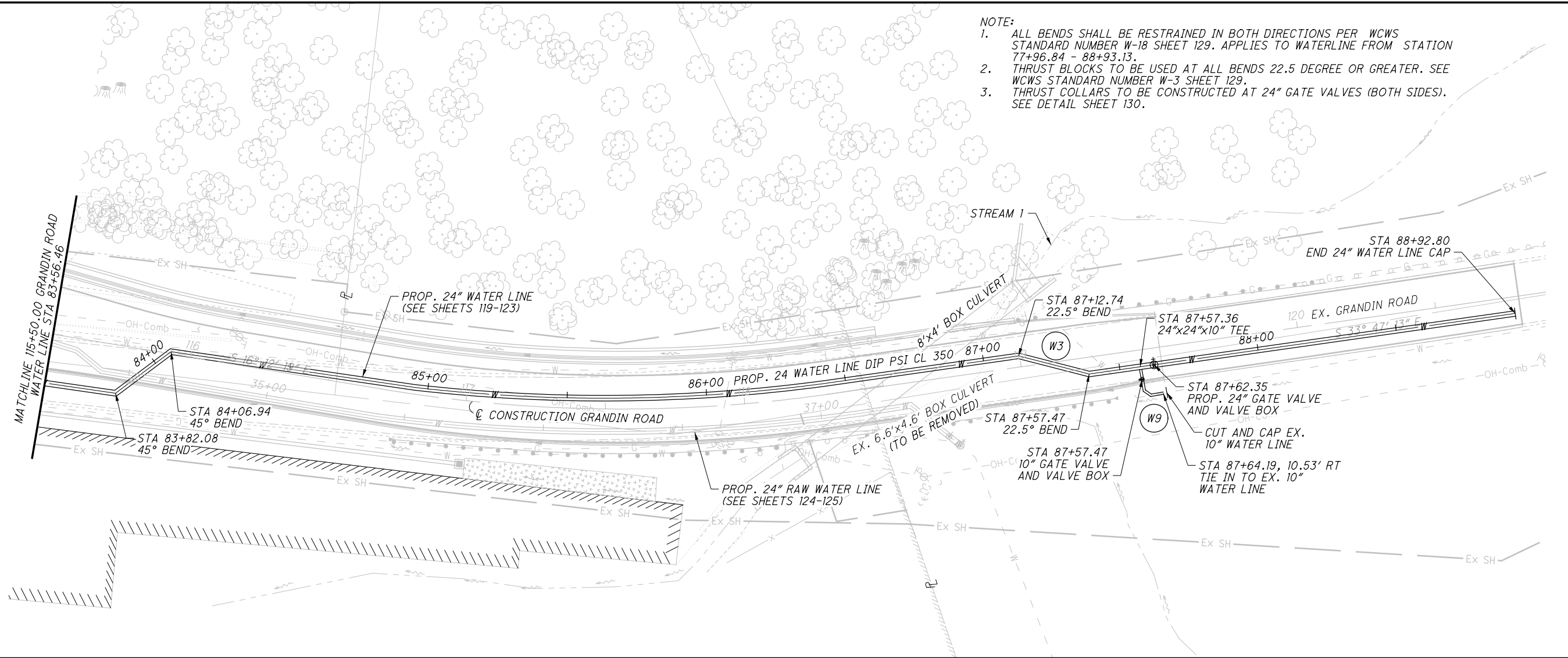
PROPOSED WATER LINE

WAR-CR 282-0.97

122

256

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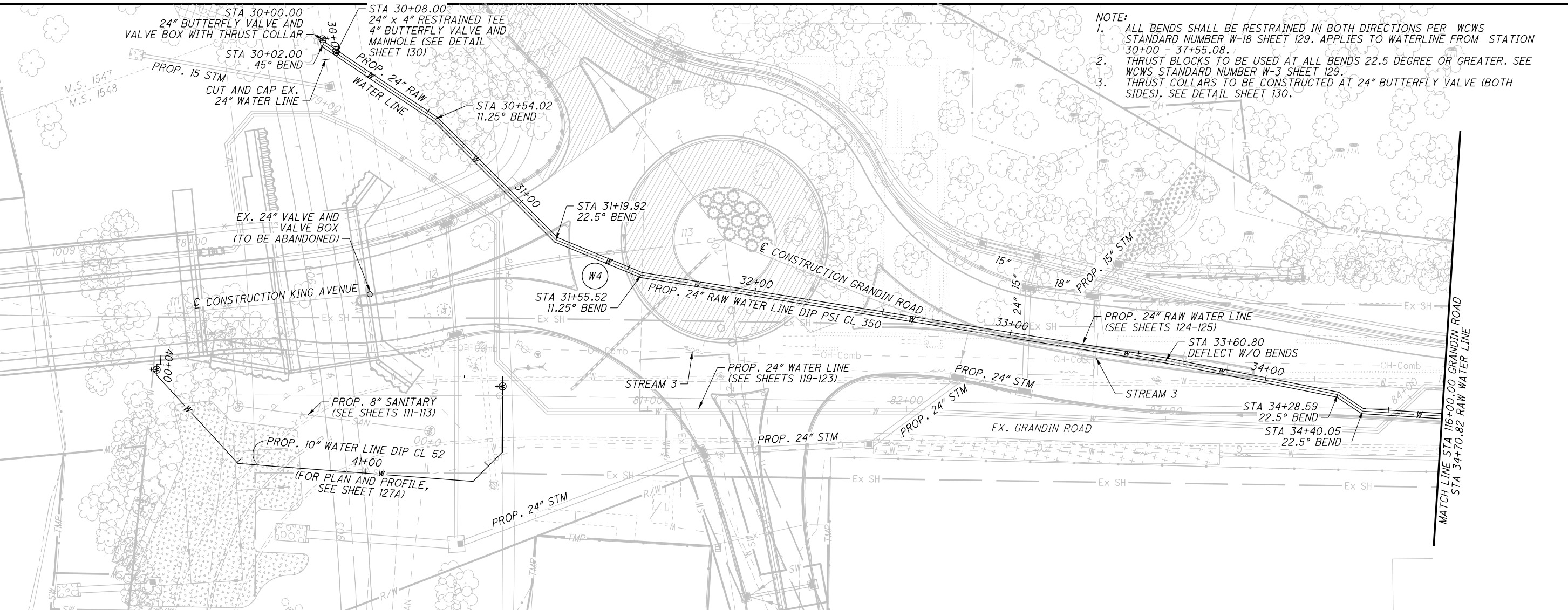
0 20 40 HORIZONTAL SCALE IN FEET

PLAN AND PROFILE PROPOSED WATER LINE

WAR-CR 282-0.97

123 / 256

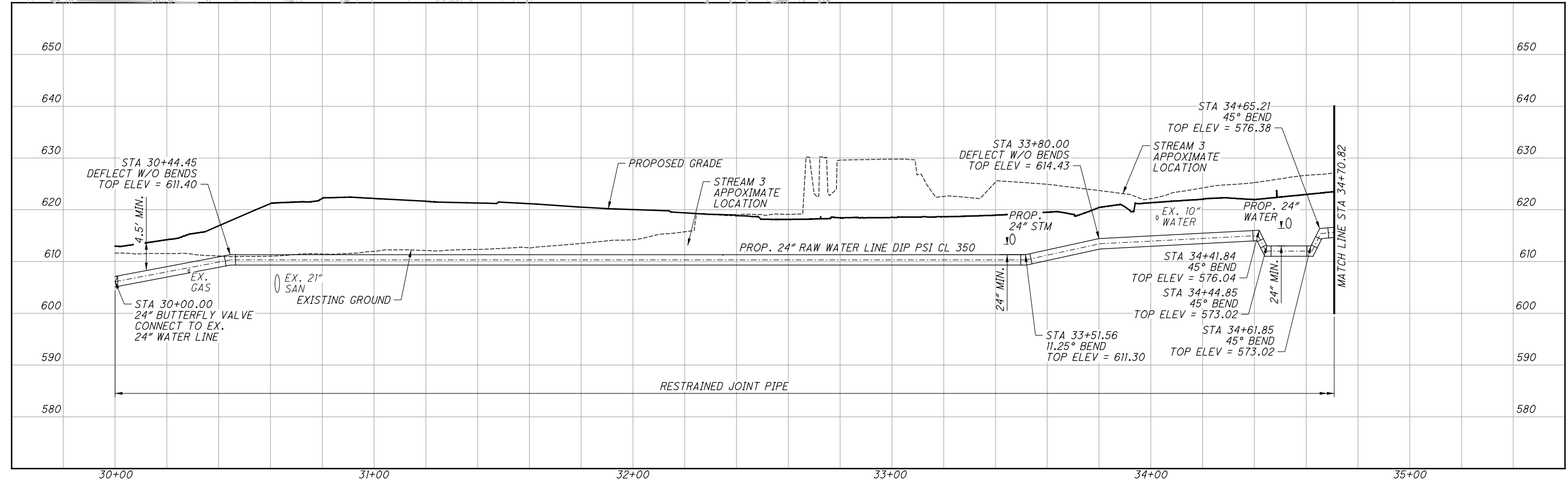
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- NOTE:
1. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129. APPLIES TO WATERLINE FROM STATION 30+00 - 37+55.08.
 2. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129.
 3. THRUST COLLARS TO BE CONSTRUCTED AT 24" BUTTERFLY VALVE (BOTH SIDES). SEE DETAIL SHEET 130.

CALCULATED
LBA
CHECKED
GMF

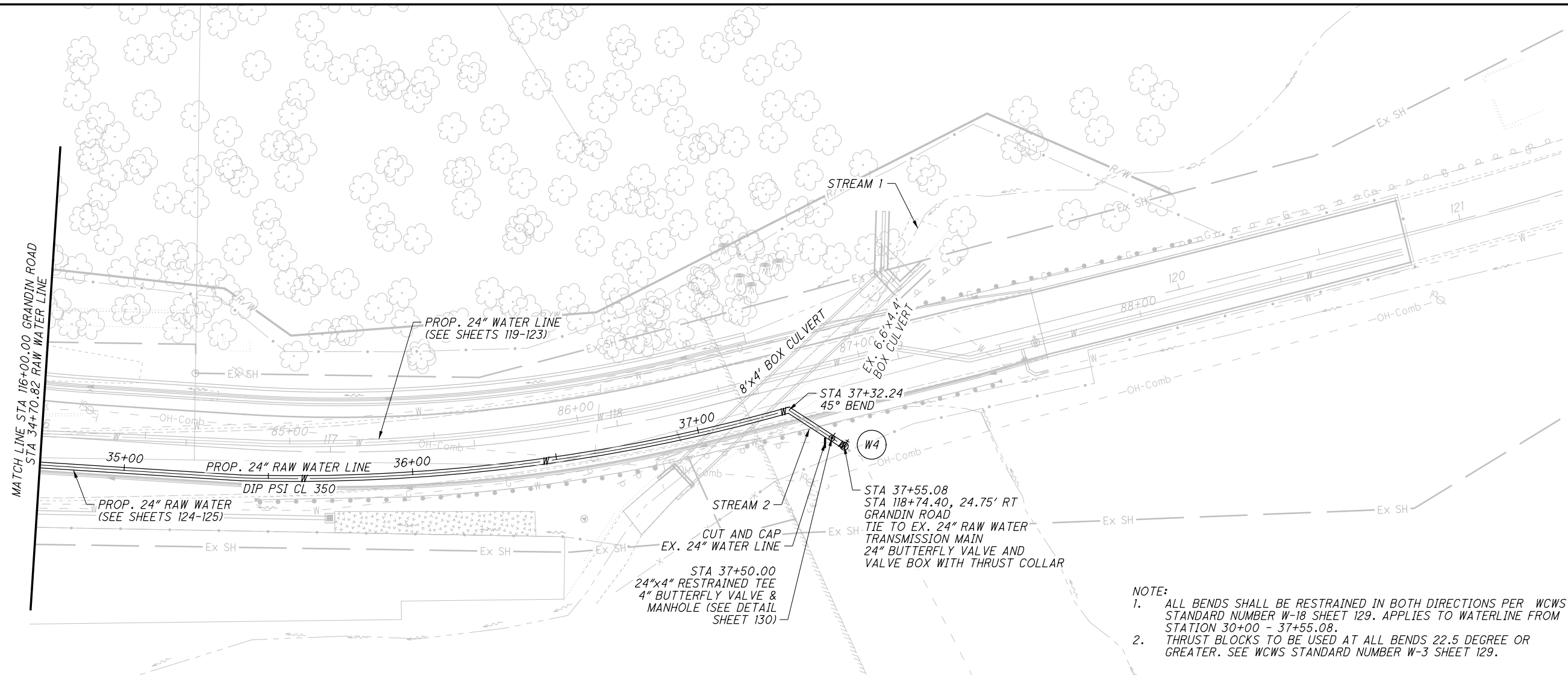
0 20 40
HORIZONTAL SCALE IN FEET



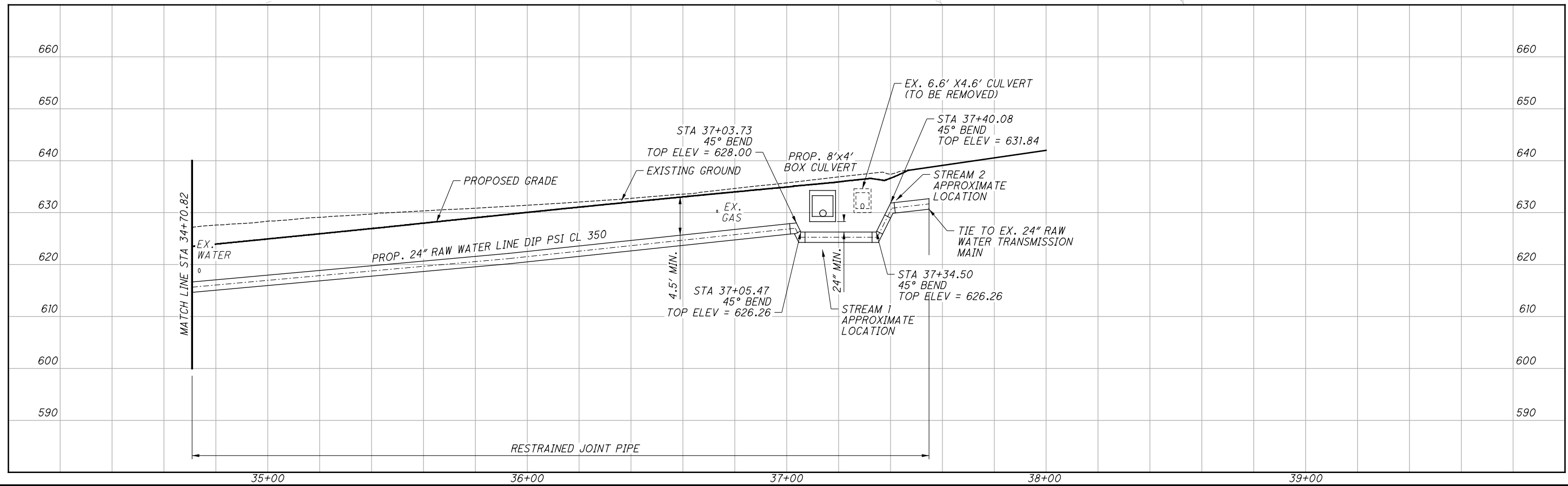
PLAN AND PROFILE
PROPOSED RAW WATER LINE

WAR-CR 282-0.97

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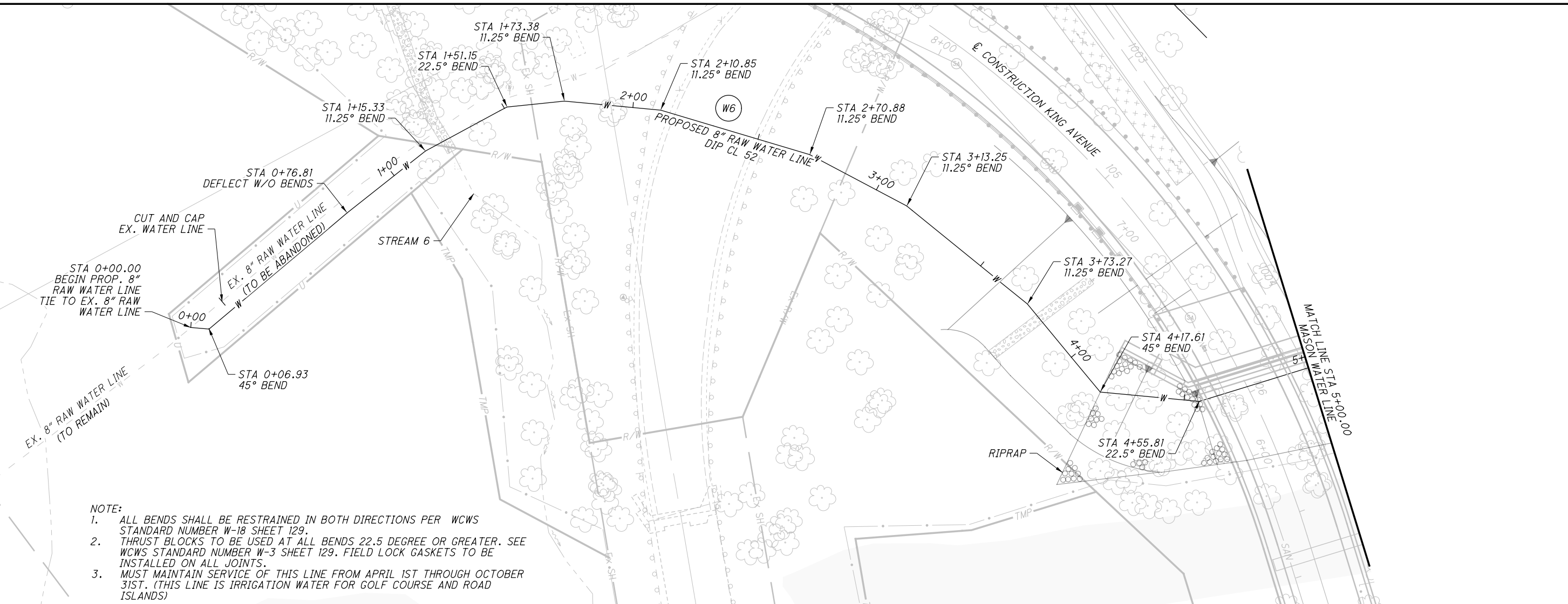
NOTE:
 1. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129. APPLIES TO WATERLINE FROM STATION 30+00 - 37+55.08.
 2. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129.



PLAN AND PROFILE
 PROPOSED RAW WATER LINE

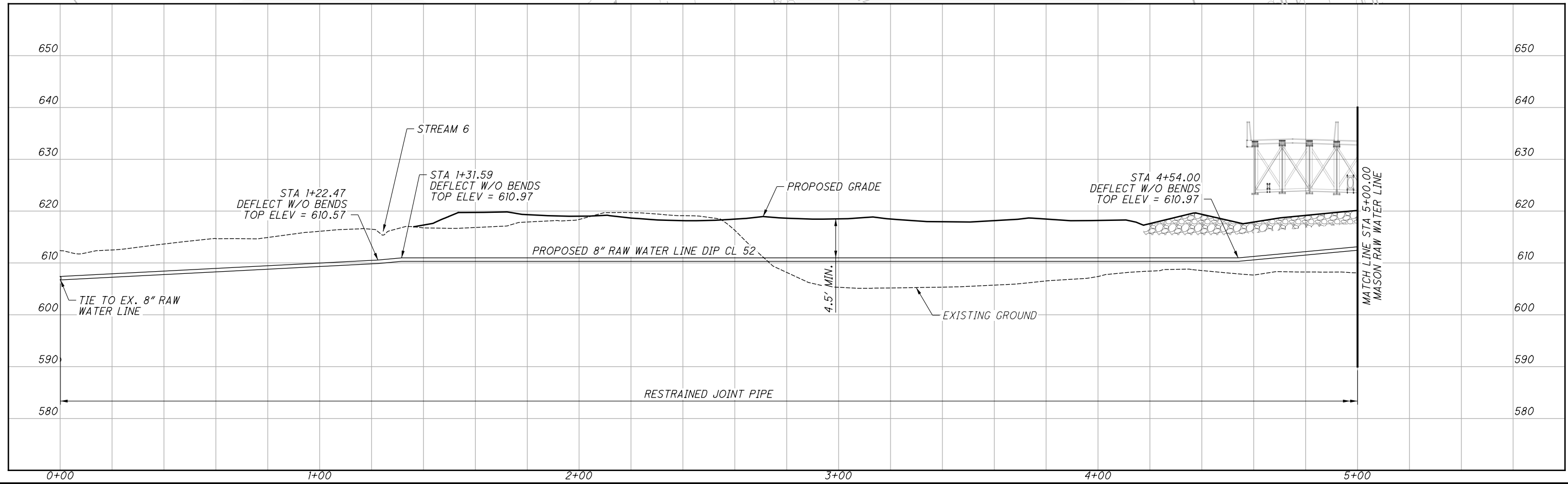
WAR-CR 282-0.97

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NOTE:

1. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129.
2. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129. FIELD LOCK GASKETS TO BE INSTALLED ON ALL JOINTS.
3. MUST MAINTAIN SERVICE OF THIS LINE FROM APRIL 1ST THROUGH OCTOBER 31ST. (THIS LINE IS IRRIGATION WATER FOR GOLF COURSE AND ROAD ISLANDS)



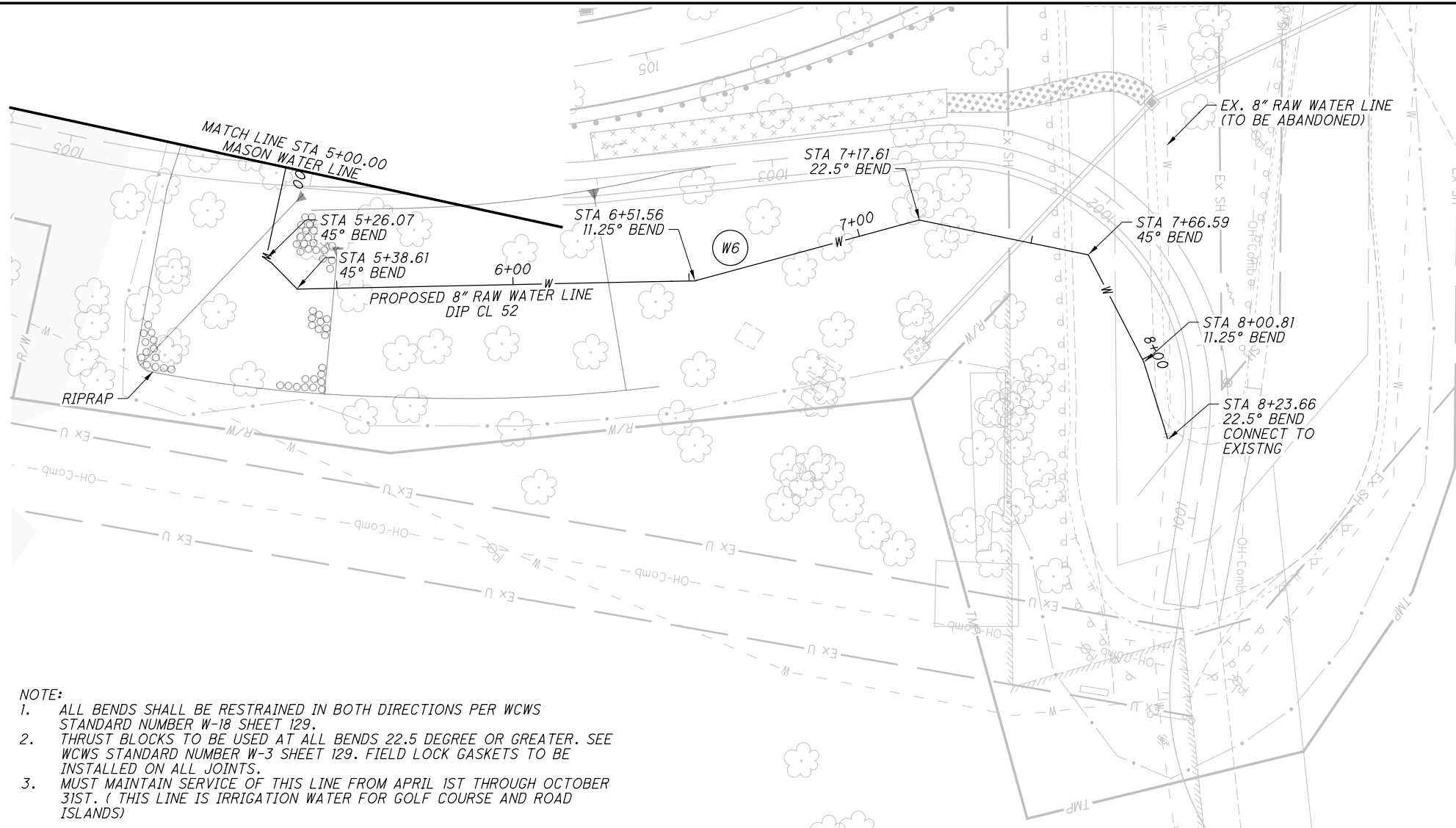
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HORIZONTAL SCALE IN FEET

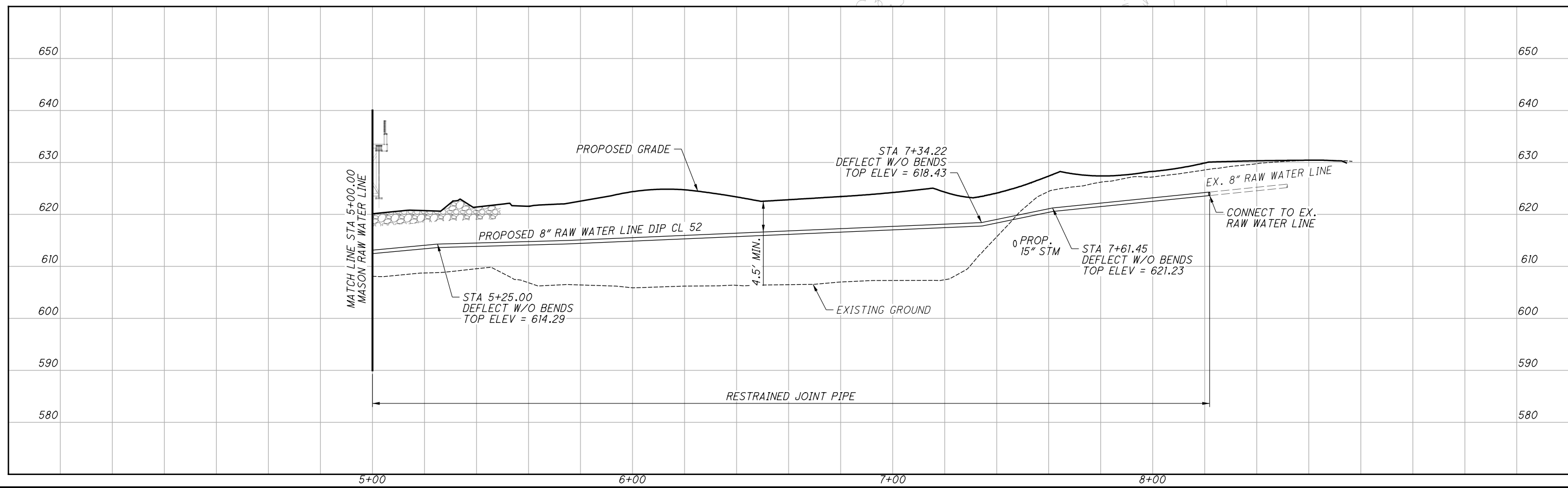
**PLAN AND PROFILE
PROPOSED 8" RAW WATER LINE**

WAR-CR 282-0.97

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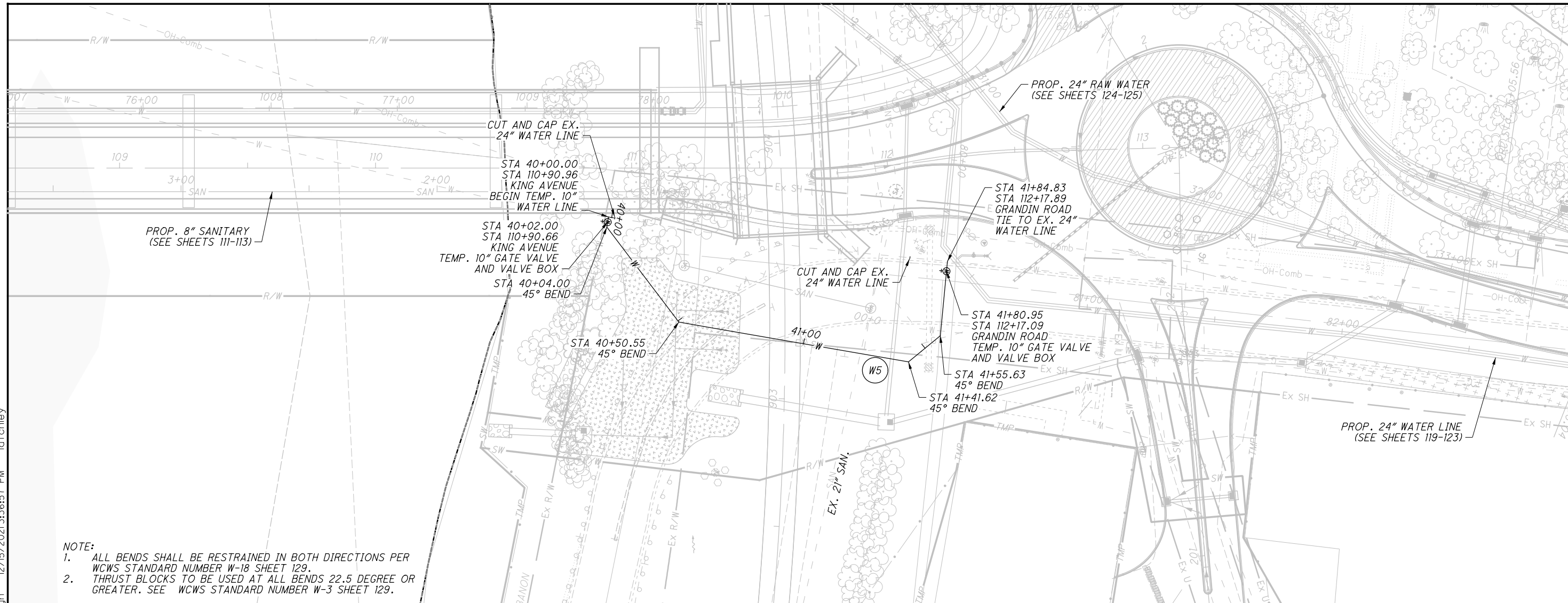
- NOTE:
1. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129.
 2. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129. FIELD LOCK GASKETS TO BE INSTALLED ON ALL JOINTS.
 3. MUST MAINTAIN SERVICE OF THIS LINE FROM APRIL 1ST THROUGH OCTOBER 31ST. (THIS LINE IS IRRIGATION WATER FOR GOLF COURSE AND ROAD ISLANDS)



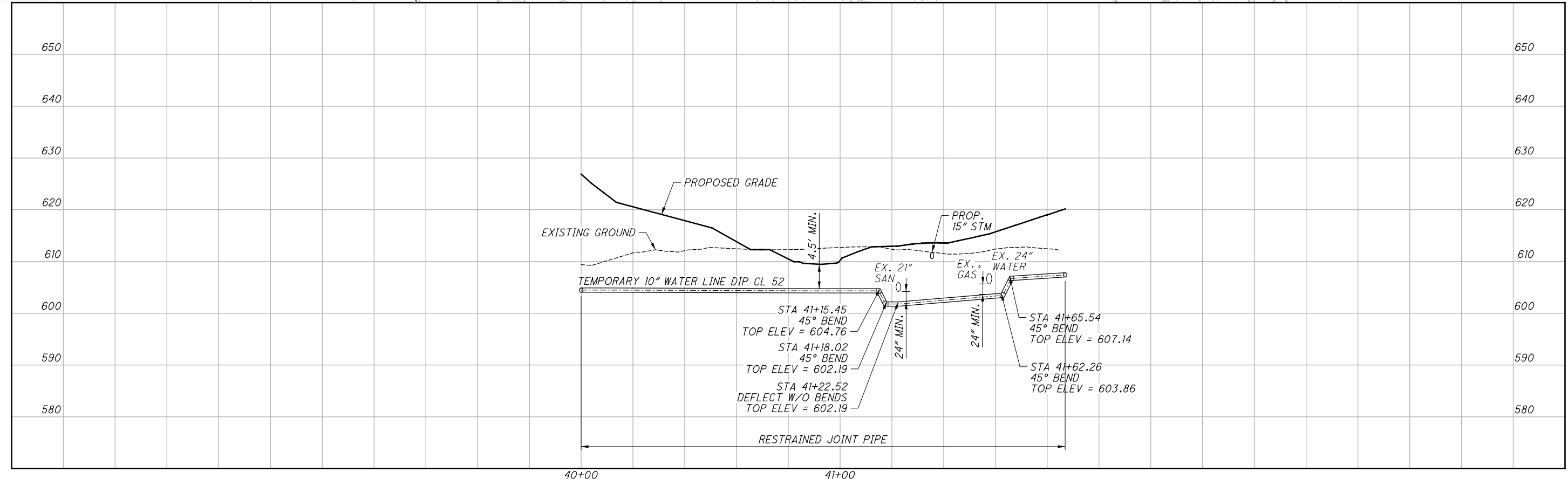
PLAN AND PROFILE
PROPOSED 8" RAW WATER LINE

WAR-CR 282-0.97
127
256

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NOTE:
 1. ALL BENDS SHALL BE RESTRAINED IN BOTH DIRECTIONS PER WCWS STANDARD NUMBER W-18 SHEET 129.
 2. THRUST BLOCKS TO BE USED AT ALL BENDS 22.5 DEGREE OR GREATER. SEE WCWS STANDARD NUMBER W-3 SHEET 129.

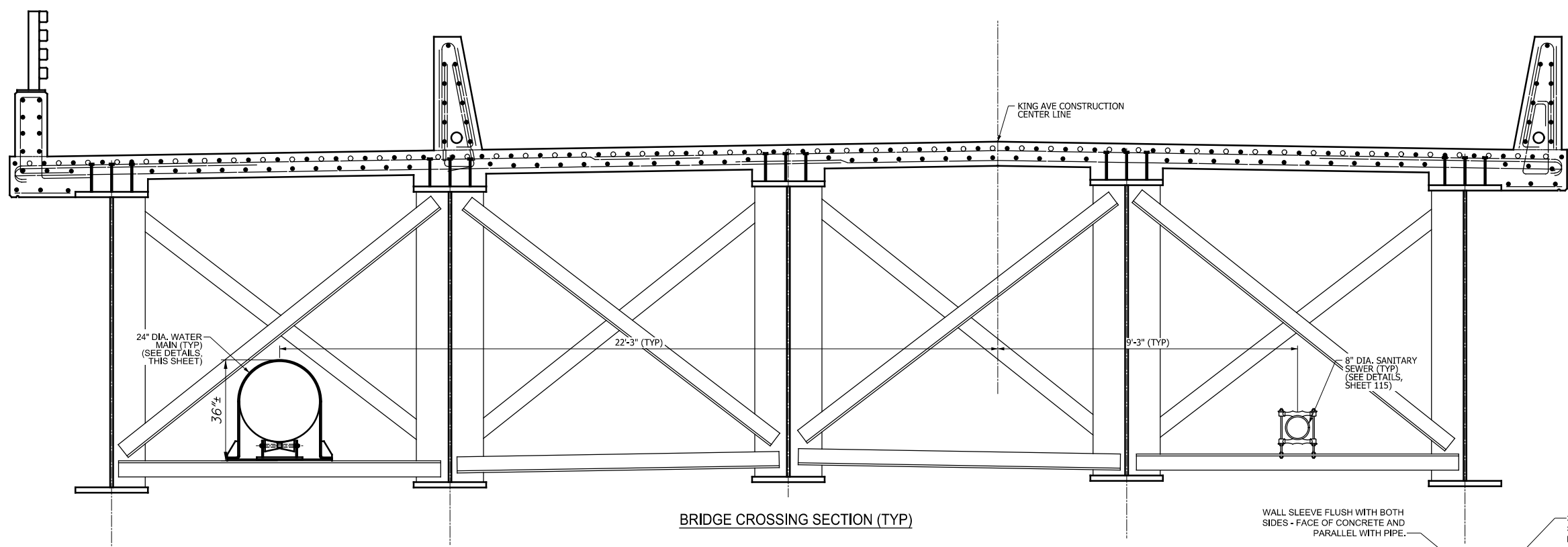


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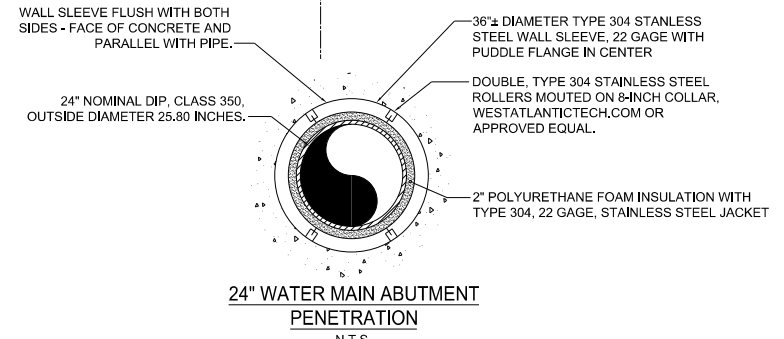
10
 HORIZONTAL
 SCALE IN FEET

PLAN AND PROFILE
 TEMPORARY 10" WATER LINE

WAR-CR 282-0.97

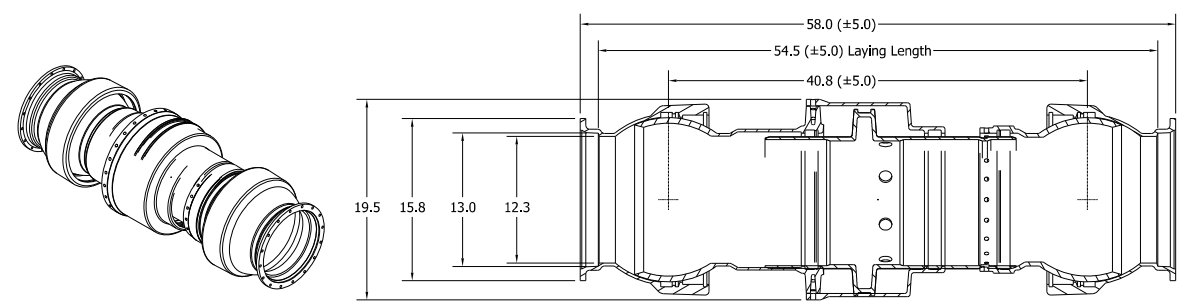


BRIDGE CROSSING SECTION (TYP)



24" WATER MAIN ABUTMENT PENETRATION

- NOTE:
- CONFIRM DIAMETER OF WALL SLEEVE WITH ROLLER MANUFACTURER.
 - SEAL ABUTMENT TO PREVENT MOVEMENT OF SOIL THROUGH PENETRATION WITH RUBBER BOOT INSERTED AROUND PIPE FROM SOIL SIDE AND BOLTED TO SOIL SIDE OF ABUTMENT WITH TWELVE (12) 1/2" X 6" LONG TYPE 316 S.S. EPOXY COATED ANCHOR BOLTS WITH WASHERS HOLDING A 1/4" TYPE 316 S.S. STEEL RING THAT ANCHORS THE BOOT TO THE ABUTMENT WALL.
 - PAYMENT FOR 24" DIA. WATER LINE ABUTMENT PENETRATION SHALL BE MADE PER THE UNIT BID PRICE PER EACH FOR ITEM 638- WATER WORK, MISC.: WATER ABUTMENT CONNECTION AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, APPURTENANCES, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.

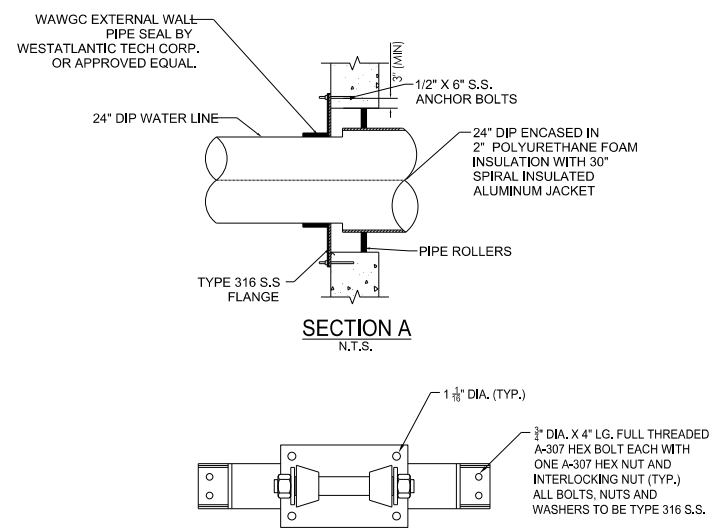


FLEXIBLE COUPLING DETAIL

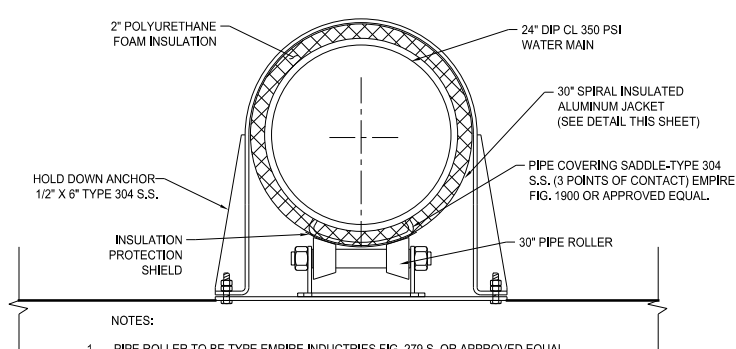
- NOTES:
- USE 24" FORCE BALANCE FLEX-TEND (4424M20B) BY EBAA IRON, INC. OR APPROVED EQUAL.
 - PAYMENT FOR 24" DIA. WATER LINE FLEXIBLE COUPLING SHALL BE MADE PER THE UNIT BID PRICE PER EACH FOR ITEM 638- WATER WORK, MISC.: EBAA XTEND EXPANSION JOINT AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, APPURTENANCES, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.

FLEX-TEND FORCE BALANCED SPECIFICATION

- FLEXIBLE EXPANSION JOINTS SHALL BE INSTALLED IN THE LOCATIONS INDICATED ON THE DRAWINGS AND SHALL BE MANUFACTURED OF THE DUCTILE IRON CONFORMING TO THE MATERIAL REQUIREMENTS OF ASTM A536 AND ANSI/AWWA C153/A21.53. FOUNDRY CERTIFICATION OF MATERIAL SHALL BE READILY AVAILABLE UPON REQUEST.
- EACH FLEXIBLE EPANSION JOINT SHALL BE PRESSURE TESTED PRIOR TO SHIPMENT AGAINST ITS OWN RESTRAINT TO A MINIMUM OF 250 PSI. A MINIMUM 2:1 SAFETY FACTOR, DETERMINED FROM THE PUBLISHED PRESSURE RATING, SHALL APPLY.
- EACH FLEXIBLE EXPANSION JOINT SHALL CONSIST OF AN EXPANSION JOINT DESIGNED AND CAST AS AN INTEGRAL PART OF A BALL AND SOCKEY TYPE FLEXIBLE JOINT, HAVING A MINIMUM PER BALL DEFLECTION OF: 25", 4" - 8"; 20", 10" - 12"; 15", 14" AND 8-INCHES MINIMUM EXPANSION. THE FLEXIBLE EXPANSION FITTING SHALL NOT EXPAND OR EXERT AN AXIAL IMPARTING THRUST UNDER INTERNAL WATER PRESSURE. THE FLEXIBLE EXPANSION FITTING SHALL NOT INCREASE OR DECREASE THE INTERNAL WATER VOLUME AS THE UNIT EXPANDS OR CONTRACTS.
- ALL INTERNAL SURFACES (WETTED PARTS) SHALL BE LINED WITH A MINIMUM OF 15 MILS OF FUSION BONDED EPOXY CONFORMING TO THE APPLICABLE REQUIREMENTS OF ANSI/AWWA C213. SEALING GASKETS SHALL BE CONSTRUCTED OF EPDM. THE COATING SHALL MEET ANS/NSF-61.
- ALL EXTERNAL SURFACES (WETTED PARTS) SHALL BE LINED WITH A MINIMUM OF 6 MILS OF FUSION BONDED EPOXY CONFORMING TO THE APPLICABLE REQUIREMENTS OF ANSI/AWWA C116/A21.16.
- POLYEHTYLENE SLEEVES, MEETING ANSI/AWWA C105/A21.15, SHALL BE INCLUDED FOR DIRECT BURIED APPLICATIONS.
- MANUFACTURE'S CERTIFICATION OF COMPLIANCE TO THE ABOVE STANDARDS AND REQUIREMENTS SHALL BE READILY AVAILABLE UPON REQUEST. THE PURCHASER (OR OWNER) SHALL REVERSE THE RIGHT TO INSPECT THE MANUFACTURE'S FACILITY FOR COMPLIANCE. ALL FLEXIBLE EXPANSION JOINTS SHALL BE THE FORCE BALANCED FLEX-TEND AS MANUFACTURED BY EBAA IRON, INC. EASTLAND, TX., USA, OR APPROVED EQUAL.

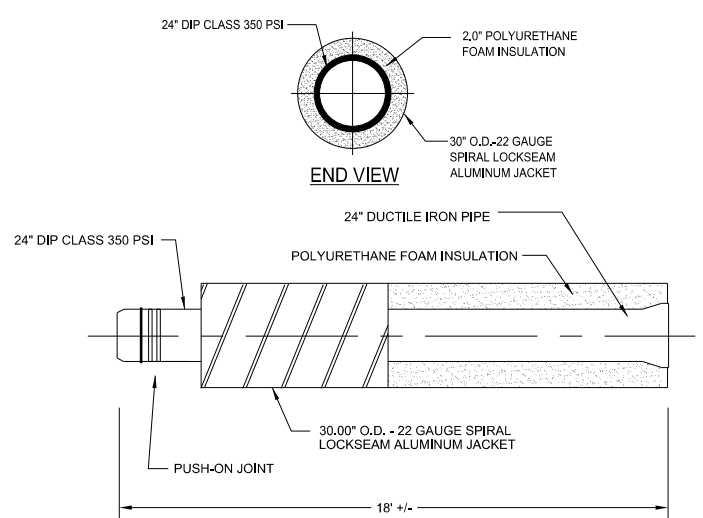


SECTION A



- NOTES:
- PIPE ROLLER TO BE TYPE EMPIRE INDUSTRIES FIG. 279 S, OR APPROVED EQUAL
 - PIPE ROLLER SHALL BE TYPE 304 S.S.
 - MAXIMUM SPACING BETWEEN SUPPORTS LIMITED TO 9 FEET MAX.
 - CONTRACTOR TO SUBMIT COMPONENT INFORMATION FOR REVIEW AND APPROVAL BY ENGINEER PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO CONFIRM LENGTHS AND DIMENSIONS PRIOR TO ORDERING MATERIALS.
 - ALL NUTS, BOLTS, AND WASHERS TO BE TYPE 316 S.S. SIZE AS RECOMMENDED BY MANUFACTURER.
 - DO NOT CRIMP ALUMINUM JACKET WITH HOLD-DOWN STRAP.
 - PAYMENT FOR THE 24" WATER LINE PIPE HANGER SHALL BE MADE PER THE UNIT BID PRICE PER EACH FOR ITEM 638- WATER WORK, MISC.: PIPE HANGER AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIAL, APPURTENANCES, CONNECTIONS AND ALL INCIDENTALS TO COMPLETE THE WORK.

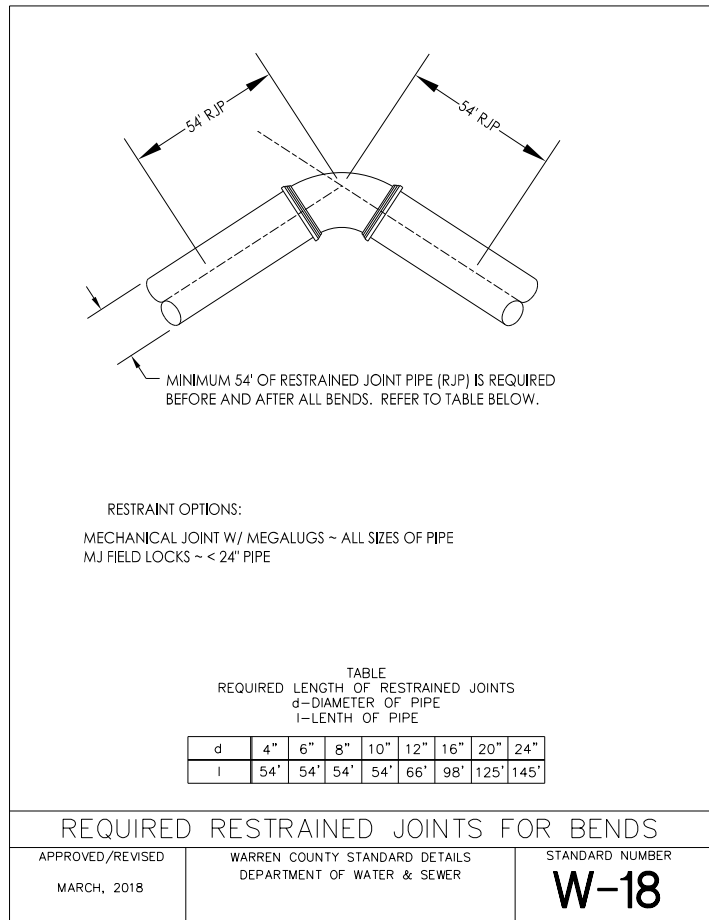
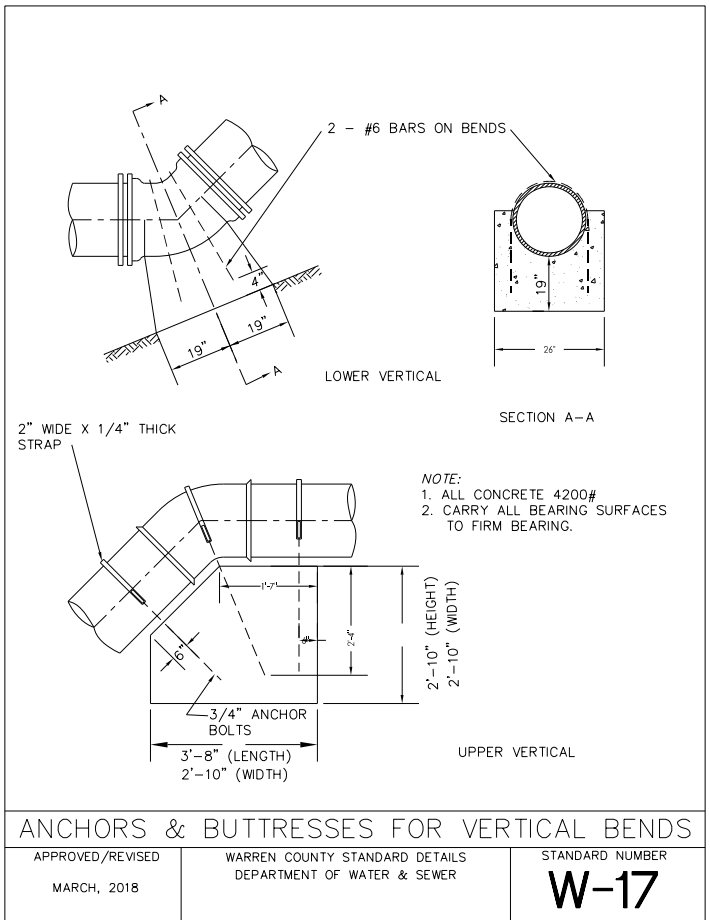
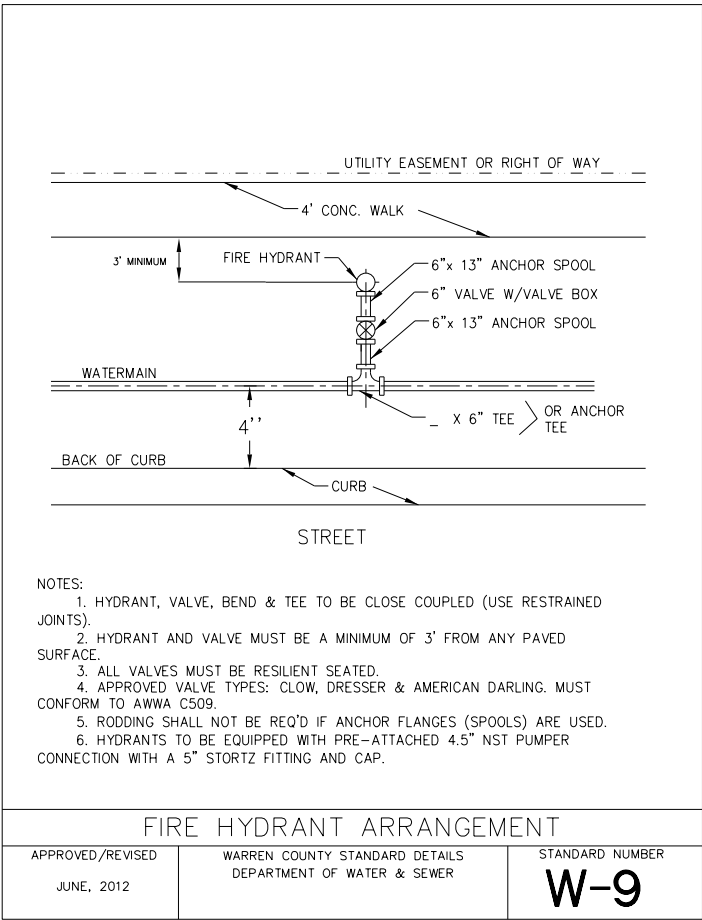
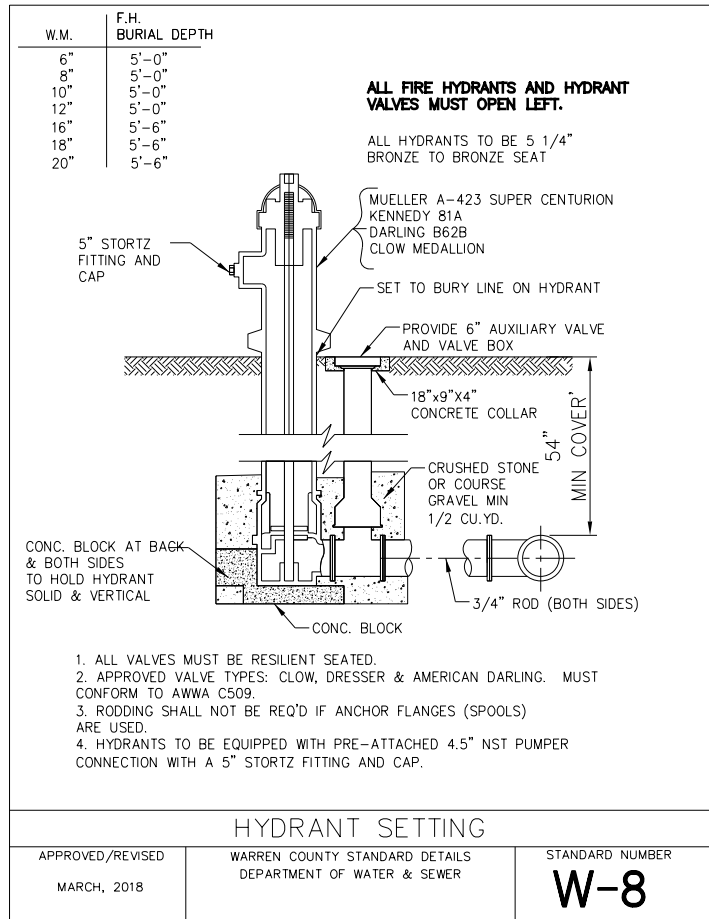
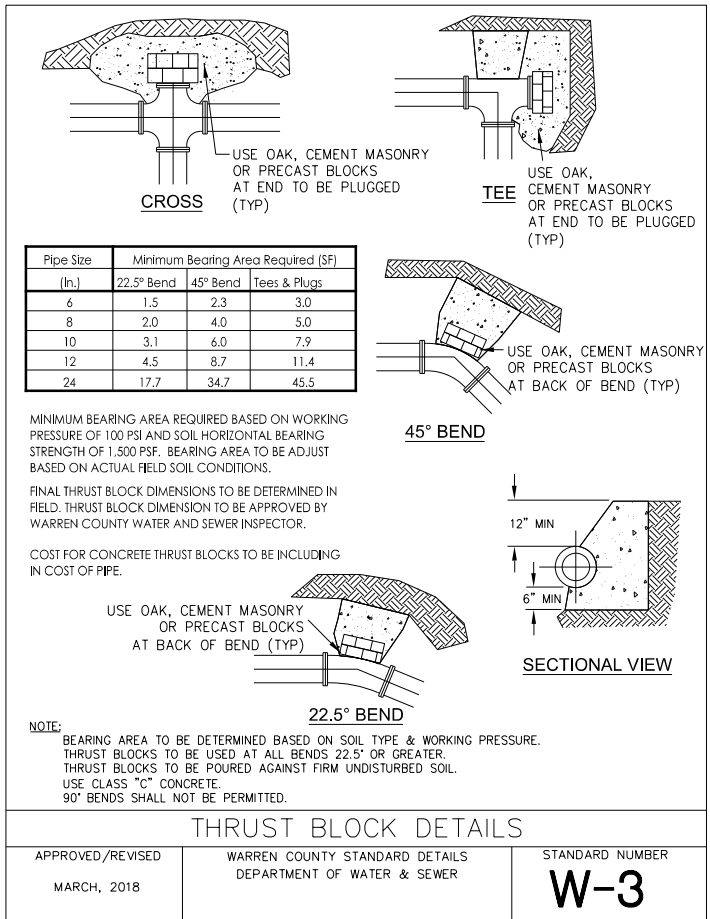
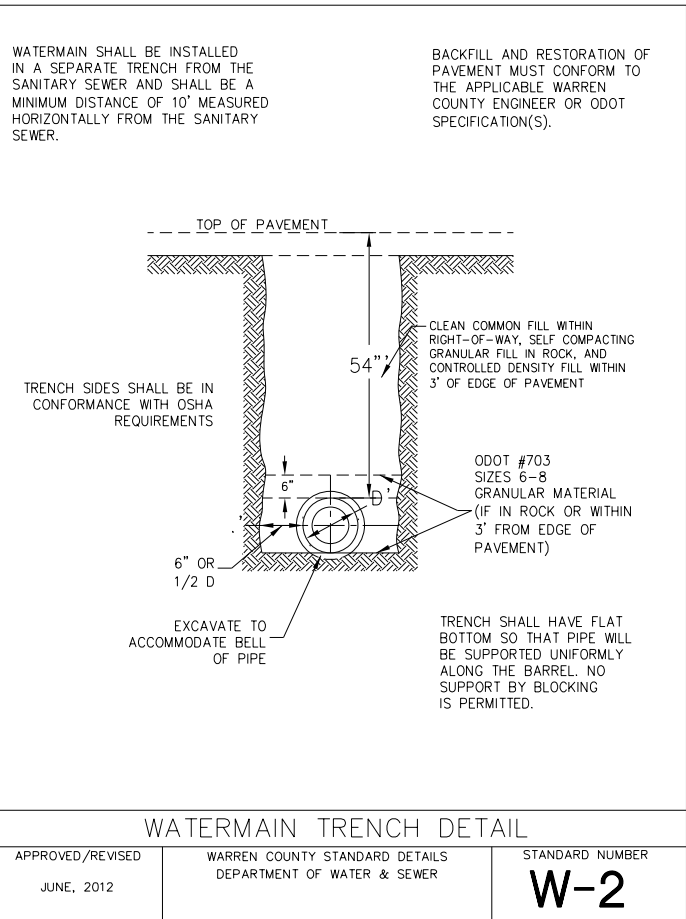
PIPE HANGER- SECTION AND DETAIL



- NOTES:
- PIPE SHALL BE BROUGHT TO JOBSITE WITH JACKET PRE-INSTALLED. NO TAPE CASING WILL BE ALLOWED.
 - FIELD APPLY 2" INSULATION AND ALUMINUM JACKET AT JOINTS. OVERLAPPING ADJACENT INSULATION BY ONE FOOT MINIMUM AND NO AIR GAP.
 - SEAL EXPOSED END OF INSULATION WITH FACTORY APPLIED MOSITURE BARRIER
 - PAYMENT FOR THE SPIRAL INSULATED ALUMINUM JACKET SHALL BE MADE PER THE UNIT BID PRICE PER FOOT FOR ITEM 638- WATER WORK, MISC.: 30" SPIRAL INSULATED ALUMINUM JACKET AND SHALL INCLUDE LABOR, EQUIPMENT, MATERIALS, AND ALL INCIDENTALS TO COMPLETE THE WORK.

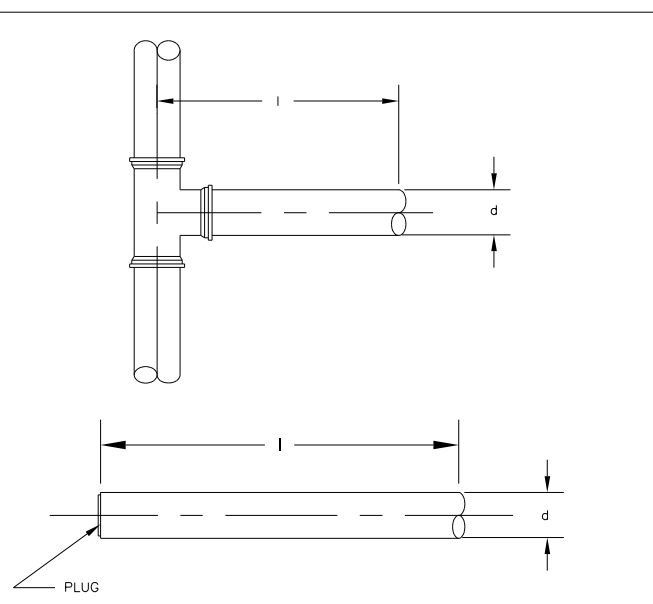
SPIRAL INSULATED ALUMINUM JACKET DETAIL

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WATER WORK DETAILS



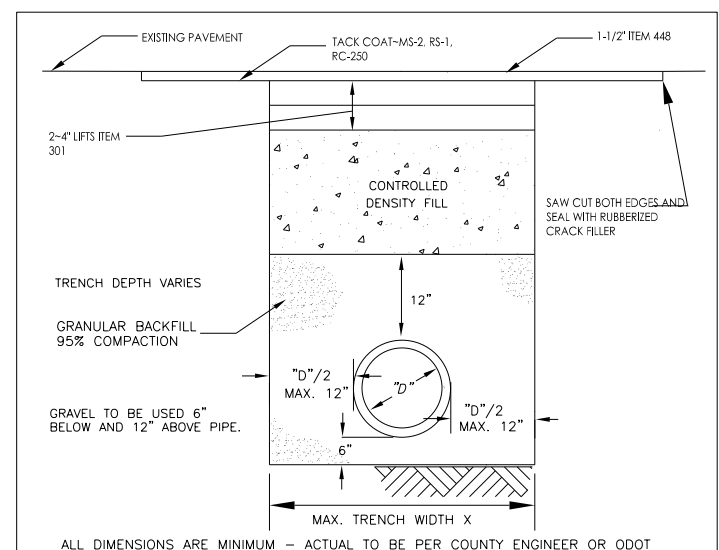
MINIMUM 54' OF RESTRAINED JOINT PIPE (RJP) IS REQUIRED BEFORE AND AFTER ALL BENDS. REFER TO TABLE BELOW.

TABLE
REQUIRED LENGTH OF RESTRAINED JOINTS
d-DIAMETER OF PIPE
l-LENGTH OF PIPE

d	4"	6"	8"	10"	12"	16"	20"	24"
l	54'	54'	54'	54'	66'	98'	125'	145'

REQUIRED RESTRAINED JOINTS - DEAD END VALVES
PLUGS, CAPS & TEES

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		W-19



ALL DIMENSIONS ARE MINIMUM - ACTUAL TO BE PER COUNTY ENGINEER OR ODOT INSTRUCTIONS & PERMIT.

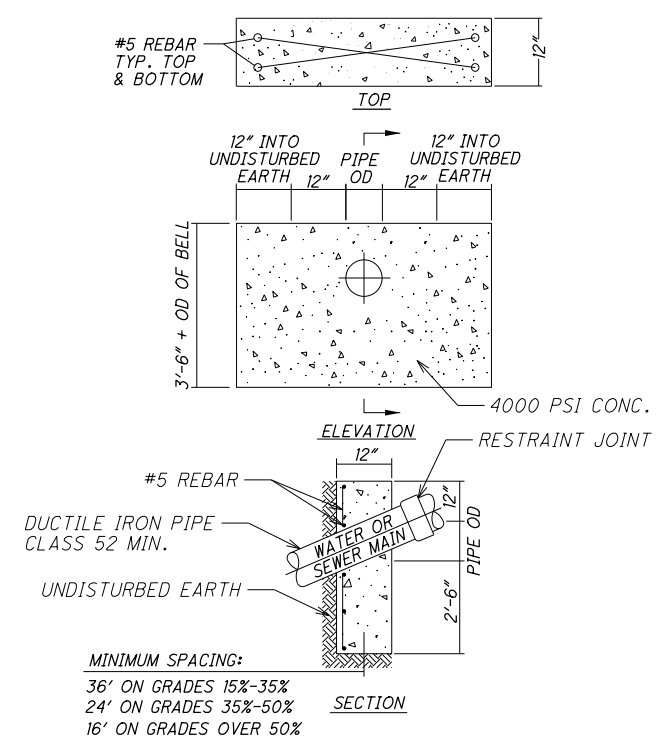
TRAFFIC MUST BE MAINTAINED AT ALL TIMES; LIGHTS, SIGNS, BARRICADES AND IF NECESSARY, FLAGMAN AND WATCHMEN TO BE ON JOB FOR PROTECTION OF THE PUBLIC. STREET PLATES MUST CONFORM TO COUNTY ENGINEER OR ODOT REQUIREMENTS.

FLASHFILL OR CONTROLLED DENSITY FILL TO A MINIMUM DISTANCE OF 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCH BACKFILL AND PAVEMENT RESTORATION MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATIONS.

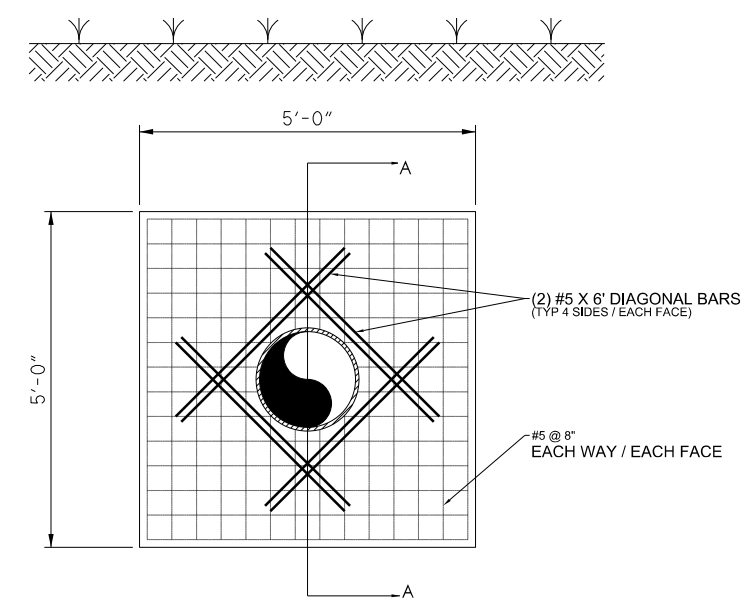
EXISTING PAVEMENT EDGES SHALL BE NEATLY AND SQUARELY TRIMMED AND/OR MILLED. PAVEMENT MUST MATCH EXISTING ROAD THICKNESS OR AS SPECIFIED BY COUNTY ENGINEER OR ODOT.

ROAD PAVEMENT CUT AND RESTORATION AT
ROADWAY CROSSING

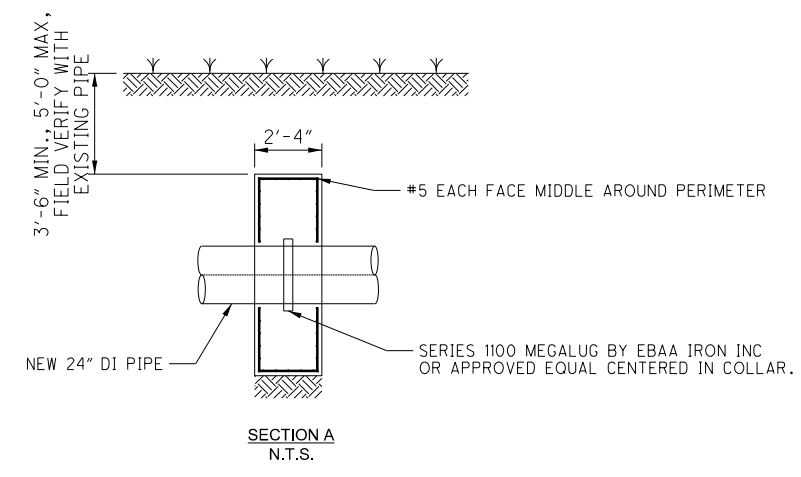
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		W-20



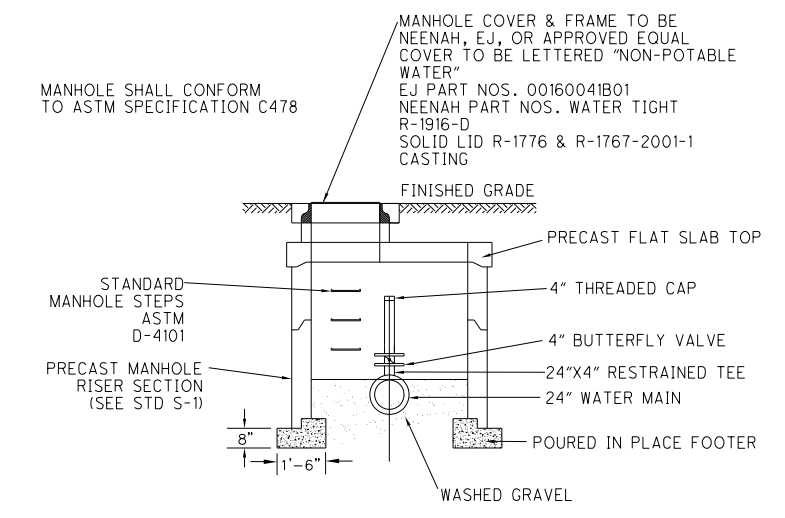
KEYBLOCK ANCHORS FOR
WATER OR SEWER MAINS
ON STEEP SLOPES
N.T.S.



THRUST COLLAR FOR 24" PIPE
N.T.S.



SECTION A
N.T.S.



NOTE: IN WET AREAS SEAL BOTTOM WITH POURED CONCRETE BASE OR PRECAST MANHOLE BASE.

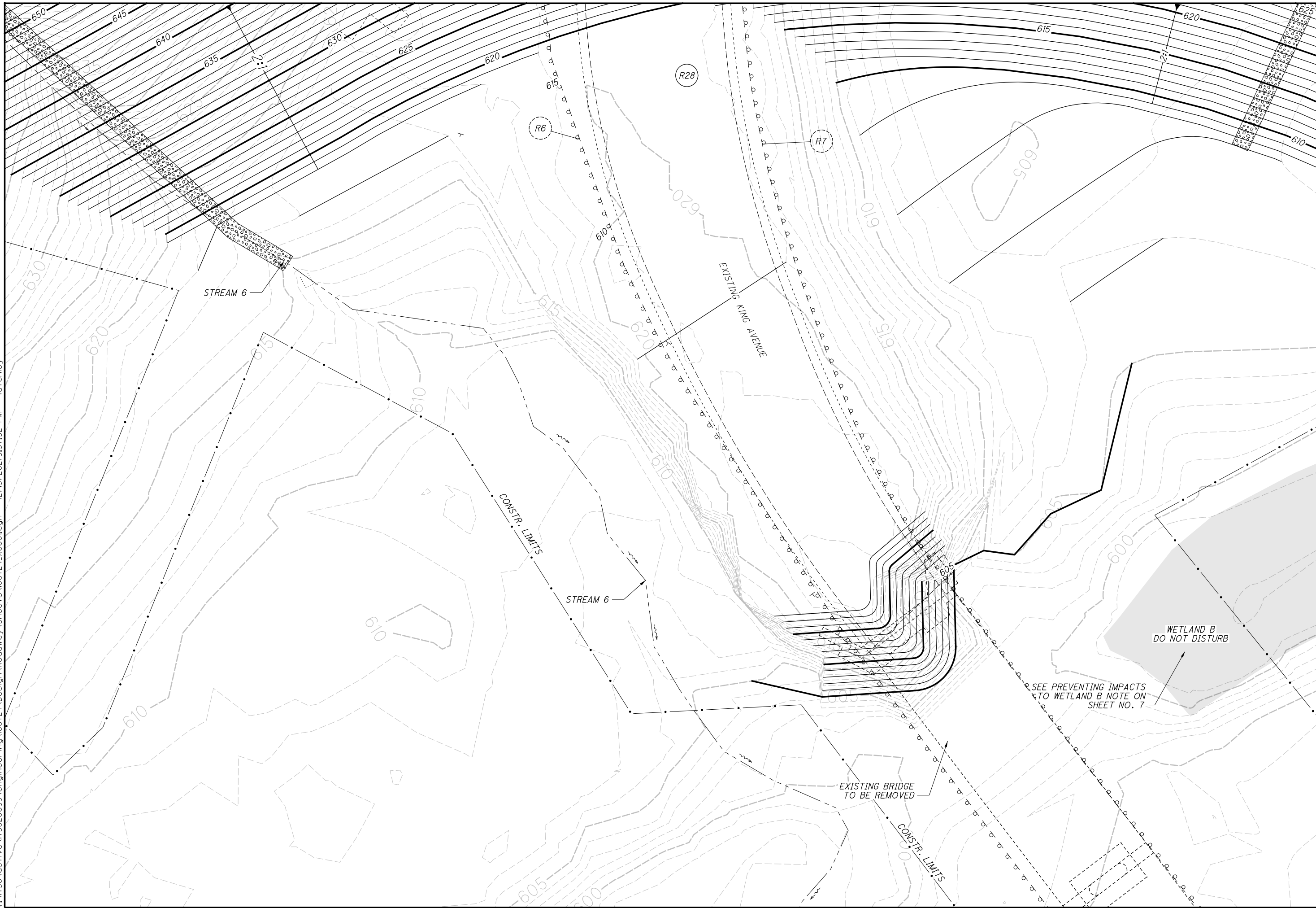
ADJUST TO FINISH GRADE PRECAST CONC COLLARS-12" MAX ADJUSTMENT

WATERTIGHT GASKETS ARE REQUIRED AT ALL JOINTS (ASTM C-443 FOR RUBBER TYPE GASKET JOINTS).

4" BUTTERFLY VALVE AND VALVE BOX
N.T.S.

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CALCULATED 0
 PJD
 CHECKED SNS

**GRADING PLAN
 KING AVE**

WAR-CR 282-0.97

131
 256

SEE PREVENTING IMPACTS
 TO WETLAND B NOTE ON
 SHEET NO. 7

WETLAND B
 DO NOT DISTURB

EXISTING BRIDGE
 TO BE REMOVED

CONSTR. LIMITS

STREAM 6

STREAM 6

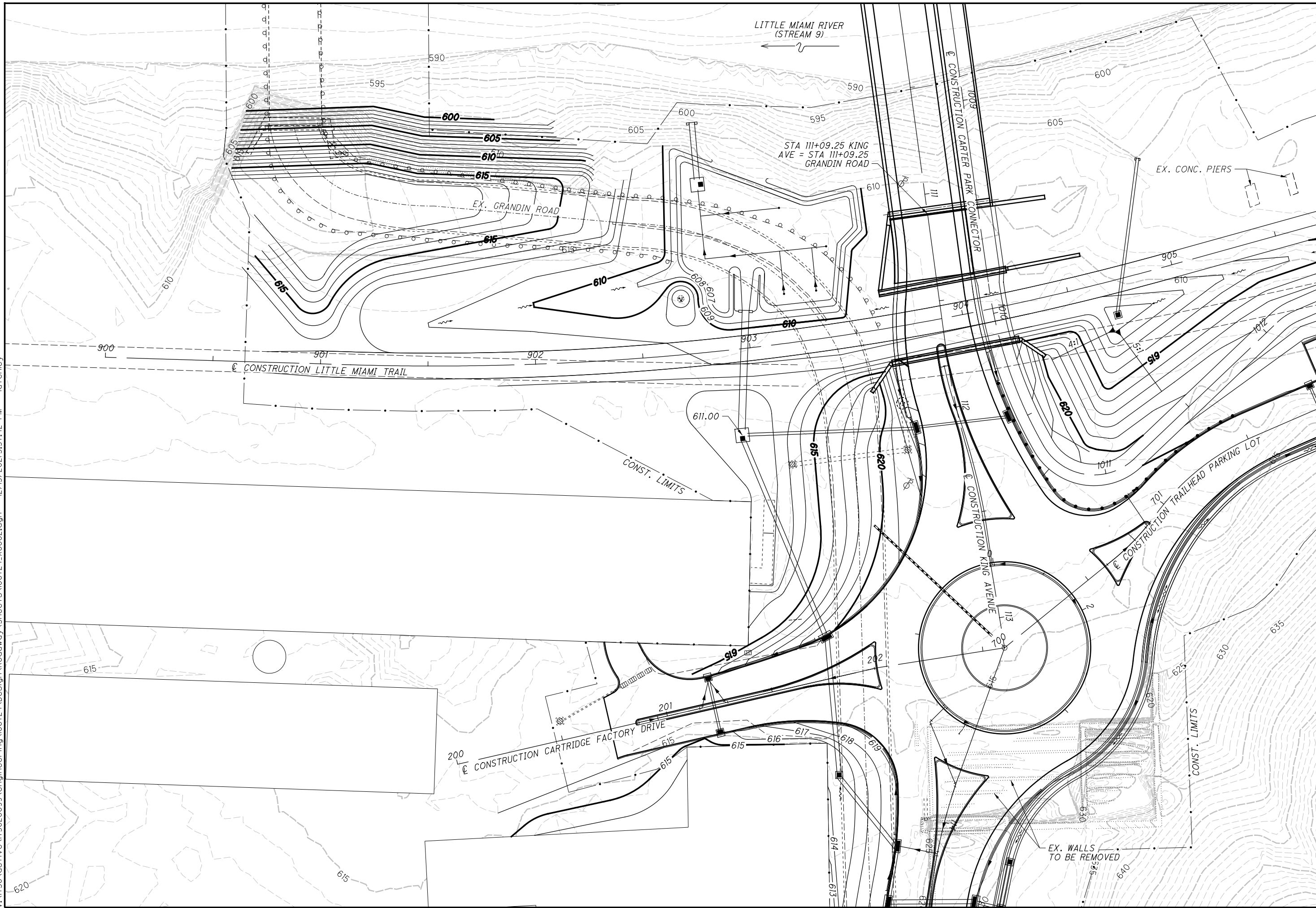
EXISTING KING AVENUE

R6

R7

R28

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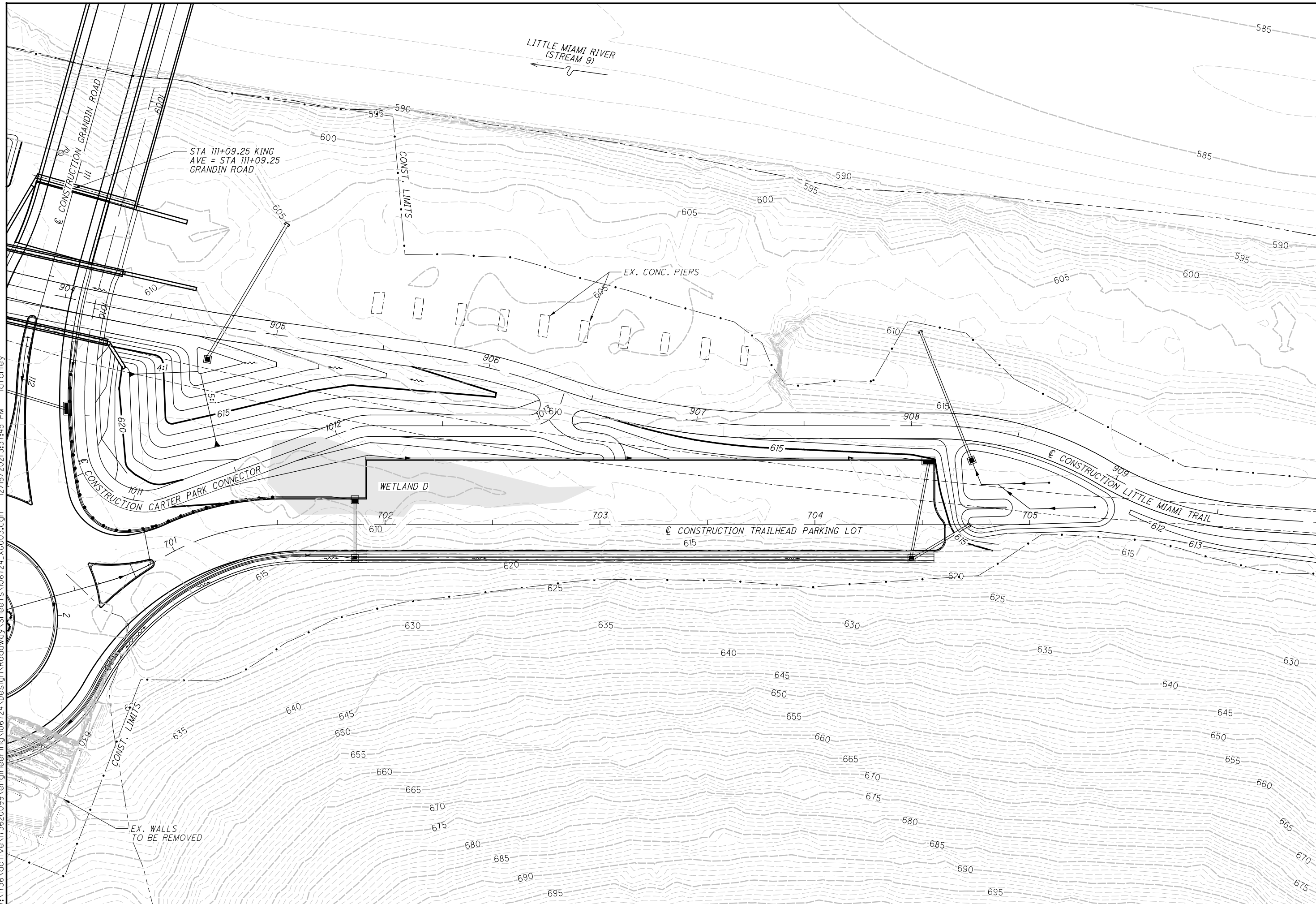


CALCULATED	PJD
CHECKED	SNS

**GRADING PLAN
NORTHWEST QUADRANT OF ROUNDABOUT**

WAR-CR 282-0.97

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CALCULATED
PJD
CHECKED
SNS

0 20 40
HORIZONTAL
SCALE IN FEET

**GRADING PLAN
BIKE TRAIL CONNECTIONS**

BIO-REMEDIAL AREA AND ADDITIONAL MONITORING WELLS
 SNOW FENCE TO BE INSTALLED BY CONTRACTOR ACCORDING TO
 WORK INVOLVING CONTAMINATED SOILS NOTE ON SHEET NO. 8A

SITE RM-002 BOUNDARY



CALCULATED PJD CHECKED SNS

PETER'S CARTRIDGE COMPANY SITE (RM-002)

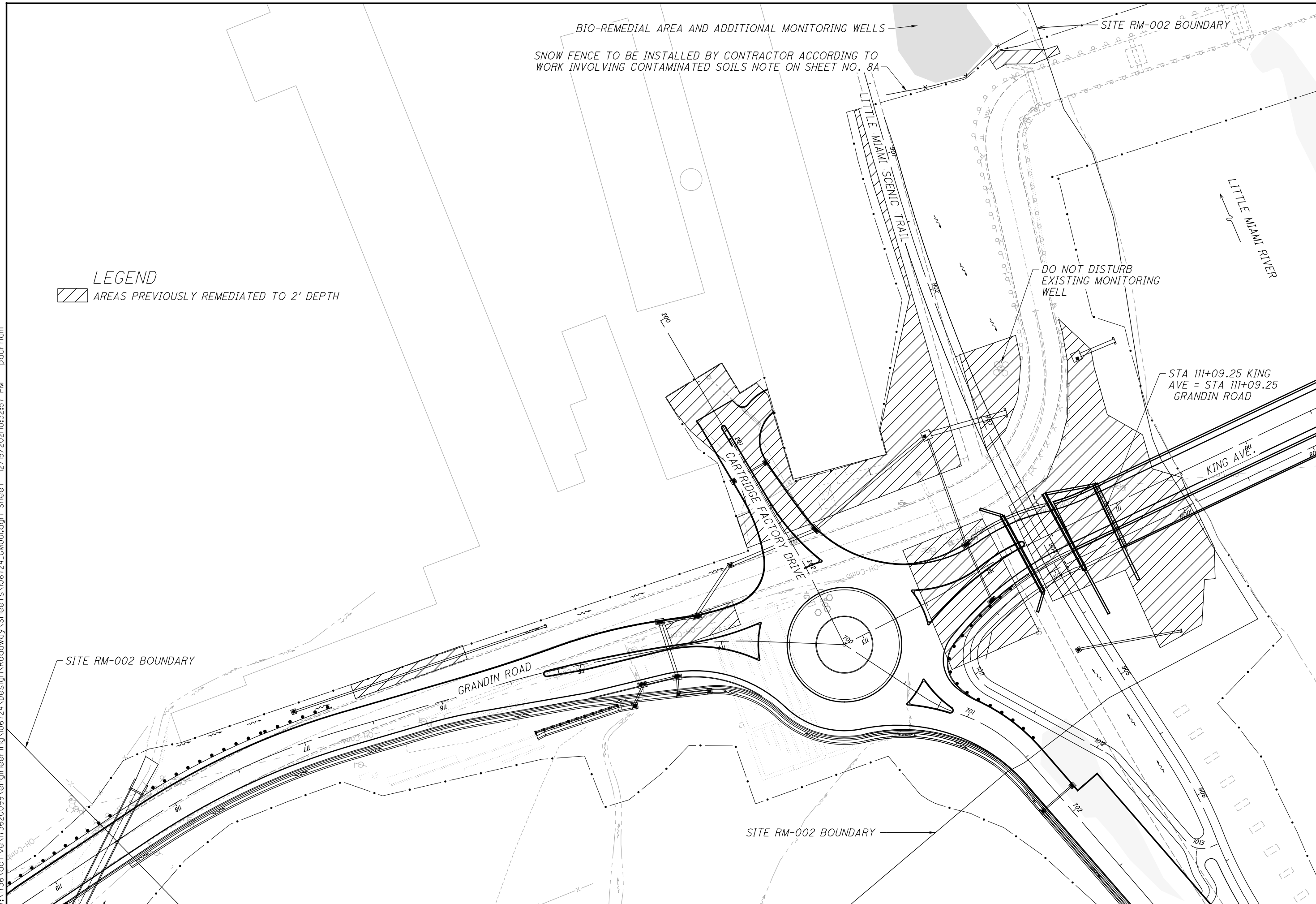
WAR-CR 282-0.97

134
 256

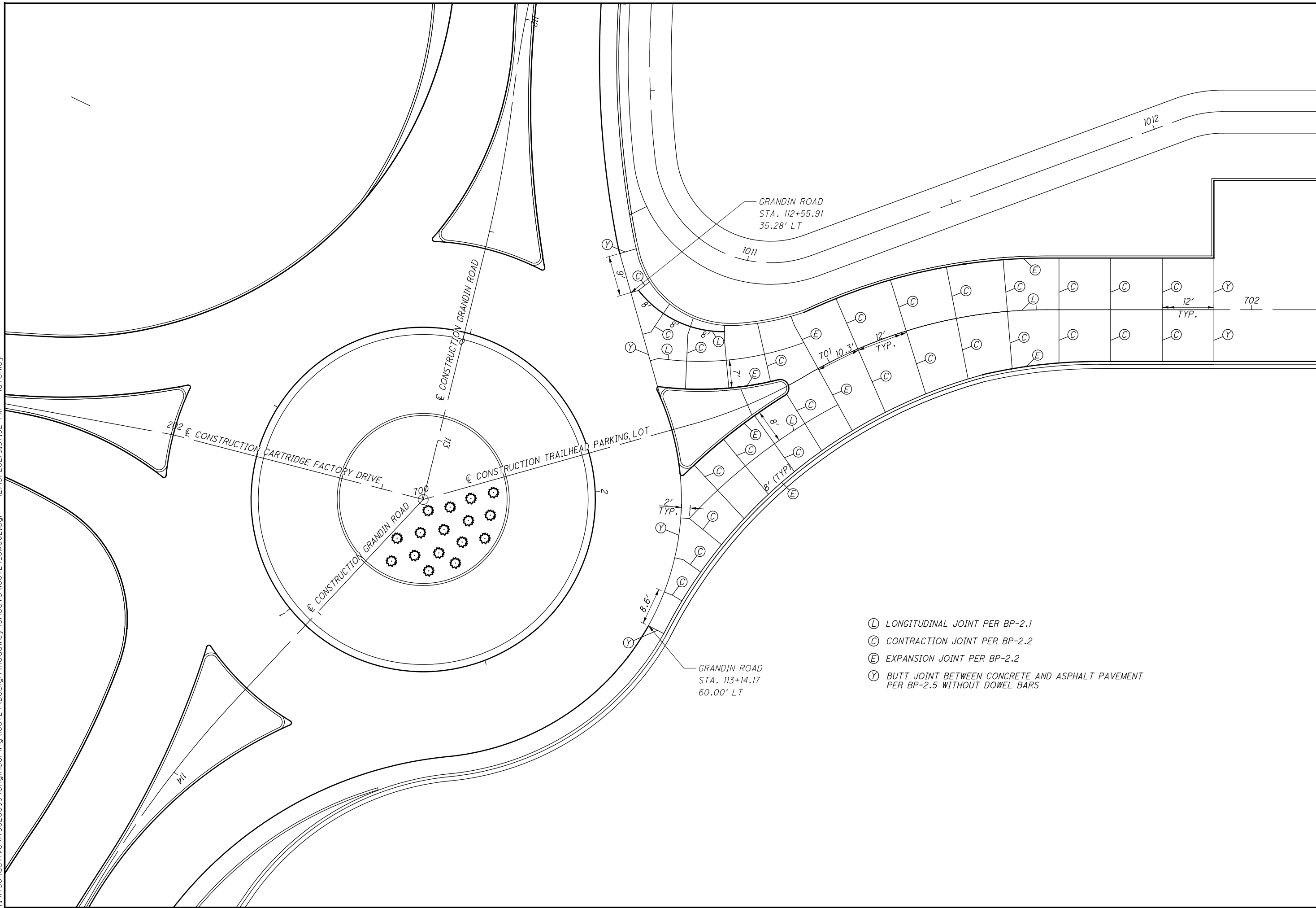
LEGEND

 AREAS PREVIOUSLY REMEDIATED TO 2' DEPTH

V:\1736\active\173620099\engineering\06724\Design\Roadway\Sheets\06724_CM001.dgn Sheet 12/15/2021 10:32:57 PM pdurham



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- (L) LONGITUDINAL JOINT PER BP-2.1
- (C) CONTRACTION JOINT PER BP-2.2
- (E) EXPANSION JOINT PER BP-2.2
- (Y) BUTT JOINT BETWEEN CONCRETE AND ASPHALT PAVEMENT PER BP-2.5 WITHOUT DOWEL BARS

CALCULATED PJD CHECKED SNS

0 5 10 20

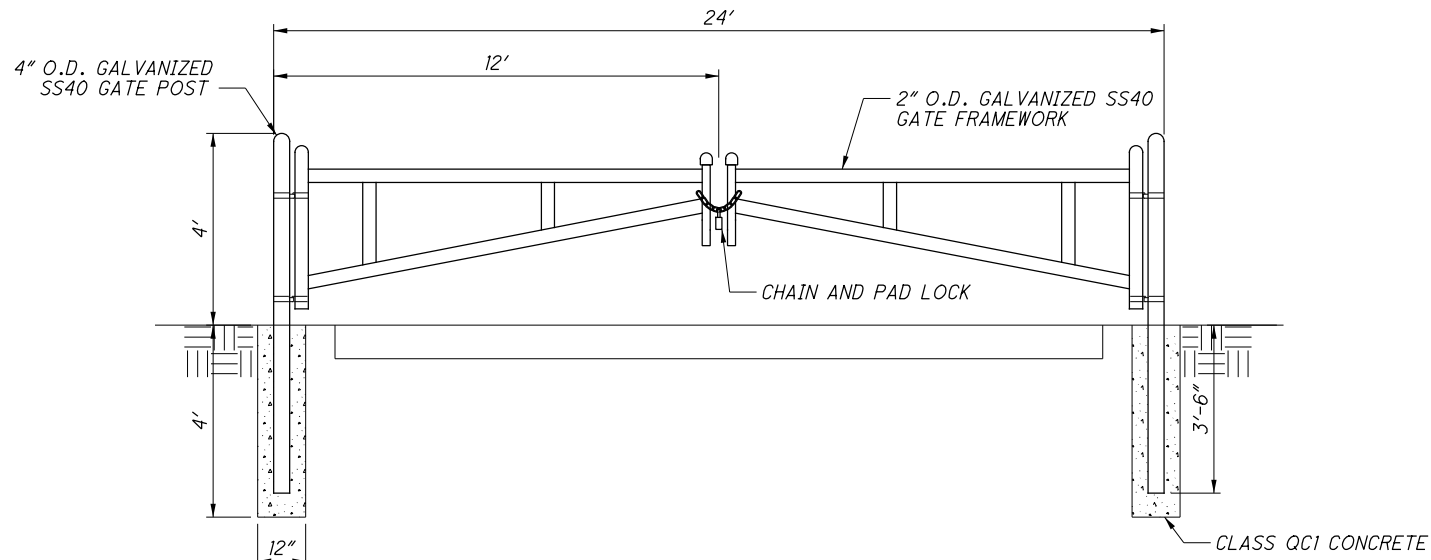
HORIZONTAL SCALE IN FEET

**PAVEMENT JOINT DETAIL
TRAILHEAD PARKING LOT**

ITEM 607, FENCE, MISC.: BARRICADE GATE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A BARRICADE GATE AS DETAILED ON THIS SHEET AND IN THE PLANS.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH ITEM 607 FENCE, MISC.: BARRICADE GATE AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO PERFORM THIS WORK.



BARRICADE GATE DETAIL

N.T.S.

STA. 103+00.00, KING AVE SERVICE DRIVE

V:\1736\active\173620099\engineering\106724\Design\Roadway\Sheets\106724_GM002.dgn Sheet 12/15/2021 3:37:54 PM latchley

CALCULATED
PJD
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MISCELLANEOUS DETAILS

WAR-CR 282-0.97

136
256

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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	PAVEMENT MARKING SUBSUMMARY																						
			FROM	TO		621						644						646										
						EACH	MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	EACH	EACH	FT	EACH	FT	MILE	MILE	MILE	FT	FT	EACH	FT	FT
RPM, (YELLOW, YELLOW)	EDGE LINE, 4" (WHITE)	EDGE LINE, 4" (YELLOW)	CENTER LINE, DOUBLE SOLID, 4"	CENTER LINE, SINGLE, 4"	CENTER LINE, DASHED, 4"	STOP LINE	TRANSVERSE/DIAGONAL LINE (WHITE)	TRANSVERSE/DIAGONAL LINE (YELLOW)	PARKING LOT STALL MARKING	LANE ARROW	WORD ON PAVEMENT, 96"	DOTTED LINE, 8"	HANDICAP SYMBOL MARKING	YIELD LINE	EDGE LINE, 4" (WHITE)	EDGE LINE, 4" (YELLOW)	CENTER LINE, DOUBLE SOLID, 4"	TRANSVERSE/DIAGONAL LINE (WHITE)	TRANSVERSE/DIAGONAL LINE (YELLOW)	WORD ON PAVEMENT, 96"	DOTTED LINE, 8"	YIELD LINE						
140-141	EW-1	KING AVE	98+72.17	105+62.93	LT		0.13																					
140-141	EW-2	KING AVE	98+72.17	105+56.27	RT		0.13																					
140-141	CL-1	KING AVE	98+72.17	105+59.71	CL	28			0.13																			
141-142	EW-3	KING AVE	105+62.93	111+39.25	LT																0.11							
141-142	EW-4	KING AVE	105+56.27	111+39.25	RT																0.11							
141-142	CL-2	KING AVE	105+59.71	111+00.00	CL	16															0.10							
142	EY-1	KING AVE/GRANDIN ROAD	111+00.00	111+39.25	LT/RT																0.02							
142	TY-1	KING AVE/GRANDIN ROAD	111+05.84	111+39.25	LT/RT																				8			
142	TW-1	KING AVE/GRANDIN ROAD	11+09.75	111+49.74	RT							32								12								
142	TY-2	GRANDIN ROAD	111+39.25	111+69.40	LT/RT																							
142-143	EW-5	GRANDIN ROAD	111+39.25	120+80.00	LT		0.18																					
142-143	EW-6	GRANDIN ROAD	111+39.25	120+80.00	RT		0.18																					
142	EY-2	GRANDIN ROAD	111+39.25	115+86.00	LT				0.09																			
142	EY-3	GRANDIN ROAD	111+39.25	115+86.00	RT				0.09																			
142	EY-4	CARTRIDGE FACTORY DRIVE	200+85.00	202+00.00	LT/RT				0.04																			
142	YL-1	GRANDIN ROAD	112+44.02	112+51.92	RT												1						18					
142	YL-2	TRAILHEAD PARKING LOT	700+62.24	700+68.69	LT												1								1	16		
142	YL-3	GRANDIN ROAD	113+76.12	113+82.49	LT												1											
142	YL-4	CARTRIDGE FACTORY DRIVE	201+88.16	201+97.05	RT												1											
142	EW-7	CARTRIDGE FACTORY DRIVE	200+95.99	202+60.00	LT		0.04																					
142	EW-8	CARTRIDGE FACTORY DRIVE	201+35.71	202+60.00	RT		0.03																					
142, 144	EW-9	TRAILHEAD PARKING LOT	700+59.00	701+91.30	LT																							
142, 144	EW-10	TRAILHEAD PARKING LOT	700+42.50	701+91.30	RT																							
142, 144	CL-3	TRAILHEAD PARKING LOT	701+06.36	701+91.30	CL	2																						
142	DW-1	GRANDIN ROAD	112+55.35	113+72.61	LT/RT																							
142	DW-2	TRAILHEAD PARKING LOT	700+59.37	700+59.52	LT																					32		
142	TY-3	GRANDIN ROAD	115+26.69	115+80.85	LT/RT																							
142-143	CL-4	GRANDIN ROAD	115+86.00	120+80.00	CL	16																						
142	EW-11	GRANDIN ROAD	112+54.17	113+74.17	LT/RT		0.01		0.1																			
142	EW-12	TRAILHEAD PARKING LOT	700+59.17	700+60.00	LT/RT																							
142	EY-5	TRAILHEAD PARKING LOT	700+59.00	701+06.36	LT/RT																							
142	A-1	GRANDIN ROAD	112+62.00	113+66.00	LT/RT																							
142, 144	CLD-1	LITTLE MIAMI TRAIL	900+75.00	910+39.22	CL						0.18																	
142, 144	CLS-1	CARTER PARK CONNECTOR	1009+80.06	1013+07.30	CL				0.06																			
144	PL-1	TRAILHEAD PARKING LOT	702+00.00	704+47.15	LT																							
144	TW-2	TRAILHEAD PARKING LOT	702+98.65	703+15.15	LT							71																
144	EW-13	TRAILHEAD PARKING LOT	701+91.30	704+55.40	RT		0.05																					
144	SL-1	CARTER PARK CONNECTOR	1013+02.48	1013+04.80	RT							5																
144	SL-2	CARTER PARK CONNECTOR	1013+07.30		RT							8																
SUBTOTAL						62	0.75	0.22	0.23	0.06	0.18	13	103	34	540	4	4	119	2	56	0.3	0.04	0.12	12	8	1	32	16
TOTALS CARRIED TO GENERAL SUMMARY						62	0.97		0.47			13	137		540	4	4	119	2	56	0.34	0.12		20		1	32	16

PAVEMENT MARKING SUBSUMMARY

CALCULATED
JTK
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WAR-CR 282-0.97

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256

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630														
							GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTON	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTON	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 2	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED	SIGN POST REFLECTOR	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 1				
							FOOT	EACH	SF	EACH	EACH	EACH	EACH	EACH	EACH	EACH					
140	S-0	KING AVENUE	STA. 99+00.00	RT	W1-2R-30	30x30	13.5		6.25												
140	S-1	KING AVENUE	STA. 99+50.00	RT	R2-1-24	24x30	13.5		5												
140	S-2	KING AVENUE	STA. 103+02.00	LT	R5-11-30	30x24		2	5												
			STA. 102+72.00	LT	R8-3a-24	24x30			5												
140	S-3	KING AVENUE	STA. 103+64.00	LT	W1-8R-18	18x24	13		3										1		
140	S-4	KING AVENUE	STA. 104+39.07	LT						2	2										
140	S-5	KING AVENUE	STA. 102+88.11	RT						6	6										
140	S-6	KING AVENUE	STA. 104+19.79	RT						3	2										
140	S-7	KING AVENUE	STA. 104+03.78	LT						8	8										
140	S-8	KING AVENUE	STA. 104+38.81	LT						3	3										
	S-9		NOT USED																		
	S-10		NOT USED																		
141	S-11	KING AVENUE	STA. 104+57.00	LT	W1-8R-18	18x24	13.5		3										1		
			STA. 105+50.00	LT	W1-8R-18	18x24	13.5		3										1		
141	S-12	KING AVENUE	STA. 105+50.00	RT	I-H3b-48	48x24	13.1 / 13.3		8												
141	S-13	CARTER PARK CONNECTOR	STA. 1004+12.00	LT	W5-4a-18	18x18	10.6		2.25												
141	S-14	KING AVENUE	STA. 108+00.00	LT	W1-2L-30	30x30			6.25						1						
141	S-15	KING AVENUE	STA. 109+50.00	LT	D3-H6-48	48x12			4										1		
141	S-16	KING AVENUE	STA. 104+19+79	RT						2	1										
142	S-17	KING AVENUE	STA. 110+25.00	RT	W2-6-30	30x30			6.25						1						
					W16-17P-24	24x12			2												
142	S-18	CARTER PARK CONNECTOR	STA. 1009+00.00	LT	W5-4a-18	18x18			2.25					1							
142	S-19	CARTER PARK CONNECTOR	STA. 1009+00.00	LT	W1-1L-18	18x18	10.6		2.25												
				CL	W13-1P-18	12x12			1												
142	S-20	LITTLE MIAMI TRAIL	STA. 904+24.00	LT	D3-H6-48	48x8			2.67										1		
142	S-21	LITTLE MIAMI TRAIL	STA. 903+64.00	CL	D3-H6-48	48x8			2.67										1		
142	S-22	GRANDIN ROAD	STA. 111+77.00	RT	R4-7-24	24x30	13		5										1		
142	S-23	GRANDIN ROAD	STA. 112+02.43	LT	I-H3b-48	48x24	13.4 / 13.9		8												
142	S-24	GRANDIN ROAD	STA. 112+43.00	RT	R1-2-36	36x36	13.9		3.9										1		
			STA. 112+52.00	RT	R1-2-36	36x36	13.5		3.9										1		
142	S-25	GRANDIN ROAD	STA. 112+53.00	LT	D3-H6A-60	60x12	11.2 / 11.2		5												
142	S-26	TRAILHEAD PARKING LOT	STA. 700+62.00	LT	R1-2-36	36x36	13.5		3.9										1		
			STA. 700+76.00	LT	R1-2-36	36x36	14.2		3.9										1		
142	S-27	CARTER PARK CONNECTOR	STA. 1011+00.00	RT	W1-6L-24	24x12	11.7 / 11.7		2										2		
142	S-28	CARTRIDGE FACTORY DRIVE	STA. 201+90.00	LT	W14-2-30	30x30	13.5		6.25												
	S-29		NOT USED																		
142	S-30	TRAILHEAD PARKING LOT	STA. 700+82.00	CL	R4-7-24	24x30	13		5										1		
142	S-31	TRAILHEAD PARKING LOT	STA. 700+62.00	RT	D3-H6A-72	72x12	11.2 / 11.2		6												
142	S-32	CARTRIDGE FACTORY DRIVE	STA. 200+92.00	CL	R4-7-24	24x30	13		5										1		
142	S-33	TRAILHEAD PARKING LOT	STA. 700+75.00	RT	W14-2-30	30x30			6.25						1						
142	S-34	TRAILHEAD PARKING LOT	STA. 700+17.00	LT	R6-4-30	30x24	12.5		5										1		
		GRANDIN ROAD	STA. 113+02.00	RT	R6-4-30	30x24	12.5		5										1		
		CARTRIDGE FACTORY DRIVE	STA. 202+46.00	RT	R6-4-30	30x24	12.5		5										1		
		GRANDIN ROAD	STA. 113+27.00	RT	R6-4-30	30x24	12.5		5										1		
142	S-35	CARTRIDGE FACTORY DRIVE	STA. 201+82.00	RT	R1-2-36	36x36	13.5		3.9										1		
			STA. 201+98.00	RT	R1-2-36	36x36	13.5		3.9										1		
142	S-36	GRANDIN ROAD	STA. 113+76.00	RT	D3-H6A-72	72x12	11.2 / 11.2		6												
142	S-37	GRANDIN ROAD	STA. 113+76.00	LT	R1-2-36	36x36	13.5		3.9										1		
			STA. 113+86.00	LT	R1-2-36	36x36	13.5		3.9						1				1		
142	S-38	GRANDIN ROAD	STA. 115+19.00	LT	R4-7-24	24x30	13		5										1		
143	S-39	GRANDIN ROAD	STA. 116+17.61	LT					1	1											
143	S-40	GRANDIN ROAD	STA. 118+31.16	RT					1	1											
		GRANDIN ROAD	STA. 119+00.00	RT	R2-1-24	24x30	15		5												
143	S-41	GRANDIN ROAD	STA. 118+31.16	LT					2	1											
		GRANDIN ROAD	STA. 119+00.00	LT	W2-6-36	36x36	15.3		9												
		GRANDIN ROAD	STA. 119+00.00	LT	W16-17P-24	24x12			2												
		GRANDIN ROAD	STA. 119+04.19	LT					1	1											
144, 145	S-42	LITTLE MIAMI TRAIL	STA. 906+19.00	RT											1	1					
TOTALS CARRIED TO SHEET 139							487.4	2	196.54	29	26	1	1	2	3	22	3				

CALCULATED	ZTM
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SIGNING SUBSUMMARY	
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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630																	
							GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN SUPPORT ASSEMBLY POLE MOUNTED	SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 2	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED	SIGN POST REFLECTOR	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED, TYPE 1	SIGNING MISC.: REMOVAL OF PRIVATE ADVERTISING SIGN AND DELIVERY	SIGNING MISC.: REMOVAL OF PRIVATE ADVERTISING SIGN FOUNDATION					
							FOOT	EACH	SF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LUMP	LUMP						
144	S-43	CARTER PARK CONNECTOR	STA. 1013+06.00	RT	RI-1-18	18x18	10		2.25							1								
144	S-44	CARTER PARK CONNECTOR	STA. 1013+07.00	RT	RI-1-18	18x18	10		2.25							1								
144	S-45	LITTLE MIAMI TRAIL	STA. 906+59.00	LT	D7-HI-48	48x8	10 / 10		2.67															
					D7-HI-48	48x8			2.67															
145	S-46	GRANDIN ROAD	STA. 110+37.48	RT							3	3												
145	S-47	GRANDIN ROAD	STA. 110+64.13	RT							3	4												
145	S-48	GRANDIN ROAD	STA. 110+74.34	RT							4	5												
145	S-49	GRANDIN ROAD	STA. 111+01.19	RT							2	2												
145	S-50	GRANDIN ROAD	STA. 111+05.92	RT							1	1												
145	S-51	GRANDIN ROAD	STA. 110+95.11	CL							1	1												
			STA. 110+85.96	CL							1	1												
145	S-52	GRANDIN ROAD	STA. 11+45.29	CL							7	7												
145	S-53	GRANDIN ROAD	STA. 111+55.31	CL							1	1												
145	S-54	GRANDIN ROAD	STA. 111+57.20	CL							2	1												
145	S-55	GRANDIN ROAD	STA. 111+67.47	CL							5	1												
145	S-56	GRANDIN ROAD	STA. 111+71.92	CL							3	1												
145	S-57	GRANDIN ROAD	STA. 111+81.59	CL							1	1												
145	S-58	GRANDIN ROAD	STA. 111+87.13	CL							2	1												
145	S-59	CARTRIDGE FACTORY DRIVE	STA. 201+67.57	LT													1	1						
TOTALS FROM THIS SHEET							40	0	9.84	36	30	0	0	0	0	2	0	1	1					
TOTALS FROM SHEET 138							487.4	2	196.54	29	26	1	1	2	3	22	3	0	0					
SUBTOTALS							527.4	2	206.38	65	56	1	1	2	3	24	3	1	1					
TOTALS CARRIED TO GENERAL SUMMARY							527.4	2	207	65	56	1	1	2	3	24	3	1	1					

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WAR-CR 282-0.97	
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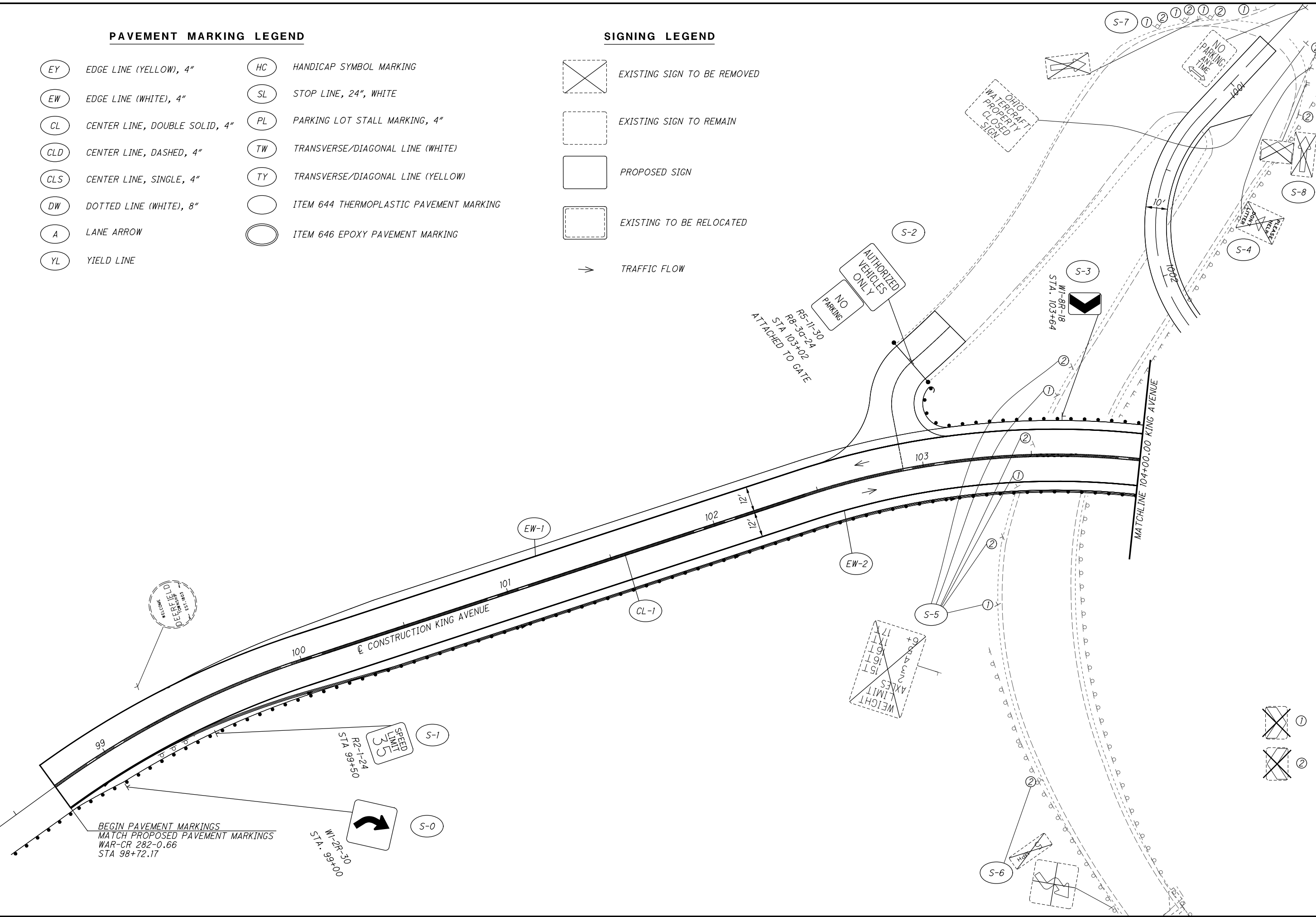
PAVEMENT MARKING LEGEND

- | | |
|------------------------------------|---|
| (EY) EDGE LINE (YELLOW), 4" | (HC) HANDICAP SYMBOL MARKING |
| (EW) EDGE LINE (WHITE), 4" | (SL) STOP LINE, 24", WHITE |
| (CL) CENTER LINE, DOUBLE SOLID, 4" | (PL) PARKING LOT STALL MARKING, 4" |
| (CLD) CENTER LINE, DASHED, 4" | (TW) TRANSVERSE/DIAGONAL LINE (WHITE) |
| (CLS) CENTER LINE, SINGLE, 4" | (TY) TRANSVERSE/DIAGONAL LINE (YELLOW) |
| (DW) DOTTED LINE (WHITE), 8" | () ITEM 644 THERMOPLASTIC PAVEMENT MARKING |
| (A) LANE ARROW | () ITEM 646 EPOXY PAVEMENT MARKING |
| (YL) YIELD LINE | |

SIGNING LEGEND

- | | |
|--|-----------------------------|
| | EXISTING SIGN TO BE REMOVED |
| | EXISTING SIGN TO REMAIN |
| | PROPOSED SIGN |
| | EXISTING TO BE RELOCATED |
| | TRAFFIC FLOW |

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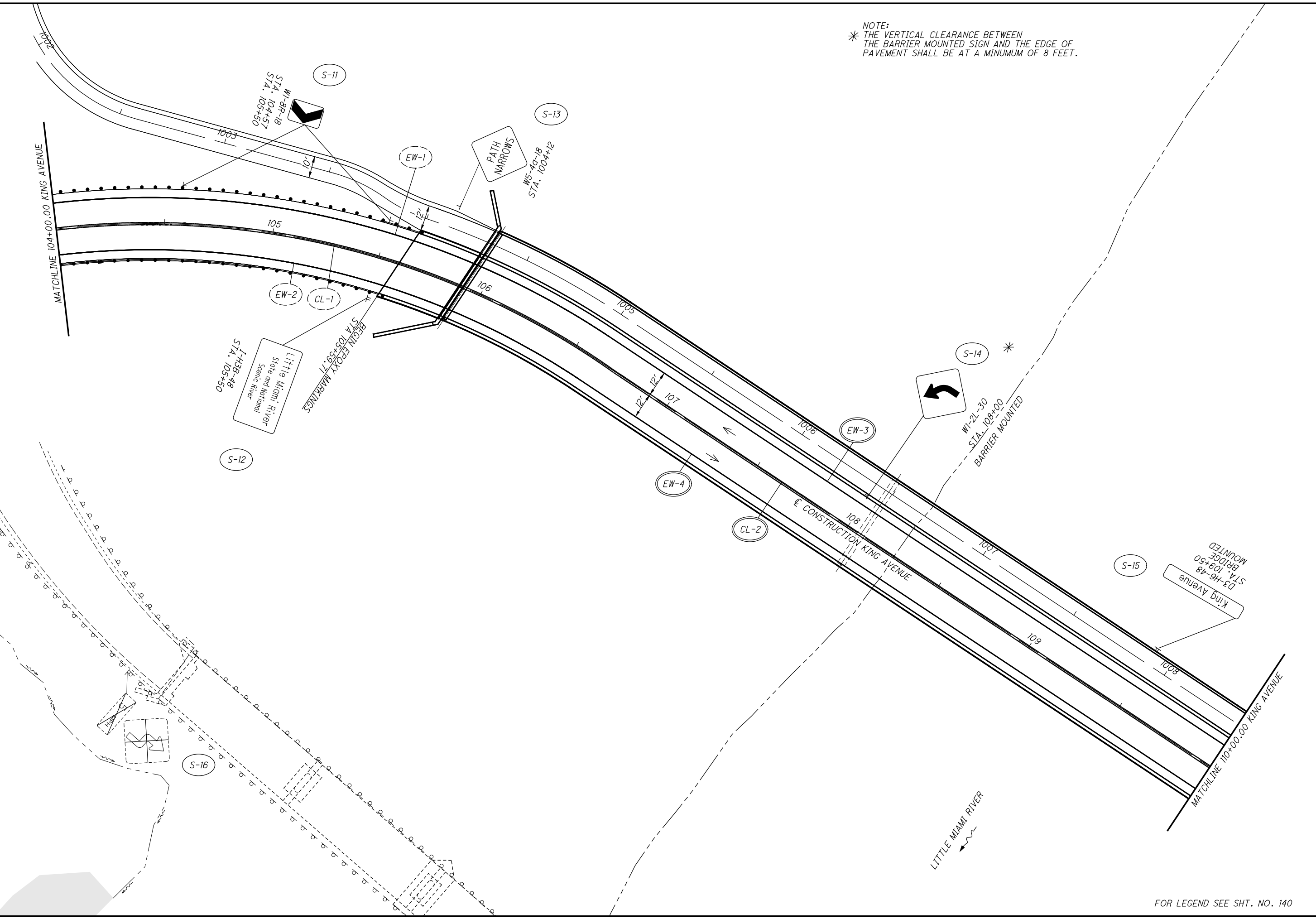
0 20 40
10' HORIZONTAL SCALE IN FEET

TRAFFIC PLAN KING AVENUE
STA. 100+00.00 TO STA. 105+00.00

WAR-CR 282-0.97

140
256

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CALCULATED
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0 20 40
 HORIZONTAL
 SCALE IN FEET

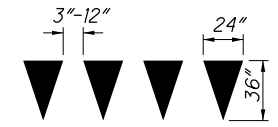
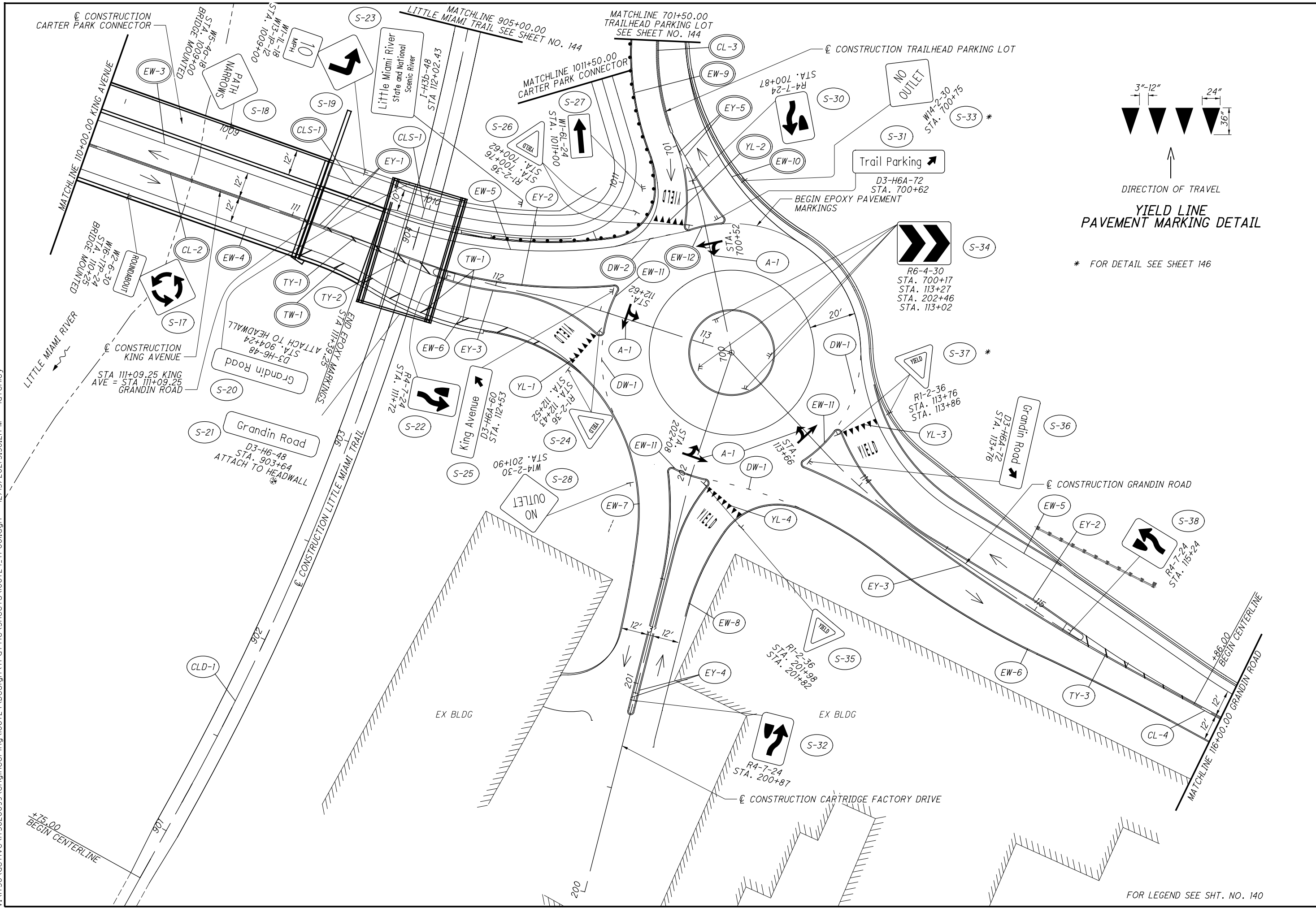
TRAFFIC PLAN KING AVENUE
STA. 104+00.00 TO STA. 110+00.00

WAR-CR 282-0.97

141
 256

FOR LEGEND SEE SHT. NO. 140

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DIRECTION OF TRAVEL

YIELD LINE PAVEMENT MARKING DETAIL

* FOR DETAIL SEE SHEET 146

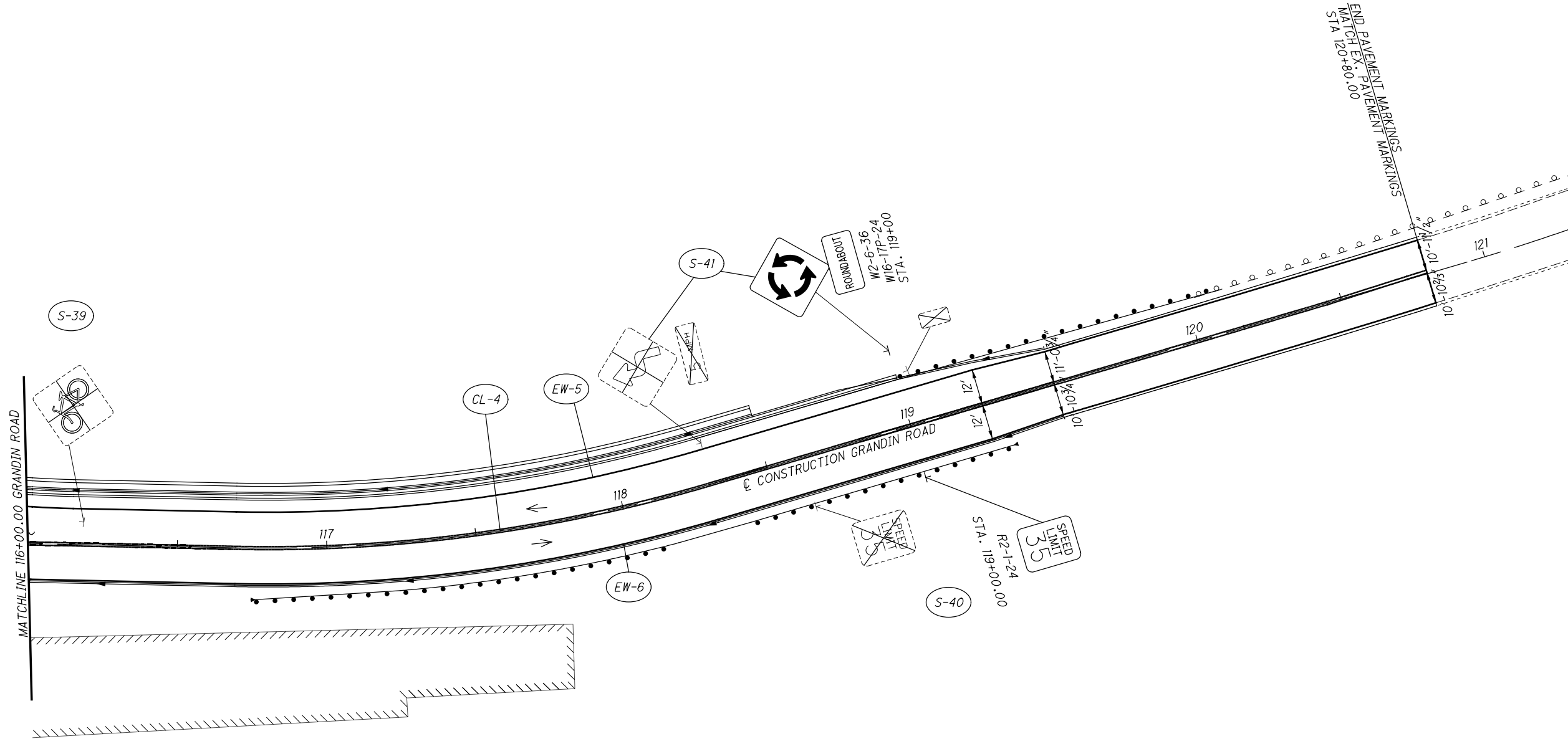
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TRAFFIC PLAN KING AVENUE / GRANDIN ROAD

STA. 110+00.00 TO STA. 116+00.00

FOR LEGEND SEE SHT. NO. 140



CALCULATED	JTK
CHECKED	PJD

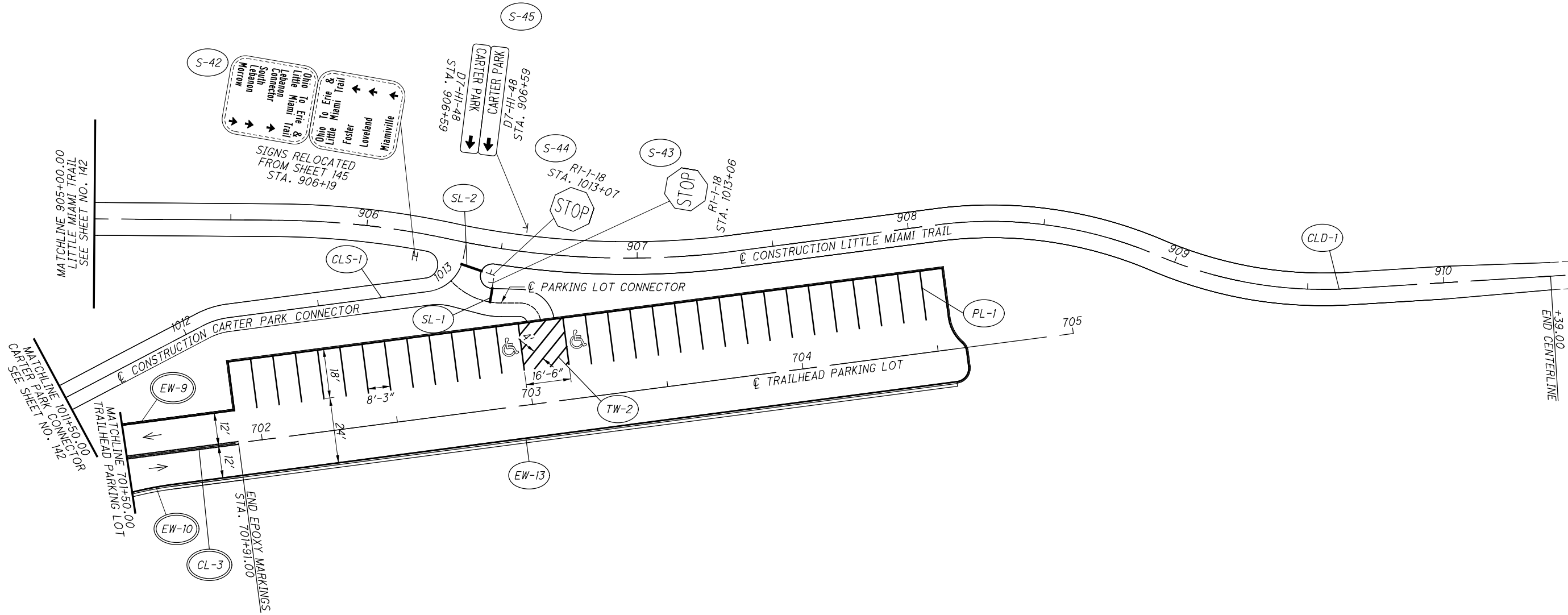
TRAFFIC PLAN GRANDIN ROAD
STA. 115+00.00 TO END

WAR-CR 282-0.97

FOR LEGEND SEE SHT. NO. 140



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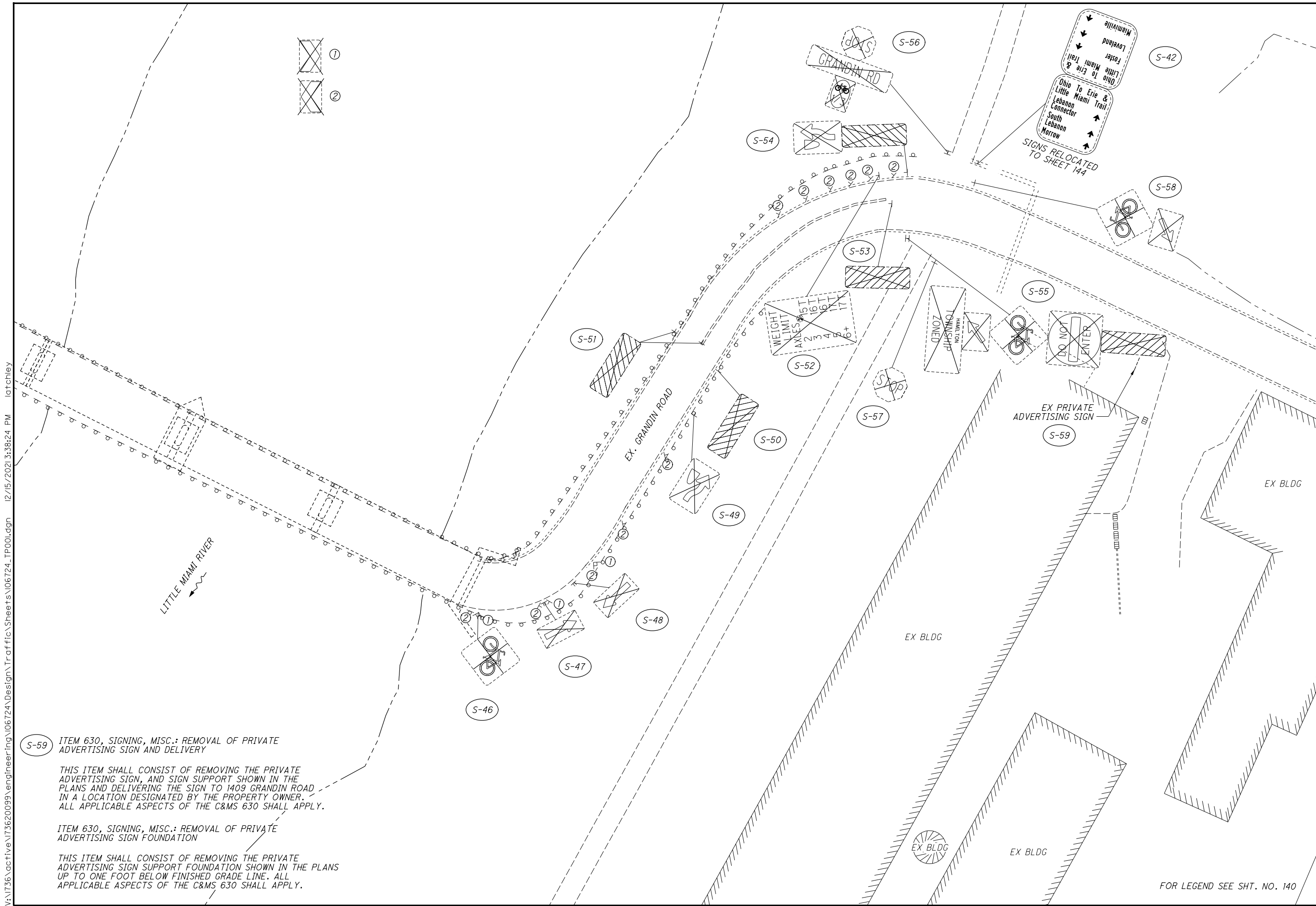
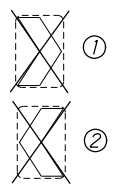
0 10 20 40
HORIZONTAL
SCALE IN FEET

**TRAFFIC PLAN LITTLE MIAMI TRAIL, CARTER
PARK CONNECTOR, TRAILHEAD PARKING LOT**

WAR-CR 282-0.97

FOR LEGEND SEE SHT. NO. 140

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S-59 ITEM 630, SIGNING, MISC.: REMOVAL OF PRIVATE ADVERTISING SIGN AND DELIVERY

THIS ITEM SHALL CONSIST OF REMOVING THE PRIVATE ADVERTISING SIGN, AND SIGN SUPPORT SHOWN IN THE PLANS AND DELIVERING THE SIGN TO 1409 GRANDIN ROAD IN A LOCATION DESIGNATED BY THE PROPERTY OWNER. ALL APPLICABLE ASPECTS OF THE C&MS 630 SHALL APPLY.

ITEM 630, SIGNING, MISC.: REMOVAL OF PRIVATE ADVERTISING SIGN FOUNDATION

THIS ITEM SHALL CONSIST OF REMOVING THE PRIVATE ADVERTISING SIGN SUPPORT FOUNDATION SHOWN IN THE PLANS UP TO ONE FOOT BELOW FINISHED GRADE LINE. ALL APPLICABLE ASPECTS OF THE C&MS 630 SHALL APPLY.

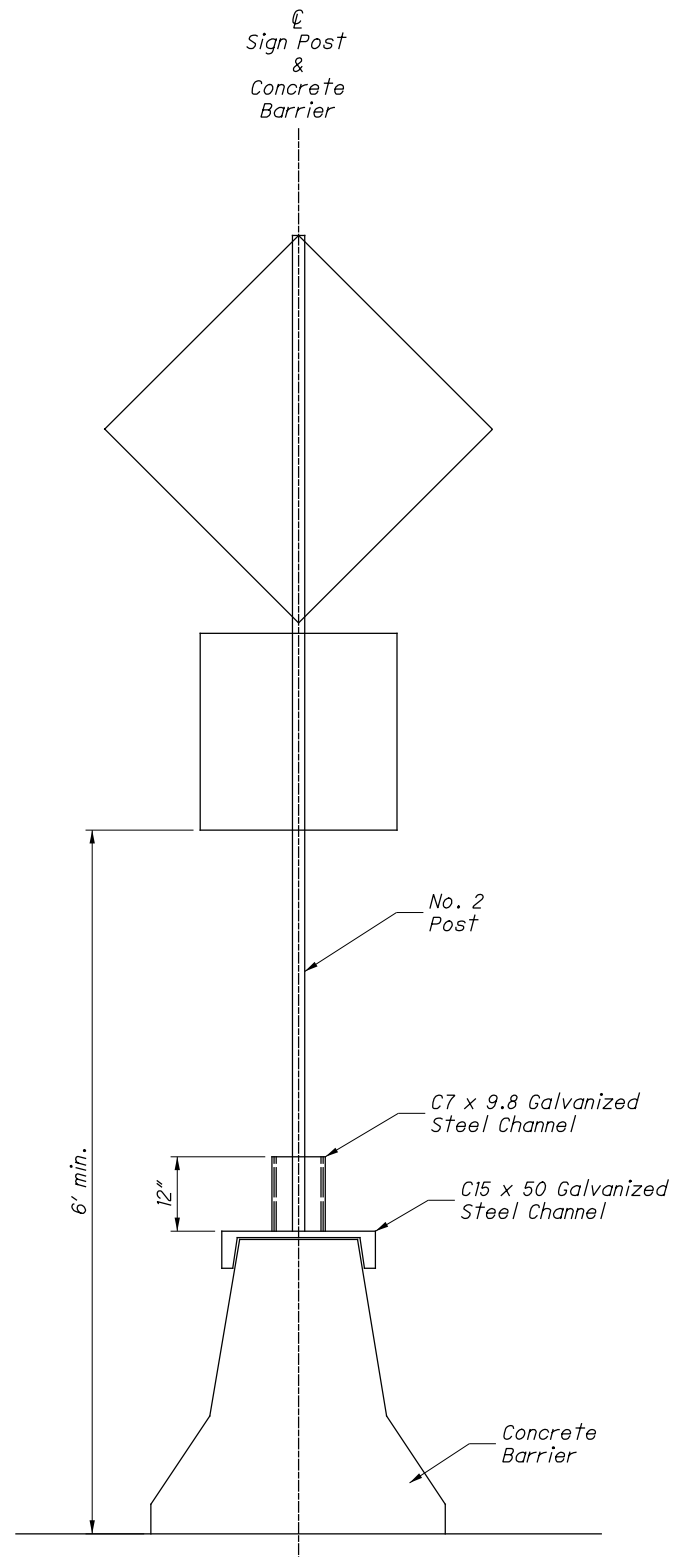
CALCULATED JTK CHECKED PJD
0 20 40
HORIZONTAL SCALE IN FEET

EXISTING SIGNING KING AVENUE
STA. 100+00.00 TO STA. 120+00.00

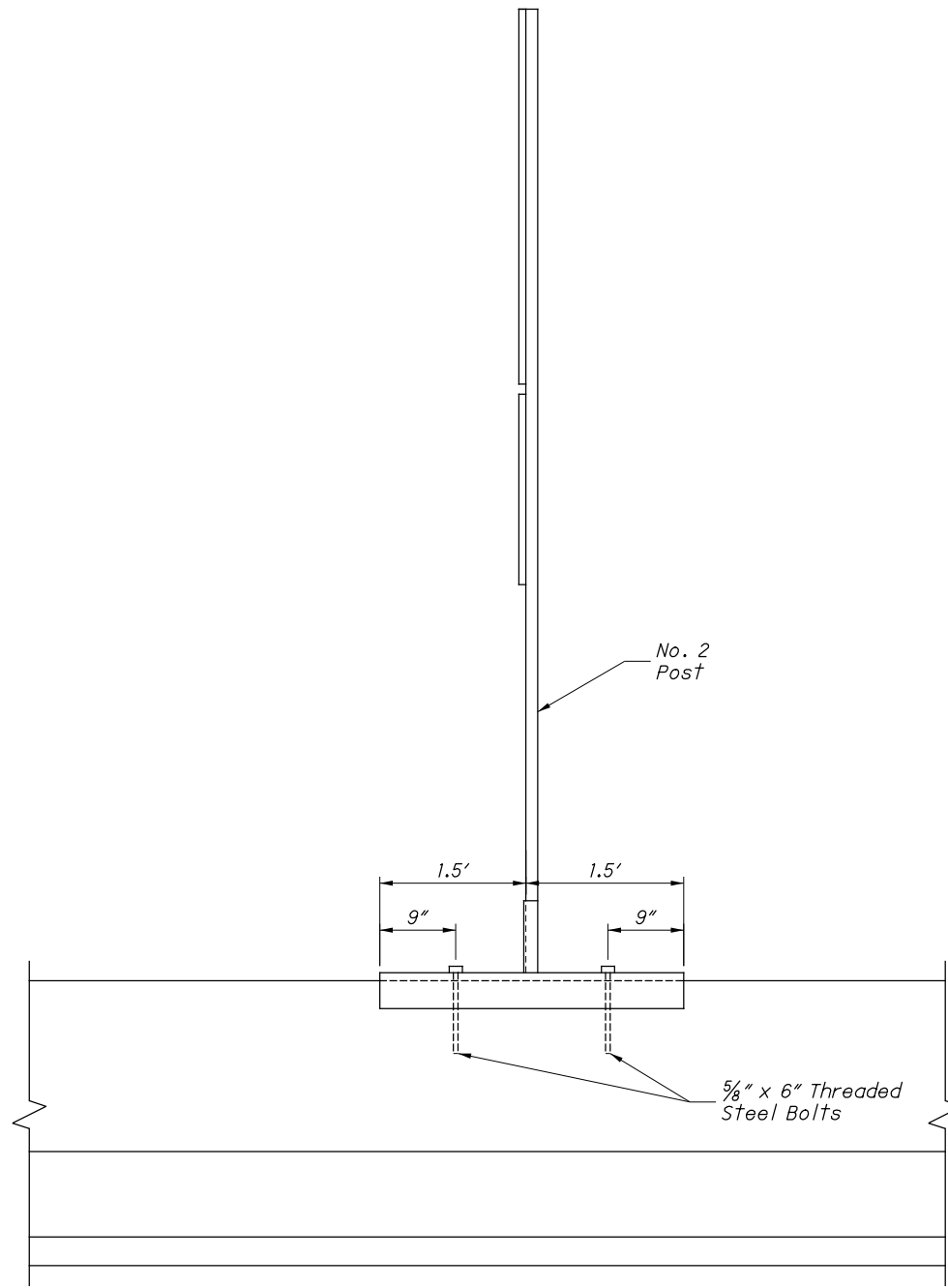
WAR-CR 282-0.97

145
256

FOR LEGEND SEE SHT. NO. 140



REAR VIEW



SIDE VIEW

NOTES:

1. The C7 x 9.8 galvanized steel channel shall be welded to the C15 x 50 galvanized steel channel.
2. The No. 2 post shall be attached to the C7 x 9.8 galvanized steel channel with two $\frac{5}{8}$ " steel hex head bolts. The holes in the C7 x 9.8 steel channel shall be drilled before galvanizing. The holes shall be 9" center to center.
3. The $\frac{5}{8}$ " threaded steel bolts shall be attached to the concrete barrier with grout meeting the requirements of CMS 255.02.

THIS DRAWING REPLACES PIS 202020 DATED 11-27-2006.

<p>WAR-CR 282-0.97</p>	<p>CONCRETE BARRIER MOUNTED SIGN SUPPORT DETAIL, METHOD A</p>
<p>1 / 1</p>	<p>146 256</p>
<p>DESIGNED XXX</p>	<p>REVIEWED XXX</p>
<p>REVISION DATE 07-18-2014</p>	<p>CHECKED XXX</p>
<p>PLAN INSERT SHEET</p>	
<p>OFFICE OF ROADWAY ENGINEERING</p>	

GENERAL

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 725 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

625, STREET LIGHTING

WARREN COUNTY HAS A CONTRACT WITH DUKE ENERGY TO COMPLETE MOST OF THE STREET LIGHTING ITEMS FROM THE LIGHTING PLAN SHEET. THE CONTRACTOR IS ONLY RESPONSIBLE TO COMPLETE THE BID ITEMS ON THE BID PROPOSAL. IF DUKE ENERGY COMPLETES THE STREET LIGHTING ITEMS SUCH THAT THE PERMANENT STREET LIGHTS ARE OPERATIONAL PRIOR TO THE OPENING OF THE ROUNDABOUT, ITEM 625 LIGHTING, MISC.: TEMPORARY LIGHT SHALL BE NON-PERFORMED.

625, LIGHTING MISC.: TEMPORARY LIGHT

THIS WORK SHALL CONSIST OF PROVIDING AND INSTALLING A CLASS III WOOD POLE - MINIMUM 40' - 15' LOW MAST BRACKET ARMS, 2 - 250W HPS COBRA HEAD STYLE LIGHT FIXTURES, INCLUDING ALL WIRING, HARDWARE, AND POWER SERVICE. THE CONTRACTOR SHALL UTILIZE THE PERMANENT LIGHT SERVICE OR A POWER SERVICE AS DIRECTED BY THE ENGINEER FOR THE POWER SOURCE OF THE TEMPORARY LIGHT. THIS ITEM ALSO INCLUDES THE REMOVAL OF ALL COMPONENTS ONCE THE PERMANENT LIGHTS ARE IN PLACE AND FUNCTIONAL. THE CONTRACTOR IS RESPONSIBLE FOR ANY INSPECTION MAINTENANCE AND REPLACEMENT NEEDED TO PERFORM THIS WORK.

THE TEMPORARY LIGHT FIXTURES (2 - 250W HPS COBRA HEAD STYLE) SHALL CONFORM TO THE REQUIREMENTS BELOW.

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR TEMPORARY LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR TEMPORARY LIGHTING UNITS SHALL HAVE AN IES II-M-SC DISTRIBUTION AND A 250 WATT HIGH PRESSURE SODIUM LAMP. THE LUMINAIRES SHALL BE AMERICAN ELECTRIC "SERIES 126" WITH A PHOTOMETRIC DISTRIBUTION AE3849I (ADJUST LUMEN VALUE FOR 250W HPS), COOPER OVX WITH PHOTOMETRIC DISTRIBUTION OVX25SXX2DF, GENERAL ELECTRIC "M-400" WITH PHOTOMETRIC DISTRIBUTION 1014 (ADJUST LUMEN VALE FOR 250W HPS), OR EQUAL AS APPROVED BY THE ENGINEER.

THE LOCATION, WIRE SIZE, AND WIRE SUPPORT DETAILS OF CIRCUITRY FOR THE TEMPORARY LIGHT SHALL BE AT THE APPROVAL OF THE ENGINEER.

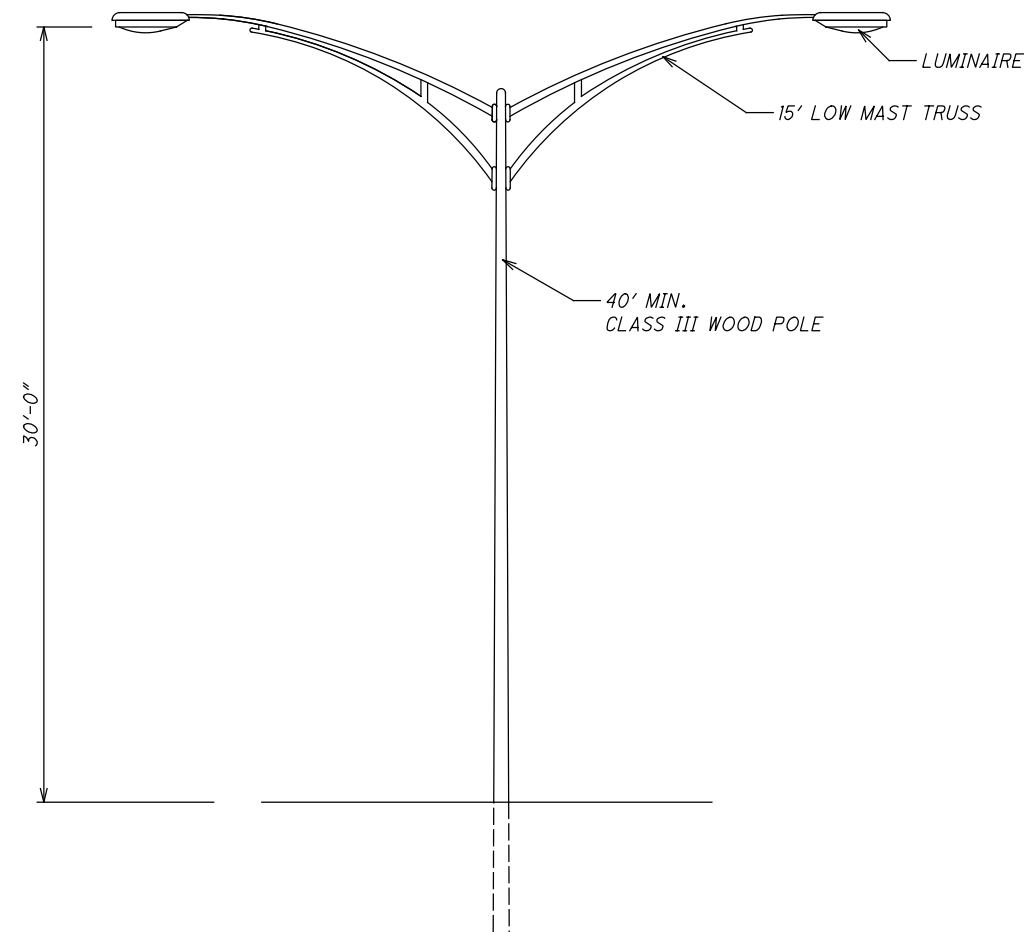
PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH C&MS ITEM 625, LIGHTING, MISC.: TEMPORARY LIGHT FOR EACH TEMPORARY LIGHT INSTALLATION, WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTOY AND WORKMANLIKE MANNER.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS. MINIMUM DEFLECTION CAPABILITY: 25 DEGREES.

EXPANSION AND DEFLECTION FITTINGS FULLY OR PARTIALLY EMBEDDED IN CONCRETE, SOIL, OR SIMILAR MATERIAL SHALL BE COMPLETELY WRAPPED IN A NEOPRENE SLEEVE OR SHEET OF 1/2-INCH MINIMUM THICKNESS. SECURE NEOPRENE WRAP WITH TIE-WRAP PRIOR TO EMBEDMENT OF THE FITTING.



LIGHTING, MISC.: TEMPORARY LIGHT DETAIL

N.T.S.

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CNK
CHECKED
PJD

LIGHTING GENERAL NOTES

WAR-CR 282-0.97

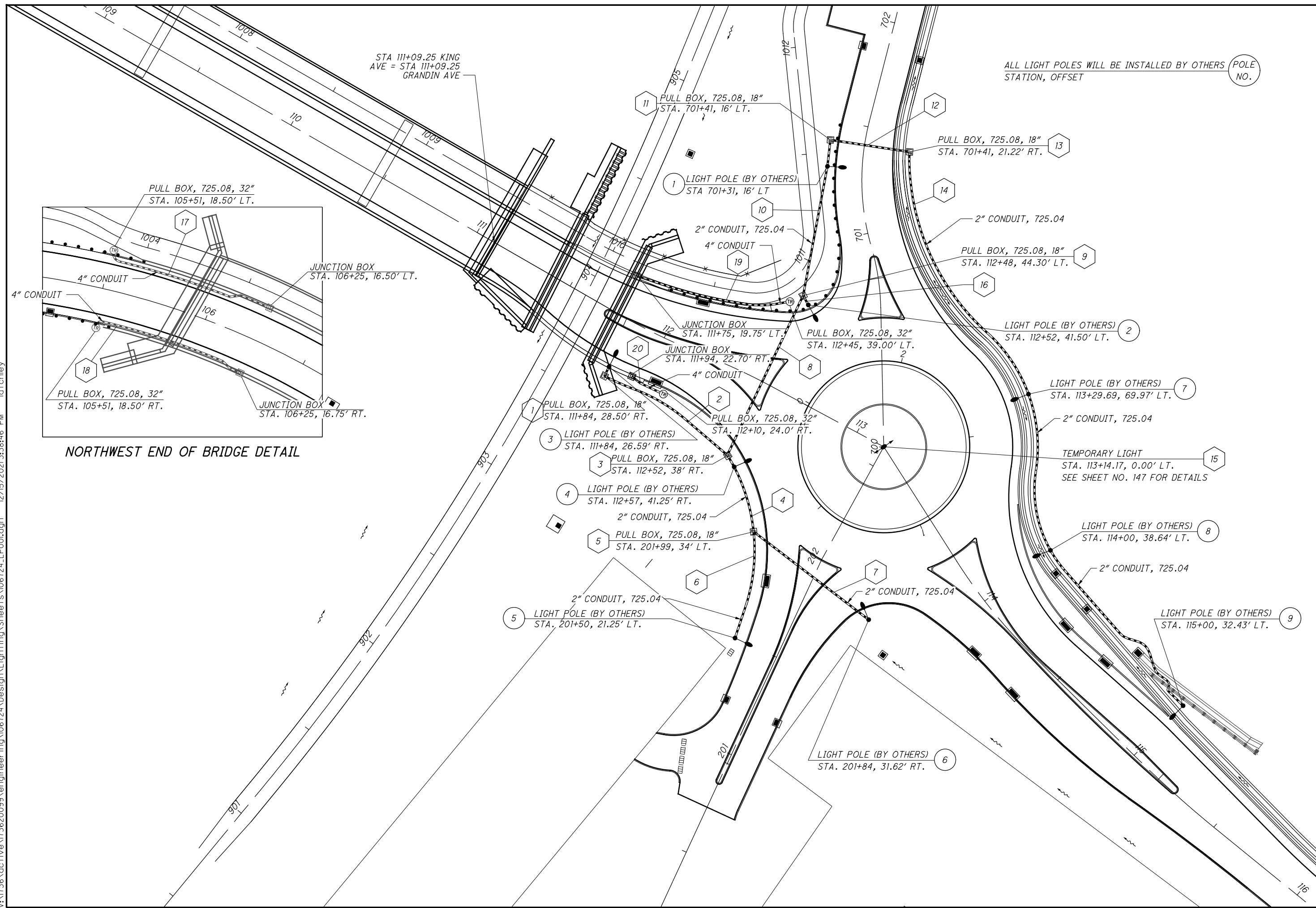
147
256

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REF. NO.	SHEET NO.	STATION		SIDE	625							REMARKS									
		FROM	TO		CONDUIT, 2", 725.04 FOOT	CONDUIT, 4", 725.04 FOOT	TRENCH FOOT	JUNCTION BOX EACH	PULL BOX, 725.08, 18" EACH	PULL BOX, 725.08, 32" EACH	LIGHTING, MISC.: TEMPORARY LIGHT EACH										
1	149	111+84.00	111+84.00	RT					1												
2	149	111+84.00	112+52.00	RT	69		69														
3	149	112+52.00	112+52.00	RT					1												
4	149	112+52.00	201+99.00	RT/LT	38		38														
5	149	201+99.00	201+99.00	LT					1												
6	149	201+99.00	201+50.00	LT	51		51														
7	149	201+99.00	201+84.00	LT/RT	68		68														
8	149	112+48.00	112+52.00	LT/RT	83		83														
9	149	112+48.00	112+48.00	LT					1												
10	149	112+48.00	701+41.00	LT	74		74														
11	149	701+41.00	701+41.00	LT					1												
12	149	701+41.00	701+41.00	LT/RT	37		37														
13	149	701+41.00	701+41.00	RT					1												
14	149	701+41.00	115+00.00	RT/LT	301		301														
15	149	113+14.17	113+14.17	CL							1										
16	149	112+48.00	112+52.00	LT	5		5														
17	149	105+51.00	106+25.00	LT		77		1		1											
18	149	105+51.00	106+25.00	RT		72		1		1											
19	149	111+75.00	112+45.00	LT		71		1		1											
20	149	111+94.00	112+10.00	RT		15		1		1											
TOTALS CARRIED TO GENERAL SUMMARY					726	235	726	4	6	4	1										

CALCULATED	PJD
CHECKED	SNS
LIGHTING SUBSUMMARY	
WAR-CR 282-0.97	
148	256

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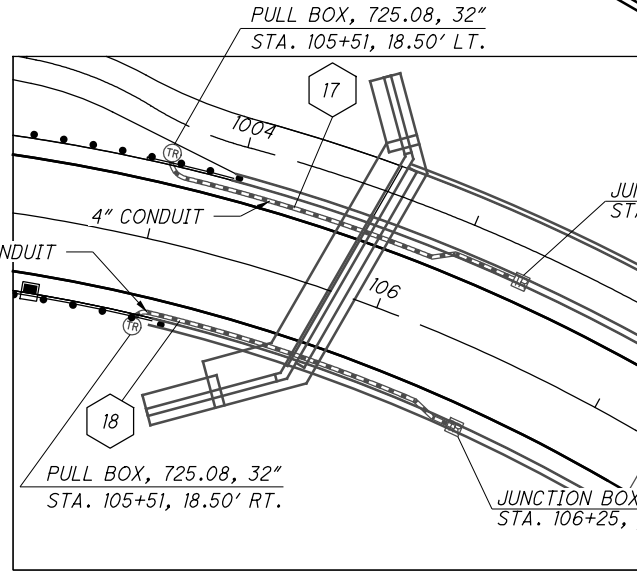


ALL LIGHT POLES WILL BE INSTALLED BY OTHERS (POLE NO. STATION, OFFSET)

CALCULATED	CNK	CHECKED	PJD

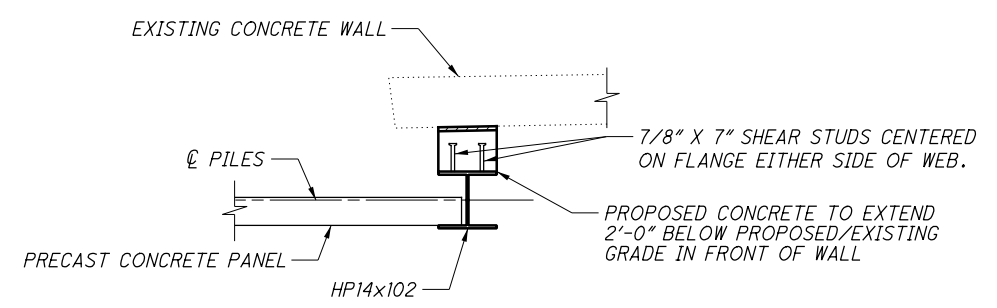
**LIGHTING PLAN
ROUNDABOUT**

WAR-CR 282-0.97



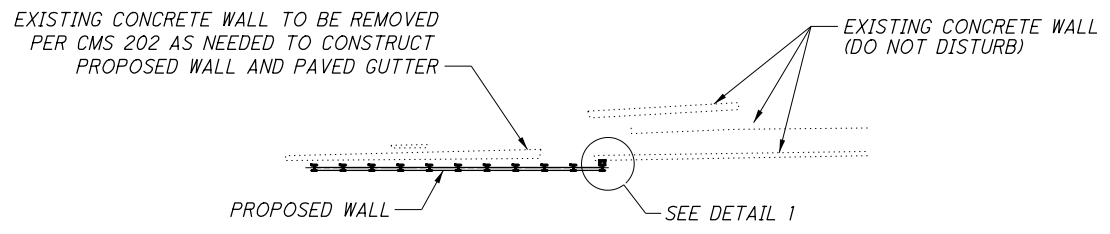
STA 111+09.25 KING AVE = STA 111+09.25 GRANDIN AVE

NORTHWEST END OF BRIDGE DETAIL

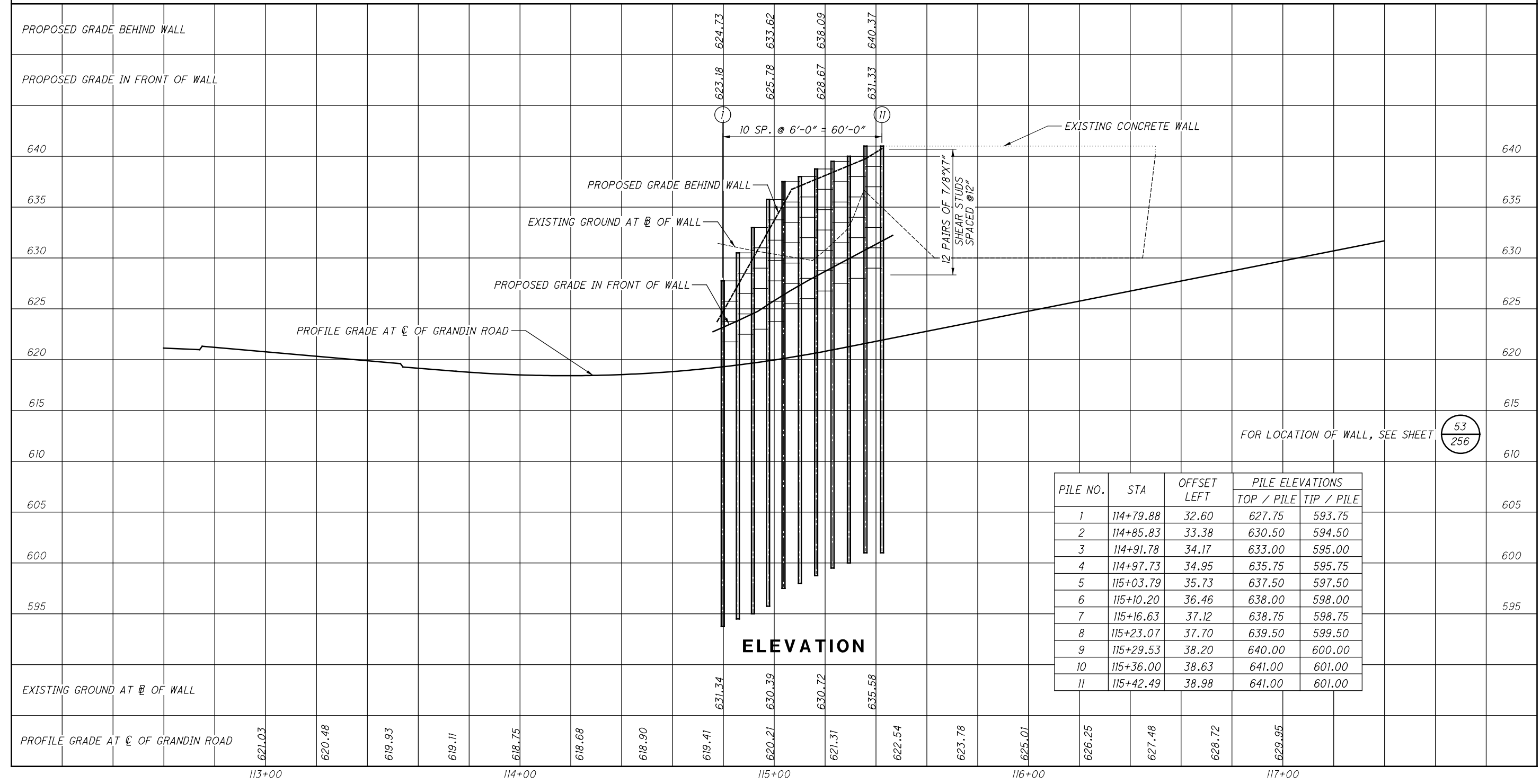


DETAIL 1

NOTE:
CAST-IN-PLACE CONCRETE, DOWELS, DOWEL HOLES AND GROUT ARE INCLUDED WITH ITEM 530, SPECIAL - STRUCTURES: PRECAST CONCRETE PANELS FOR PAYMENT.



PLAN



ELEVATION

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GENERAL NOTES

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE LAGGING)
STRUCTURAL STEEL - ASTM A572 GRADE 50
YIELD STRENGTH - 50 KSI
REINFORCING STEEL - MIN. YIELD STRENGTH - 60 KSI
(EPOXY COATED)

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP14X102

THIS WORK CONSISTS OF FURNISHING AND INSTALLING STEEL SOLDIER PILES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50. DO NOT FIELD WELD OR SPLICE THOSE PARTS OF THE STEEL SOLDIER PILES THAT WILL BE ABOVE GROUND; WITH PANEL SEATS BEING THE EXCEPTION. PILES SHALL BE GALVANIZED PER CMS 711.02 FROM TOP OF PILE TO A MINIMUM OF TWO FEET BELOW FINISHED GRADE IN FRONT OF WALL.

PILES MAY BE DRIVEN OR INSTALLED IN PREBORED HOLES. IF PREBORED HOLES ARE USED, THE VOID SHALL BE FILLED WITH CLASS QC1 CONCRETE TO THE BOTTOM OF THE PRECAST CONCRETE PANELS.

MEASUREMENT FOR PAYMENT WILL BE LIMITED TO THE DISTANCE BETWEEN THE TOP OF PILE ELEVATION AND PILE TIP ELEVATION, AS SHOWN IN THE PLANS. WARREN COUNTY ENGINEER'S OFFICE WILL PAY FOR SOLDIER PILES AND, IF USED, PREBORED HOLES WITH CONCRETE BACKFILL AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP14X102.

ITEM SPECIAL - STRUCTURES PRECAST CONCRETE PANEL

THIS WORK CONSISTS OF FURNISHING AND PLACING PRECAST REINFORCED CONCRETE PANELS BETWEEN THE SOLDIER PILES TO FUNCTION AS LAGGING FOR THE RETAINING WALL. PROVIDE PRECAST CONCRETE LAGGING FROM A PRECAST CONCRETE MANUFACTURER CERTIFIED UNDER SUPPLEMENT 1073. PROVIDE CONCRETE WITH A 28-DAY DESIGN STRENGTH OF AT LEAST 4000 PSI ACCORDING TO CMS 499. PROVIDE EPOXY COATED REINFORCING STEEL ACCORDING TO CMS 709.00. PANELS SHALL BE SEALED IN THE SHOP TO THE LIMITS INDICATED IN THE PLANS WITH AN EPOXY-URETHANE SEALER PER CMS 512.

DO NOT ALLOW THE DIMENSIONS OF THE REINFORCING STEEL TO VARY BY MORE THAN 1/4 INCH. PERMANENTLY MARK EACH PANEL TO INDICATE THE FACE TO BE PLACED AGAINST THE SOIL. PLACE THE PANEL BETWEEN THE FLANGES OF THE SOLDIER PILES AND A MINIMUM OF 3" BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL.

PAYMENT FOR THE PRECAST CONCRETE PANELS SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO FABRICATE, SEAL, FURNISH AND INSTALL THE PANELS AND THE CAST-IN-PLACE CLOSURE WALL. WARREN COUNTY'S ENGINEERS OFFICE WILL PAY FOR PRECAST CONCRETE PANELS AT THE CONTRACT UNIT PRICE BID PER EACH FOR ITEM SPECIAL, STRUCTURES PRECAST CONCRETE PANEL.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THE EXISTING WALL BEHIND THE PROPOSED WALL SHALL BE REMOVED TO 1 FOOT BELOW THE PROPOSED GROUND LINE IN A MANNER THAT WILL NOT DISTURB THE SOLDIER PILE AND LAGGING WALL PLACED IN FRONT OF IT.

ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO REMOVE THE WALL WILL BE PAID FOR UNDER THE LUMP SUM BID PRICE FOR ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

EXISTING WALL TO BE REMOVED A MINIMUM OF 1'-0" BELOW THE PROPOSED GROUND SURFACE. (LOCATION APPROXIMATE)

PAVED GUTTER, TYPE 1-2

1'-0"

B OF WALL VARIES 32.60' TO 38.98'

C OF GRANDIN RD

PRECAST CONCRETE PANEL (TYP)

FILL VOID BETWEEN EXISTING WALL AND PROPOSED WALL WITH POROUS BACKFILL. WHERE THERE IS NO EXISTING WALL THE POROUS BACKFILL SHALL EXTEND 2'-0" BEHIND THE PRECAST CONCRETE PANELS.

HP14x102

PAVED GUTTER, TYPE 1-2

29'-0" MINIMUM PILE EMBEDMENT

ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
202	11201	LUMP	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
505	11100	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION
507	00400	428	FT	STEEL PILES, MISC.: HP14x102
505	21200	42	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
SPECIAL	53000400	54	EACH	STRUCTURES: PRECAST CONCRETE PANELS

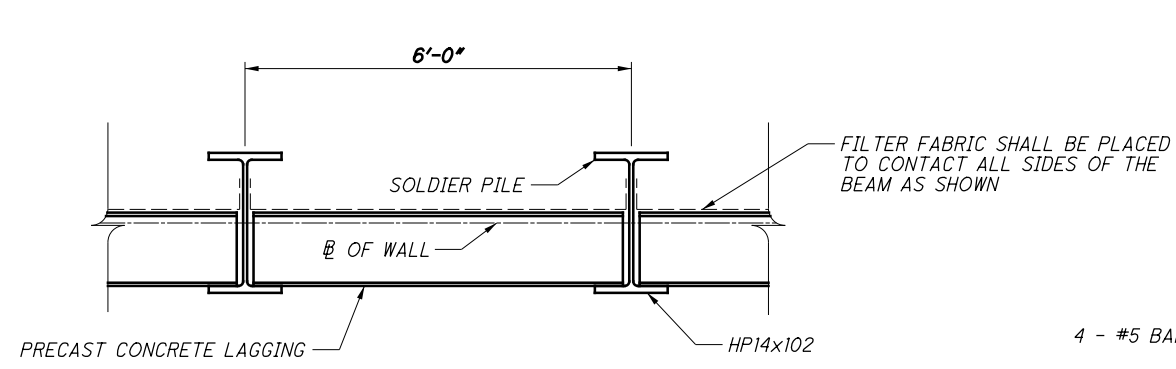
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CHECKED
MRS

WALL NOTES AND TYPICAL SECTION

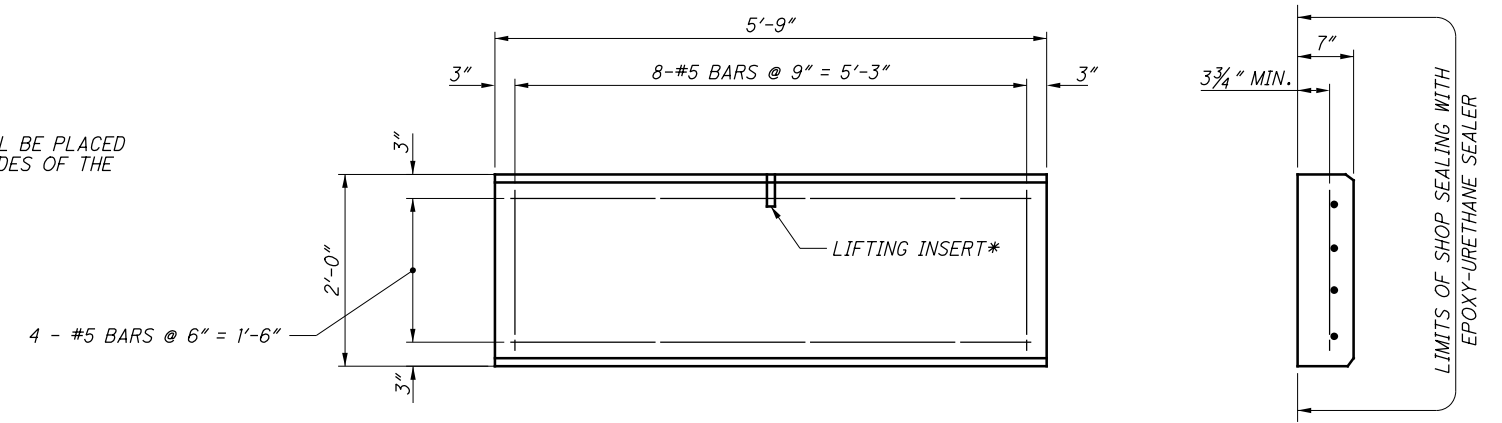
WAR-CR 282-0.97

151
256

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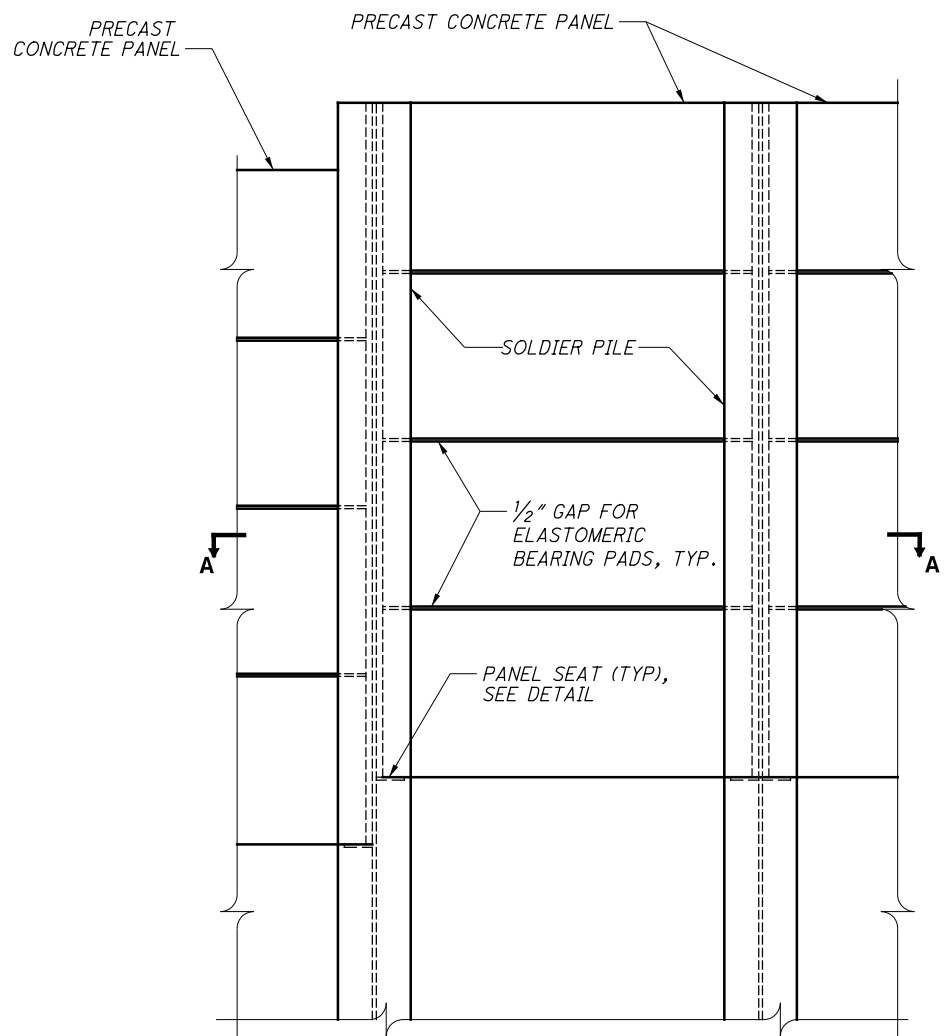


SECTION A-A

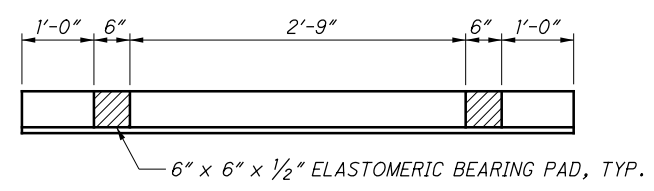


PRECAST CONCRETE PANEL

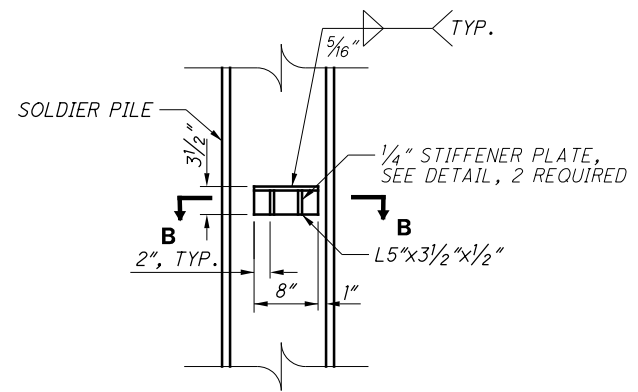
TOTAL REQUIRED = 54
QUANTITY CARRIED TO GENERAL SUMMARY



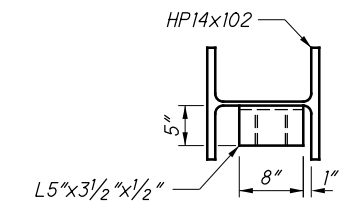
ELEVATION



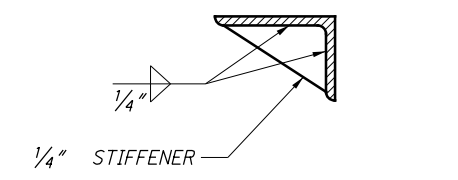
ELASTOMERIC BEARING PAD LAYOUT **



PANEL SEAT DETAIL



SECTION B-B

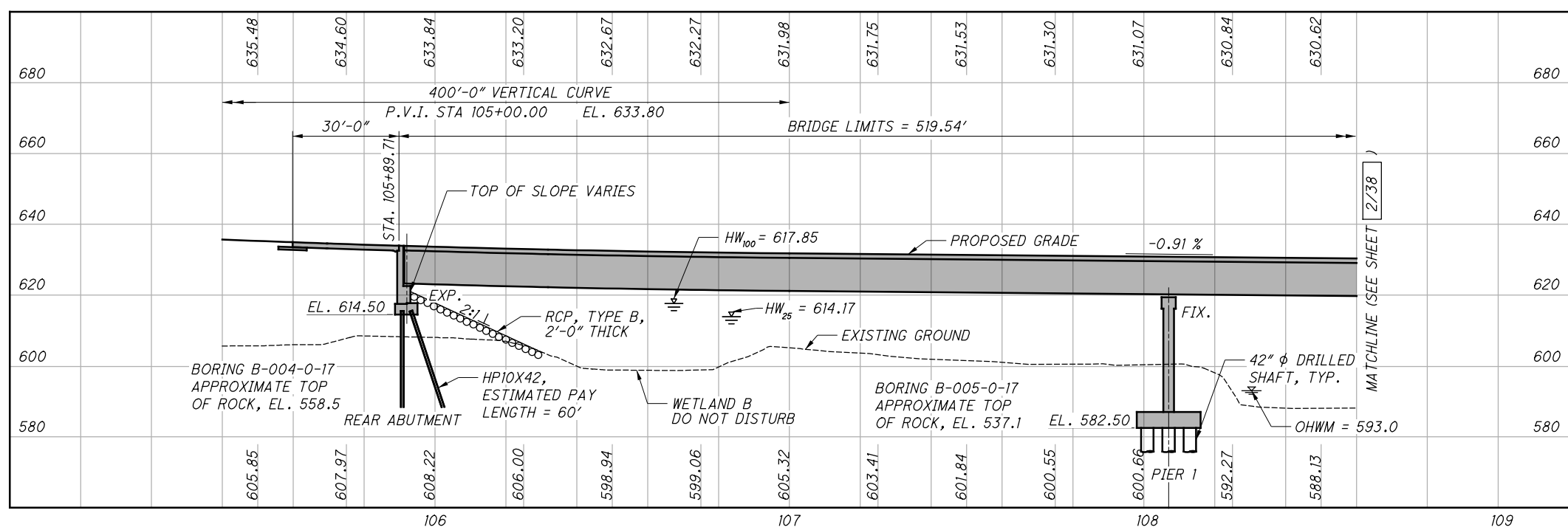
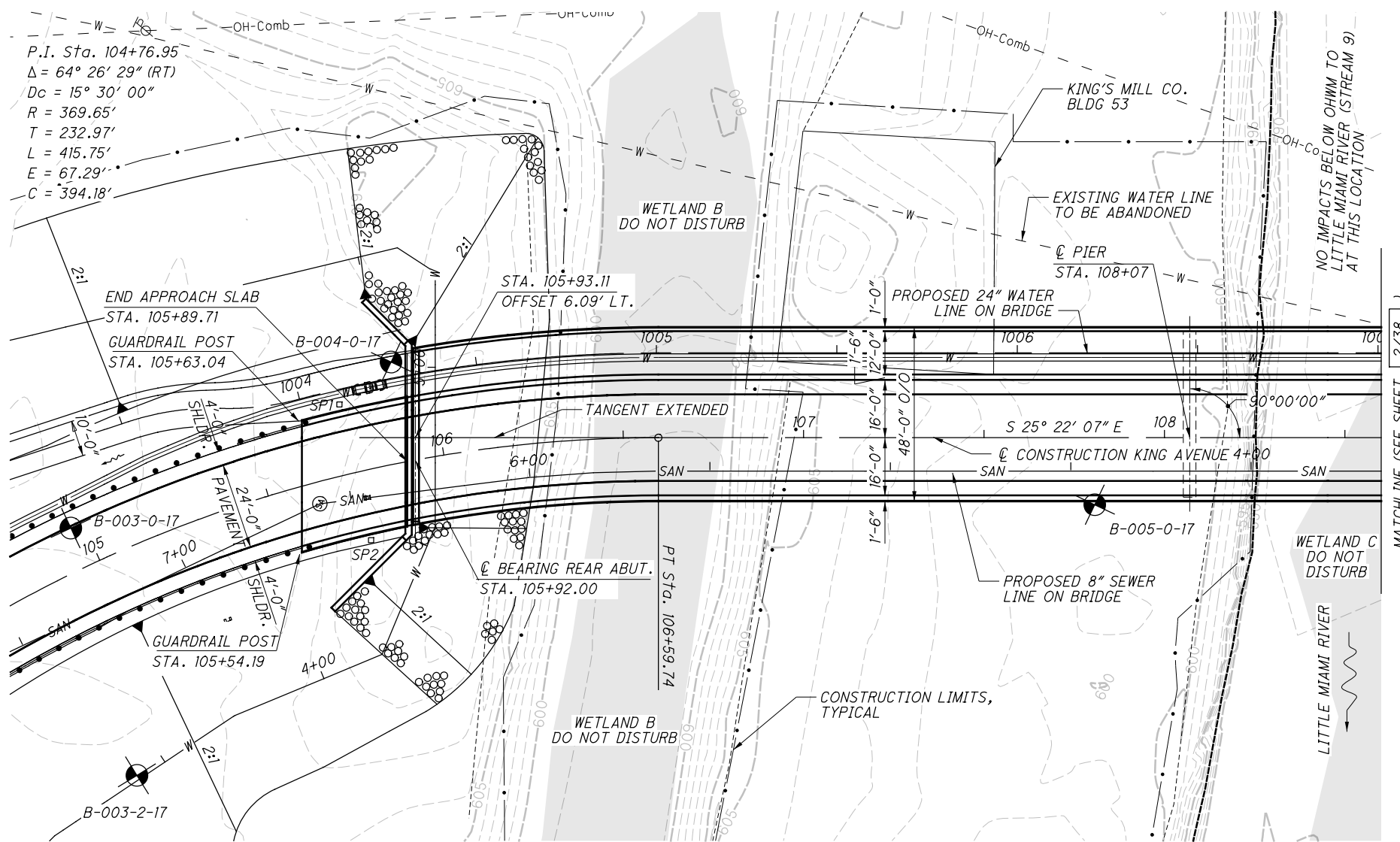


STIFFENER PLATE DETAIL ***

- NOTES:
- * MANUFACTURER TO DESIGN AND DETERMINE NUMBER OF INSERTS FOR EACH PANEL.
 - ** PRICE OF ELASTOMERIC BEARING PADS SHALL BE INCLUDED IN THE UNIT PRICE OF THE PRECAST PANELS.
 - *** PANEL SEAT AND STIFFENERS FOR PANEL SEAT INCLUDED IN PAYMENT FOR ITEM - 507 STEEL PILES, MISC.: SOLDIER PILES HP14x102.

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BENCHMARK DATA

BM #1 STA. 104+31.85	ELEV. 625.177	OFFSET 119.27' LT.
BM #2 STA. 104+53.81	ELEV. 617.140	OFFSET 218.72' RT.
BM #3 STA. 110+22.54	ELEV. 616.709	OFFSET 297.66' RT.
BM #4 STA. 110+93.65	ELEV. 612.173	OFFSET 10.24' RT.
BM #5 STA. 115+95.93	ELEV. 627.601	OFFSET 27.52' RT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET 9/256

NOTES
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2013 ADT = 8,500 2013 ADTT = 255
2044 ADT = 12,500 2044 ADTT = 375
DIRECTIONAL DISTRIBUTION = 60%

LEGEND
 BORING LOCATION
 SETTLEMENT PLATFORM (SP)

HYDRAULIC DATA
 DRAINAGE AREA = 1050 SQ. MILES
 Q (25) = 59,200 CFS (FIS) V (25) = 6.61 FT/S
 Q (100) = 77,400 CFS (FIS) V (100) = 7.22 FT/S
 STRUCTURE CLEARS THE 25 YEAR DESIGN HW BY 2.74 FEET.

EXISTING STRUCTURE

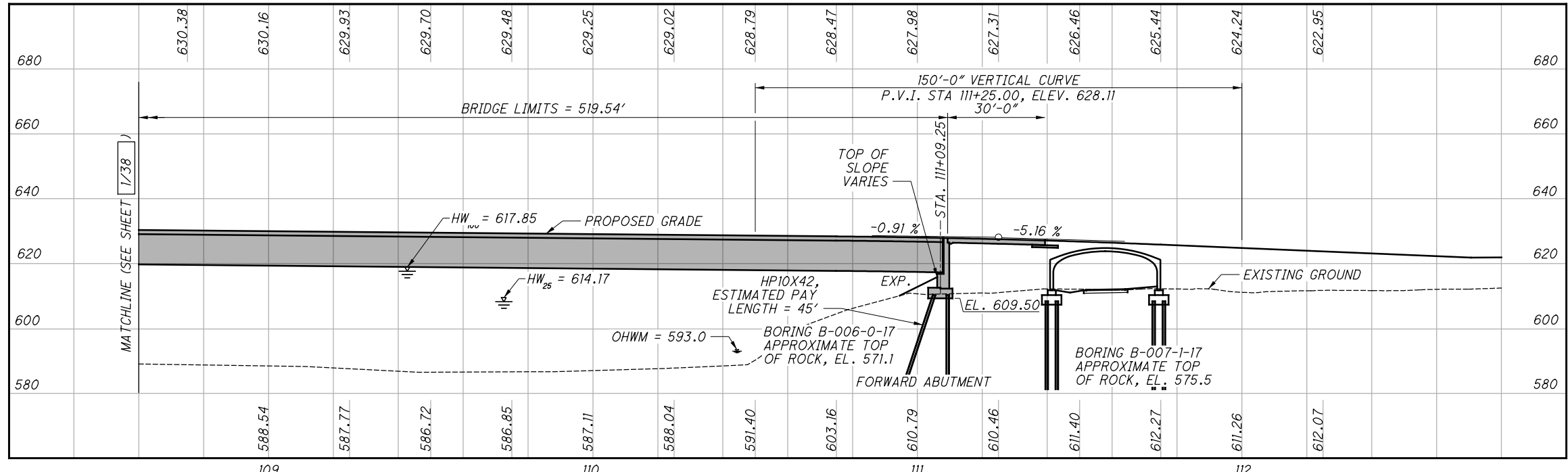
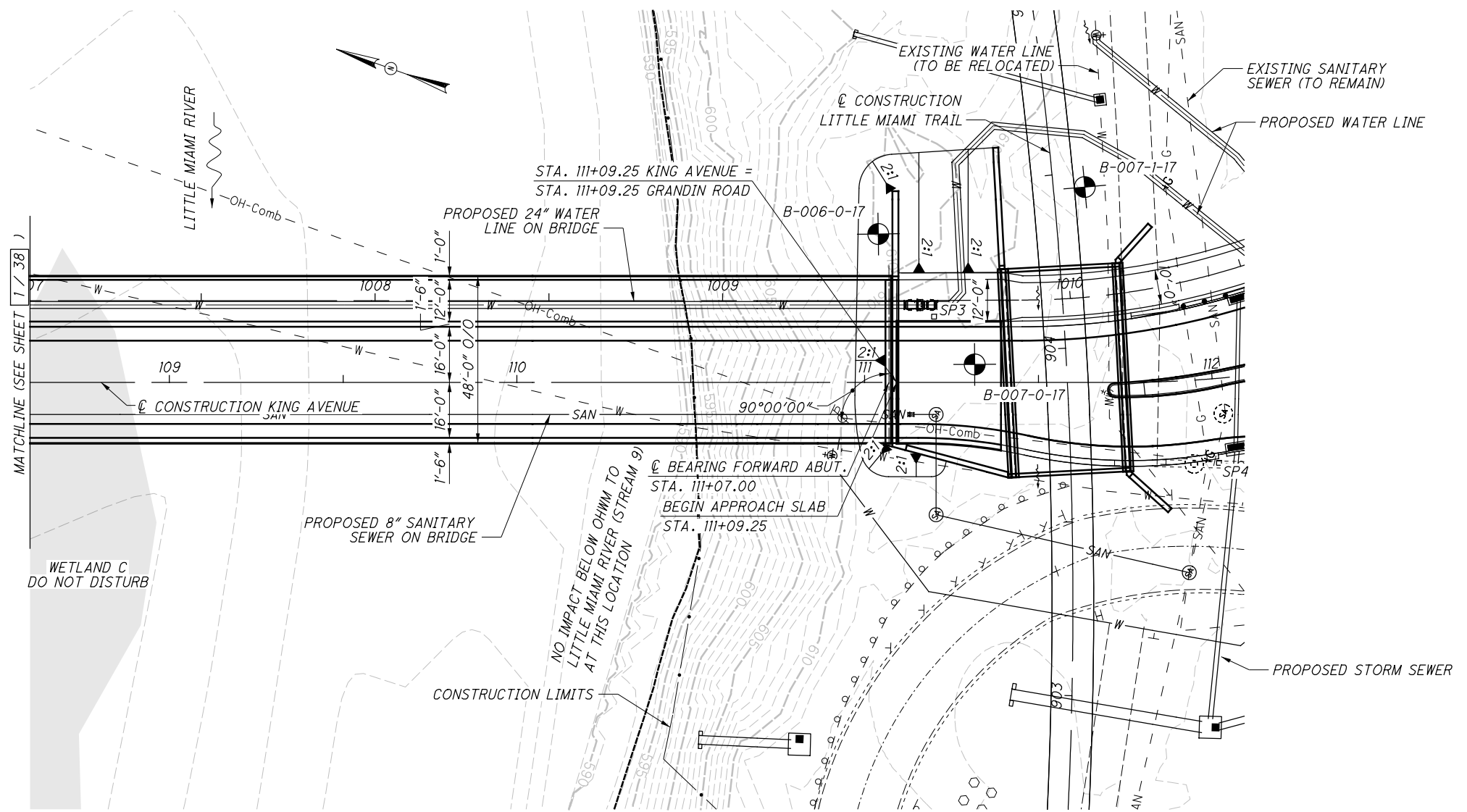
TYPE: PRESTRESSED CONCRETE BOX BEAM WITH REINFORCED CONCRETE SUBSTRUCTURES
 WEARING SURFACE: 2 1/2" MINIMUM ASPHALT CONCRETE
 SPANS: 74'-3 1/2", 73'-6 1/2", 73'-6 1/2", 73'-6 1/2", 73'-6 1/2", 74'-3 1/2" C/C BRG.
 ROADWAY: 24'-3 1/2" F/F GUARDRAIL
 LOADING: HS 20-44
 SKEW: NONE
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 CROWN: 3/16" / FT.
 STRUCTURAL FILE NUMBER: 8335001
 DATE BUILT: 1987
 DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: STEEL GIRDER (108" WEB) WITH COMPOSITE REINFORCED CONCRETE DECK, WALL PIER AND STUB ABUTMENTS
 SPANS: 215'-0", 300'-0" C/C BRG. (MEASURED ALONG E)
 ROADWAY: 32'-0" F/F BARRIER
 WALKS: 12'-0" LEFT
 LOADING: HL93 AND 60 PSF FUTURE WEARING SURFACE
 SKEW: 0°
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 30'-0" LONG (AS-1-15 & AS-2-15)
 ALIGNMENT: TANGENT
 DECK AREA: 24,792 SF
 CROWN: VARIES FT/FT
 COORDINATES: LATITUDE N 39° 21' 10.79"
 LONGITUDE W 84° 14' 32.49"

DESIGN AGENCY: **stantec**
 DESIGN AGENCY: stantec
 DATE: 10/8/21
 REVIEWED: BSM
 DRAWN: ALH
 DESIGNED: MRS
 CHECKED: EDA
 WARREN COUNTY
 STA. 105+89.76
 STA. 111+09.32
SITE PLAN (1)
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER
WAR-CR 282-0.97
 PID No. 106724
 1/38
 153
 256

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stantec
DESIGN AGENCY
154
256

WAR-CR 282-0.97
PID No. 106724

SITE PLAN (2)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WARREN COUNTY
STA. 105+89.76
STA. 111+09.32

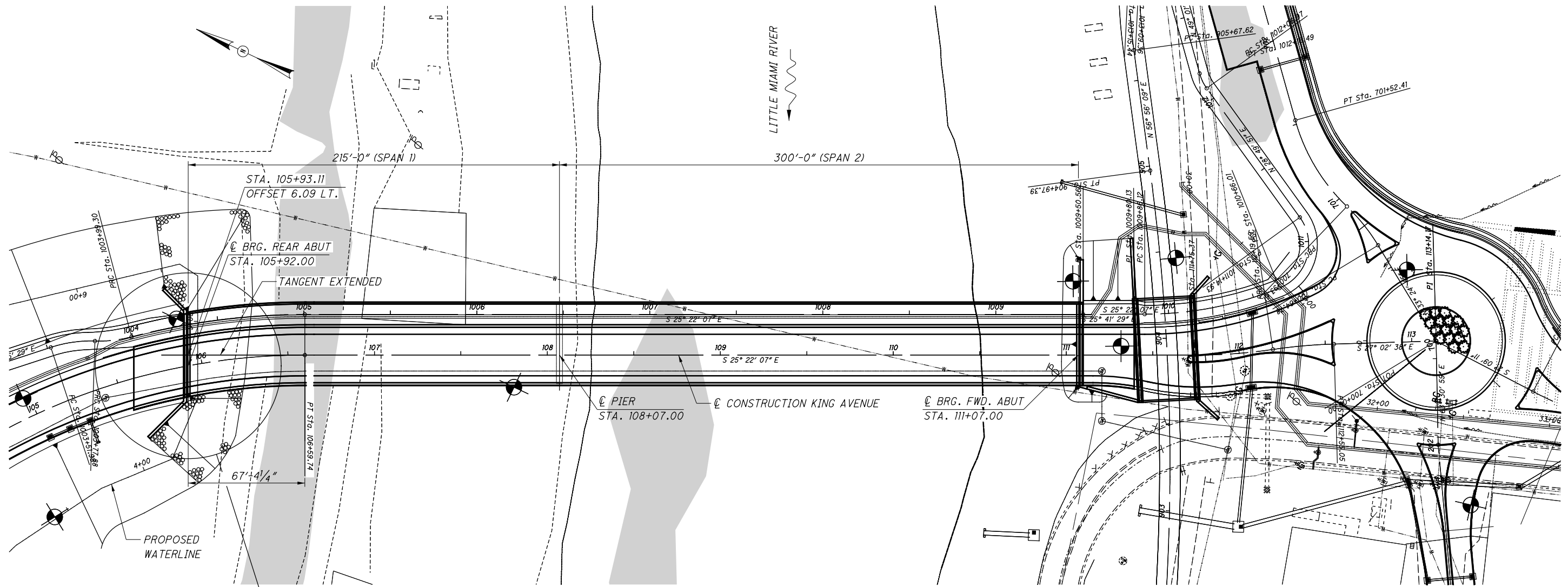
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CHECKED: EDA

DRAWN: ALH
REVISED:

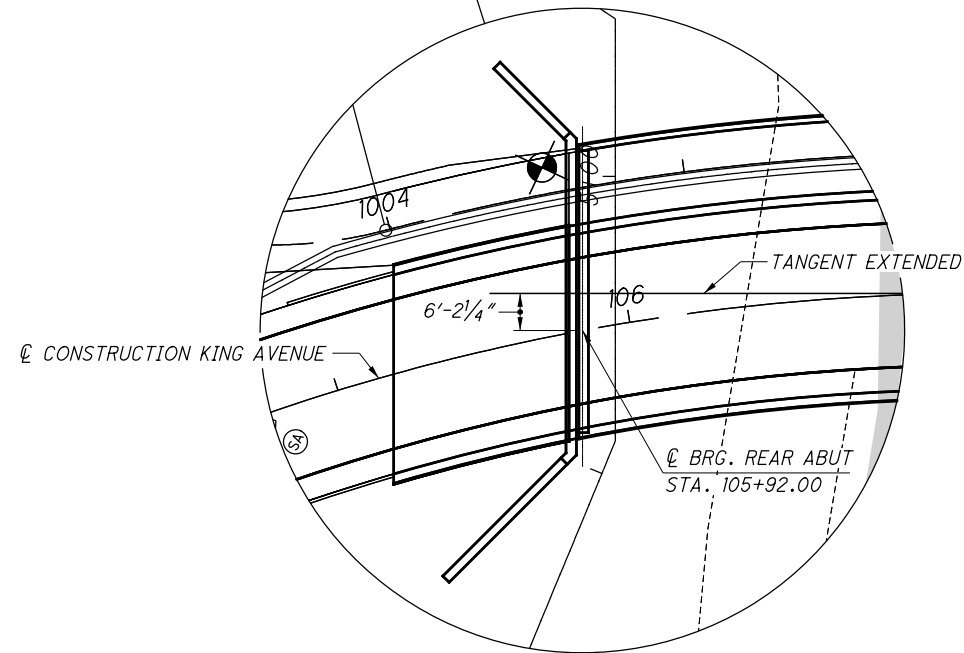
REVIEWED: BSM
STRUCTURE FILE NUMBER: 8335002

DATE: 10/8/21

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GENERAL PLAN



WAR-CR 282-0.97 PID No. 106724	GENERAL PLAN BRIDGE NO. WAR-282-0089 OVER LITTLE MIAMI RIVER	DESIGNED MRS	CHECKED EDA	DRAWN ALH	REVISED	REVIEWED BSM	DATE 10/8/21	DESIGN AGENCY stantec <small>Charlotte, NC 28262 Cincinnati, OH 45241 (513) 842-8200</small>
		STRUCTURE FILE NUMBER 8335002						
3 / 38		155 / 256						

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	REVISED	07/17/2015
AS-2-15	REVISED	01/18/2019
BR-2-15	DATED	07/17/2015
EXJ-4-87	REVISED	01/19/2018
GSD-1-19	REVISED	01/15/2021
SBR-1-20	REVISED	07/17/2020

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

845	DATED	04/20/2018
846	DATED	04/17/2015
867	DATED	01/15/2021
869	DATED	10/17/2014

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

CONCRETE CLASS QC3
-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1
-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC5, WITH 1-IN. MAX. AGGREGATE SIZE
-COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL ASTM A709 GRADE 50
-YIELD STRENGTH 50 KSI
(ALL STEEL NOT DESIGNATED AS GRADE HPS70W)

STRUCTURAL STEEL ASTM A709 GRADE HPS70W
-YIELD STRENGTH 70 KSI
(FLANGES @ PIER, BOTTOM FLANGE IN SPAN 2)

STEEL H-PILES - ASTM A572
-YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2.5" CONCRETE COVER
SRS TREATMENT

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES AT THE REAR ABUTMENT, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND THE ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTING AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND THE REQUIRED WAITING PERIOD, AS DEFINED IN THE APPROACH EMBANKMENT CONSTRUCTION NOTE ON THIS SHEET, HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO REFUSAL ON BEDROCK.

PRIOR TO DRIVING PILES AT THE FORWARD ABUTMENT, CONSTRUCT THE BRIDGE APPROACH EMBANKMENT FROM A TEMPORARY MSE WALL BEHIND THE ABUTMENT UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND THE ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTING AND THE INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND THE REQUIRED WAITING PERIOD, AS DEFINED IN THE APPROACH EMBANKMENT CONSTRUCTION NOTE ON THIS SHEET, HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO REFUSAL ON BEDROCK.

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK. WARREN COUNTY ENGINEER'S OFFICE WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 283 KIPS PER PILE FOR THE REAR ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 275 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES.

REAR ABUTMENT PILES:
32 PILES 65 FEET LONG, ORDER LENGTH
8 PILES 70 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
24 PILES 50 FEET LONG, ORDER LENGTH

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL H-PILES AT REAR ABUTMENT ONLY.

PILE DRIVING

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 43,200 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 471 KIPS AT THE PIER. THIS LOAD IS RESISTED BY TIP RESISTANCE. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 481 KIPS.

THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE.

CARE SHALL BE EXERCISED AS TO COVERING UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED.

THE CONTRACTOR SHOULD ANTICIPATE ENCOUNTERING A THICK BOULDER ZONE WHEN EXCAVATING FOR THE DRILLED SHAFTS. A TEMPORARY CASING WILL BE REQUIRED FOR THE INSTALLATION OF THE DRILLED SHAFTS.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.34 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

APPROACH EMBANKMENT CONSTRUCTION

THE APPROACH EMBANKMENTS SHALL BE CONSTRUCTED AND THEN UNDERGO A WAITING PERIOD, ESTIMATED TO BE 30 CALENDAR DAYS AT EACH APPROACH EMBANKMENT WITH THE USE OF WICK DRAINS. WICK DRAINS TO BE INSTALLED ON 5-FOOT CENTERS IN A TRIANGULAR PATTERN. SEE WICK DRAIN NOTE ON SHEET 5 OF 38 AND WICK DRAIN SPECIAL PROVISION FOR ADDED DETAILS.

SEE SETTLEMENT PLATFORM NOTE AND ROADWAY PLANS FOR DETAILS AND NOTES REGARDING EMBANKMENT CONSTRUCTION.

APPROACH EMBANKMENT BEHIND FORWARD ABUTMENT SHALL BE CONSTRUCTED TO A VERTICAL FACED TEMPORARY MSE WALL LOCATED 2'-0" BEHIND THE PROPOSED ABUTMENT FOOTING.

THE CONTRACTOR SHALL REVIEW THE BORING LOGS, SUBSURFACE INVESTIGATION, AND THE ROADWAY GENERAL NOTES PRIOR TO COMMENCING WORK ON THE BRIDGE.

ITEM 203 - STRUCTURE REMOVED, OVER 20 FOOT SPAN

EXISTING STRUCTURE SHALL NOT BE REMOVED UNTIL PROPOSED STRUCTURE IS COMPLETE AND OPEN TO TRAFFIC.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THE EXCAVATION FOR THE PIER SHALL BE BACKFILLED TO ELEVATION 592.00 WITH MATERIAL MEETING THE REQUIREMENTS OF CMS 203.02R. ABOVE ELEVATION 592.00, THE EXCAVATION SHALL BE BACKFILLED WITH ROCK CHANNEL PROTECTION (RCP), TYPE B MATERIAL TO ELEVATION 598.00. THE RCP SHALL BE WRAPPED WITH GEOTEXTILE FABRIC ON THE TOP, BOTTOM AND AROUND THE RCP MATERIAL TO PREVENT PIPING OF THE MATERIAL INTO THE RCP MATERIAL. ABOVE ELEVATION 598.00, THE EXCAVATION SHALL BE BACKFILLED WITH TOPSOIL PER CMS 659.

PAYMENT FOR THE ABOVE WORK WILL BE MADE AT UNIT PRICE BID FOR ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN.

**ITEM 524 - DRILLED SHAFTS 42" ABOVE BEDROCK
ITEM 524 - DRILLED SHAFTS 42" INTO BEDROCK**

FOR THE PURPOSE OF MEASUREMENT, THE TOP OF BEDROCK IS CONSIDERED THE TOP OF GRAY INTERBEDDED SHALE AND LIMESTONE. OVERBURDEN, AND BROWN WEATHERED SHALE AND LIMESTONE ABOVE THE GRAY SHALE AND LIMESTONE IS CONSIDERED THE ABOVE BEDROCK PORTION OF THE SHAFT MEASUREMENT.

ITEM 845 - FIELD METALLIZING OF EXISTING STRUCTURAL STEEL

STRUCTURAL STEEL SHALL BE SHOP METALLIZED PER SUPPLEMENTAL SPECIFICATION 845. AT THE CONTRACTOR'S OPTION, AS NOTED IN SS 845, CROSS FRAME MEMBERS AND PIPE SUPPORT ANGLES MAY BE HOT-DIP GALVANIZED IN ACCORDANCE WITH CMS 711.02

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DESIGN AGENCY

DATE 10/8/21

REVIEWED BSM

DRAWN ALH

DESIGNED MRS

CHECKED EDA

GENERAL NOTES
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
PID No. 106724

4/38

156
256

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ITEM 511 - CLASS QC3 CONCRETE, MISC.: CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC, AND CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE 499.03, CLASS QC 3 MEETING A DESIGN STRENGTH OF 4,500 PSI, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02

FIBERS FOR CONCRETE ASTM C1116, TYPE III
CORROSION INHIBITOR 515.15

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA: WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 IN. MIN. TO 2.5 IN. MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AND ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.0 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT AND MOISTURE.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX, MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE A MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST EFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

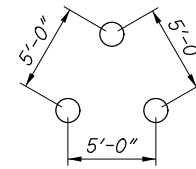
APPROACH SLABS, DIAPHRAGMS, AND BRIDGE RAILING CONCRETE (WHEN APPLICABLE) ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED. USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING SIMILAR TO TEXAS RAILING AND MACRO-SYNTHETIC CONCRETE PER THIS SPECIFICATION ON TRADITIONAL CONCRETE RAILING WHEN APPLICABLE.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508. PERMANENT STAY-IN-PLACE (SIP) FORMS ARE NOT ALLOWED. THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

LOCATE THE LOWER CONTACT POINT OF THE OVERHANG FALSEWORK AT LEAST 32 INCHES ±2 IN. ABOVE THE TOP OF THE GIRDER'S BOTTOM FLANGE. THE BRACKET CONTACT POINT LOCATION REQUIREMENTS OF C&MS 508 DO NOT APPLY.

ITEM SPECIAL - WICK DRAINS

WICK DRAINS SHALL BE INSTALLED AS SHOWN BELOW WITHIN THE LIMITS IN THE TABLE ACCORDING TO THE PROJECT SPECIAL PROVISION AND THE MANUFACTURER'S RECOMMENDATIONS. EACH WICK DRAIN COVERS AN AREA OF 43.3 SQUARE FEET (5'X5'/TAN 30°) THE FOLLOWING TABLE PROVIDES A SUMMARY OF THE WICK DRAINS SPECIFIED FOR INSTALLATION.



WICK DRAIN SPACING

WICK DRAIN								
LOCATION	FROM STATION	TO STATION	LIMIT LEFT SIDE	LIMIT RIGHT SIDE	AREA SQ. FT.	BOTTOM TIP ELEV.	NO. OF DRAINS	WICK DRAINS (FT)
REAR	104+50	106+20	100'	80'	30,600	590	726	13,794
FORWARD	111+00	112+50	50'	40'	13,500	581	311	10,263

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE TEMPORARY ACCESS FILL (TAF), IF REQUIRED FOR DEMOLITION OF EXISTING BRIDGE, SHALL BE CONSTRUCTED OF CLEAN, STABILIZED, NON-ERODIBLE FILL MATERIAL AND SHALL BE NO LARGER THAN THE MAXIMUM LIMITS SHOWN IN THE PLANS ON SHEET 160 OF 256. THE SIZE OF THE TAF SHALL BE CONSTRUCTED TO THE ABSOLUTE MINIMUM SIZE REQUIRED TO PERFORM THE WORK. THE USE OF NEW OR USED CONCRETE, ASPHALT, OR OTHER EARTHEN DEBRIS IS NOT PERMITTED. ALL FILL MATERIALS SHALL BE WASHED PRIOR TO PLACEMENT TO REMOVE FINE PARTICULATE MATTER SUCH AS SILT, CLAY AND SOIL. THE SCENIC RIVER COORDINATOR SHALL HAVE THE OPPORTUNITY TO INSPECT ALL TAF MATERIALS PRIOR TO PLACEMENT INTO THE LITTLE MIAMI RIVER. FILL MATERIAL SHALL BE SIZED APPROPRIATELY TO PREVENT LOSS OF MATERIAL DOWNSTREAM.

FILTER FABRIC SHALL BE PLACED ON THE EXISTING RIVER BED PRIOR TO PLACEMENT OF FILL MATERIALS TO ENSURE THAT THE EXISTING RIVER BED IS NOT DISTURBED DURING DEMOLITION OF EXISTING BRIDGE. THE FILTER FABRIC SHALL BE REMOVED WITH THE FILL UPON COMPLETION OF WORK IN THE RIVER.

MATERIALS PLACED IN THE RIVER SHALL BE REMOVED IMMEDIATELY FOLLOWING BRIDGE DEMOLITION WORK. STREAM BOTTOM ELEVATIONS SHALL BE DETERMINED BEFORE IN-STREAM WORK COMMENCES TO ENSURE THAT ALL FILL MATERIAL AND DEBRIS IS COMPLETELY REMOVED. THE STREAM BED SHALL BE RESTORED TO PRE-CONSTRUCTION CONTOURS AND ELEVATIONS.

AT THE CONTRACTOR'S OPTION, ALTERNATIVE MEANS MAY BE USED TO ACCESS THE EXISTING SPANS AND PIERS IN THE RIVER, INCLUDING WATER DIVERSION BY USE OF SHEET PILING, MEMBRANE DAMS, ETC..

ALL MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS REQUIRED TO PROVIDE ACCESS FOR DEMOLITION OF THE EXISTING BRIDGE SHALL BE INCLUDED IN THE PAY ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.

ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN

PRIOR TO THE INSTALLATION OF WICK DRAINS, EXISTING GROUND SURFACE SHALL BE CLEARED AND GRUBBED. PROVIDE A MINIMUM 36-INCH THICK LAYER OF GRANULAR MATERIAL CONFORMING TO 703.02A OVER THE LIMITS DETAILED IN THE ABOVE TABLE TO THE TOP OF WORKING PLATFORM ELEVATION. TOP OF WORKING PLATFORM SHALL BE AT ELEV. 609 AT REAR APPROACH AND ELEV. 614 AT FORWARD APPROACH. PRIOR TO PLACEMENT OF GRANULAR MATERIAL, GRADE THE BOTTOM OF THE PLACEMENT AREA TO PROVIDE POSITIVE DRAINAGE (MINIMUM 1% SLOPE) BEFORE, DURING, AND AFTER ANTICIPATED SETTLEMENT HAS OCCURRED IN FOUNDATION SOILS. AFTER INSTALLATION OF THE WICK DRAINS, PLACE AN ADDITIONAL 12 INCHES OF GRANULAR MATERIAL OVERTOP OF THE CUT OFF WICK DRAINS. PLACE AND COMPACT THE GRANULAR MATERIAL IN ACCORDANCE WITH ITEM 203.

PAYMENT FOR ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 203 GRANULAR EMBANKMENT, AS PER PLAN AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.



DESIGN AGENCY
DATE 10/8/21
REVIEWED BSM
STRUCTURE FILE NUMBER 8335002

DRAWN ALH
CHECKED EDA

GENERAL NOTES (2)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
PID No. 106724

ITEM SPECIAL - SETTLEMENT PLATFORM:

DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. SEE SETTLEMENT PLATFORM DETAIL THIS SHEET. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN WEEKLY BEGINNING WITH THE FIRST WEEK FOLLOWING PLACEMENT OF EACH PLATFORM AND DURING ANY SPECIFIED WAITING PERIOD. READINGS SHALL BE TAKEN MONTHLY DURING ANY CONSOLIDATION OR OFF-SEASON TIMES. THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO ODOT, CO, CONSTRUCTION MANAGEMENT/CONSTRUCTION ADMINISTRATION, GEOTECHNICAL AND EARTHWORK ENGINEER AND ODOT, CO, OFFICE OF GEOTECHNICAL ENGINEERING, FOUNDATIONS AND RETAINING WALLS ENGINEER, AFTER EACH SETTLEMENT READING IS RECORDED.

MATERIAL: SOUND LUMBER SUCH AS 3/4" EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 2 1/2" STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 36" X 36" X 1/8" MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.

CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE SETTLEMENT PLATFORM DETAILS SHOWN ON THIS SHEET. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.

SETTLEMENT PLATFORMS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

I.D.	STATION	OFFSET
SP1	105+75	18' LT.
SP2	105+75	18' RT.
SP3	111+20	18' LT.
SP4	112+00	24' RT.

PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF TWO FEET BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.

REFER TO ODOT GEOTECHNICAL BULLETIN GB4 "GUIDELINES FOR THE USE OF GEOTECHNICAL INSTRUMENTATION" FOR ADDITIONAL INSTALLATION AND MONITORING INSTRUCTION.

WAITING PERIOD CRITERIA:

THE ENGINEER WILL CONSIDER THE WAITING PERIOD COMPLETE WHEN CONSECUTIVE SETTLEMENT READINGS, RECORDED AFTER EMBANKMENT CONSTRUCTION IS COMPLETE AND AT LEAST ONE WEEK (168 HOURS) APART, RESULT IN ELEVATION DIFFERENCES EQUAL TO OR LESS THAN 1/8 INCH. THE ESTIMATED WAITING PERIOD IS 30 CALENDAR DAYS WITH THE USE OF WICK DRAINS.

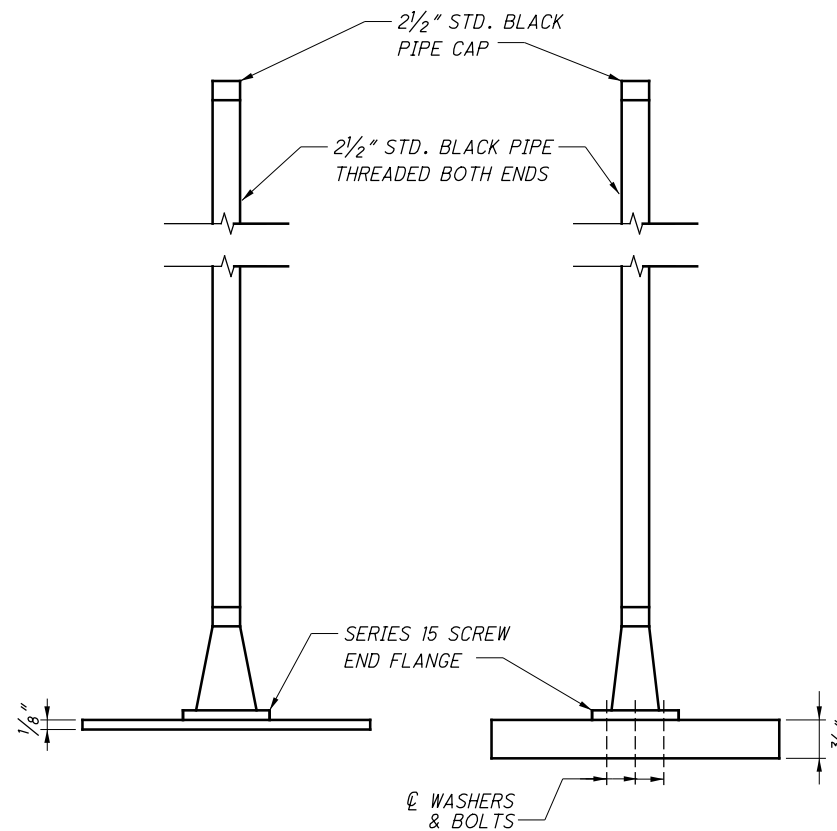
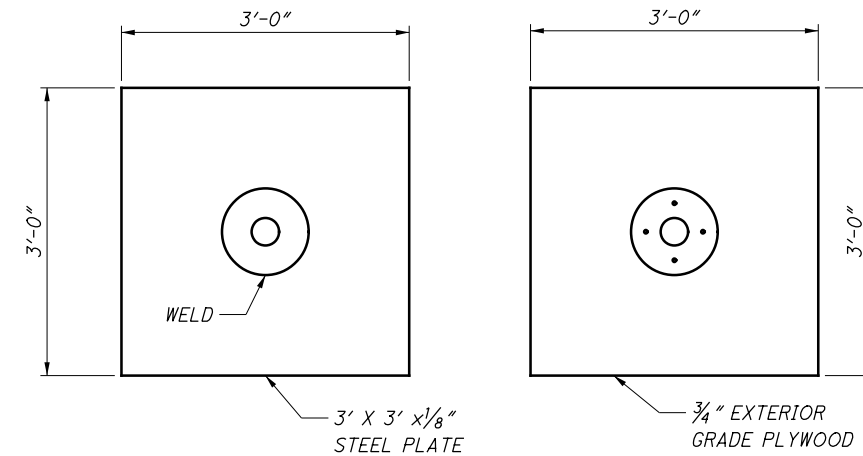
IF SETTLEMENT RATES EXCEED 3/4 INCH PER MONTH AFTER EMBANKMENT CONSTRUCTION HAS BEEN COMPLETE FOR 45 CALENDAR DAYS, REMAINING CONSTRUCTION, INCLUDING ANY NECESSARY CORRECTIVE MEASURES, MAY PROCEED ONLY AT THE DIRECTION OF THE ENGINEER.

THE WARREN COUNTY ENGINEER'S OFFICE WILL CONSIDER VIBRATING WIRE SETTLEMENT MONITORING PLATFORMS IN LIEU OF THE CONVENTIONAL SETTLEMENT PLATFORMS. THE CONTRACTOR SHOULD PROVIDE DETAILS OF THE PROPOSED VIBRATING WIRE SETTLEMENT PLATFORMS AS WELL AS DESIGN DRAWINGS OF THE PROPOSED 30 DAYS PRIOR TO CONSTRUCTION. THE ENGINEER'S OFFICE WILL REQUIRE 10 WORKING DAYS FOR REVIEW AND APPROVAL. THE DESIGN DRAWINGS SHOULD ILLUSTRATE THE LOCATIONS WITH ALL EXISTING AND PROPOSED SITE FEATURES TO VERIFY THE PROPOSED CABLING WILL NOT CONFLICT WITH EXISTING FACILITIES, PROPOSED FACILITIES OR UTILITIES. NO ADDITIONAL PAYMENT WILL BE PROVIDED IF THE CONTRACTOR ELECTS TO UTILIZE VIBRATING WIRE SETTLEMENT PLATFORMS.

MORE INFORMATION PERTAINING TO EMBANKMENT CONSTRUCTION AND CONTROLLED RATES OF FILL ARE PROVIDED IN THE ROADWAY PLANS.

METHOD OF MEASUREMENT, THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL - SETTLEMENT PLATFORM" WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS. SEE DETAIL THIS SHEET.



SETTLEMENT PLATFORM

(NOT TO SCALE)

NOTES:

1. SETTLEMENT PLATFORMS SHALL BE ANCHORED BY STAKES DRIVEN AT EACH CORNER TO PREVENT OVERTURNING.

ABBREVIATIONS:

- ABUT - ABUTMENT
- APPROX. - APPROXIMATE
- BRG. - BEARING
- B/- - BOTTOM OF
- CL - CENTERLINE
- CONC. - CONCRETE
- CLR. - CLEARANCE
- CONSTR. - CONSTRUCTION
- DIA. - DIAMETER
- EF - EACH FACE
- EL. - ELEVATION
- EQ. - EQUAL
- EST. - ESTIMATED
- EXIST. - EXISTING
- FF - FAR FACE
- FNDN. - FOUNDATION
- FTG. - FOOTING
- F/F - FACE TO FACE
- JT. - JOINT
- LT. - LEFT
- MAX. - MAXIMUM
- MIN. - MINIMUM
- NF - NEAR FACE
- PAVT. - PAVEMENT
- PEUF - PREFORMED EXPANSION JOINT FILLER
- REF. - REFERENCE
- RF - RIGHT FORWARD
- REINF. - REINFORCED
- RT. - RIGHT
- SP - SETTLEMENT PLATFORM
- SPA. - SPACE
- STA. - STATION
- TYP. - TYPICAL
- T/- - TOP OF
- T/T - TOE TO TOE
- T&B - TOP AND BOTTOM
- VAR. - VARIES
- REQ'D - REQUIRED



DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8335002
DATE	10/8/21		

GENERAL NOTES (3)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
PID No. 106724

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ESTIMATED QUANTITIES

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11002	LUMP	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN				LUMP	
SPECIAL	203E07504	24,057	FT	WICK DRAIN				24,057	
203	35001	4900	CY	GRANULAR EMBANKMENT, AS PER PLAN				4900	5/38
SPECIAL	203E65000	4	EACH	SETTLEMENT PLATFORM				4	
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING				LUMP	
503	11101	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	5/38
503	21301	LUMP	LS	UNCLASSIFIED EXCAVATION, AS PER PLAN				LUMP	4/38
505	11100	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00100	3800	FT	STEEL PILES HPI0X42, FURNISHED	3800				
507	00150	3480	FT	STEEL PILES HPI0X42, DRIVEN	3480				
507	93300	40	EACH	STEEL POINTS OR SHOES	40				
509	10000	297,785	LB	EPOXY COATED REINFORCING STEEL	32,189	26,285	239,311		
509	30020	15,793	FT	NO. 4 GFRP DEFORMED BARS			15,793		
511	40512	171	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		171			
511	44112	187	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	187				
511	46512	326	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	326				
511	53014	963	CY	CLASS QC3 CONCRETE, MISC.: CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			963		5/38, 27/38
512	10100	2041	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	233	213	1595		
512	10400	2737	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS			2737		
513	10401	2,172,800	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN			2,172,800		21/38
513	20000	3990	EACH	WELDED STUD SHEAR CONNECTORS			3990		
516	11210	98	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			98		
516	44200	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (13" X 27" X 3.948")			5		
516	44300	5	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (17" X 28" X 4.848")			5		
517	75121	517	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING), AS PER PLAN			517		29/38
518	21200	168	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	168				
518	40000	164	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	164				
518	40010	50	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	50				
524	94802	1226	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK		1226			
524	94804	149	FT	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK		149			
526	30011	236	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				236	33/38
526	90010	80	FT	TYPE A INSTALLATION				80	
845	62000	78,023	SF	FIELD METALLIZING OF EXISTING STRUCTURAL STEEL			78,023		
867	00101	LUMP	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN				LUMP	10/38
869	00100	5	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS			5		

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DESIGN AGENCY
 DATE 10/8/21
 REVIEWED BSM
 STRUCTURE FILE NUMBER 8335002

DRAWN ALH
 CHECKED EDA
 REVISIONS

ESTIMATED QUANTITIES
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

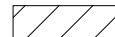
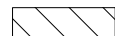
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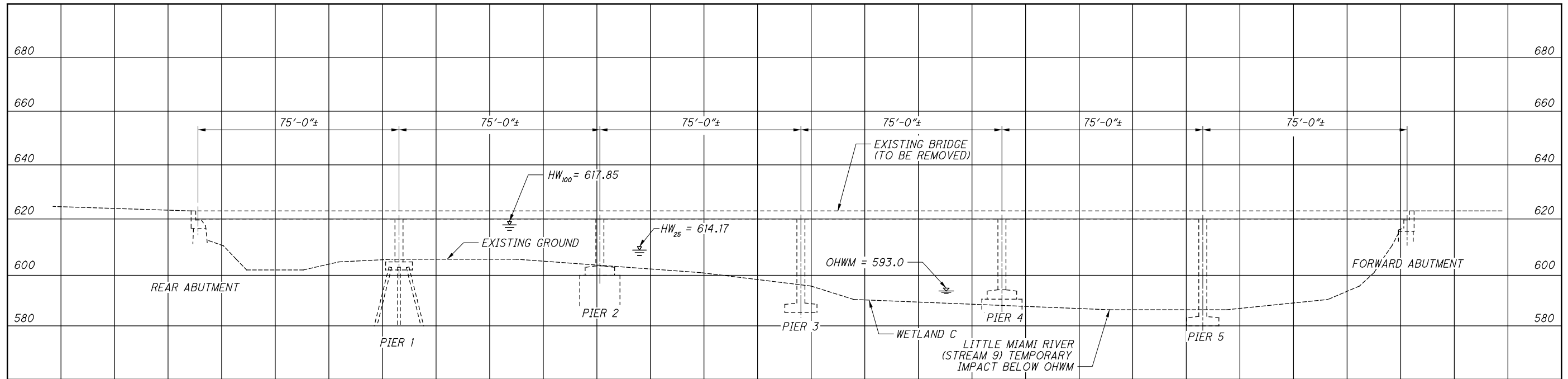
PLAN

-  TEMPORARY ACCESS FILL FOR PIER 4 REMOVAL
-  TEMPORARY ACCESS FILL FOR PIER 5 REMOVAL

NOTE: TEMPORARY ACCESS FILL FOR PIERS 4 AND 5 SHALL BE INSTALLED IN PHASES. ONLY ONE ACCESS FILL PAD MAY BE IN THE RIVER AT ANY GIVEN TIME.

WAR-CR 282-0.97 PID No. 106724	DEMOLITION PLAN (1) BRIDGE NO. WAR-282-0089 OVER LITTLE MIAMI RIVER		WARREN COUNTY STA. 105+89.76 STA. 111+09.32	DESIGNED MRS CHECKED EDA	DRAWN ALH REVISED	REVIEWED BSM STRUCTURE FILE NUMBER 8335002	DATE 10/8/21	DESIGN AGENCY  stantec Cincinnati, Ohio 45241 (513) 842-8200
	8 / 38  							

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PROFILE



DESIGN AGENCY
stantec
 1000 North Main Street
 Columbus, Ohio 43215
 (614) 842-2800

DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8335002
DATE	10/8/21		

WARREN COUNTY
 STA. 105+89.76
 STA. 111+09.32

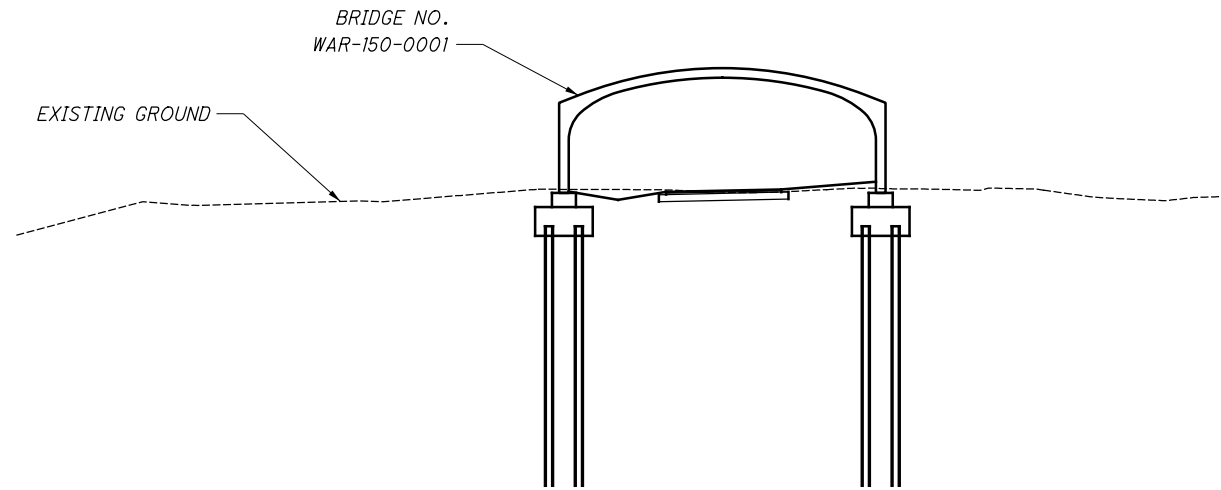
DEMOLITION PLAN (2)
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

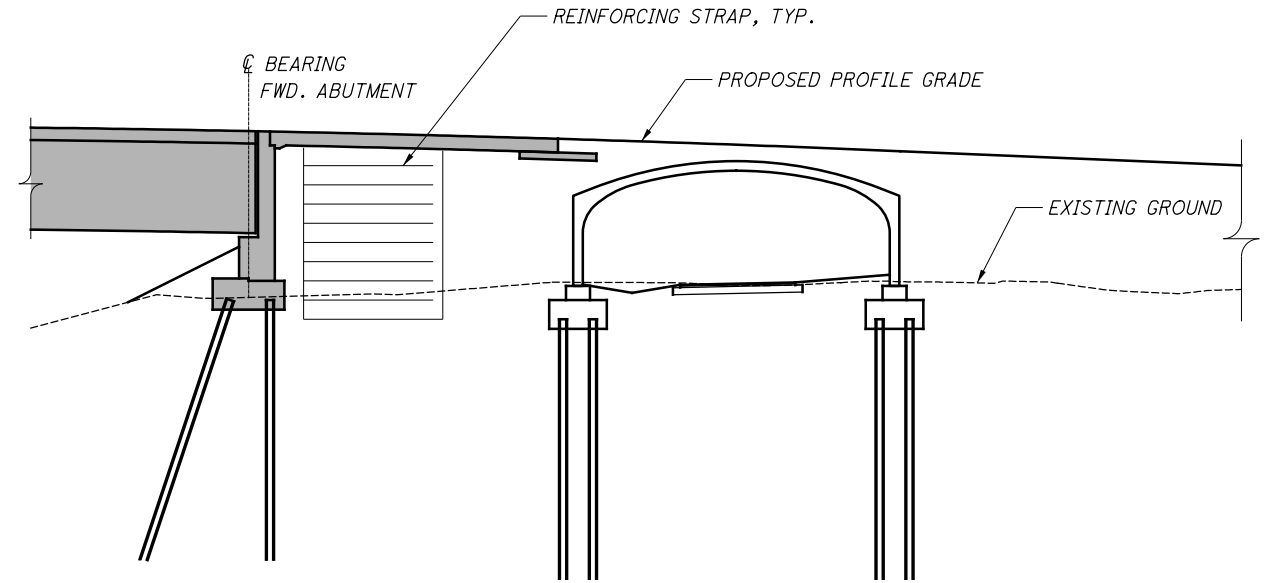
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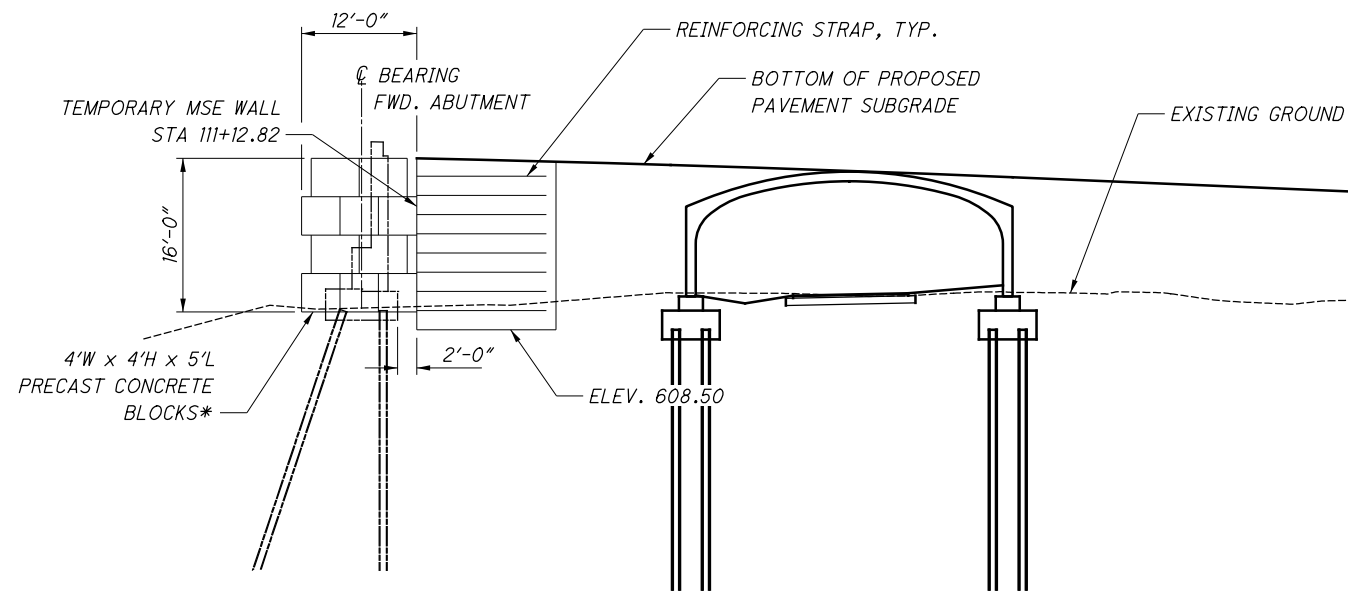
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STEP 1



STEP 3



STEP 2

*INCLUDE COST OF PROVIDING, PLACING, AND REMOVING PRECAST CONCRETE BLOCKS WITH PRICE BID FOR ITEM 867, TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN

CONSTRUCTION SEQUENCE

STEP 1

1. EXCAVATE FOR BRIDGE NO. WAR-150-0001 FOOTINGS.
2. DRIVE PILES FOR BRIDGE NO. WAR-150-0001.
3. CONSTRUCT FOOTINGS FOR BRIDGE NO. WAR-150-0001.
4. SET PRECAST SECTIONS IN PLACE FOR BRIDGE NO. WAR-150-0001. AND WATERPROOF THE STRUCTURE PER PLANS.

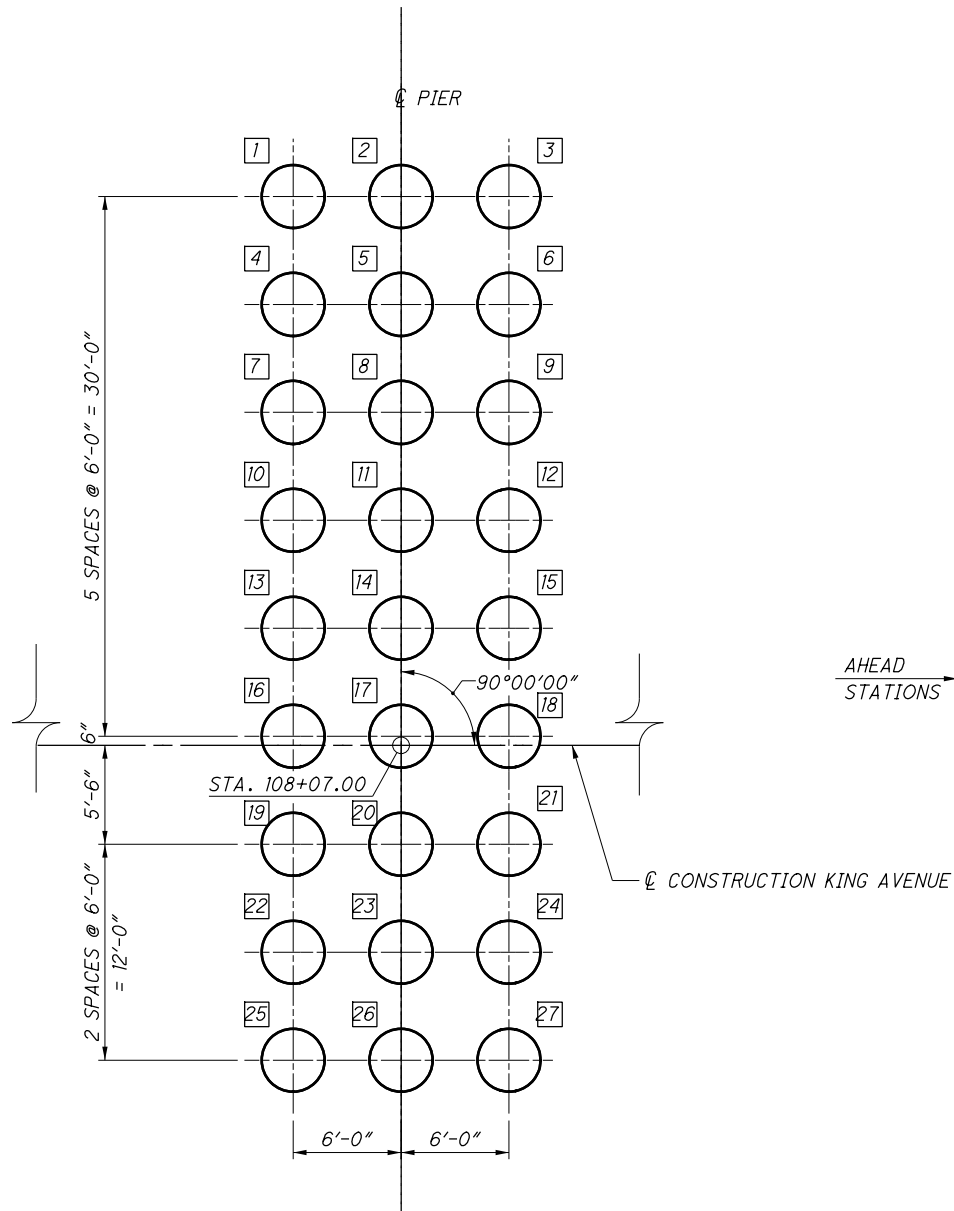
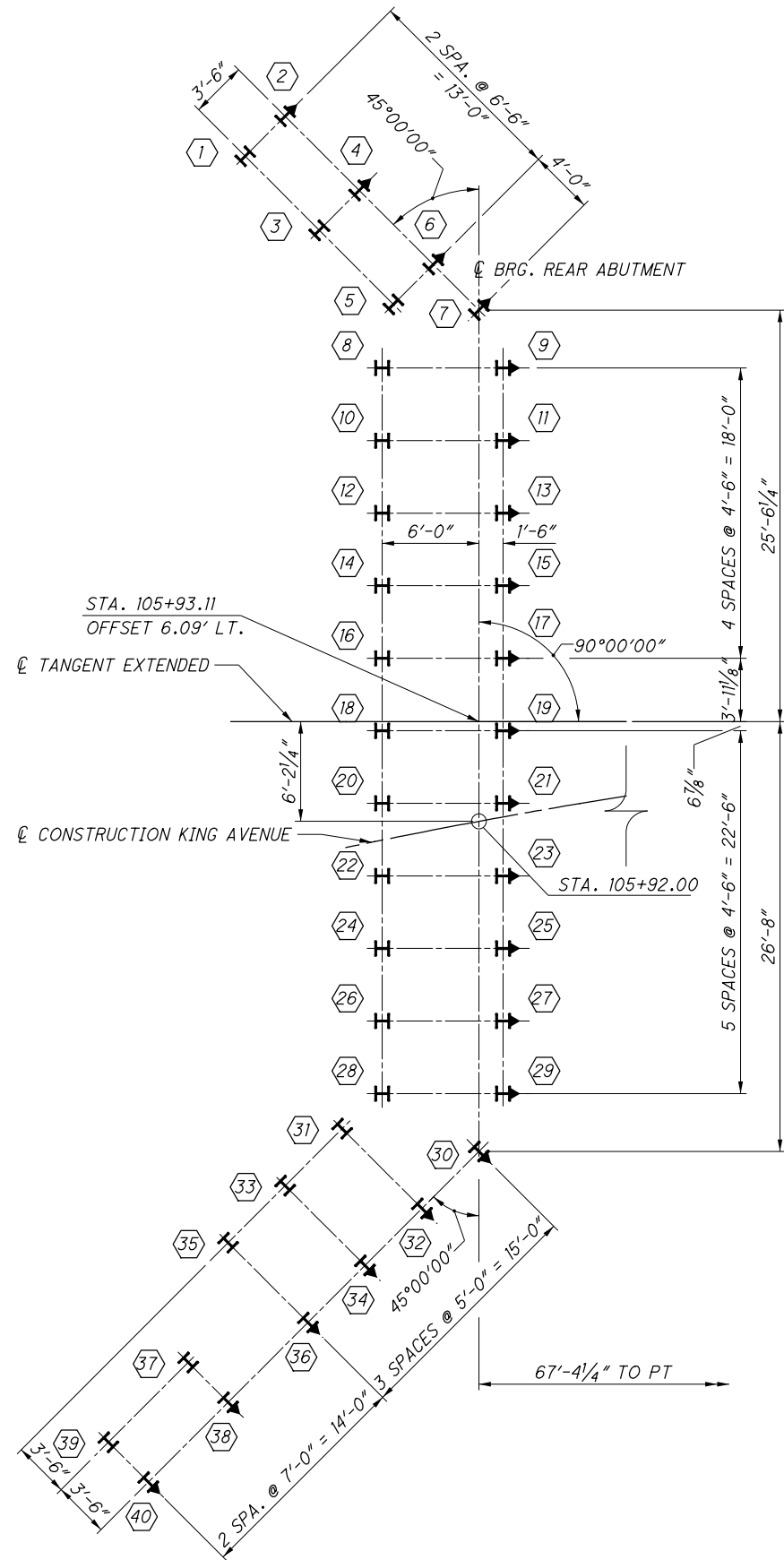
STEP 2

1. BACKFILL AROUND BRIDGE NO. WAR-150-0001 WHILE CONCURRENTLY CONSTRUCTING CONCRETE WINGWALLS AND TEMPORARY MSE WALL BEHIND FORWARD ABUTMENT.
2. ERECT PRECAST CONCRETE BLOCKS AS SHOWN IN FRONT OF MSE WALL TO PRELOAD EXISTING GROUND BELOW PROPOSED ABUTMENT. THE BLOCKS SHALL EXTEND 10 FEET BEYOND THE LIMITS OF THE ABUTMENT AND EAST WINGWALL. THE BLOCKS SHALL BE ERECTED CONCURRENTLY WITH THE CONSTRUCTION OF THE MSE WALL, APPROXIMATELY MATCHING THE HEIGHT OF THE MSE FILL.
3. ALLOW EMBANKMENT TO SETTLE FOR SPECIFIED WAITING PERIOD.

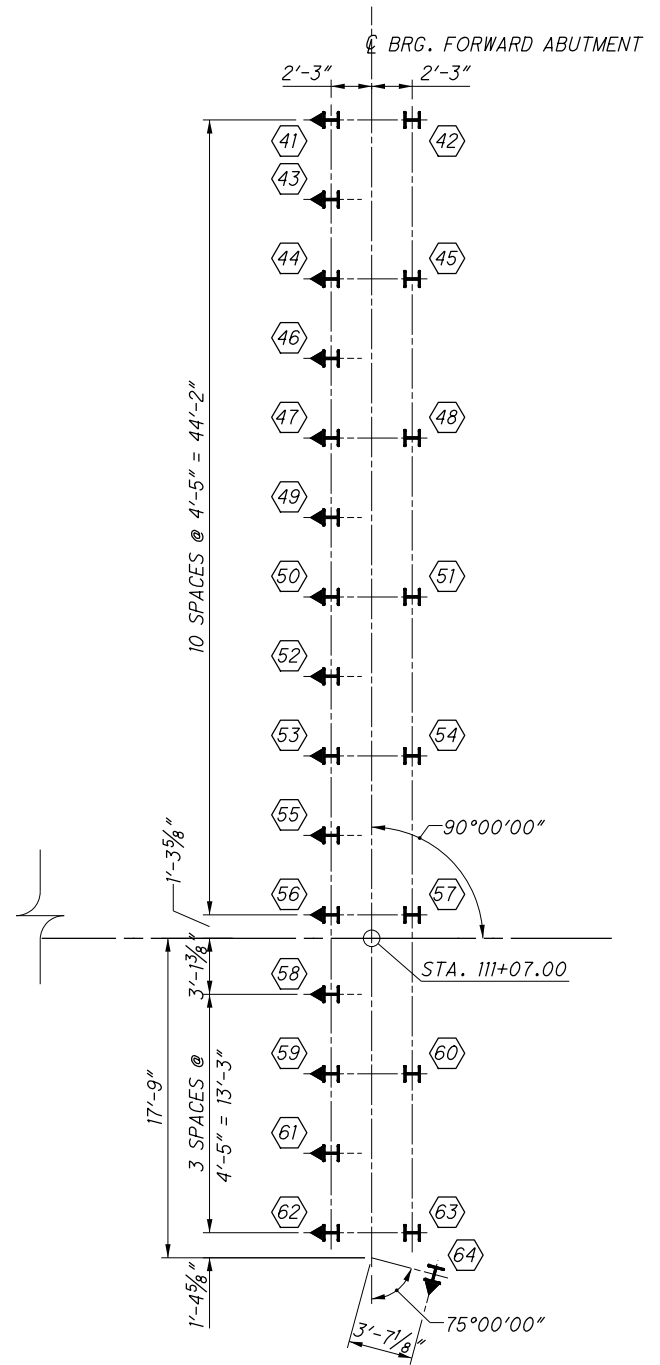
STEP 3

1. UPON COMPLETION OF SPECIFIED WAITING PERIOD, REMOVE PRECAST CONCRETE BLOCKS AND EXCAVATE FOR FORWARD ABUTMENT FOOTING.
2. DRIVE PILING FOR FORWARD ABUTMENT.
3. CONSTRUCT FORWARD ABUTMENT FOOTING.
4. CONSTRUCT REMAINDER OF ABUTMENT.
5. CONSTRUCT REMAINDER OF BRIDGE AND ROADWAY.

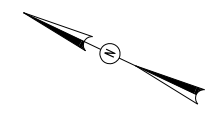
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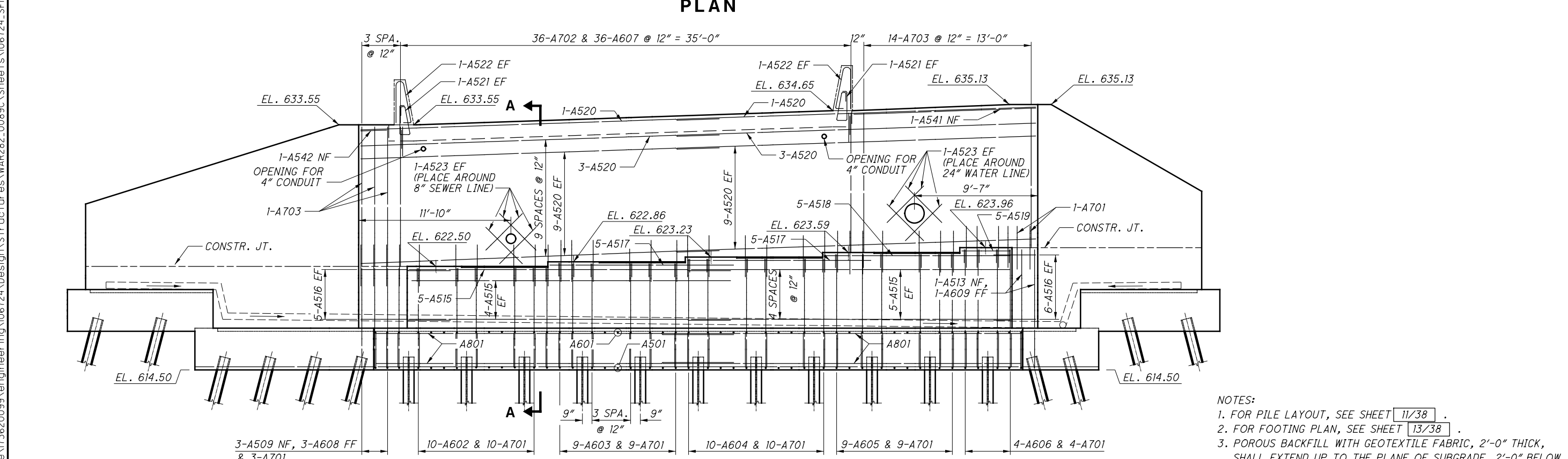
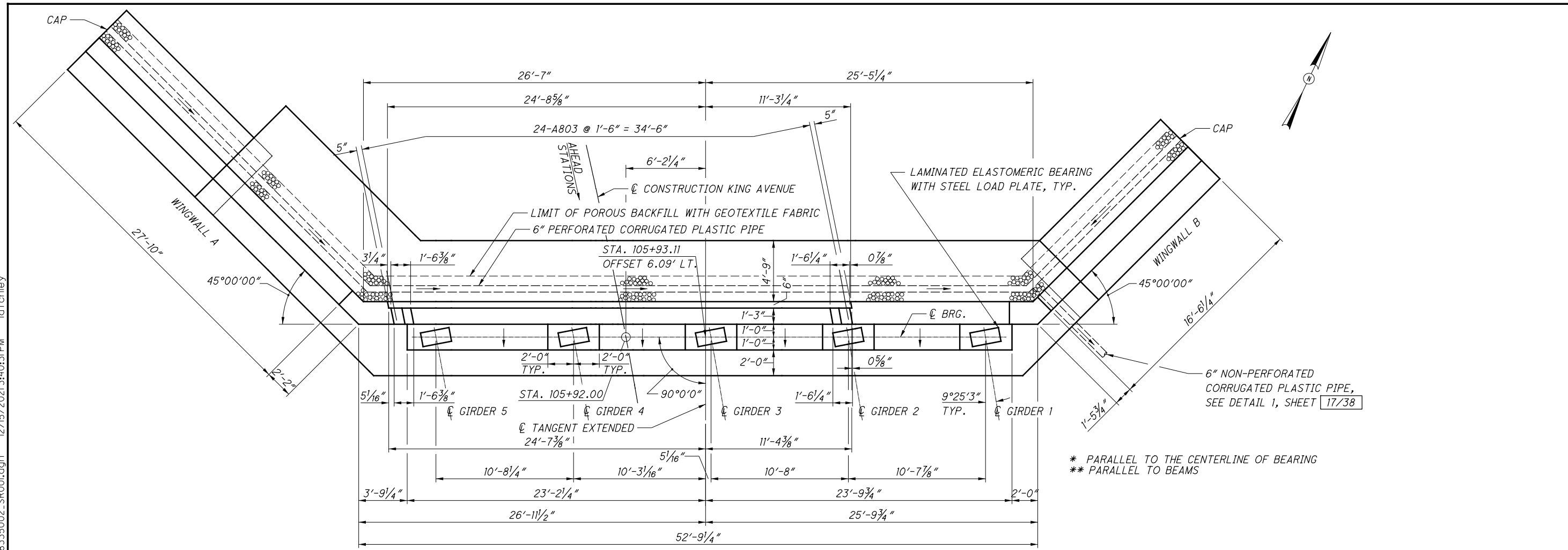
FOUNDATION PLAN



- NOTES:
1. ALL PILES ARE HP 10x42.
 2. H⁵⁵ DESIGNATES PILE NUMBER AND LOCATION.
 3. ← DENOTES PILE BATTERED 1:3 IN DIRECTION OF ARROW.
 4. ○¹⁰ DESIGNATES 42" DIA. DRILLED SHAFT AND NUMBER.



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ELEVATION

LAP LENGTHS:
 #5 BARS = 3'-3"
 #8 BARS = 5'-6"

- NOTES:
- FOR PILE LAYOUT, SEE SHEET 11/38 .
 - FOR FOOTING PLAN, SEE SHEET 13/38 .
 - POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE PLANE OF SUBGRADE, 2'-0" BELOW THE EMBANKMENT SURFACE, AND Laterally AS SHOWN.
 - FOR EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ-4-87.
 - FOR WINGWALL DETAILS, SEE SHEET 14/38 .
 - FOR SECTION A-A, SEE SHEET 15/38 .

DESIGN AGENCY: **stantec**
 DATE: 10/8/21
 REVIEWED: BSM
 DRAWN: ALH
 DESIGNED: MRS
 CHECKED: EDA

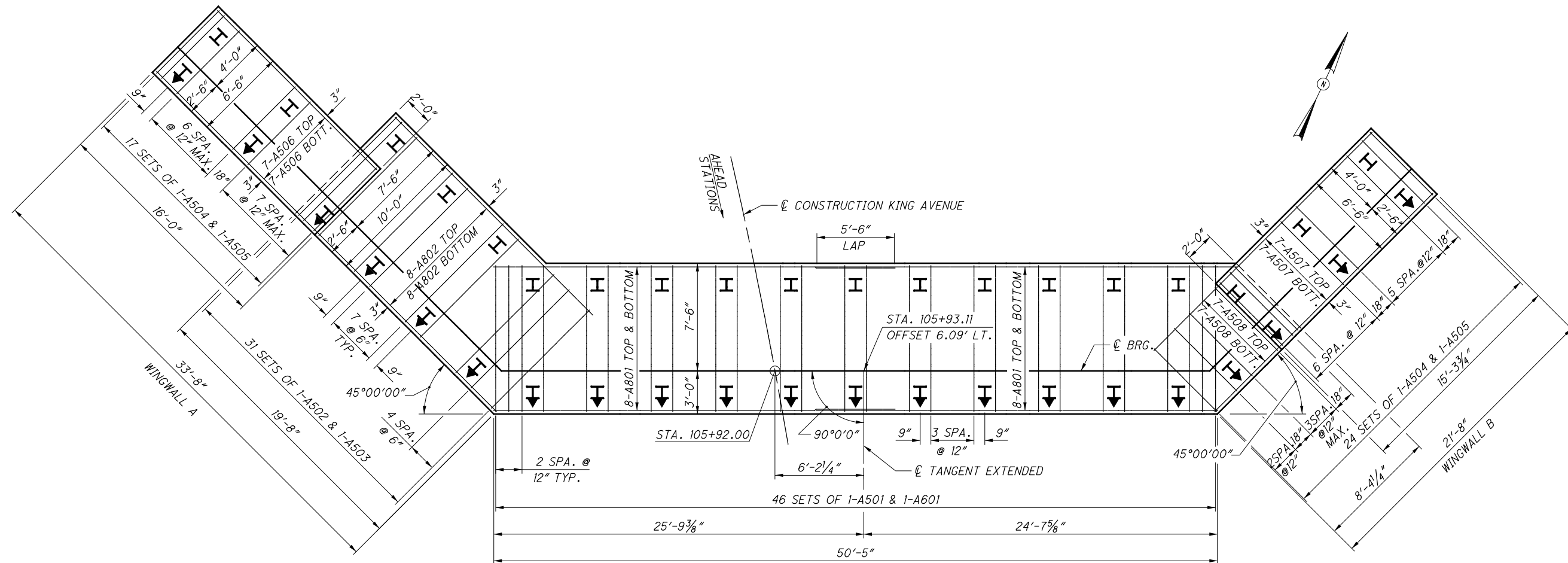
STRUCTURE FILE NUMBER: 8335002

WAR-CR 282-0.97
 PID No. 106724

REAR ABUTMENT (1)
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

12/38
 164
 256

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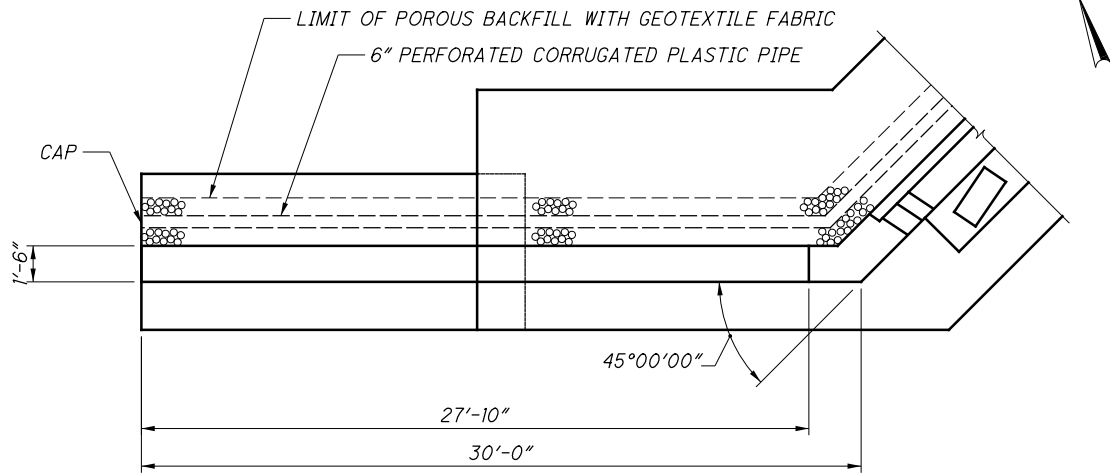


FOOTING PLAN

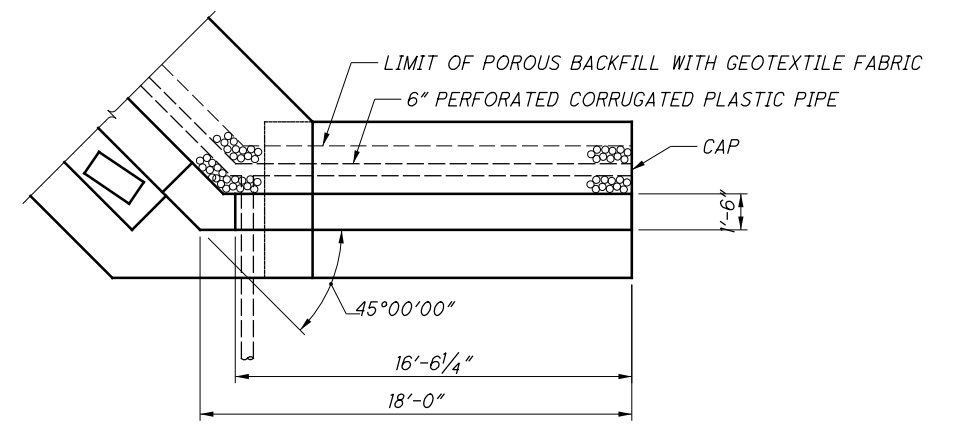
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		CHECKED EDA	REVISED	STRUCTURE FILE NUMBER 8335002	FILE NUMBER 8335002	

NOTES:
 1. FOR PILE LAYOUT, SEE SHEET 11/38 .

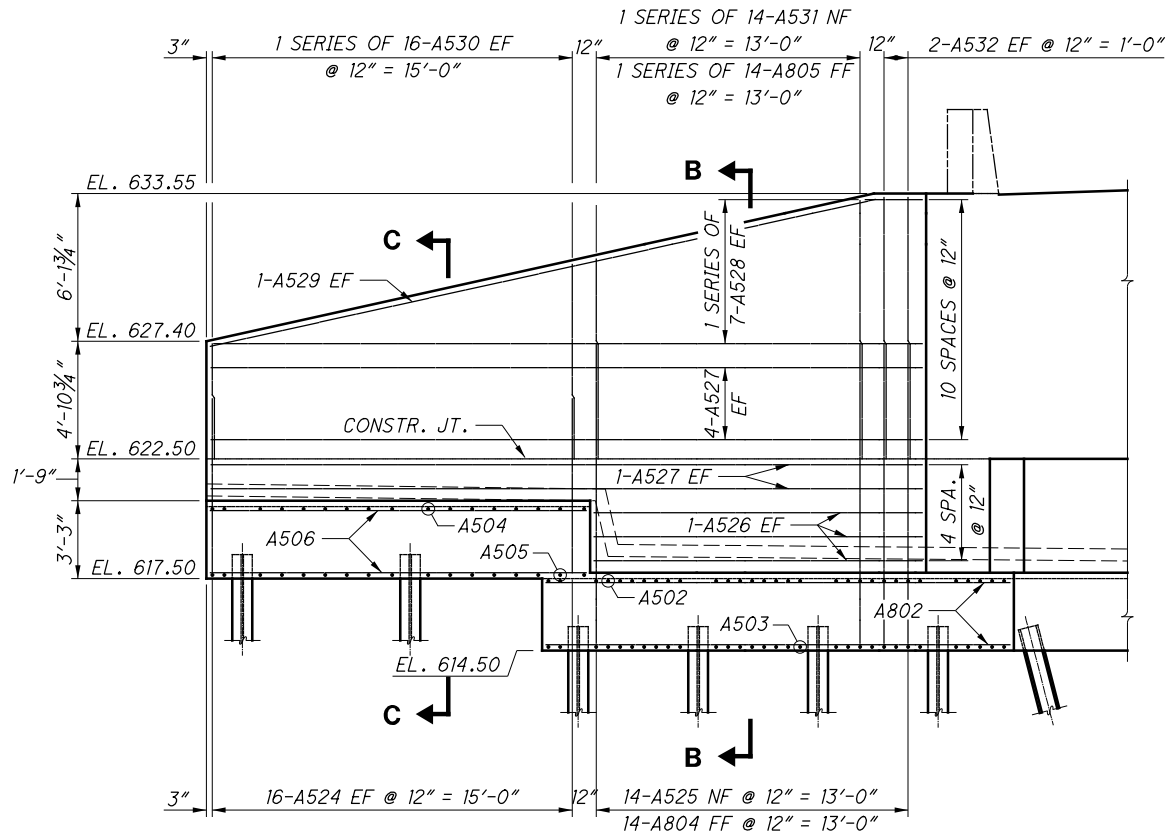
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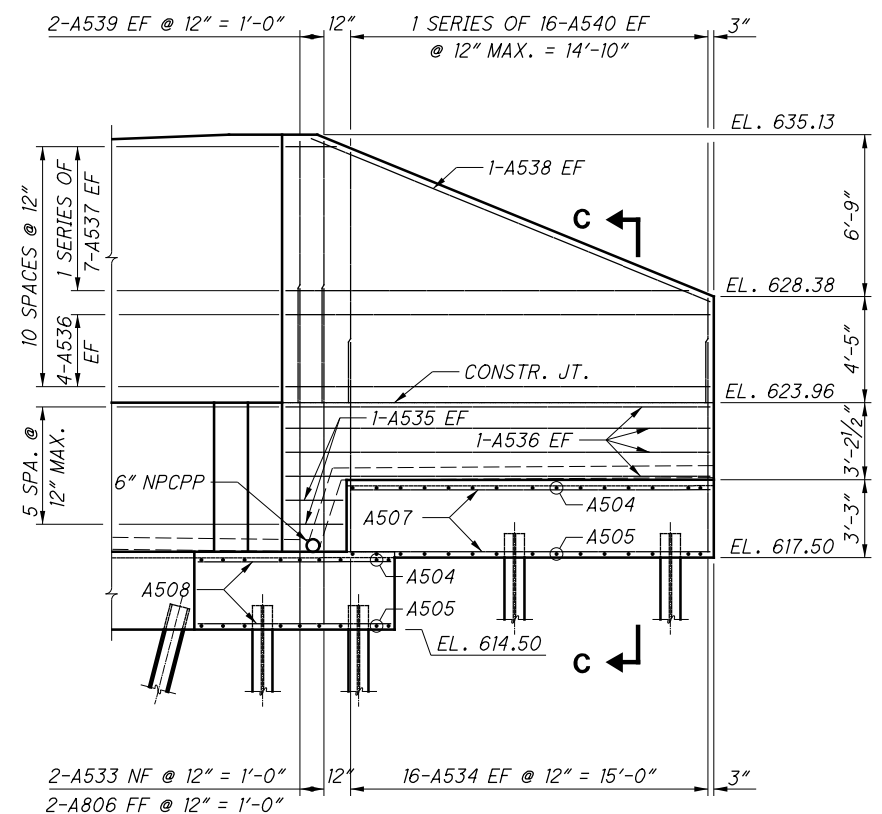
WINGWALL A PLAN



WINGWALL B PLAN



WINGWALL A ELEVATION



WINGWALL B ELEVATION

- NOTES:
1. FOR PILE LAYOUT, SEE SHEET 11/38 .
 2. FOR FOOTING PLAN, SEE SHEET 13/38 .
 3. POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE PLANE OF SUBGRADE, 2'-0" BELOW THE EMBANKMENT SURFACE, AND Laterally AS SHOWN.
 4. FOR SECTION B-B AND C-C, SEE SHEET 15/38 .

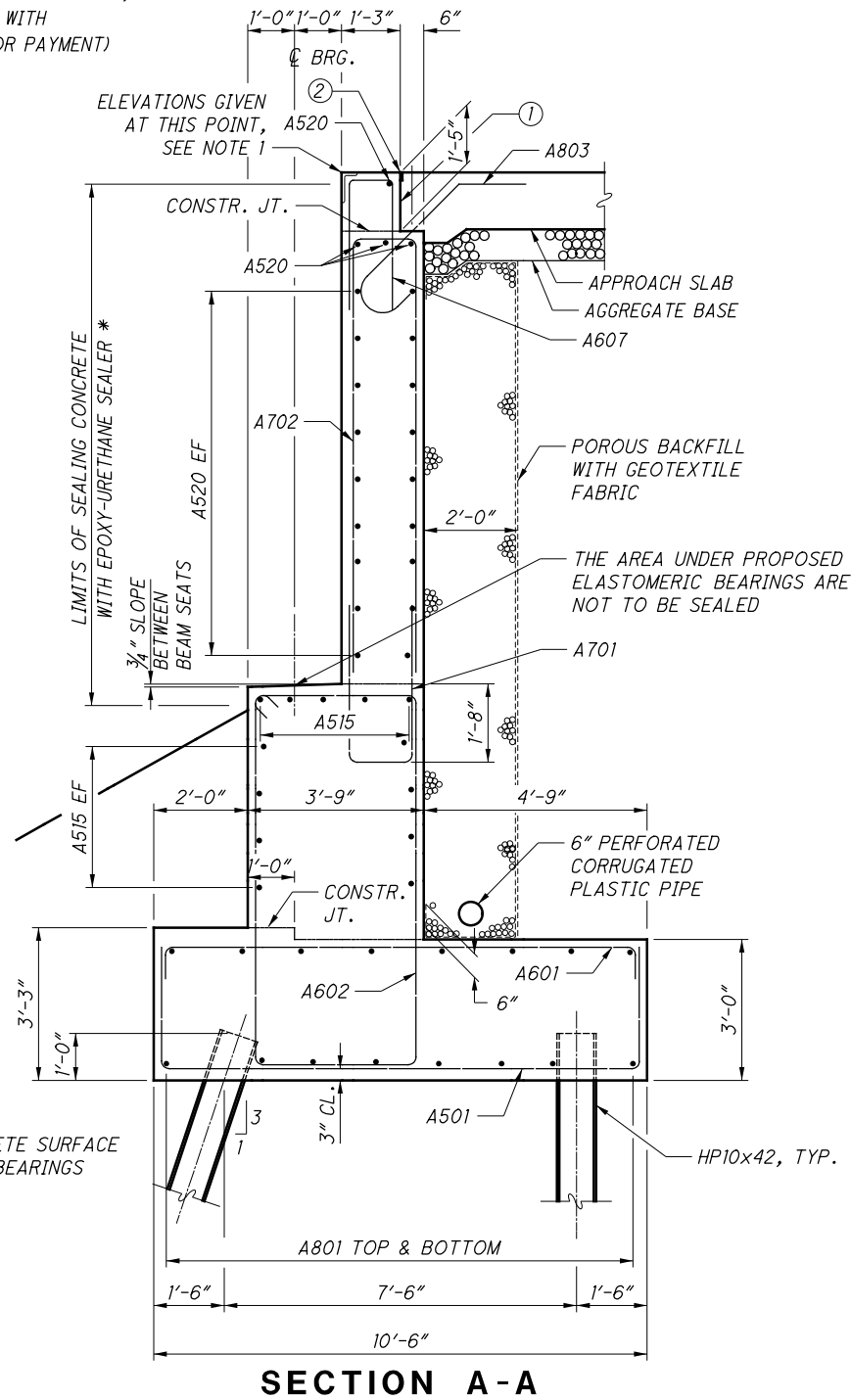


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DRAWN	ALH	REVISED	
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DATE	10/8/21		

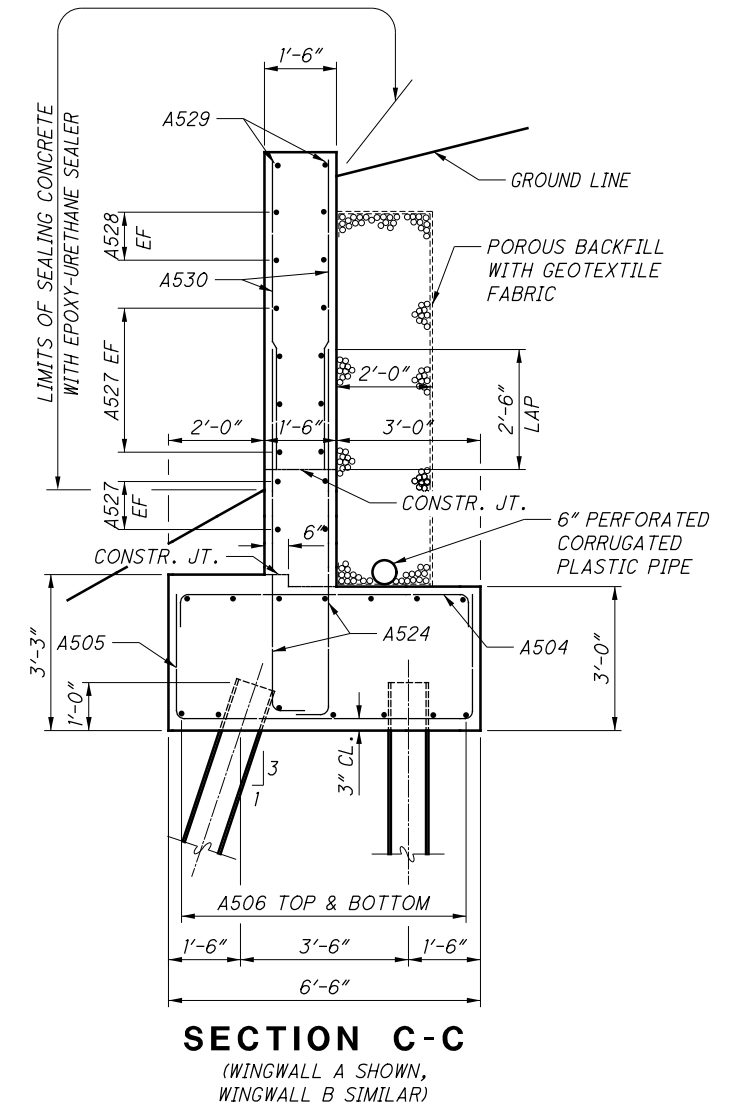
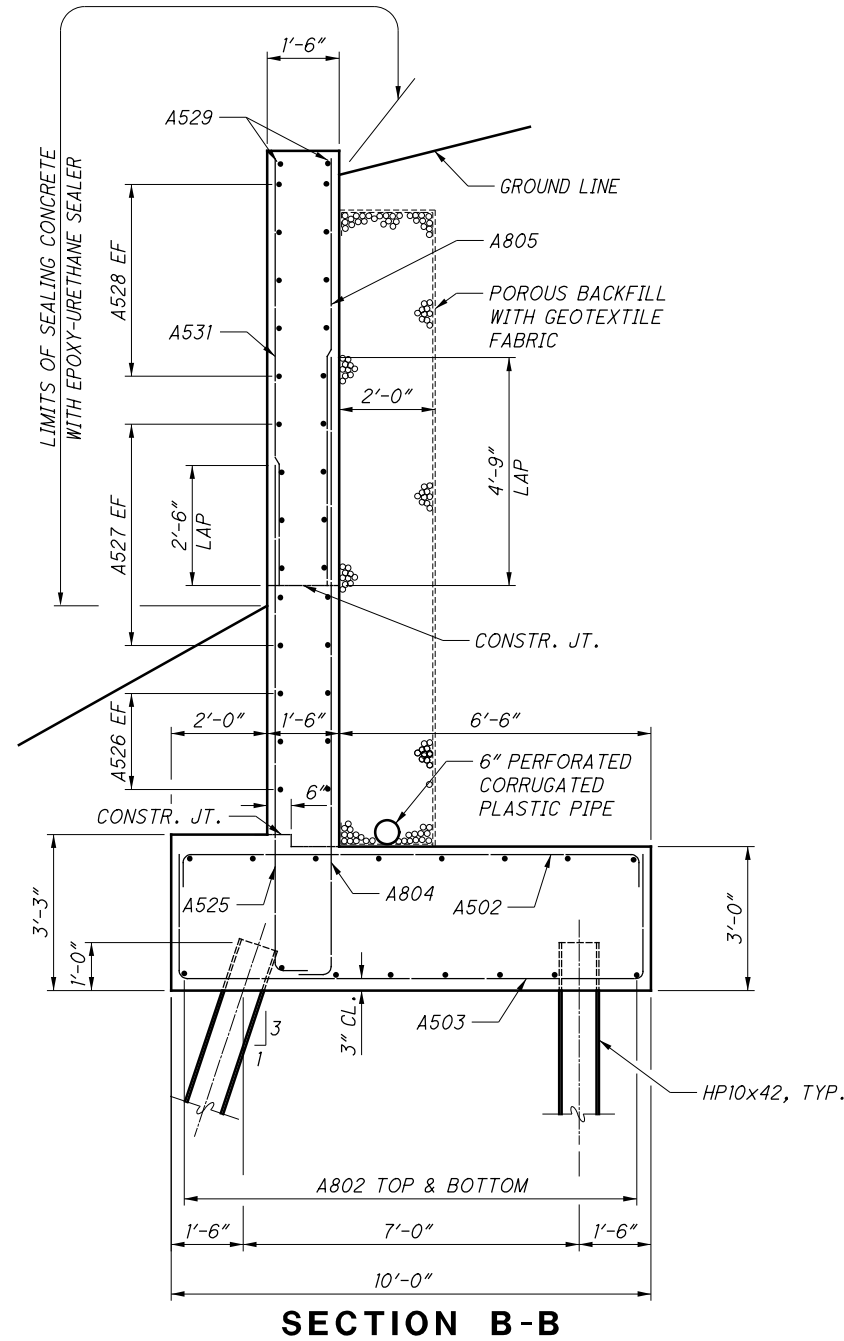
REAR ABUTMENT (3)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
PID No. 106724

- ① TYPE A WATERPROOFING (INCLUDE WITH APPROACH SLAB FOR PAYMENT)
- ② PREFORMED ELASTOMERIC JOINT SEALER. FOR ADDITIONAL DETAILS, SEE STD. DWG. AS-1-15, DETAIL B (INCLUDE WITH APPROACH SLAB FOR PAYMENT)



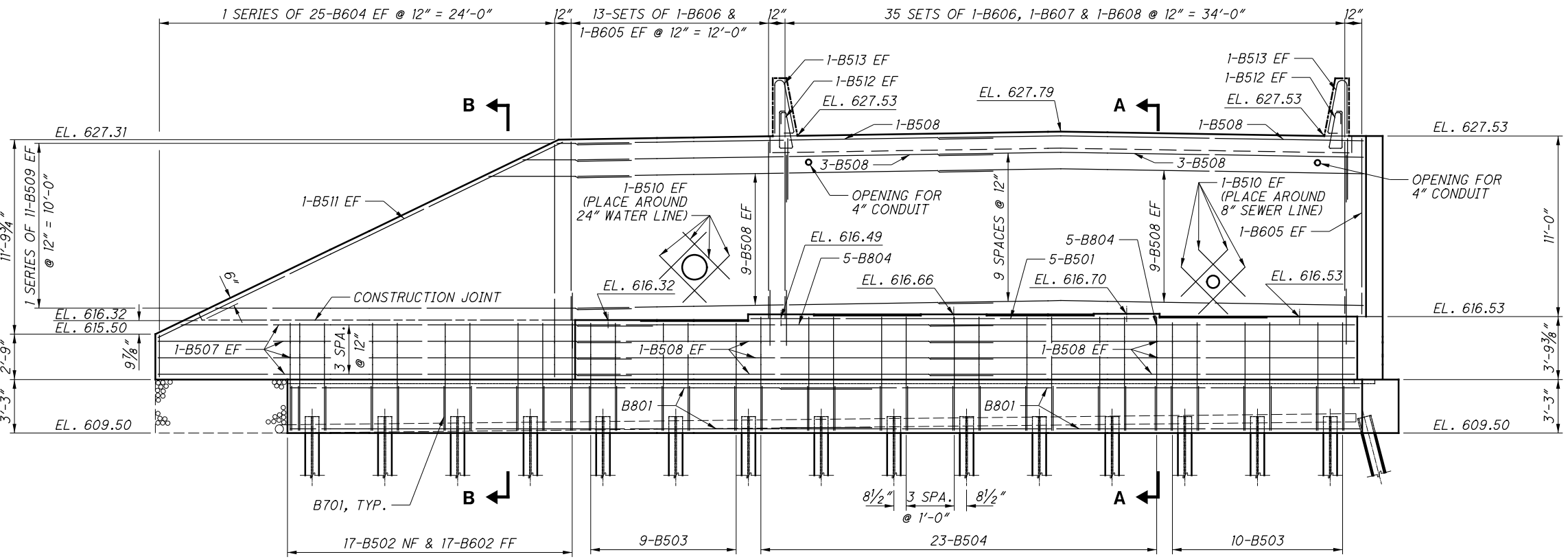
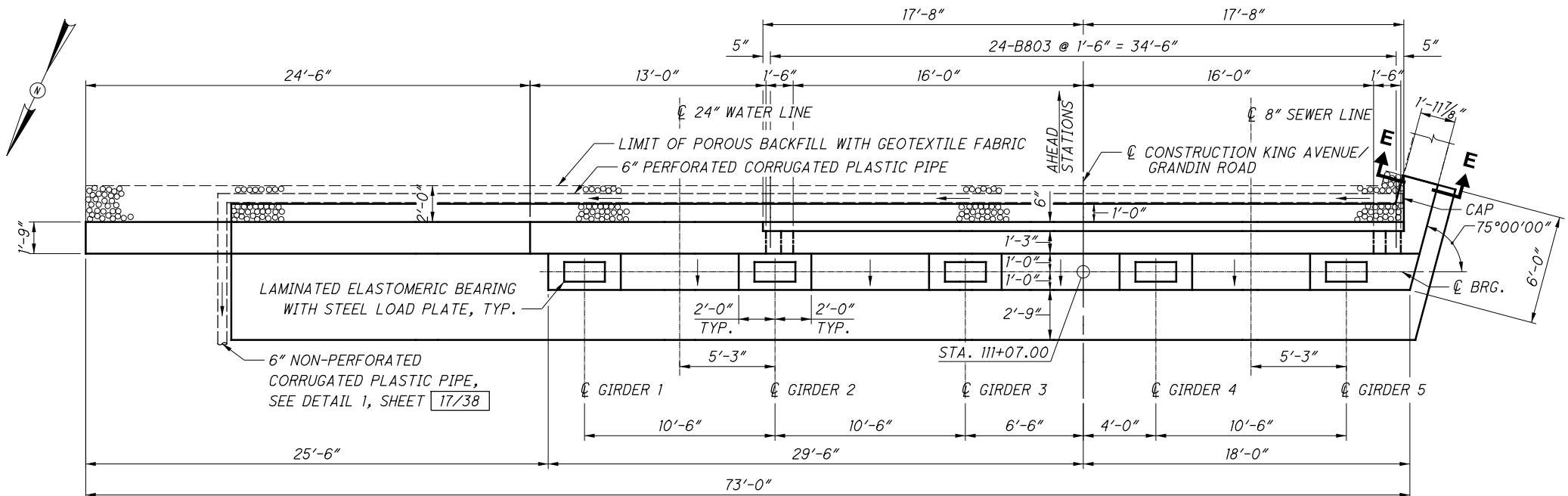
* DO NOT SEAL CONCRETE SURFACE UNDER ELASTOMERIC BEARINGS



NOTES:
1. FOR EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ-4-87.

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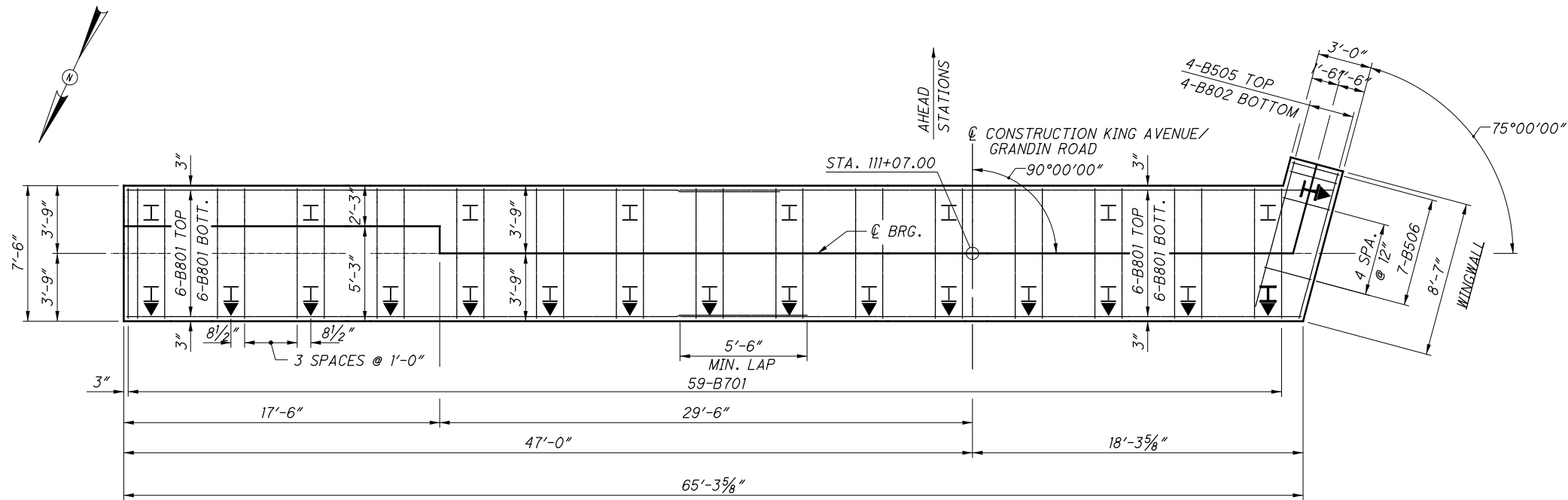
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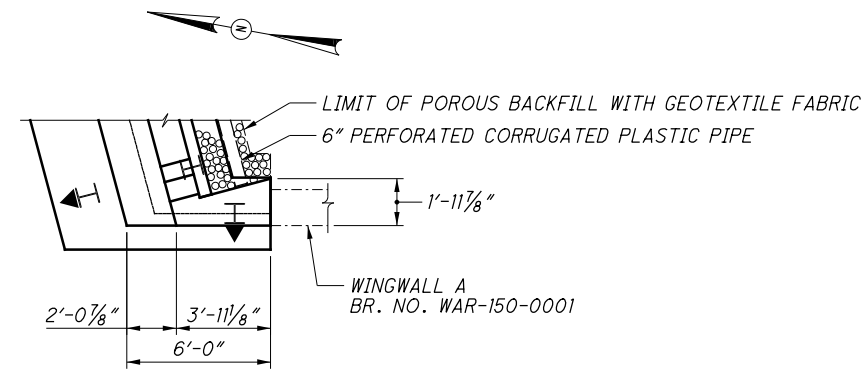
LAP LENGTHS:
 #5 BARS = 3'-3"
 #8 BARS = 5'-6"

- NOTES:
- FOR PILE LAYOUT, SEE SHEET 11/38.
 - FOR FOOTING PLAN, SEE SHEET 17/38.
 - POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE PLANE OF SUBGRADE, 2'-0" BELOW THE EMBANKMENT SURFACE, AND Laterally AS SHOWN.
 - FOR EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ-4-87.
 - FOR WINGWALL DETAILS, SEE SHEET 17/38.
 - FOR SECTIONS A-A, B-B AND E-E, SEE SHEET 18/38.

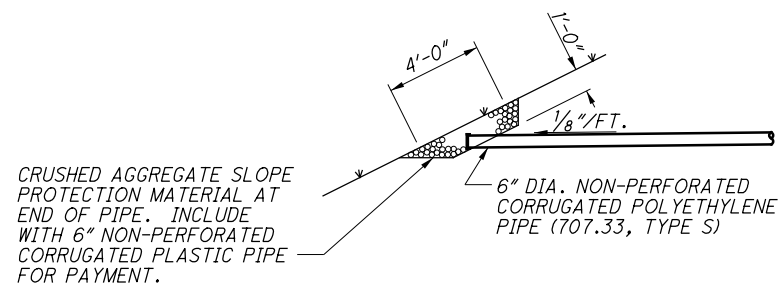
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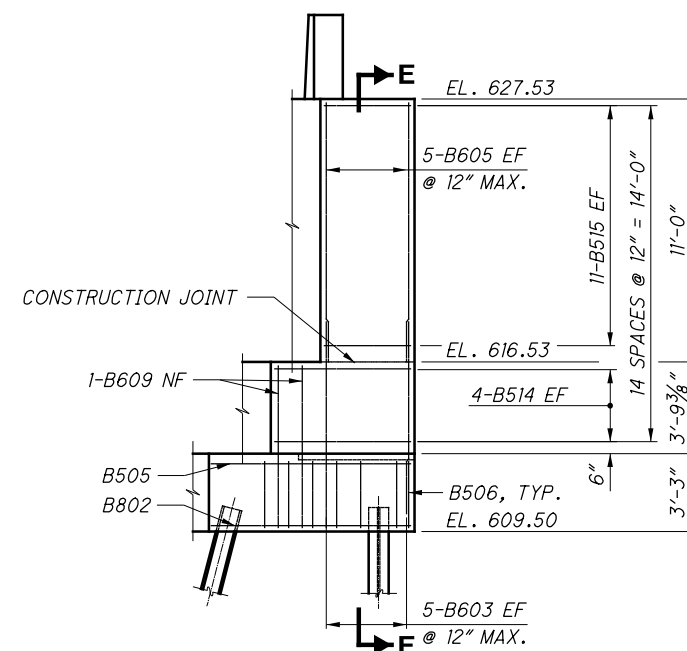
FOOTING PLAN



WINGWALL PLAN



DETAIL 1



WINGWALL ELEVATION

NOTES:
 1. FOR PILE LAYOUT, SEE SHEET 11/38 .
 2. FOR SECTION E-E, SEE SHEET 18/38 .

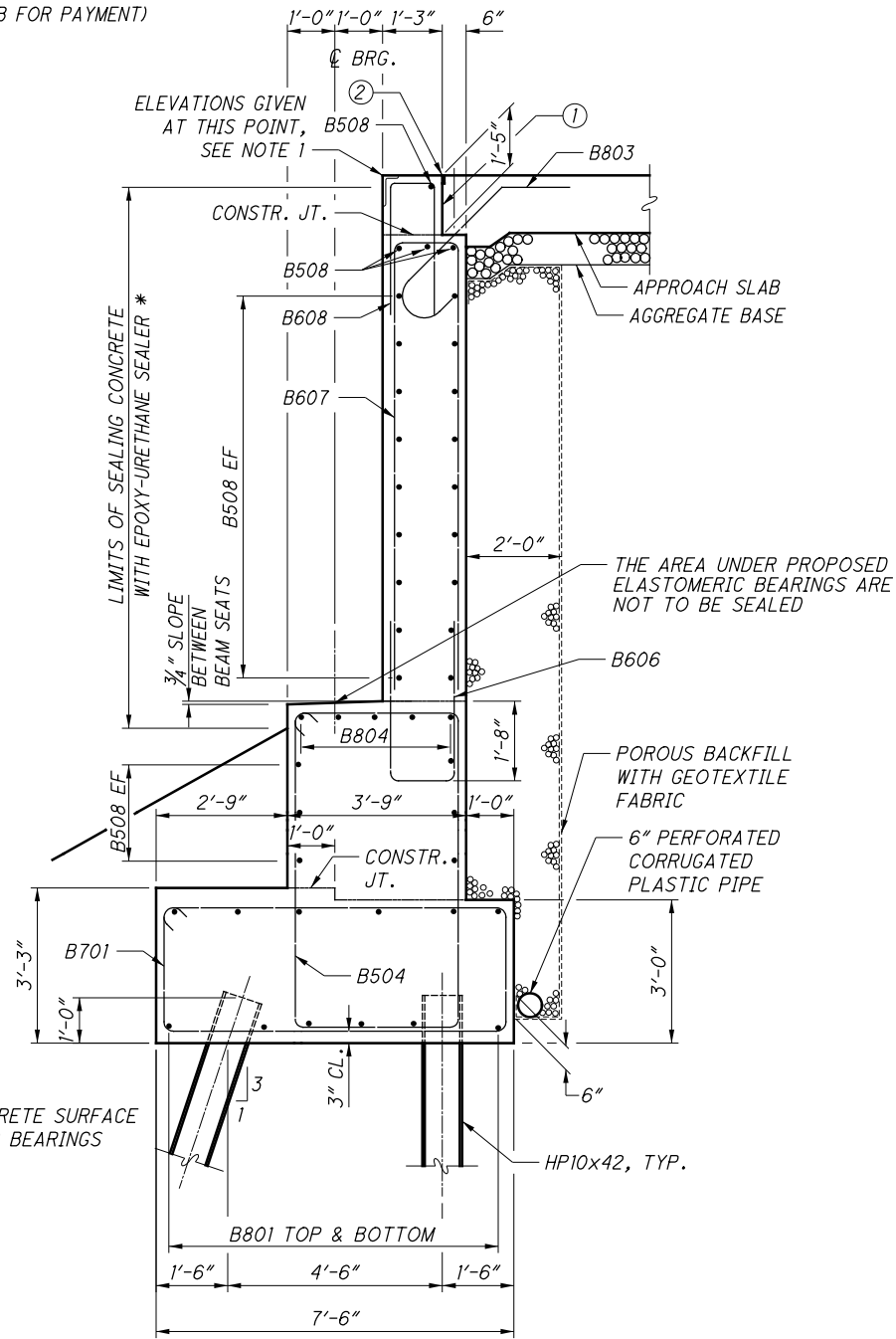


DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	DATE	10/8/21
STRUCTURE FILE NUMBER	8335002		

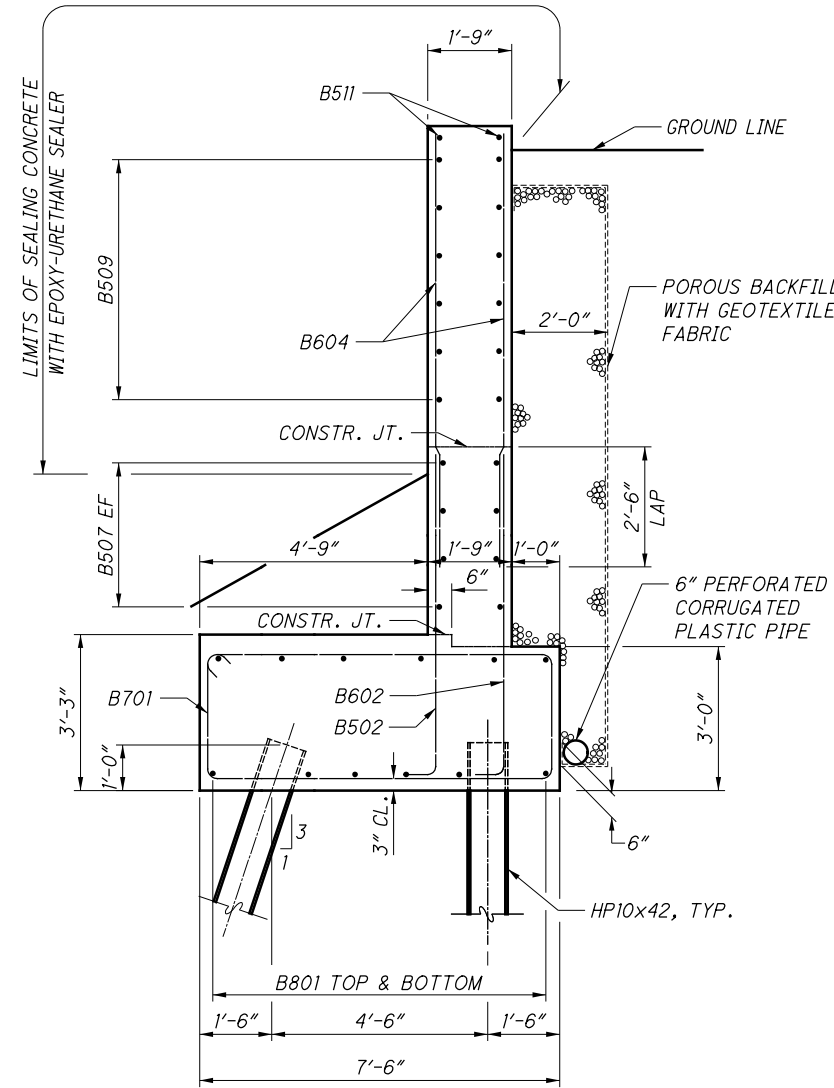
FORWARD ABUTMENT (2)
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

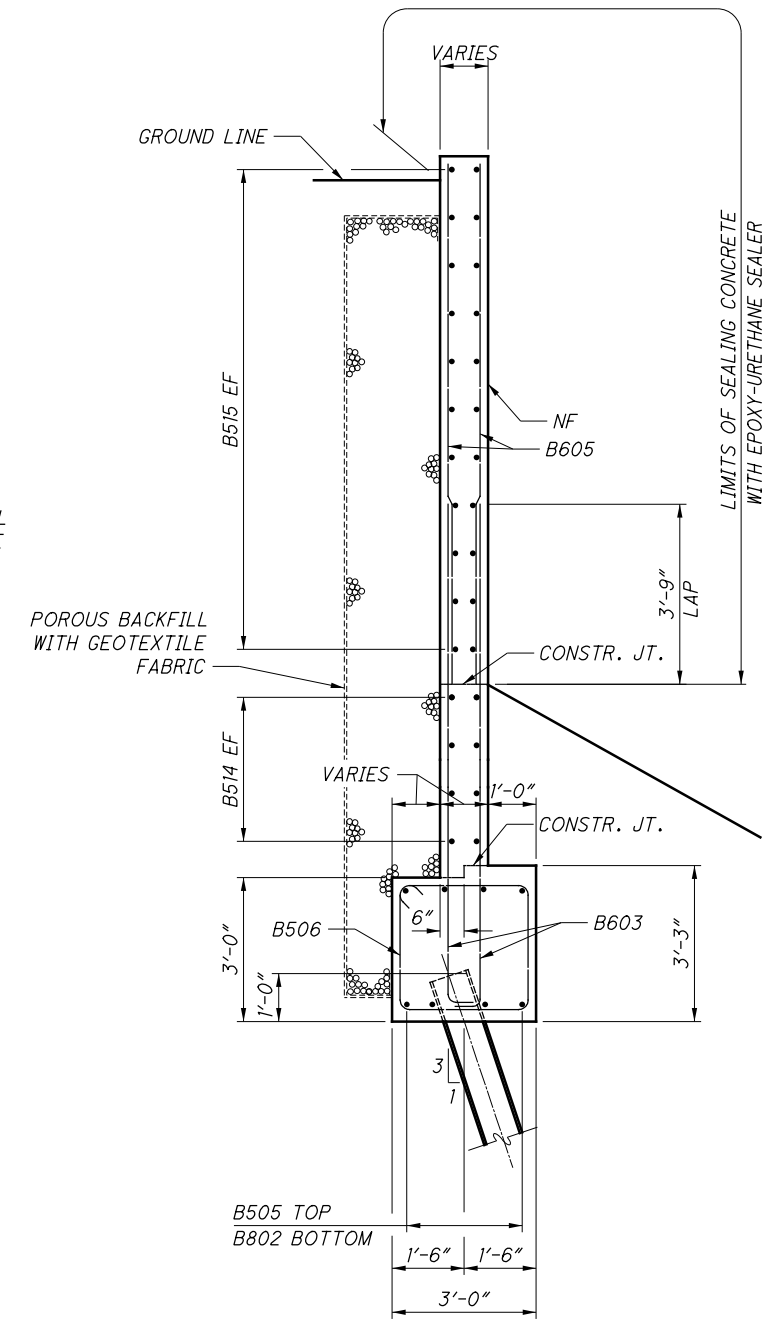
- ① TYPE A WATERPROOFING (INCLUDE WITH APPROACH SLAB FOR PAYMENT)
- ② PREFORMED ELASTOMERIC JOINT SEALER. FOR ADDITIONAL DETAILS, SEE STD. DWG. AS-1-15, DETAIL B (INCLUDE WITH APPROACH SLAB FOR PAYMENT)



SECTION A-A



SECTION B-B



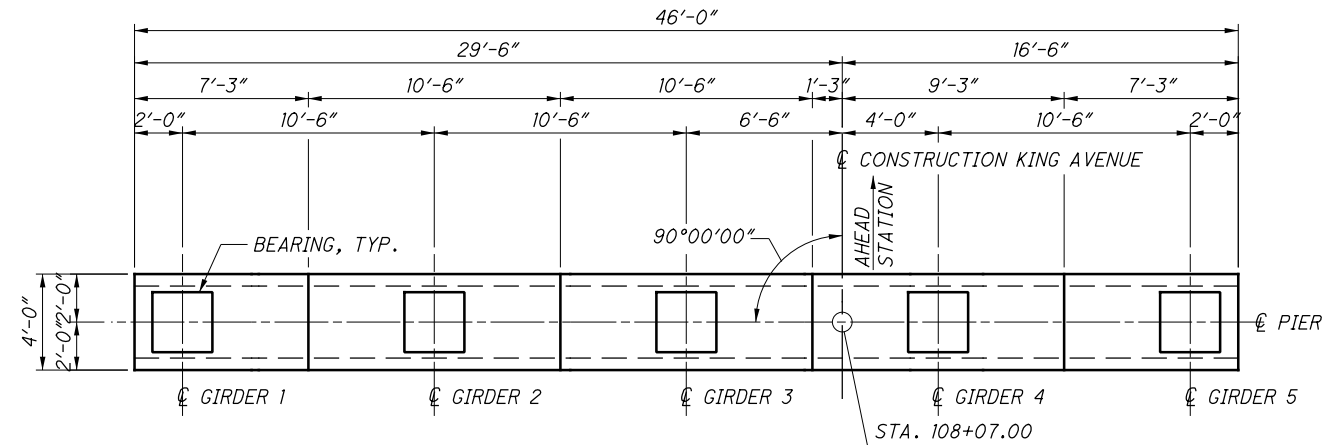
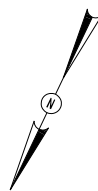
SECTION E-E

* DO NOT SEAL CONCRETE SURFACE UNDER ELASTOMERIC BEARINGS

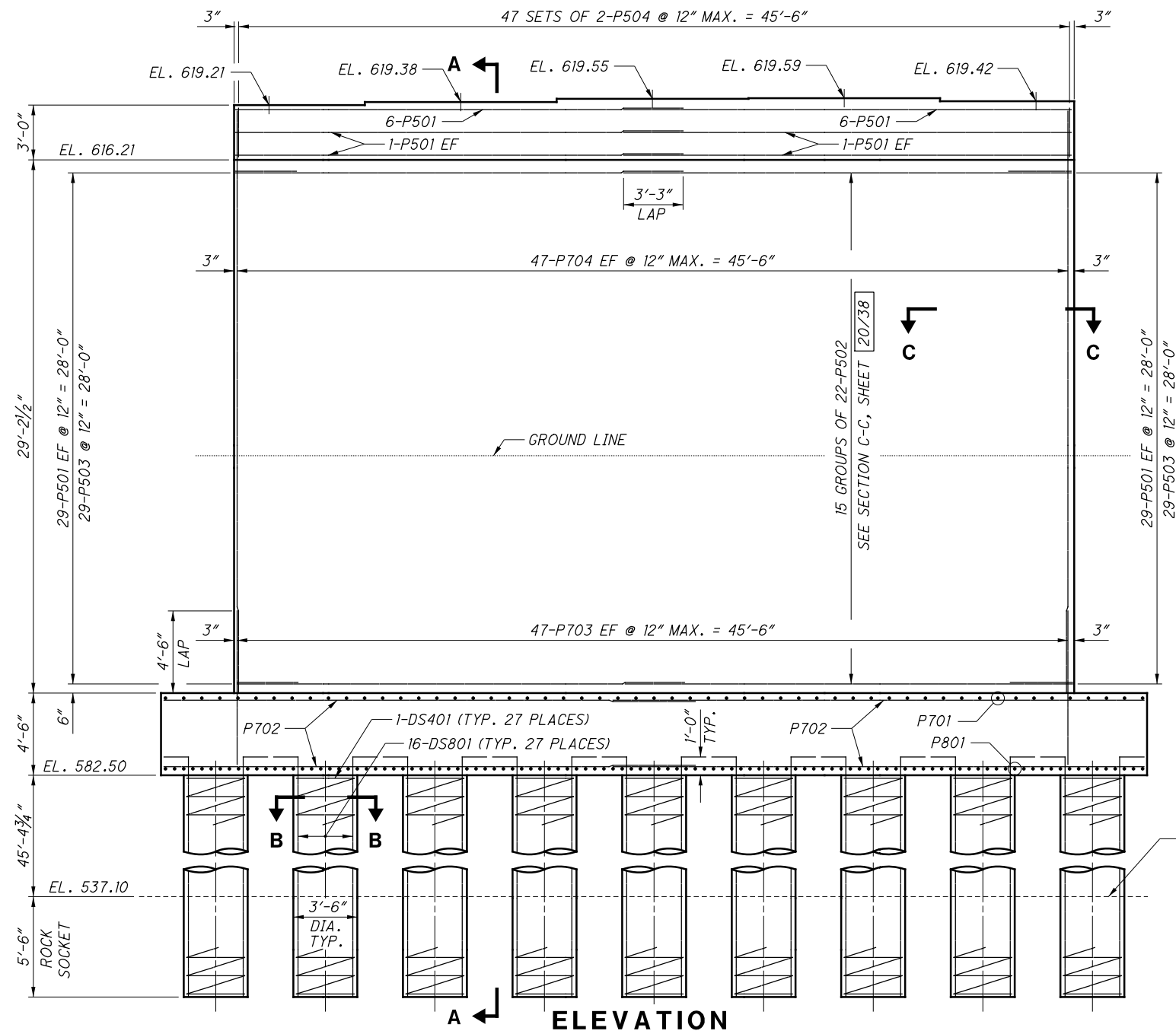
NOTES:
1. FOR EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ-4-87.

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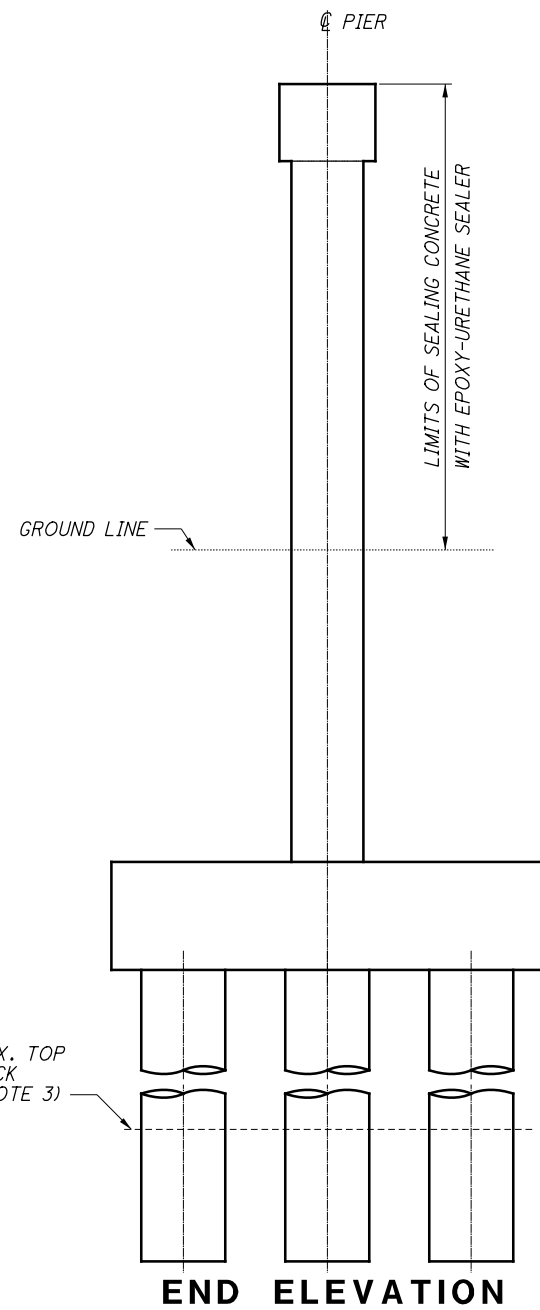
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	stantec	10/8/21	BSM	ALH	MRS
	PROJECT NO.	STRUCTURE FILE NUMBER	REVISED	CHECKED	EDA
	WAR-CR 282-0.97	8335002			
FORWARD ABUTMENT (3) BRIDGE NO. WAR-282-0089 OVER LITTLE MIAMI RIVER					
PID No. 106724					
18 / 38					
170 / 256					



CAP PLAN



ELEVATION



END ELEVATION

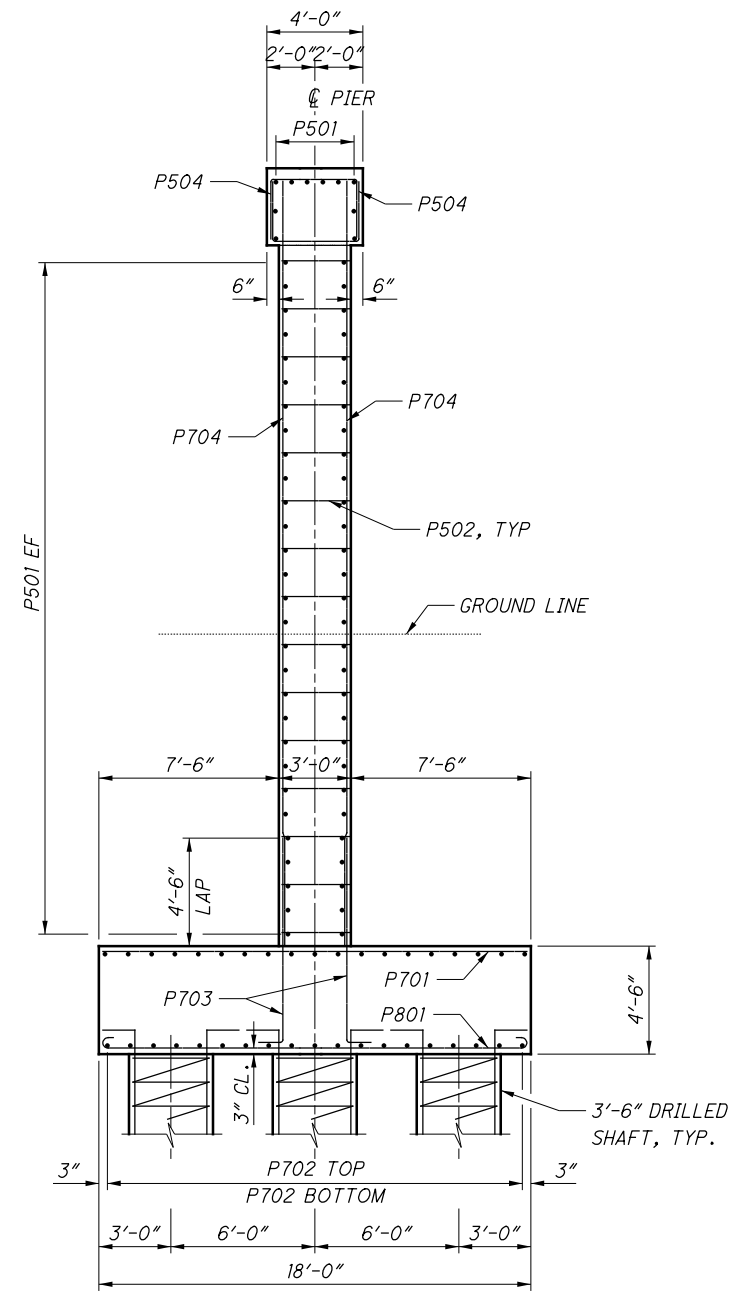
THE PIER BEAM SEAT ELEVATIONS ARE BASED ON BEARING HEIGHTS PROVIDED IN THE TABLE BELOW. IF THE CONTRACTOR'S SELECTED BEARING MANUFACTURER HAS A DESIGN THAT DOES NOT CONFORM TO THE HEIGHTS PROVIDED IN THE TABLE, ADJUST THE BEARING SEAT ELEVATIONS AT NO ADDITIONAL COST TO THE COUNTY. ADJUST THE LOCATION OF REINFORCING STEEL HORIZONTALLY AS NECESSARY TO AVOID INTERFERENCE WITH THE BEARING ANCHOR BOLTS. MAINTAIN THE MINIMUM CONCRETE COVER AND MINIMUM SPACING REQUIRED BY THE PROJECT PLANS. IF THE REINFORCING STEEL CANNOT BE MOVED TO PROVIDE THE REQUIRED POSITION FOR THE ANCHOR BOLTS, THE CONTRACTOR'S BEARING MANUFACTURER SHALL RE-DESIGN THE BEARINGS TO ACCOMMODATE AN ACCEPTABLE ANCHOR BOLT CONFIGURATION.

BEARING HEIGHT	
LOCATION	DIMENSION
GIRDER LINE 1	8"
GIRDER LINE 2	8"
GIRDER LINE 3	8"
GIRDER LINE 4	8"
GIRDER LINE 5	8"

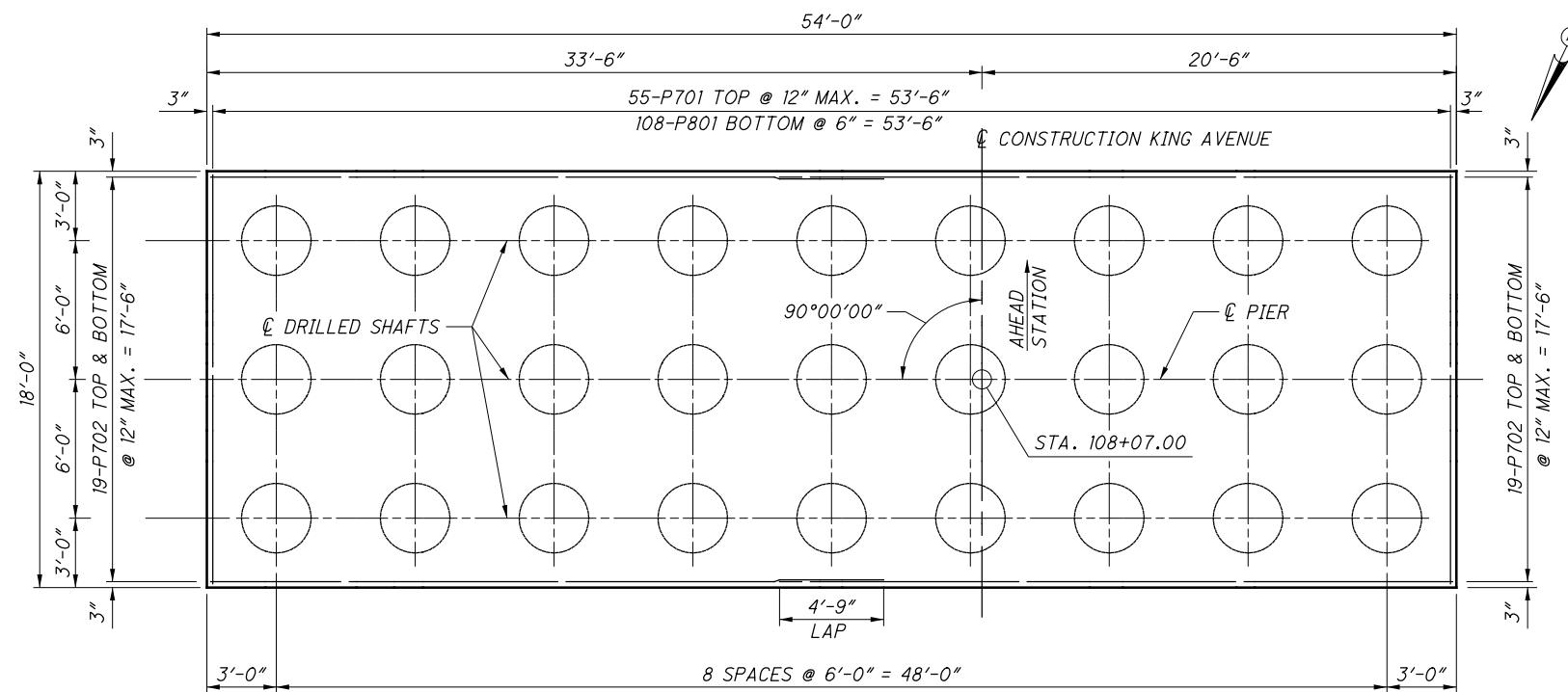
- NOTES:
- BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS. COORDINATE LOCATION OF ANCHORS AND REINFORCING WITH BEARING FABRICATOR. ANCHOR BOLTS SHALL BE SET USING A STEEL TEMPLATE WITH A THICKNESS NO LESS THAN 1/4".
 - FOR SECTIONS A-A, B-B AND C-C, SEE SHEET [20/38].
 - THE TOP OF BEDROCK IS CONSIDERED THE TOP OF GRAY INTERBEDDED SHALE AND LIMESTONE.
 - FOR PILE LAYOUT, SEE SHEET [11/38].
 - FOR FOOTING PLAN, SEE SHEET [20/38].

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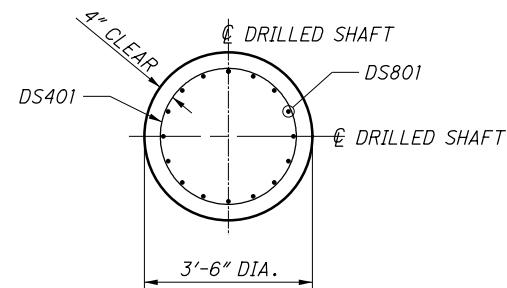
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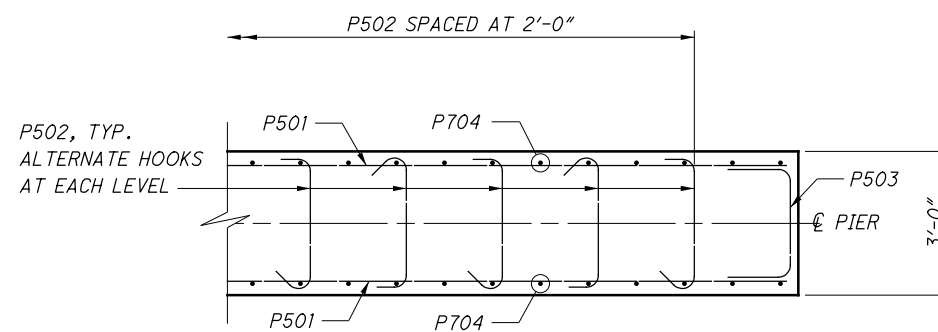
SECTION A-A



FOOTING PLAN



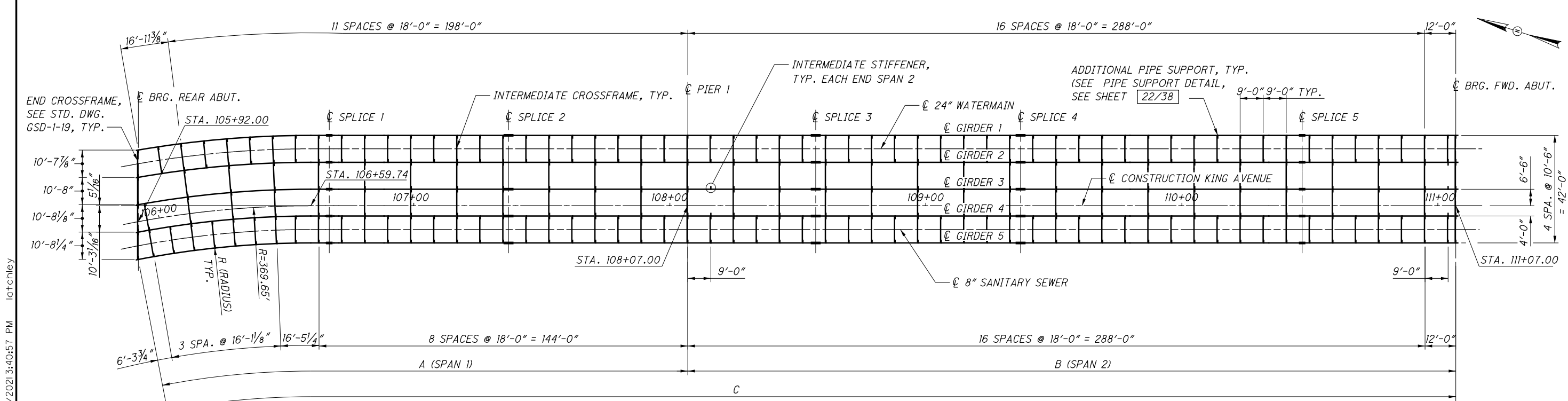
SECTION B-B



SECTION C-C

NOTES:

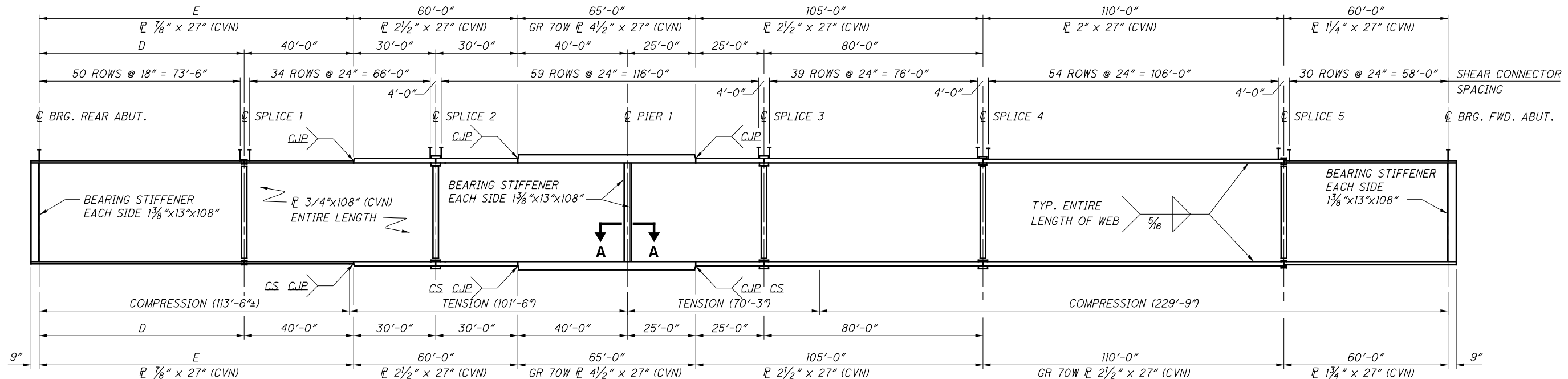
- BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS. COORDINATE LOCATION OF ANCHORS AND REINFORCING WITH BEARING FABRICATOR.



FRAMING PLAN

ELEVATION DIMENSIONS		
LOCATION	D	E
GIRDER 1	74'-11 ³ / ₈ "	114'-11 ³ / ₈ "
GIRDER 2	74'-11 ⁵ / ₈ "	114'-11 ⁵ / ₈ "
GIRDER 3	74'-11 ⁷ / ₈ "	114'-11 ⁷ / ₈ "
GIRDER 4	75'-0 ¹ / ₈ "	115'-0 ¹ / ₈ "
GIRDER 5	75'-0 ³ / ₈ "	115'-0 ³ / ₈ "

FRAMING PLAN DIMENSIONS				
LOCATION	A (SPAN 1)	B (SPAN 2)	C	R (RADIUS)
GIRDER 1	214'-11 ³ / ₈ "	300'-0"	514'-11 ³ / ₈ "	397.15'
GIRDER 2	214'-11 ⁵ / ₈ "	300'-0"	514'-11 ⁵ / ₈ "	386.65'
GIRDER 3	214'-11 ⁷ / ₈ "	300'-0"	514'-11 ⁷ / ₈ "	376.15'
GIRDER 4	215'-0 ¹ / ₈ "	300'-0"	515'-0 ¹ / ₈ "	365.65'
GIRDER 5	215'-0 ³ / ₈ "	300'-0"	515'-0 ³ / ₈ "	355.15'



GIRDER ELEVATION

- NOTES:**
- WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
 - WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
 - COMPRESSION = BOTTOM FLANGE IN TENSION, TOP FLANGE IN COMPRESSION. TENSION = TOP FLANGE IN TENSION, BOTTOM FLANGE IN COMPRESSION.
 - CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY. CJP - INDICATES COMPLETE JOINT PENETRATION WELD.
 - FOR ADDITIONAL DETAILS AND SECTION A-A, SEE SHEET [22/38].
 - ALL BUTT WELDS SHALL HAVE WELD REINFORCEMENT REMOVED BY GRINDING IN DIRECTION PARALLEL TO CENTERLINE OF GIRDER.
 - FOR DETAILS OF STIFFENERS AND GIRDERS, SEE STD. DWG. GSD-1-19.
 - ALL STEEL SHALL BE GRADE 50 UNLESS NOTED OTHERWISE.
 - ALL STRUCTURAL STEEL SHALL BE SHOP METALLIZED PER SUPPLEMENTAL SPECIFICATION 845. AT THE CONTRACTORS OPTION, THE CROSSFRAME MEMBERS AND PIPE SUPPORT ANGLES MAY BE HOT-DIP GALVANIZED PER CMS 711.02.

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DESIGN AGENCY
stantec
 1736 North State Street
 Cincinnati, Ohio 45241
 (513) 522-2820

DATE
 10/8/21

REVIEWED
 BSM
 STRUCTURE FILE NUMBER
 8335002

DRAWN
 ALH
 REVISIONS

DESIGNED
 MRS
 CHECKED
 EDA

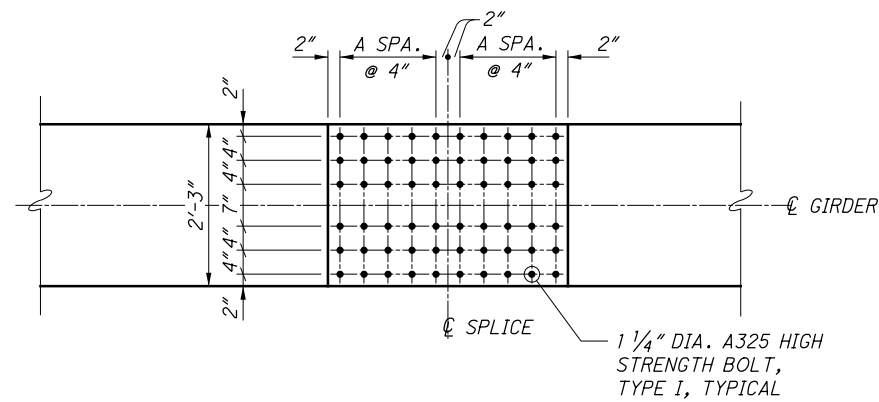
FRAMING PLAN
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

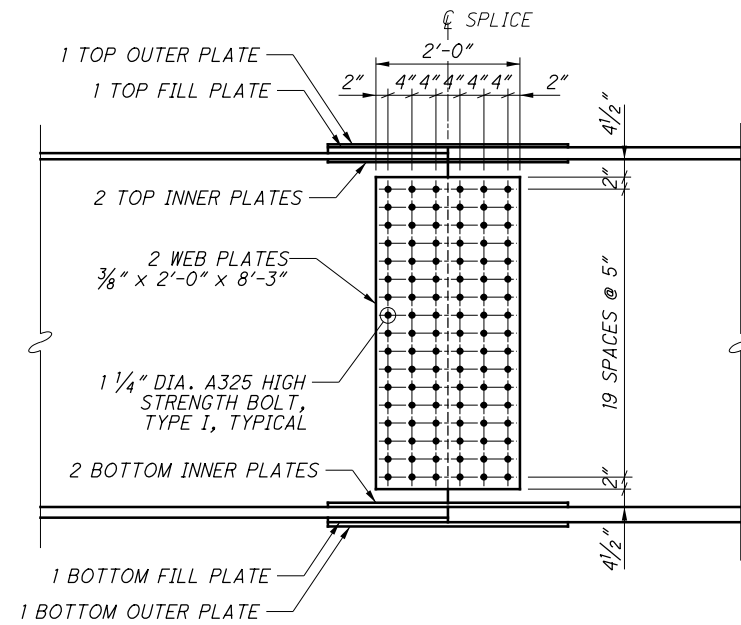
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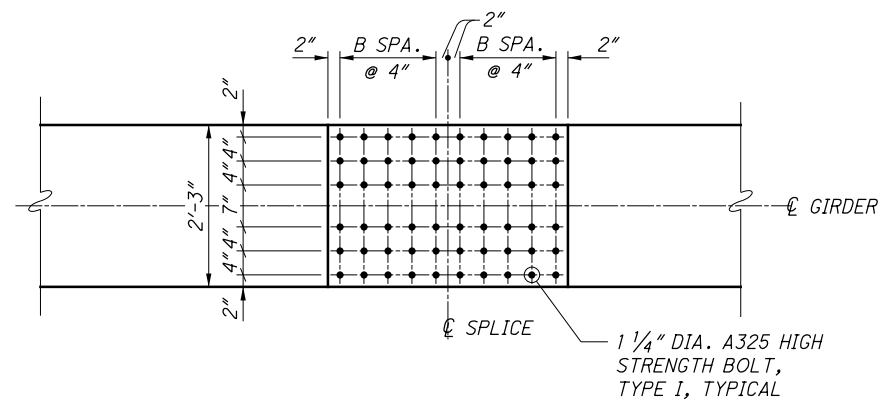
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TOP PLAN



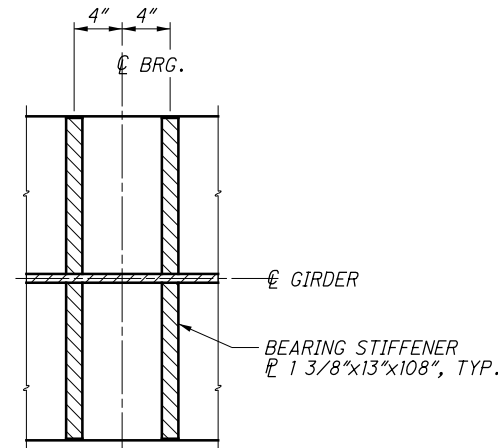
ELEVATION



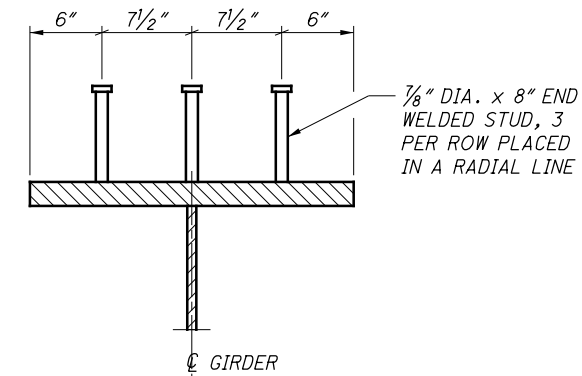
BOTTOM PLAN

SPLICE DETAIL

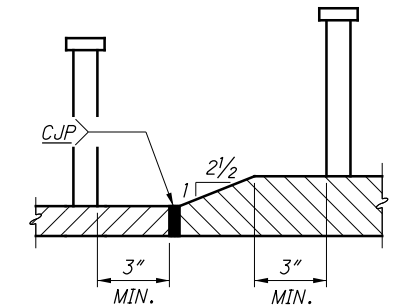
SPLICE DETAIL TABLE								
LOCATION	A	B	TOP FLANGE			BOTTOM FLANGE		
			OUTER PLATE	FILL PLATE	INNER PLATE	INNER PLATE	FILL PLATE	OUTER PLATE
SPLICE 1	2	2	1/2" X 2'-3" X 2'-0"	NONE	9/16" X 12" X 2'-0"	9/16" X 12" X 2'-0"	NONE	1/2" X 2'-3" X 2'-0"
SPLICE 2	4	4	1 3/8" X 2'-3" X 3'-4"	NONE	1/2" X 12" X 3'-4"	1/2" X 12" X 3'-4"	NONE	1 3/8" X 2'-3" X 3'-4"
SPLICE 3	4	4	1 3/8" X 2'-3" X 3'-4"	NONE	1/2" X 12" X 3'-4"	1/2" X 12" X 3'-4"	NONE	1 3/8" X 2'-3" X 3'-4"
SPLICE 4	3	4	1 1/16" X 2'-3" X 2'-8"	1/2" X 2'-3" X 1'-4"	1 3/8" X 12" X 2'-8"	1/2" X 12" X 3'-4"	NONE	1 3/8" X 2'-3" X 3'-4"
SPLICE 5	2	3	1 1/16" X 2'-3" X 2'-0"	3/4" X 2'-3" X 1'-0"	3/4" X 12" X 2'-0"	1/16" X 12" X 2'-8"	3/4" X 2'-3" X 1'-4"	1 5/16" X 2'-3" X 2'-8"



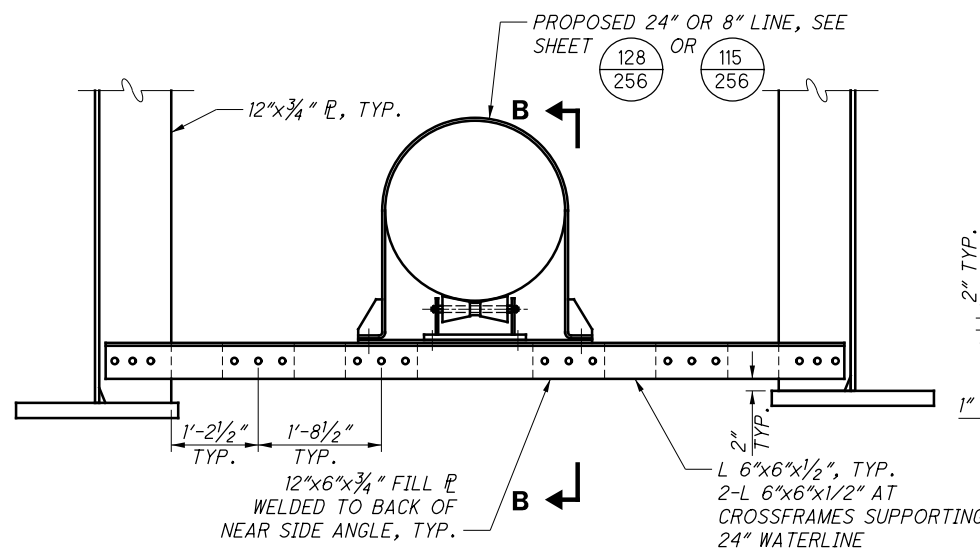
SECTION A-A



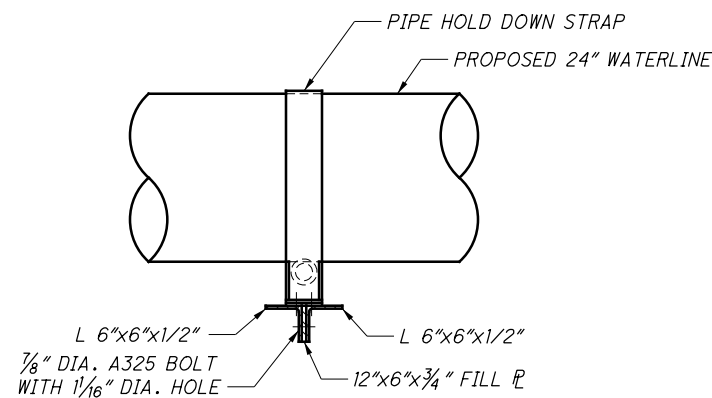
SHEAR CONNECTOR DETAIL



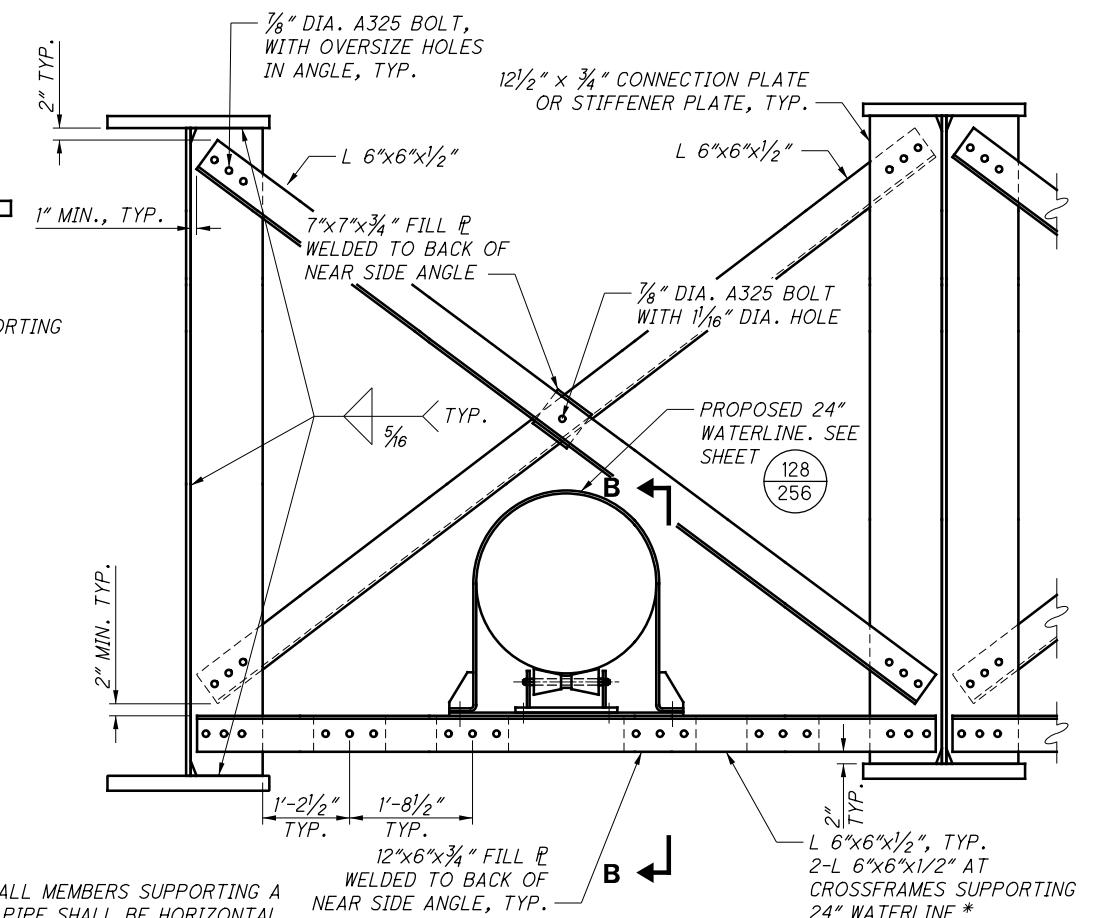
FLANGE THICKNESS TRANSITION DETAIL



PIPE SUPPORT DETAIL



SECTION B-B

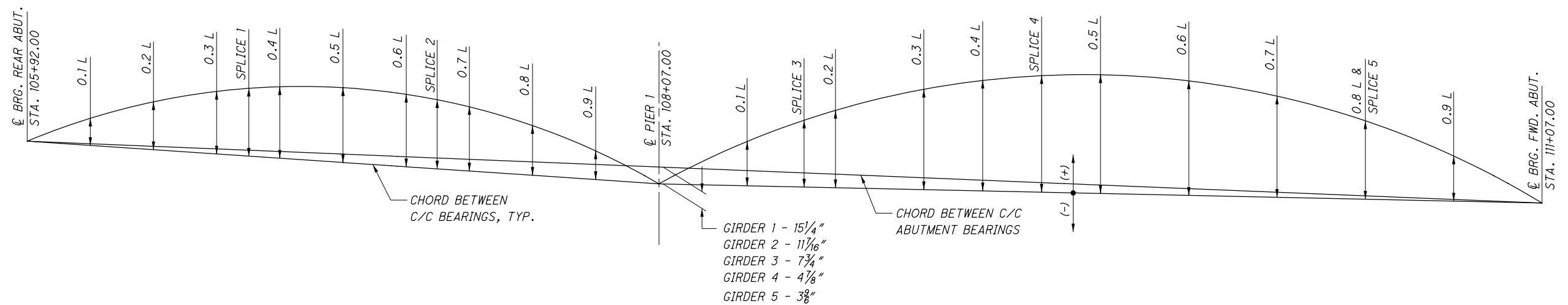


CROSSFRAME DETAIL

* ALL MEMBERS SUPPORTING A PIPE SHALL BE HORIZONTAL

STEEL DEFLECTION & CAMBER TABLE (VALUES IN INCHES)

	LOCATION																									
		☉ BRG. R. A.	0.1 L	0.2 L	0.3 L	SPLICE 1	0.4 L	0.5 L	0.6 L	SPLICE 2	0.7 L	0.8 L	0.9 L	☉ BRG. PIER 1	0.1 L	SPLICE 3	0.2 L	0.3 L	0.4 L	SPLICE 4	0.5 L	0.6 L	0.7 L	0.8 L & SPLICE 5	0.9 L	☉ BRG. F. A.
GIRDER 1	DEFLECTION DUE TO WEIGHT OF STEEL	0	-1/16	-1/16	0	1/16	1/8	5/16	7/16	1/2	9/16	9/16	3/8	0	-7/8	-1 5/8	-2 1/16	-3 5/16	-4 3/8	-4 5/8	-5 1/16	-5 1/8	-4 5/8	-3 9/16	-1 15/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	-1/2	-7/8	-1	-1	-13/16	-7/16	0	3/16	3/8	9/16	7/16	0	-1 5/16	-2 5/8	-3 3/8	-5 9/16	-7 7/16	-7 15/16	-8 11/16	-8 15/16	-8 1/8	-7 9/16	-4 3/16	0
	GEOMETRIC CORRECTION	0	-1 1/16	-1 5/8	-4 1/4	-6 9/16	-6 7/16	-7 11/16	-8 5/16	-10	-9	-6	-3	0	9/16	15/16	1 1/8	1 11/16	2 1/4	2 7/16	2 3/4	3 5/16	3 7/8	4 7/16	3 3/4	0
	REQUIRED SHOP CAMBER	0	-1/2	-11/16	-3 1/4	-5 5/8	-5 3/4	-7 9/16	-8 3/4	-10 11/16	-9 15/16	-7 1/8	-3 13/16	0	2 3/4	5 3/16	6 9/16	10 9/16	14 1/16	15	16 1/2	17 3/8	16 5/8	15 9/16	9 7/8	0
GIRDER 2	DEFLECTION DUE TO WEIGHT OF STEEL	0	-1/16	-1/16	0	1/16	1/8	5/16	7/16	1/2	9/16	9/16	3/8	0	-7/8	-1 5/8	-2 1/16	-3 5/16	-4 3/8	-4 5/8	-5 1/16	-5 1/8	-4 5/8	-3 9/16	-1 15/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	-5/8	-1 1/16	-1 3/16	-1 1/8	-1	-9/16	0	1/4	7/16	5/8	1/2	0	-1 9/16	-3 1/16	-3 7/8	-6 7/16	-8 11/16	-9 1/4	-10 1/8	-10 7/16	-9 7/16	-8 9/16	-4 3/4	0
	GEOMETRIC CORRECTION	0	-1 15/16	-3 1/8	-5 5/16	-6 13/16	-6 13/16	-7 1/4	-7 3/16	-7 3/4	-7 1/16	-4 3/4	-2 3/8	0	9/16	15/16	1 1/8	1 11/16	2 1/4	2 3/8	2 3/4	3 5/16	3 7/8	4 7/16	3 3/4	0
	REQUIRED SHOP CAMBER	0	-1 1/4	-2	-4 1/8	-5 3/4	-5 15/16	-7	-7 5/8	-8 1/2	-8 1/16	-5 15/16	-3 1/4	0	3	5 5/8	7 1/16	11 7/16	15 5/16	16 1/4	17 15/16	18 7/8	17 15/16	16 9/16	10 7/16	0
GIRDER 3	DEFLECTION DUE TO WEIGHT OF STEEL	0	-1/16	-1/16	0	1/16	1/8	5/16	7/16	1/2	9/16	9/16	3/8	0	-7/8	-1 5/8	-2 1/16	-3 5/16	-4 3/8	-4 5/8	-5 1/16	-5 1/8	-4 5/8	-3 9/16	-1 15/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	-5/8	-1 1/16	-1 3/16	-1 1/8	-1	-9/16	0	5/16	7/16	11/16	1/2	0	-1 9/16	-3 1/16	-3 7/8	-6 7/16	-8 11/16	-9 1/4	-10 1/8	-10 7/16	-9 7/16	-8 9/16	-4 3/4	0
	GEOMETRIC CORRECTION	0	-2 7/8	-4 3/4	-6 7/16	-7 1/8	-7 3/16	-6 7/8	-6	-5 5/8	-5 3/16	-3 7/16	-1 3/4	0	9/16	15/16	1 1/8	1 11/16	2 1/4	2 7/16	2 3/4	3 5/16	3 7/8	4 7/16	3 3/4	0
	REQUIRED SHOP CAMBER	0	-2 3/16	-3 5/8	-5 1/4	-6 1/16	-6 5/16	-6 5/8	-6 7/16	-6 7/16	-6 3/16	-4 11/16	-2 5/8	0	3	5 5/8	7 1/16	11 7/16	15 5/16	16 5/16	17 15/16	18 7/8	17 15/16	16 9/16	10 7/16	0
GIRDER 4	DEFLECTION DUE TO WEIGHT OF STEEL	0	-1/16	-1/16	0	1/16	1/8	5/16	7/16	1/2	9/16	9/16	3/8	0	-7/8	-1 5/8	-2 1/16	-3 5/16	-4 3/8	-4 5/8	-5 1/16	-5 1/8	-4 5/8	-3 9/16	-1 15/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	-5/8	-1 1/16	-1 3/16	-1 1/8	-1	-9/16	0	5/16	7/16	11/16	1/2	0	-1 9/16	-3 1/16	-3 7/8	-6 7/16	-8 11/16	-9 1/4	-10 1/8	-10 7/16	-9 7/16	-8 9/16	-4 3/4	0
	GEOMETRIC CORRECTION	0	-3 5/8	-6 3/16	-7 1/8	-7 1/16	-6 15/16	-6 3/16	-4 15/16	-3 15/16	-3 11/16	-2 1/2	-1 1/4	0	9/16	15/16	1 1/8	1 11/16	2 1/4	2 3/8	2 3/4	3 5/16	3 7/8	4 7/16	3 3/4	0
	REQUIRED SHOP CAMBER	0	-2 15/16	-5 1/16	-5 15/16	-6	-6 1/16	-5 15/16	-5 3/8	-4 13/16	-4 11/16	-3 3/4	-2 1/8	0	3	5 5/8	7 1/16	11 7/16	15 5/16	16 1/4	17 15/16	18 7/8	17 15/16	16 9/16	10 7/16	0
GIRDER 5	DEFLECTION DUE TO WEIGHT OF STEEL	0	-1/16	-1/16	0	1/16	1/8	5/16	7/16	1/2	9/16	9/16	3/8	0	-7/8	-1 5/8	-2 1/16	-3 5/16	-4 3/8	-4 5/8	-5 1/16	-5 1/8	-4 5/8	-3 9/16	-1 15/16	0
	DEFLECTION DUE TO REMAINING DEAD LOAD	0	-1/2	-7/8	-1	-15/16	-13/16	-7/16	0	5/16	3/8	9/16	7/16	0	-1 5/16	-2 5/8	-3 3/8	-5 9/16	-7 7/16	-7 15/16	-8 11/16	-8 15/16	-8 1/8	-7 9/16	-4 3/16	0
	GEOMETRIC CORRECTION	0	-4 3/16	-7 3/16	-7 1/8	-6 3/16	-5 3/4	-5 1/16	-4 1/16	-2 7/8	-3	-2	-1	0	9/16	15/16	1 1/8	1 11/16	2 1/4	2 7/16	2 3/4	3 5/16	3 7/8	4 7/16	3 3/4	0
	REQUIRED SHOP CAMBER	0	-3 5/8	-6 1/4	-6 1/8	-5 5/16	-5 1/16	-4 15/16	-4 1/2	-3 3/4	-3 15/16	-3 1/8	-1 13/16	0	2 3/4	5 3/16	6 9/16	10 9/16	14 1/16	15	16 1/2	17 3/8	16 5/8	15 9/16	9 7/8	0



CAMBER DIAGRAM

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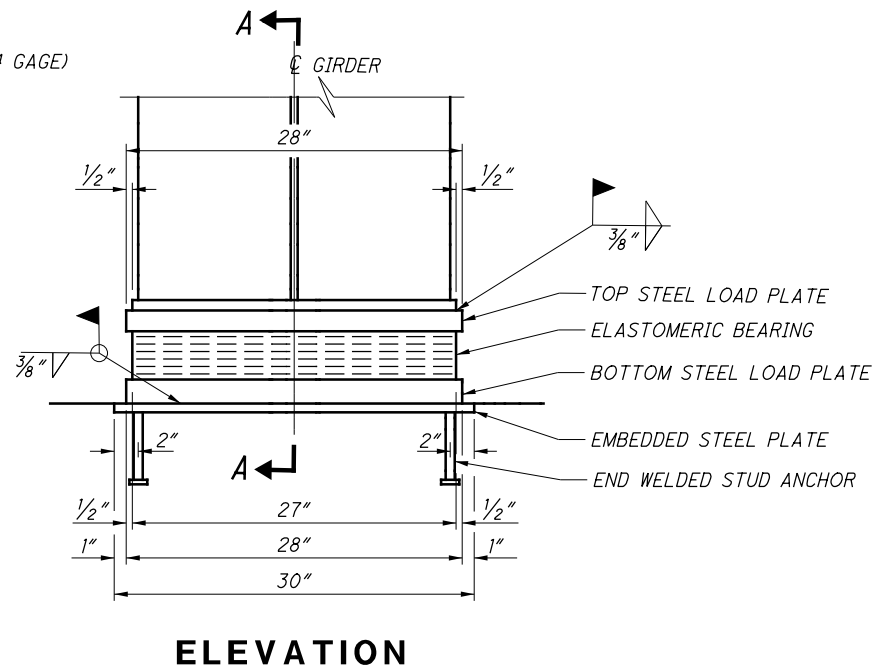
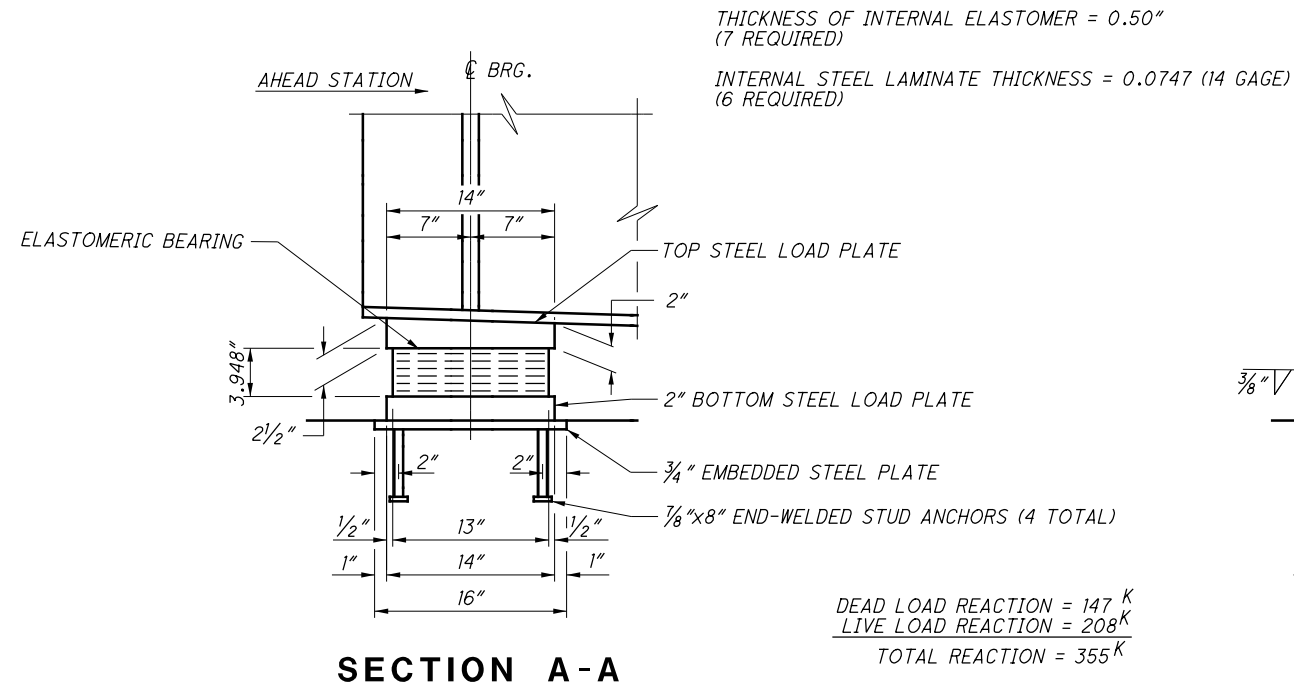


DESIGN AGENCY
 DATE 10/8/21
 REVIEWED BSM
 DRAWN ALH
 CHECKED EDA
 STRUCTURE FILE NUMBER 8335002

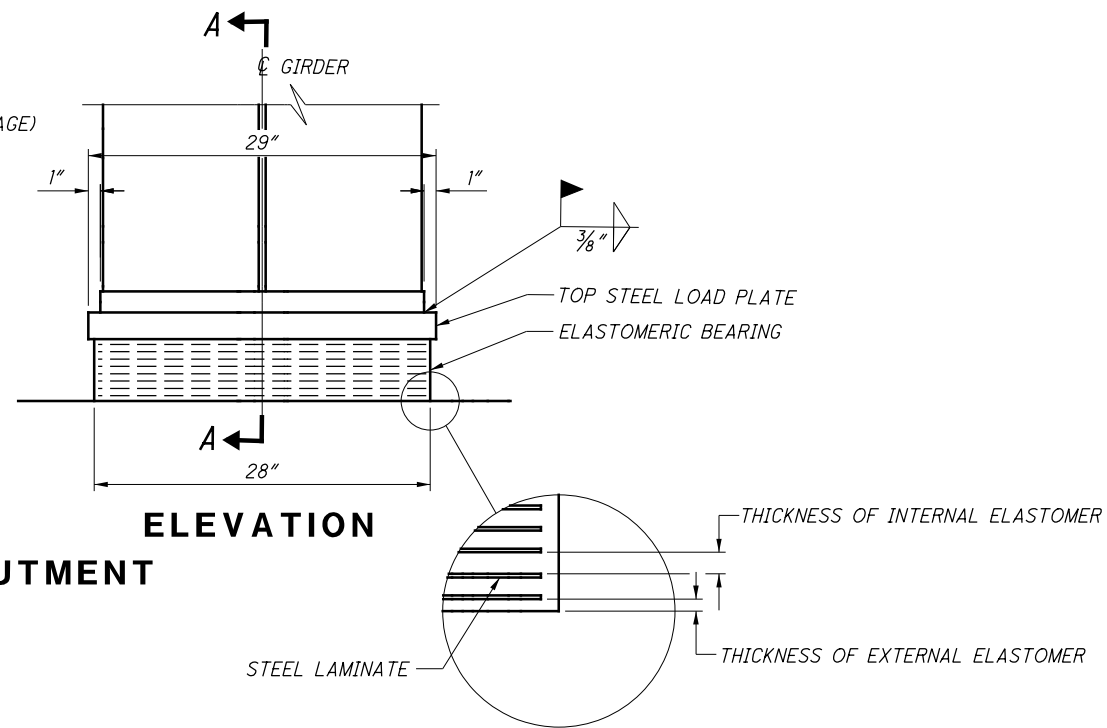
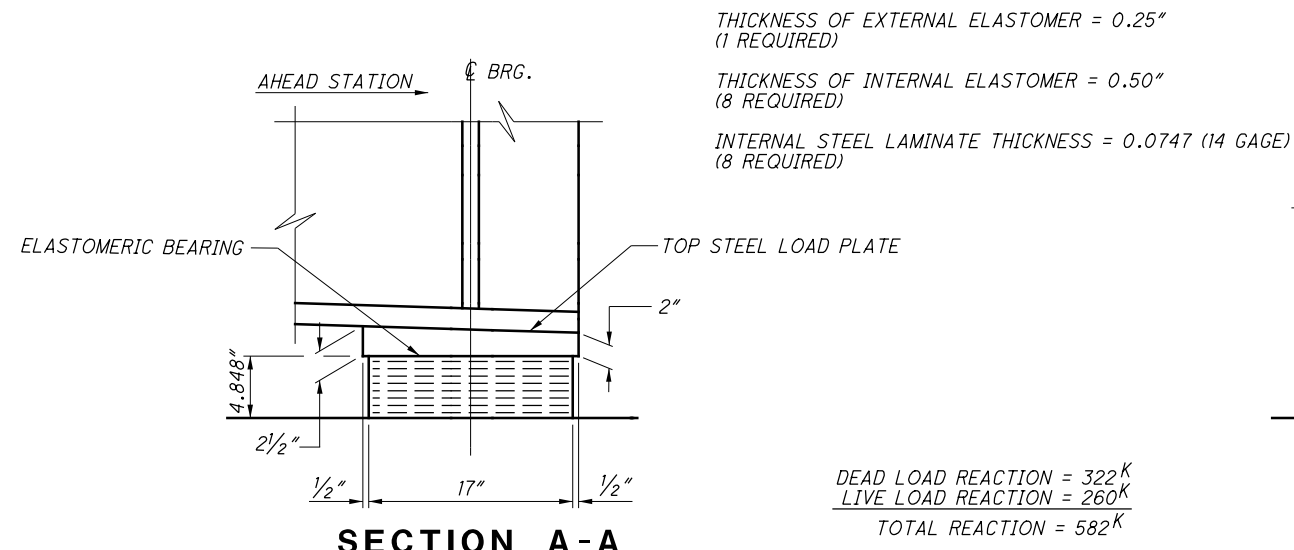
DEFLECTION AND CAMBER DETAILS (1)
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

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BEARINGS AT REAR ABUTMENT



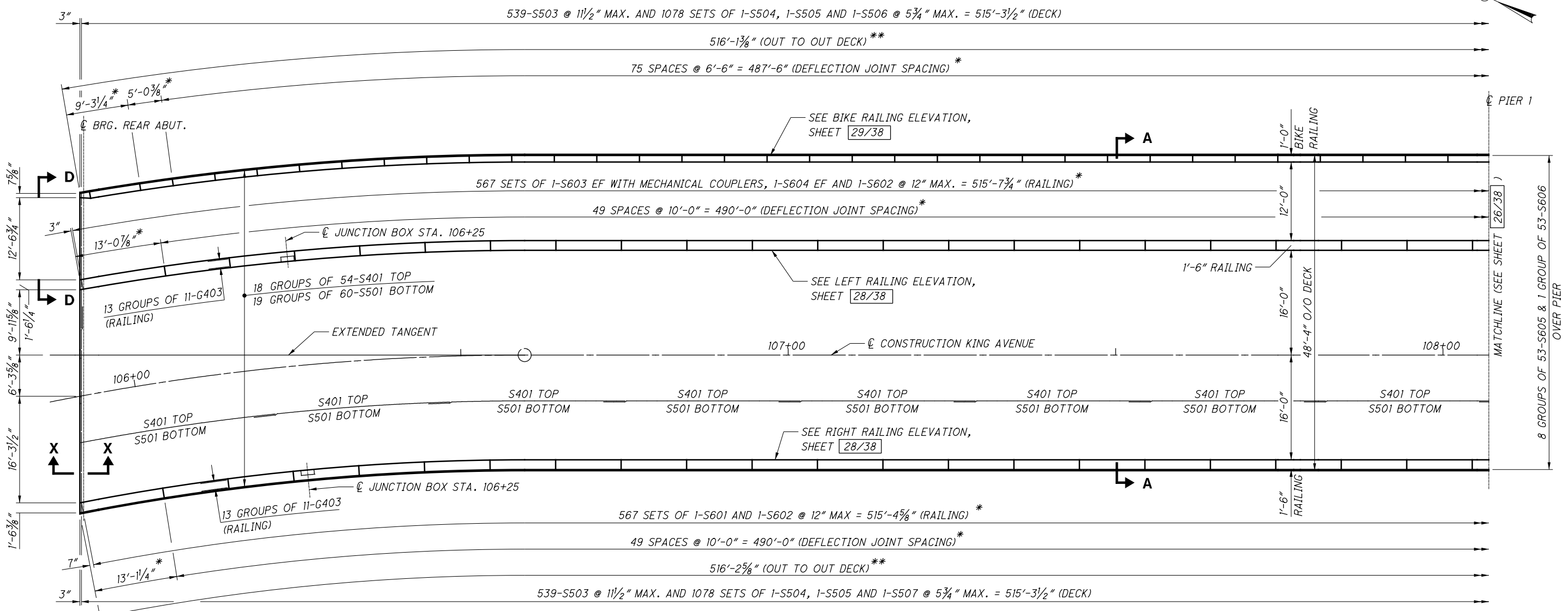
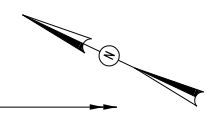
BEARINGS AT FORWARD ABUTMENT

BEARINGS AT PIER (HLMR)													
LOADS (KIPS)													
LOCATION	BEARING TYPE	LIMIT STATE	VERTICAL						HORIZONTAL			MAXIMUM ROTATION (ONE-WAY) (RADIAN)	NUMBER OF BEARINGS REQUIRED
			DL		LL + I		TOTAL		TRANSVERSE	LONGITUDINAL	RESOLUTION		
			MIN	MAX	MIN	MAX	MIN	MAX					
PIER	FIXED	STR ENV.	704	1277	219	886	923	2163	6.9	12.3	14.1	0.002	5
		SER 1	782	995	125	506	907	1501	6.9	9.8	12.0		

NOTES:

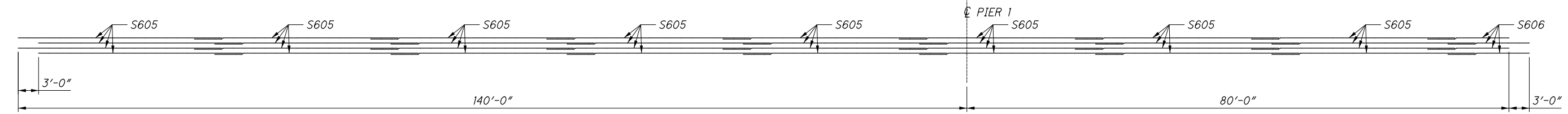
1. STEEL LOAD PLATE(S) SHALL BE VULCANIZED TO THE ELASTOMERIC BEARING DURING THE MOLDING PROCESS.
2. BEARINGS AT PIER SHALL BE HIGH LOAD MULTI-ROTATIONAL BEARINGS (HLMR) IN ACCORDANCE WITH SS869.
3. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
4. THE PORTION OF THE STEEL PLATE EMBEDDED IN CONCRETE AND THE END WELDED STUD ANCHORS SHALL BE GALVANIZED PER CMS 711.02.

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DECK PLAN

- LAP LENGTHS:
 #4 BARS = 2'-6"
 # 5 BARS = 3'-3"
 #6 BARS = 4'-0"
 #4 GFRP BARS = 1'-1"



REINFORCING OVER PIER

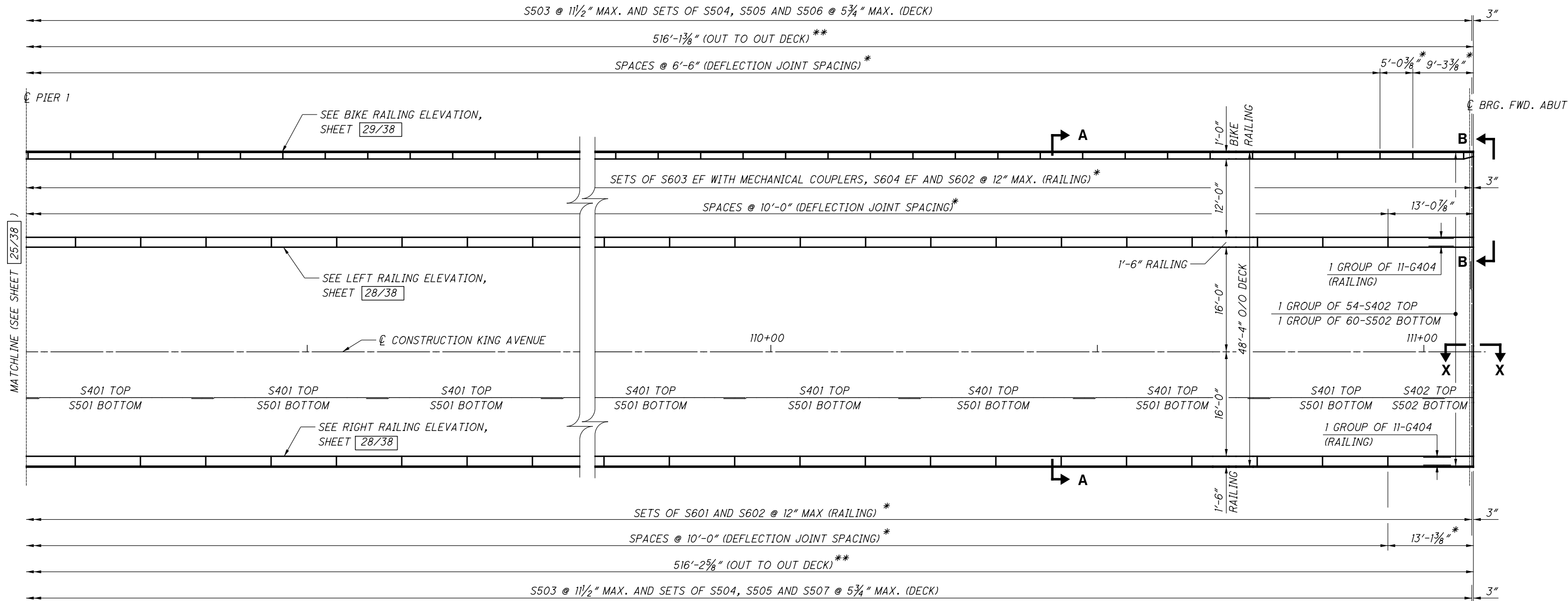
EXP. JT. OPENING FOR 4" STRIP SEAL GLAND	
TEMP.	DIM. "A"
30° F	2 1/2"
40° F	2 3/8"
50° F	2 1/8"
60° F	2"
70° F	1 3/4"
80° F	1 1/2"
90° F	1 3/8"

- NOTES:
 1. FOR SECTION X-X, SEE STD. DWG. EXJ-4-87, SHEET 2/5
 2. FOR SECTION A-A, SEE SHEET 27/38
 3. FOR SECTION D-D, SEE SHEET 28/38

LEGEND:
 * MEASURED ALONG OUTSIDE FACE OF RAILING
 ** MEASURED ALONG SLAB FASCIA

DESIGN AGENCY: **stantec**
 DATE: 10/8/21
 REVIEWED: BSM
 DRAWN: ALH
 DESIGNED: MRS
 CHECKED: EDA
 STRUCTURE FILE NUMBER: 8335002
 SUPERSTRUCTURE DETAILS
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER
 WAR-CR 282-0.97
 PID No. 106724
 25/38
 177
 256

V:\1736\active\engineering\106724\Design\Structures\WAR282-0089C\Sheets\06724_SFN8335002_S0002.dgn 12/15/2021 3:41:0 PM latchley



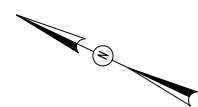
DECK PLAN

- LAP LENGTHS:
 #4 BARS = 2'-6"
 #5 BARS = 3'-3"
 #6 BARS = 4'-0"
 #4 GFRP BARS = 1'-1"

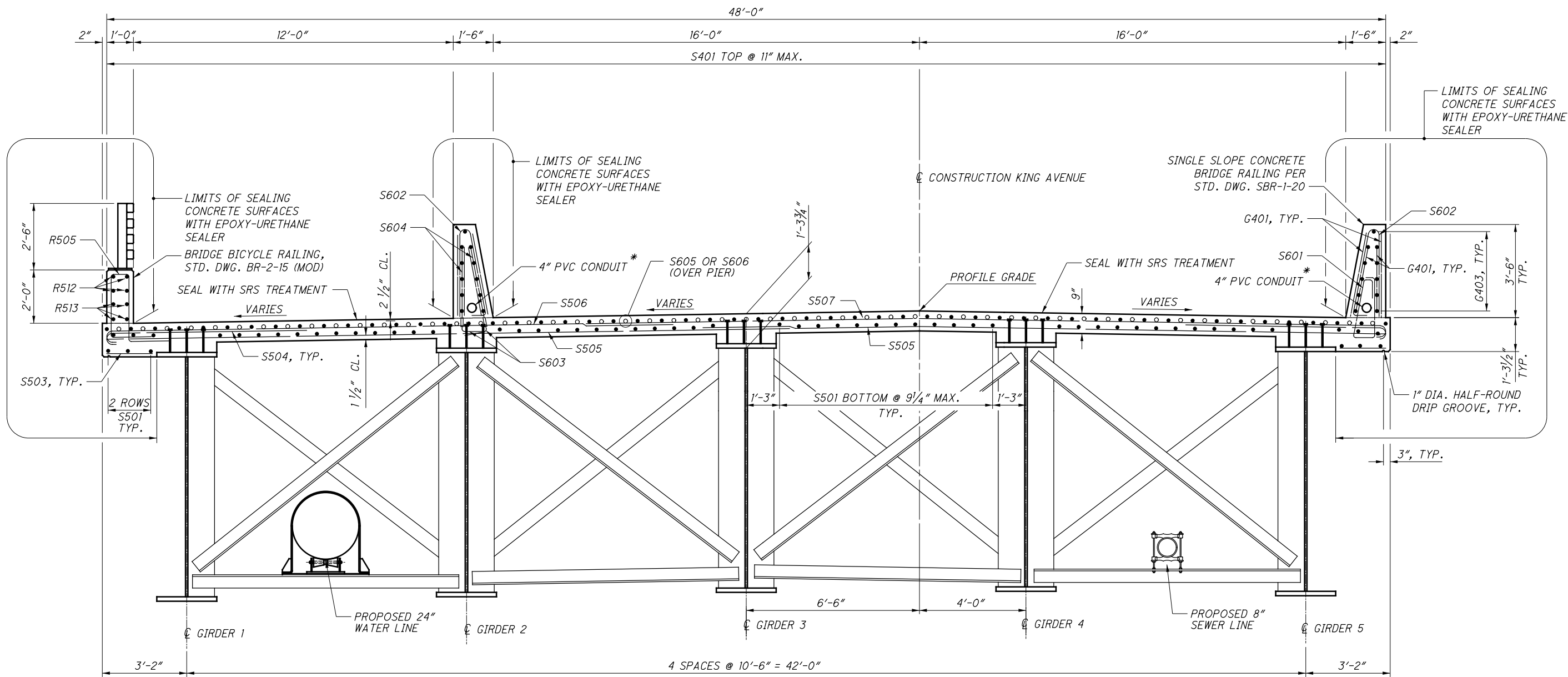
EXP. JT. OPENING FOR 4" STRIP SEAL GLAND	
TEMP.	DIM. "A"
30° F	2 1/2"
40° F	2 3/8"
50° F	2 1/8"
60° F	2"
70° F	1 3/4"
80° F	1 1/2"
90° F	1 3/8"

- NOTES:
 1. FOR SECTION X-X, SEE STD. DWG. EXJ-4-87, SHEET 2/5 .
 2. FOR SECTION A-A, SEE SHEET 27/38 .
 3. FOR SECTION B-B, SEE SHEET 28/38 .

- LEGEND:
 * MEASURED ALONG OUTSIDE FACE OF RAILING
 ** MEASURED ALONG SLAB FASCIA



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SECTION A-A

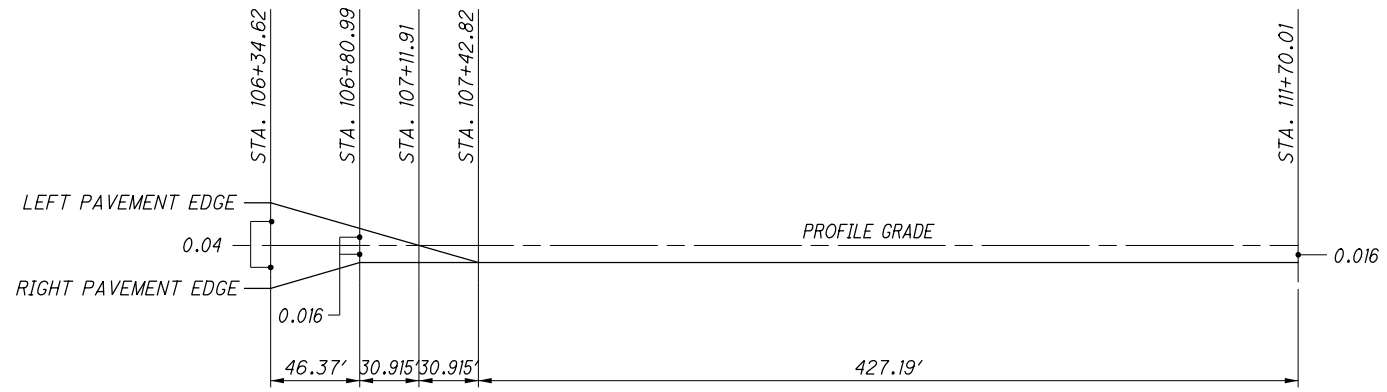
* 4" PVC CONDUIT SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS QC1 CONCRETE, MISC.: CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN.

DECK SLAB CONCRETE QUANTITY

THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 15.75 INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

- NOTES:
1. FOR ADDITIONAL BRIDGE RAILING DETAILS, SEE SHEET 28/38 AND STD. DWG. SBR-1-20.
 2. FOR ADDITIONAL BIKE RAILING DETAILS, SEE SHEET 29/38 AND STD. DWG. BR-2-15.
 3. FOR WATER AND SEWER LINE SUPPORT DETAILS, SEE SHEETS 115 AND 128 AND 256 AND 256.



PAVEMENT TRANSITION DETAIL

DESIGN AGENCY: **stantec**
 DATE: 10/8/21
 REVIEWED: BSM
 DRAWN: ALH
 DESIGNED: MRS
 CHECKED: EDA

STRUCTURE FILE NUMBER: 8335002

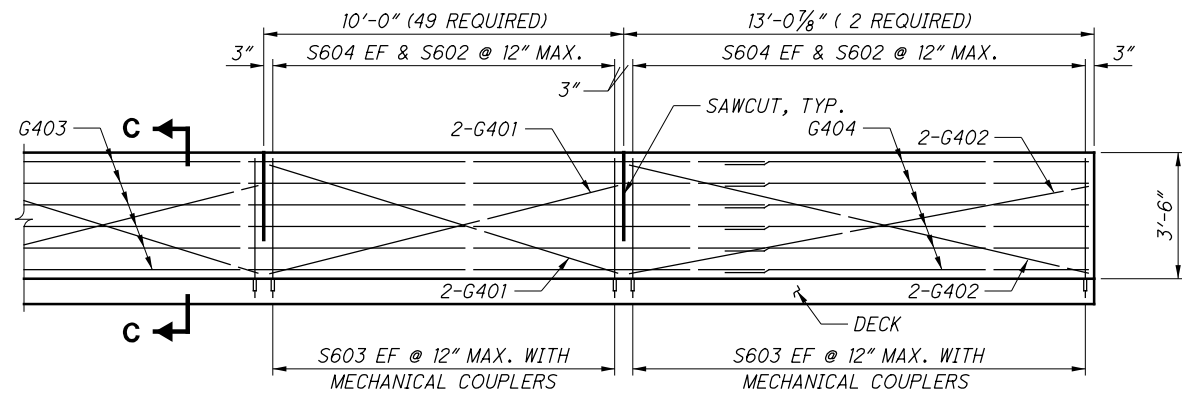
TYPICAL SECTION
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

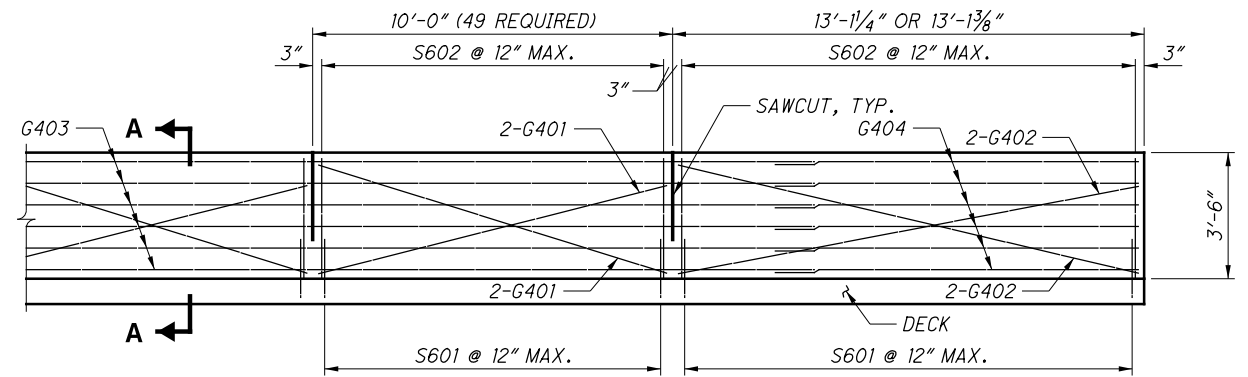
27/38

179
256

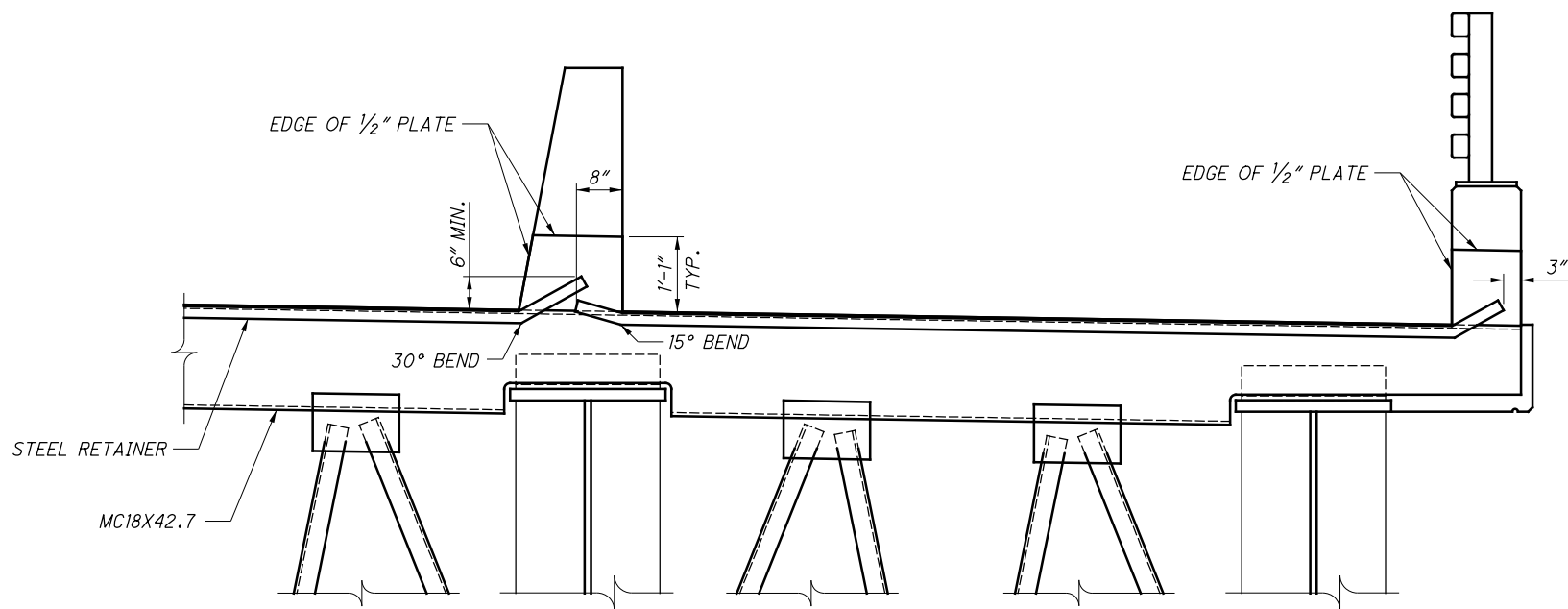
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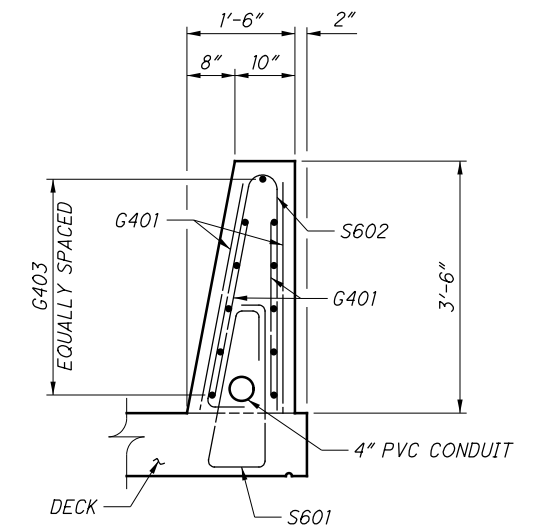
LEFT RAILING ELEVATION



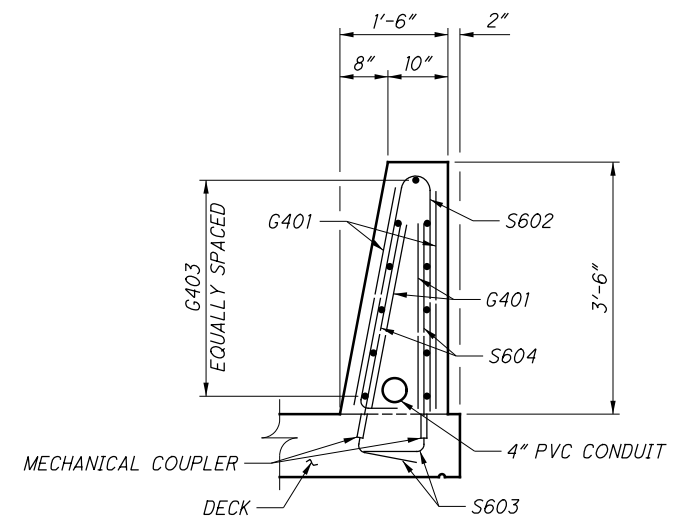
RIGHT RAILING ELEVATION



**SECTION B-B (SHOWN)
SECTION D-D (OPPOSITE HAND)**



SECTION A-A



SECTION C-C

NOTES:
1. SEE STD. DWG SBR-1-20 FOR ADDITIONAL DETAILS.
2. SEE STD. DWG. EXJ-4-87 FOR ADDITIONAL DETAILS.

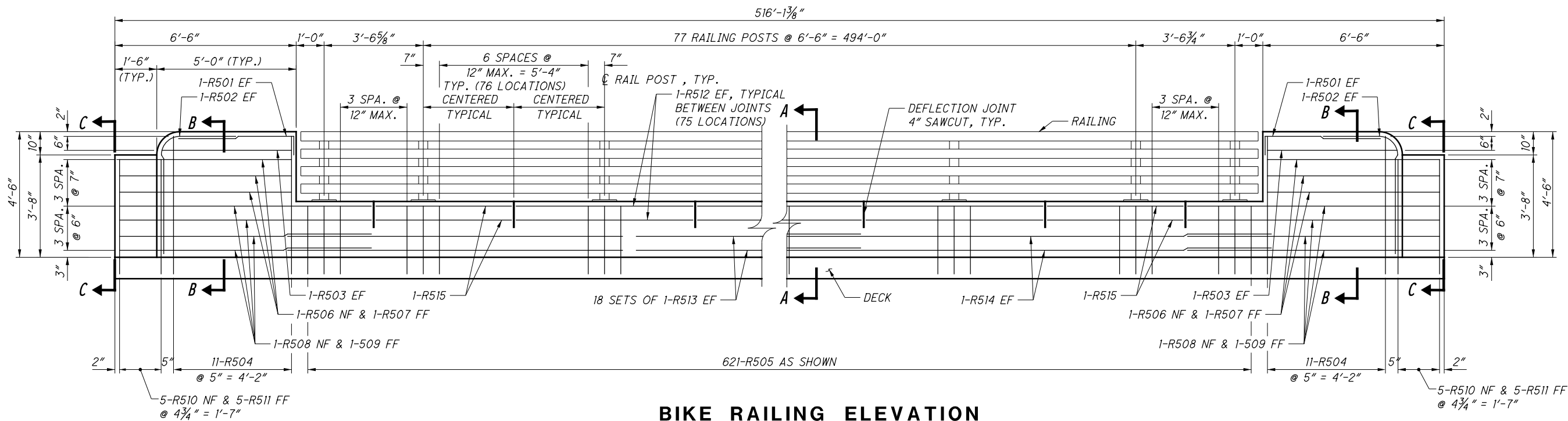


DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8335002
DATE	3/1/2021		

EXPANSION JOINT AND RAILING DETAILS
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

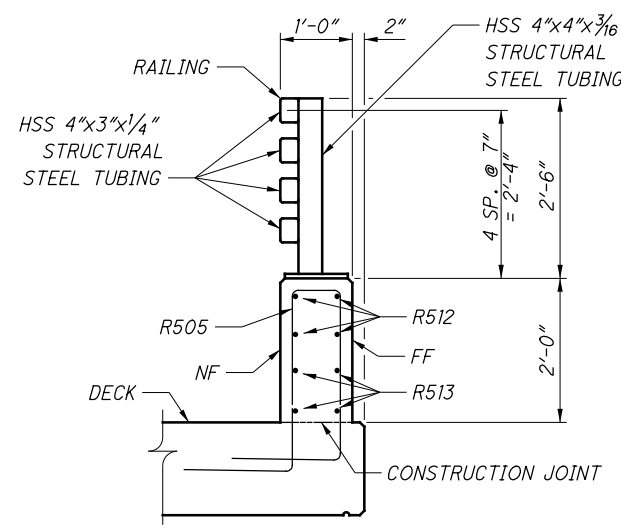
WAR-CR 282-0.97
PID No. 106724

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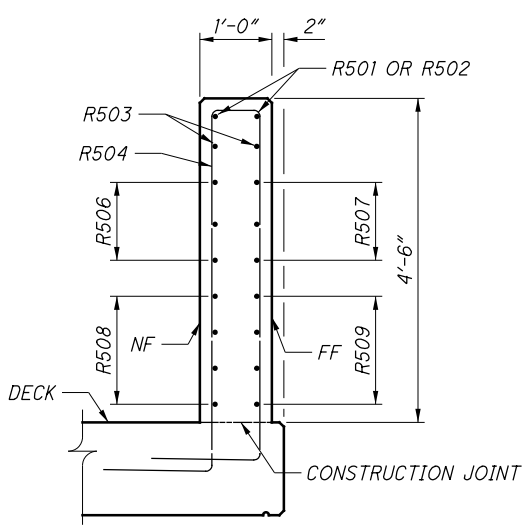


BIKE RAILING ELEVATION

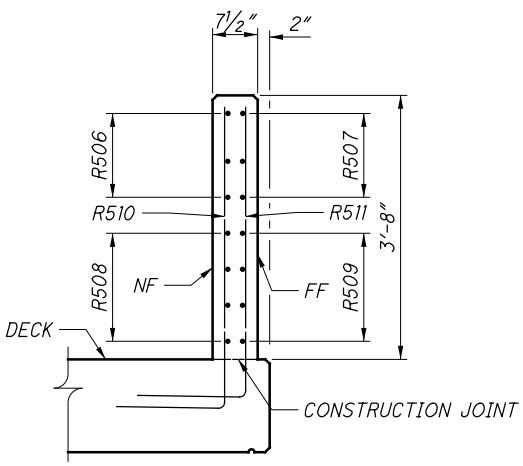
LAP LENGTH:
#5 BARS = 3'-3"



SECTION A-A



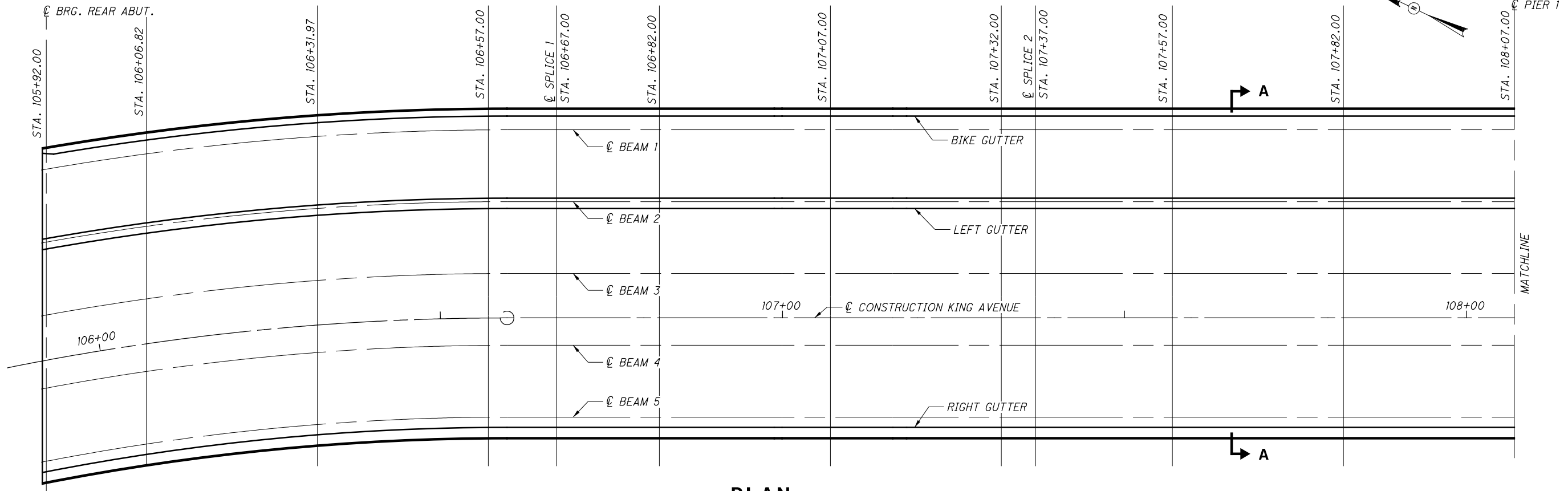
SECTION B-B



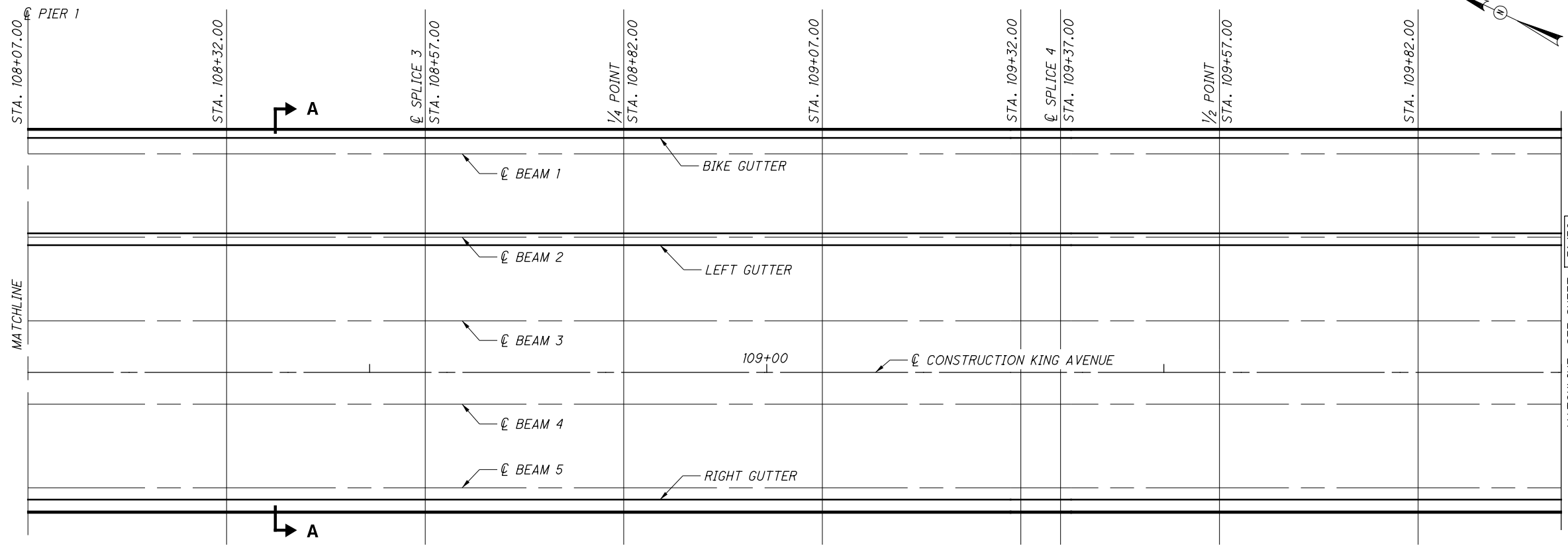
SECTION C-C

	DESIGN AGENCY
	stantec 10000 North Central Expressway Cincinnati, Ohio 45241 (513) 842-8200
DATE 10/8/21	REVIEWED BSM
STRUCTURE FILE NUMBER 8335002	DRAWN ALH
DESIGNED MRS	CHECKED EDA
BIKE RAILING DETAILS BRIDGE NO. WAR-282-0089 OVER LITTLE MIAMI RIVER	
WAR-CR 282-0.97 PID No. 106724	29/38
NOTES: 1. SEE STD. DWG. BR-2-15 FOR ADDITIONAL DETAILS.	
181 256	

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PLAN



PLAN

NOTES:
1. FOR SECTION A-A, SEE SHEET 31/38.



DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8335002
DATE	10/8/21		

DESIGN AGENCY
stantec
1000 Lakeside Blvd.
Cincinnati, Ohio 45241
(513) 542-8200

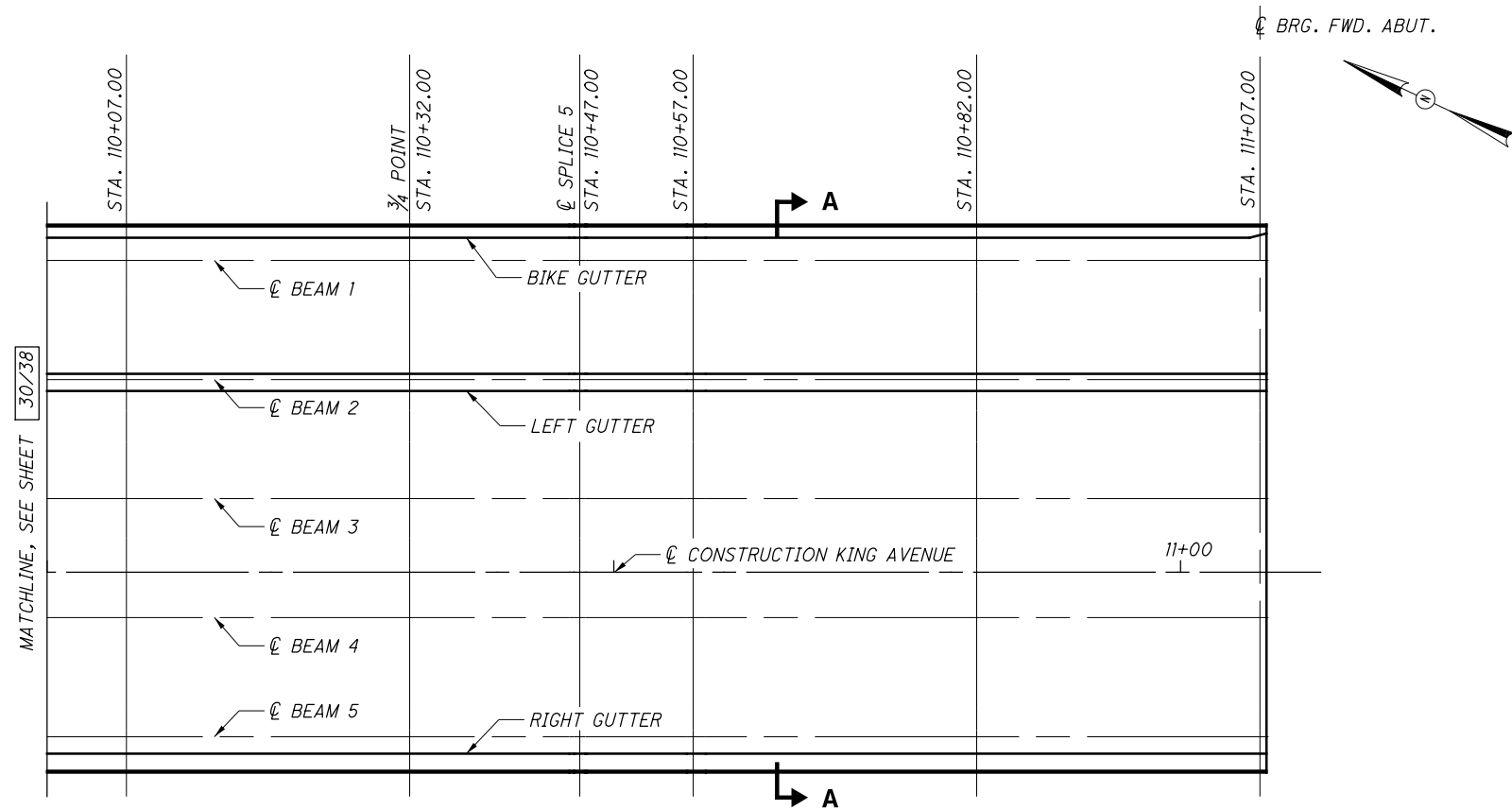
CONSTRUCTION ELEVATION DIAGRAM (1)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
PID No. 106724

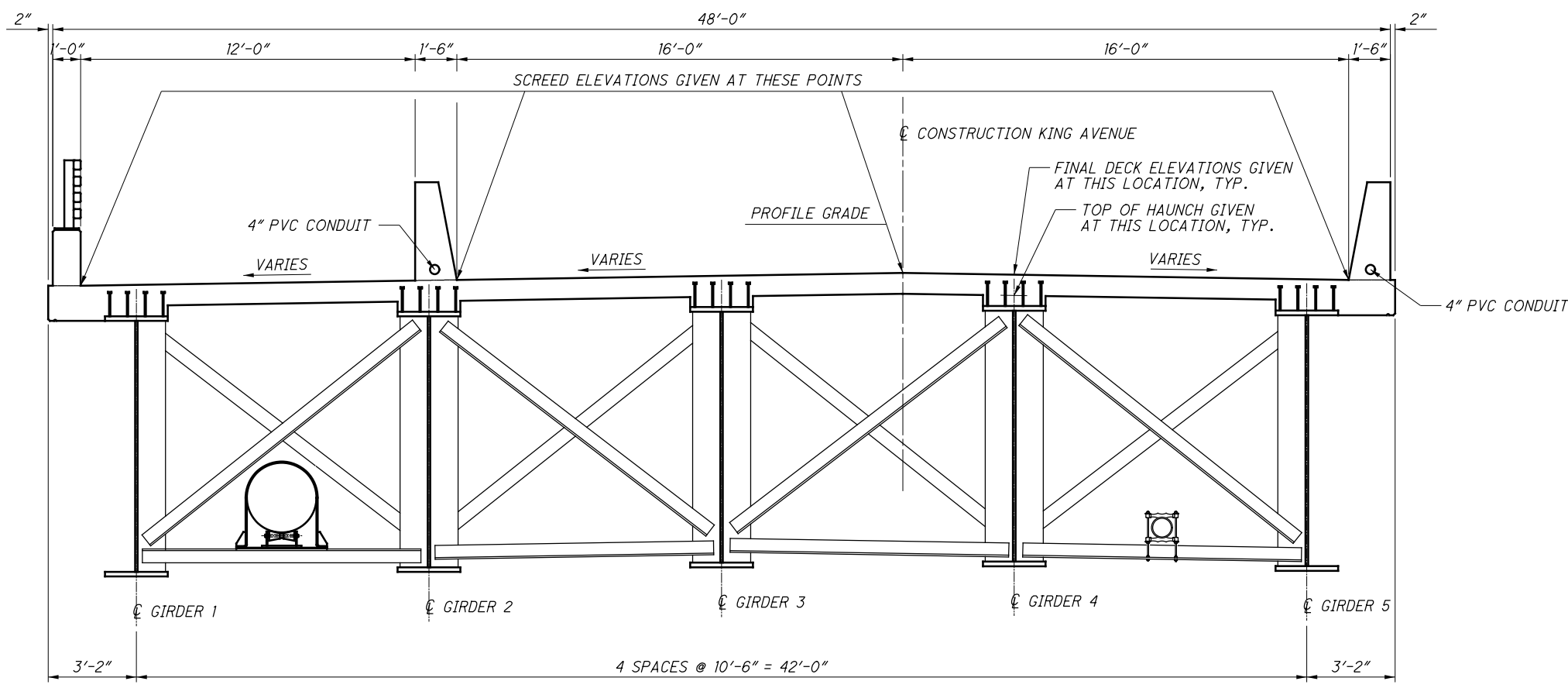
30/38

182
256

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PLAN



SECTION A-A



DESIGN AGENCY
 stantec
 3900 Central Expressway
 Cincinnati, Ohio 45241
 (513) 842-8200

DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8335002
DATE	10/8/21		

CONSTRUCTION ELEVATION DIAGRAM (2)
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

31 / 38

183
 256

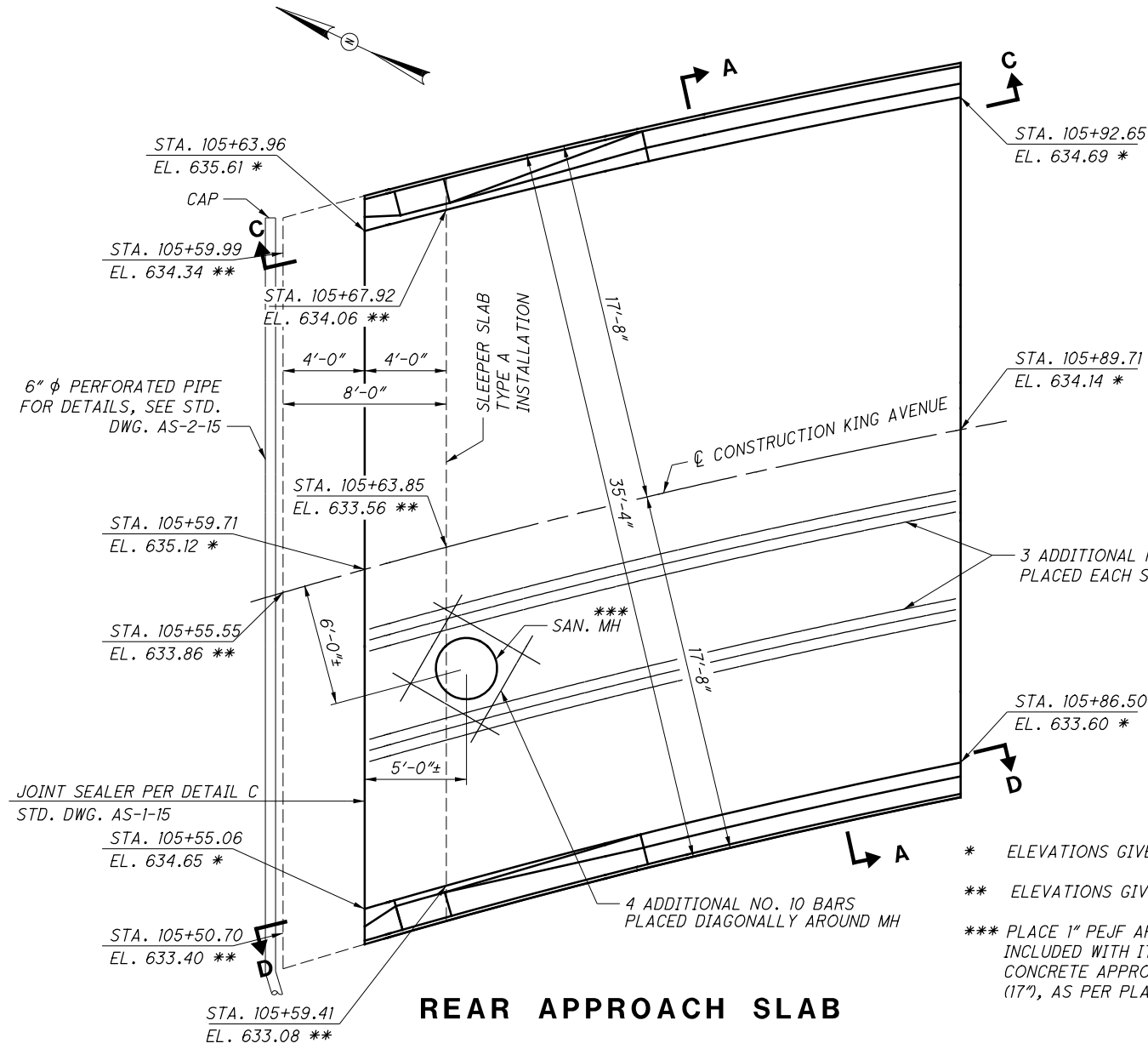
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SCREED ELEVATIONS									
LOCATION	BIKE GUTTER		LEFT GUTTER		PROFILE GRADE		RIGHT GUTTER		
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	
☪ BRG. REAR ABUT.	105+92.00	635.10	105+92.00	634.63	105+92.00	634.07	105+92.00	633.52	
	106+06.82	634.76	106+06.82	634.27	106+06.82	633.69	106+06.82	633.11	
	106+31.97	634.25	106+31.97	633.74	106+31.97	633.13	106+31.97	632.50	
☪ SPLICE 1	106+57.00	633.46	106+57.00	633.10	106+57.00	632.65	106+57.00	632.18	
	106+67.00	633.14	106+67.00	632.84	106+67.00	632.47	106+67.00	632.09	
	106+82.00	632.68	106+82.00	632.49	106+82.00	632.24	106+82.00	631.97	
☪ SPLICE 2	107+07.00	631.99	107+07.00	631.96	107+07.00	631.92	107+07.00	631.66	
	107+32.00	631.32	107+32.00	631.46	107+32.00	631.63	107+32.00	631.37	
	107+37.00	631.19	107+37.00	631.36	107+37.00	631.57	107+37.00	631.32	
☪ PIER 1	107+57.00	630.90	107+57.00	631.11	107+57.00	631.36	107+57.00	631.12	
	107+82.00	630.69	107+82.00	630.90	107+82.00	631.15	107+82.00	630.90	
	108+07.00	630.53	108+07.00	630.75	108+07.00	631.01	108+07.00	630.75	
☪ SPLICE 3	108+32.00	630.46	108+32.00	630.69	108+32.00	630.94	108+32.00	630.67	
	108+57.00	630.44	108+57.00	630.69	108+57.00	630.94	108+57.00	630.65	
	1/4 POINT	108+82.00	630.45	108+82.00	630.73	108+82.00	630.98	108+82.00	630.66
☪ SPLICE 4	109+07.00	630.45	109+07.00	630.75	109+07.00	631.01	109+07.00	630.67	
	109+32.00	630.42	109+32.00	630.74	109+32.00	630.99	109+32.00	630.63	
	109+37.00	630.40	109+37.00	630.73	109+37.00	630.98	109+37.00	630.62	
1/2 POINT	109+57.00	630.31	109+57.00	630.65	109+57.00	630.91	109+57.00	630.53	
	109+82.00	630.11	109+82.00	630.46	109+82.00	630.71	109+82.00	630.33	
	110+07.00	629.82	110+07.00	630.16	110+07.00	630.41	110+07.00	630.04	
3/4 POINT	110+32.00	629.44	110+32.00	629.76	110+32.00	630.02	110+32.00	629.66	
	☪ SPLICE 5	110+47.00	629.17	110+47.00	629.47	110+47.00	629.73	110+47.00	629.38
	110+57.00	628.96	110+57.00	629.25	110+57.00	629.50	110+57.00	629.17	
☪ BRG. FWD. ABUT.	110+82.00	628.26	110+82.00	628.52	110+82.00	628.78	110+82.00	628.48	
	111+07.00	627.34	111+07.00	627.56	111+07.00	627.81	111+07.00	627.56	

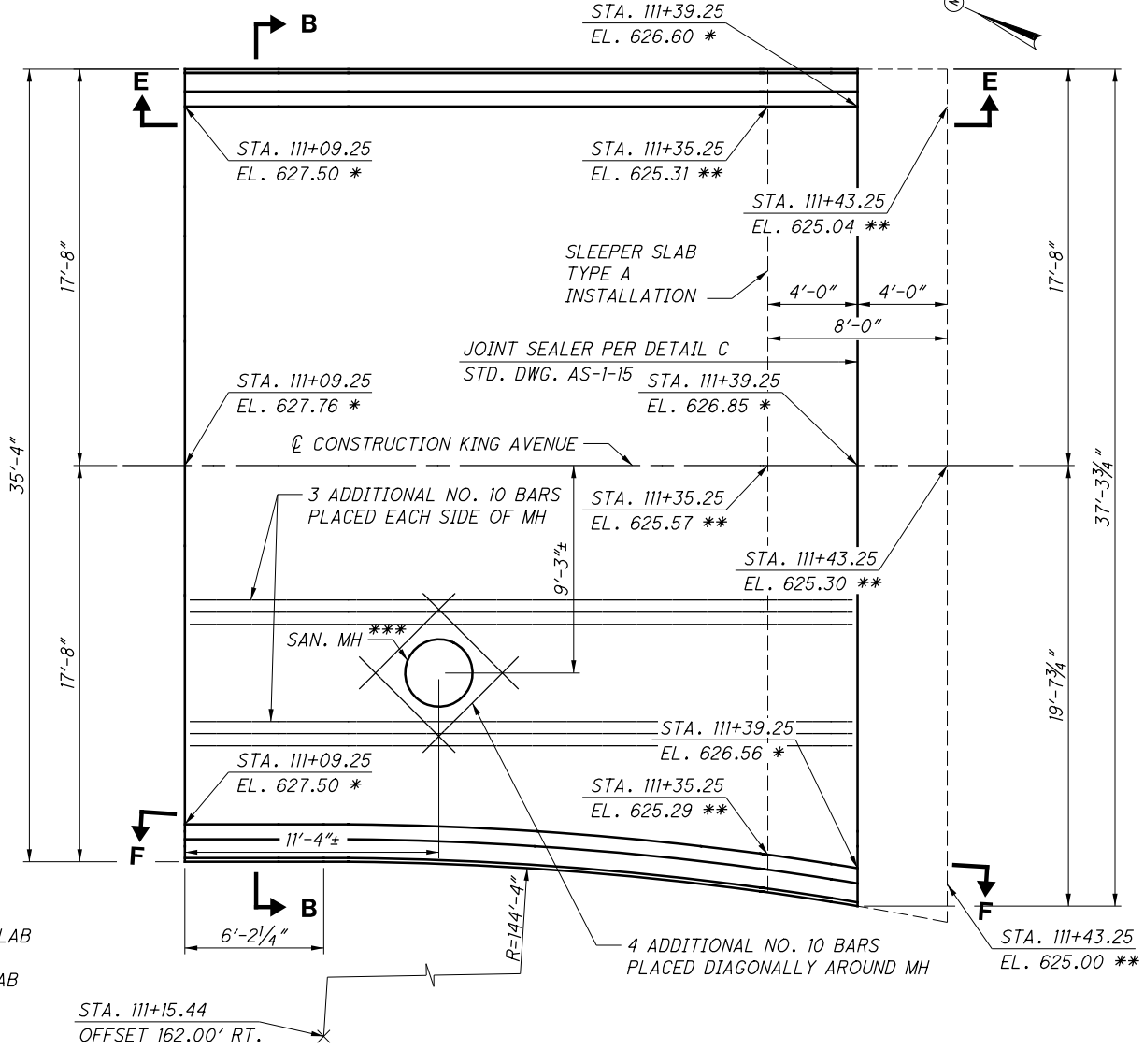
TOP OF HAUNCH ELEVATIONS											
LOCATION	BEAM 1		BEAM 2		BEAM 3		BEAM 4		BEAM 5		
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	
☪ BRG. REAR ABUT.	105+92.00	634.28	105+92.00	633.91	105+92.00	633.54	105+92.00	633.18	105+92.00	632.82	
	106+06.82	633.94	106+06.82	633.56	106+06.82	633.18	106+06.82	632.80	106+06.82	632.36	
	106+31.97	633.42	106+31.97	633.03	106+31.97	632.63	106+31.97	632.22	106+31.97	631.81	
☪ SPLICE 1	106+57.00	632.66	106+57.00	632.38	106+57.00	632.08	106+57.00	631.78	106+57.00	631.47	
	106+67.00	632.35	106+67.00	632.12	106+67.00	631.87	106+67.00	631.63	106+67.00	631.37	
	106+82.00	631.90	106+82.00	631.75	106+82.00	631.59	106+82.00	631.42	106+82.00	631.24	
☪ SPLICE 2	107+07.00	631.23	107+07.00	631.21	107+07.00	631.18	107+07.00	631.10	107+07.00	630.93	
	107+32.00	630.59	107+32.00	630.70	107+32.00	630.81	107+32.00	630.81	107+32.00	630.65	
	107+37.00	630.47	107+37.00	630.60	107+37.00	630.74	107+37.00	630.76	107+37.00	630.59	
☪ PIER 1	107+57.00	630.18	107+57.00	630.34	107+57.00	630.51	107+57.00	630.55	107+57.00	630.39	
	107+82.00	629.97	107+82.00	630.13	107+82.00	630.30	107+82.00	630.34	107+82.00	630.18	
	108+07.00	629.82	108+07.00	629.98	108+07.00	630.15	108+07.00	630.19	108+07.00	630.02	
☪ SPLICE 3	108+32.00	629.74	108+32.00	629.92	108+32.00	630.09	108+32.00	630.13	108+32.00	629.95	
	108+57.00	629.72	108+57.00	629.92	108+57.00	630.09	108+57.00	630.13	108+57.00	629.93	
	1/4 POINT	108+82.00	629.73	108+82.00	629.96	108+82.00	630.13	108+82.00	629.94		
☪ SPLICE 4	109+07.00	629.73	109+07.00	629.99	109+07.00	630.16	109+07.00	630.20	109+07.00	629.94	
	109+32.00	629.70	109+32.00	629.97	109+32.00	630.14	109+32.00	630.18	109+32.00	629.91	
	109+37.00	629.68	109+37.00	629.96	109+37.00	630.13	109+37.00	630.17	109+37.00	629.89	
1/2 POINT	109+57.00	629.59	109+57.00	629.88	109+57.00	630.05	109+57.00	630.09	109+57.00	629.80	
	109+82.00	629.40	109+82.00	629.69	109+82.00	629.86	109+82.00	629.90	109+82.00	629.60	
	110+07.00	629.11	110+07.00	629.39	110+07.00	629.56	110+07.00	629.60	110+07.00	629.31	
3/4 POINT	110+32.00	628.72	110+32.00	628.99	110+32.00	629.16	110+32.00	629.20	110+32.00	628.93	
	☪ SPLICE 5	110+47.00	628.45	110+47.00	628.71	110+47.00	628.87	110+47.00	628.91	110+47.00	628.66
	110+57.00	628.24	110+57.00	628.48	110+57.00	628.65	110+57.00	628.69	110+57.00	628.45	
☪ BRG. FWD. ABUT.	110+82.00	627.54	110+82.00	627.75	110+82.00	627.92	110+82.00	627.96	110+82.00	627.75	
	111+07.00	626.62	111+07.00	626.79	111+07.00	626.96	111+07.00	627.00	111+07.00	626.83	

FINAL DECK SURFACE ELEVATIONS																		
LOCATION	BIKE GUTTER		GIRDER 1		GIRDER 2		LEFT GUTTER		GIRDER 3		PROFILE GRADE		GIRDER 4		GIRDER 5		RIGHT GUTTER	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
☪ BRG. REAR ABUT.	105+92.00	635.10	105+92.00	635.03	105+92.00	634.66	105+92.00	634.63	105+92.00	634.29	105+92.00	634.07	105+92.00	633.93	105+92.00	633.57	105+92.00	633.52
	106+06.82	634.73	106+06.82	634.65	106+06.82	634.27	106+06.82	634.23	106+06.82	633.89	106+06.82	633.65	106+06.82	633.51	106+06.82	633.08	106+06.82	633.08
	106+31.97	634.17	106+31.97	634.10	106+31.97	633.69	106+31.97	633.65	106+31.97	633.29	106+31.97	633.04	106+31.97	632.88	106+31.97	632.48	106+31.97	632.43
☪ SPLICE 1	106+57.00	633.38	106+57.00	633.32	106+57.00	633.03	106+57.00	633.00	106+57.00	632.73	106+57.00	632.55	106+57.00	632.43	106+57.00	632.14	106+57.00	632.09
	106+67.00	633.07	106+67.00	633.02	106+67.00	632.78	106+67.00	632.76	106+67.00	632.53	106+67.00	632.38	106+67.00	632.29	106+67.00	632.05	106+67.00	632.01
	106+82.00	632.63	106+82.00	632.60	106+82.00	632.44	106+82.00	632.42	106+82.00	632.28	106+82.00	632.17	106+82.00	632.11	106+82.00	631.94	106+82.00	631.92
☪ SPLICE 2	107+07.00	631.99	107+07.00	631.99	107+07.00	631.96	107+07.00	631.96	107+07.00	631.93	107+07.00	631.92	107+07.00	631.85	107+07.00	631.68	107+07.00	631.66
	107+32.00	631.38	107+32.00	631.40	107+32.00	631.51	107+32.00	631.52	107+32.00	631.62	107+32.00	631.69	107+32.00	631.62	107+32.00	631.46	107+32.00	631.43
	107+37.00	631.26	107+37.00	631.29	107+37.00	631.42	107+37.00	631.44	107+37.00	631.56	107+37.00	631.64	107+37.00	631.58	107+37.00	631.41	107+37.00	631.39
☪ PIER 1	107+57.00	630.99	107+57.00	631.02	107+57.00	631.19	107+57.00	631.21	107+57.00	631.36	107+57.00	631.46	107+57.00	631.40	107+57.00	631.23	107+57.00	631.21
	107+82.00	630.76	107+82.00	630.79	107+82.00	630.96	107+82.00	630.98	107+82.00	631.13	107+82.00	631.23	107+82.00	631.17	107+82.00	631.00	107+82.00	630.98
	108+07.00	630.53	108+07.00	630.57	108+07.00	630.73	108+07.00	630.75	108+07.00	630.90	108+07.00	631.01	108+07.00	630.94	108+07.00	630.77	108+07.00	630.75
☪ SPLICE 3	108+32.00	630.31	108+32.00	630.34	108+32.00	630.51	108+32.00	630.52	108+32.00	630.67	108+32.00	630.78	108+32.00	630.71	108+32.00	630.55	108+32.00	630.52
	108+57.00	630.08	108+57.00	630.11	108+57.00	630.28	108+57.00	630.30	108+57.00	630.45	108+57.00	630.55	108+57.00	630.49	108+57.00	630.32	108+57.00	630.30
	1/4 POINT	108+82.00	629.85	108+82.00	629.88	108+82.00	630.05	108+82.00	630.07	108+82.00	630.22	108+82.00	630.32	108+82.00	630.26	108+82.00	630.09	108+82.00
☪ SPLICE 4	109+07.00	629.62	109+07.00	629.66	109+07.00	629.82	109+07.00	629.84	109+07.00	629.99	109+07.00	630.10	109+07.00	630.03	109+07.00	629.86	109+07.00	629.84
	109+32.00	629.40	109+32.00	629.43	109+32.00	629.60	109+32.00	629.61	109+32.00	629.76	109+32.00	629.87	109+32.00	629.80	109+32.00	629.64	109+32.00	629.61
	109+37.00	629.35	109+37.00	629.38	109+37.00	629.55	109+37.00	629.57	109+37.00	629.72	109+37.00	629.82	109+37.00	629.76	109+37.00	629.59	109+37.00	629.57
1/2 POINT	109+57.00	629.17	109+57.00	629.20	109+57.00	629.37	109+57.00	629.39	109+57.00	629.54	109+57.00	629.64	109+57.00	629.58	109+57.00	629.41	109+57.00	629.39
	1																	

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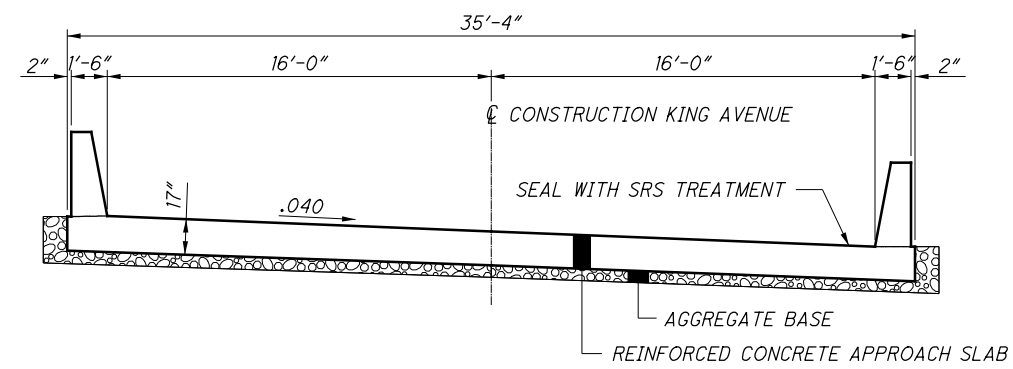


REAR APPROACH SLAB

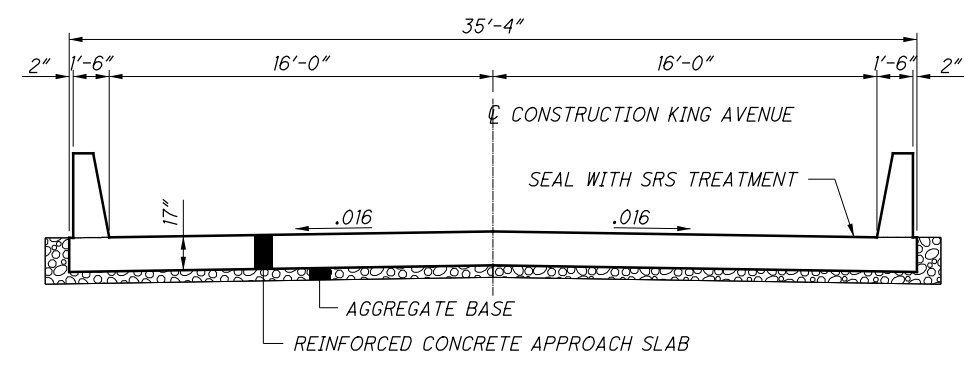


FORWARD APPROACH SLAB

- * ELEVATIONS GIVEN ON TOP OF APPROACH SLAB
- ** ELEVATIONS GIVEN ON TOP OF SLEEPER SLAB
- *** PLACE 1" PEJF AROUND MANHOLE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (17"), AS PER PLAN FOR PAYMENT.



SECTION A-A



SECTION B-B

- NOTES:
1. FOR ADDITIONAL DETAILS OF THE BARRIER, SEE STD. DWG. SBR-1-20 AND SHEET 34/38.
 2. FOR ADDITIONAL DETAILS OF THE APPROACH SLAB, SEE STD. DWG. AS-1-15 AND AS-2-15.
 3. FOR SECTION B-B THRU SECTION E-E, SEE SHEET 34/38.
 4. OUTLET 6" PERFORATED PIPE UNDERDRAIN IN ACCORDANCE WITH STD. DWG. AS-2-15.
 5. THE COST OF CONCRETE, REINFORCING STEEL, GFRP BARS AND INCIDENTALS IN BARRIER TO BE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN FOR PAYMENT.

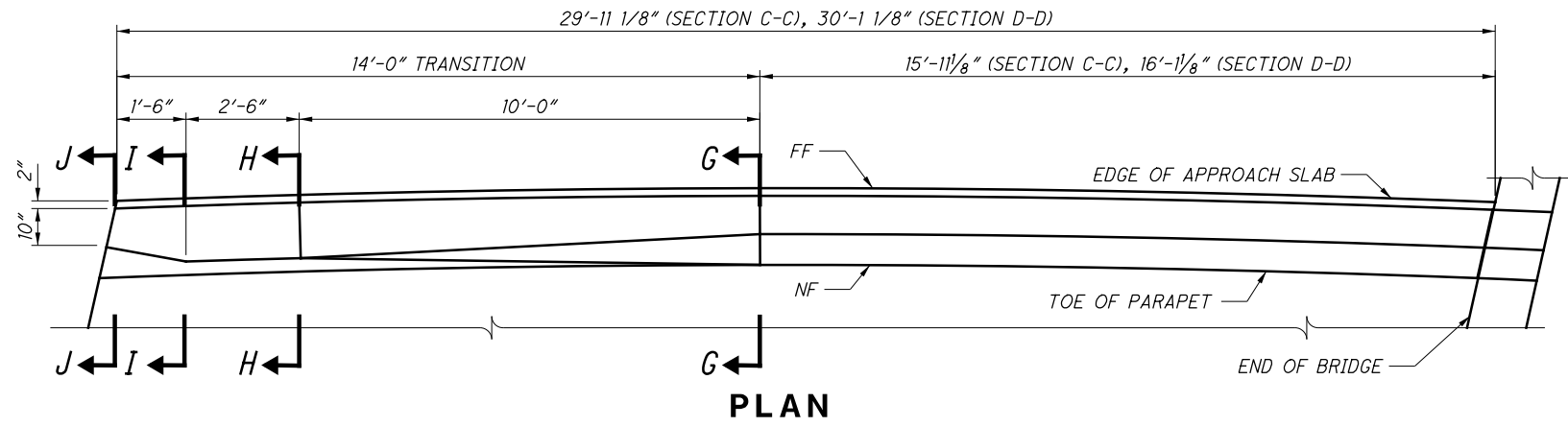


DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8335002
DATE	10/8/21		

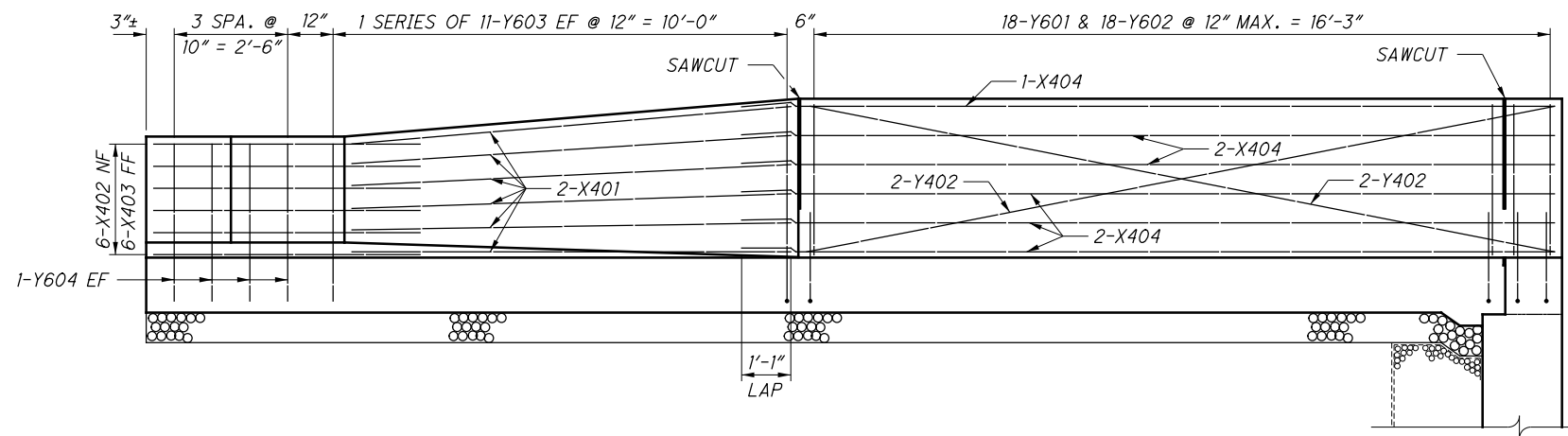
APPROACH SLABS (1)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
PID No. 106724

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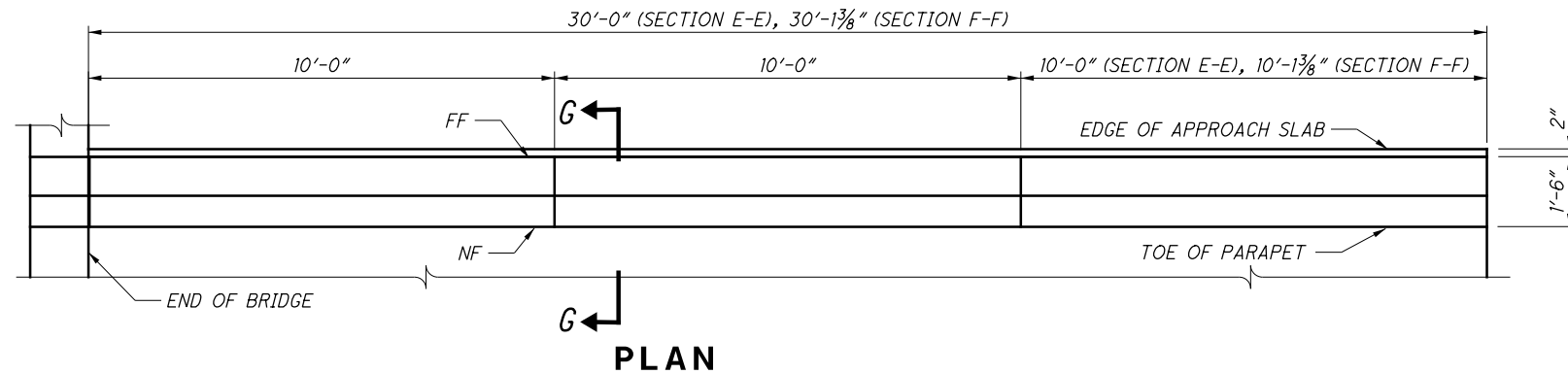


PLAN

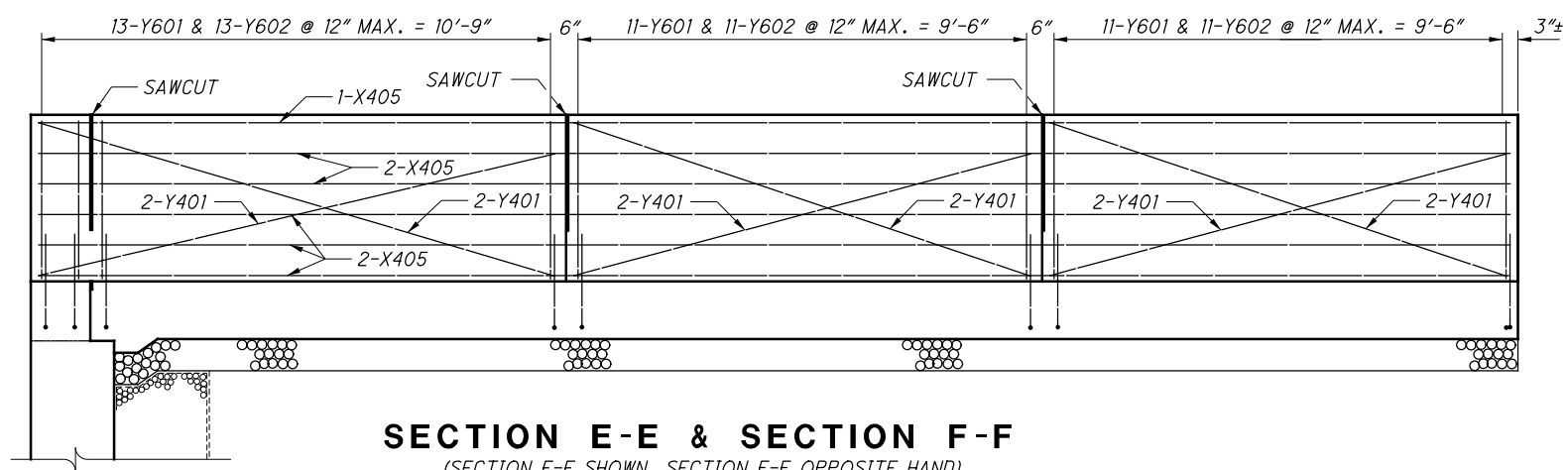


SECTION C-C & SECTION D-D

(SECTION C-C SHOWN, SECTION D-D OPPOSITE HAND)

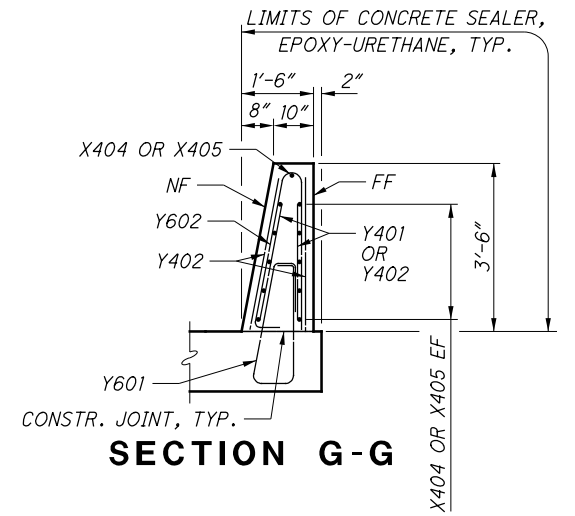


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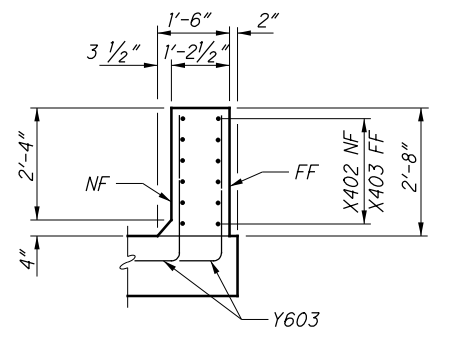


SECTION E-E & SECTION F-F

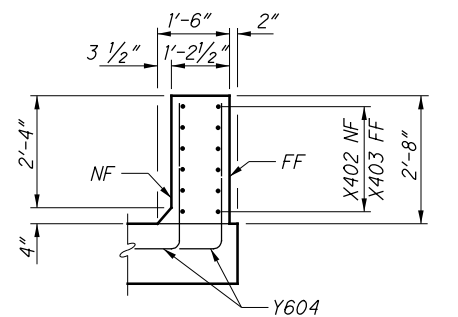
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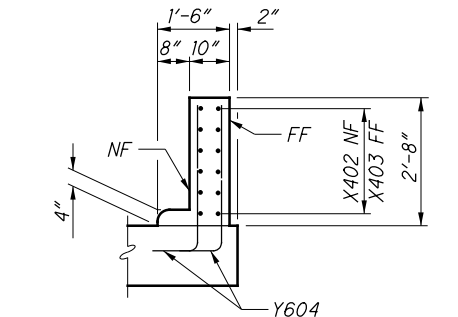
SECTION G-G



SECTION H-H



SECTION I-I



SECTION J-J

NOTES:
1. SEE ROADWAY PLANS FOR BRIDGE TERMINAL ASSEMBLY DETAILS.



DESIGNED	MRS	ED
CHECKED	ED	
DRAWN	ALH	REVISED
REVIEWED	BSM	8335002
DATE	10/8/21	
STRUCTURE FILE NUMBER		

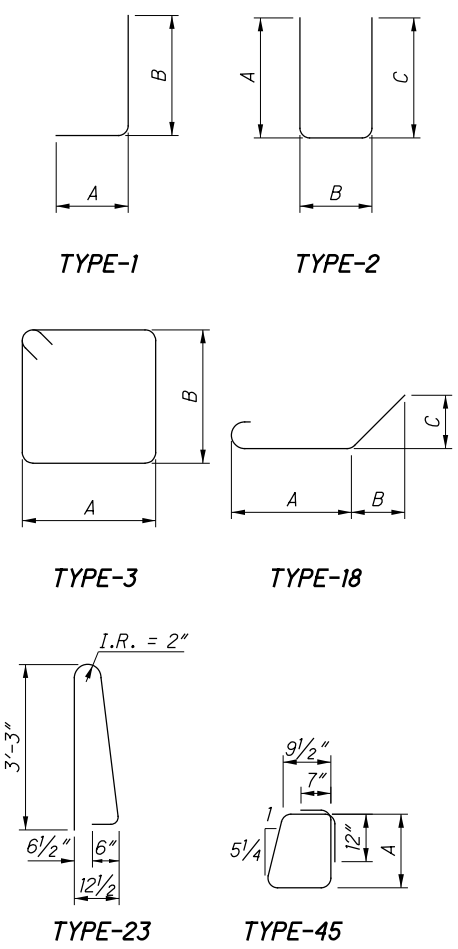
APPROACH SLAB DETAILS
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
PID No. 106724

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
REAR ABUTMENT											
A801	32	28'-10"	2464	STR.							
A802	16	19'-6"	833	STR.							
A803	24	5'-1"	326	18	2'-11"	1'-0"	1'-0"				
A804	14	13'-7"	508	1	1'-4"	12'-6"					
	1	8'-3"									
A805	SERIES OF	TO	355	STR.							2 1/4"
	14	10'-9"									
A806	2	14'-10"	79	1	1'-4"	13'-9"					
A701	47	14'-1"	1353	2	6'-6"	1'-5"	6'-6"				
A702	36	19'-11"	1466	2	9'-5"	1'-5"	9'-5"				
A703	17	22'-8"	788	2	10'-10"	1'-5"	10'-10"				
A601	46	11'-10"	818	2	1'-0"	10'-2"	1'-0"				
A602	10	22'-10"	343	3	3'-5"	7'-7"					
A603	9	23'-6"	318	3	3'-5"	7'-11"					
A604	10	24'-2"	366	3	3'-5"	8'-3"					
A605	9	25'-0"	338	3	3'-5"	8'-8"					
A606	4	25'-8"	154	3	3'-5"	9'-0"					
A607	36	6'-5"	347	2	2'-11"	11"	2'-11"				
A608	3	8'-5"	38	1	1'-0"	7'-7"					
A609	2	9'-10"	30	1	1'-0"	9'-0"					
A501	46	15'-1"	724	2	2'-7"	10'-2"	2'-7"				
A502	31	11'-1"	358	2	10"	9'-8"	10"				
A503	31	14'-7"	472	2	2'-7"	9'-8"	2'-7"				
A504	41	7'-7"	324	2	10"	6'-2"	10"				
A505	41	11'-1"	474	2	2'-7"	6'-2"	2'-7"				
A506	14	15'-8"	229	STR.							
A507	14	15'-0"	219	STR.							
A508	14	8'-0"	117	STR.							
A509	3	8'-3"	26	1	10"	7'-7"					
A510	NOT	USED									
A511	NOT	USED									
A512	NOT	USED									
A513	2	9'-8"	20	1	10"	9'-0"					
A514	NOT	USED									
A515	23	25'-0"	600	STR.							
A516	22	7'-0"	161	STR.							
A517	10	14'-3"	149	STR.							
A518	5	14'-4"	75	STR.							
A519	5	3'-9"	20	STR.							
A520	44	28'-0"	1285	STR.							
A521	4	6'-11"	29	45	2'-1"						
A522	4	7'-0"	29	23							
A523	16	5'-0"	83	STR.							

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
REAR ABUTMENT											
A524	32	8'-2"	273	1	10"	7'-6"					
A525	14	10'-11"	159	1	10"	10'-3"					
A526	6	13'-8"	86	STR.							
A527	12	29'-8"	371	STR.							
	2	2'-0"									
A528	SERIES OF	TO	230	STR.							4'-7"
	7	29'-6"									
A529	2	28'-4"	59	STR.							
	2	4'-8"									
A530	SERIES OF	TO	211	STR.							2 5/8"
	16	8'-0"									
	1	8'-3"									
A531	SERIES OF	TO	139	STR.							2 1/4"
	14	10'-9"									
A532	4	10'-10"	45	STR.							
A533	2	12'-5"	26	1	10"	11'-9"					
A534	32	9'-5"	315	1	10"	8'-9"					
A535	4	2'-4"	10	STR.							
A536	16	17'-8"	295	STR.							
	2	2'-1"									
A537	SERIES OF	TO	138	STR.							2'-5 3/8"
	7	16'-9"									
A538	2	17'-9"	37	STR.							
A539	4	11'-0"	46	STR.							
	2	4'-4"									
A540	SERIES OF	TO	245	STR.							4 3/4"
	16	10'-4"									
A541	1	15'-3"	16	STR.							
A542	1	3'-9"	4	STR.							
		TOTAL	19,019								



DESIGN AGENCY
stantec
 10000
 Cleveland, Ohio 44124
 (513) 842-8200

DATE 10/8/21
 REVIEWED BSM
 DRAWN ALH
 DESIGNED MRS
 CHECKED EDA

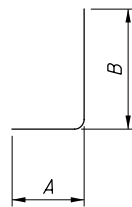
STRUCTURE FILE NUMBER 8335002
 REVISIONS
 REINFORCING STEEL LIST (1)
 BRIDGE NO. WAR-282-0089
 OVER LITTLE MIAMI RIVER

WAR-CR 282-0.97
 PID No. 106724

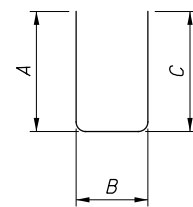
35 / 38
 187
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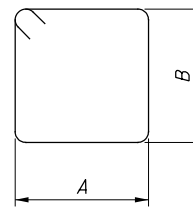
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
FORWARD ABUTMENT											
B801	24	35'-3"	2259	STR.							
B802	4	8'-3"	88	STR.							
B803	24	5'-0"	320	18	2'-10"	1'-0"	1'-0"				
B804	10	26'-6"	708	STR.							
B701	59	20'-5"	2462	3	7'-2"	2'-7"					
B601	NOT	USED									
B602	17	7'-4"	187	1	6'-5"	1'-0"					
B603	10	11'-4"	170	1	1'-0"	10'-6"					
B604	2	2'-6"									
B604	SERIES OF 25	TO 14'-0"	620	STR.							5 3/4"
B605	38	10'-9"	614	STR.							
B606	48	9'-5"	679	2	4'-2"	1'-5"	4'-2"				
B607	35	19'-11"	1047	2	9'-5"	1'-5"	9'-5"				
B608	35	6'-5"	337	2	2'-11"	11"	2'-11"				
B609	2	7'-5"	22	1	1'-0"	6'-7"					
B501	5	24'-6"	128	STR.							
B502	17	7'-1"	126	1	6'-5"	10"					
B503	19	20'-4"	403	3	3'-5"	6'-5"					
B504	23	20'-8"	496	3	3'-5"	6'-7"					
B505	4	8'-3"	34	STR.							
B506	7	11'-2"	82	3	2'-8"	2'-7"					
B507	8	27'-7"	230	STR.							
B508	56	25'-6"	1489	STR.							
B509	2	4'-6"									
B509	SERIES OF 11	TO 25'-4"	342	STR.							2'-1"
B510	16	5'-0"	83	STR.							
B511	2	27'-3"	57	STR.							
B512	4	6'-11"	29	45	2'-1"						
B513	4	7'-0"	29	23							
B514	8	5'-8"	47	STR.							
B515	22	3'-7"	82	STR.							
		SUBTOTAL	13,170								



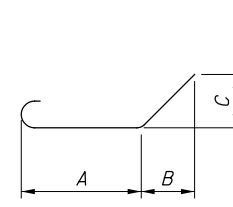
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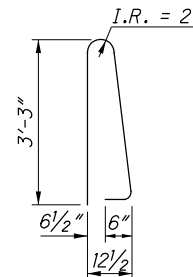
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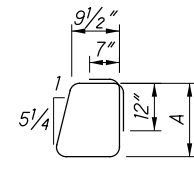
TYPE-3



TYPE-18



TYPE-23



TYPE-45

WAR-CR 282-0.97
PID No. 106724

REINFORCING STEEL LIST (2)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

DESIGNED: MRS
CHECKED: EDA
DRAWN: ALH
REVISED:
REVIEWED: BSM
DATE: 10/8/21
STRUCTURE FILE NUMBER: 8335002

DESIGN AGENCY
stantec
Civil & Structural
Cincinnati, Ohio 45241
(513) 842-8200

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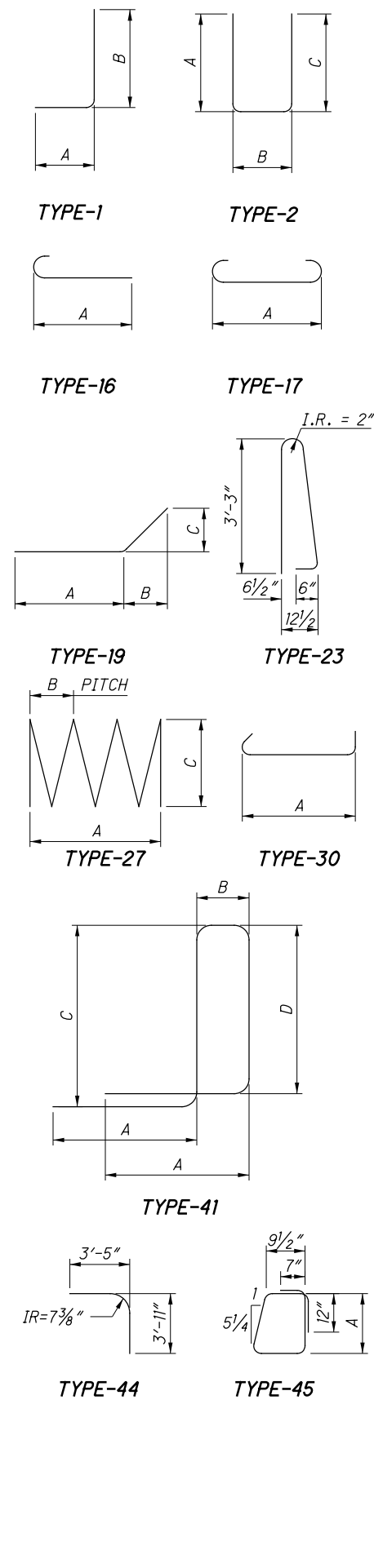
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIER											
P801	108	19'-4"	5575	17	17'-8"						
P701	55	17'-8"	1986	STR.							
P702	76	29'-3"	4544	STR.							
P703	94	9'-9"	1873	1	8'-9"	1'-2"					
P704	94	32'-0"	6148	STR.							
P501	136	24'-6"	3475	STR.							
P502	330	4'-0"	1377	30	2'-8"						
P503	58	7'-5"	449	2	2'-6"	2'-8"	2'-6"				
P504	94	8'-9"	858	2	2'-8"	3'-8"	2'-8"				
		TOTAL	26,285								
DS401	27	435'-7"	7856	27	50'-6"	1'-0"	2'-10"				
DS801	432	52'-8"	60,748	1	51'-8"	1'-4"					
ALL DS-BARS ABOVE ARE INCLUDED FOR PAYMENT WITH ITEMS 524, DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK AND DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK											

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S601	567	6'-11"	5890	45	12"						
S602	1134	7'-0"	11,923	23							
*S603	1134	1'-7"	2697	1	7"	12"					
**S604	1134	3'-3"	5536	STR.							
S605	424	30'-0"	19,105	STR.							
S606	53	12'-0"	955	STR.							
S501	1140	30'-0"	35,671	STR.							
S502	60	8'-0"	501	STR.							
S503	1078	1'-8"	1874	STR.							
S504	2156	8'-1"	18,177	16	7'-6"						
S505	2156	25'-8"	57,717	STR.							
S506	1078	21'-0"	23,611	16	20'-5"						
S507	1078	31'-6"	35,417	16	30'-11"						
S401	972	30'-0"	19,479	STR.							
S402	54	21'-0"	758	STR.							
		TOTAL	239,311								

* WITH MECHANICAL COUPLERS ** THREADED ONE END

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE											
R501	4	4'-2"	17	1	10"	3'-5"					
R502	4	7'-1"	30	44							
R503	4	4'-7"	19	STR.							
R504	22	12'-10"	294	41	1'-6"	8"	4'-11"	4'-9"			
R505	621	7'-10"	5074	41	1'-6"	8"	2'-5"	2'-3"			
R506	6	6'-3"	39	19	4'-10"	1'-5"	5"				
R507	6	6'-2"	39	STR.							
R508	8	9'-0"	75	19	7'-7"	1'-5"	5"				
R509	8	9'-0"	75	STR.							
R510	10	5'-5"	56	1	1'-6"	4'-1"					
R511	10	5'-3"	55	1	1'-6"	3'-11"					
R512	300	6'-2"	1930	STR.							
R513	72	30'-0"	2253	STR.							
R514	8	23'-0"	192	STR.							
R515	8	4'-8"	39	STR.							
ALL R-BARS ABOVE ARE INCLUDED FOR PAYMENT WITH ITEM 517, RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING), AS PER PLAN											

G401	392	10'-0"***	3920'	STR.							
G402	16	13'-1"***	209'	STR.							
G403	286	40'-0"***	11,440'	STR.							
G404	22	10'-2"***	224'	STR.							
		TOTAL	15,793'***								



stantec
DESIGN AGENCY
1000 Lakeside Blvd., Suite 1000
Cincinnati, Ohio 45241
(513) 542-8200

REINFORCING STEEL LIST (3)
BRIDGE NO. WAR-282-0089
OVER LITTLE MIAMI RIVER

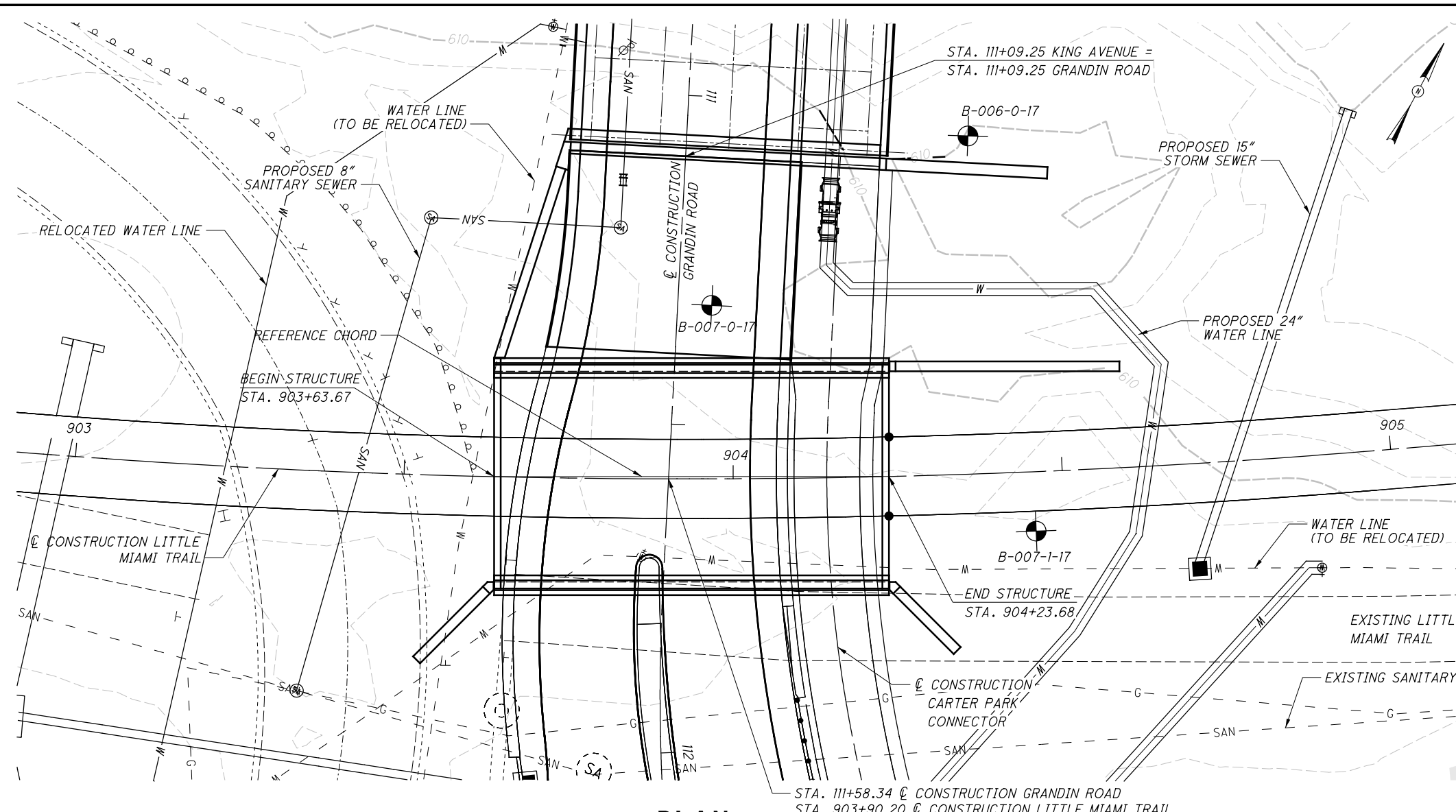
WAR-CR 282-0.97
PID No. 106724

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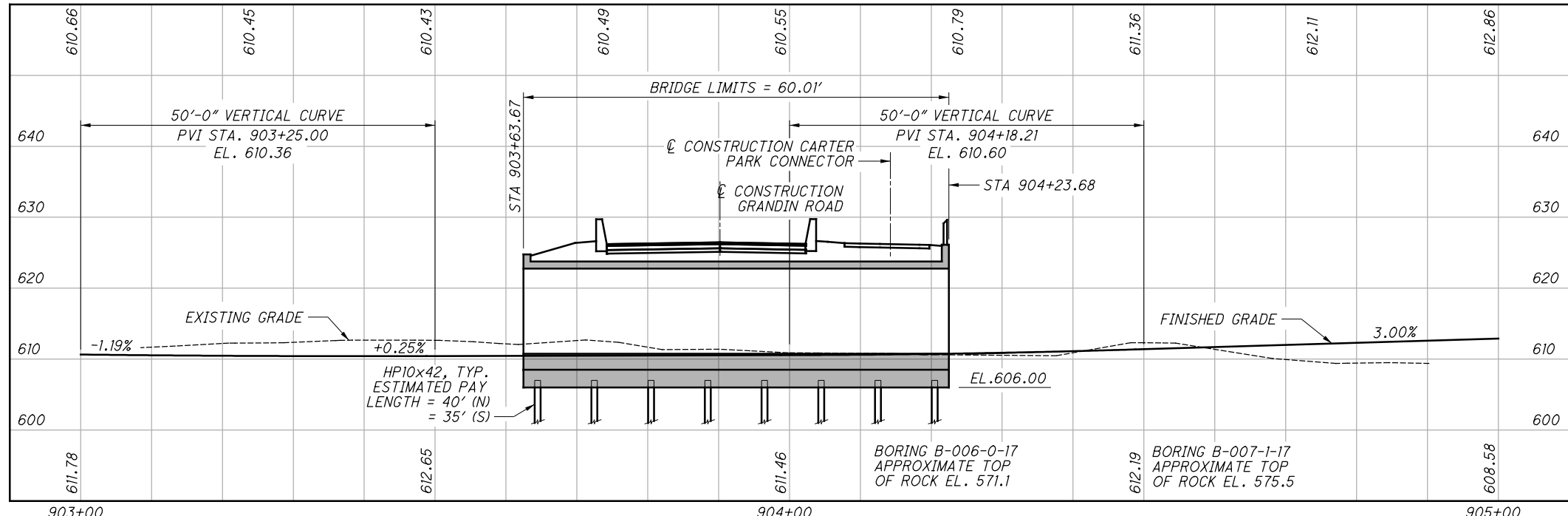
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*** GFRP BARS PAID FOR BY THE FOOT

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PLAN



ELEVATION

BENCHMARK DATA	
BM #1	STA. 110+22.54, ELEV. 616.709, OFFSET 297.66', RT.
BM #2	STA. 110+93.65, ELEV. 612.173, OFFSET 10.24', RT.
BM #3	STA. 115+95.93, ELEV. 627.601, OFFSET 27.52', RT.
BM #4	STA. , ELEV. , OFFSET ,

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 9/256

NOTES
 EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
 2013 ADT = 8,500 2013 ADTT = 255
 2044 ADT = 12,500 2044 ADTT = 375
 DIRECTIONAL DISTRIBUTION = 60%

LEGEND
 ⊕ BORING LOCATION
 ● 12'-0" REQUIRED MINIMUM VERTICAL CLEARANCE
 ○ 12'-0" ACTUAL MINIMUM VERTICAL CLEARANCE

PROPOSED STRUCTURE	
TYPE:	32'x12' PRECAST CONCRETE ARCH CULVERT ON CAST IN PLACE CONCRETE PEDESTAL WALLS
SPANS:	32'-0" CLEAR SPAN
ROADWAY:	VARIABLE 34'-5" TO 40'-5" T/T BARRIER
LOADING:	HL93 & 60 PSF FWS
SKEW:	0°
APPROACH SLABS:	NONE
WEARING SURFACE:	ASPHALT CONCRETE
ALIGNMENT:	TANGENT
CROWN:	.016 FT/FT
COORDINATES:	LATITUDE N39°21'05.64" LONGITUDE W84°14'29.09"



DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISED	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8333100
DATE	10/8/21		

WARREN COUNTY	STA. 903+63.67
	STA. 904+23.68

SITE PLAN
BRIDGE NO. WAR-150-0001
OVER LITTLE MIAMI TRAIL

WAR-CR 282-0.97
PID No. 106724

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

867 DATED 1/15/2021

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

CONCRETE CLASS QC1
-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

STEEL H-PILES - ASTM A572
-YIELD STRENGTH 50 KSI

STEEL SHEET PILING - ASTM A572
-YIELD STRENGTH 50 KSI

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK. WARREN COUNTY ENGINEER'S OFFICE WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 205 KIPS PER PILE. THE PILE LOADS INCLUDE AN ADDITIONAL 70 KIPS FACTORED LOAD PER PILE TO ACCOUNT FOR POSSIBLE DOWNDRAG LOADING.

NORTH FOUNDATION PILES:
38 PILES 45 FEET LONG, ORDER LENGTH

SOUTH FOUNDATION PILES:
28 PILES 40 FEET LONG, ORDER LENGTH

PILE DRIVING

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 43,200 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

ITEM 504 - SHEET PILING LEFT IN PLACE

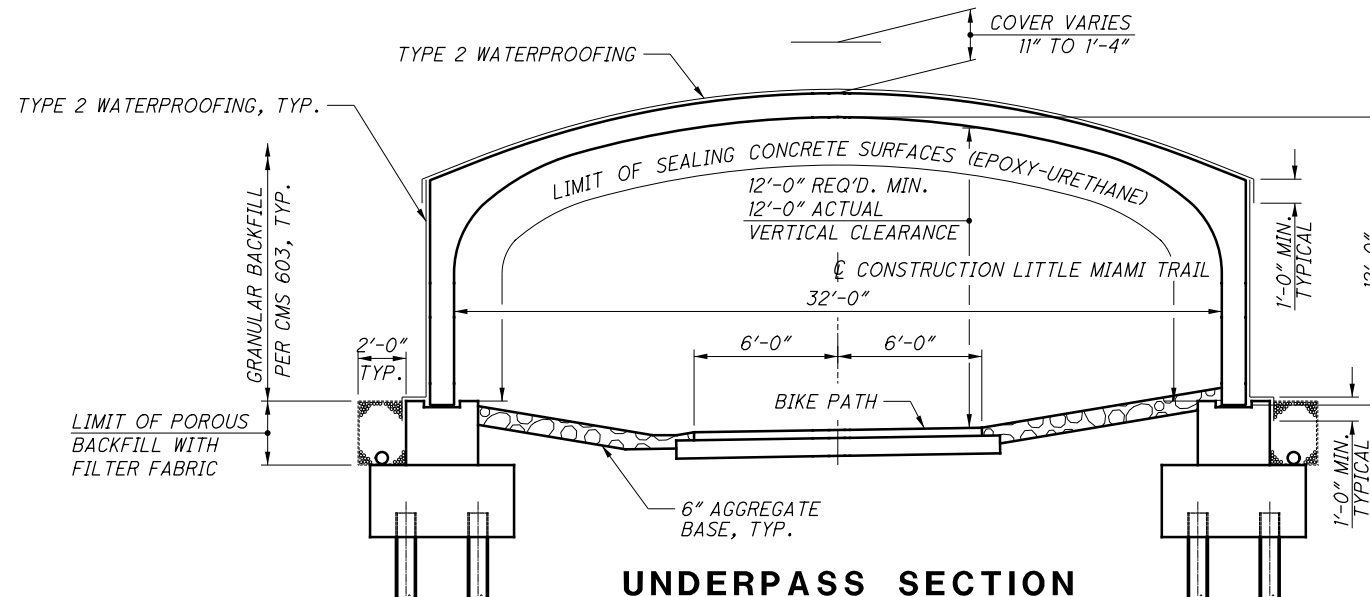
SHEET PILING SHALL BE USED AS THE FRONT FORM FOR THE WINGWALL FOOTINGS AND SHALL EXTEND A MINIMUM OF 6 FEET BELOW THE BOTTOM OF FOOTING. MINIMUM SECTION MODULUS SHALL BE 18.1 IN.³

EMBANKMENT CONSTRUCTION

THE EMBANKMENT ABOVE AND ADJACENT TO THE TUNNEL SHALL BE CONSTRUCTED AND THEN UNDERGO A WAITING PERIOD OF APPROXIMATELY 30 CALENDAR DAYS WITH THE USE OF WICK DRAINS SPACED ON 5 FOOT CENTERS IN A TRIANGULAR PATTERN. SEE SETTLEMENT PLATFORM AND WICK DRAIN NOTES IN PLANS FOR BRIDGE NO. WAR-282-0089 AND SEE ROADWAY PLANS FOR DETAILS AND NOTES REGARDING EMBANKMENT CONSTRUCTION.

EMBANKMENT BEHIND FORWARD ABUTMENT OF BRIDGE NO. WAR-282-0089 SHALL BE CONSTRUCTED TO A VERTICAL FACED TEMPORARY MSE WALL LOCATED 2'-0" BEHIND THE PROPOSED ABUTMENT FOOTING. SEE PLANS FOR BRIDGE NO. WAR-282-0089 FOR PAY ITEM.

THE CONTRACTOR SHALL REVIEW THE BORING LOGS SUBSURFACE INVESTIGATION, AND THE ROADWAY GENERAL NOTES PRIOR TO COMMENCING WORK ON THE BRIDGE.



UNDERPASS SECTION

REACTION FORCES (K/FT)
(UNFACTORED)

	HORIZONTAL	VERTICAL
DEAD LOAD	2.0	15.6
LIVE LOAD	1.8	5.0
TOTAL LOAD	3.8	20.6

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GENERAL NOTES AND UNDERPASS SECTION
BRIDGE NO. WAR-150-0001
OVER LITTLE MIAMI TRAIL

WAR-CR 282-0.97
PID No. 106724

2 / 12

192
256

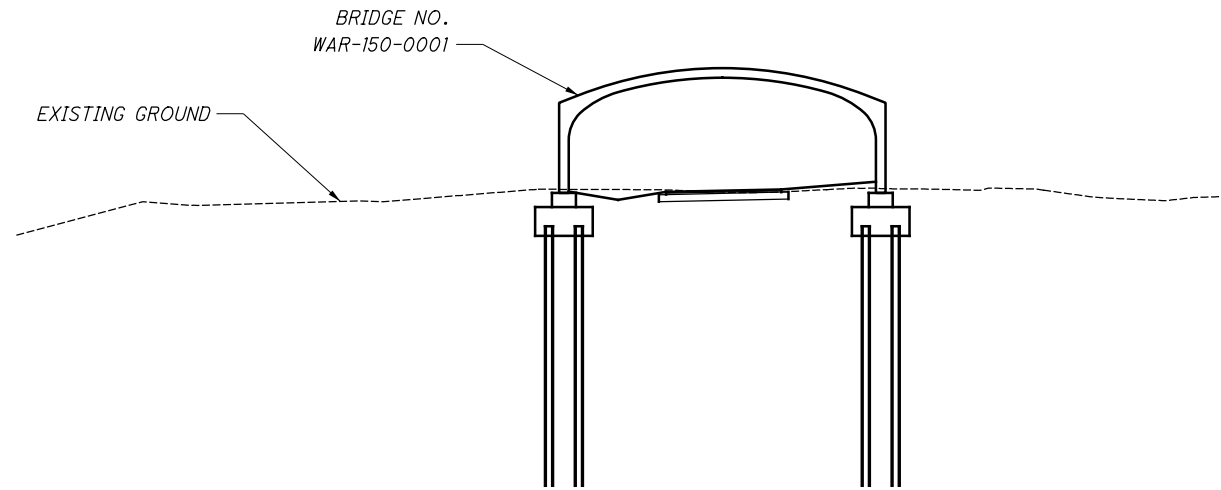


DESIGN AGENCY
DATE 10/8/21
REVIEWED BSM
DRAWN ALH
DESIGNED MRS
CHECKED EDA
STRUCTURE FILE NUMBER 8333100

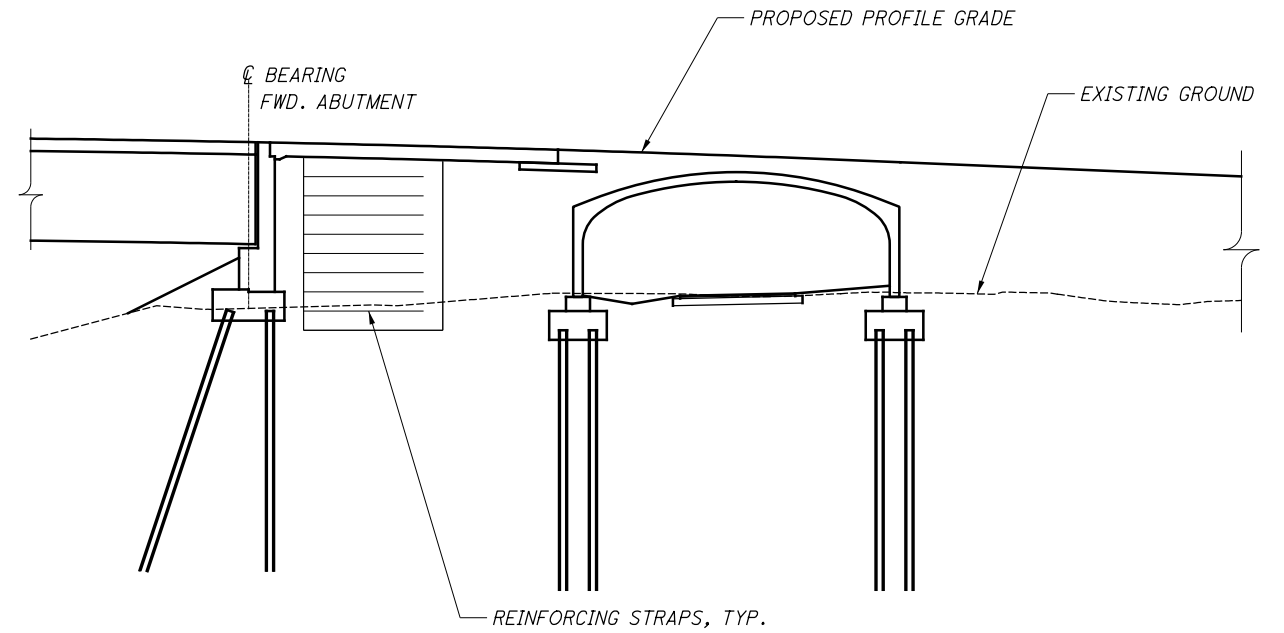
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ESTIMATED QUANTITIES									
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING				LUMP	
503	21300	LUMP	LS	UNCLASSIFIED EXCAVATION				LUMP	
504	11100	905	SF	STEEL SHEET PILING LEFT IN PLACE (MIN. SECTION MODULUS = 18.1)				905	
505	11100	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00100	2830	FT	STEEL PILES HP10X42, FURNISHED				2830	
507	00150	2500	FT	STEEL PILES HP10X42, DRIVEN				2500	
509	10000	22,194	LB	EPOXY COATED REINFORCING STEEL				22,194	
511	46012	110	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING				110	
511	46512	192	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING				192	
512	10100	425	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				425	
512	33000	399	SY	TYPE 2 WATERPROOFING				399	
516	13600	120	SF	1" PREFORMED EXPANSION JOINT FILLER				120	
517	76400	4	EACH	RAILING POST				4	
518	21200	105	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC				105	
518	40000	209	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				209	
518	40011	74	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE INCLUDING SPECIALS, AS PER PLAN				74	7, 8/12
611	71000	60	FT	CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE ARCH SECTIONS (32'X12')				60	

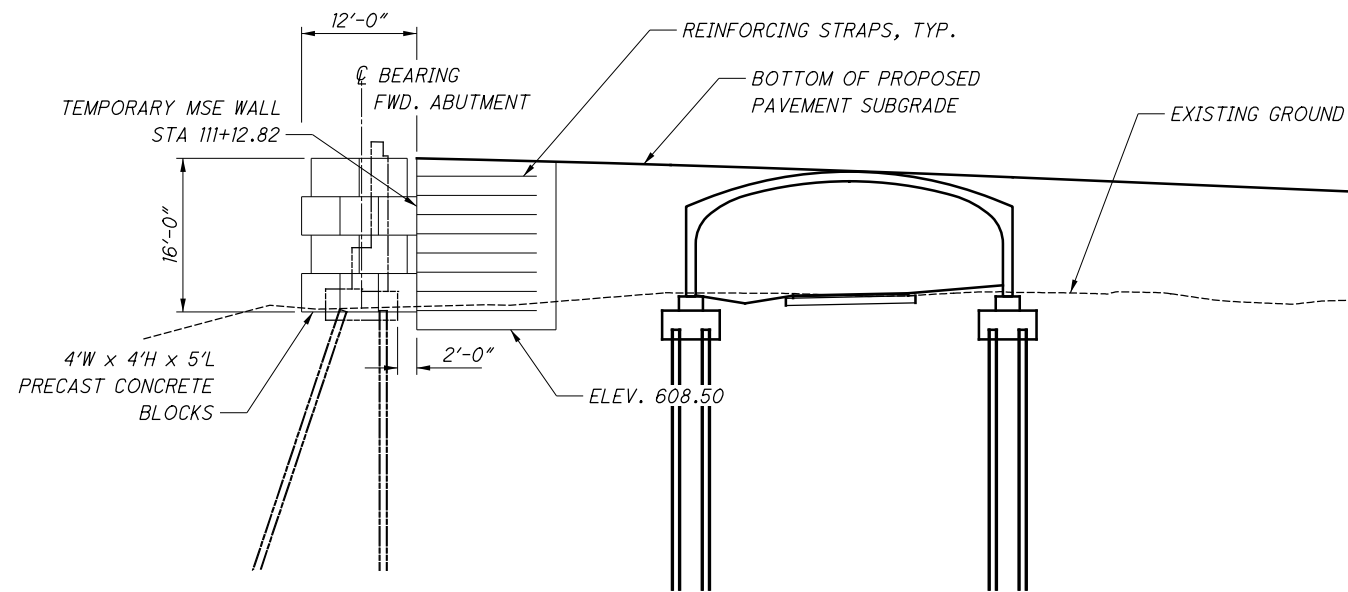
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STEP 1



STEP 3



STEP 2

CONSTRUCTION SEQUENCE

STEP 1

1. EXCAVATE FOR FOOTINGS.
2. DRIVE PILES.
3. CONSTRUCT FOOTINGS.
4. SET PRECAST SECTIONS IN PLACE AND WATERPROOF THE STRUCTURE PER PLANS.

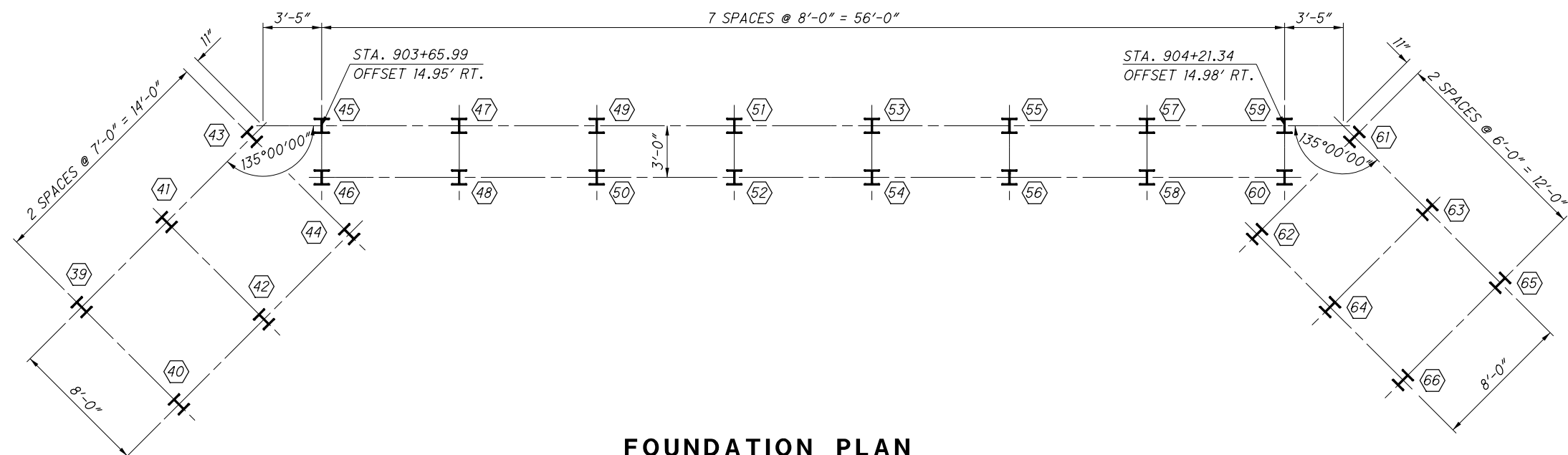
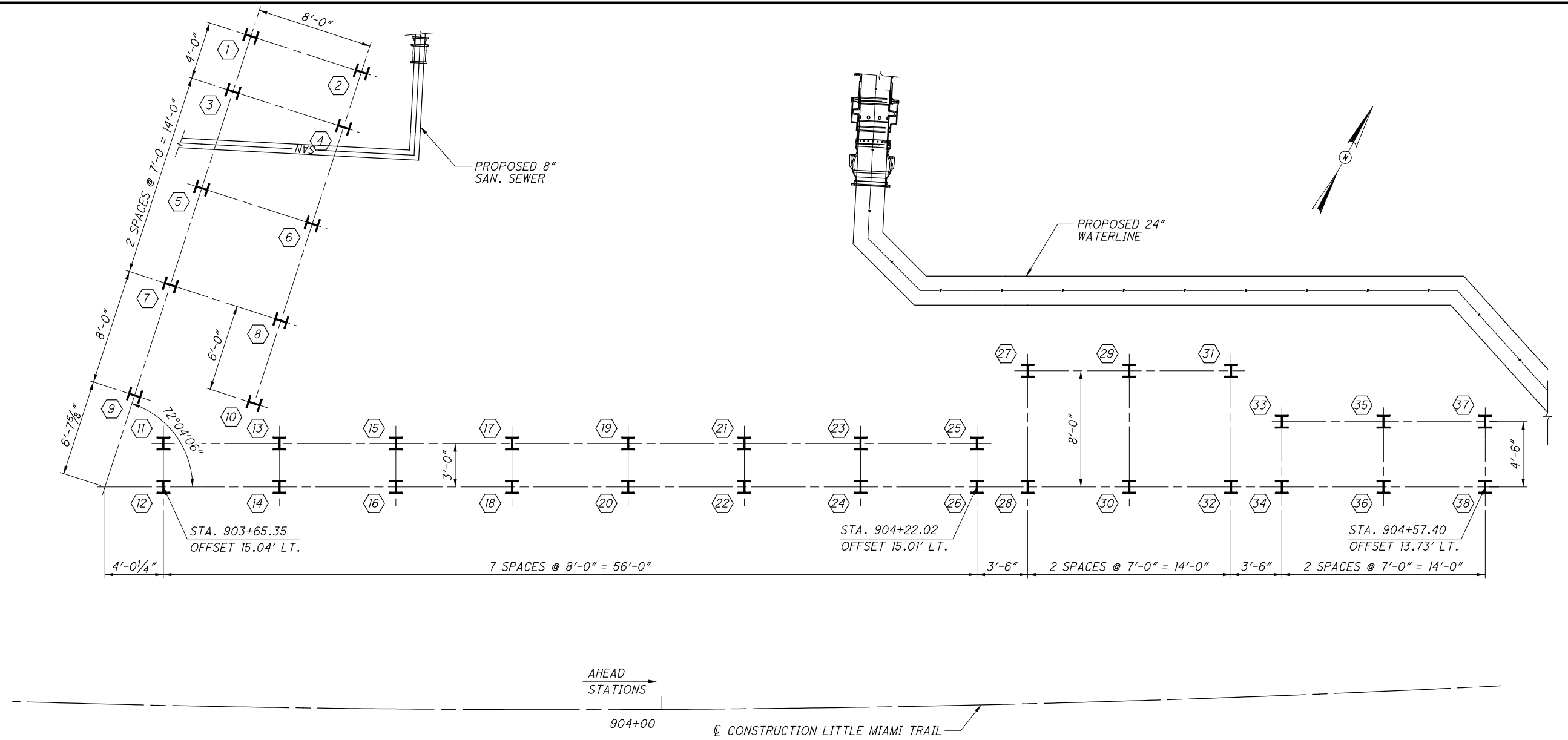
STEP 2

1. BACKFILL WHILE CONCURRENTLY CONSTRUCTING CONCRETE WINGWALLS AND TEMPORARY MSE WALL BEHIND BRIDGE NO. WAR-282-0089 FORWARD ABUTMENT.
2. ERECT PRECAST CONCRETE BLOCKS AS SHOWN IN FRONT OF MSE WALL TO PRELOAD EXISTING GROUND BELOW PROPOSED ABUTMENT. THE BLOCKS SHALL EXTEND 10' BEYOND THE LIMITS OF THE ABUTMENT AND EAST WINGWALL. THE BLOCKS SHALL BE ERECTED CONCURRENTLY WITH THE CONSTRUCTION OF THE MSE WALL, APPROXIMATELY MATCHING THE HEIGHT OF THE MSE FILL.
3. ALLOW EMBANKMENT TO SETTLE FOR SPECIFIED WAITING PERIOD. SEE BRIDGE NO. WAR-282-0089 GENERAL NOTES FOR DETAILS OF WAITING PERIOD.

STEP 3

1. UPON COMPLETION OF SPECIFIED WAITING PERIOD, REMOVE PRECAST CONCRETE BLOCKS AND EXCAVATE FOR BRIDGE NO. WAR-282-0089 FORWARD ABUTMENT FOOTING.
2. DRIVE PILING FOR BRIDGE NO. WAR-282-0089 FORWARD ABUTMENT.
3. CONSTRUCT BRIDGE NO. WAR-282-0089 FORWARD ABUTMENT FOOTING.
4. CONSTRUCT BRIDGE NO. WAR-282-0089 REMAINDER OF ABUTMENT.
5. CONSTRUCT REMAINDER OF BRIDGE NO. WAR-282-0089 AND ROADWAY.

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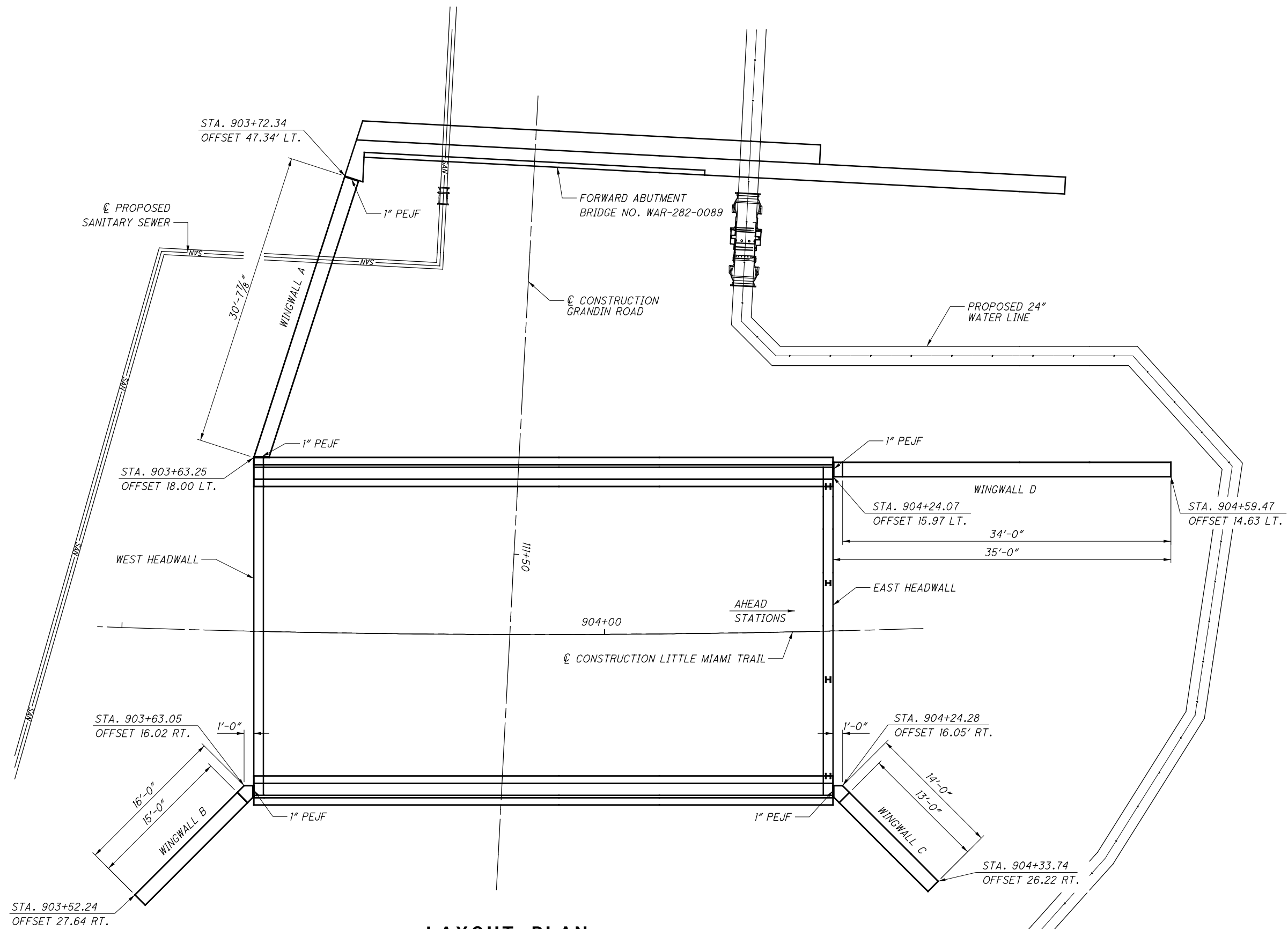


FOUNDATION PLAN

- NOTES:
 1. ALL PILES ARE HP 10x42.
 2. H ¹⁶ DESIGNATES PILE NUMBER AND LOCATION.

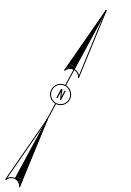
DESIGNED MRS		DRAWN ALH		REVIEWED BSM		DATE 10/8/21		DESIGN AGENCY stantec	
CHECKED EDA		REVISED		STRUCTURE FILE NUMBER 8333100		FILE NUMBER 8333100		stantec 10000 Cincinnati, Ohio 45241 (513) 842-8200	
FOUNDATION PLAN									
BRIDGE NO. WAR-150-0001									
OVER LITTLE MIAMI TRAIL									
WAR-CR 282-0.97					PID No. 106724				
5 / 12					195 256				

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LAYOUT PLAN

- NOTES:
1. STATIONS ARE GIVEN AT THE FRONT FACE OF WALLS.
 2. FOR WALL ELEVATIONS, SEE SHEET 9/12.
 3. FOR HEADWALL DETAILS, SEE SHEET 11/12.

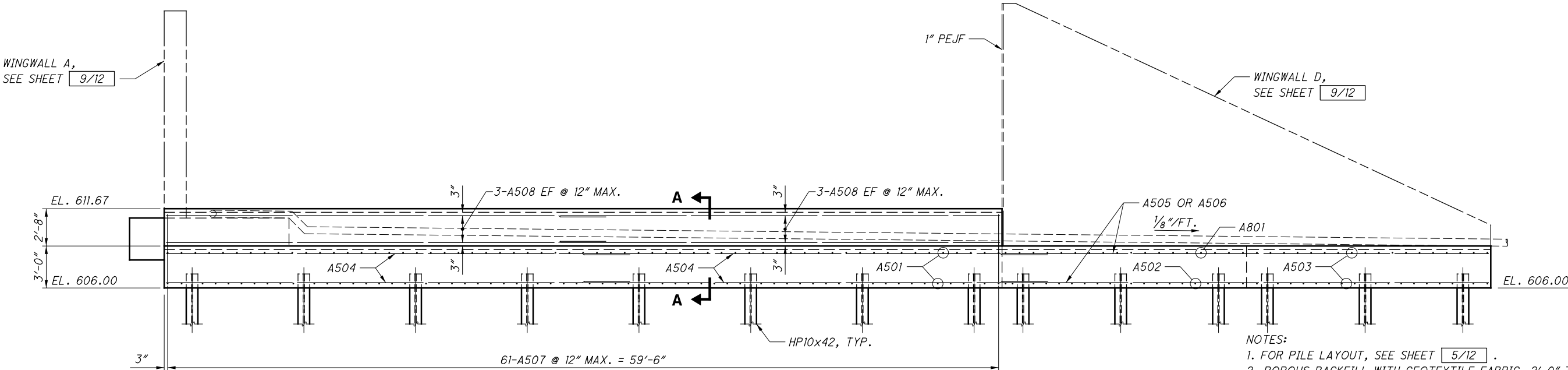
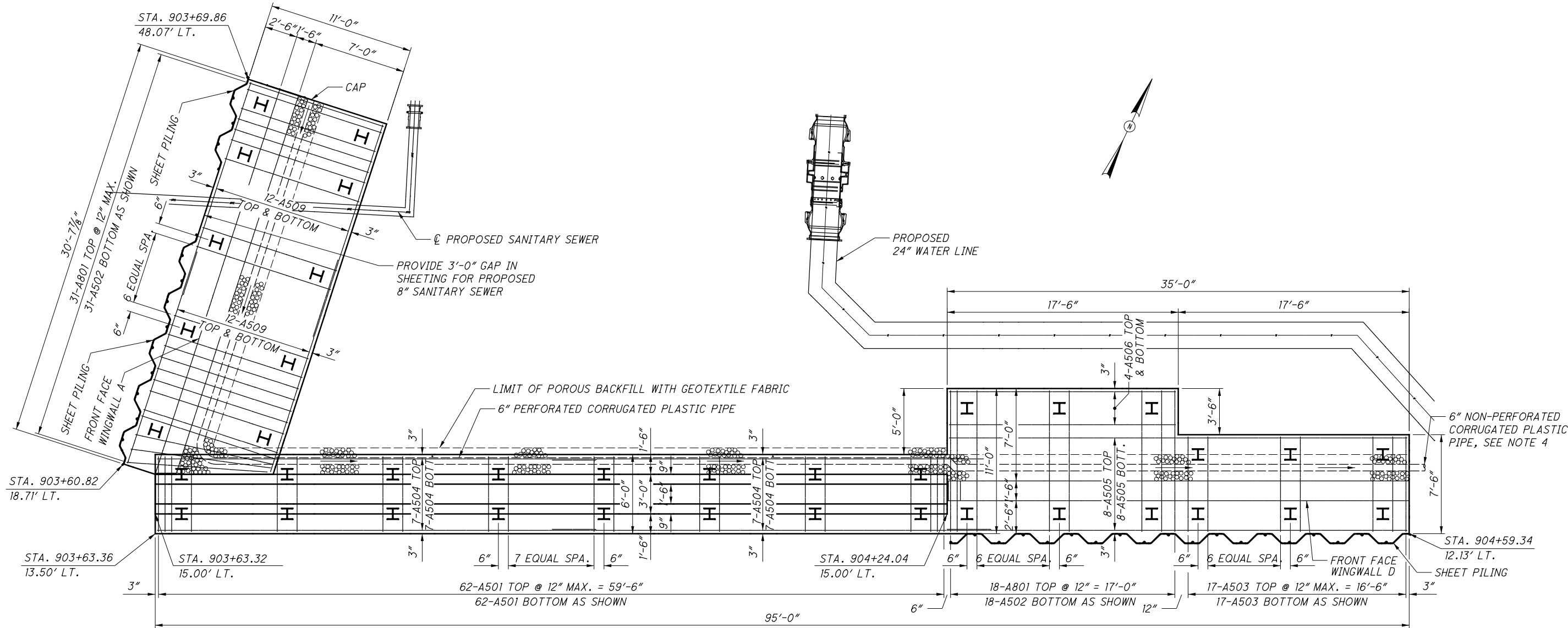


DESIGNED	MRS	CHECKED	EDA
DRAWN	ALH	REVISID	
REVIEWED	BSM	STRUCTURE FILE NUMBER	8333100
DATE	10/8/21		

WINGWALL LAYOUT
BRIDGE NO. WAR-150-0001
OVER LITTLE MIAMI TRAIL

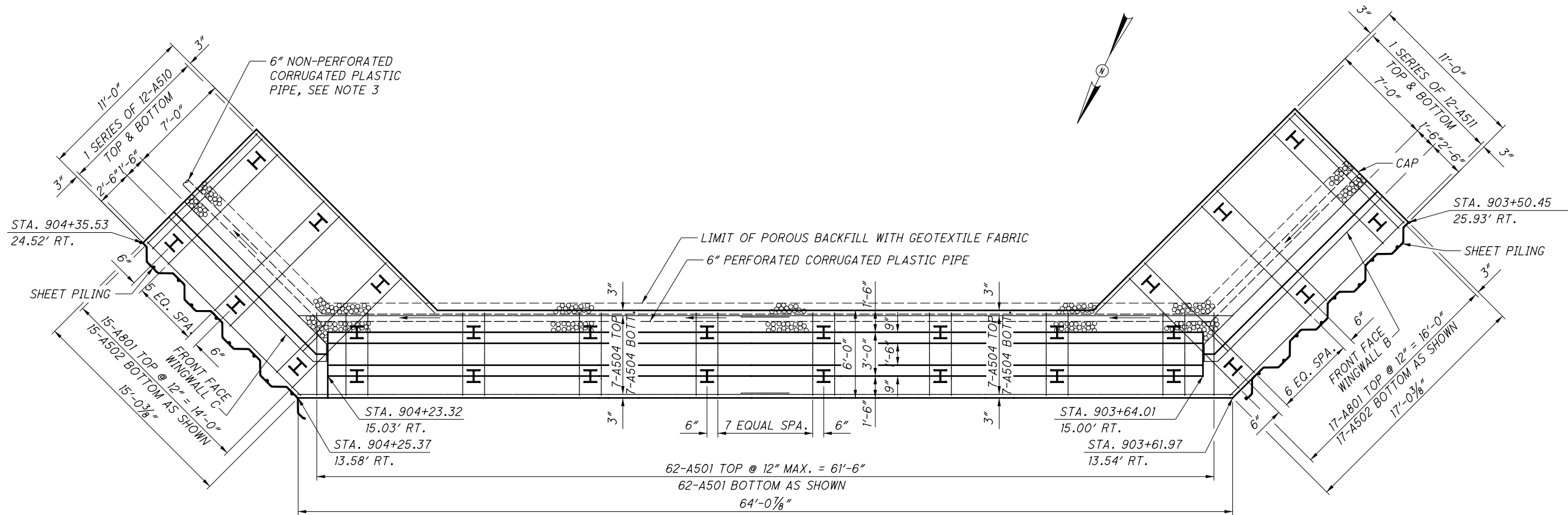
WAR-CR 282-0.97
PID No. 106724

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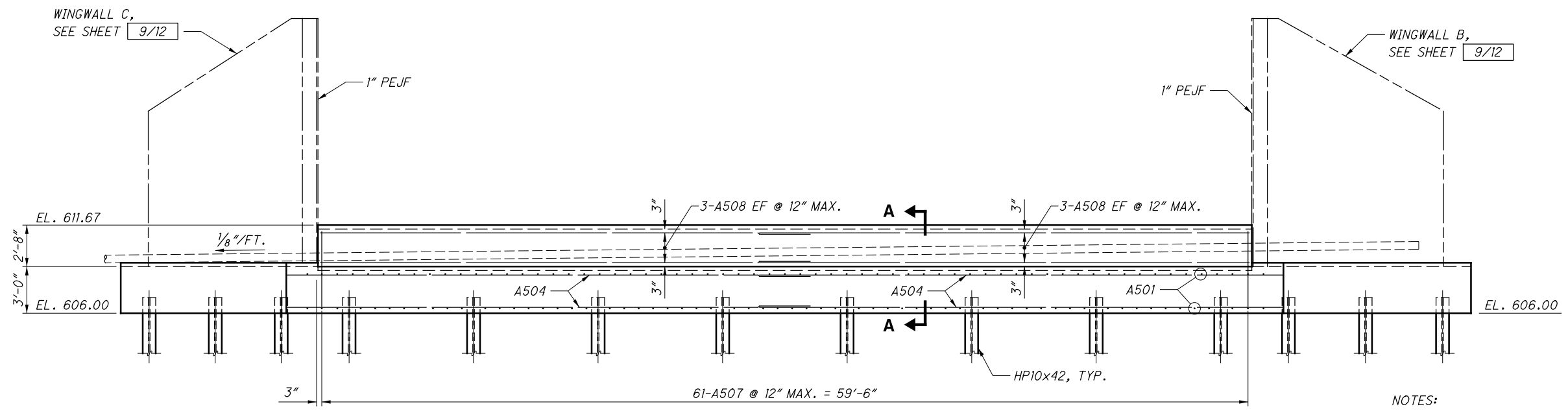


- NOTES:
- FOR PILE LAYOUT, SEE SHEET 5/12.
 - POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2'-0" THICK, SHALL EXTEND TO LIMITS SHOWN.
 - FOOTING FOR WINGWALL A TO BE POURED AFTER FOOTING FOR PEDESTAL WALL IS IN PLACE AND CURED.
 - TIE DRAIN PIPE INTO PROPOSED 15" STORM SEWER. COST OF THE TIE-IN TO BE INCLUDED IN BID PRICE FOR ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN.

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PLAN

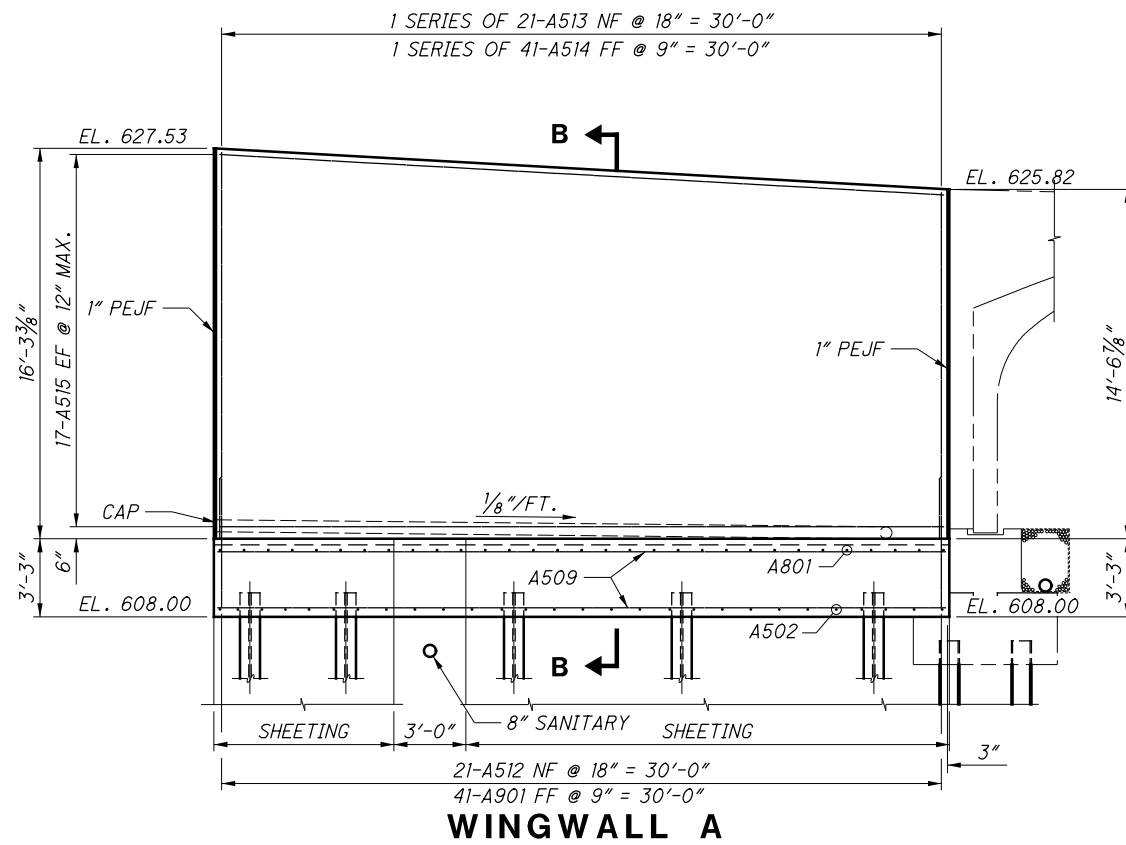


ELEVATION
(SHEET PILING NOT SHOWN FOR CLARITY)
LAP LENGTHS:
#5 BARS = 3'-3"

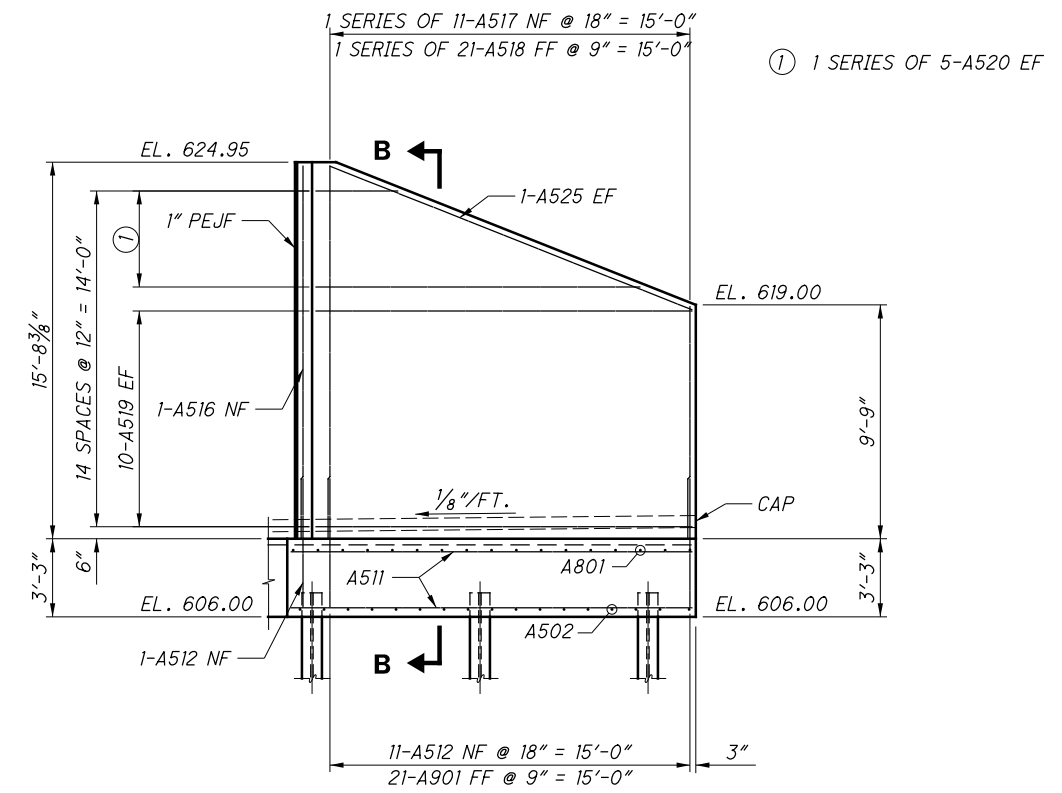
- NOTES:
1. FOR PILE LAYOUT, SEE SHEET 5/12.
 2. POROUS BACKFILL WITH GEOTEXTILE FABRIC, 2'-0" THICK, SHALL EXTEND TO LIMITS SHOWN.
 3. TIE DRAIN PIPE INTO PROPOSED CATCH BASIN D23. COST OF THE TIE-IN TO BE INCLUDED IN BID PRICE FOR ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN.

DESIGNED BY	MRS
CHECKED BY	EDA
DRAWN BY	ALH
REVIEWED BY	BSM
DATE	10/8/21
STRUCTURE FILE NUMBER	8333100
DESIGN AGENCY	stantec
LOCATION	Channahon, Ohio 44841
PHONE	(615) 842-8200
SOUTH FOUNDATION PLAN AND ELEVATION BRIDGE NO. WAR-150-0001 OVER LITTLE MIAMI TRAIL	
WAR-CR	282-0.97
PID No.	106724
8 / 12	
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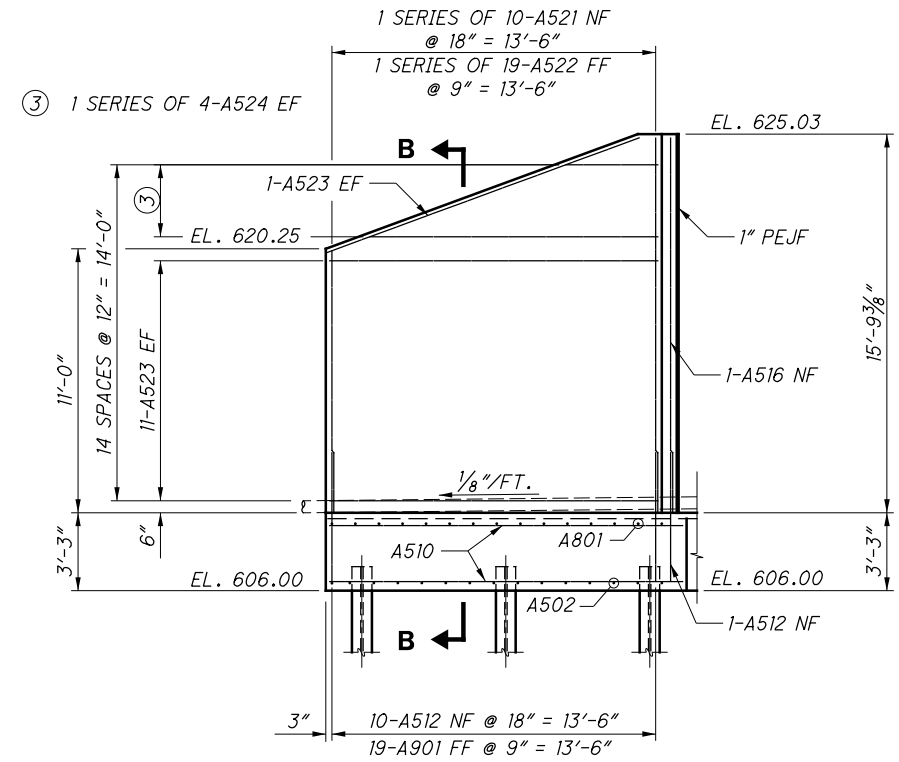
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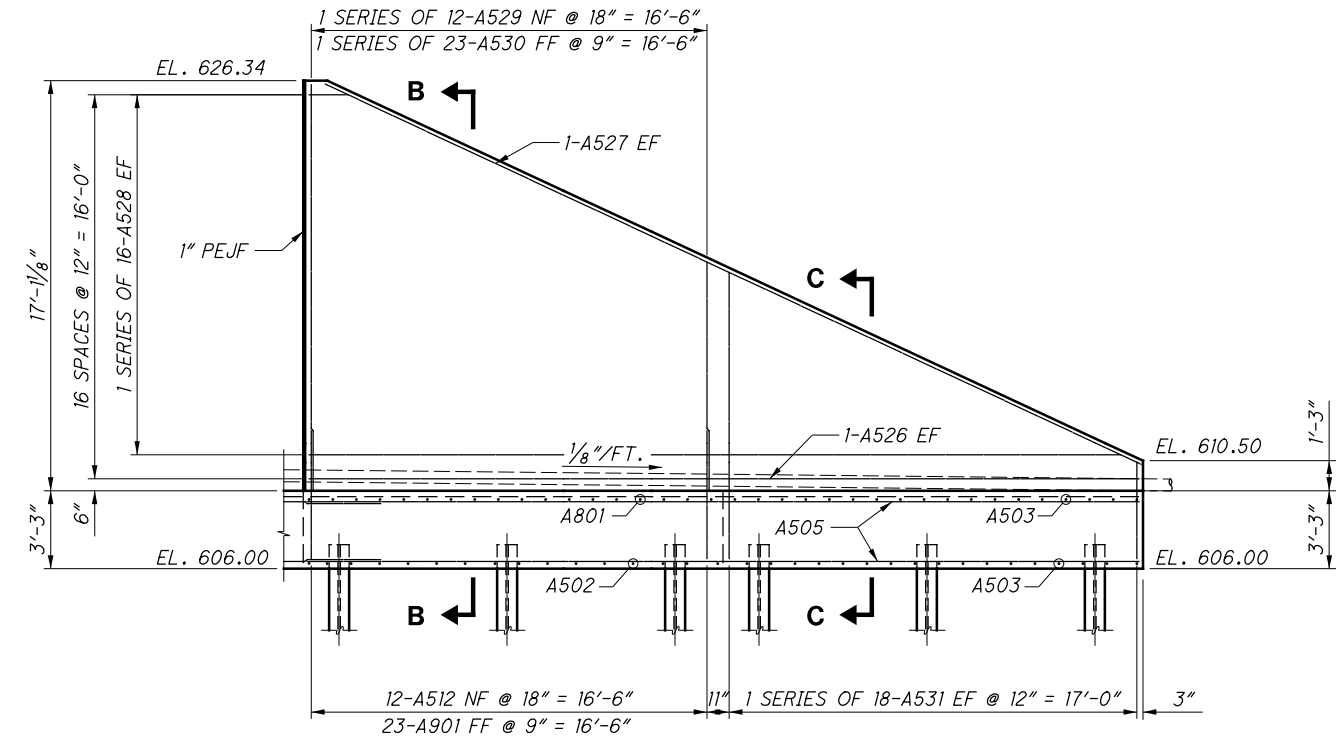
WINGWALL A



WINGWALL B
SHEETING NOT SHOWN FOR CLARITY



WINGWALL C
SHEETING NOT SHOWN FOR CLARITY

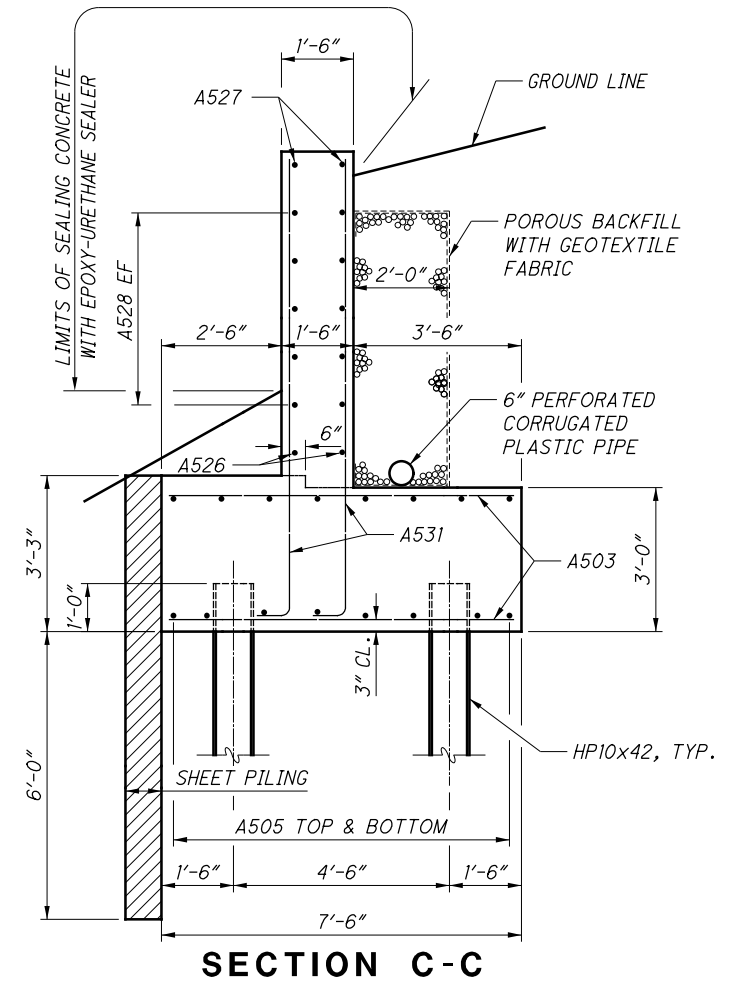
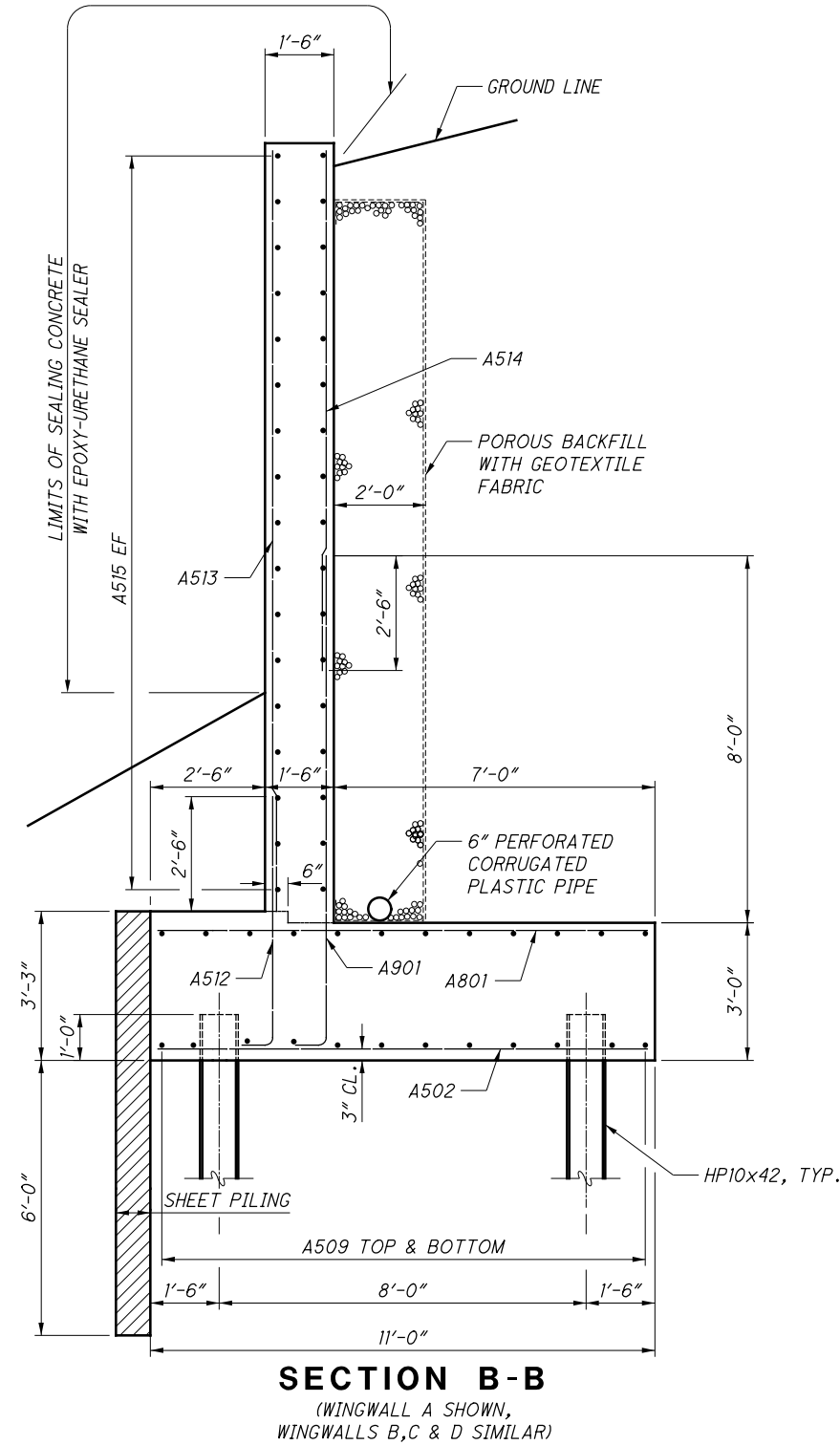
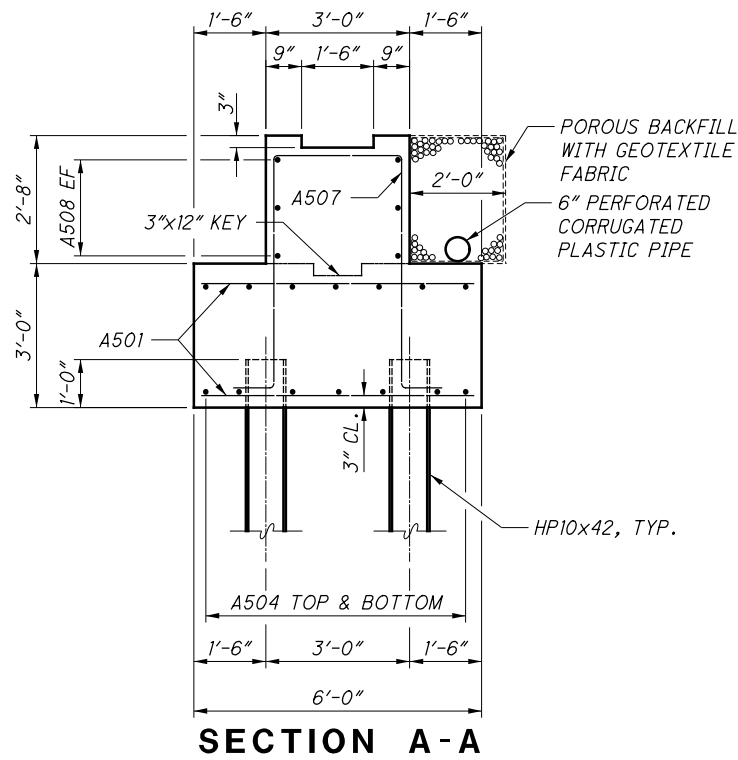


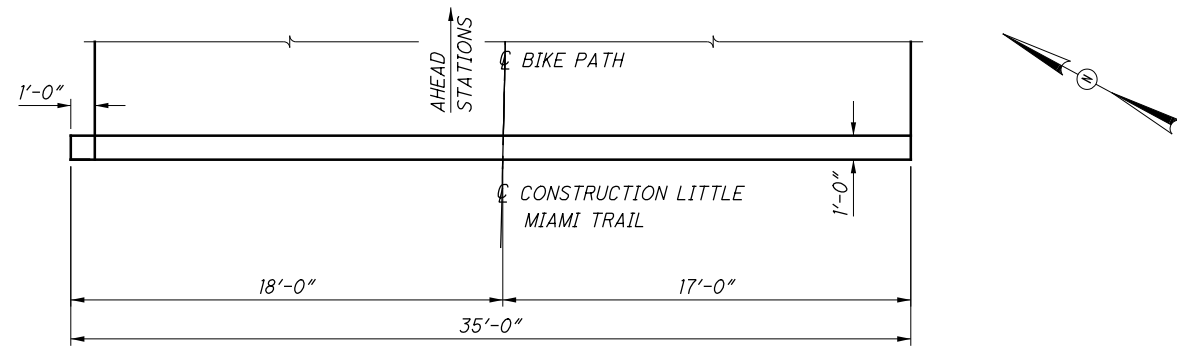
WINGWALL D
SHEETING NOT SHOWN FOR CLARITY

NOTES:
1. FOR WINGWALL LAYOUT, SEE SHEET 6/12.
2. FOR SECTION B-B AND C-C, SEE SHEET 10/12.

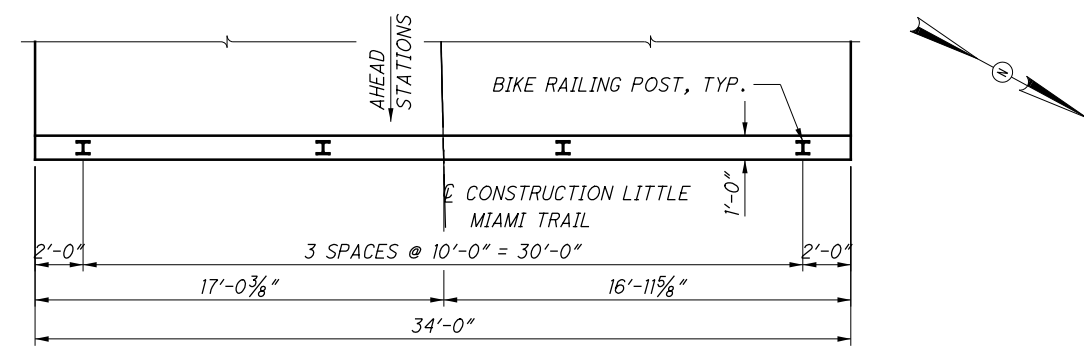
DESIGNED	EDA
CHECKED	MRS
DRAWN	ALH
REVIEWED	BSM
DATE	10/8/21
STRUCTURE FILE NUMBER	8333100
DESIGN AGENCY	stantec
LOCATION	Warrensville, Ohio 44241
PHONE	(513) 842-8200
WINGWALL DETAILS BRIDGE NO. WAR-150-0001 OVER LITTLE MIAMI TRAIL	
WAR-CR 282-0.97	PID No. 106724
9 / 12	199 / 256

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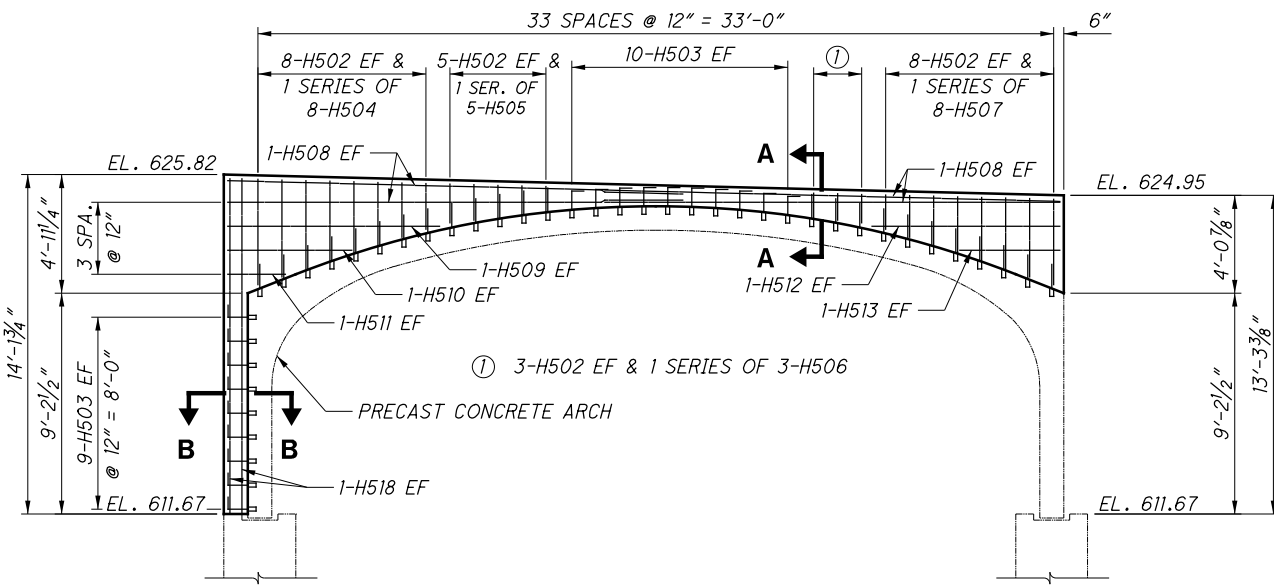




WEST HEADWALL PLAN

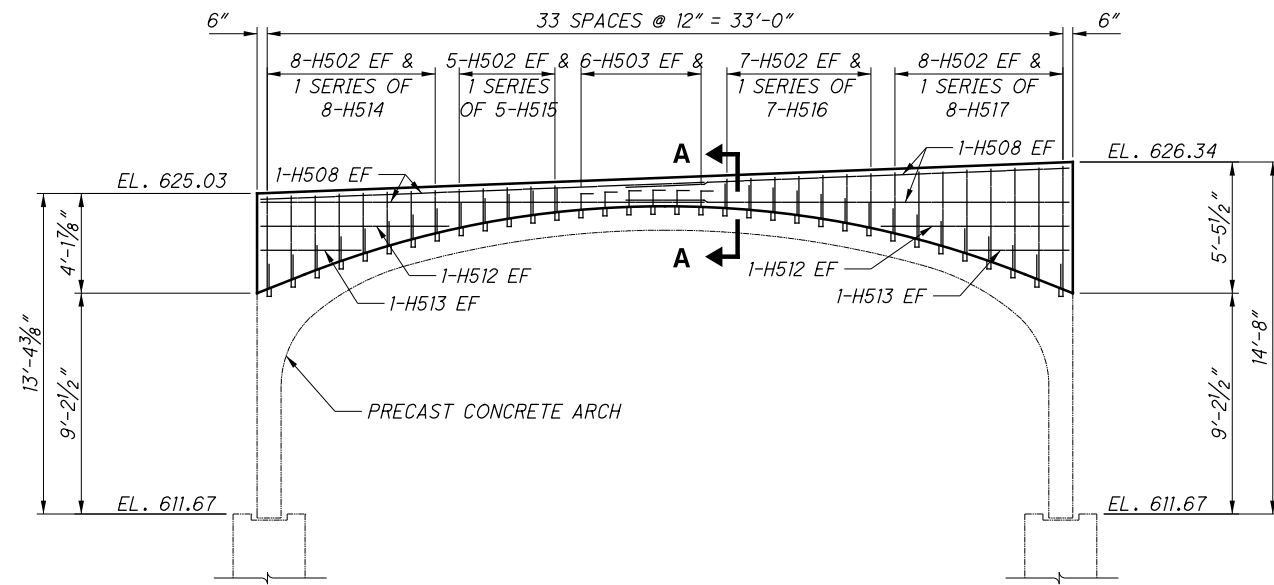


EAST HEADWALL PLAN



WEST HEADWALL ELEVATION

LAP LENGTHS:
#5 BARS = 3'-3"

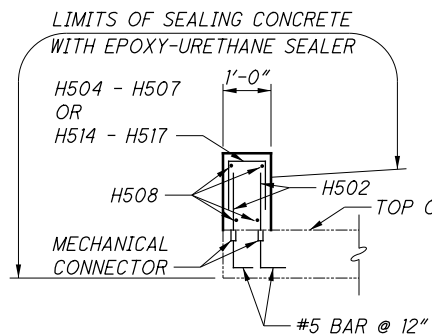


EAST HEADWALL ELEVATION

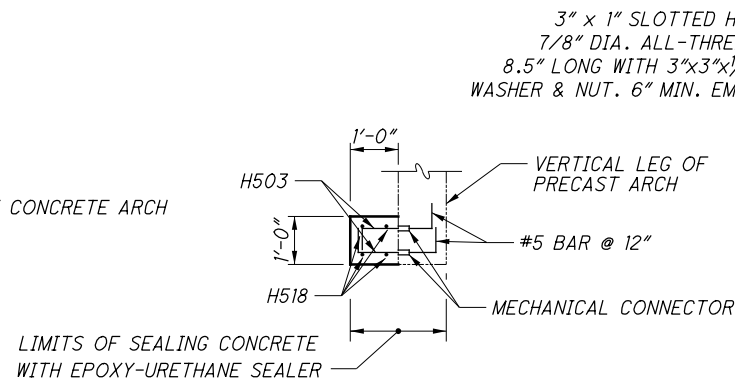
LAP LENGTHS:
#5 BARS = 3'-3"

NOTE:
WOOD FACE RAILS, BOLTS, AND NUTS/WASHERS, ALONG WITH INSTALLATION OF THESE ITEMS, ARE INCLUDED FOR PAYMENT IN ROADWAY PAY ITEM 607, FENCE, MISC.: WOOD FENCE.

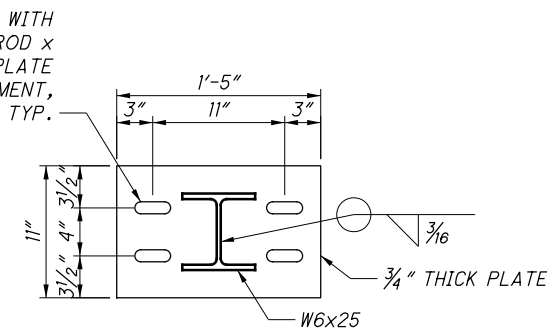
POSTS, BASEPLATES, AND ANCHOR BOLTS, ALONG WITH INSTALLATION OF THESE ITEMS, ARE INCLUDED FOR PAYMENT WITH PAY ITEM 517, RAILING POST



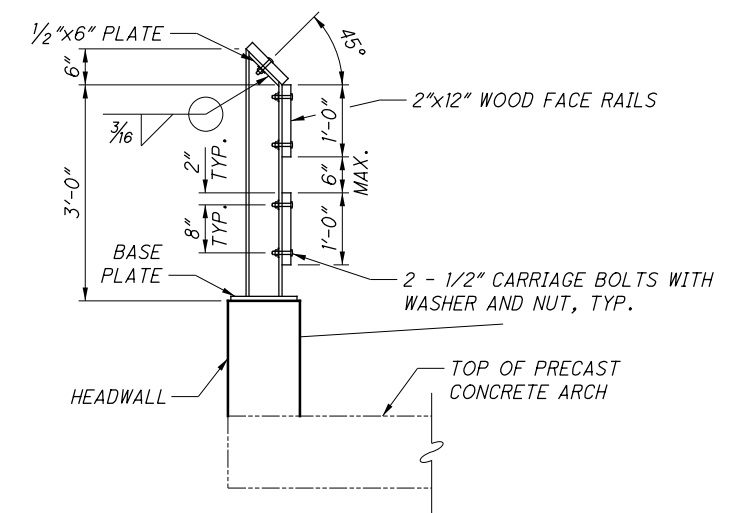
SECTION A-A



SECTION B-B



BASE PLATE DETAIL



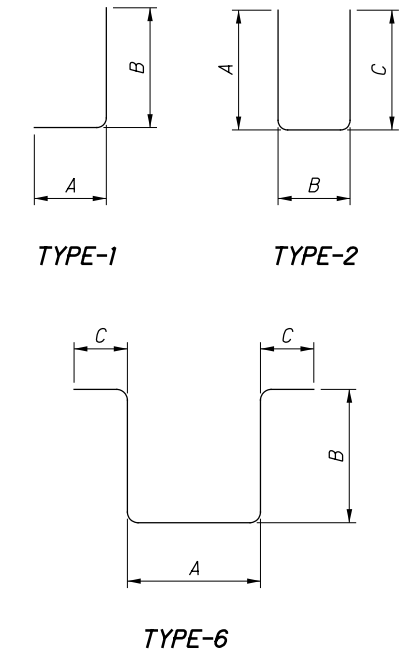
POST DETAIL

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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	R
REINFORCING STEEL LIST										
A901	104	12'-1"	4273	1	1'-7"	10'-9"				
A801	81	10'-8"	2307	STR.						
A501	248	5'-8"	1466	STR.						
A502	81	10'-8"	901	STR.						
A503	34	7'-2"	254	STR.						
A504	56	33'-6"	1957	STR.						
A505	16	34'-8"	579	STR.						
A506	8	17'-2"	143	STR.						
A507	122	13'-9"	1750	6	2'-8"	5'-0"	10"			
A508	24	31'-7"	791	STR.						
A509	48	16'-10"	843	STR.						
A510	SERIES OF 12	TO 17'-7"	406	STR.						3"
A511	SERIES OF 12	TO 19'-7"	456	STR.						3"
A512	56	6'-3"	365	1	10"	5'-6"				
A513	SERIES OF 21	TO 16'-1"	334	STR.						1"
A514	SERIES OF 41	TO 10'-10"	431	STR.						1/2"
A515	34	30'-0"	1064	STR.						
A516	2	15'-6"	32	STR.						
A517	SERIES OF 11	TO 15'-6"	144	STR.						7/8"
A518	SERIES OF 21	TO 10'-5"	163	STR.						3 1/2"
A519	20	15'-8"	327	STR.						
A520	SERIES OF 5	TO 13'-6"	88	STR.						2'-6 1/4"
A521	SERIES OF 10	TO 15'-7"	138	STR.						6 3/8"
A522	SERIES OF 19	TO 10'-6"	161	STR.						3 1/8"
A523	24	13'-8"	342	STR.						
A524	SERIES OF 4	TO 12'-0"	66	STR.						2'-8 5/8"

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	R
REINFORCING STEEL LIST										
A525	2	16'-3"	34	STR.						
A526	2	34'-7"	72	STR.						
A527	2	37'-6"	78	STR.						
A528	SERIES OF 16	TO 33'-10"	592	STR.						2'-1 3/4"
A529	SERIES OF 12	TO 16'-11"	166	STR.						7/8"
A530	SERIES OF 23	TO 11'-10"	196	STR.						4"
A531	SERIES OF 18	TO 12'-7"	325	1	10"	4'-1"	TO	11'-11"		5 1/2"
H501	NOT	USED								
H502*	104	1'-0"	108	STR.						
H503*	50	1'-3"	65	1	8"	8"				
H504	SERIES OF 8	TO 9'-5"	58	2	TO	8"	TO	2'-0"	2'-0"	8 5/8"
H505	SERIES OF 5	TO 3'-11"	17	2	TO	8"	TO	1'-9"	1'-9"	4"
H506	SERIES OF 3	TO 3'-1"	9	2	TO	8"	TO	1'-4"	1'-4"	4"
H507	SERIES OF 8	TO 7'-11"	48	2	TO	8"	TO	1'-7"	1'-7"	7 3/8"
H508	16	19'-0"	317	STR.						
H509	2	8'-10"	18	STR.						
H510	2	5'-2"	11	STR.						
H511	2	2'-5"	5	STR.						
H512	6	7'-10"	49	STR.						
H513	6	4'-2"	26	STR.						
H514	SERIES OF 8	TO 8'-1"	50	2	TO	8"	TO	1'-9"	1'-9"	7 1/8"
H515	SERIES OF 5	TO 3'-7"	16	2	TO	8"	TO	3'-10"	3'-10"	3"
H516	SERIES OF 7	TO 4'-11"	28	2	TO	8"	TO	1'-1"	1'-1"	4 3/8"
H517	SERIES OF 1	TO 5'-5"	67	2	TO	8"	TO	2'-3"	2'-3"	8 7/8"
H518	4	13'-11"	58	STR.						
		TOTAL	22,194							



* THREADED FOR MECHANICAL COUPLER

stantec
DESIGN AGENCY
1000 Lakeside Blvd.
Cincinnati, Ohio 45241
(513) 842-8200

DATE: 10/8/21
REVIEWED BY: BSM
DRAWN BY: ALH
DESIGNED BY: MRS
CHECKED BY: EDA
STRUCTURE FILE NUMBER: 8333100

REINFORCING STEEL LIST
BRIDGE NO. WAR-150-0001
OVER LITTLE MIAMI TRAIL

WAR-CR 282-0.97
PID No. 106724

12 / 12

202
256

WAR-CR 282-0.97

RIGHT OF WAY

S-12, T-4, R-2 & MILITARY SURVEYS 1547 & 1548 HAMILTON & DEERFIELD TOWNSHIPS VILLAGE OF SOUTH LEBANON WARREN COUNTY, OHIO

VOLUME _____ PLAT No. _____
WARREN COUNTY ENGINEER'S
RECORD OF LAND SURVEYS

PRELIMINARY ACCESS APPROVAL

_____ GRANTED _____ NOT APPLICABLE

NEIL F. TUNISON, P.E., P.S.
WARREN COUNTY ENGINEER

PROJECT DESCRIPTION

CONSTRUCT A NEW BRIDGE OVER THE LITTLE MIAMI RIVER, UPSTREAM OF THE DETERIORATING EXISTING BRIDGE. THE PROJECT WILL IMPROVE SAFETY FOR MOTORISTS AND PEDESTRIANS BY IMPROVING THE ALIGNMENT OF THE APPROACH ROADWAY AND WILL GRADE SEPARATE THE ROADWAY FROM THE LITTLE MIAMI TRAIL.

STRUCTURE KEY

TYPES OF TITLE LEGEND:
WD = WARRANTY DEED
SH = STANDARD HIGHWAY EASEMENT
S = SEWER EASEMENT
T = TEMPORARY EASEMENT

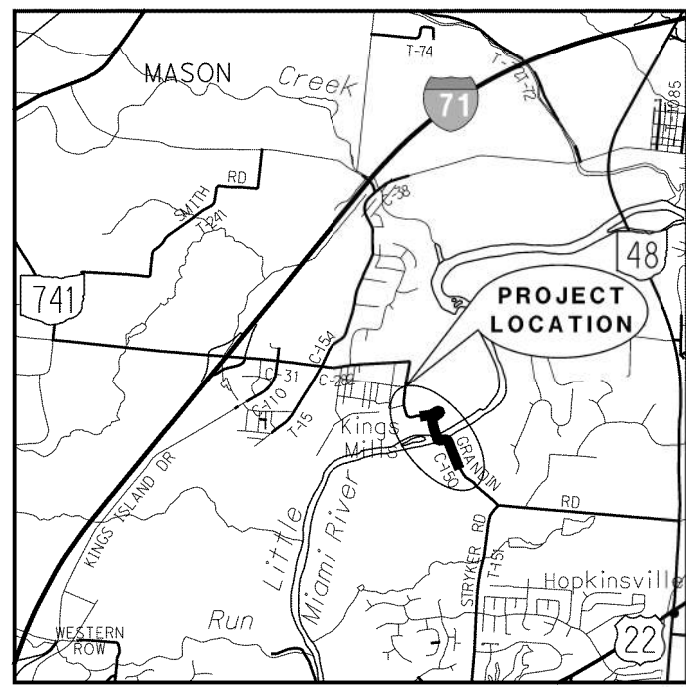
- RESIDENTIAL
- COMMERCIAL
- FOUNDATION

CERTIFICATION

I, Steven E. Rader, as the Project Surveyor for Stantec, have conducted a survey of the existing conditions for the Warren County Engineers Office from 2018 to 2019. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System, South Zone, NAD 83 (2011), as measured using Static GPS methods and derived from NGS OPUS Solutions Reports. Furthermore, I have reestablished the locations of the existing property lines and centerline of existing Right of Way for the property takes contained herein. As a part of this project I have established the proposed property lines, calculated the Gross Take, Present Roadway Occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. The aforementioned survey work was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as, "A Minimum Standards for Boundary Surveys in the State of Ohio", unless so noted. The words I and my as used herein are to mean that either myself or someone working under my direct supervision.



Steven E. Rader 6/29/21
Steven E. Rader, P.S. No. 7191 Date



LOCATION MAP

LATITUDE: 39°21'09" LONGITUDE: 84°14'35"



PROJECT CONTROL

TO OBTAIN STATE PLANE COORDINATES
SCALE ABOUT THE ORIGIN COORDINATE,
N = 0.00, E = 0.00

FROM PROJECT COORD. TO SPC = 0.999905189
FROM SPC TO PROJECT COORD. = 1.000094820

PLANS PREPARED BY:

FIRM NAME : STANTEC CONSULTING SERVICES INC.
R/W DESIGNER: NICHOLAS J. KLEINER
R/W REVIEWER: STEVEN E. RADER
FIELD REVIEW BY: NICHOLAS J. KLEINER DATE 04/22/20
OWNERSHIP VERIFIED BY: NICHOLAS J. KLEINER DATE 09/17/20
DATE COMPLETED: _____

INDEX OF SHEETS:

- LEGEND SHEET 1
- CENTERLINE PLAT 2-3
- PROPERTY MAP 4
- SUMMARY SHEETS 5-7
- DETAIL SCHEMATIC 8
- DETAIL SHEETS 9-21

UTILITY OWNERS

TELEPHONE:
CINCINNATI BELL TELEPHONE
221 EAST FOURTH ST
BLDG 121-900
CINCINNATI, OH 45201
PHONE: (513) 565-1336
(BEN OTTEN)

ELECTRIC:
DUKE ENERGY
2010 DANA AVE
ROOM 324
CINCINNATI, OH 45207
PHONE: (513) 458-3844
(TROY DITTMER)

GAS:
DUKE ENERGY
139 E FOURTH ST
ROOM 460A
CINCINNATI, OH 45273-9598
PHONE: (513) 287-1594
(BEN JOHNSON)

WATER:
GREATER CINCINNATI
WATER WORKS
1600 GEST STREET
CINCINNATI, OH 45204
(513) 557-5799
(JOHN HUNSEDER)

UTILITY OWNERS

CITY OF MASON PUBLIC UTILITIES
3200 MASON-MORROW-MILLGROVE RD
MASON, OH 45040
(513) 229-8570 (SHAWN HOLLON)
(513) 229-8570 (ED SMITH)

CABLE:
CHARTER COMMUNICATIONS
11252 CORNELL PARK DRIVE
CINCINNATI, OH 45242
PHONE: (513) 386-5499
(KENT RIEGER)

SEWER & WATER:
WARREN COUNTY WATER
& SEWER
P.O. BOX 530
LEBANON, OHIO 45036
PHONE: (513) 695-1646
(CHIRS WOJNICZ)

TELEPHONE:
CENTURYLINK
803 E. 12TH STREET
GREENVILLE, OHIO 45331
PHONE: (513) 547-4255
(DAVID KAPLAN)

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.



CONVENTIONAL SYMBOLS

County Line	-----	Ditch / Creek (Ex)	-----
Township Line	-----	Ditch / Creek (Pr)	-----
Section Line	-----	Tree Line (Ex)	-----
Corporation Line	----- or -----	Ownership Hook Symbol	Example
Fence Line (Ex)	-----	Property Line Symbol	Example
Center Line	-----	Break Line Symbol	Example
Right of Way (Ex)	----- Ex R/W	Tree (Pr)	Tree (Ex), Shrub (Ex)
Right of Way (Pr)	----- R/W	Tree (Remove)	Shrub (Remove)
Standard Highway Ease. (Ex)	----- Ex SH	Evergreen (Ex)	Stump
Temporary Right of Way	----- TMP	Evergreen (Remove)	Stump (Remove)
Channel Ease. (Pr)	----- CH	Wetland (Pr)	Grass (Pr), Aerial Target
Utility Ease. (Ex)	----- Ex U	Post (Ex)	Mailbox (Ex), Mailbox (Pr)
Railroad	----- or -----	Light (Ex)	Telephone Marker (Ex) TEL
Guardrail (Ex)	----- (Pr)	Fire Hydrant (Ex)	Water Meter (Ex)
Construction Limits	-----	Water Valve (Ex)	Utility Valve Unknown (Ex.)
Edge of Pavement (Ex)	-----	Telephone Pole (Ex)	Power Pole (Ex)
Edge of Pavement (Pr)	-----	Light Pole (Ex)	
Edge of Shoulder (Ex)	-----		
Edge of Shoulder (Pr)	-----		

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FEDERAL PROJECT NO. E(190)797
PID NO. 106724
CALCULATED XXX CHECKED XXX
RIGHT OF WAY LEGEND SHEET
WAR-CR 282-0.97
1/22
203/256



PID NO. 106724

R/W DESIGNER: NJK
R/W REVIEWER: SER

CENTERLINE PLAT

WAR-CR 282-0.97

2 / 22
204
256

S-12, T-4, R-2 & MILITARY SURVEYS 1547 & 1548 HAMILTON & DEERFIELD TOWNSHIPS VILLAGE OF SOUTH LEBANON WARREN COUNTY, OHIO

BASIS OF EXISTING R/W

THE EXISTING RIGHT-OF-WAY WIDTHS AND LOCATIONS WERE DETERMINED USING:
- ROAD RECORDS, EASEMENTS RECORDS, SURVEY PLATS, TAX MAPS ON FILE WITH THE WARREN COUNTY ENGINEER'S OFFICE
- ROAD RECORD 2 PG. 37

BASIS OF EXISTING R/W

- PLAT OF KING AVE. P.B. 2 PG. 62-65
- KINGS MILLS SUBD. P.B. 2 PG. 251
- S.R. 66 PG. 75
- S.R. 65 PG. 17, S.R. 65 PG. 16
- S.R. 8 PG. 86 (C.R. 150)
- S.H. ESMT. DB. 145, PG. 108

CURVE NO. K-1
P.I. Sta. 99+36.61
 $\Delta = 17^\circ 53' 44''$ (RT)
Dc = 14' 00' 00"
R = 409.26'
T = 64.44'
L = 127.83'
E = 5.04'
C = 127.31'
C.B. = N 81° 14' 32" E
PC STA 98+72.17
PT STA 100+00.00

CURVE NO. K-2
P.I. Sta. 104+76.95
 $\Delta = 64^\circ 26' 29''$ (RT)
Dc = 15' 30' 00"
R = 369.65'
T = 232.97'
L = 415.75'
E = 67.29'
C = 394.18'
C.B. = S 57° 35' 21" E
PC STA 102+43.99
PT STA 106+59.74

CURVE NO. K-3
P.I. Sta. 111+97.52
 $\Delta = 8^\circ 26' 48''$ (LT)
Dc = 19' 05' 55"
R = 300.00'
T = 22.15'
L = 44.23'
E = 0.82'
C = 44.19'
C.B. = S 29° 35' 31" E
PC STA 111+75.37
PRC STA 112+19.59

CURVE NO. K-4
P.I. Sta. 112+37.34
 $\Delta = 6^\circ 46' 17''$ (RT)
Dc = 19' 05' 55"
R = 300.00'
T = 17.75'
L = 35.45'
E = 0.52'
C = 35.43'
C.B. = S 30° 25' 47" E
PRC STA 112+19.59
PT STA 112+55.05

P.I. Sta. 113+14.17
 $\Delta = 29^\circ 11' 49''$ (RT)

CURVE NO. K-5
P.I. Sta. 114+05.53
 $\Delta = 12^\circ 50' 36''$ (LT)
Dc = 22' 55' 06"
R = 250.00'
T = 28.14'
L = 56.04'
E = 1.58'
C = 55.92'
C.B. = S 4° 16' 07" E
PC STA 113+77.39
PT STA 114+33.43

CURVE NO. K-6
P.I. Sta. 115+26.74
 $\Delta = 5^\circ 30' 53''$ (LT)
Dc = 11' 04' 04"
R = 510.00'
T = 24.56'
L = 49.09'
E = 0.59'
C = 49.07'
C.B. = S 13° 26' 52" E
PC STA 115+02.18
PT STA 115+51.27

CURVE NO. K-7
P.I. Sta. 117+50.05
 $\Delta = 17^\circ 34' 55''$ (LT)
Dc = 11' 00' 00"
R = 520.87'
T = 80.55'
L = 159.83'
E = 6.19'
C = 159.21'
C.B. = S 24° 59' 46" E
PC STA 116+69.50
PT STA 118+29.34

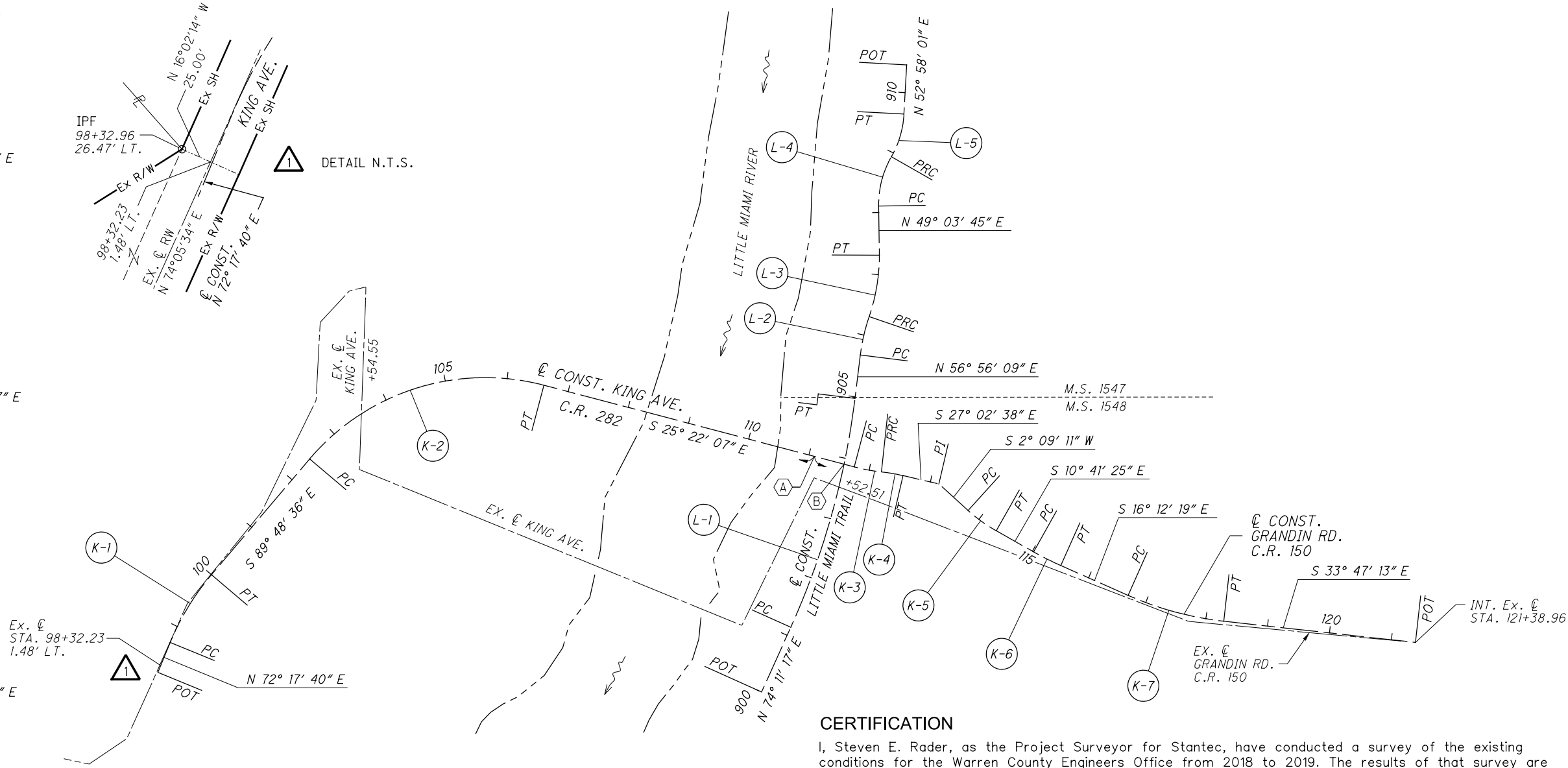
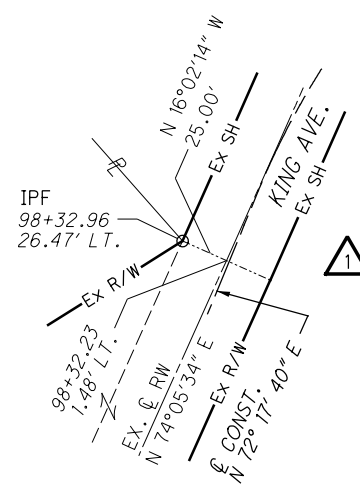
CURVE NO. L-1
P.I. Sta. 903+07.17
 $\Delta = 17^\circ 15' 07''$ (LT)
Dc = 4' 30' 00"
R = 1,273.24'
T = 193.15'
L = 383.38'
E = 14.57'
C = 381.93'
C.B. = N 65° 33' 43" E
PC STA 901+14.01
PT STA 904+97.39

CURVE NO. L-2
P.I. Sta. 905+99.38
 $\Delta = 11^\circ 42' 36''$ (RT)
Dc = 18' 30' 00"
R = 309.71'
T = 31.76'
L = 63.30'
E = 1.62'
C = 63.19'
C.B. = N 62° 47' 27" E
PC STA 905+67.62
PRC STA 906+30.91

CURVE NO. L-3
P.I. Sta. 906+81.72
 $\Delta = 18^\circ 37' 57''$ (LT)
Dc = 18' 30' 00"
R = 309.71'
T = 50.81'
L = 100.72'
E = 4.14'
C = 100.27'
C.B. = N 59° 19' 46" E
PRC STA 906+30.91
PT STA 907+31.63

CURVE NO. L-4
P.I. Sta. 908+52.85
 $\Delta = 30^\circ 37' 18''$ (RT)
Dc = 37' 00' 00"
R = 154.85'
T = 42.39'
L = 82.76'
E = 5.70'
C = 81.78'
C.B. = N 64° 20' 25" E
PC STA 908+10.46
PRC STA 908+93.22

CURVE NO. L-5
P.I. Sta. 909+29.95
 $\Delta = 26^\circ 41' 03''$ (LT)
Dc = 37' 00' 00"
R = 154.85'
T = 36.73'
L = 72.12'
E = 4.30'
C = 71.47'
C.B. = N 66° 18' 32" E
PRC STA 908+93.22
PT STA 909.65.34



CERTIFICATION

I, Steven E. Rader, as the Project Surveyor for Stantec, have conducted a survey of the existing conditions for the Warren County Engineers Office from 2018 to 2019. The results of that survey are contained herein. The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (2011), as measured using Static GPS methods and derived from NGS OPUS Solutions Reports. Furthermore, I have reestablished the locations of the existing property lines and centerline of existing Right of Way for the property takes contained herein. As a part of this project I have established the proposed property lines, calculated the Gross Take, Present Roadway Occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. The aforementioned survey work was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as, "A Minimum Standards for Boundary Surveys in the State of Ohio", unless so noted. The words I and my as used herein are to mean that either myself or someone working under my direct supervision.

Steven E. Rader
Steven E. Rader, P.S. No. 7191 Date 6/29/21

BASIS OF BEARINGS

THE BEARINGS SHOWN HEREON ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83 (2011), AS MEASURED USING STATIC GPS METHODS AND DERIVED FROM NGS OPUS SOLUTION REPORTS.



PLAN PREPARED BY:
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

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RECEIVED _____, 20____
RECORDED _____, 20____
BOOK _____ PAGE _____
COUNTY RECORDER

(A) STA. 111+09.25 KING AVE. BACK= GRANDIN RD. AHEAD
(B) STA. 111+58.34 GRANDIN RD. = STA. 903+90.20 LITTLE MIAMI TRAIL



PID NO. **106724**

R/W DESIGNER
NJUK
R/W REVIEWER
SER

CENTERLINE PLAT

WAR-CR 282-0.97

3 / 22

205
256

S-12, T-4, R-2 &
MILITARY SURVEYS 1547 & 1548
HAMILTON & DEERFIELD TOWNSHIPS
VILLAGE OF SOUTH LEBANON
WARREN COUNTY, OHIO

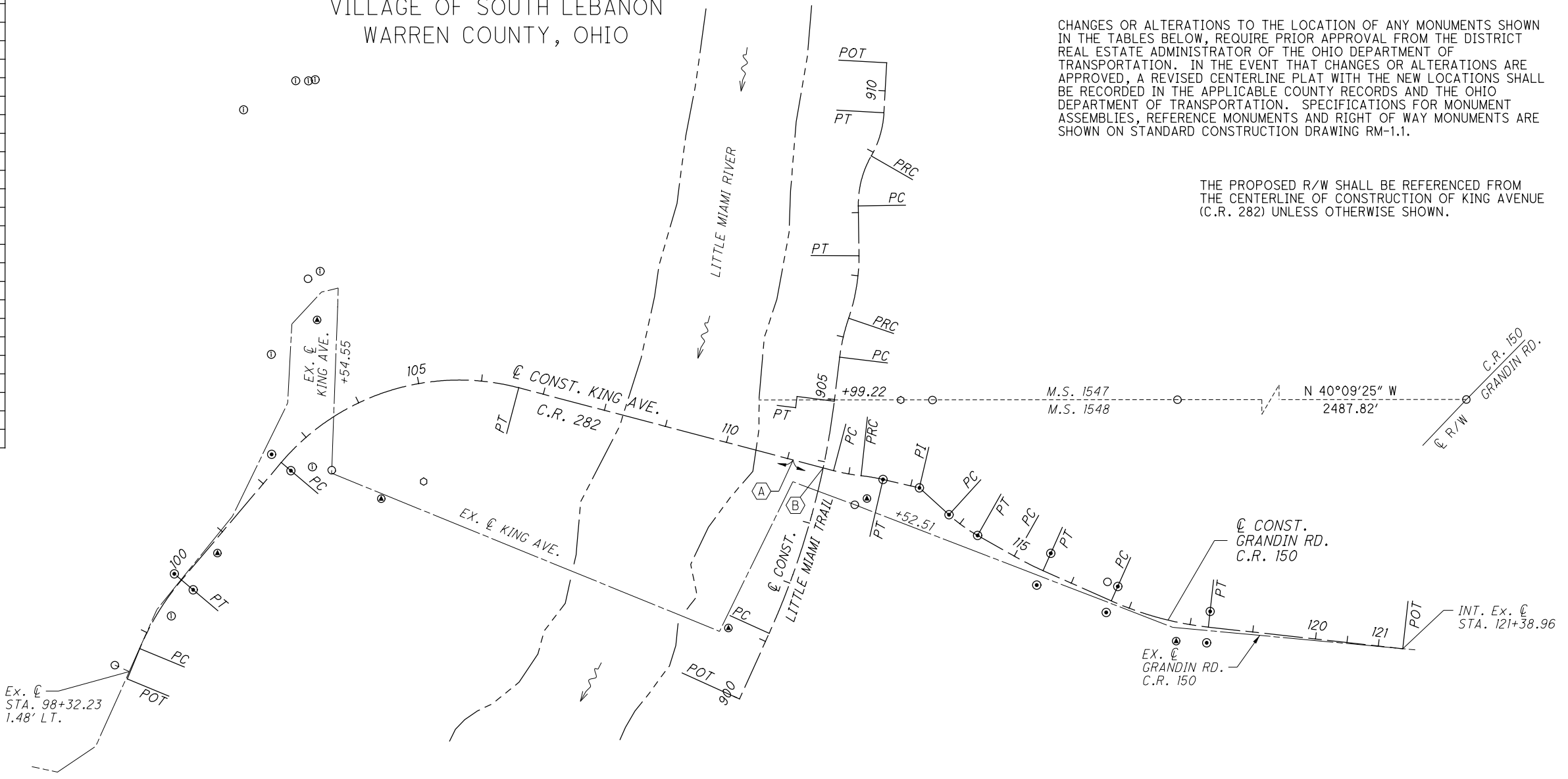
SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THE TABLES BELOW, REQUIRE PRIOR APPROVAL FROM THE DISTRICT REAL ESTATE ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

THE PROPOSED R/W SHALL BE REFERENCED FROM THE CENTERLINE OF CONSTRUCTION OF KING AVENUE (C.R. 282) UNLESS OTHERWISE SHOWN.

EX. MONUMENTS OFF @ CONSTRUCTION OF KING AVE (C.R. 282) & GRANDIN RD (C.R. 150)

STATION	OFFSET	DESCRIPTION
98+32.96	26.47' LT	5/8" IRON PIN FD.
99+38.17	374.65' LT	5/8" IRON PIN FD.
99+42.92	20.67' RT	5/8" IPF "ILLEGIBLE"
100+69.16	15.71' RT	CONTROL "STANTEC"
102+73.91	41.04' RT	5/8" IPF "ILLEGIBLE"
102+95.78	65.84' RT	5/8" IRON PIN FD.
103+32.59	137.34' LT	5/8" IPF "S-7450"
103+43.86	149.88' RT	CONTROL "STANTEC"
103+97.92	146.88' LT	CONTROL "STANTEC"
104+07.68	211.97' LT	5/8" IRON PIN FD.
104+15.13	498.15' LT	5/8" IPF "S-7450"
104+21.92	215.32' LT	5/8" IPF "S-7450"
104+54.55	512.81' LT	5/8" IPF "S-7450"
104+62.62	506.95' LT	5/8" IPF "S-7450"
104+67.07	153.32' RT	STEEL FENCE POST
104+67.16	505.98' LT	5/8" IPF "ODNR"
110+77.76	283.45' RT	CONTROL "STANTEC"
112+15.45	46.88' RT	5/8" IRON PIN FD.
112+34.64	34.56' RT	CONTROL "STANTEC"
112+54.60	129.14' LT	STEEL FENCE POST
113+02.82	140.23' LT	1/2" IRON PIN FD.
116+36.05	333.73' LT	5/8" IRON PIN FD.
116+51.65	25.10' LT	5/8" IRON PIN FD.
117+83.59	29.70' RT	CONTROL "STANTEC"
118+94.86	274.43' RT	5/8" IRON PIN FD.
118+96.94	286.89' RT	5/8" IPF "ILLEGIBLE"



- MONUMENT LEGEND**
- FENCE POST
 - ⊕ R.R.S. FOUND
 - ⊙ R.R.S. SET
 - ⊙ MAG. NAIL FOUND
 - IRON PIN FOUND
 - ⊙ I.P.F. WITH I.D. CAP
 - 3/4" BAR SET
 - ⊙ PROJECT CONTROL PT.
 - ⊙ REFER. MONUMENT SET

- A STA. 111+09.25
KING AVE. BACK=
GRANDIN RD. AHEAD
- B STA. 111+58.34
GRANDIN RD. =
STA. 903+90.20
LITTLE MIAMI TRAIL

PROJECT CONTROL
 TO OBTAIN STATE PLANE COORDINATES SCALE ABOUT THE ORIGIN COORDINATE,
 N = 0.00, E = 0.00
 FROM PROJECT COORD. TO SPC = 0.999905189
 FROM SPC TO PROJECT COORD. = 1.000094820

MONUMENT TABLE				
@ OF CONSTR. KING AVE./ GRANDIN RD.	PROJECT COORDINATES (SEE CONVERSION NOTE)		MONUMENTS TO BE SET DURING CONSTRUCTION	
	STATION	NORTH (Y)	EAST (X)	REF. MON. OFFSET
P.T. 100+00.00	497711.038	1475441.078	1	24.06 RT.
P.T. 100+00.00	497750.099	1475441.208	1	15.00 LT.
P.C. 102+43.99	497714.290	1475685.080	1	20.00 RT.
P.C. 102+43.99	497754.290	1475685.212	1	20.00 LT.
P.T. 112+55.05	496988.130	1476278.608	1	0.00 RT.
P.I. 113+14.17	496935.475	1476305.488	1	0.00 RT.
P.C. 113+77.39	496872.293	1476303.113	1	0.00 RT.
TOTAL CARRIED TO GENERAL SUMMARY SHEET			7	

MONUMENT TABLE				
@ OF CONSTR. KING AVE./ GRANDIN RD.	PROJECT COORDINATES (SEE CONVERSION NOTE)		MONUMENTS TO BE SET DURING CONSTRUCTION	
	STATION	NORTH (Y)	EAST (X)	REF. MON. OFFSET
P.T. 114+33.43	496816.526	1476307.275	1	0.00 RT.
P.T. 115+51.27	496694.272	1476307.432	1	25.00 RT.
P.T. 115+51.27	496709.622	1476360.247	1	30.00 LT.
P.C. 116+69.50	496582.133	1476345.230	1	20.00 RT.
P.C. 116+69.50	496594.691	1476388.442	1	25.00 LT.
P.T. 118+29.34	496429.515	1476410.932	1	25.00 RT.
P.T. 118+29.34	496457.320	1476452.488	1	25.00 LT.
TOTAL CARRIED TO GENERAL SUMMARY SHEET			7	

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RECEIVED _____, 20____
 RECORDED _____, 20____
 BOOK _____ PAGE _____
 COUNTY RECORDER

S-12, T-4, R-2 &
MILITARY SURVEYS 1547 & 1548
HAMILTON & DEERFIELD TOWNSHIPS
VILLAGE OF SOUTH LEBANON
WARREN COUNTY, OHIO

- 8 WARREN COUNTY
16-12-329-006
- 9 JENNIFER L. NEHUS
16-12-329-007
16-12-329-004
- 10 BOARD OF
TOWNSHIP TRUSTEES
OF DEERFIELD
TOWNSHIP, OHIO
- 13 WARREN COUNTY
COMMISSIONERS
16-12-452-003

11 LITTLE MIAMI, INC
16-12-352-013

12 PETER'S CARTRIDGE FACTORY
OUTPARCEL HOLDING, LLC
16-12-352-002

14 DEERFIELD TRAILS INC.
16-12-200-026

17 LITTLE MIAMI RIVER
NONE

18 LITTLE MIAMI RIVER
NONE

20 LITTLE MIAMI, INC
16-12-390-002

21 WARREN COUNTY, OHIO
WARREN COUNTY COMMISSIONERS
16-12-452-002

22 THE STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-452-001

23 WARREN COUNTY, OHIO
12-07-400-008

24 THE STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-502-001
16-12-502-002

27 PETER'S CARTRIDGE FACTORY
OUTPARCEL HOLDING, LLC
16-12-400-004
16-12-400-020
16-12-400-012

28 PETER'S CARTRIDGE FACTORY, LLC
16-12-453-007

3 OVERLAP BETWEEN
PARCELS 24 & 28
SEE SHEETS 15-17

STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-452-004

END ACQUISITION
Sta. 120+50.00




25 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-400-010

25 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-400-009

END ACQUISITION
Sta. 120+50.00

29 THE BOARD OF
TOWNSHIP TRUSTEES
OF HAMILTON TOWNSHIP,
WARREN COUNTY, OHIO
16-11-200-001

STRUCTURE KEY

-  RESIDENTIAL
-  COMMERCIAL
-  FOUNDATION

REV. BY	DATE	DESCRIPTION
SER	3/02/21	CHANGED PARCEL 17, ADDED PARCEL 18
DATE COMPLETED		

PROPERTY MAP KING AVENUE

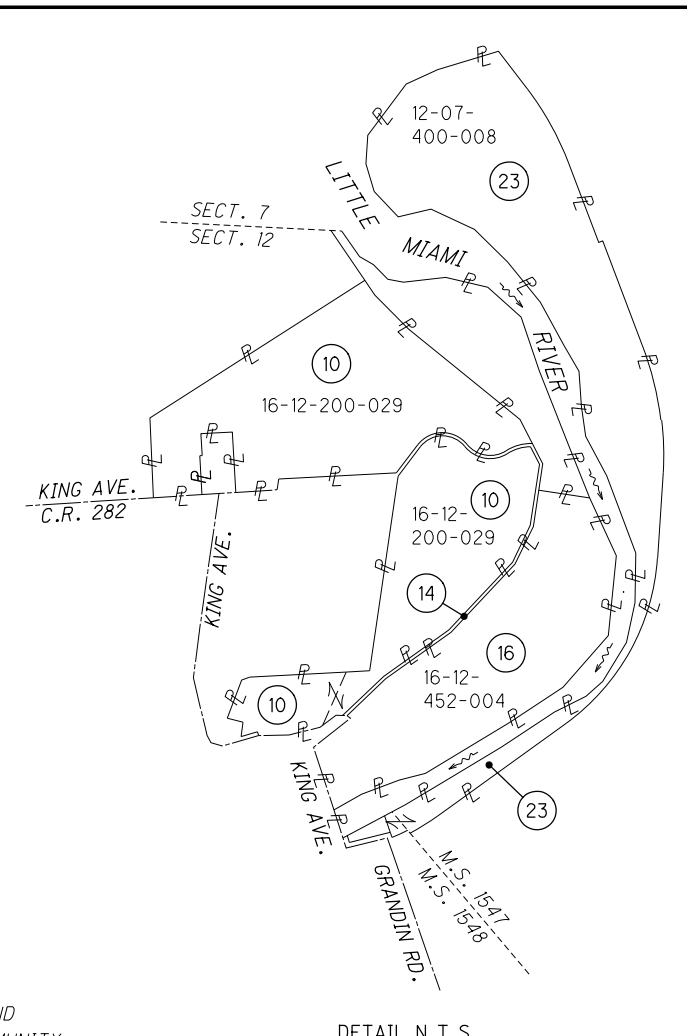
WAR-CR 282-0.97

4 / 22

206
256

P.D. NO. 106724

R/W DESIGNER: NJK
R/W REVIEWER: SER



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TOTAL NUMBER OF :

14 OWNERSHIPS 0 TOTAL TAKES
 38 PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

(D) = DEED AREA
 (C) = CALCULATED AREA

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

**ALL AREAS IN ACRES
 UNLESS OTHERWISE NOTED**

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
 WARREN COUNTY, OHIO, UNLESS OTHERWISE SHOWN.

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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
8	WARREN COUNTY	4	O.R. 406	948	16-12-329-006	0.216	0.216	0.000	0.000	0.000				STATE	EXISTING R/W		
9-T	JENNIFER L. NEHUS	9	O.R. 4462	873	16-12-329-007	0.428 (D)	0.000	0.015	0.000	0.015	NO			%	WATERLINE CONNECTION AND MINOR GRADING		
					16-12-329-004	0.438 (D)	0.000	0.000	0.000	0.000							
	TOTAL					0.866	0.000	0.015	0.000	0.015							
10-WD	BOARD OF TOWNSHIP TRUSTEES OF DEERFIELD TOWNSHIP, OHIO	9-10	O.R. 2400	153	16-12-329-008	5.002	0.247	0.344	0.154	0.190	NO			%			
			O.R. 2400	153	16-12-200-029	61.1537	0.082	0.000	0.000	0.000							
	TOTAL					66.1557	0.329	0.344	0.154	0.190			65.6367				
10-S		9-10	O.R. 2400	153	16-12-329-008			0.047	0.000	0.047	NO			%			
10-T		11-12	O.R. 2400	153	16-12-200-029			0.047	0.000	0.047	NO			%	MINOR GRADING		
11-WD	LITTLE MIAMI, INC.	9-12	O.R 1727	710	16-12-352-013	22.2315	0.516	0.974	0.516	0.458	NO		21.2575	%			
11-S		9-10	O.R 1727	710	16-12-352-013			0.071	0.000	0.071	NO			%			
12-WD	PETER'S CARTRIDGE FACTORY OUTPARCEL HOLDING, LLC	10, 13	D.N. 2019	035589	16-12-352-002	19.8554	0.300	0.160	0.115	0.045	NO		18.720	%	TOTAL AREA BY SURVEY = 19.065 AC.		
12-E		10,13, 15 22	D.N. 2019	035589	16-12-352-002	19.065 (C)		18.905	0.185	18.720					THE POTENTIAL "E" PARCEL IS SHOWN BECAUSE PHYSICAL ACCESS IS BEING ELIMINATED		
12-PRE		10, 13, 15	D.N. 2019	035589	16-12-352-002			0.000	0.000	0.000					LIMIT ACCESS TO KING AVENUE		
12-U		10	D.N. 2019	035589	16-12-352-002			0.070	0.000	0.070	NO			%	FOR THE USE OF THE CITY OF MASON WATERLINE RELOCATION		
12-T		10, 13	D.N. 2019	035589	16-12-352-002			0.134	0.000	0.134	NO			%	TO REMOVE EXISTING BRIDGE AND ROADWAY, FOR MINOR GRADING		
13	WARREN COUNTY COMMISSIONERS	4	O.R. 394	327	16-12-452-003	0.309	0.309	0.000	0.000	0.000					EXISTING R/W		
14-T	DEERFIELD TRAILS INC.	11-12	O.R. 5222	245	16-12-200-026	2.3363	0.020	0.029	0.000	0.029	NO			%	MINOR GRADING		
16-WD	STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES	11-14	D.B. 503	789	16-12-452-004	34.315	0.304	1.504	0.050	1.454	NO		32.557	%			
16-T1		11-12	D.B. 503	789	16-12-452-004			0.088	0.000	0.088	NO			%	MINOR GRADING		
16-T2		13-15	D.B. 503	789	16-12-452-004			0.751	0.000	0.751	NO			%	TO REMOVE EXISTING BRIDGE AND ROADWAY, TO CONSTRUCT NEW BRIDGE, AND FOR MINOR GRADING		
16-T3		14	D.B. 503	789	16-12-452-004			0.166	0.000	0.166	NO			%	TO CONSTRUCT NEW BRIDGE, REMOVE BUILDING FOUNDATION AND FOR MINOR GRADING		
17-QC	LANDS WITHIN THE LITTLE MIAMI RIVER	14	NONE		NONE	NONE		0.438	0.000	0.438	NO			%	BEING SOUTHERLY OF, AND IMMEDIATELY ADJACENT TO PARCEL 16, AND BEING NORTHERLY OF, AND IMMEDIATELY ADJACENT TO PARCEL 22 0.331 AC. WITHIN DEERFIELD TWP. 0.107 AC. WITHIN HAMILTON TWP.		
17-T		15	NONE		NONE	NONE		0.161	0.000	0.161	NO			%	TO REMOVE EXISTING BRIDGE AND ROADWAY		

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

LEGEND:

WD = WARRANTY DEED
 SH = STANDARD HIGHWAY EASEMENT
 T = TEMPORARY EASEMENT
 S = SEWER EASEMENT
 QC = QUIT CLAIM DEED
 PRE = PROPERTY RIGHTS

+ DENOTES REMOVAL ITEMS, FOR DESCRIPTION OF REMOVAL ITEMS SEE CORRESPONDING RIGHT OF WAY PLAN SHEET

** DENOTES RIGHT OF WAY ENCROACHMENT

(%) = 70% FEDERAL
 30% STATE

SER	6/10/21	ADDED PARCELS 12-E & 12-PR
SER	6/10/21	REVISED PARCEL 16-T3
SER	3/02/21	CHANGED PARCEL 17-WD TO 17-QC
REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY	DATE:	
OWNERSHIP VERIFIED BY	DATE:	
DATE COMPLETED		

FEDERAL PROJECT NO. E(190)797
 PID NO. 106724
 STATE JOB NO. 488755
 R/W DESIGNER NJK
 R/W REVIEWER SER
SUMMARY OF ADDITIONAL RIGHT OF WAY
WAR-CR 282-0.97
 5 / 22
 207
 256

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

(D) = DEED AREA
(C) = CALCULATED AREA

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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
18-QC	LANDS WITHIN THE LITTLE MIAMI RIVER	14	NONE		NONE	NONE		0.080	0.000	0.080					BEING NORTHERLY OF, AND IMMEDIATELY ADJACENT TO PARCEL 23 0.080 AC. WITHIN HAMILTON TWP.		
19	NOT USED																
20	LITTLE MIAMI, INC.	4	D.B. 483	693	16-12-390-002	1.950	0.000	0.000	0.000	0.000					NO R/W REQUIRED		
21	WARREN COUNTY, OHIO WARREN COUNTY COMMISSIONERS	4	O.R. 369	757	16-12-452-002	0.455	0.455	0.000	0.000	0.000					EXISTING R/W		
22-WD	THE STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES	14, 16-17	O.R. 394 O.R. 394	325 327	16-12-452-001	0.461 (D)	0.000	0.045	0.000	0.045	NO		0.416	%			
22-S		14, 16-17	O.R. 394 O.R. 394	325 327	16-12-452-001			0.010	0.000	0.010	NO			%			
22-T		14-17	O.R. 394 O.R. 394	325 327	16-12-452-001			0.099	***	0.089	NO			%	TO REMOVE EXISTING BRIDGE AND ROADWAY, AND FOR MINOR GRADING *** = INCLUDES 0.010 ACRES (PARCEL 22-S)		
23-WD	WARREN COUNTY, OHIO	14, 16-17	O.R. 1724	671	12-07-400-008	49.6886	0.000	0.345	0.000	0.345	NO	49.3436		%			
23-ODNR		16-18	O.R. 1724	671	12-07-400-008			0.207	0.000	0.207	NO			%	NO ACQUISITION REQUIRED, PROPERTY IS CURRENTLY OWNED BY WARREN COUNTY AND IS TO BE TRANSFERRED TO THE OHIO DEPARTMENT OF NATURAL RESOURCES		
23-SWR		18	O.R. 1724	671	12-07-400-008			0.008	0.000	0.008	NO			%	NO ACQUISITION REQUIRED, PROPERTY IS CURRENTLY OWNED BY WARREN COUNTY, SEWER EASEMENT IS RESERVED FOR THE OHIO DEPARTMENT OF NATURAL RESOURCES		
23-T		16-18	O.R. 1724	671	12-07-400-008			0.197	***	0.189	NO			%	MINOR GRADING *** = INCLUDES 0.008 ACRES (PARCEL 23-SWR)		
24-WD	STATE OF OHIO, OHIO DEPARTMENT OF NATURAL RESOURCES TOTAL	16-17	O.R. 31	913	16-12-502-001 16-12-502-002	[A] [B] 58.700	0.138 0.000 0.138	0.530 0.125 0.655	0.138 0.000 0.138	0.392 0.125 0.517	NO	0.265 33.085 33.350	24.695 0.000 24.695	%	[A] PT OF 25.49 +/- AC. (O.R. 31-PG. 920) M.S.#1548 [B] PT OF 33.21 +/- AC. (O.R. 31-PG. 920) M.S.#1547 PROPERTY LINE OVERLAP WITH PARCEL 28-WD		
24-T1		15-17	O.R. 31	913	16-12-502-001	[A]		0.571	0.000	0.571	NO			%	TO CONSTRUCT TRAIL AND MINOR GRADING PROPERTY LINE OVERLAP WITH PARCEL 28-T1		
24-T2		16-20	O.R. 31	913	16-12-502-002	[B]		0.881	0.000	0.881	NO			%	TO CONSTRUCT TRAIL, PARKING LOT AND MINOR GRADING		

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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LEGEND:

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S = SEWER EASEMENT
QC = QUIT CLAIM DEED

+ DENOTES REMOVAL ITEMS, FOR DESCRIPTION OF REMOVAL ITEMS SEE CORRESPONDING RIGHT OF WAY PLAN SHEET

** DENOTES RIGHT OF WAY ENCROACHMENT

(%) = 70% FEDERAL
30% STATE

REV. BY	DATE	DESCRIPTION
SER	3/02/21	ADDED PARCEL 18-QC
FIELD REVIEW BY	DATE:	
OWNERSHIP VERIFIED BY	DATE:	
DATE COMPLETED		

WAR-CR 282-0.97
SUMMARY OF ADDITIONAL RIGHT OF WAY
 FEDERAL PROJECT NO. **E(190)797**
 PID NO. **106724**
 STATE JOB NO. **488755**
 R/W DESIGNER NJK
 R/W REVIEWER SER

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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		TYPE FUND	REMARKS	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
25-WD1	STATE OF OHIO,	16-17	O.R. 269	464	16-12-400-010	25.600	0.000	0.040	0.000	0.040	NO			%			
25-WD2	DEPARTMENT OF NATURAL RESOURCES	19-21	O.R. 248	740	16-12-400-009	33.780	1.420	0.466	0.287	0.179							
	GRAND TOTAL					59.380	1.420	0.506	0.287	0.219			57.741				
25-T		16-17	O.R. 269	464	16-12-400-010			0.018	0.000	0.018	NO			%	MINOR GRADING		
26	NOT USED																
27-WD	PETER'S CARTRIDGE FACTORY	16-17,	D.N. 2019	035588	16-12-400-004	0.258	0.035	0.248	0.035	0.213	NO			%	AREA BY SURVEY = 0.248 AC., NO RESIDUE		
	OUTPARCEL HOLDING, LLC	19-20	D.N. 2018	032127	16-12-400-020	0.936	0.121	0.653	0.121	0.532					AREA BY SURVEY = 0.937 AC.		
			D.N. 2018	032207	16-12-400-012	1.298	0.173	0.342	0.173	0.169					AREA BY SURVEY = 1.303 AC.		
	TOTAL					2.492	0.329	1.243	0.329	0.914			1.245 (C)		TOTAL AREA BY SURVEY = 2.488		
						2.488 (C)											
27-CH		19-20	D.N. 2018	032207	16-12-400-012			0.017	0.000	0.017	NO			%			
27-E		20-21	D.N. 2018	032127	16-12-400-020			0.284	0.000	0.284				%	THE POTENTIAL "E" PARCEL IS SHOWN BECAUSE		
			D.N. 2018	032207	16-12-400-012			0.961	0.000	0.961					PHYSICAL ACCESS IS BEING ELIMINATED DUE TO		
	TOTAL							1.245	0.000	1.245					CONSTRUCTION OF THE PROPOSED SHOULDER BARRIER		
															AND RETAINING WALL		
28-WD	PETER'S CARTRIDGE FACTORY, LLC	16-17, 19-20	D.N. 2018	032217	16-12-453-007	12.056	0.439	0.112	0.087	0.025	NO		11.592	%	PROPERTY LINE OVERLAP WITH PARCEL 24-WD		
															** 3 STORY BUILDING ENCROACHMENT,		
															BASED ON 60' R/W WIDTH SHOWN IN ROAD		
															RECORD 2, PG. 37		
28-S		19-20	D.N. 2018	032217	16-12-453-007			0.027	0.000	0.027	NO			%			
28-T1		15-17	D.N. 2018	032217	16-12-453-007			0.013	0.000	0.013	NO			%	MINOR GRADING		
															PROPERTY LINE OVERLAP WITH PARCEL 24-T1		
28-T2		16-17, 19-20	D.N. 2018	032217	16-12-453-007			0.185	***	0.158	NO			%	MINOR GRADING		
															*** = INCLUDES 0.027 ACRES (PARCEL 28-S)		
29	THE BOARD OF TOWNSHIP TRUSTEES	4, 21	O.R. 4575	684	16-11-200-001	55.247	0.000	0.000	0.000	0.000					NO R/W REQUIRED		
	OF HAMILTON TOWNSHIP,		O.R. 4575	684	16-12-453-001	1.362	0.000	0.000	0.000	0.000							
	WARREN COUNTY, OHIO																
	TOTAL					56.609	0.000	0.000	0.000	0.000							

FEDERAL PROJECT NO. E(190)797
 PID NO. 106724
 STATE JOB NO. 488755
 R/W DESIGNER NJK
 R/W REVIEWER SER
SUMMARY OF ADDITIONAL RIGHT OF WAY
 WAR-CR 282-0.97
 7/22
 209
 256

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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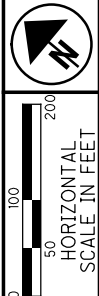
LEGEND:
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+ DENOTES REMOVAL ITEMS, FOR DESCRIPTION OF REMOVAL ITEMS SEE CORRESPONDING RIGHT OF WAY PLAN SHEET
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REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY	DATE:	
OWNERSHIP VERIFIED BY	DATE:	
DATE COMPLETED		

WAR-C.R. 282-0.97
 S-12, T-4, R-2 &
 V.M.S. 1547 & 1548
 DEERFIELD & HAMILTON TOWNSHIPS
 VILLAGE OF SOUTH LEBANON
 WARREN COUNTY, OHIO



PID NO.
106724

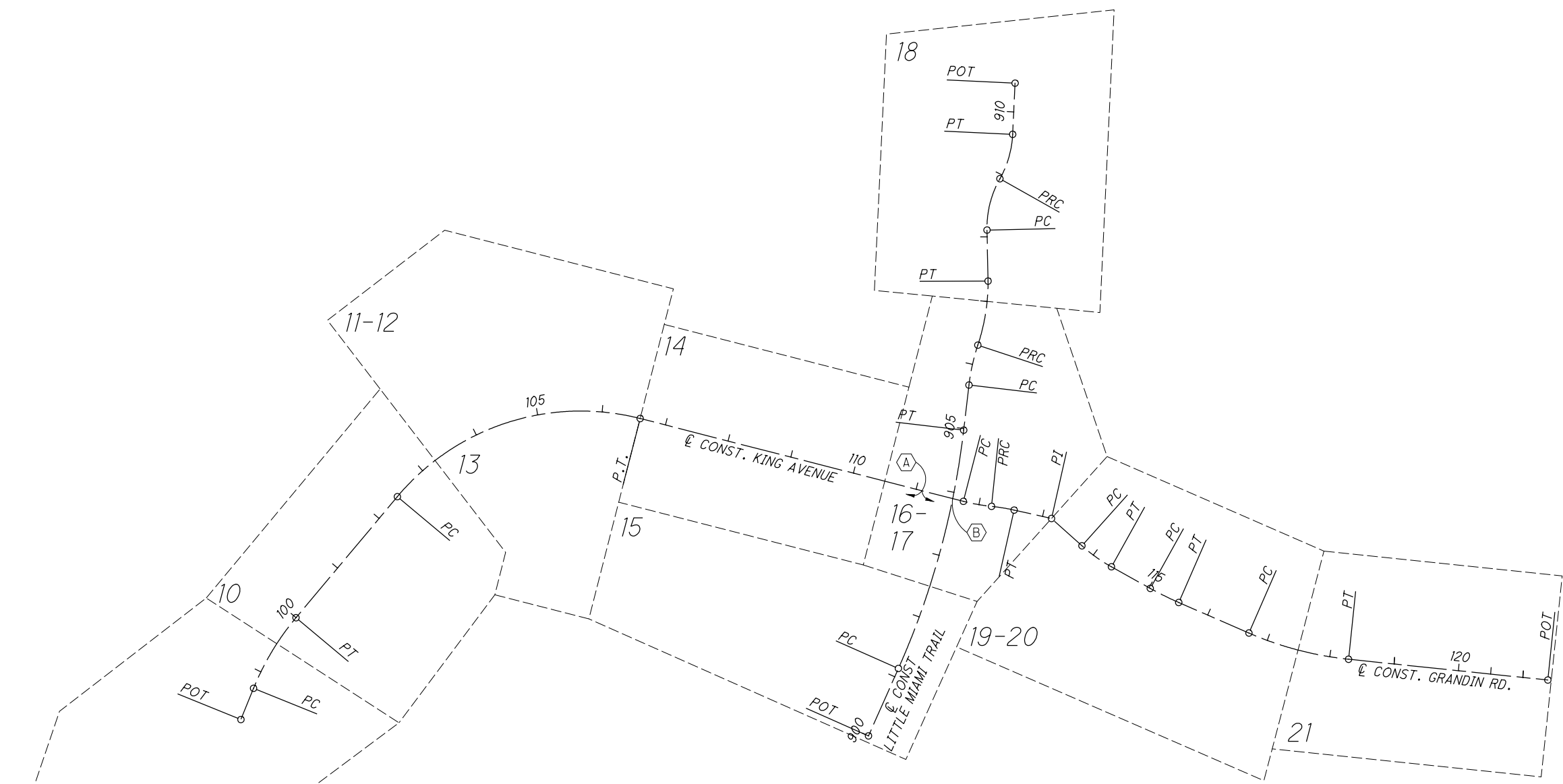
R/W DESIGNER
 NJK
 R/W REVIEWER
 SER

SCHEMATIC

WAR-CR 282-0.97

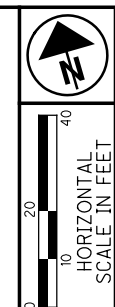
8 / 22

210
 256



(A) STA. 111+09.25
 KING AVE. BACK=
 GRANDIN RD. AHEAD
 (B) STA. 111+58.34
 GRANDIN RD. =
 STA. 903+90.20
 LITTLE MIAMI TRAIL

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PID NO. **106724**
 R/W DESIGNER: NJK
 R/W REVIEWER: SER

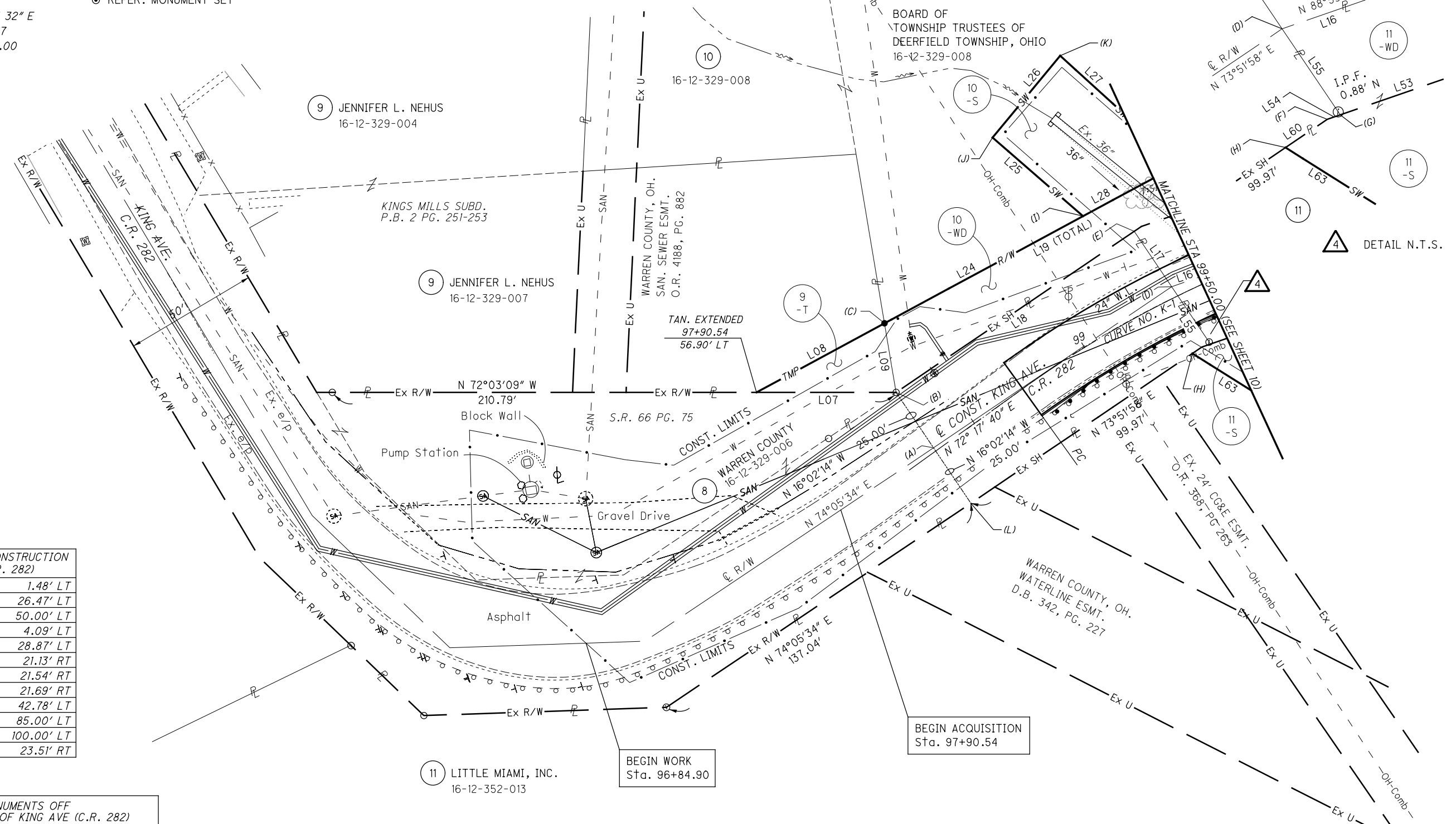
RIGHT OF WAY SHEET
BEGINNING TO STA. 99+50.00

WAR-CR 282-0.97

SECTION 12
 TOWN 4, RANGE 2
 DEERFIELD TWP
 WARREN COUNTY, OHIO

CURVE NO. K-1
 P.I. Sta. 99+36.61
 $\Delta = 17^\circ 53' 44''$ (RT)
 $D_c = 14^\circ 00' 00''$
 $R = 409.26'$
 $T = 64.44'$
 $L = 127.83'$
 $E = 5.04'$
 $C = 127.31'$
 $C.B. = N 81^\circ 14' 32'' E$
 PC STA 98+72.17
 PT STA 100+00.00

MONUMENT LEGEND
 ○ FENCE POST
 ▣ R.R.S. FOUND
 ■ R.R.S. SET
 ⊙ MAG. NAIL FOUND
 ○ IRON PIN FOUND
 ⊙ I.P.F. WITH I.D. CAP
 ● 3/4" BAR SET
 ⊙ PROJECT CONTROL PT.
 ⊙ REFER. MONUMENT SET



STA/OFF FROM @ CONSTRUCTION KING AVE. (C.R. 282)

(A)	98+32.23	1.48' LT
(B)	98+32.96	26.47' LT
(C)	98+44.49	50.00' LT
(D)	99+39.35	4.09' LT
(E)	99+36.18	28.87' LT
(F)	99+39.49	21.13' RT
(G)	99+43.06	21.54' RT
(H)	99+35.00	21.69' RT
(I)	99+23.00	42.78' LT
(J)	99+10.00	85.00' LT
(K)	99+40.00	100.00' LT
(L)	98+31.50	23.51' RT

EX. MONUMENTS OFF @ CONSTRUCTION OF KING AVE (C.R. 282)

STATION	OFFSET	DESCRIPTION
98+32.96	26.47' LT	5/8" IRON PIN FD.
99+38.17	374.65' LT	5/8" IRON PIN FD.
99+42.92	20.67' RT	5/8" IPF "ILLEGIBLE"

NUMBER	DIRECTION	DISTANCE
L07	N 72°03'09" W	52.21'
L08	N 79°34'59" E	54.39'
L09	S 08°24'22" W	26.20'
L16	S 88°53'18" W	190.00'
L17	N 16°06'18" W	25.00'
L18	S 73°51'58" W	107.49'

NUMBER	DIRECTION	DISTANCE
L19	N 79°34'59" E	221.25'
L24	N 79°34'59" E	84.36'
L25	N 31°05'44" W	44.81'
L26	N 57°30'46" E	39.71'
L27	S 29°47'35" E	60.26'
L28	S 79°34'59" W	40.97'

NUMBER	DIRECTION	DISTANCE
L53	S 88°53'18" W	53.79'
L54	N 88°53'18" E	3.40'
L55	N 16°06'18" W	25.88'
L60	N 73°51'58" E	4.30'
L63	N 39°54'39" W	83.05'

REV. BY	DATE	DESCRIPTION

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**SECTION 12
TOWN 4, RANGE 2
DEERFIELD TOWNSHIP
WARREN COUNTY, OHIO**

NUMBER	DIRECTION	DISTANCE
L41	N 52°52'07" E	103.65'
L46	S 51°56'48" W	127.49'
L47	N 17°55'57" W	31.95'
L48	S 51°56'48" W	31.95'
L49	S 53°23'20" W	73.29'

NUMBER	DIRECTION	DISTANCE
L50	N 66°10'50" W	162.51'
L51	N 89°48'36" W	30.40'
L52	N 30°51'42" W	18.60'
L53	S 88°53'18" W	53.79'

NUMBER	DIRECTION	DISTANCE
L12	S 23°45'00" W	362.64'
L13	S 52°40'25" W	21.43'
L14	S 75°53'17" W	107.00'
L15	S 75°53'17" W	93.00'
L16	S 88°53'18" W	190.00'
L19	N 79°34'59" E	221.25'

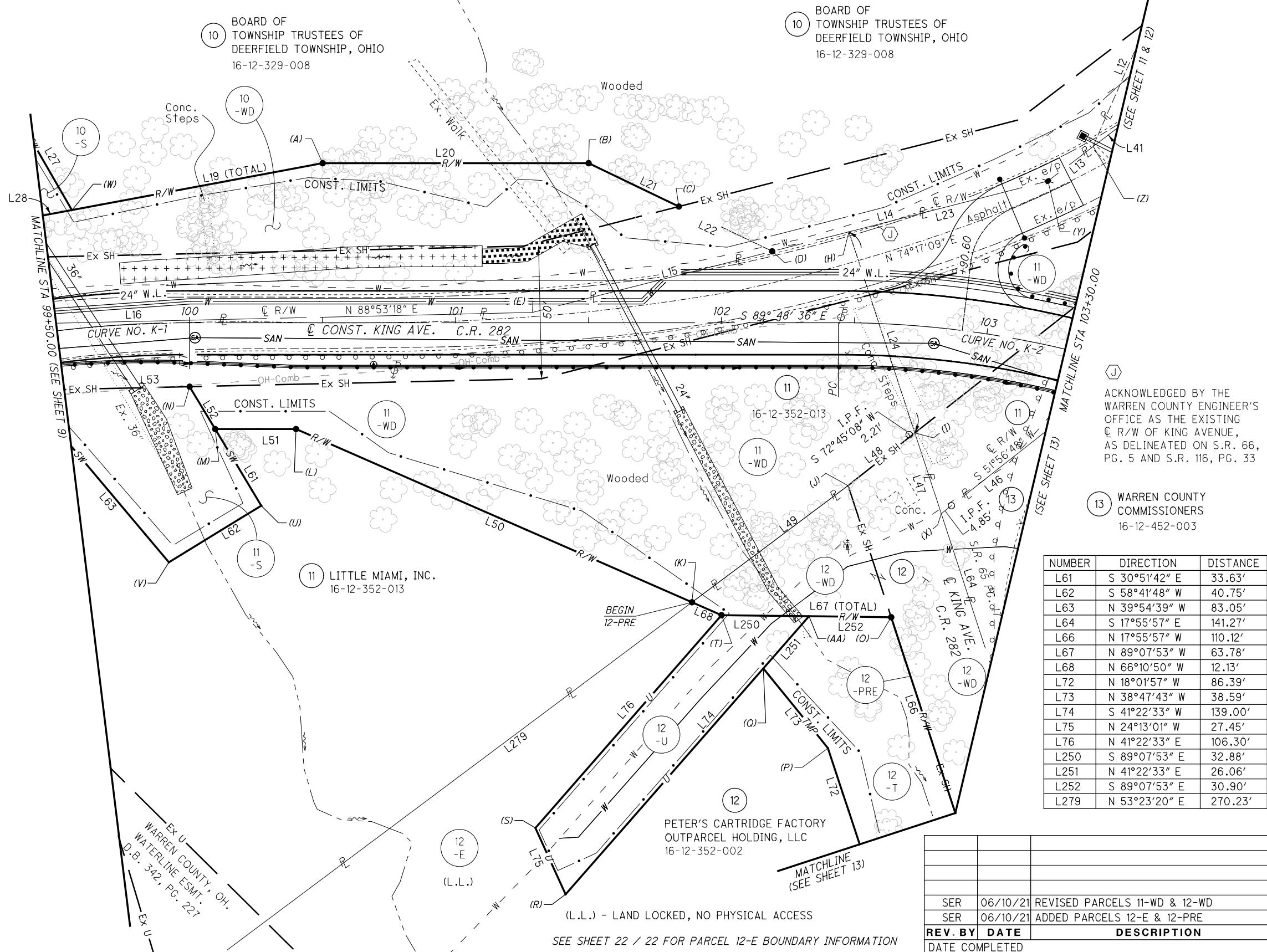
NUMBER	DIRECTION	DISTANCE
L20	S 89°48'36" E	100.00'
L21	S 64°09'24" E	37.65'
L22	S 64°09'24" E	38.93'
L23	S 75°53'17" W	77.21'
L24	S 17°55'57" E	79.62'
L27	S 29°47'35" E	60.26'
L28	S 79°34'59" W	40.97'

- MONUMENT LEGEND**
- FENCE POST
 - ⊠ R.R.S. FOUND
 - R.R.S. SET
 - ⊙ MAG. NAIL FOUND
 - IRON PIN FOUND
 - ⊙ I.P.F. WITH I.D. CAP
 - 3/4" BAR SET
 - ⊙ PROJECT CONTROL PT.
 - ⊙ REFER. MONUMENT SET

CURVE NO. K-1	CURVE NO. K-2
P.I. Sta. 99+36.61	P.I. Sta. 104+76.95
Δ = 17° 53' 44" (RT)	Δ = 64° 26' 29" (RT)
Dc = 14° 00' 00"	Dc = 15° 30' 00"
R = 409.26'	R = 369.65'
T = 64.44'	T = 232.97'
L = 127.83'	L = 415.75'
E = 5.04'	E = 67.29'
C = 127.31'	C = 394.18'
C.B. = N 81° 14' 32" E	C.B. = S 57° 35' 21" E
PC STA 98+72.17	PC STA 102+43.99
PT STA 100+00.00	PT STA 106+59.74

STA/OFF FROM C CONSTRUCTION KING AVE. (C.R. 282)	
(A)	100+50.00 60.00' LT
(B)	101+50.00 60.00' LT
(C)	101+83.94 43.70' LT
(D)	102+19.03 26.85' LT
(E)	101+28.91 3.87' LT
(H)	102+47.57 34.23' LT
(I)	102+76.20 40.21' RT
(J)	102+48.28 61.21' RT
(K)	101+88.89 105.14' RT
(L)	100+40.00 40.00' RT
(M)	100+09.60 40.00' RT
(N)	100+00.00 24.06' RT
(O)	102+72.19 110.00' RT
(P)	102+40.00 160.00' RT
(Q)	102+15.72 130.00' RT
(R)	101+41.34 215.00' RT
(S)	101+30.00 190.00' RT
(T)	102+00.00 110.00' RT
(U)	100+26.94 68.81' RT
(V)	99+90.00 90.00' RT
(W)	99+60.00 44.51' LT
(X)	102+91.65 69.33' RT
(Y)	103+12.02 60.55' LT
(Z)	103+23.88 76.72' LT
(AA)	102+32.88 110.39' RT

EX. MONUMENTS OFF C CONSTRUCTION OF KING AVE (C.R. 282)		
STATION	OFFSET	DESCRIPTION
100+69.16	15.71' RT	CONTROL "STANTEC"
102+73.91	41.04' RT	5/8" IPF "ILLEGIBLE"
102+95.78	65.84' RT	5/8" IRON PIN FD.



ACKNOWLEDGED BY THE WARREN COUNTY ENGINEER'S OFFICE AS THE EXISTING C R/W OF KING AVENUE, AS DELINEATED ON S.R. 66, PG. 5 AND S.R. 116, PG. 33

WARREN COUNTY COMMISSIONERS
16-12-452-003

NUMBER	DIRECTION	DISTANCE
L61	S 30°51'42" E	33.63'
L62	S 58°41'48" W	40.75'
L63	N 39°54'39" W	83.05'
L64	S 17°55'57" E	141.27'
L66	N 17°55'57" W	110.12'
L67	N 89°07'53" W	63.78'
L68	N 66°10'50" W	12.13'
L72	N 18°01'57" W	86.39'
L73	N 38°47'43" W	38.59'
L74	S 41°22'33" W	139.00'
L75	N 24°13'01" W	27.45'
L76	N 41°22'33" E	106.30'
L250	S 89°07'53" E	32.88'
L251	N 41°22'33" E	26.06'
L252	S 89°07'53" E	30.90'
L279	N 53°23'20" E	270.23'

REV. BY	DATE	DESCRIPTION
SER	06/10/21	REVISED PARCELS 11-WD & 12-WD
SER	06/10/21	ADDED PARCELS 12-E & 12-PRE
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
 1" = 40'

WAR-CR 282-0.97

RIGHT OF WAY SHEET

STA. 99+50.00 TO STA. 103+30.00

PID NO. **106724**

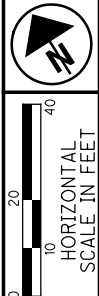
R/W DESIGNER: NJK
 R/W REVIEWER: SER

10/22
 212
 256

V:\1736\active\173620099\engineering\106724\Design\RW\Sheet\106724_R0002.dgn 6/29/2021 12:08 PM nkleiner

SEE SHEET 22 / 22 FOR PARCEL 12-E BOUNDARY INFORMATION

SECTION 12, T-4, R-2
 VILLAGE OF SOUTH LEBANON
 & DEERFIELD TOWNSHIP
 WARREN COUNTY, OHIO



PID NO.
106724

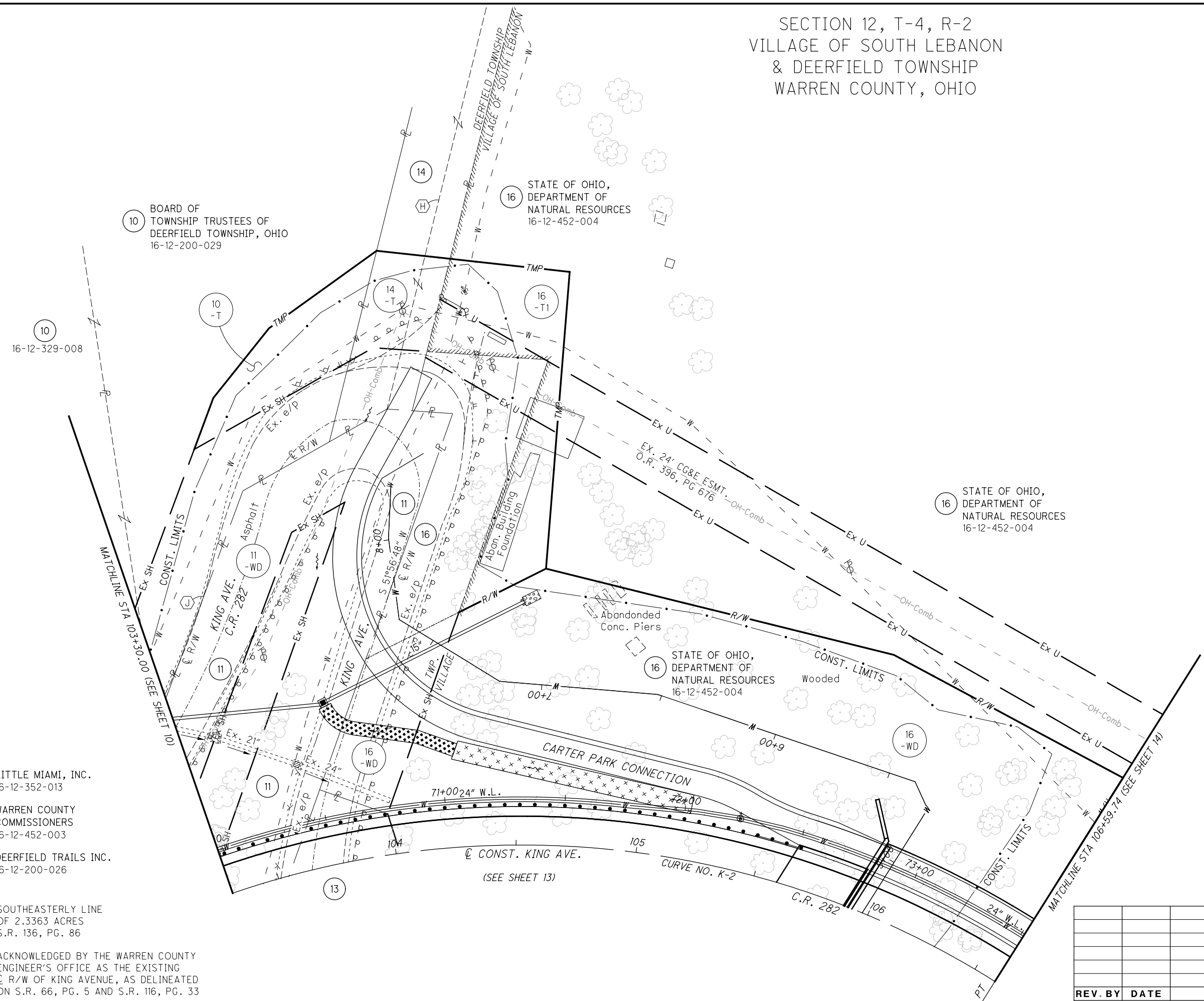
R/W DESIGNER
 NJK
 R/W REVIEWER
 SER

RIGHT OF WAY TOPO SHEET
STA. 103+30.00 TO STA. 106+59.74

WAR-CR 282-0.97

11 / 22

213
 256



10 BOARD OF TOWNSHIP TRUSTEES OF DEERFIELD TOWNSHIP, OHIO 16-12-200-029

16 STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES 16-12-452-004

16 STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES 16-12-452-004

16 STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES 16-12-452-004

11 LITTLE MIAMI, INC. 16-12-352-013

13 WARREN COUNTY COMMISSIONERS 16-12-452-003

14 DEERFIELD TRAILS INC. 16-12-200-026

(H) SOUTHEASTERLY LINE OF 2.3363 ACRES S.R. 136, PG. 86

(J) ACKNOWLEDGED BY THE WARREN COUNTY ENGINEER'S OFFICE AS THE EXISTING C/R/W OF KING AVENUE, AS DELINEATED ON S.R. 66, PG. 5 AND S.R. 116, PG. 33

CURVE NO. K-2
 P.I. Sta. 104+76.95
 $\Delta = 64^\circ 26' 29''$ (RT)
 $D_c = 15^\circ 30' 00''$
 $R = 369.65'$
 $T = 232.97'$
 $L = 415.75'$
 $E = 67.29'$
 $C = 394.18'$
 $C.B. = S 57^\circ 35' 21'' E$
 $PC STA 102+43.99$
 $PT STA 106+59.74$

REV. BY	DATE	DESCRIPTION

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SECTION 12, T-4, R-2
VILLAGE OF SOUTH LEBANON
& DEERFIELD TOWNSHIP
WARREN COUNTY, OHIO

EX. MONUMENTS OFF
C CONSTRUCTION OF KING AVE (C.R. 282)

STATION	OFFSET	DESCRIPTION
103+32.59	137.34' LT	5/8" IPF "S-7450"
103+97.92	146.88' LT	CONTROL "STANTEC"
104+07.68	211.97' LT	5/8" IRON PIN FD.
104+15.13	498.15' LT	5/8" IPF "S-7450"
104+21.92	215.32' LT	5/8" IPF "S-7450"
104+54.55	512.81' LT	5/8" IPF "S-7450"
104+62.62	506.95' LT	5/8" IPF "S-7450"
104+67.16	505.98' LT	5/8" IPF "ODNR"

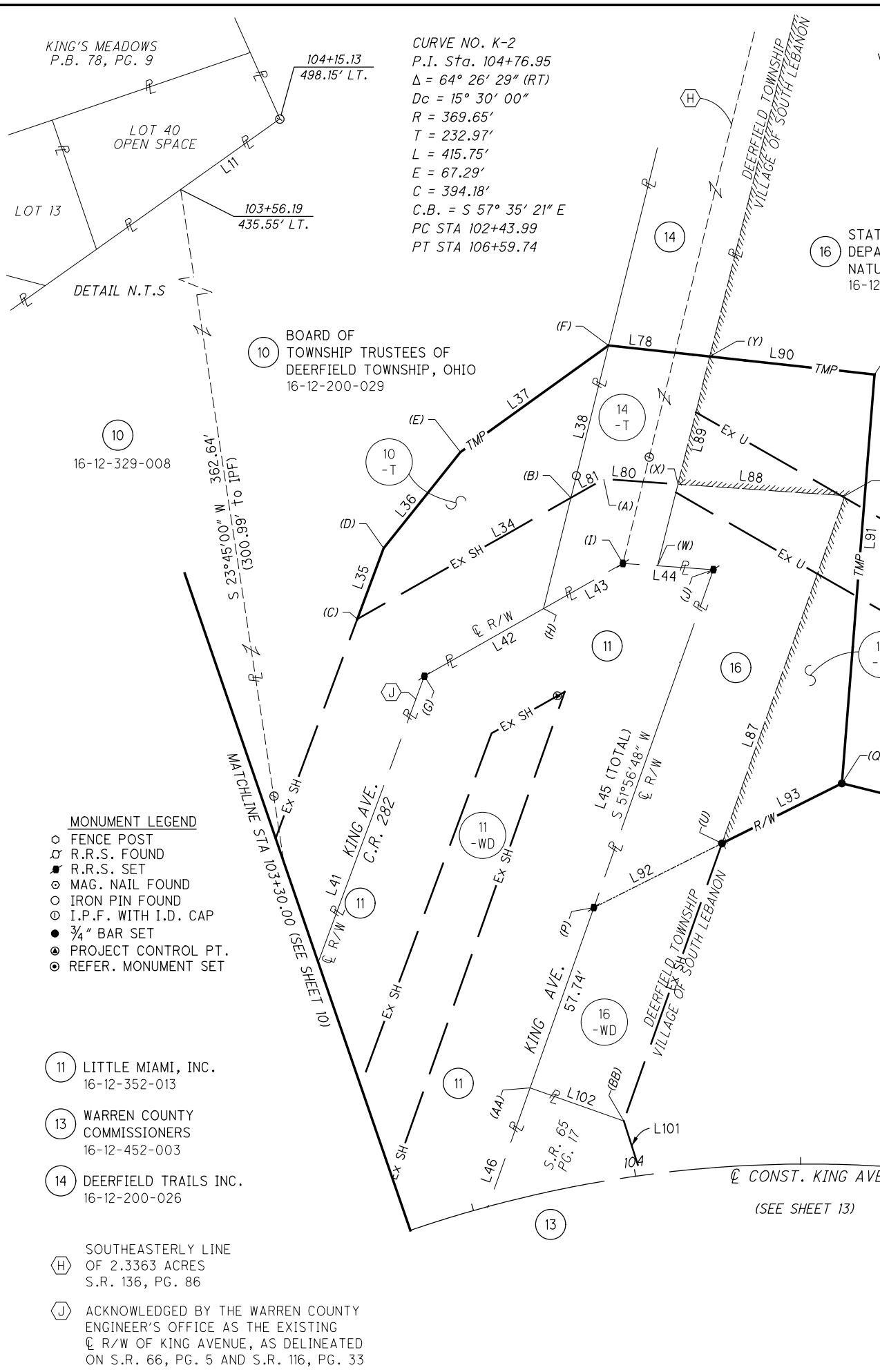
STA/OFF FROM C CONSTRUCTION
KING AVE. (C.R. 282)

(A)	104+12.83	210.00' LT
(B)	104+06.13	205.56' LT
(C)	103+60.05	181.52' LT
(D)	103+68.47	200.43' LT
(E)	103+86.61	224.22' LT
(F)	104+16.27	250.00' LT
(G)	103+70.79	160.03' LT
(H)	103+97.71	173.54' LT
(I)	104+14.88	184.08' LT
(J)	104+33.02	180.12' LT
(P)	103+99.15	82.05' LT
(Q)	104+60.00	115.00' LT
(R)	105+75.00	105.00' LT
(S)	106+59.74	100.00' LT
(T)	106+59.74	50.00' LT
(U)	104+31.68	97.50' LT
(V)	104+59.45	201.82' LT
(W)	104+21.80	182.41' LT
(X)	104+27.02	206.52' LT
(Y)	104+34.36	244.45' LT
(Z)	104+64.41	238.62' LT
(AA)	103+74.42	31.83' LT
(BB)	103+98.88	16.98' LT

NUMBER	DIRECTION	DISTANCE
L11	S 87°03'13" W	147.12'
L34	N 87°07'56" W	74.14'
L35	N 52°50'38" E	22.82'
L36	N 71°06'31" E	37.16'
L37	N 86°42'18" E	55.07'
L38	S 46°21'38" W	47.36'
L41	N 52°52'07" E	103.65'
L42	S 87°07'56" E	41.32'
L43	S 87°07'56" E	27.57'
L44	S 53°36'10" E	27.36'
L45	S 51°56'48" W	165.91'
L46	S 51°56'48" W	127.49'
L78	S 51°17'09" E	30.70'
L80	N 53°36'10" W	22.45'
L81	N 87°07'56" W	11.38'

NUMBER	DIRECTION	DISTANCE
L87	N 51°56'48" E	111.30'
L88	N 53°36'10" W	50.54'
L89	N 46°26'25" E	39.73'
L90	S 51°17'09" E	50.00'
L91	S 37°01'48" W	123.79'
L92	S 84°08'50" E	43.26'
L93	S 84°08'50" E	40.43'
L94	S 43°36'44" E	148.95'
L95	S 29°18'08" E	108.11'
L96	S 64°37'53" W	50.00'
L101	N 14°34'35" E	109.11'
L102	N 38°03'12" W	30.00'

CURVE NO. K-2
P.I. Sta. 104+76.95
 $\Delta = 64^\circ 26' 29" (RT)$
 $D_c = 15^\circ 30' 00"$
 $R = 369.65'$
 $T = 232.97'$
 $L = 415.75'$
 $E = 67.29'$
 $C = 394.18'$
C.B. = S 57° 35' 21" E
PC STA 102+43.99
PT STA 106+59.74



- MONUMENT LEGEND
- FENCE POST
 - ⊕ R.R.S. FOUND
 - ⊕ R.R.S. SET
 - ⊕ MAG. NAIL FOUND
 - ⊕ IRON PIN FOUND
 - ⊕ I.P.F. WITH I.D. CAP
 - 3/4" BAR SET
 - ⊕ PROJECT CONTROL PT.
 - ⊕ REFER. MONUMENT SET

- 11 LITTLE MIAMI, INC.
16-12-352-013
- 13 WARREN COUNTY COMMISSIONERS
16-12-452-003
- 14 DEERFIELD TRAILS INC.
16-12-200-026
- (H) SOUTHEASTERLY LINE OF 2.3363 ACRES
S.R. 136, PG. 86
- (J) ACKNOWLEDGED BY THE WARREN COUNTY ENGINEER'S OFFICE AS THE EXISTING C R/W OF KING AVENUE, AS DELINEATED ON S.R. 66, PG. 5 AND S.R. 116, PG. 33

16 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-452-004

16 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-452-004

16 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-452-004

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RIGHT OF WAY BOUNDARY SHEET

WAR-CR 282-0.97

STA. 103+30.00 TO STA. 106+59.74

PID NO. 106724

R/W DESIGNER NJK R/W REVIEWER SER

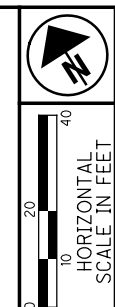
12/22

214
256

REV. BY	DATE	DESCRIPTION

SECTION 12, T-4, R-2
VILLAGE OF SOUTH LEBANON
& DEERFIELD TOWNSHIP
WARREN COUNTY, OHIO

CURVE NO. K-2
P.I. Sta. 104+76.95
 $\Delta = 64^\circ 26' 29''$ (RT)
 $Dc = 15^\circ 30' 00''$
 $R = 369.65'$
 $T = 232.97'$
 $L = 415.75'$
 $E = 67.29'$
 $C = 394.18'$
 $C.B. = S 57^\circ 35' 21'' E$
PC STA 102+43.99
PT STA 106+59.74



PID NO. **106724**
R/W DESIGNER: NJK
R/W REVIEWER: SER

RIGHT OF WAY SHEET
STA. 103+30.00 TO STA. 106+59.74

WAR-CR 282-0.97

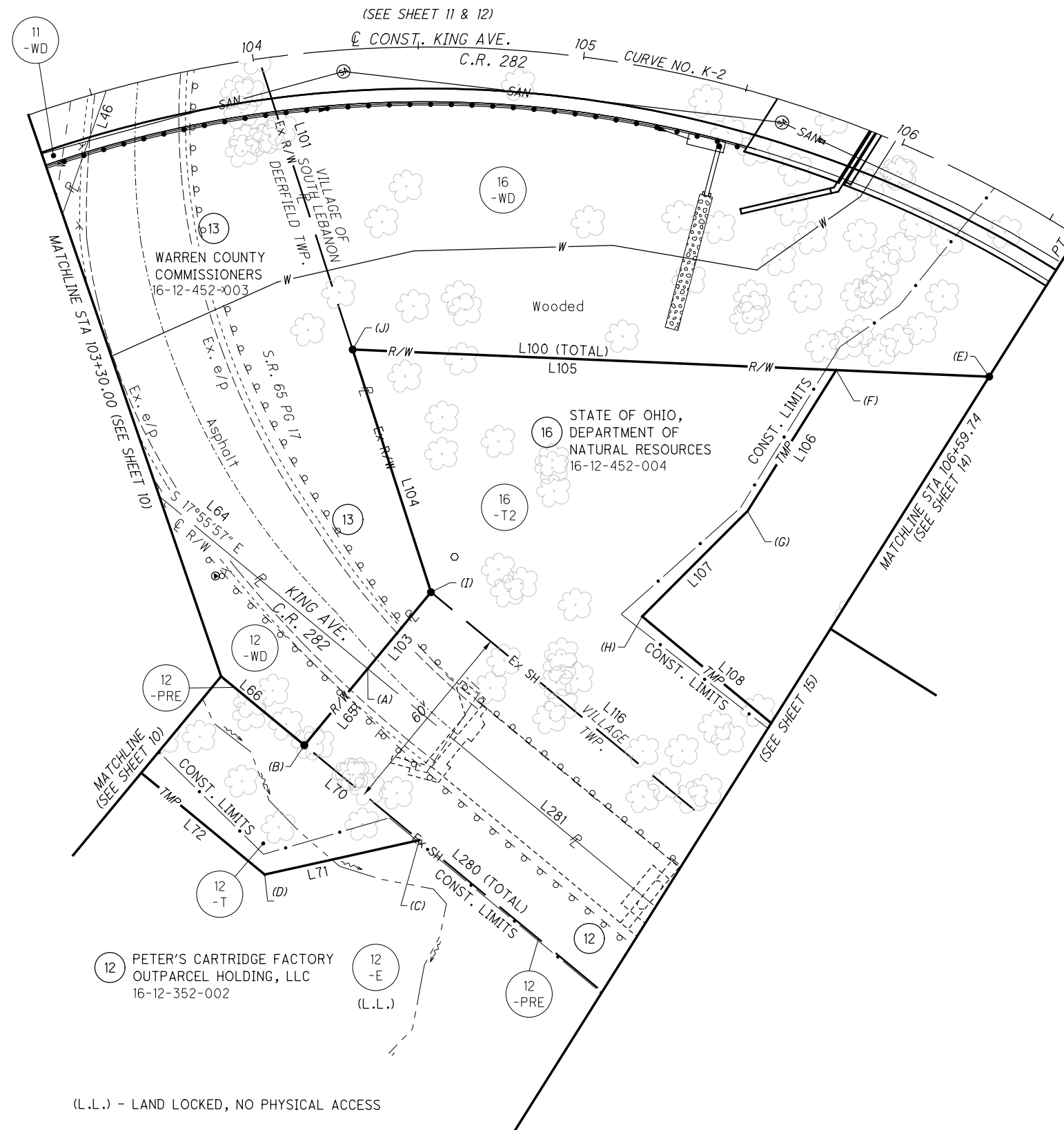
13/22
215/256

- MONUMENT LEGEND**
- FENCE POST
 - ⊠ R.R.S. FOUND
 - R.R.S. SET
 - MAG. NAIL FOUND
 - IRON PIN FOUND
 - ⊙ I.P.F. WITH I.D. CAP
 - 3/4" BAR SET
 - ⊙ PROJECT CONTROL PT.
 - ⊙ REFER. MONUMENT SET

NUMBER	DIRECTION	DISTANCE
L46	S 51°56'48" W	127.49'
L64	S 17°55'57" E	141.27'
L65	S 72°04'03" W	30.00'
L66	N 17°55'57" W	110.12'
L70	S 17°55'57" E	45.00'
L71	N 70°06'11" W	47.81'
L72	N 18°01'57" W	86.39'
L100	N 55°05'41" W	192.42'
L101	N 14°34'35" E	109.11'
L103	N 72°04'03" E	30.00'
L104	N 14°34'35" E	77.01'
L105	S 55°05'41" W	146.17'
L106	S 64°38'05" W	50.32'
L107	S 77°27'31" W	44.99'
L108	S 17°55'57" E	81.10'
L116	N 17°55'57" W	264.89'
L280	S 17°55'57" E	268.11'
L281	S 17°55'57" E	270.29'

STA/OFF FROM	CONST.	CONSTRUCTION
KING AVE. (C.R. 282)		
(A)	104+16.77	186.43' RT
(B)	103+68.57	206.22' RT
(C)	104+46.58	239.06' RT
(D)	103+10.00	240.00' RT
(E)	106+59.74	50.00' RT
(F)	106+10.00	70.23' RT
(G)	106+00.00	120.00' RT
(H)	105+70.00	161.00' RT
(I)	104+55.06	164.15' RT
(J)	104+23.01	90.00' RT

EX. MONUMENTS OFF CONST. OF KING AVE (C.R. 282)		
STATION	OFFSET	DESCRIPTION
103+43.86	149.88' RT	CONTROL "STANTEC"
104+67.07	153.32' RT	STEEL FENCE POST



(L.L.) - LAND LOCKED, NO PHYSICAL ACCESS
SEE SHEET 22 / 22 FOR PARCEL 12-E BOUNDARY INFORMATION

REV. BY	DATE	DESCRIPTION
SER	06/10/21	ADDED PARCELS 12-E & 12-PRE

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MONUMENT LEGEND

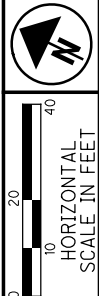
- FENCE POST
- R.R.S. FOUND
- R.R.S. SET
- MAG. NAIL FOUND
- IRON PIN FOUND
- I.P.F. WITH I.D. CAP
- 3/4" BAR SET
- PROJECT CONTROL PT.
- REFER. MONUMENT SET

SECTION 12, T-4, R-2, &
M.S. 1547 & 1548
VILLAGE OF SOUTH LEBANON,
DEERFIELD & HAMILTON TOWNSHIPS
WARREN COUNTY, OHIO

STA/OFF FROM @ CONSTRUCTION KING AVE. (C.R. 282)		
(B)	110+48.72	3.91' LT
(C)	110+46.16	50.00' LT
(E)	108+30.00	50.00' LT
(F)	107+55.00	50.00' LT
(G)	107+55.00	85.00' LT

STA/OFF FROM @ CONSTRUCTION KING AVE. (C.R. 282)		
(H)	108+29.08	85.00' LT
(J)	108+16.59	50.00' RT
(K)	108+08.57	109.76' RT
(L)	107+15.00	125.00' RT
(M)	106+70.00	116.00' RT
(N)	106+83.00	50.00' RT

STA/OFF FROM @ CONSTRUCTION KING AVE. (C.R. 282)		
(P)	110+41.94	80.47' LT
(Q)	110+33.69	140.00' LT
(R)	110+58.25	124.92' RT
(S)	110+41.09	109.32' RT
(T)	110+43.86	95.55' RT
(U)	110+51.72	50.00' RT
(V)	109+60.35	50.00' LT
(W)	109+65.56	12.97' LT



PID NO. **106724**

R/W DESIGNER: NJK
R/W REVIEWER: SER

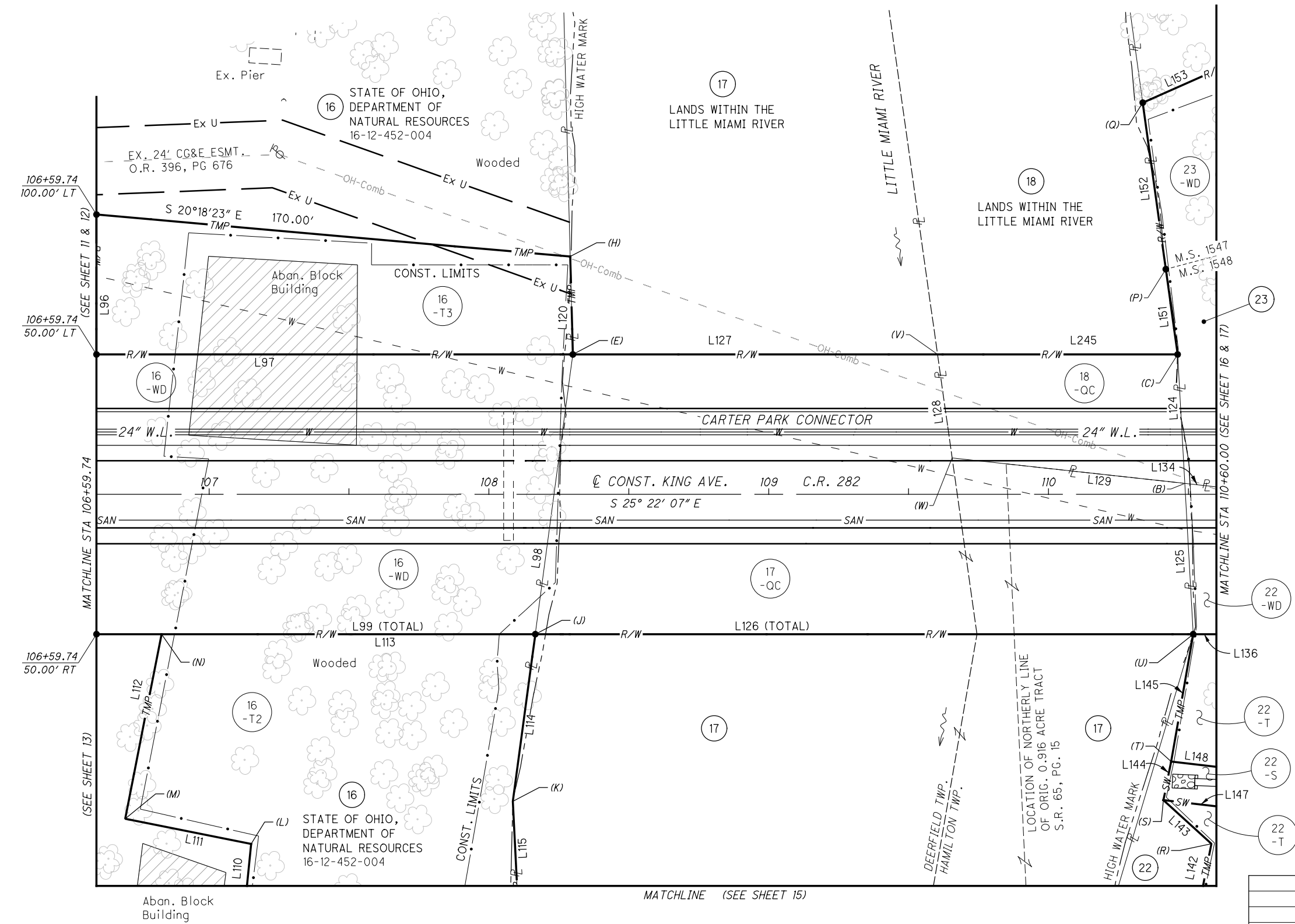
RIGHT OF WAY SHEET
STA. 106+59.74 TO 110+60.00

WAR-CR 282-097

14 / 22

216
256

NUMBER	DIRECTION	DISTANCE
L96	S 64°37'53" W	50.00'
L97	S 25°22'07" E	170.26'
L98	S 72°16'17" W	100.90'
L99	N 25°22'07" W	156.85'
L110	N 70°09'33" E	31.14'
L111	N 14°03'31" W	45.89'
L112	N 75°46'28" E	67.27'
L113	S 25°22'07" E	133.59'
L114	S 72°16'17" W	60.29'
L115	S 61°51'50" W	83.96'
L117	N 25°22'07" W	75.00'
L118	N 64°37'53" E	35.00'
L119	S 25°22'07" E	74.08'
L120	S 63°07'13" W	35.01'
L124	S 61°26'58" W	46.16'
L125	S 61°26'58" W	53.99'
L126	N 25°22'07" W	235.13'
L127	S 25°22'07" E	130.35'
L128	S 56°37'29" W	37.40'
L129	S 19°08'59" E	83.65'
L134	S 19°08'59" E	44.92'
L136	N 25°22'07" W	31.80'
L142	N 76°00'01" E	100.14'
L143	N 16°54'54" E	23.19'
L144	N 76°00'01" E	14.05'
L145	N 74°25'17" E	46.22'
L147	N 18°43'37" W	30.00'
L148	S 18°43'37" E	30.00'
L151	N 56°44'25" E	30.76'
L152	N 56°44'25" E	60.10'
L153	S 49°11'05" E	51.31'
L245	S 25°22'07" E	85.81'



- 22 THE STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES 16-12-452-001
- 23 WARREN COUNTY, OHIO 12-07-400-008

REV. BY	DATE	DESCRIPTION
SER	5/12/21	REVISED PARCEL 16-T3
SER	3/02/21	REPLACED 17-WD WITH 17-QC, ADDED 18-QC
DATE COMPLETED		

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SEC 12, T-4, R-2 & M.S 1548
 VILLAGE OF SOUTH LEBANON
 DEERFIELD & HAMILTON TOWNSHIPS
 WARREN COUNTY, OHIO

NO.	RADIUS	DELTA ANG.	ARC LEN	CHORD DIRECT.	CHORD
C18	1518.31'	04°17'20"	113.66'	S 72°28'35" W	113.63'
C19	1418.31'	03°12'28"	79.40'	N 73°01'01" E	79.39'

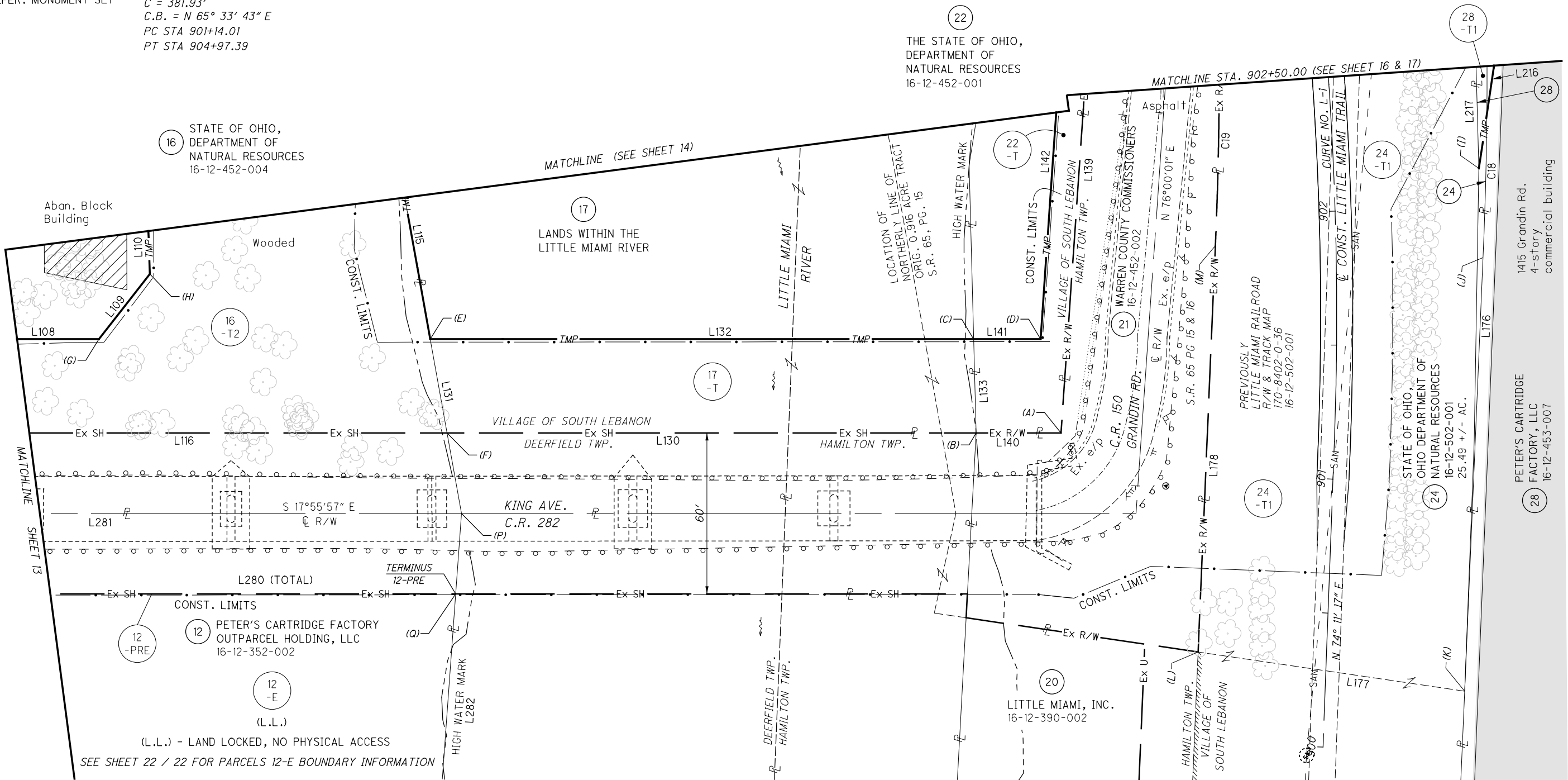
MONUMENT LEGEND

- FENCE POST
- ⊕ R.R.S. FOUND
- ⊕ R.R.S. SET
- ⊕ MAG. NAIL FOUND
- ⊕ IRON PIN FOUND
- ⊕ I.P.F. WITH I.D. CAP
- 3/4" BAR SET
- ⊕ PROJECT CONTROL PT.
- ⊕ REFER. MONUMENT SET

CURVE NO. L-1
 P.I. Sta. 903+07.17
 $\Delta = 17^\circ 15' 07''$ (LT)
 $D_c = 4^\circ 30' 00''$
 $R = 1,273.24'$
 $T = 193.15'$
 $L = 383.38'$
 $E = 14.57'$
 $C = 381.93'$
 $C.B. = N 65^\circ 33' 43'' E$
 PC STA 901+14.01
 PT STA 904+97.39

EX. MONUMENTS OFF @ CONSTRUCTION OF KING AVE (C.R. 282)		
STATION	OFFSET	DESCRIPTION
110+77.76	283.45' RT	CONTROL "STANTEC"

THE STATE OF OHIO,
 DEPARTMENT OF
 NATURAL RESOURCES
 16-12-452-001



NUMBER	DIRECTION	DISTANCE
L108	S 17°55'57" E	81.10'
L109	S 69°51'34" E	30.84'
L110	N 70°09'33" E	31.14'
L115	S 61°51'50" W	83.96'
L116	N 17°55'57" W	264.89'
L130	N 17°55'57" W	197.42'
L131	S 61°51'50" W	35.56'
L132	S 17°55'57" E	202.81'
L133	S 70°34'48" W	35.01'
L139	S 76°00'01" W	148.92'

NUMBER	DIRECTION	DISTANCE
L140	N 17°55'57" W	31.70'
L141	S 17°55'57" E	24.99'
L142	N 76°00'01" E	100.14'
L176	S 74°30'01" W	161.85'
L177	N 09°33'59" W	100.54'
L178	N 74°30'01" E	151.67'
L216	S 80°29'47" W	65.69'
L217	N 70°31'05" E	78.43'
L280	S 17°55'57" E	268.11'
L281	S 17°55'57" E	270.29'
L282	S 76°12'57" W	200.00'

STA/OFF FROM CENTERLINE CONSTRUCTION LITTLE MIAMI TRAIL	
(A)	901+13.45 102.05' LT
(D)	901+51.39 110.46' LT
(I)	902+13.72 54.20' RT
(J)	901+81.76 54.80' RT
(K)	900+22.79 52.03' RT
(L)	900+33.73 47.91' LT
(M)	901+88.05 45.00' LT

STA/OFF FROM @ CONSTRUCTION KING AVE. (C.R. 282)	
(A)	110+41.53 258.79' RT
(B)	110+10.10 254.69' RT
(C)	110+13.73 219.86' RT
(D)	110+38.51 223.10' RT
(E)	108+12.62 193.62' RT
(F)	108+14.34 229.14' RT
(G)	106+90.00 177.61' RT
(H)	107+12.00 156.00' RT
(P)	108+15.81 259.58' RT
(Q)	108+09.78 289.05' RT

REV. BY	DATE	DESCRIPTION
SER	06/10/21	ADDED PARCEL 12-E & 12-PRE
SER	3/02/21	CHANGED PARCEL 17
DATE COMPLETED		

PID NO. **106724**
 R/W DESIGNER: NJK
 R/W REVIEWER: SER
RIGHT OF WAY SHEET
STA. 900+00.00 TO 902+50.00
WAR-CR 282-.097
 15 / 22
 217 / 256

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24 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
25.49 +/- AC.
16-12-502-001

22 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-452-001

M.S. No. 1547 & 1548
VILLAGE OF SOUTH LEBANON,
HAMILTON TOWNSHIP,
WARREN COUNTY, OHIO

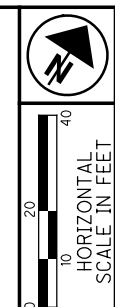
23 WARREN COUNTY, OHIO
12-07-400-008

24 STATE OF OHIO,
OHIO DEPARTMENT OF
NATURAL RESOURCES
33.21 +/- AC.
16-12-502-002

25 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-400-010

27 PETER'S CARTRIDGE FACTORY
OUTPARCEL HOLDING, LLC
16-12-400-020
16-12-400-012

28 PETER'S CARTRIDGE FACTORY, LLC
16-12-453-007



PID NO.
106724

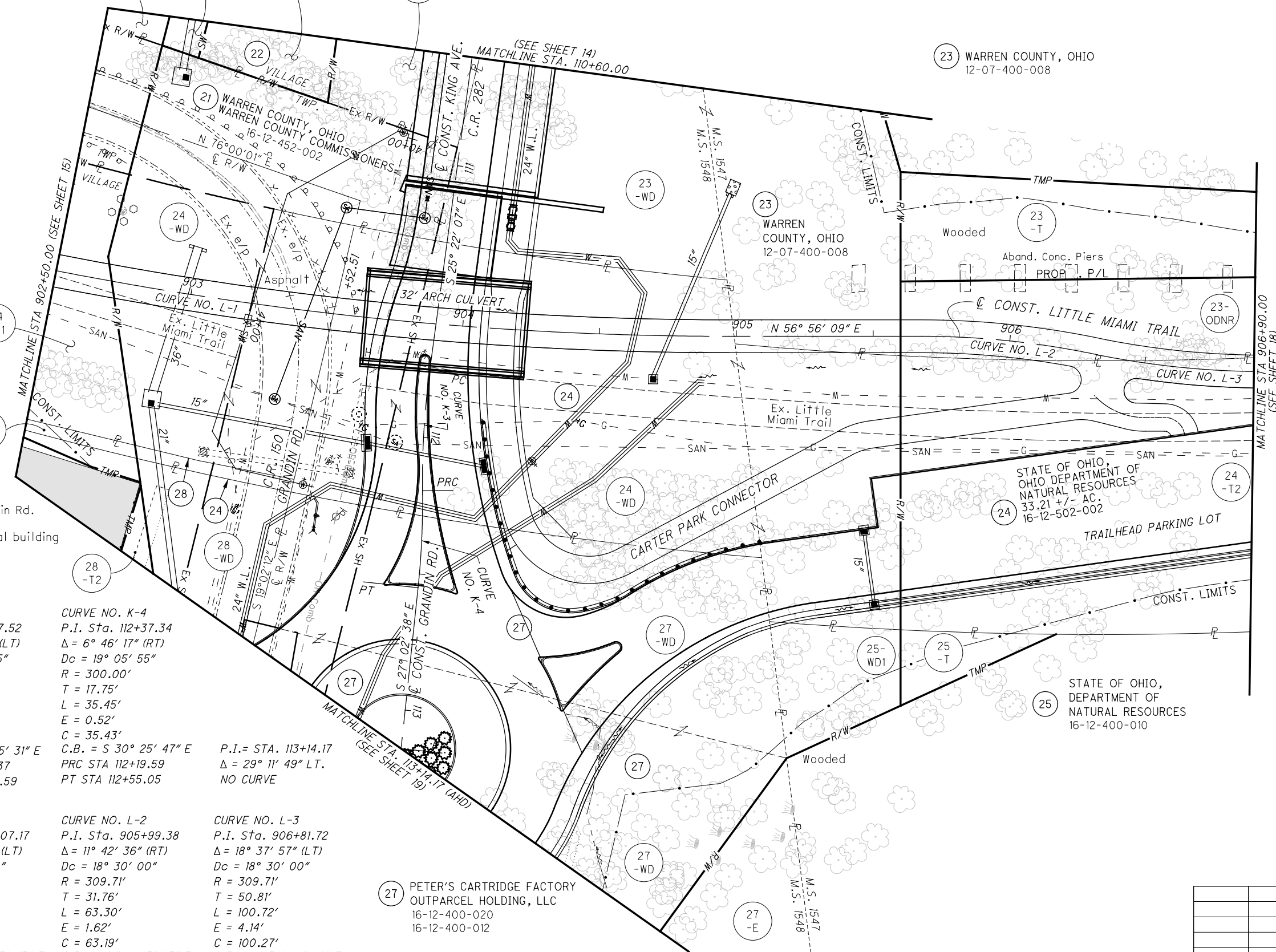
R/W DESIGNER
NUK
R/W REVIEWER
SER

RIGHT OF WAY TOPO SHEET
STA. 110+60.00 TO STA. 113+14.17

WAR-CR 282-0.97

16 / 22

218
256



CURVE NO. K-3
P.I. Sta. 111+97.52
 $\Delta = 8^\circ 26' 48''$ (LT)
Dc = 19° 05' 55"
R = 300.00'
T = 22.15'
L = 44.23'
E = 0.82'
C = 44.19'
C.B. = S 29° 35' 31" E
PC STA 111+75.37
PRC STA 112+19.59

CURVE NO. K-4
P.I. Sta. 112+37.34
 $\Delta = 6^\circ 46' 17''$ (RT)
Dc = 19° 05' 55"
R = 300.00'
T = 17.75'
L = 35.45'
E = 0.52'
C = 35.43'
C.B. = S 30° 25' 47" E
PRC STA 112+19.59
PT STA 112+55.05

P.I. = STA. 113+14.17
 $\Delta = 29^\circ 11' 49''$ LT.
NO CURVE

CURVE NO. L-1
P.I. Sta. 903+07.17
 $\Delta = 17^\circ 15' 07''$ (LT)
Dc = 4° 30' 00"
R = 1,273.24'
T = 193.15'
L = 383.38'
E = 14.57'
C = 381.93'
C.B. = N 65° 33' 43" E
PC STA 901+14.01
PT STA 904+97.39

CURVE NO. L-2
P.I. Sta. 905+99.38
 $\Delta = 11^\circ 42' 36''$ (RT)
Dc = 18° 30' 00"
R = 309.71'
T = 31.76'
L = 63.30'
E = 1.62'
C = 63.19'
C.B. = N 62° 47' 27" E
PC STA 905+67.62
PRC STA 906+30.91

CURVE NO. L-3
P.I. Sta. 906+81.72
 $\Delta = 18^\circ 37' 57''$ (LT)
Dc = 18° 30' 00"
R = 309.71'
T = 50.81'
L = 100.72'
E = 4.14'
C = 100.27'
C.B. = N 59° 19' 46" E
PRC STA 906+30.91
PT STA 907+31.63

REV. BY	DATE	DESCRIPTION

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M.S. No. 1547 & 1548
 VILLAGE OF SOUTH LEBANON,
 HAMILTON TOWNSHIP,
 WARREN COUNTY, OHIO

NUMBER	DIRECTION	DISTANCE
L134	S 19°08'59" E	44.92'
L135	S 76°00'01" W	50.02'
L136	N 25°22'07" W	31.80'
L137	S 76°00'01" W	50.00'
L138	S 76°00'01" W	14.05'

NUMBER	DIRECTION	DISTANCE
L139	S 76°00'01" W	148.92'
L147	N 18°43'37" W	30.00'
L148	S 18°43'37" E	30.00'
L153	S 49°11'05" E	51.31'

NO.	RADIUS	DELTA ANG.	ARC LEN	CHORD DIRECT.	CHORD
C11	1441.31'	02°24'31"	60.59'	S 61°02'02" W	60.59'
C12	1418.31'	04°20'56"	107.65'	S 64°37'02" W	107.63'
C13	1441.31'	05°37'53"	141.66'	S 57°00'51" W	141.60'
C14	1541.31'	01°46'51"	47.91'	S 60°31'56" W	47.90'
C15	1518.31'	06°33'25"	173.76'	S 64°52'44" W	173.66'
C16	1518.31'	02°10'27"	57.61'	S 69°14'41" W	57.61'
C17	1418.31'	04°37'17"	114.40'	N 69°06'09" E	114.37'
C18	1518.31'	04°17'20"	113.66'	S 72°28'35" W	113.63'
C19	1418.31'	03°12'28"	79.40'	N 73°01'01" E	79.39'
C20	1541.31'	03°19'53"	89.62'	S 55°51'51" W	89.61'
C21	1541.31'	02°06'43"	56.81'	S 58°35'09" W	56.81'

STA/OFF FROM @ CONSTRUCTION KING AVE. (C.R. 282) & GRANDIN RD. (C.R. 150)		
(A)	110+93.38	0.96' RT
(B)	110+83.52	50.00' RT
(C)	110+73.66	99.02' RT
(D)	110+70.89	112.79' RT
(I)	110+80.63	160.72' LT
(J)	111+20.27	166.07' LT
(K)	111+47.13	169.71' LT
(L)	111+50.94	109.24' LT
(M)	111+28.16	103.23' LT
(N)	111+28.18	4.40' RT
(O)	112+53.03	176.91' LT
(P)	112+54.22	129.05' LT
(Q)	112+38.04	124.40' LT
(R)	112+19.44	48.07' RT
(S)	112+09.80	104.41' RT
(T)	111+50.00	122.00' RT
(U)	111+19.27	118.42' RT
(W)	112+79.46	179.81' LT
(X)	113+02.86	140.46' LT
(AA)	112+06.24	105.22' RT
(BB)	112+10.05	81.98' RT
(CC)	112+15.45	46.88' RT
(DD)	112+17.20	102.92' RT
(EE)	112+16.21	103.11' RT

STA/OFF FROM @ CONSTRUCTION LITTLE MIAMI TRAIL		
(D)	902+73.73	88.03' LT
(I)	905+60.00	60.00' LT
(J)	905+60.00	20.00' LT
(K)	905+60.00	7.11' RT
(O)	905+60.00	107.23' RT
(S)	902+90.19	62.29' RT
(T)	902+67.75	8.60' LT
(U)	902+69.98	39.46' LT
(V)	906+36.45	103.13' RT
(W)	905+60.00	135.00' RT
(AA)	902+88.79	57.63' RT
(FF)	902+75.00	68.06' RT

STA. 111+09.25 KING AVE. BACK = GRANDIN RD. AHEAD

STA. 111+58.34 GRANDIN RD. = STA. 903+90.20 LITTLE MIAMI TRAIL

NUMBER	DIRECTION	DISTANCE
L157	N 19°43'00" W	34.98'
L158	N 56°14'29" E	302.61'
L161	N 60°07'29" E	232.06'
L167	S 56°14'29" W	235.08'
L171	N 41°08'43" W	74.49'
L172	N 18°43'37" W	30.94'
L184	S 33°03'51" E	27.77'
L185	S 32°13'29" W	45.79'
L186	S 32°13'29" W	62.51'
L192	N 19°02'12" W	122.73'
L193	S 03°04'49" W	129.24'
L202	N 41°08'43" W	78.18'
L203	N 70°31'05" E	23.77'
L204	N 68°05'05" E	35.70'
L205	S 19°02'12" E	4.77'
L214	S 41°08'43" E	13.60'
L215	S 74°21'29" W	18.80'
L216	S 80°29'47" W	65.69'
L217	N 70°31'05" E	78.43'
L224	N 16°24'30" W	66.94'
L225	S 41°08'43" E	63.24'

CURVE NO. K-3
 P.I. Sta. 111+97.52
 $\Delta = 8^\circ 26' 48" (LT)$
 $Dc = 19^\circ 05' 55"$
 $R = 300.00'$
 $T = 22.15'$
 $L = 44.23'$
 $E = 0.82'$
 $C = 44.19'$
 C.B. = S 29° 35' 31" E
 PC STA 111+75.37
 PRC STA 112+19.59

CURVE NO. K-4
 P.I. Sta. 112+37.34
 $\Delta = 6^\circ 46' 17" (RT)$
 $Dc = 19^\circ 05' 55"$
 $R = 300.00'$
 $T = 17.75'$
 $L = 35.45'$
 $E = 0.52'$
 $C = 35.43'$
 C.B. = S 30° 25' 47" E
 PC STA 112+19.59
 PT STA 112+55.05

EX. MONUMENTS OFF @ CONSTRUCTION OF KING AVE (C.R. 282) & GRANDIN RD. (C.R. 150)

STATION	OFFSET	DESCRIPTION
110+77.76	283.45' RT	CONTROL "STANTEC"
112+15.45	46.88' RT	5/8" IRON PIN FD.
112+34.64	34.56' RT	CONTROL "STANTEC"
112+54.60	129.14' LT	STEEL FENCE POST
113+02.82	140.23' LT	1/2" IRON PIN FD.

P.I. = STA. 113+14.17
 $\Delta = 29^\circ 11' 49" LT$
 NO CURVE

CURVE NO. L-1
 P.I. Sta. 903+07.17
 $\Delta = 17^\circ 15' 07" (LT)$
 $Dc = 4^\circ 30' 00"$
 $R = 1,273.24'$
 $T = 193.15'$
 $L = 383.38'$
 $E = 14.57'$
 $C = 381.93'$
 C.B. = N 65° 33' 43" E
 PC STA 901+14.01
 PT STA 904+97.39

CURVE NO. L-2
 P.I. Sta. 905+99.38
 $\Delta = 11^\circ 42' 36" (RT)$
 $Dc = 18^\circ 30' 00"$
 $R = 309.71'$
 $T = 31.76'$
 $L = 63.30'$
 $E = 1.62'$
 $C = 63.19'$
 C.B. = N 62° 47' 27" E
 PC STA 905+67.62
 PRC STA 906+30.91

CURVE NO. L-3
 P.I. Sta. 906+81.72
 $\Delta = 18^\circ 37' 57" (LT)$
 $Dc = 18^\circ 30' 00"$
 $R = 309.71'$
 $T = 50.81'$
 $L = 100.72'$
 $E = 4.14'$
 $C = 100.27'$
 C.B. = N 59° 19' 46" E
 PC STA 906+30.91
 PT STA 907+31.63

- MONUMENT LEGEND**
- FENCE POST
 - ✕ R.R.S. FOUND
 - R.R.S. SET
 - ⊙ MAG. NAIL FOUND
 - IRON PIN FOUND
 - I.P.F. WITH I.D. CAP
 - 3/4" BAR SET
 - ⊙ PROJECT CONTROL PT.
 - ⊙ REFER. MONUMENT SET

REV. BY	DATE	DESCRIPTION

RIGHT OF WAY BOUNDARY SHEET
 STA. 110+60.00 TO STA. 113+14.17

WAR-CR 282-0.97

17 / 22

(219)
256

PID NO. 106724

R/W DESIGNER NJK R/W REVIEWER SER

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M.S. No. 1547
HAMILTON TOWNSHIP &
VILLAGE OF SOUTH LEBANON
WARREN COUNTY, OHIO

STA/OFF FROM CENTERLINE CONSTRUCTION LITTLE MIAMI TRAIL	
(A)	908+60.00 25.00' LT
(B)	909+20.00 22.23' LT
(C)	907+02.63 5.47' LT
(D)	908+00.01 24.35' LT
(E)	908+00.00 48.82' LT
(F)	908+13.98 45.94' LT
(G)	908+14.45 22.51' LT
(H)	908+25.00 44.00' LT

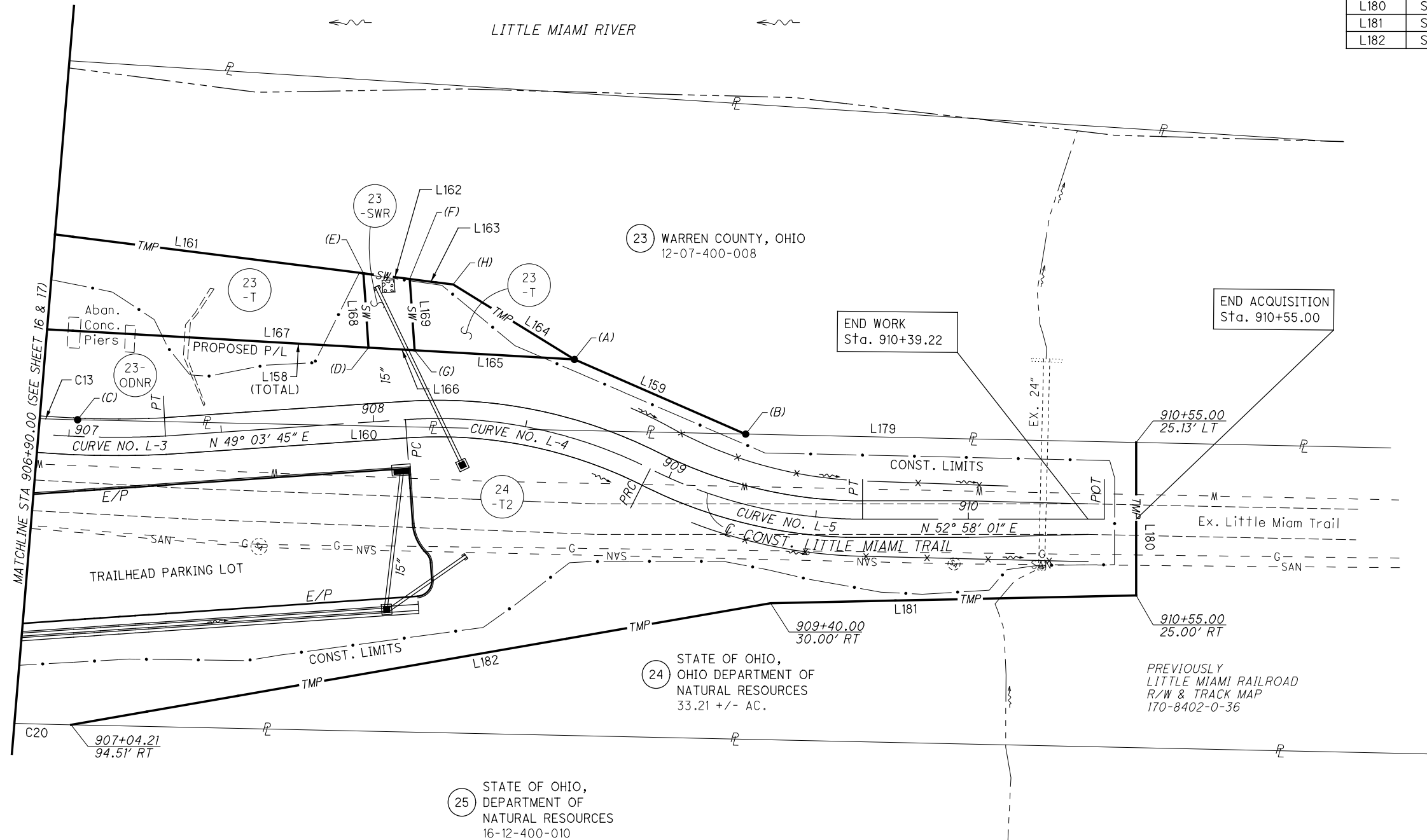
NUMBER	DIRECTION	DISTANCE
L158	N 56°14'29" E	302.61'
L159	N 76°31'37" E	61.20'
L160	S 54°11'55" W	218.89'
L161	N 60°07'29" E	232.06'
L162	N 60°07'29" E	15.28'
L163	N 60°07'29" E	14.35'
L164	N 84°43'59" E	46.69'
L165	S 56°14'29" W	52.41'
L166	S 56°14'29" W	15.12'
L167	S 56°14'29" W	235.08'
L168	N 40°57'56" W	24.47'
L169	S 40°58'35" E	23.43'
L179	N 54°11'55" E	127.97'
L180	S 37°01'59" E	50.13'
L181	S 51°45'23" W	119.80'
L182	S 43°05'55" W	232.60'

CURVE NO. L-3
P.I. Sta. 906+81.72
 $\Delta = 18^\circ 37' 57''$ (LT)
 $D_c = 18^\circ 30' 00''$
 $R = 309.71'$
 $T = 50.81'$
 $L = 100.72'$
 $E = 4.14'$
 $C = 100.27'$
C.B. = N 59° 19' 46" E
PRC STA 906+30.91
PT STA 907+31.63

CURVE NO. L-4
P.I. Sta. 908+52.85
 $\Delta = 30^\circ 37' 18''$ (RT)
 $D_c = 37^\circ 00' 00''$
 $R = 154.85'$
 $T = 42.39'$
 $L = 82.76'$
 $E = 5.70'$
 $C = 81.78'$
C.B. = N 64° 20' 25" E
PC STA 908+10.46
PRC STA 908+93.22

CURVE NO. L-5
P.I. Sta. 909+29.95
 $\Delta = 26^\circ 41' 03''$ (LT)
 $D_c = 37^\circ 00' 00''$
 $R = 154.85'$
 $T = 36.73'$
 $L = 72.12'$
 $E = 4.30'$
 $C = 71.47'$
C.B. = N 66° 18' 32" E
PRC STA 908+93.22
PT STA 909.65.34

NO.	RADIUS	DELTA ANG.	ARC LEN	CHORD DIRECT.	CHORD
C13	1441.31'	05°37'53"	141.66'	S 57°00'51" W	141.60'
C20	1541.31'	03°19'53"	89.62'	S 55°51'51" W	89.61'



END WORK
Sta. 910+39.22

END ACQUISITION
Sta. 910+55.00

23 WARREN COUNTY, OHIO
12-07-400-008

24 STATE OF OHIO,
OHIO DEPARTMENT OF
NATURAL RESOURCES
33.21 +/- AC.

25 STATE OF OHIO,
DEPARTMENT OF
NATURAL RESOURCES
16-12-400-010

PREVIOUSLY
LITTLE MIAMI RAILROAD
R/W & TRACK MAP
170-8402-0-36

MONUMENT LEGEND

- FENCE POST
- ⊗ R.R.S. FOUND
- R.R.S. SET
- MAG. NAIL FOUND
- IRON PIN FOUND
- ⊙ I.P.F. WITH I.D. CAP
- 3/4" BAR SET
- ⊙ PROJECT CONTROL PT.
- ⊙ REFER. MONUMENT SET

REV. BY	DATE	DESCRIPTION

RIGHT OF WAY SHEET
STA. 906+90.00 TO END

WAR-CR 282-0.97

PID NO. 106724

R/W DESIGNER: NJK
R/W REVIEWER: SER

18 / 22

220
256

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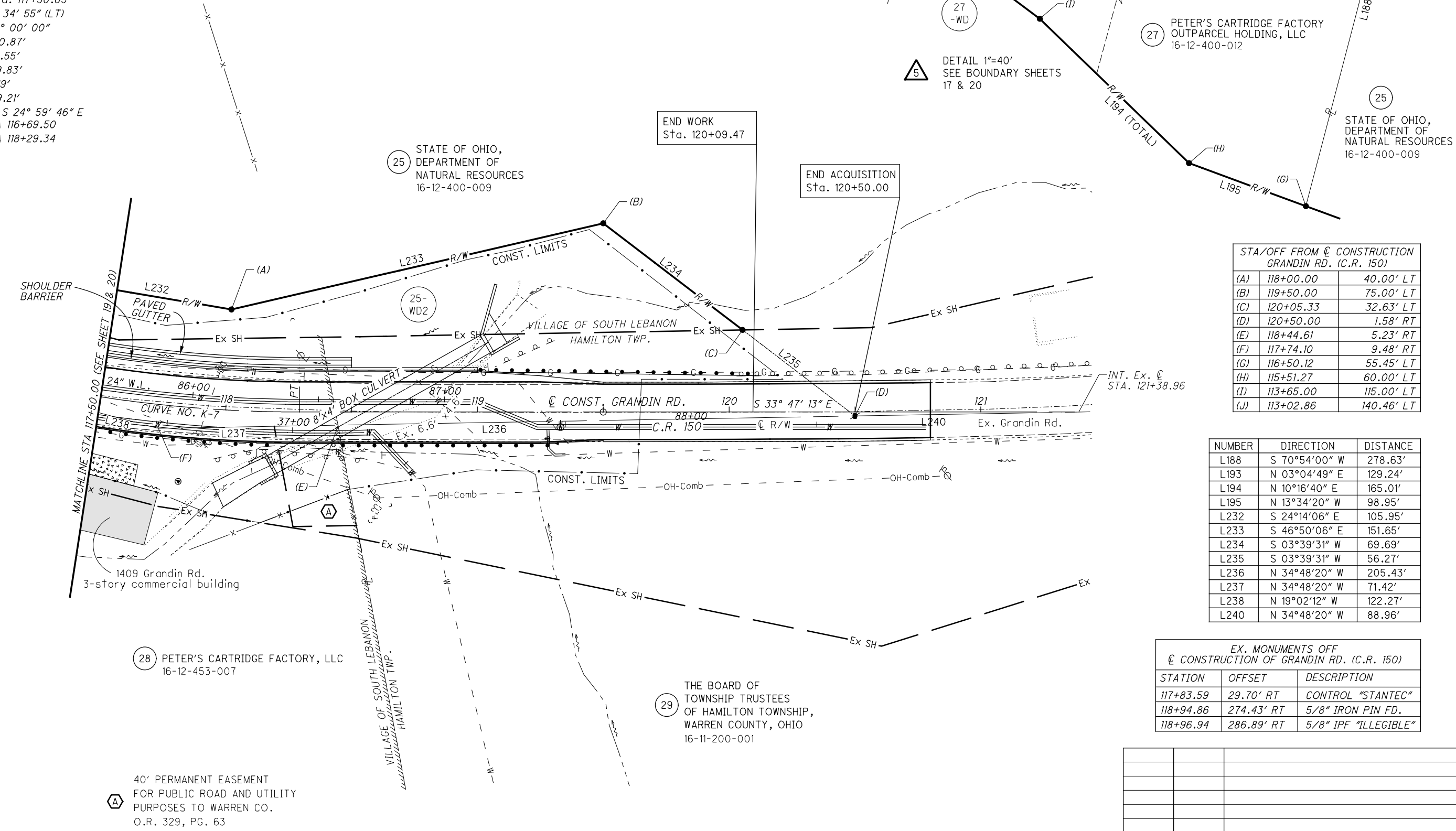
M.S. No. 1548
 VILLAGE OF SOUTH LEBANON,
 HAMILTON TOWNSHIP,
 WARREN COUNTY, OHIO

MONUMENT LEGEND

- FENCE POST
- ⊠ R.R.S. FOUND
- R.R.S. SET
- MAG. NAIL FOUND
- IRON PIN FOUND
- ⊙ I.P.F. WITH I.D. CAP
- 3/4" BAR SET
- ⊙ PROJECT CONTROL PT.
- ⊙ REFER. MONUMENT SET

CURVE NO. K-7

P.I. Sta. 117+50.05
 $\Delta = 17^\circ 34' 55''$ (LT)
 $Dc = 11^\circ 00' 00''$
 $R = 520.87'$
 $T = 80.55'$
 $L = 159.83'$
 $E = 6.19'$
 $C = 159.21'$
 $C.B. = S 24^\circ 59' 46'' E$
 $PC STA 116+69.50$
 $PT STA 118+29.34$



STA/OFF FROM @ CONSTRUCTION GRANDIN RD. (C.R. 150)

(A)	118+00.00	40.00' LT
(B)	119+50.00	75.00' LT
(C)	120+05.33	32.63' LT
(D)	120+50.00	1.58' RT
(E)	118+44.61	5.23' RT
(F)	117+74.10	9.48' RT
(G)	116+50.12	55.45' LT
(H)	115+51.27	60.00' LT
(I)	113+65.00	115.00' LT
(J)	113+02.86	140.46' LT

NUMBER	DIRECTION	DISTANCE
L188	S 70°54'00" W	278.63'
L193	N 03°04'49" E	129.24'
L194	N 10°16'40" E	165.01'
L195	N 13°34'20" W	98.95'
L232	S 24°14'06" E	105.95'
L233	S 46°50'06" E	151.65'
L234	S 03°39'31" W	69.69'
L235	S 03°39'31" W	56.27'
L236	N 34°48'20" W	205.43'
L237	N 34°48'20" W	71.42'
L238	N 19°02'12" W	122.27'
L240	N 34°48'20" W	88.96'

EX. MONUMENTS OFF @ CONSTRUCTION OF GRANDIN RD. (C.R. 150)

STATION	OFFSET	DESCRIPTION
117+83.59	29.70' RT	CONTROL "STANTEC"
118+94.86	274.43' RT	5/8" IRON PIN FD.
118+96.94	286.89' RT	5/8" IPF "ILLEGIBLE"

40' PERMANENT EASEMENT FOR PUBLIC ROAD AND UTILITY PURPOSES TO WARREN CO. O.R. 329, PG. 63

END WORK Sta. 120+09.47

END ACQUISITION Sta. 120+50.00



PID NO. 106724

R/W DESIGNER NJK R/W REVIEWER SER

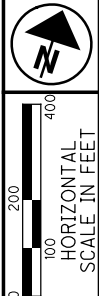
RIGHT OF WAY SHEET
 STA. 117+50.00 TO 121+00.00

WAR-CR 282-0.97

REV. BY	DATE	DESCRIPTION

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SECTIONS 12, 17 & 18
TOWNSHIP 4, RANGE 2
DEERFIELD TOWNSHIP
WARREN COUNTY, OHIO



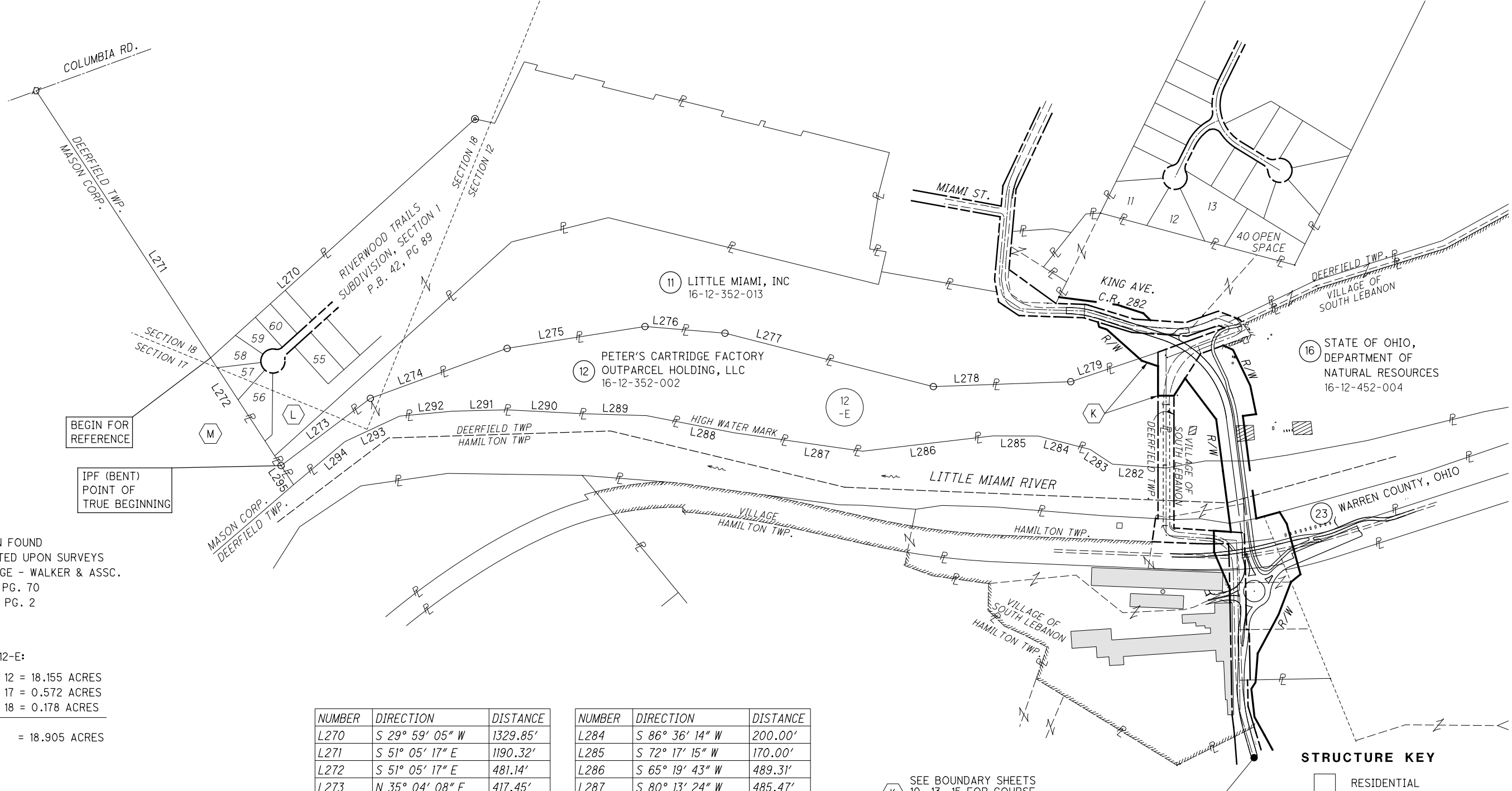
PID NO. **106724**
R/W DESIGNER NJK
R/W REVIEWER SER

**RIGHT OF WAY BOUNDARY SHEET
DETAIL OF PARCEL 12-E**

WAR-CR 282-0.97

22 / 22

224
256



○ IRON PIN FOUND
DELINEATED UPON SURVEYS
BY SAVAGE - WALKER & ASSC.
S.R. 91, PG. 70
S.R. 72, PG. 2

PARCEL 12-E:
SECTION 12 = 18.155 ACRES
SECTION 17 = 0.572 ACRES
SECTION 18 = 0.178 ACRES

TOTAL = 18.905 ACRES

MONUMENT LEGEND
○ FENCE POST
⌘ R.R.S. FOUND
⌘ R.R.S. SET
⊙ CONC. MONUMENT FD.
○ IRON PIN FOUND
⊙ I.P.F. WITH I.D. CAP
● 3/4" BAR SET
⊙ PROJECT CONTROL MON.

NUMBER	DIRECTION	DISTANCE
L270	S 29° 59' 05" W	1329.85'
L271	S 51° 05' 17" E	1190.32'
L272	S 51° 05' 17" E	481.14'
L273	N 35° 04' 08" E	417.45'
L274	N 52° 00' 16" E	543.39'
L275	N 63° 02' 53" E	521.38'
L276	N 76° 51' 46" E	299.81'
L277	N 86° 25' 48" E	802.87'
L278	N 70° 02' 41" E	513.65'
L279	N 53° 23' 20" E	270.23'
L282	S 76° 12' 57" W	200.00'
L283	N 74° 32' 51" W	100.00'

NUMBER	DIRECTION	DISTANCE
L284	S 86° 36' 14" W	200.00'
L285	S 72° 17' 15" W	170.00'
L286	S 65° 19' 43" W	489.31'
L287	S 80° 13' 24" W	485.47'
L288	S 83° 11' 56" W	332.27'
L289	S 73° 46' 03" W	238.48'
L290	S 74° 56' 51" W	282.07'
L291	S 70° 43' 33" W	204.55'
L292	S 66° 44' 27" W	198.12'
L293	S 47° 03' 32" W	226.50'
L294	S 32° 01' 41" W	249.61'
L295	N 51° 05' 17" W	85.46'

(K) SEE BOUNDARY SHEETS 10, 13, 15 FOR COURSE INFORMATION.
(L) RIVERWOOD TRAILS SUBDIVISION, SECTION 2 P.B. 44, PG 59 LOT 77 (OPEN SPACE)
(M) KINGS LOCAL SCHOOL DISTRICT BOARD OF EDUCATION 10.8587 ACRES O.R. 4189, PG. 945 S.R. 127, PG. 96

STRUCTURE KEY
□ RESIDENTIAL
■ COMMERCIAL
▨ FOUNDATION

REV. BY	DATE	DESCRIPTION

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PROJECT DESCRIPTION

THIS PROJECT IS THE EXPLORATION FOR THE IMPROVEMENTS ALONG KING AVENUE AND GRANDIN AVENUE IN KINGS MILLS, OHIO. IMPROVEMENTS INCLUDE REPLACEMENT OF THE BRIDGE OVER THE LITTLE MIAMI RIVER, IMPROVED APPROACHES TO THE BRIDGE, A CULVERT THROUGH THE FORWARD APPROACH EMBANKMENT FOR THE LITTLE MIAMI SCENIC TRAIL, AND A CULVERT REPLACEMENT NEAR THE SOUTHERN END OF THE PROJECT.

HISTORIC RECORDS

SEVERAL GEOTECHNICAL EXPLORATIONS WERE PERFORMED WITHIN TWO MILES THE PROJECT SITE. THESE EXPLORATIONS WERE USED TO UNDERSTAND THE GENERAL GEOLOGY OFF THE PROJECT AREA. THE HISTORICAL BORINGS ARE NOT PRESENTED IN THESE DRAWINGS BECAUSE THEY ARE NOT LOCATED AT THE EXACT PROJECT SITE.

GEOLOGY

THE PROJECT SITE NORTH OF THE LITTLE MIAMI RIVER IS LOCATED IN THE SOUTHERN OHIO LOAMY TILL PLAIN, AND THE PROJECT SITE SOUTH OF THE LITTLE MIAMI RIVER IS LOCATED IN ILLINOIAN TILL PLAIN. THE SOUTHERN OHIO LOAMY TILL PLAIN REGION IS DESCRIBED AS CONTAINING DEPOSITS OF LOAMY TILL AND END AND RECESSONAL MORAINES WHICH ARE COMMONLY ASSOCIATED WITH BOULDER BELTS. THE ILLINOIAN TILL PLAIN IS DESCRIBED AS HAVING ROLLING GROUND MORAINES OF OLDER TILL GENERALLY LACKING ICE-CONSTRUCTIONAL FEATURES SUCH AS MORAINES, KAMES, AND ESKERS. THE WISCONSINAN GLACIAL MARGIN IS LOCATED AT OR NEAR THE PROJECT SITE NEAR THE LITTLE MIAMI RIVER. FLOODPLAIN SOILS CONSIST OF ALLUVIUM AND ALLUVIAL TERRACES (SILTY CLAY TO COARSE SAND, GRAVEL, OR COBBLES). NORTH OF THE FLOODPLAIN, THE PROJECT SITE IS UNDERLAIN BY LOAM TILL WITH THIN (LESS THAN ONE METER) LOESS COVER AND A FLAT TO GENTLY UNDULATING GROUND MORaine ORIGINATING IN THE LATE WISCONSINAN AGE. SOUTH OF THE FLOODPLAIN, THE PROJECT SITE IS SILTY LOAM TILL COVERED WITH 1 TO 3 METERS OF LOESS AND A FLAT, RELATIVELY CONTINUOUS GROUND MORaine ORIGINATING IN THE ILLINOIAN AGE. FLOODPLAIN SOILS ARE UNDERLAIN BY SEDIMENTARY BEDROCK OF THE KOPE FORMATION OF THE ORDOVICIAN SYSTEM. THE KOPE FORMATION CONSISTS OF INTERBEDDED LIMESTONE AND SHALE, AVERAGING 75 PERCENT SHALE AND 25 PERCENT LIMESTONE. OTHER SOILS ARE PRIMARILY UNDERLAIN BY SEDIMENTARY BEDROCK FROM THE MIAMITOWN SHALE-FAIRVIEW FORMATION (UNDIVIDED) OF THE ORDOVICIAN SYSTEM, CONSISTING OF INTERBEDDED SHALE AND LIMESTONE, RANGING FROM 50 TO 90 PERCENT SHALE TO 10 TO 50 PERCENT LIMESTONE.

RECONNAISSANCE

STANTEC REPRESENTATIVES VISITED THE SITE ON FEBRUARY, MARCH, AND JULY 2018 PRIOR TO DRILLING. SEVERAL OLD CONCRETE STRUCTURES ASSUMED TO BE ASSOCIATED WITH THE HISTORIC CARTRIDGE FACTORY ARE LOCATED NORTH OF THE RIVER IN THE FLOODPLAIN. REMNANTS OF ADDITIONAL STRUCTURES WERE OBSERVED EAST OF GRANDIN ROAD AND SOUTH OF THE CURRENT LITTLE MIAMI SCENIC TRAIL PARKING LOT. STEEP, HEAVILY VEGETATED, AND WOODED SLOPES WERE OBSERVED IN THE SAME AREA.

SUBSURFACE EXPLORATION

TWENTY-SIX BORINGS WERE ADVANCED FOR THIS PROJECT. THESE BORINGS WERE DRILLED WITH TWO TRACK-MOUNTED DRILL RIGS USING 3.25-INCH I.D. HOLLOW-STEM AUGERS. DISTURBED SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT VARIOUS SAMPLING INTERVALS. THE AUTOMATIC SAMPLING HAMMER WAS CALIBRATED ON OCTOBER 19, 2017 AND HAS A DRILL ROD ENERGY RATIO (ER) OF 89.8 PERCENT. UNDISTURBED SAMPLES WERE OBTAINED IN SELECT BORINGS AT SELECTED DEPTHS. ROCK CORING USING NQ-EQUIPMENT WAS PERFORMED IN SEVERAL BORINGS.

EXPLORATION FINDINGS

THE SOILS ENCOUNTERED CONSISTED PRIMARILY OF ALLUVIAL SILTS, CLAYS, SANDS AND GRAVELS IN THE FLOODPLAIN OF THE LITTLE MIAMI RIVER AND GLACIAL TILL OUTSIDE OF THE FLOODPLAIN. SEVERAL THICK DEPOSITS OF BOULDERS WERE ENCOUNTERED ALONG THE ALIGNMENT, MOST NOTABLY AT THE PROPOSED LOCATION OF THE REPLACEMENT BRIDGE PIER. STATIC GROUNDWATER WAS TYPICALLY ENCOUNTERED AT ELEVATIONS RANGING FROM 20 FEET BELOW TO ABOUT 5 FEET ABOVE THE ELEVATION OF THE RIVER SURFACE. BEDROCK CONSISTED OF SHALE WITH INTERBEDDED LIMESTONE AT VARIOUS DEPTHS, WHERE ENCOUNTERED.

SPECIFICATIONS

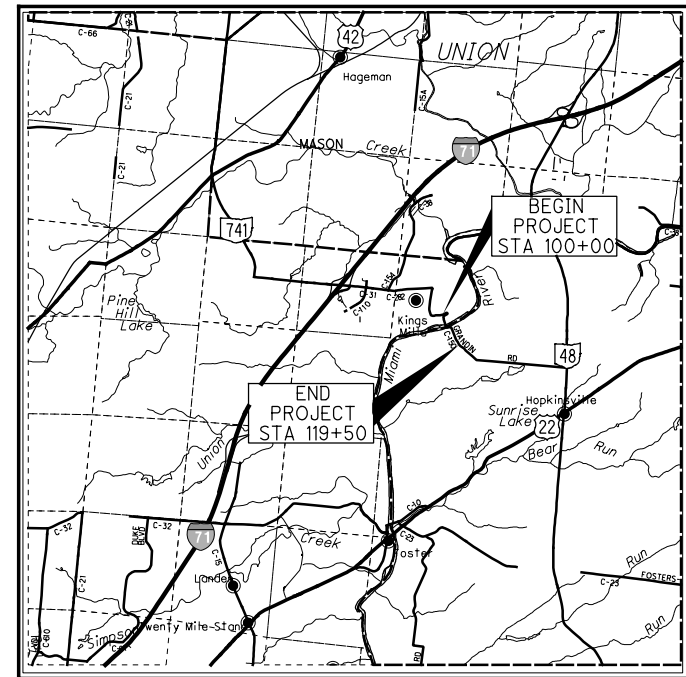
THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2019.

AVAILABLE INFORMATION

THE AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECTS OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET.

LEGEND

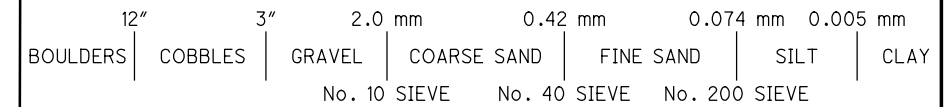
DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	5 8
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	16 24
GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT	A-2-4	12 13
GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT AND CLAY	A-2-6	5 2
COARSE AND FINE SAND	A-3a	7 16
SANDY SILT	A-4a	14 22
SILT	A-4b	2 4
SILT AND CLAY	A-6a	22 49
SILTY CLAY	A-6b	14 17
CLAY	A-7-6	11 7
TOTAL		108 162
BOULDERY ZONE	VISUAL	
INTERBEDDED SHALE AND LIMESTONE	VISUAL	
WEATHERED SHALE	VISUAL	
SOD AND/OR TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL	
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL	
BORING LOCATION - PLAN VIEW		
DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.		
N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.		
NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED). Y/D= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.		
NR NO SAMPLE RECOVERY		
WC INDICATES WATER CONTENT IN PERCENT.		
NP INDICATES A NON-PLASTIC SAMPLE.		
SS INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.		
ST INDICATES A SHELBY TUBE SAMPLE.		
W— INDICATES FREE WATER.		
TR INDICATES THE TOP OF ROCK		
● INDICATES A PLASTIC SOIL WITH WATER CONTENT GREATER THAN LIQUID LIMIT MINUS THREE.		
⊖ INDICATES A NON-PLASTIC SOIL WITH MOISTURE CONTENT GREATER THAN 19% WITH A WET APPEARANCE.		



LOCATION MAP
SCALE IN MILES



PARTICLE SIZE DEFINITIONS



- RECON. - EK & RL 02/18, 03/18 & 07/18
- DRILLING - DC & MM 07/18 - 08/18
- DRAWN - MJ 04/19
- REVIEWED - EK 04/19

INDEX OF SHEETS

LOCATION FROM STA. TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CROSS SECTION SHEET	CUT MAX	FILL MAX	STRUCTURES INCLUDED	
						BRIDGE NO.	SFN
WAR-CR 282-0.97							
100+00 105+50	14	14	21/22	2 FT.	-	WAR-282-0.89	8335002
105+50 108+60	15	15	-	2 FT.	-	WAR-282-0.89	8335002
108+60 112+00	16	16	-	2 FT.	-		
112+00 119+50	17	17	22/23/24	2 FT.	-		
117+75 119+50	18	18	-	2 FT.	-	CULVERT	N/A
BIKE TRAIL							
900+00 903+00	19	19	-	2 FT.	-		
903+00 905+00	20	20	-	2 FT.	-	WAR-150-0.01	8333100
BORING LOGS, SHEETS 25-32							

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SUMMARY OF SOIL TEST DATA
KING AVENUE

SUMMARY OF SOIL TEST DATA
KING AVENUE (CONTINUED)

Table with columns: EXPLORATION NO., STATION & OFFSET, FROM - TO, SAMPLE ID, N60, % REC, % tsf, % HP, % GR, % CS, % FS, % SILT, % CLAY, % LL, % PL, % PI, % WC, ODOT CLASS (GI), ppm SO4. Includes data for stations B-001-0-17, B-001-1-17, B-002-0-17, B-002-1-17, B-003-0-17, B-003-1-17, B-003-2-17, and B-007-2-17.

Table with columns: EXPLORATION NO., STATION & OFFSET, FROM - TO, SAMPLE ID, N60, % REC, % tsf, % HP, % GR, % CS, % FS, % SILT, % CLAY, % LL, % PL, % PI, % WC, ODOT CLASS (GI), ppm SO4. Includes data for stations B-008-0-17, B-008-1-17, B-009-0-17, B-010-0-17, B-010-2-17, and B-010-3-17.

DRAWN MSJ CHECKED EMK

SOIL SUMMARY

WAR-CR 282-0.97

SUMMARY OF SOIL TEST DATA
KING AVENUE (CONTINUED)

EXPLORATION NO., STATION & OFFSET	FROM - TO	SAMPLE ID	N60	% REC	tsf HP	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	WC	ODOT CLASS (GI)	ppm SO4
B-010-4-18 STA. 116+73, 174' LT. LATITUDE = 39.350442 LONGITUDE = -84.24034	00.00 - 01.50	SS-1	14	47	4.50+				SAME AS SS-2					18	A-4a (VISUAL)	
	02.50 - 04.00	SS-2	27	87	-	11	5	16	48	20	21	16	5	12	A-4a (7)	
	05.00 - 06.50	SS-3	44	100	-	11	5	16	48	20	21	16	5	13	A-4a (7)	
	07.50 - 08.80	ST-1	ST	100	-				SAME AS SS-3					11	A-4a (VISUAL)	
	10.00 - 11.50	SS-4	56	100	-	10	6	10	52	22	20	15	5	10	A-4b (8)	
	12.50 - 14.00	SS-5	68	100	4.50+				SAME AS SS-4					9	A-4b (VISUAL)	
	30.50 - 32.00	SS-6	66	100	-				SAME AS SS-7					13	A-6a (VISUAL)	
	35.00 - 36.50	SS-7	60	100	-	43	7	8	20	22	30	16	14	12	A-6a (2)	
40.00 - 41.50	SS-8	56	100	2.25				SAME AS SS-7					16	A-6a (VISUAL)		
B-011-0-17 STA. 116+81, 38' LT. LATITUDE = 39.350294 LONGITUDE = -84.240783	00.00 - 01.50	SS-1	9	67	-				SAME AS SS-2					19	A-6b (VISUAL)	
	02.50 - 04.00	SS-2	27	100	-	18	6	11	29	36	36	19	17	15	A-6b (9)	
	05.00 - 06.50	SS-3	30	100	-	18	6	11	29	36	36	19	17	13	A-6b (9)	
	07.50 - 09.00	SS-4	23	100	-	11	8	13	35	33	33	18	15	15	A-6a (9)	
	10.00 - 11.20	ST-1	ST	100	-				SAME AS SS-4					16	A-6a (VISUAL)	
	12.50 - 14.00	SS-5	19	40	-	11	8	13	35	33	33	18	15	16	A-6a (9)	
	15.00 - 16.50	SS-6	20	100	2.50				SAME AS SS-5					15	A-6a (VISUAL)	
	17.50 - 19.00	SS-7	32	60	-	17	7	13	34	29	29	16	13	15	A-6a (7)	
	20.00 - 21.50	SS-8	29	60	-	17	7	13	34	29	29	16	13	14	A-6a (7)	
	22.50 - 24.00	SS-9	29	20	-				SAME AS SS-8					15	A-6a (VISUAL)	
	25.00 - 26.50	SS-10	22	100	4.50				SAME AS SS-8					13	A-6a (VISUAL)	
	27.50 - 29.00	SS-11	23	100	4.50+				SAME AS SS-8					12	A-6a (VISUAL)	
	30.00 - 31.50	SS-12	27	100	3.50				SAME AS SS-8					17	A-6a (VISUAL)	
	32.50 - 34.00	SS-13	24	100	3.00				SAME AS SS-8					14	A-6a (VISUAL)	
	35.00 - 36.50	SS-14	34	100	3.50				SAME AS SS-8					13	A-6a (VISUAL)	
	37.50 - 39.00	SS-15	32	100	-				SAME AS SS-8					26	A-6a (VISUAL)	
40.00 - 41.50	SS-16	46	100	-				SAME AS SS-8					10	A-6a (VISUAL)		
42.50 - 42.80	SS-17	50/4"	100	-				SAME AS SS-8					17	A-6a (VISUAL)		
B-012-0-17 STA. 118+45, 44' LT. LATITUDE = 39.349919 LONGITUDE = -84.240523	00.00 - 01.50	SS-1	4	67	-	7	5	14	29	45	48	25	23	36	A-7-6 (15)	
	02.50 - 04.00	SS-2	14	73	-	7	5	14	29	45	48	25	23	24	A-7-6 (15)	
	05.00 - 06.50	SS-3	17	80	-				SAME AS SS-2					22	A-7-6 (VISUAL)	
	07.50 - 09.00	SS-4	65	87	-				SAME AS SS-5					11	A-2-4 (VISUAL)	
	10.00 - 11.50	SS-5	46	100	-	47	14	13	16	10	NP	NP	NP	9	A-2-4 (0)	
	12.50 - 14.00	SS-6	60	100	-	47	14	13	16	10	NP	NP	NP	9	A-2-4 (0)	
	15.00 - 16.50	SS-7	62	53	-				SAME AS SS-6					11	A-2-4 (VISUAL)	
	17.50 - 19.00	SS-8	26	93	-	39	28	13	12	8	22	17	5	18	A-1-b (0)	
	20.00 - 21.50	SS-9	30	47	-	39	28	13	12	8	22	17	5	16	A-1-b (0)	
	22.50 - 24.00	SS-10	36	60	-				SAME AS SS-9					13	A-1-b (VISUAL)	
	25.00 - 26.50	SS-11	30	73	-				SAME AS SS-13					16	A-6a (VISUAL)	
	27.50 - 29.00	SS-12	27	100	-				SAME AS SS-13					15	A-6a (VISUAL)	
	30.00 - 31.50	SS-13	37	80	-	22	10	12	29	27	28	15	13	15	A-6a (5)	
	32.50 - 34.00	SS-14	30	100	-	22	10	12	29	27	28	15	13	15	A-6a (5)	
35.00 - 36.50	SS-15	19	67	-				SAME AS SS-14					14	A-6a (VISUAL)		
37.50 - 38.80	SS-16	7/41/50/4"	46	-	19	2	2	30	47	41	22	19	14	A-7-6 (12)		
40.00 - 40.70	SS-17	32/50/2"	86	-	19	2	2	30	47	41	22	19	14	A-7-6 (12)		
B-012-2-17 STA. 118+19, 242' LT. LATITUDE = 39.350252 LONGITUDE = -84.239964	00.00 - 01.50	SS-1	15	60	-				SAME AS SS-3					18	A-4b (VISUAL)	
	02.50 - 04.00	SS-2	15	100	-				SAME AS SS-3					16	A-4b (VISUAL)	
	05.00 - 07.00	ST-1	ST	100	-				SAME AS SS-3					17	A-4b (VISUAL)	
	07.50 - 09.00	SS-3	33	100	-	1	2	19	69	9	NP	NP	NP	20	A-4b (8)	
	10.00 - 11.10	ST-2	ST	100	-				SAME AS SS-4					14	A-4a (VISUAL)	
	12.50 - 14.00	SS-4	78	100	-	32	10	17	23	18	22	14	8	9	A-4a (1)	
	15.00 - 16.50	SS-5	65	87	-				SAME AS SS-6					7	A-4a (VISUAL)	
17.50 - 19.00	SS-6	63	100	-	13	12	31	26	18	NP	NP	NP	12	A-4a (2)		
25.00 - 25.40	SS-7	50/5"	100	-				VISUAL					15	A-6a (VISUAL)		
B-014-0-17 STA. 119+17, 6' RT. LATITUDE = 39.349682 LONGITUDE = -84.240528	02.50 - 04.00	SS-1	34	100	-	57	18	9	11	5	NP	NP	NP	6	A-1-b (0)	<100
	04.00 - 05.50	SS-2	26	100	-	49	10	10	15	16	NP	NP	NP	10	A-2-4 (0)	
	05.50 - 05.80	SS-3	50/4"	33	-				SAME AS SS-2					10	A-2-4 (VISUAL)	

DRAWN MSJ	CHECKED EMK
SOIL SUMMARY	
WAR-CR 282-0.97	
3 / 32	
227 256	

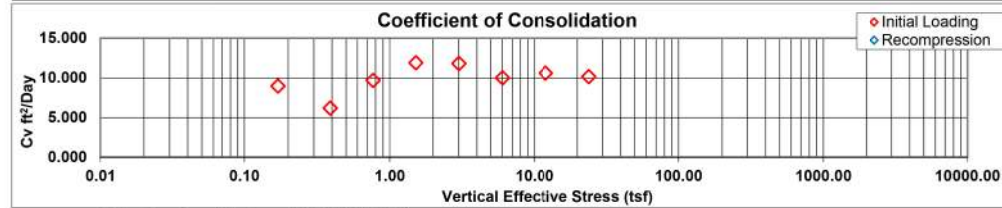
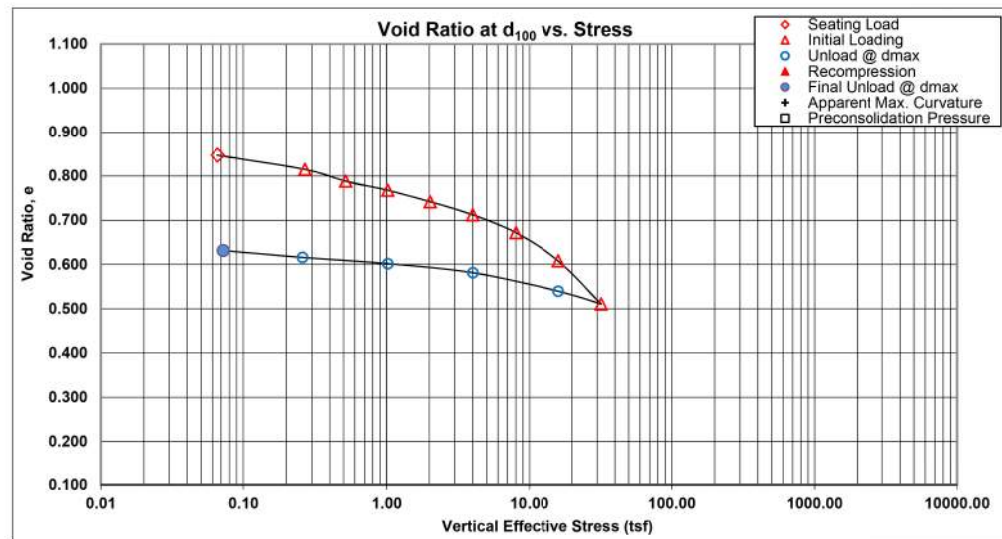
**One Dimensional Consolidation of Soils
Using Incremental Loading**
ASTM D 2435

Project Name King Avenue Bridge Project No. 173620099
 Source B-003-1-17, 8.5'-9.0' Lab ID 205
 Description Sandy Lean Clay (CL), brown, moist, soft Date Received 08/13/2018
 Specimen Type Undisturbed

LL N/A Specific Gravity 2.71 ASTM D 854, Dry Prepared Using Cutting Ring
 PL N/A Test Method B - for 30 min.
 PI N/A Test Condition Inundated at 0.05 tsf

Initial Specimen Conditions	Final Specimen Conditions
Moisture Content (%) <u>13.8</u>	Moisture Content (%) <u>19.0</u>
Dry Unit Weight (pcf) <u>91.4</u>	Dry Unit Weight (pcf) <u>103.5</u>
Void Ratio <u>0.847</u>	Void Ratio <u>0.631</u>
Degree of Saturation (%) <u>44.2</u>	Degree of Saturation (%) <u>81.4</u>
Initial Specimen Height (in) <u>0.9998</u>	Final Specimen Height (in) <u>0.8831</u>

Equivalent Height of Solids (in) 0.541



Comments Classification data from SS-2 (2.5'-4.0')
%GR = 1, %CS = 1, %FS = 11, %SI = 59, %CL = 28
LL = 38, PL = 24, PI = 14
Classification = A-6a (10)
 Reviewed By KG

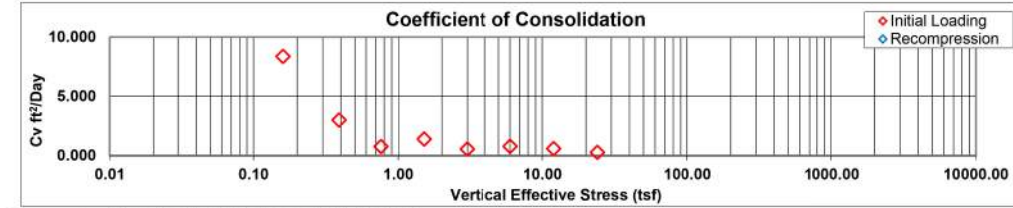
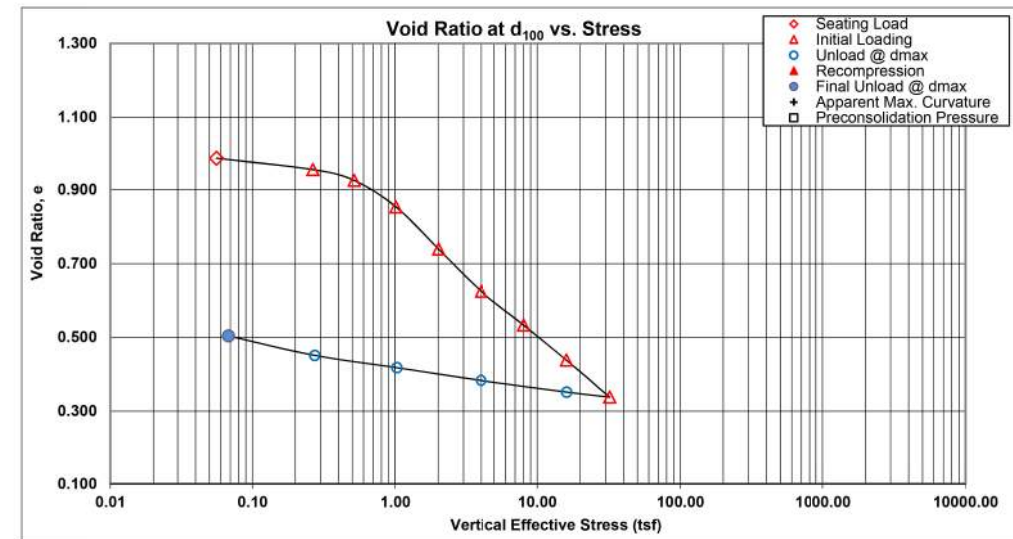
**One Dimensional Consolidation of Soils
Using Incremental Loading**
ASTM D 2435

Project Name King Avenue Bridge Project No. 173620099
 Source B-004-0-17, 5.4'-5.6' Lab ID 209A
 Description Sandy Lean Clay (CL), dark brown, moist, soft Date Received 08/13/2018
 Specimen Type Undisturbed

LL N/A Specific Gravity 2.66 ASTM D 854, Dry Prepared Using Cutting Ring
 PL N/A Test Method B - for 120 min.
 PI N/A Test Condition Inundated at 0.05 tsf

Initial Specimen Conditions	Final Specimen Conditions
Moisture Content (%) <u>22.4</u>	Moisture Content (%) <u>19.9</u>
Dry Unit Weight (pcf) <u>83.5</u>	Dry Unit Weight (pcf) <u>110.2</u>
Void Ratio <u>0.986</u>	Void Ratio <u>0.504</u>
Degree of Saturation (%) <u>60.4</u>	Degree of Saturation (%) <u>105.1</u>
Initial Specimen Height (in) <u>1.0025</u>	Final Specimen Height (in) <u>0.7592</u>

Equivalent Height of Solids (in) 0.505



Comments Classification data from SS-2 (2.5'-4.0')
%GR = 1, %CS = 1, %FS = 28, %SI = 47, %CL = 23
LL = 29, PL = 19, PI = 10
Classification = A-4a (7)
 Reviewed By KG

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**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

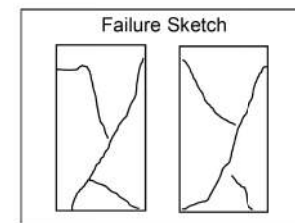
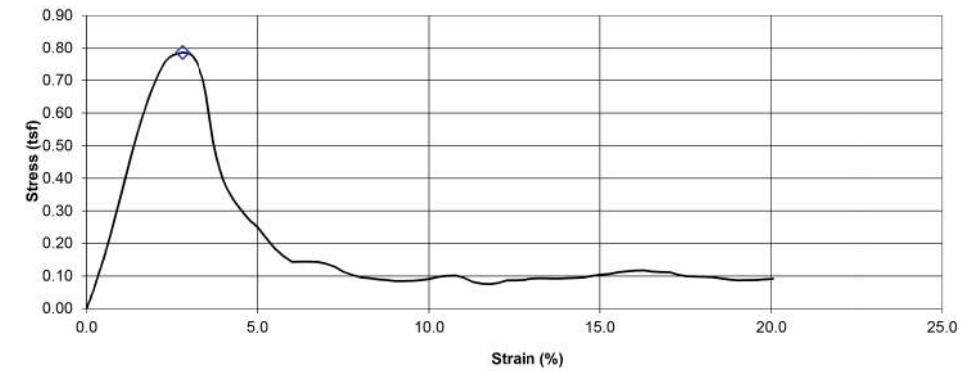
Project Name King Avenue Bridge Project Number 173620099
 Source B-006-0-17, 15.0'-17.0' Lab ID 222A
 Visual Description Lean Clay (CL), brown, moist, firm, shells

Recovered 1.8'
 Test Interval 15.0' - 15.5'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A
 Date Extruded 08/27/2018
 Date Tested 09/06/2018

Initial Wet Density (pcf) <u>118.4</u>	Initial MC Taken <u>Before Test, From Trimmings</u>
Initial Moisture Content (%) <u>23.4</u>	
Initial Dry Density (pcf) <u>95.9</u>	
At Test Moisture Content (%) <u>23.6</u>	At Test MC Taken <u>After Test, From Whole Specimen</u>
At Test Dry Density (pcf) <u>95.7</u>	
Specific Gravity <u>N/A</u>	
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>0.79</u>
Average Height (in) <u>6.003</u>	Undrained Shear Strength (tsf) <u>0.39</u>
Average Diameter (in) <u>2.868</u>	Strain at Maximum Stress (%) <u>2.8</u>
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>1.00</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments
Classification data from SS-5 (12.5'-14.0')
%GR = 0, %CS = 0, %FS = 43, %SI = 38, %CL = 19
LL = 29, PL = 20, PI = 9
Classification = A-4a (4)

Reviewed By RJ

**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

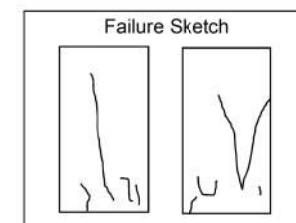
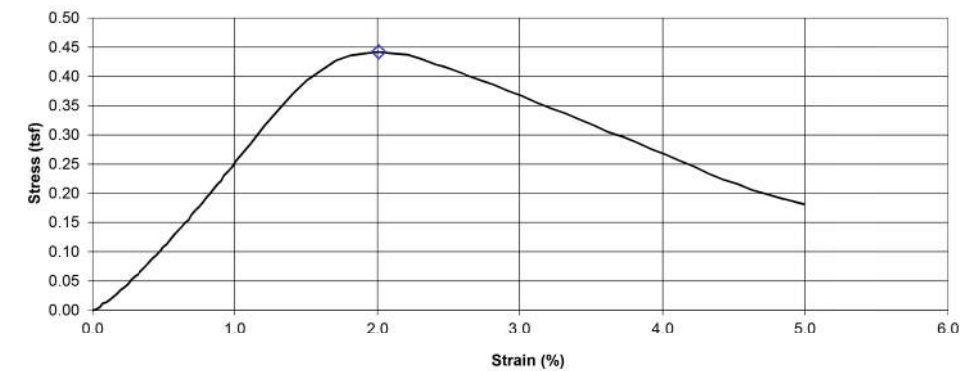
Project Name King Avenue Bridge Project Number 173620099
 Source B-007-1-17, 10.0'-12.0' Lab ID 225A
 Visual Description Lean Clay (CL), brown, moist, firm

Recovered 1.8'
 Test Interval 10.0' - 10.5'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A
 Date Extruded 08/27/2018
 Date Tested 09/06/2018

Initial Wet Density (pcf) <u>110.7</u>	Initial MC Taken <u>Before Test, From Trimmings</u>
Initial Moisture Content (%) <u>26.9</u>	
Initial Dry Density (pcf) <u>87.2</u>	
At Test Moisture Content (%) <u>31.4</u>	At Test MC Taken <u>After Test, From Whole Specimen</u>
At Test Dry Density (pcf) <u>84.3</u>	
Specific Gravity <u>N/A</u>	
Degree of Saturation (%) <u>N/A</u>	Unconfined Compressive Strength (tsf) <u>0.44</u>
Average Height (in) <u>5.975</u>	Undrained Shear Strength (tsf) <u>0.22</u>
Average Diameter (in) <u>2.864</u>	Strain at Maximum Stress (%) <u>2.0</u>
Height to Diameter Ratio <u>2.1</u>	Strain rate to failure (% / min.) <u>1.00</u>

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments
Classification data from SS-6 (17.5'-19.0')
%GR = 0, %CS = 1, %FS = 37, %SI = 41, %CL = 21
LL = 31, PL = 25, PI = 6
Classification = A-4a (5)

Reviewed By RJ

**SUBSURFACE EXPLORATION
COMPRESSIVE STRENGTH TEST DATA RESULTS**

WAR-CR 282-0.97

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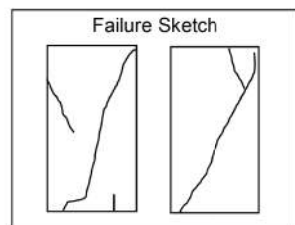
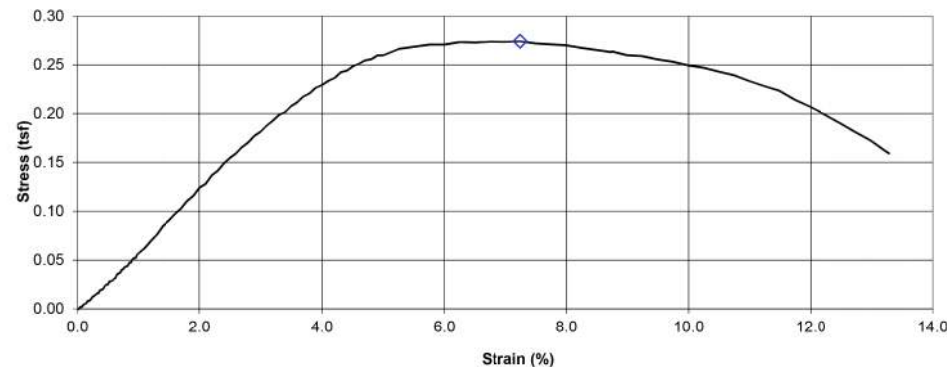
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name King Avenue Bridge Project Number 173620099
 Source B-007-0-17, 15.0'-17.0' Lab ID 223A
 Visual Description Lean Clay with Sand (CL), gray, moist, firm
 Recovered 1.4'
 Test Interval 15' - 15.5'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A
 Date Extruded 08/27/2018
 Date Tested 09/06/2018

Initial Wet Density (pcf) 118.8
 Initial Moisture Content (%) 28.8 Initial MC Taken Before Test, From Trimmings
 Initial Dry Density (pcf) 92.2
 At Test Moisture Content (%) 28.3 At Test MC Taken After Test, From Whole Specimen
 At Test Dry Density (pcf) 92.6
 Specific Gravity N/A
 Degree of Saturation (%) N/A Unconfined Compressive Strength (tsf) 0.27
 Average Height (in) 5.923 Undrained Shear Strength (tsf) 0.14
 Average Diameter (in) 2.857 Strain at Maximum Stress (%) 7.3
 Height to Diameter Ratio 2.1 Strain rate to failure (% / min.) 1.00

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments

Classification data from SS-6 (17.5'-19.0')
%GR = 0, %CS = 1, %FS = 37, %SI = 41, %CL = 21
LL = 31, PL = 25, PI = 6
Classification = A-6a (10)

Reviewed By RJ

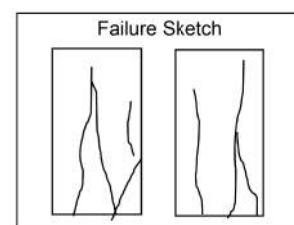
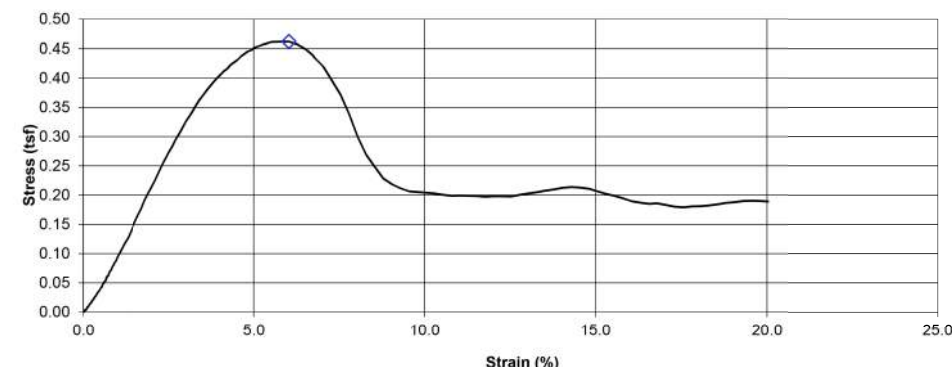
**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name King Avenue Bridge Project Number 173620099
 Source B-007-0-17, 20.0'-22.0' Lab ID 224
 Visual Description Lean Clay with Sand (CL), gray, moist, firm
 Recovered 0.6'
 Test Interval 20.0' - 20.5'

Specimen Type: Undisturbed LL N/A PL N/A PI N/A
 Date Extruded 08/27/2018
 Date Tested 09/06/2018

Initial Wet Density (pcf) 112.9
 Initial Moisture Content (%) 32.2 Initial MC Taken Before Test, From Trimmings
 Initial Dry Density (pcf) 85.4
 At Test Moisture Content (%) 34.1 At Test MC Taken After Test, From Whole Specimen
 At Test Dry Density (pcf) 84.2
 Specific Gravity N/A
 Degree of Saturation (%) N/A Unconfined Compressive Strength (tsf) 0.46
 Average Height (in) 5.995 Undrained Shear Strength (tsf) 0.23
 Average Diameter (in) 2.861 Strain at Maximum Stress (%) 6.0
 Height to Diameter Ratio 2.1 Strain rate to failure (% / min.) 1.00

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments

Classification data from SS-7 (17.5'-19.0')
%GR = 0, %CS = 0, %FS = 8, %SI = 66, %CL = 26
LL = 38, PL = 23, PI = 15
Classification = A-6a (10)

Reviewed By RJ

DRAWN MSJ
CHECKED EMK

SUBSURFACE EXPLORATION
COMPRESSIVE STRENGTH TEST DATA RESULTS

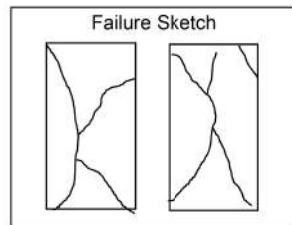
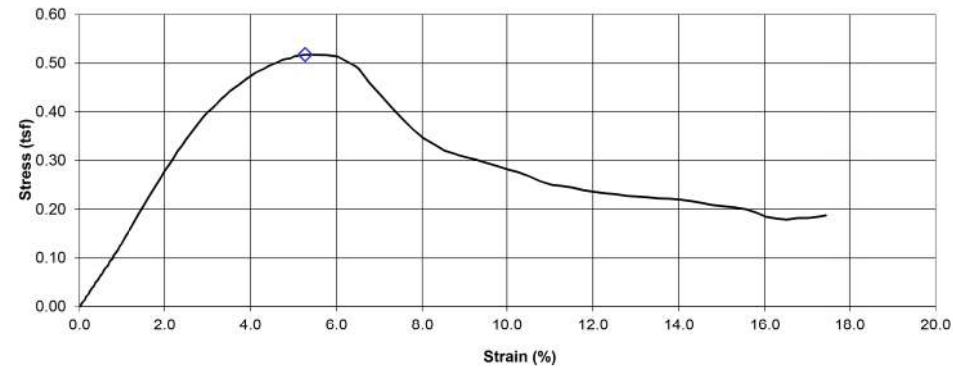
WAR-CR 282-0.97

**Unconfined Compressive Strength
of Cohesive Soil**
ASTM D 2166

Project Name King Avenue Bridge Project Number 173620099
 Source B-007-1-17, 15.0'-17.0' Lab ID 226A
 Visual Description Lean Clay (CL), gray, moist, firm

Specimen Type: <u>Undisturbed</u>	LL <u>N/A</u>	PL <u>N/A</u>	Recovered <u>1.4'</u>
		PI <u>N/A</u>	Test Interval <u>15.0' - 15.5'</u>
Initial Wet Density (pcf) <u>107.9</u>			Date Extruded <u>08/27/2018</u>
Initial Moisture Content (%) <u>40.0</u>	Initial MC Taken <u>Before Test, From Trimmings</u>		Date Tested <u>09/06/2018</u>
Initial Dry Density (pcf) <u>77.0</u>			
At Test Moisture Content (%) <u>39.1</u>	At Test MC Taken <u>After Test, From Whole Specimen</u>		
At Test Dry Density (pcf) <u>77.6</u>			
Specific Gravity <u>N/A</u>		Unconfined Compressive Strength (tsf) <u>0.52</u>	
Degree of Saturation (%) <u>N/A</u>		Undrained Shear Strength (tsf) <u>0.26</u>	
Average Height (in) <u>6.012</u>		Strain at Maximum Stress (%) <u>5.3</u>	
Average Diameter (in) <u>2.870</u>		Strain rate to failure (% / min.) <u>1.00</u>	
Height to Diameter Ratio <u>2.1</u>			

Stress vs. Strain



Pocket Penetrometer Reading (tsf) N/A
 Torvane Reading (kg/cm²) N/A

Comments
Classification data from SS-6 (17.5'-19.0')
%GR = 0, %CS = 1, %FS = 37, %SI = 41, %CL = 21
LL = 31, PL = 25, PI = 6
Classification = A-4a (5)

Reviewed By RJ

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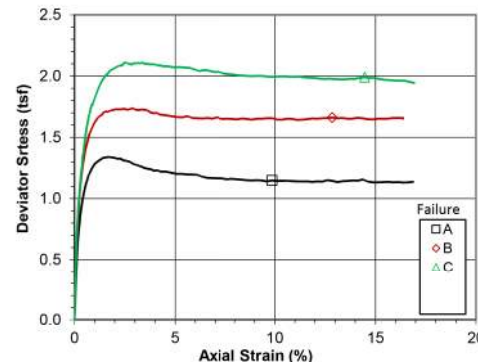
Consolidated Undrained Triaxial Compression
ASTM D 4767

Project Name King Avenue Bridge

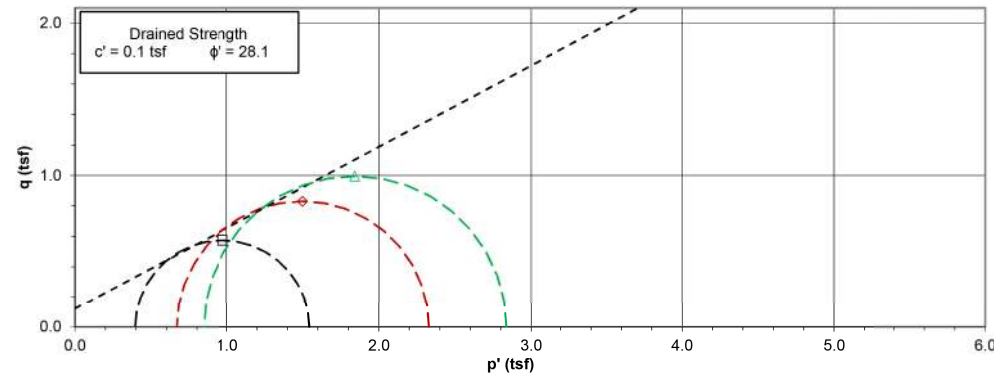
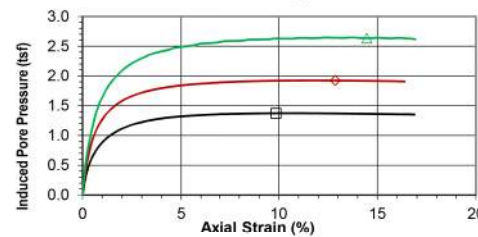
Project 173620099
Set ID 1

Test	Lab ID	Source	Description	Gs	LL	PL	PI
A	207A	B-003-1-17, 7.5'-8.0'	Lean Clay (CL), dark brown, moist, firm	2.65			
B	207B	B-003-1-17, 8.2'-8.7'	Lean Clay (CL), dark brown, moist, firm	2.65			
C	207C	B-003-1-17, 8.7'-9.2'	Lean Clay (CL), dark brown, moist, firm	2.65			

Tests A, B, C - Classification data from SS-2 (2.5'-4.0'): A-6a (10), %GR=1, %CS=1, %FS=11, %SI=59, %CL=28, LL=38, PL=24, PI=14



Specimen	A	B	C
Initial Specimen Conditions			
Average Height (in)	6.053	6.104	6.006
Average Diameter (in)	2.854	2.876	2.890
Moist Unit Weight (pcf)	106.9	110.8	113.2
Moisture Content (%)	27.1	25.0	24.8
Dry Unit Weight (pcf)	84.1	88.6	90.7
Void Ratio	0.964	0.863	0.821
Degree of Saturation (%)	74.5	76.7	80.2
Consolidated Specimen Conditions			
Moist Unit Weight (pcf)	118.3	122.4	123.7
Moisture Content (%)	31.6	26.9	25.5
Dry Unit Weight (pcf)	89.9	96.4	98.6
Void Ratio	0.836	0.712	0.675
Degree of Saturation (%)	100.0	100.0	100.0
Eff. Con. Stress, σ'_v (tsf)	1.767	2.589	3.496
At Drained Failure			
Max. Eff. Prin. Stress Ratio			
Axial Strain (%)	9.862	12.855	14.460
Deviator Stress (tsf)	1.148	1.661	1.990
Induced Pore Press. (tsf)	1.373	1.922	2.633
Minor Eff. Stress, σ'_1 (tsf)	0.395	0.668	0.847
Major Eff. Stress, σ'_3 (tsf)	1.544	2.329	2.837
Eff. Stress Ratio, σ'_1/σ'_3	3.904	3.487	3.349
p' (tsf)	0.969	1.498	1.842
q (tsf)	0.574	0.830	0.995



Comments _____

Reviewed By KG

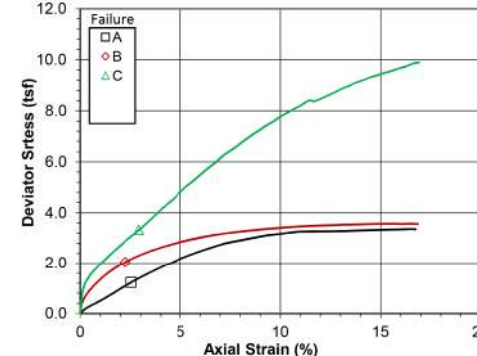
Consolidated Undrained Triaxial Compression
ASTM D 4767

Project Name King Avenue Bridge

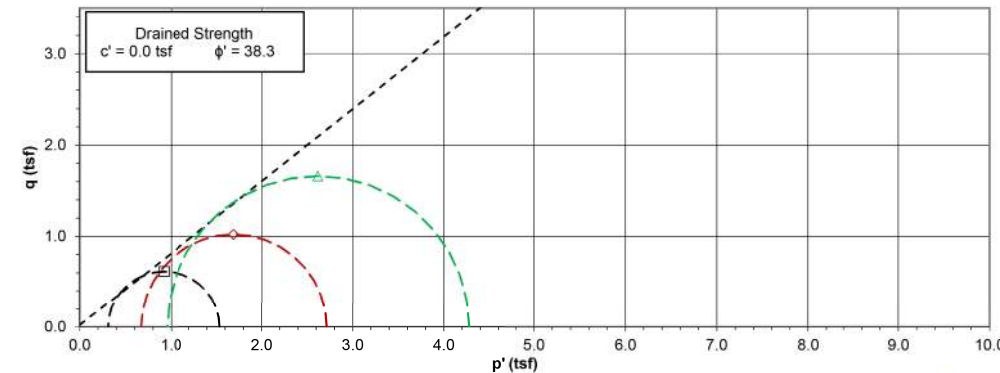
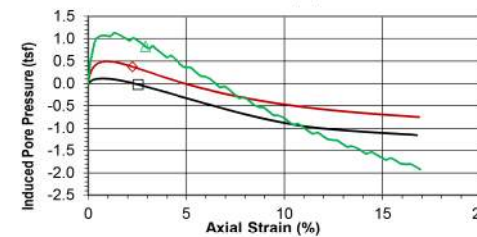
Project 173620099
Set ID 2

Test	Lab ID	Source	Description	Gs	LL	PL	PI
A	216B	B-012-2-17, 5.7'-6.2'	Silt (ML), brown, moist, firm	2.75			
B	217	B-012-2-17, 10.5'-11.0'	Lean Clay (CL), brown, moist, firm	2.73			
C	214	B-010-4-17, 7.9'-8.4'	Silt (ML), gray, moist, firm	2.74			

Test A - Classification data from SS-3 (7.5'-9.0'): A-4b (8), %GR=1, %CS=2, %FS=19, %SI=69, %CL=9, LL=NP, PL=NP, PI=NP
Test B - Classification data from SS-4 (12.5'-14.0'): A-4a (1), %GR=32, %CS=10, %FS=17, %SI=23, %CL=18, LL=22, PL=14, PI=8
Test C - Classification data from SS-3 (5.0'-6.5'): A-4a (7), %GR=11, %CS=5, %FS=16, %SI=48, %CL=20, LL=21, PL=16, PI=5



Specimen	A	B	C
Initial Specimen Conditions			
Average Height (in)	5.989	6.008	6.021
Average Diameter (in)	2.886	2.886	2.884
Moist Unit Weight (pcf)	129.1	135.2	143.7
Moisture Content (%)	17.3	14.4	10.9
Dry Unit Weight (pcf)	110.1	118.2	129.5
Void Ratio	0.557	0.440	0.318
Degree of Saturation (%)	85.5	89.5	94.1
Consolidated Specimen Conditions			
Moist Unit Weight (pcf)	133.2	138.4	146.8
Moisture Content (%)	19.6	15.2	10.3
Dry Unit Weight (pcf)	111.4	120.1	133.1
Void Ratio	0.539	0.416	0.283
Degree of Saturation (%)	100.0	100.0	100.0
Eff. Con. Stress, σ'_v (tsf)	0.291	1.054	1.795
At Drained Failure			
Max. Eff. Prin. Stress Ratio			
Axial Strain (%)	2.525	2.233	2.891
Deviator Stress (tsf)	1.229	2.044	3.321
Induced Pore Press. (tsf)	-0.022	0.378	0.830
Minor Eff. Stress, σ'_1 (tsf)	0.311	0.671	0.957
Major Eff. Stress, σ'_3 (tsf)	1.539	2.715	4.279
Eff. Stress Ratio, σ'_1/σ'_3	4.955	4.048	4.469
p' (tsf)	0.925	1.693	2.618
q (tsf)	0.614	1.022	1.661



Comments _____

Reviewed By KG

DRAWN
MSJ
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EMK

SUBSURFACE EXPLORATION
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST DATA RESULTS

WAR-CR 282-0.97

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DRAWN MSJ
CHECKED EMK

SUBSURFACE EXPLORATION
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST DATA RESULTS

WAR-CR 282-0.97

11 / 32
235
256

Unconsolidated Undrained Triaxial Compression
ASTM D 2850

Project Name King Avenue Bridge
Source B-003-1-17, 5.5'-6.0'
Description Lean Clay (CL), brown, moist, firm
Specimen Type Intact

Project No. 173620099
Lab ID 206A
Test ID 206A-A

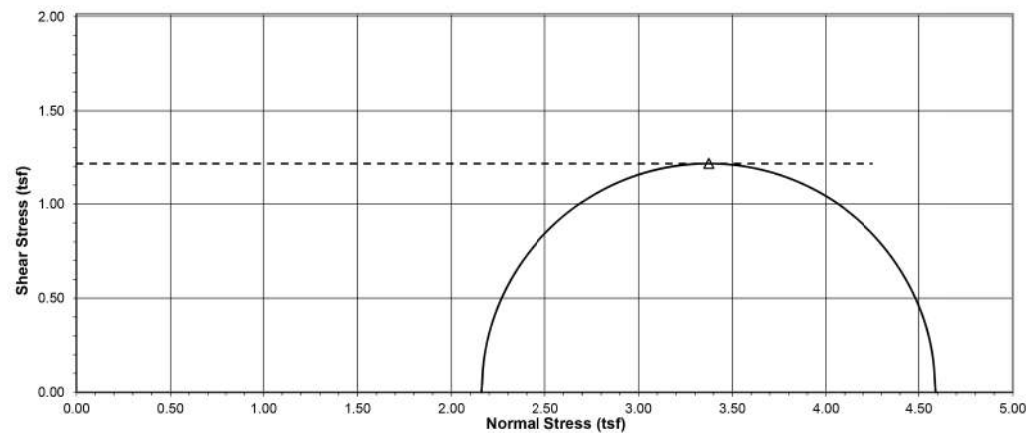
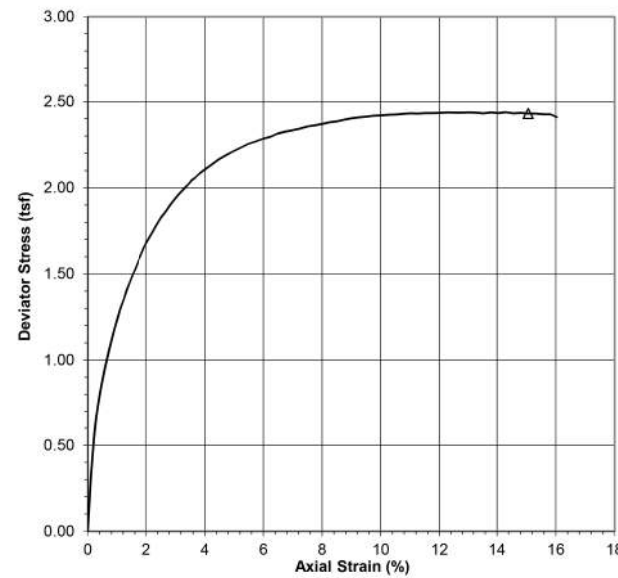
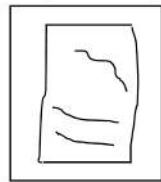
Date Received 08/13/2018
Date Tested 08/30/2018

Specific Gravity 2.66 Liquid Limit _____
ASTM D 854, Dry Plastic Limit _____
Plasticity Index _____

Target Test Parameters
Nominal Chamber Pressure (psi) 30
Actual Axial Strain Rate of Test (%/min) 1.007

At Unconsolidated Undrained Failure
Failure Criterion: 15% Axial Strain
Axial Strain (%) 15.06
Deviator Stress (tsf) 2.430
Minor Principal Stress, σ_3 (tsf) 2.160
Major Principal Stress, σ_1 (tsf) 4.590
Undrained Shear Strength, S_u (tsf) 1.215

Failure Sketch



Comments Classification data from SS-2 (2.5'-4.0')
%GR = 1, %CS = 1, %FS = 11, %SI = 59, %CL = 28
LL = 38, PL = 24, PI = 14, Classification = A-6a (10)

Reviewed KG

Unconsolidated Undrained Triaxial Compression
ASTM D 2850

Project Name King Avenue Bridge
Source B-003-1-17, 10.0'-10.5'
Description Lean Clay (CL), dark brown, moist, firm
Specimen Type Intact

Project No. 173620099
Lab ID 208A
Test ID 208A-A

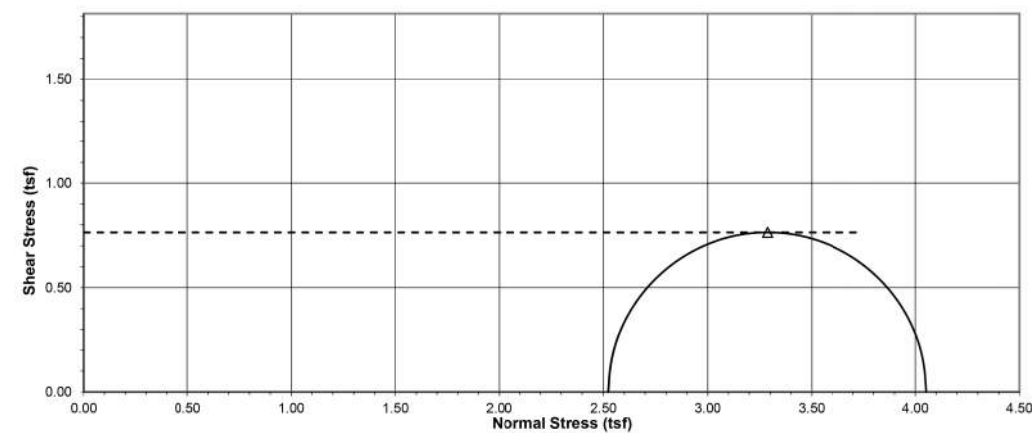
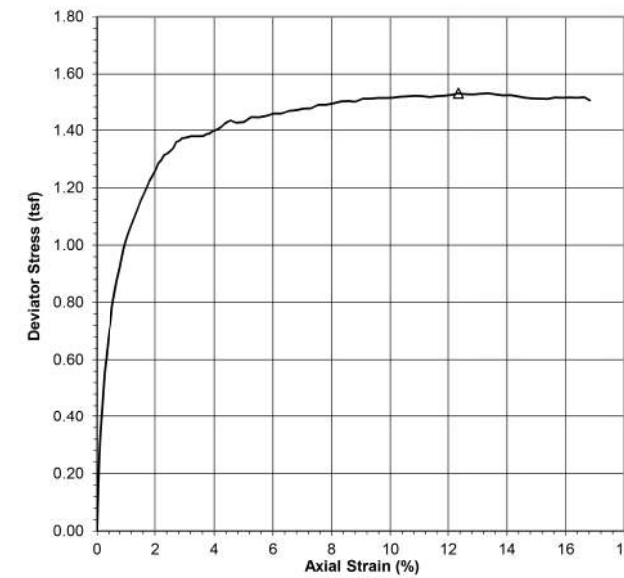
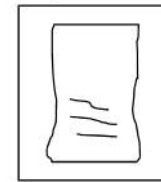
Date Received 08/13/2018
Date Tested 08/20/2018

Specific Gravity 2.69 Liquid Limit _____
ASTM D 854, Dry Plastic Limit _____
Plasticity Index _____

Target Test Parameters
Nominal Chamber Pressure (psi) 35
Actual Axial Strain Rate of Test (%/min) 1.008

At Unconsolidated Undrained Failure
Failure Criterion: Peak Deviator Stress
Axial Strain (%) 12.35
Deviator Stress (tsf) 1.529
Minor Principal Stress, σ_3 (tsf) 2.524
Major Principal Stress, σ_1 (tsf) 4.052
Undrained Shear Strength, S_u (tsf) 0.764

Failure Sketch



Comments Classification data from SS-2 (2.5'-4.0')
%GR = 1, %CS = 1, %FS = 11, %SI = 59, %CL = 28
LL = 38, PL = 24, PI = 14, Classification = A-6a (10)

Reviewed KG

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DRAWN MSJ
CHECKED EMK

SUBSURFACE EXPLORATION
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST DATA RESULTS

WAR-CR 282-0.97

12 / 32

236
256

Unconsolidated Undrained Triaxial Compression
ASTM D 2850

Project Name King Avenue Bridge
Source B-003-2-17, 5.0'-5.5'
Description Lean Clay (CL), brown, moist, firm
Specimen Type Intact

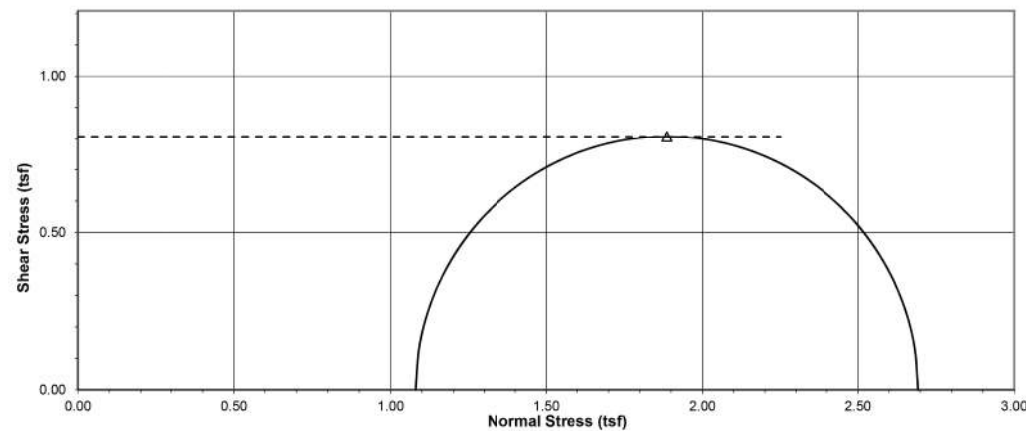
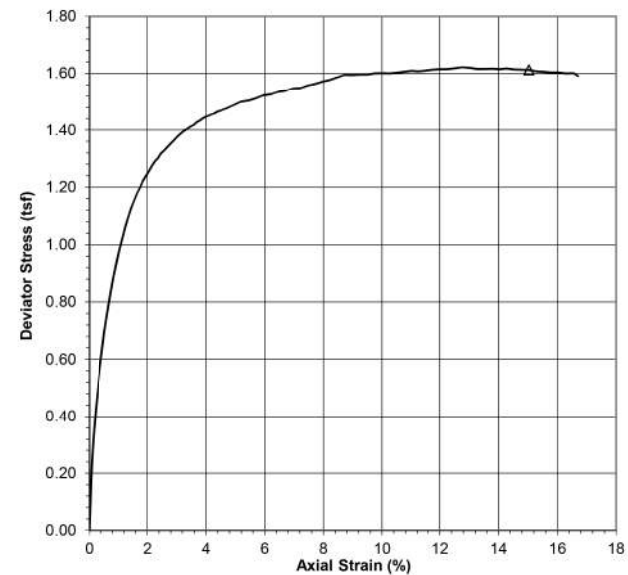
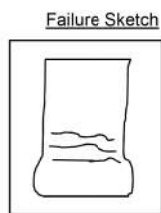
Project No. 173620099
Lab ID 219A
Test ID 219A-A

Date Received 08/23/2018
Date Tested 09/06/2018

Specific Gravity 2.70 Liquid Limit _____
Assumed Plastic Limit _____
Plasticity Index _____

Target Test Parameters
Nominal Chamber Pressure (psi) 15
Actual Axial Strain Rate of Test (%/min) 1.004

At Unconsolidated Undrained Failure
Failure Criterion: 15% Axial Strain
Axial Strain (%) 15.03
Deviator Stress (tsf) 1.613
Minor Principal Stress, σ_3 (tsf) 1.080
Major Principal Stress, σ_1 (tsf) 2.693
Undrained Shear Strength, S_u (tsf) 0.806



Comments Classification data from SS-2 (2.5'-4.0')
%GR = 1, %CS = 2, %FS = 27, %SI = 39, %CL = 31
LL = 35, PL = 17, PI = 18, Classification = A-6b (10)

Reviewed KG

Unconsolidated Undrained Triaxial Compression
ASTM D 2850

Project Name King Avenue Bridge
Source B-010-3-17, 13.0'-13.5'
Description Fat Clay (CH), brown, moist, firm
Specimen Type Intact

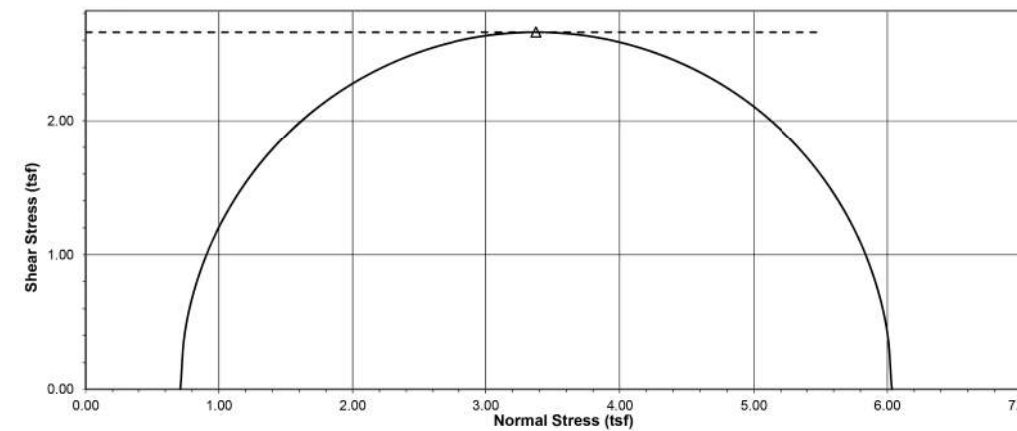
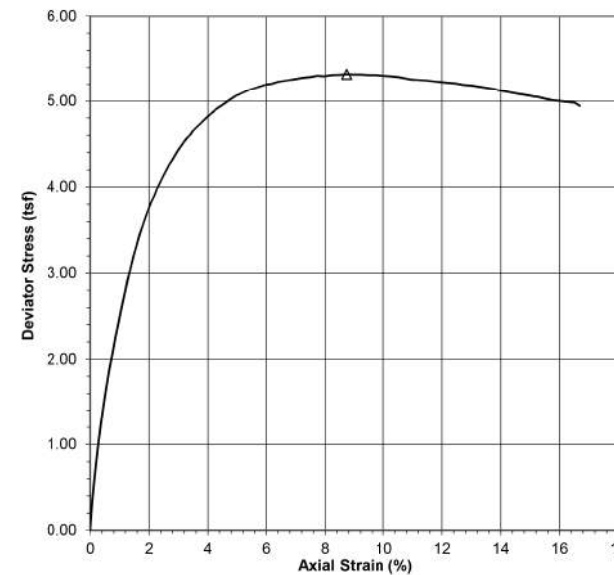
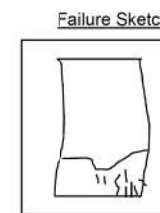
Project No. 173620099
Lab ID 213
Test ID 213-A

Date Received 08/13/2018
Date Tested 08/30/2018

Specific Gravity 2.74 Liquid Limit _____
ASTM D 854, Dry Plastic Limit _____
Plasticity Index _____

Target Test Parameters
Nominal Chamber Pressure (psi) 10
Actual Axial Strain Rate of Test (%/min) 1.002

At Unconsolidated Undrained Failure
Failure Criterion: Peak Deviator Stress
Axial Strain (%) 8.73
Deviator Stress (tsf) 5.322
Minor Principal Stress, σ_3 (tsf) 0.713
Major Principal Stress, σ_1 (tsf) 6.035
Undrained Shear Strength, S_u (tsf) 2.661



Comments Classification data from SS-5 (10.0'-11.5')
%GR = 31, %CS = 6, %FS = 9, %SI = 23, %CL = 31
LL = 36, PL = 18, PI = 18, Classification = A-6b (7)

Reviewed KG

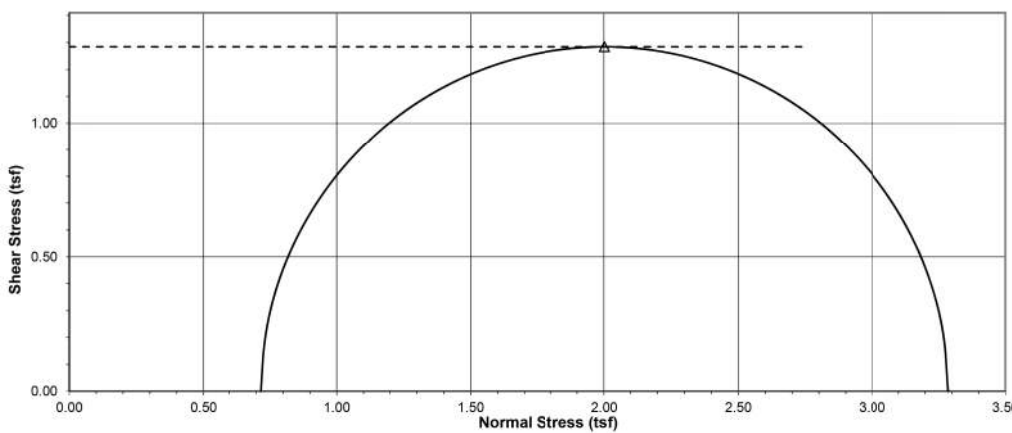
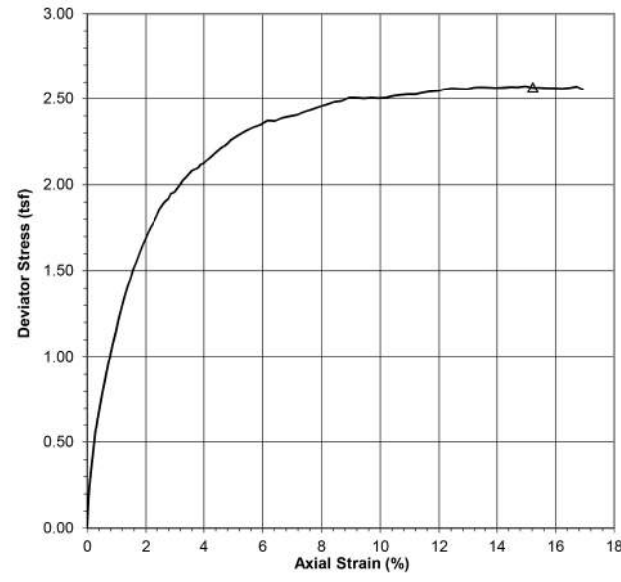
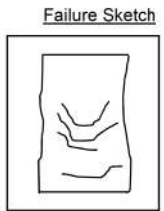
Unconsolidated Undrained Triaxial Compression
ASTM D 2850

Project Name <u>King Avenue Bridge</u>	Project No. <u>173620099</u>
Source <u>B-013-0-17, 10.5'-11.0'</u>	Lab ID <u>218B</u>
Description <u>Lean Clay (CL), gray, moist, firm</u>	Test ID <u>218B-A</u>
Specimen Type <u>Intact</u>	
	Date Received <u>08/13/2018</u>
	Date Tested <u>08/30/2018</u>

Specific Gravity <u>2.73</u>	Liquid Limit _____
ASTM D 854, Dry	Plastic Limit _____
	Plasticity Index _____

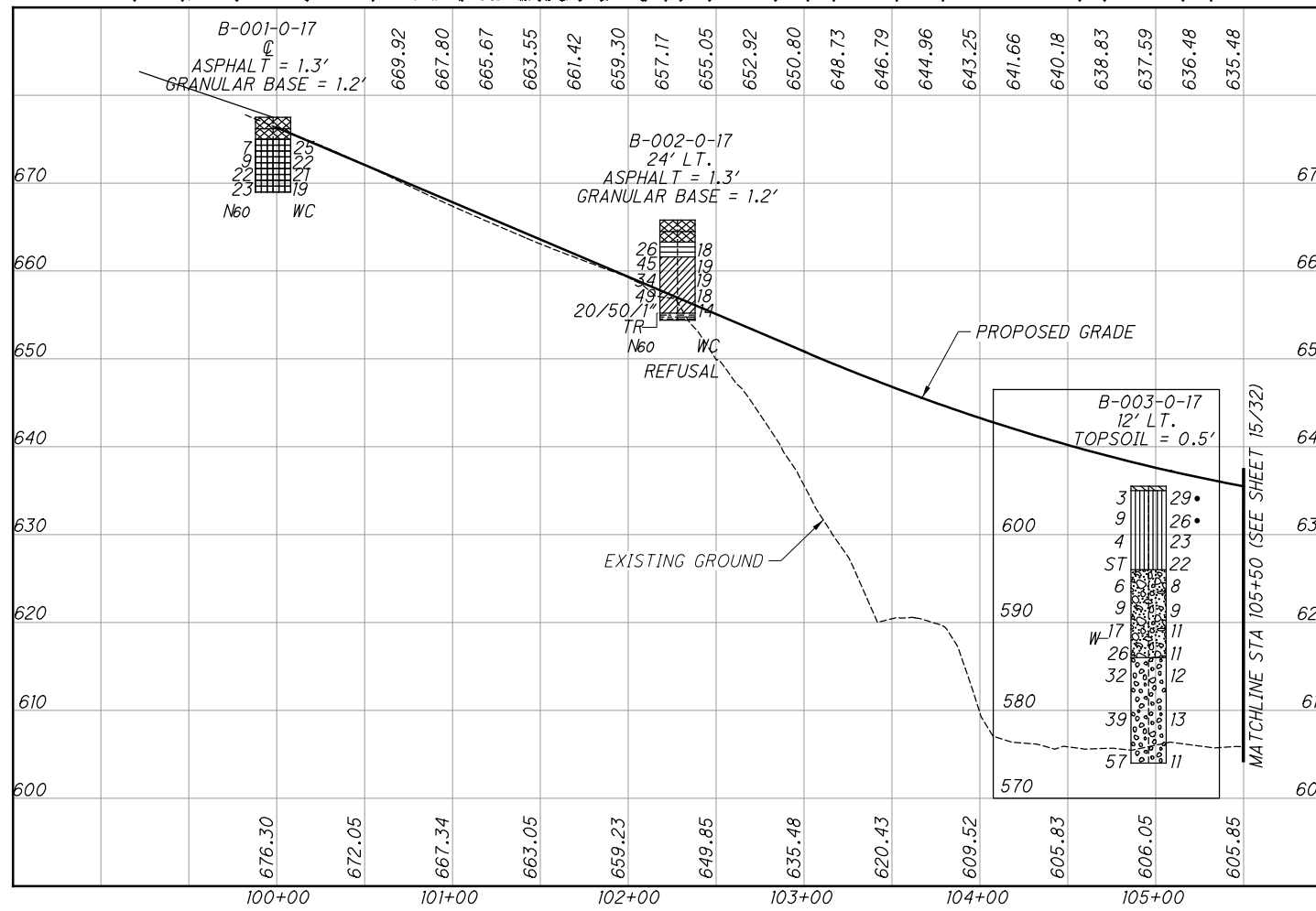
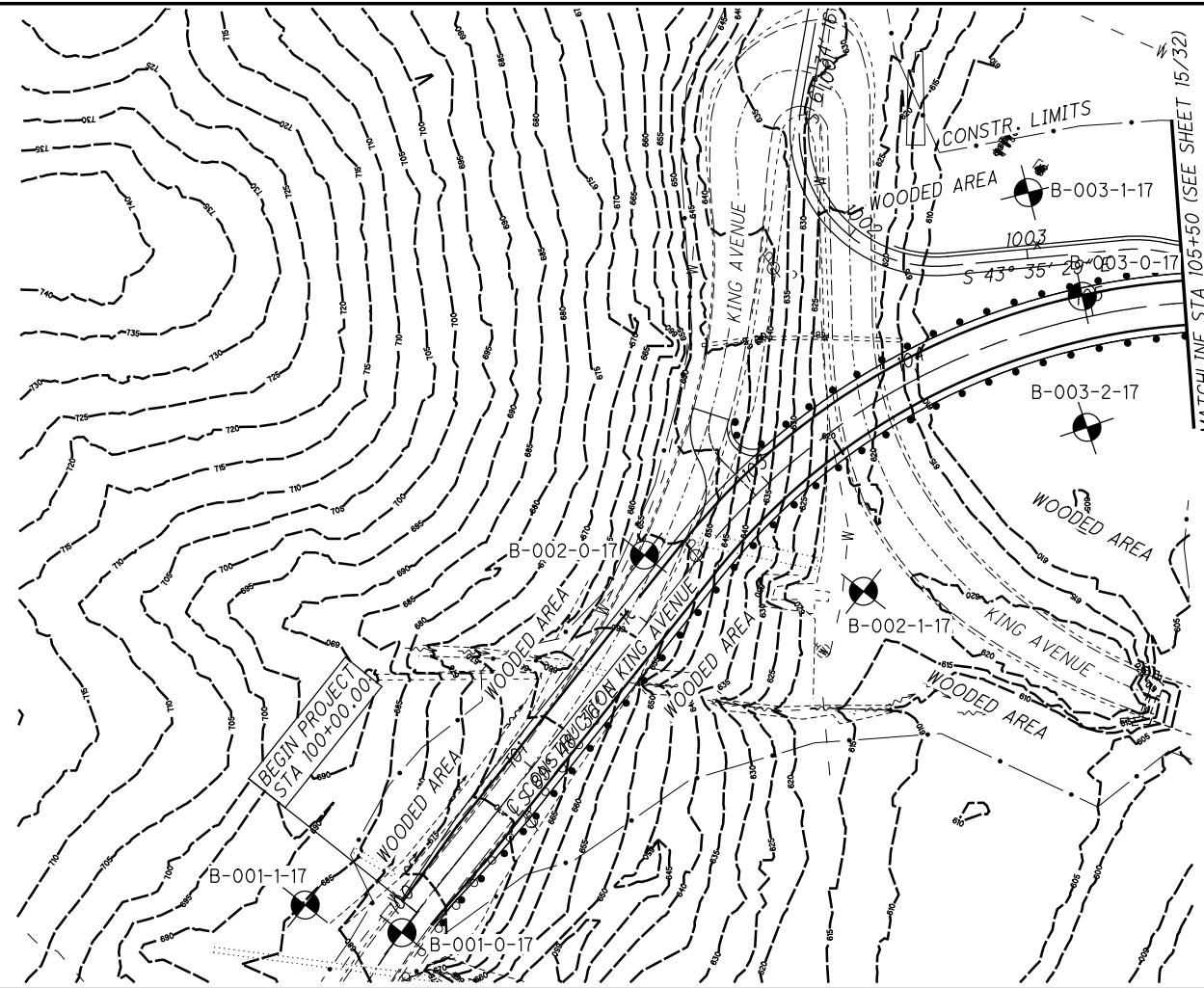
Target Test Parameters
Nominal Chamber Pressure (psi) 10
Actual Axial Strain Rate of Test (%/min) 1.004

At Unconsolidated Undrained Failure
Failure Criterion: 15% Axial Strain
Axial Strain (%) 15.22
Deviator Stress (tsf) 2.568
Minor Principal Stress, σ_3 (tsf) 0.717
Major Principal Stress, σ_1 (tsf) 3.286
Undrained Shear Strength, S_u (tsf) 1.284



Comments Classification data from SS-5 (12.5'-14.0')
%GR = 16, %CS = 8, %FS = 13, %SI = 31, %CL = 32
LL = 29, PL = 16, PI = 13, Classification = A-6a (7)

Reviewed KG



SEE SHEET NO'S. 15 & 16 FOR BRIDGE PLANS/PROFILES
 SEE SHEET NO. 21 FOR CROSS SECTION 100+00
 SEE SHEET NO. 21 FOR CROSS SECTION 102+50
 SEE SHEET NO. 22 FOR CROSS SECTION 105+00

WAR-CR 282-0.97

14 / 32

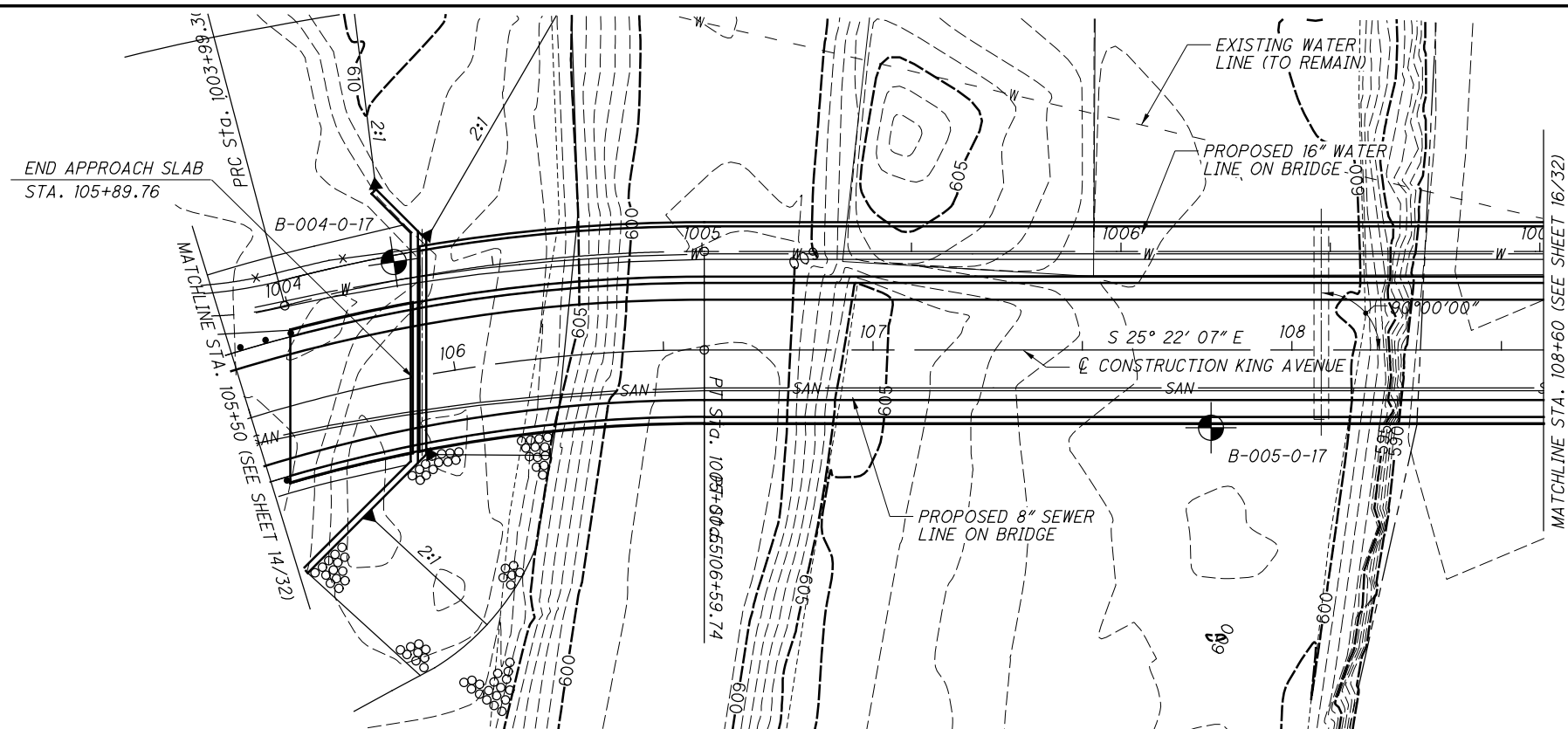
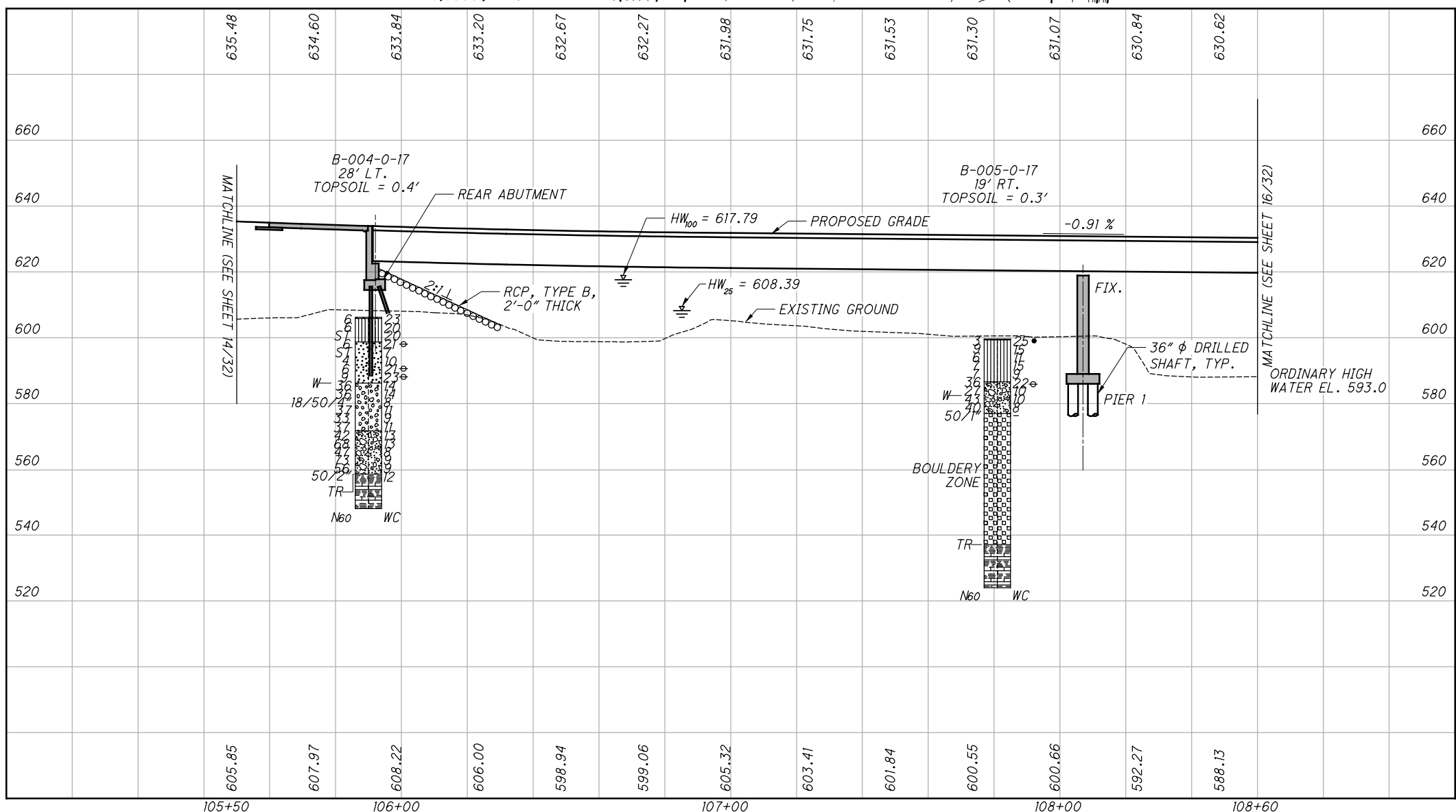
238
256

SOIL PROFILE

STA. 99+25.00 TO 105+50.00

DRAWN: MSJ
CHECKED: EMK

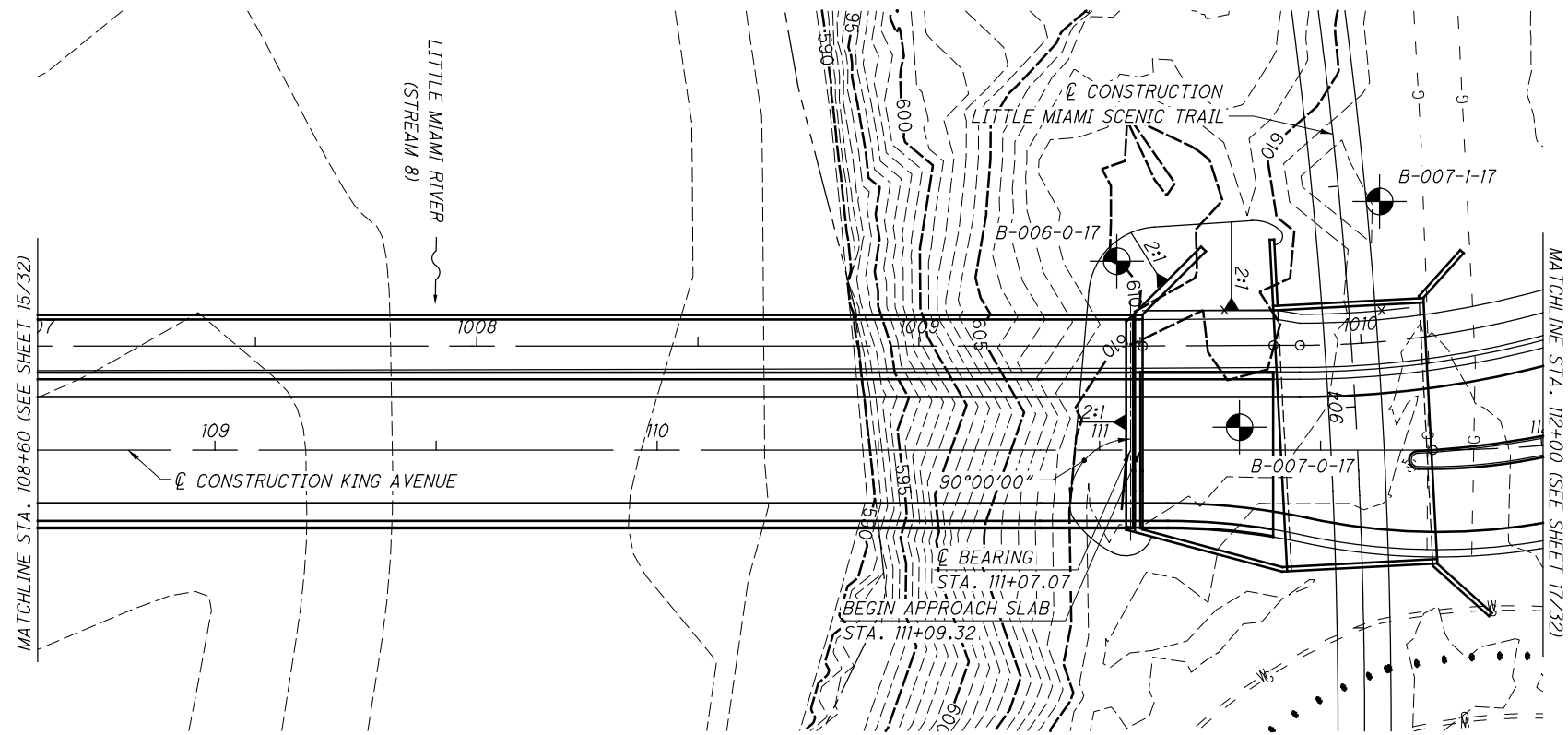
0 50 100
HORIZONTAL SCALE IN FEET



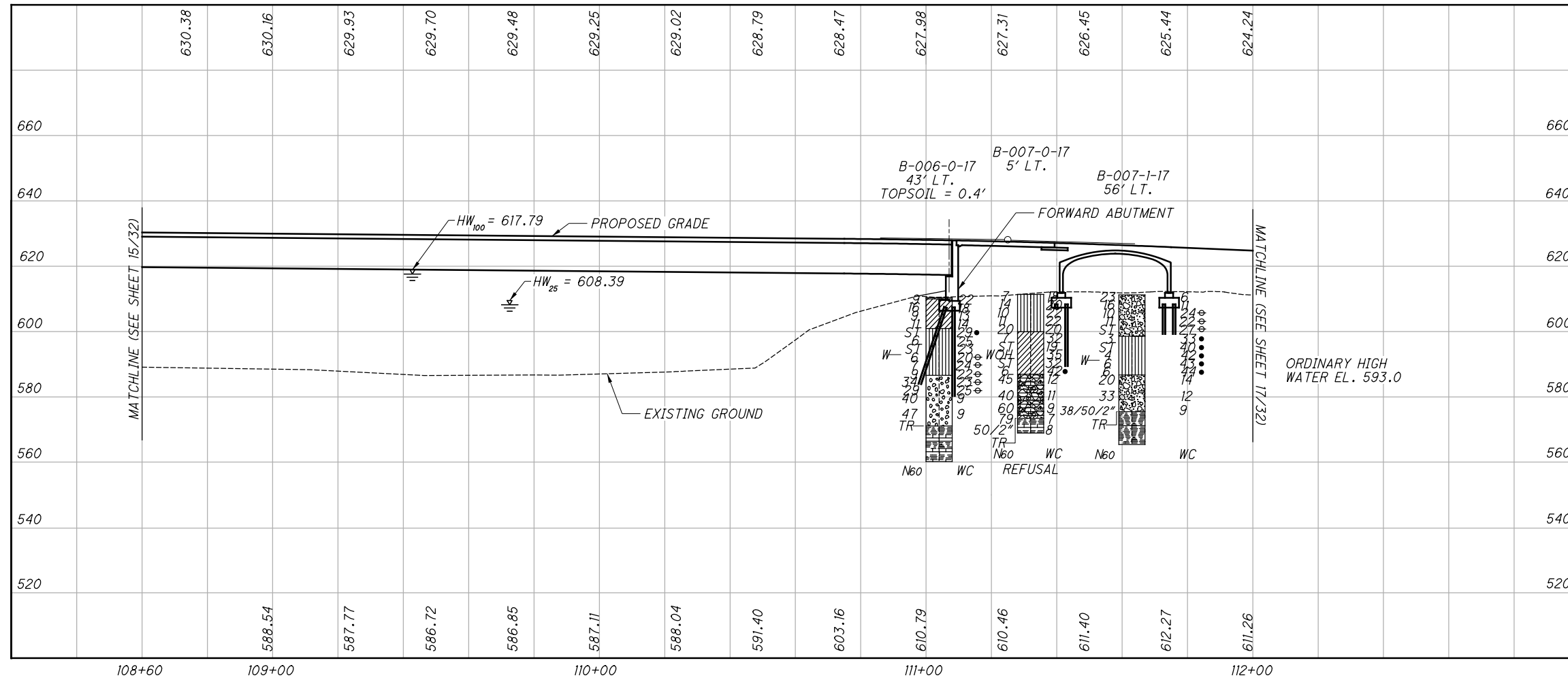
**STRUCTURE FOUNDATION EXPLORATION
KING AVE. BRIDGE OVER THE LITTLE MIAMI RIVER**

WAR-CR 282-0.97

DRAWN: MSJ
CHECKED: EMK



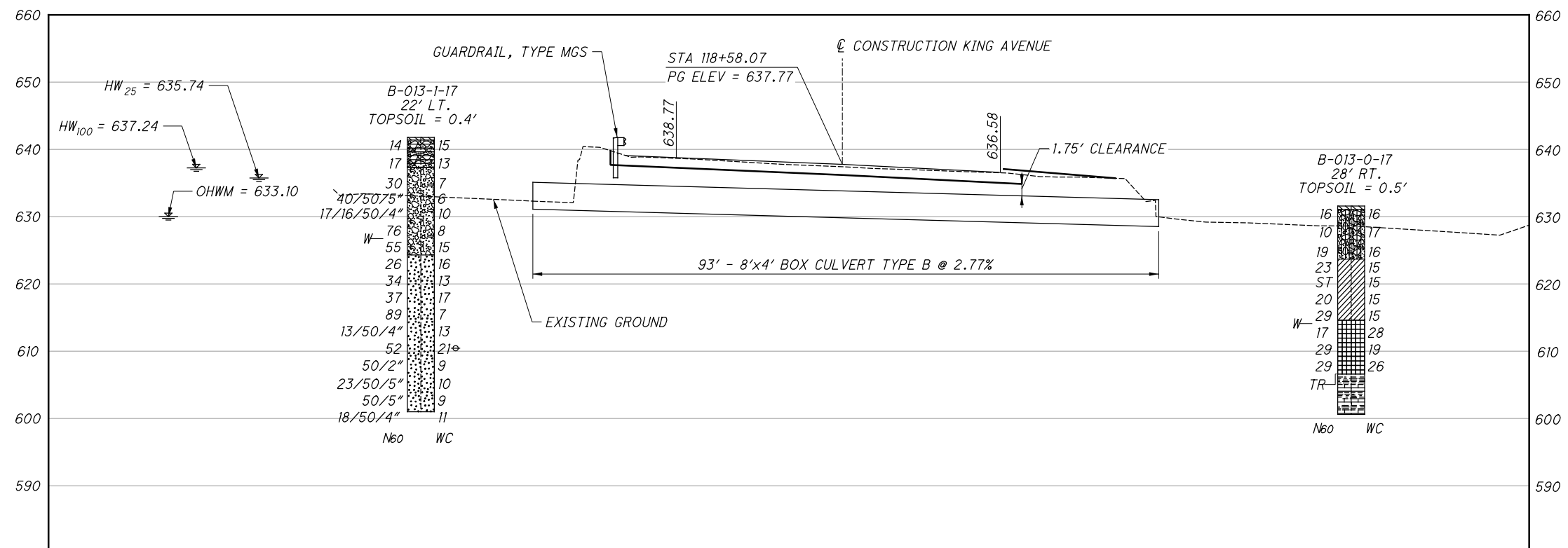
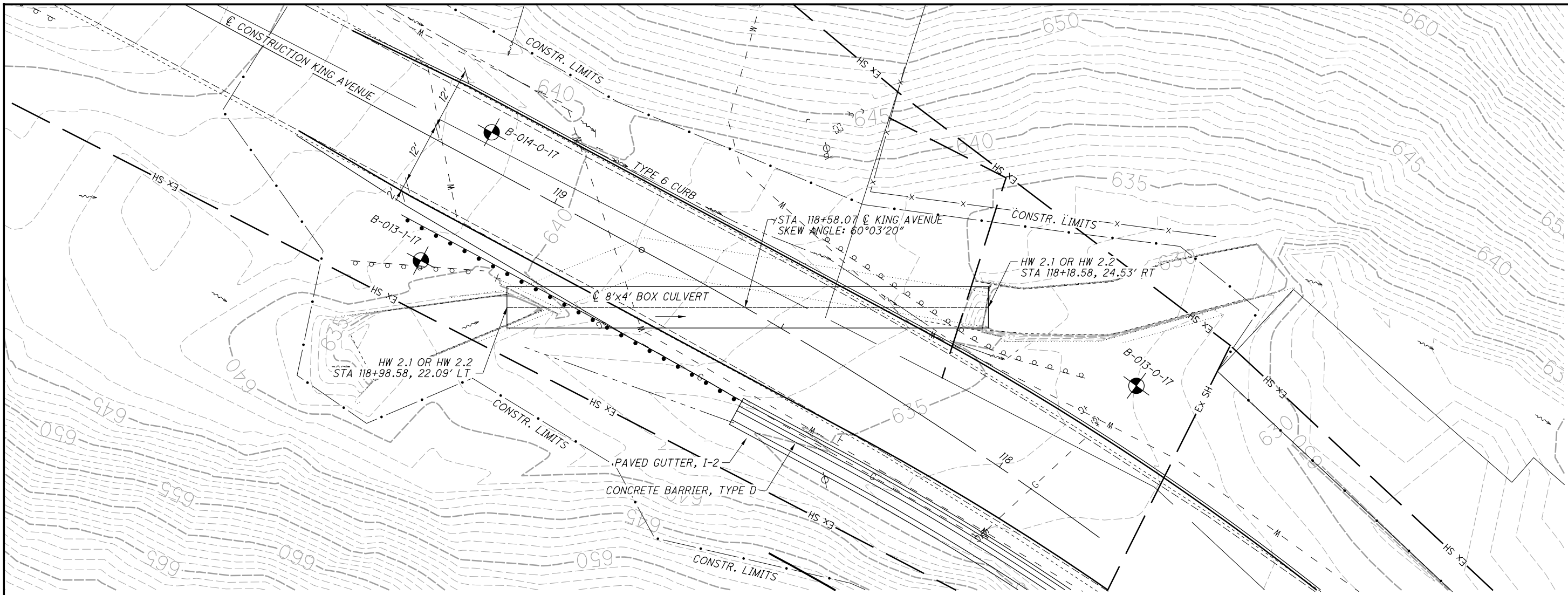
SEE SHEET NO'S. 19 & 20 FOR LITTLE MIAMI BIKE TRAIL PLAN/PROFILE



DRAWN MSJ
CHECKED ENK

**STRUCTURE FOUNDATION EXPLORATION
KING AVE. BRIDGE OVER THE LITTLE MIAMI RIVER**

WAR-CR 282-0.97



PROFILE ALONG CENTERLINE OF CULVERT

0 5 10 20

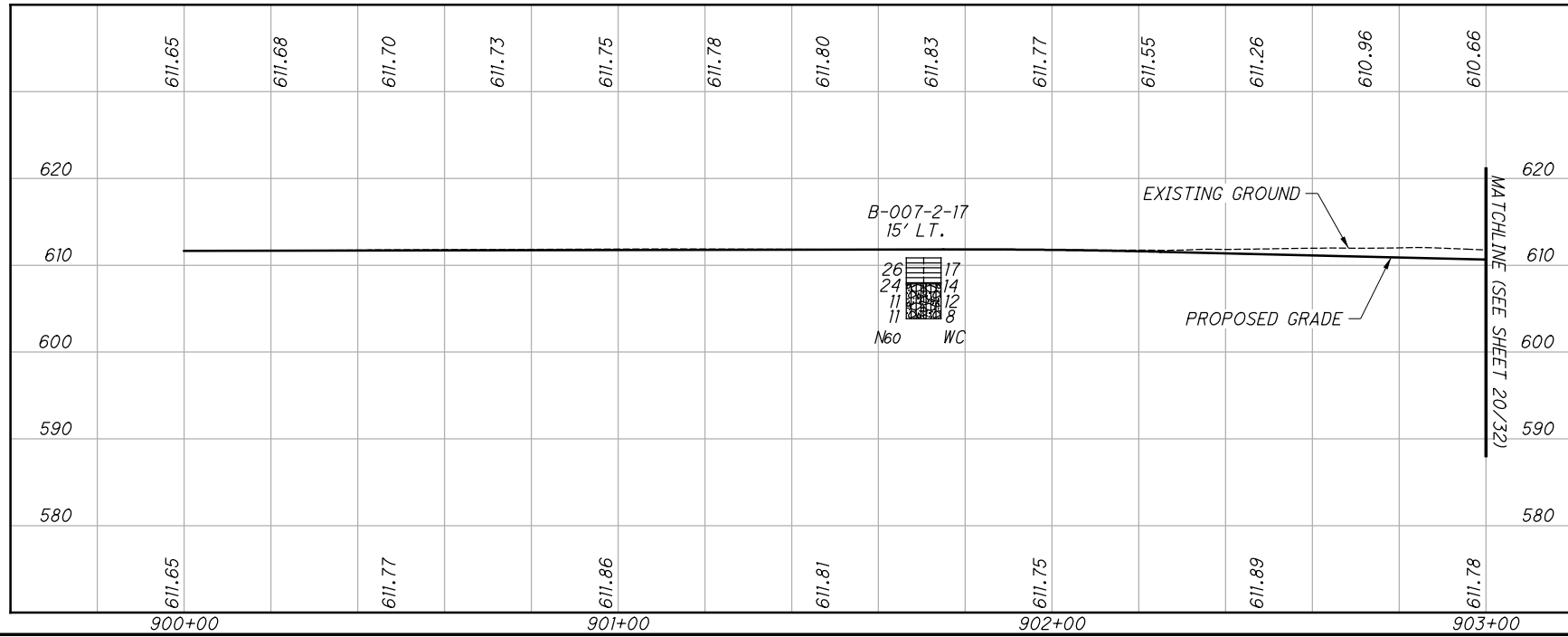
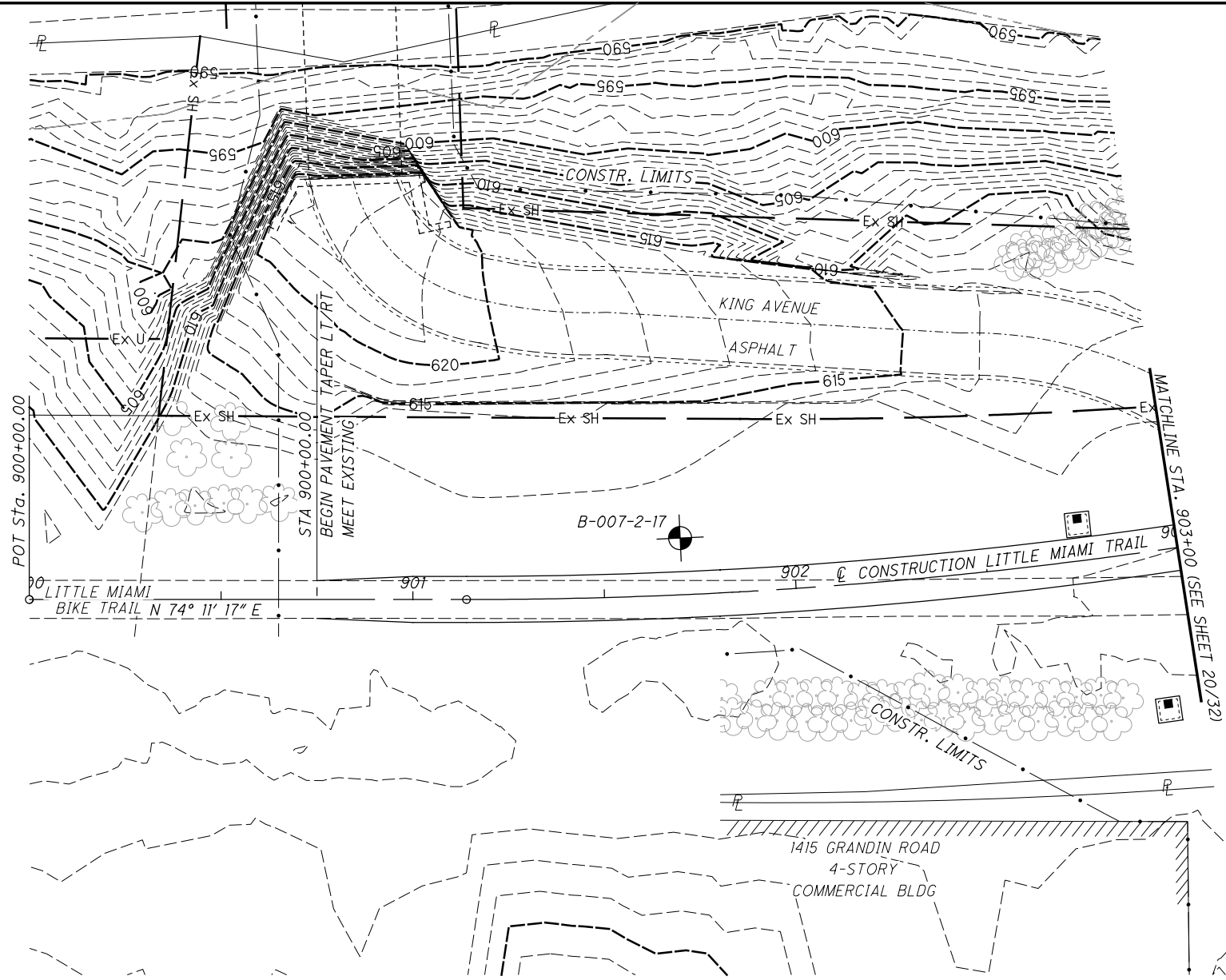
 HORIZONTAL SCALE IN FEET

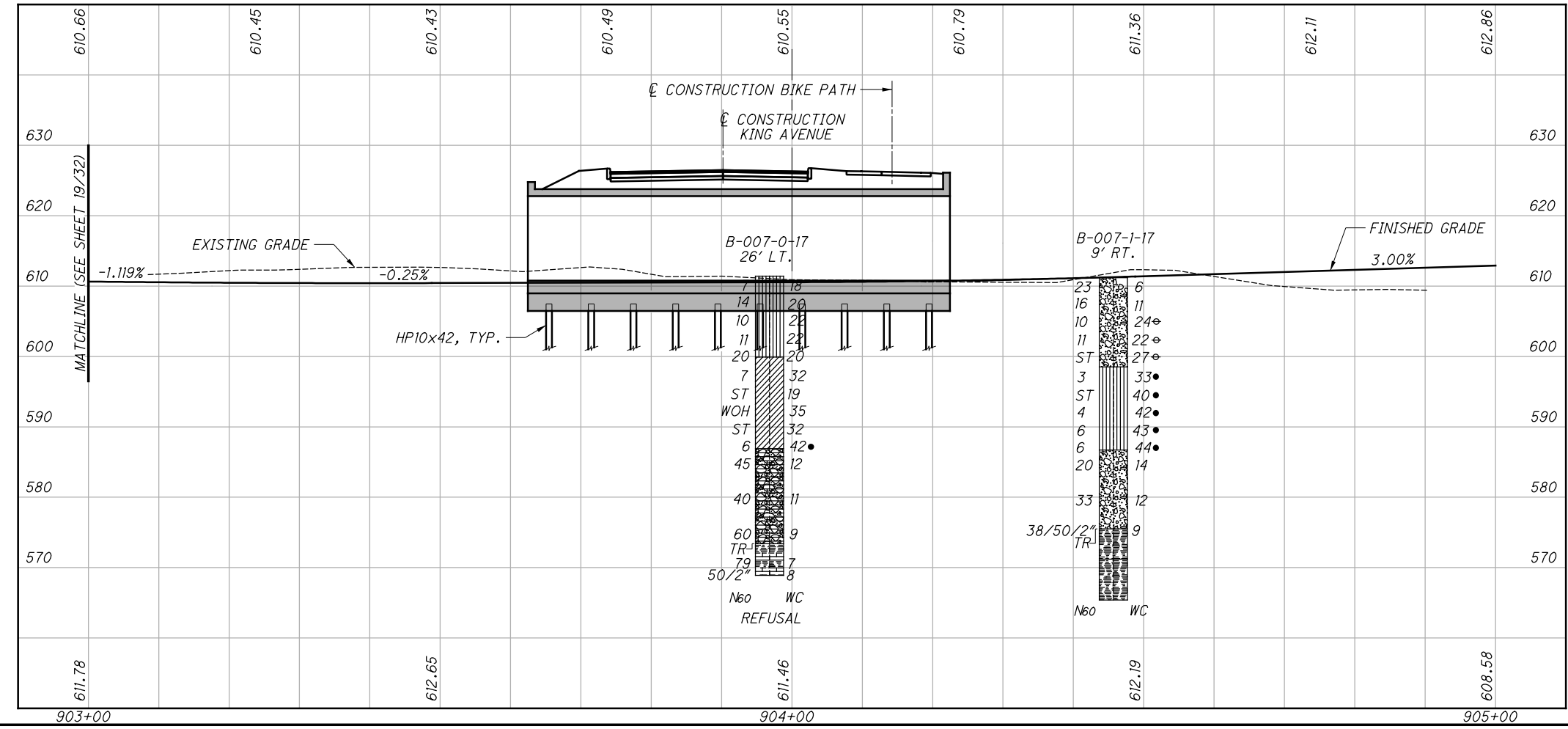
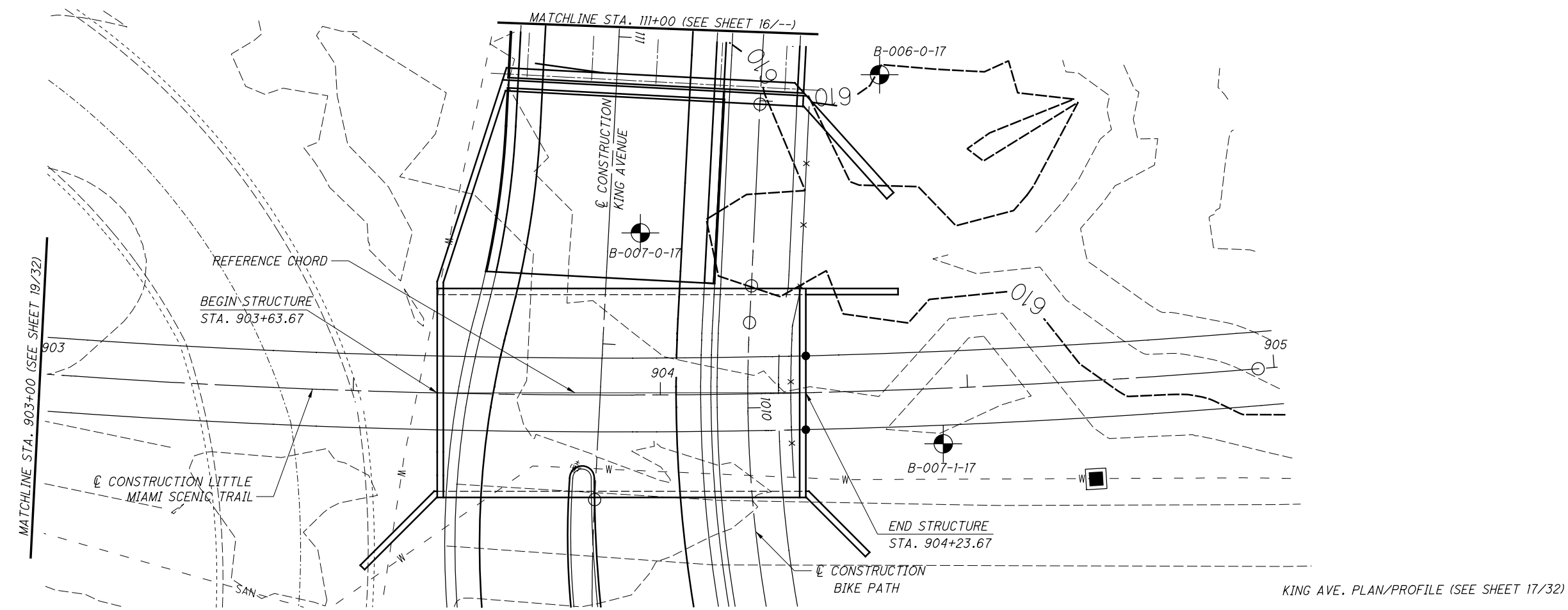
DRAWN MSJ

 CHECKED ENK

STRUCTURE FOUNDATION EXPLORATION
CULVERT UNDER KING AVE. AT STA. 118+58.07

WAR-CR 282-0.97

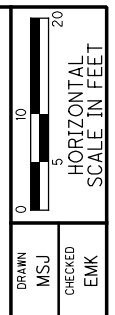
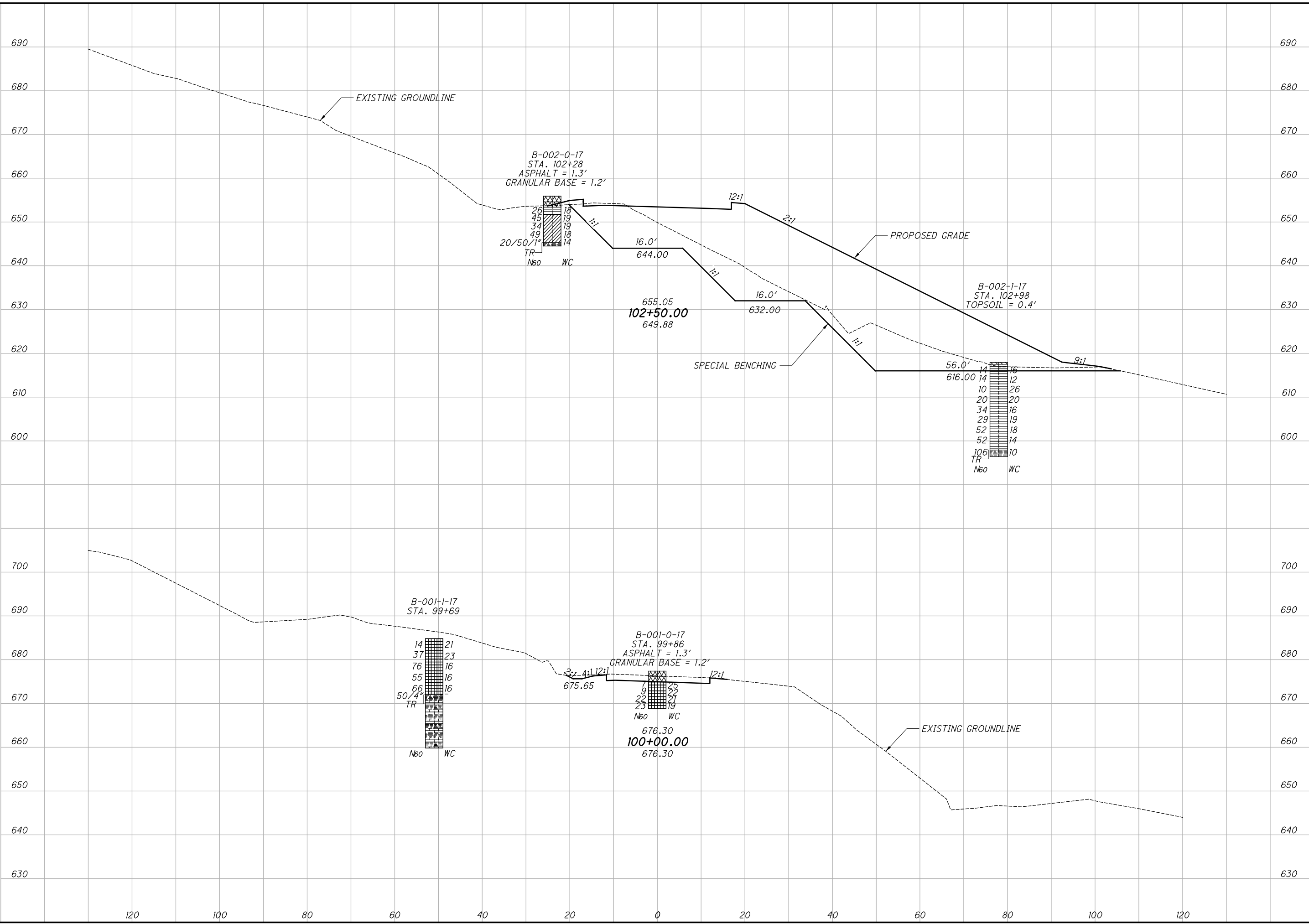




STRUCTURE FOUNDATION EXPLORATION
 KING AVE. BRIDGE OVER LITTLE MIAMI SCENIC TRAIL

WAR-CR 282-0.97

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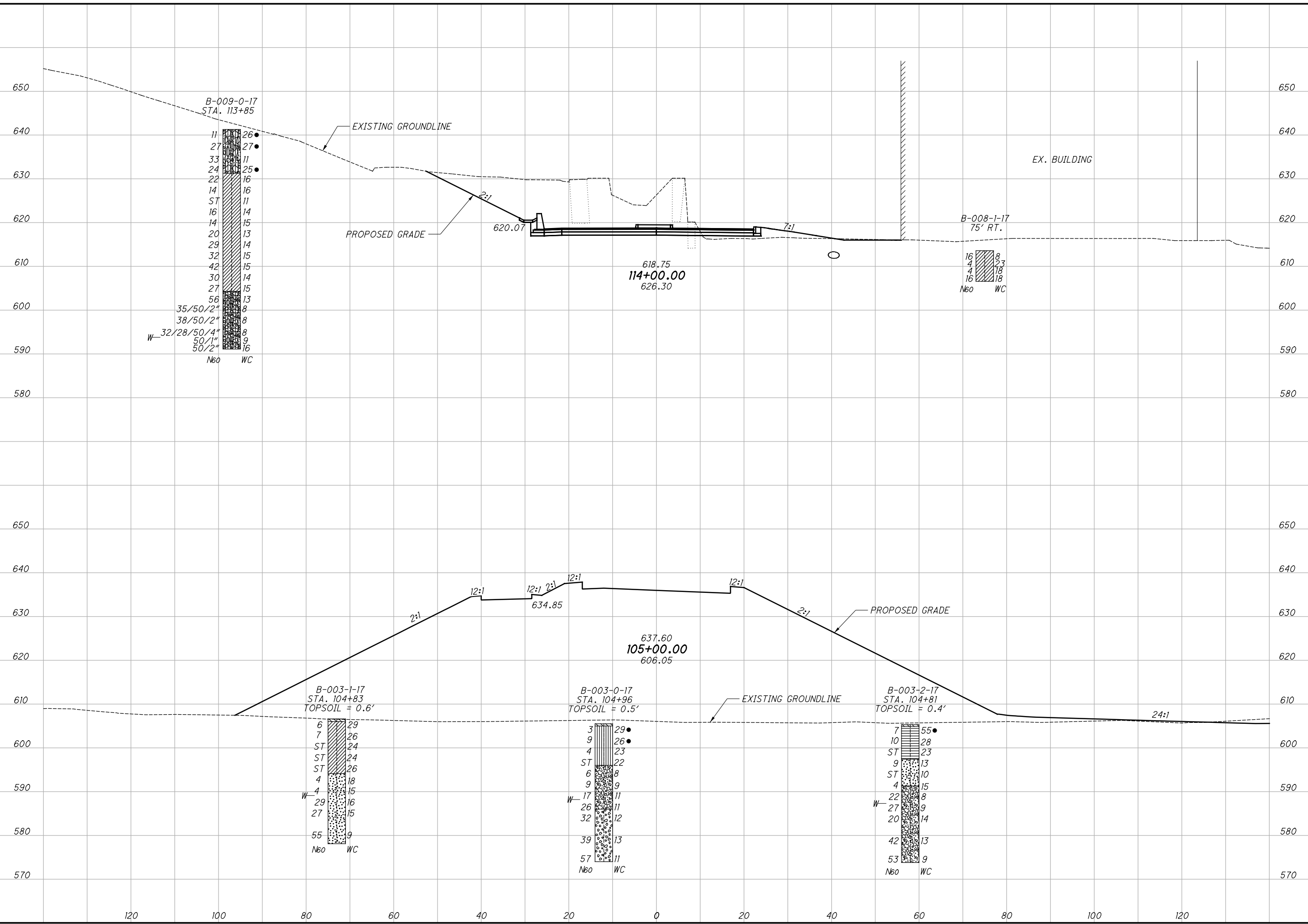
CROSS SECTIONS
STATION 100+00 & 102+50

WAR-CR 282-0.97

21 / 32

245
256

V:\1736\active\173620099\engineering\106724\Design\Geotechnical\Sheets\106724\X002.dgn Sheet 5 4/26/2019 11:15:39 AM M.Jennings



CROSS SECTIONS
STATIONS 105+00 & 114+00

WAR-CR 282-0.97

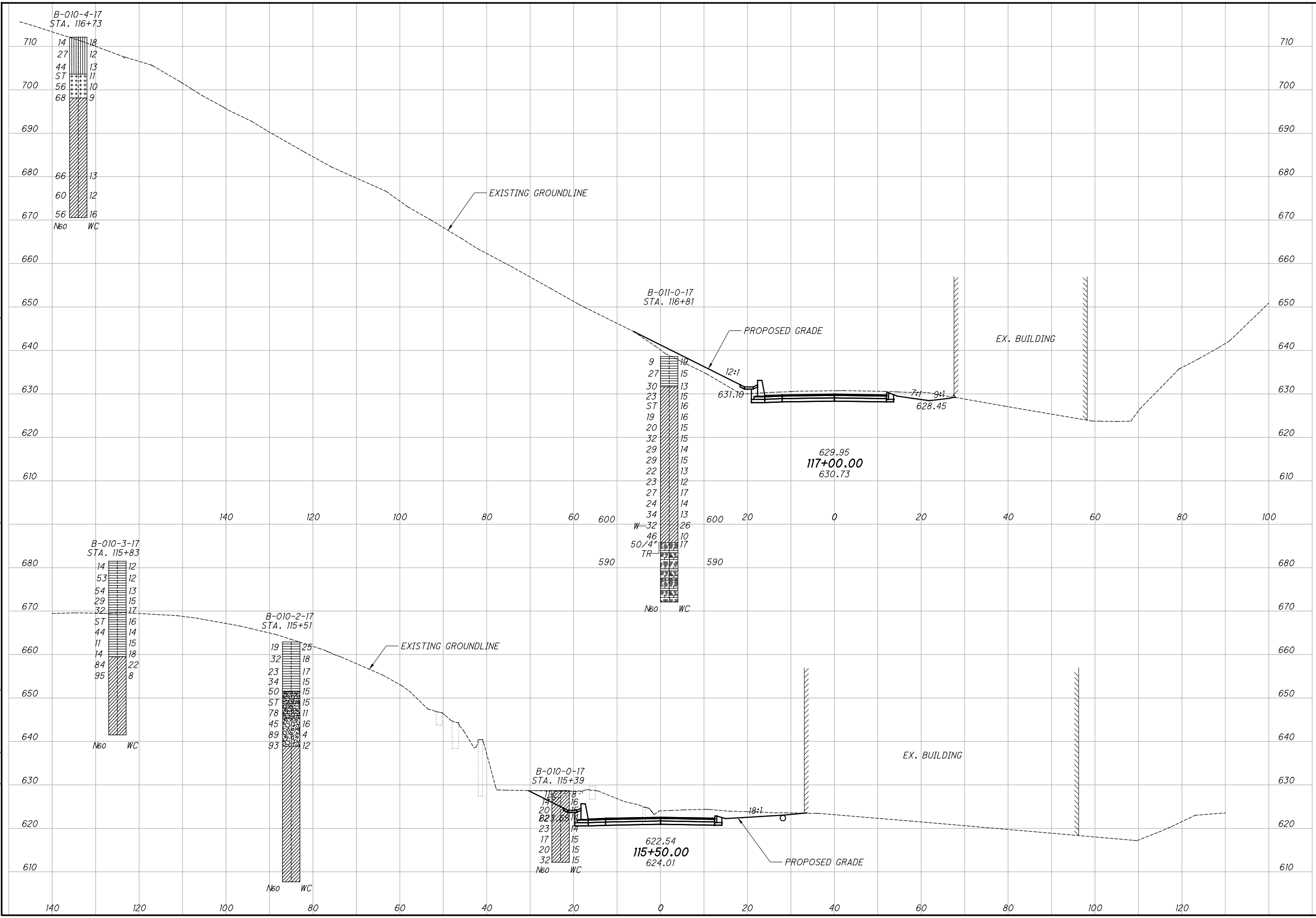
22 / 32

246
256

DRAWN: MSJ
 CHECKED: EMK

HORIZONTAL SCALE: 1" = 20'

V:\1736\active\173620099\engineering\106724\Design\Geotechnical\Sheets\106724\X003.dgn Sheet 5 4/26/2019 1:32:49 PM M\ernings



DRAWN MSJ
 CHECKED EMK

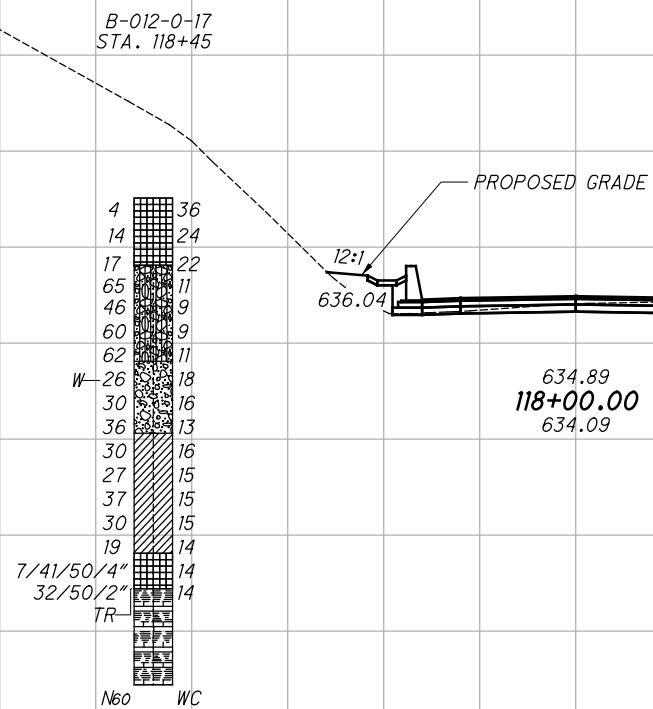
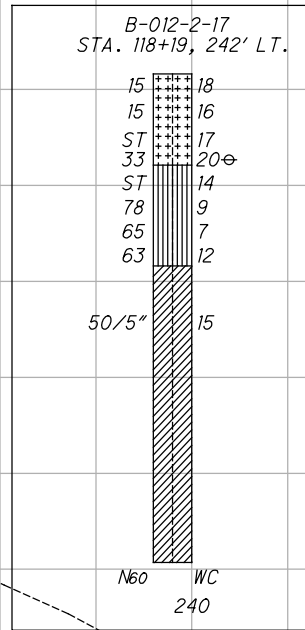
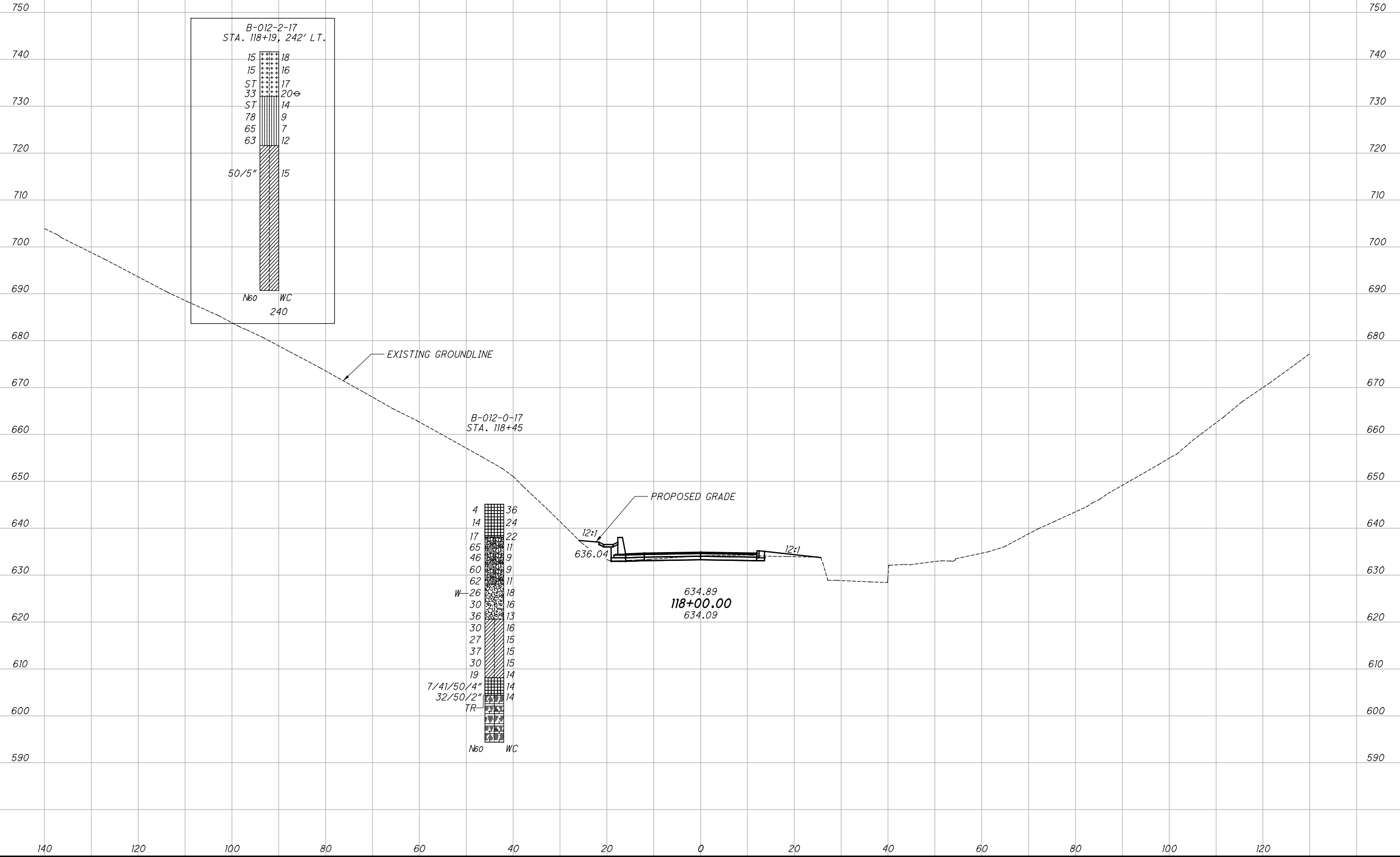
**CROSS SECTIONS
 STATIONS 115+50 & 117+00**

WAR-CR 282-0.97

23 / 32

247
 256

V:\1736\active\173620099\engineering\106724\Design\Geotechnical\Sheets\106724\X004.dgn Sheet 5 4/26/2019 1:35:15 PM M.Jennings



DRAWN MSJ
CHECKED EMK

CROSS SECTIONS
STATION 118+00

WAR-CR 282-0.97

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

LOG OF BORING

PROJECT: KING AVENUE BRIDGE TYPE: STRUCTURE PID: 106724 SFN: 8335002 START: 8/1/18 END: 8/1/18	DRILLING FIRM / OPERATOR: STANTEC / MM SAMPLING FIRM / LOGGER: STANTEC / DC DRILLING METHOD: 3.25" HSA / NQ SAMPLING METHOD: SPT / ST / NQ	DRILL RIG: CME 45#3T (815) HAMMER: CME AUTOMATIC CALIBRATION DATE: 2/5/18 ENERGY RATIO (%): 86.2	STATION / OFFSET: 105+90, 28' LT. ALIGNMENT: PROPOSED ELEVATION: 606.2 (MSL) EOB: 58.1 ft. LAT / LONG: 39.353042, -84.242277											EXPLORATION ID B-004-0-17 PAGE 1 OF 1				
			GRADATION (%)			ATTERBERG			WC		HOLE CLASS (GI)		SEAL					
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	OOT CLASS (GI)	HOLE SEAL	
BROWN, TOPSOIL MEDIUM STIFF, BROWN, SANDY SILT, TRACE GRAVEL, SOME CLAY, MOIST	1	1	6	100	SS-1	-	1	1	28	47	23	29	19	10	23	A-4a (7)		
	2	2																
	3	1	6	100	SS-2	-	1	1	28	47	23	29	19	10	20	A-4a (7)		
	4	2																
	5																	
	6																	
	7																	
	8	1	6	100	SS-3	-	-	-	-	-	-	-	-	-	-	21	A-3a (V)	
	9	3																
	10																	
VERY LOOSE TO LOOSE, BROWN, COARSE AND FINE SAND, TRACE GRAVEL, LITTLE SILT, TRACE CLAY, MOIST TO WET	11																	
	12																	
	13	1	4	100	SS-4	-	3	14	58	16	9	NP	NP	NP	10	A-3a (0)		
	14	2																
	15	1	6	100	SS-5	-	3	14	58	16	9	NP	NP	NP	21	A-3a (0)		
	16	3																
	17																	
	18	1	9	100	SS-6	-	-	-	-	-	-	-	-	-	-	23	A-3a (V)	
	19	2	4															
	20	14	36															
DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST	21	14	36	100	SS-7	-	69	16	7	6	2	NP	NP	NP	14	A-1-a (0)		
	22	11																
	23	11	36	100	SS-8	-	69	16	7	6	2	NP	NP	NP	14	A-1-a (0)		
	24	14																
	25	18																
	26	50/4"		88	SS-9	-	-	-	-	-	-	-	-	-	8	A-1-a (V)		
	27																	
	28	15	37	100	SS-10	-	-	-	-	-	-	-	-	-	11	A-1-a (V)		
	29	15																
	30	25	33	67	SS-11	-	-	-	-	-	-	-	-	-	9	A-1-a (V)		
DENSE TO VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, TRACE SILT, TRACE CLAY, BOULDERS, MOIST	31	14	33	67	SS-11	-	-	-	-	-	-	-	-	-	9	A-1-a (V)		
	32	9																
	33	11	37	87	SS-12	-	-	-	-	-	-	-	-	-	11	A-1-a (V)		
	34	15																
	35	13	42	100	SS-13	-	39	37	12	9	3	NP	NP	NP	13	A-1-b (0)		
	36	15																
	37																	
	38	26	68	100	SS-14	-	39	37	12	9	3	NP	NP	NP	13	A-1-b (0)		
	39	18																
	40	12	47	100	SS-15	-	-	-	-	-	-	-	-	-	8	A-1-b (V)		
INTERBEDDED SHALE (95%) AND LIMESTONE (5%), RQD 0%, REC. 92%. SHALE, GRAY, SLIGHTLY TO MODERATELY WEATHERED, WEAK TO SLIGHTLY STRONG, HIGHLY FRACTURED TO FRACTURED; LIMESTONE, GRAY, SLIGHTLY WEATHERED, SLIGHTLY STRONG, FRACTURED.	41	15	47	100	SS-15	-	-	-	-	-	-	-	-	-	8	A-1-b (V)		
	42																	
	43	15	73	100	SS-16	-	-	-	-	-	-	-	-	-	9	A-1-b (V)		
	44	22	29															
	45	22	56	100	SS-17	-	-	-	-	-	-	-	-	-	9	A-1-b (V)		
	46	12																
	47																	
	48	50/2"		100	SS-18	-	-	-	-	-	-	-	-	-	12	A-1-b (V)		
	49																	
	50	0		75	NQ-1												CORE	
51																		
52																		
53																		
54	0		100	NQ-2														
55																		
56																		
57	0		100	NQ-3														
58																		
ELEV. 548.1		Elev. 606.2		Elev. 605.8		Elev. 598.7		Elev. 586.2		Elev. 571.7		Elev. 558.5		Elev. 548.1		Elev. 548.1		
TR																		
Elev. 548.1		Elev. 606.2		Elev. 605.8		Elev. 598.7		Elev. 586.2		Elev. 571.7		Elev. 558.5		Elev. 548.1		Elev. 548.1		

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED C/B GROUT

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

LOG OF BORING

PROJECT: KING AVENUE BRIDGE TYPE: STRUCTURE PID: 106724 SFN: 8335002 START: 8/2/18 END: 8/17/18	DRILLING FIRM / OPERATOR: STANTEC / MM SAMPLING FIRM / LOGGER: STANTEC / DC DRILLING METHOD: 3.25" HSA / NQ SAMPLING METHOD: SPT / NQ	DRILL RIG: CME 45#RT (815) HAMMER: CME AUTOMATIC CALIBRATION DATE: 2/5/18 ENERGY RATIO (%): 86.2	STATION / OFFSET: 107+81.19' RT. ALIGNMENT: PROPOSED ELEVATION: 599.6 (MSL) EOB: 75.6 ft. LAT / LONG: 39.352514, -84.242095	GRADATION (%)											HOLE SEaled						
				GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	EXPLOSION ID							
MATERIAL DESCRIPTION AND NOTES				SPT/ROD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	EXPLOSION ID		
BROWN, TOPSOIL SOFT TO MEDIUM STIFF, BROWN, SANDY SILT, LITTLE TO SOME CLAY, WET TO MOIST -SS-2: STIFF	1	1	3	100	SS-1	-	-	-	-	-	-	-	-	-	-	-	-	25	A-4a (V)		
	2	1																			
	3	2	9	100	SS-2	-	0	2	48	34	16	19	16	3	15				A-4a (3)		
	4	4																			
	5	3	6	100	SS-3	-	-	-	-	-	-	-	-	-	-	-	-	-	11	A-4a (V)	
	6	2	2																		
	7																				
	8	2	7	100	SS-4	-	0	1	30	48	21	NP	NP	NP	15				A-4a (7)		
	9	3																			
	10	2	7	100	SS-5	-	-	-	-	-	-	-	-	-	-	-	-	-	9	A-4a (V)	
	11	2	3																		
	12																				
	13	9	36	100	SS-6	-	-	-	-	-	-	-	-	-	-	-	-	-	22	A-1-b (V)	
	14	12	13																		
	15	6	27	100	SS-7	-	-	-	-	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
	16	10	9																		
	17																				
18	12	43	100	SS-8	-	69	7	12	5	NP	NP	NP	NP	10				A-1-b (0)			
19	14	16																			
20	14	40	100	SS-9	-	-	-	-	-	-	-	-	-	-	-	-	-	8	A-1-b (V)		
21	8	20																			
22																					
23	50/1"		0	SS-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A-1-b (V)		
24	0	41	41	NQ-1															CORE		
25	0	50	50	NQ-2															CORE		
26																			CORE		
27	0	21	21	NQ-3															CORE		
28																			CORE		
29																			CORE		
30																			CORE		
31																			CORE		
32	0	5	5	NQ-4															CORE		
33																			CORE		
34																			CORE		
35																			CORE		
36																			CORE		
37																			CORE		
38																			CORE		
39	0	6	6	NQ-5															CORE		
40																			CORE		
41																			CORE		
42																			CORE		
43																			CORE		
44																			CORE		
45	0	4	4	NQ-6															CORE		
46																			CORE		
47																			CORE		
48																			CORE		
49																			CORE		
50																			CORE		
51																			CORE		
52	0	10	10	NQ-7															CORE		
53																			CORE		
54																			CORE		
55																			CORE		
56																			CORE		
57																			CORE		
58																			CORE		
59																			CORE		
60																			CORE		
61																			CORE		
62																			CORE		
MEDIUM DENSE TO DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, WET TO MOIST																					
VERY DENSE, BROWN AND GRAY, BOULDERY ZONE, ADVANCED THROUGH BOULDERS USING 4" CASING, AND NQ ROCK CORING																					

537.1 TR
BORING CONTINUED

LOG OF BORING (CONTINUED)

PROJECT: KING AVENUE BRIDGE TYPE: STRUCTURE	DRILLING FIRM / OPERATOR: STANTEC / MM	DRILL RIG: CME 45#3T (815)	STATION / OFFSET: 107+81.19' RT.	EXPLORATION ID B-005-0-17	
PID: 106724 SFN: 8335002	SAMPLING FIRM / LOGGER: STANTEC / DC	HAMMER: CME AUTOMATIC	ALIGNMENT: PROPOSED		
START: 8/2/18 END: 8/17/18	DRILLING METHOD: 3.25" HSA / NQ	CALIBRATION DATE: 2/5/18	ELEVATION: 599.6 (MSL) EOB: 75.6 ft.	PAGE 2 OF 2	
	SAMPLING METHOD: SPT / NQ	ENERGY RATIO (%): 86.2	LAT / LONG: 39.352514, -84.242095		
MATERIAL DESCRIPTION AND NOTES	ELEV. 548.1	REC SAMPLE ID	GRADATION (%)	ODOT CLASS (GI)	
INTERBEDDED SHALE (90%) AND LIMESTONE (10%), RQD 32%, REC. 94%. SHALE LIGHT GRAY, SLIGHTLY TO MODERATELY WEATHERED, WEAK TO SLIGHTLY STRONG, HIGHLY TO MODERATELY FRACTURED; LIMESTONE LIGHT GRAY, SLIGHTLY WEATHERED, SLIGHTLY STRONG, FRACTURED TO MODERATELY FRACTURED.	DEPTHS TR	N ₆₀	GR CS FS SI CL LL PL PI WC	HOLE SEALED	
	63				
	64	0	93 NQ-8		CORE
	65				
	66				
	67				
	68	46	94 NQ-9		CORE
	69				
	70				
	71				
	72				
73	28	94 NQ-10		CORE	
74					
75					
EOB	524.0				

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED C/B GROUT

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

LOG OF BORING

PROJECT: KING AVENUE BRIDGE		DRILLING FIRM / OPERATOR: STANTEC / MM		DRILL RIG: CME 45#3T (815)		STATION / OFFSET: 111+32.5' LT.		EXPLORATION ID												
TYPE: STRUCTURE		SAMPLING FIRM / LOGGER: STANTEC / DC		HAMMER: CME AUTOMATIC		ALIGNMENT: PROPOSED		B-007-0-17												
PID: 106724 SFN: 8333100		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 2/5/18		ELEVATION: 611.4 (MSL) EOB: 42.5 ft.		PAGE												
START: 8/9/18 END: 8/9/18		SAMPLING METHOD: SPT / ST		ENERGY RATIO (%): 86.2		LAT / LONG: 39.351680, -84.241467		1 OF 1												
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ROD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GRADATION (%)				ATTERBERG				HOLE CLASS (GI)	SEALED			
		611.4						GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)			
MEDIUM STIFF TO STIFF, BROWN, SANDY SILT, LITTLE GRAVEL, LITTLE CLAY, SOME COAL FRAGMENTS, DAMP	1		1	2	7	100	SS-1	-	-	-	-	-	-	-	-	-	18	A-4a (V)		
	2		2	3																
	3		3	7	14	100	SS-2	-	-	-	-	-	-	-	-	-	20	A-4a (V)		
	4		4																	
	5		5	2	10	100	SS-3	-	19	11	19	36	15	33	24	9	22	A-4a (3)		
	6		6	3																
	7		7	4																
	8		8	6	4	11	13	SS-4	-	-	-	-	-	-	-	-	-	22	A-4a (V)	
	9		9	4																
	10		10	5	8	20	27	SS-5	-	-	-	-	-	-	-	-	-	20	A-4a (V)	
	11		11	6																
	12		12																	
	13		13	1	2	7	0	SS-6	-	-	-	-	-	-	-	-	-	32	A-6a (V)	
	14		14	3																
	15		15																	
	16		16																	
	17		17																	
-SS-5: VERY STIFF	18		18	WOH	0	100	SS-7	-	0	0	8	66	26	38	23	15	35	A-6a (10)		
	19		19	WOH																
MEDIUM STIFF, GRAY, SILT AND CLAY, TRACE SAND, MOIST TO WET	20		20																	
	21		21																	
	22		22																	
	23		23	1	6	100	SS-8	-	-	-	-	-	-	-	-	-	-	42	A-6a (V)	
	24		24	3																
	25		25	9	45	73	SS-9	-	-	-	-	-	-	-	-	-	-	12	A-2-6 (V)	
	26		26	14																
	27		27	17																
	28		28																	
	29		29																	
-SS-7: VERY SOFT	30		30	5	40	100	SS-10	-	48	20	12	15	5	16	4	12	11	A-2-6 (0)		
	31		31	11																
	32		32	17																
	33		33																	
	34		34																	
	35		35	13	60	100	SS-11	-	48	20	12	15	5	16	4	12	9	A-2-6 (0)		
	36		36	28																
INTERBEDDED SHALE AND LIMESTONE (AUGERED)	37		37	14																
	38		38																	
	39		39																	
	40		40	22	79	100	SS-12	-	-	-	-	-	-	-	-	-	-	7	Rock (V)	
	41		41	30																
42		42	25																	
			30/2'			100	SS-13	-	-	-	-	-	-	-	-	-	-	8	Rock (V)	
			EOB																	
			568.9																	
			573.4																	
			599.9																	

NOTES: AUGER REFUSAL AT 42.5'.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED C/B GROUT

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

LOG OF BORING

PROJECT: KING AVENUE BRIDGE		DRILLING FIRM / OPERATOR: STANTEC / MM		DRILL RIG: CME 45#3T (815)		STATION / OFFSET: 111+63.56' L.T.										EXPLORATION ID						
TYPE: STRUCTURE		SAMPLING FIRM / LOGGER: STANTEC / DC		HAMMER: CME AUTOMATIC		ALIGNMENT: PROPOSED										B-007-1-17						
PID: 106724 SFN:		DRILLING METHOD: 3.25" HSA / NQ		CALIBRATION DATE: 2/5/18		ELEVATION: 611.2 (MSL) EOB: 45.8 ft.										PAGE						
START: 8/13/18 END: 8/13/18		SAMPLING METHOD: SPT / ST / NQ		ENERGY RATIO (%): 86.2		LAT / LONG: 39.351665, -84.241255										1 OF 1						
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED			
LOOSE TO MEDIUM DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET	611.2	1	5	10	23	100	SS-1	-	-	-	-	-	-	-	-	-	-	-	-	A-1-b (V)		
		2	6																			
		3	5	5	16	100	SS-2	-	58	13	13	12	4	NP	NP	NP	11			A-1-b (0)		
		4	6																			
		5	5	3	10	47	SS-3	-										24			A-1-b (V)	
		6	4																			
		7																				
		8	2	3	11	73	SS-4	-										22			A-1-b (V)	
		9	5																			
		10																				
		11																				
		12																				
		13	598.3	1	1	3	100	SS-5	-									33			A-4a (V)	
		14		1																		
	SOFT TO MEDIUM STIFF, GRAY, SANDY SILT, SOME CLAY, WET		15																			
			16																			
			17																			
			18		1	4	100	SS-6	-	0	1	37	41	21	31	25	6	42				A-4a (5)
		19		2																		
		20		1																		
		21		1	6	100	SS-7	-									43				A-4a (V)	
		22		3																		
		23		1	6	100	SS-8	-										44				A-4a (V)
		24		2																		
MEDIUM DENSE TO DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, DAMP TO MOIST	586.7	25	2	5	20	100	SS-9	-									14				A-1-b (V)	
		26	9																			
		27																				
		28																				
		29																				
		30		5	33	67	SS-10	-	59	15	9	15	2	NP	NP	NP	12				A-1-b (0)	
		31		9																		
		32		14																		
		33																				
		34																				
SHALE, GRAY, HIGHLY WEATHERED, WEAK, HIGHLY FRACTURED TO FRACTURED; RQD 0%, REC 100%.	575.5	35	38			100	SS-11	-	59	15	9	15	2	NP	NP	NP	9				A-1-b (0)	
		36	50/2"																			
		37																				
		38																				
SHALE, GRAY, SLIGHTLY TO MODERATELY WEATHERED, WEAK TO SLIGHTLY STRONG, MODERATELY FRACTURED TO FRACTURED; RQD 53%, REC 83%. -LIMESTONE FROM 40.8'-41.5'	571.2	39	0			100	NQ-1														CORE	
		40																				
		41																				
		42																				
		43																				
		44																				
		45		62		80	NQ-2															CORE
565.4																					EOB	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED C/B GROUT

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

LOG OF BORING

PROJECT: KING AVENUE BRIDGE TYPE: CULVERT REPLACEMENT		DRILLING FIRM / OPERATOR: STANTEC / MM SAMPLING FIRM / LOGGER: STANTEC / DC		DRILL RIG: CME 45#3T (815)		STATION / OFFSET: 117+87, 28' RT.		EXPLORATION ID																	
PID: 106724 SFN: 7/31/18		DRILLING METHOD: 3.25" HSA / NQ		HAMMER: CME AUTOMATIC		ALIGNMENT: PROPOSED		B-013-0-17																	
START: 7/31/18 END: 7/31/18		SAMPLING METHOD: SPT / ST / NQ		CALIBRATION DATE: 2/5/18		ELEVATION: 631.6 (MSL) EOB: 31.0 ft.		PAGE																	
				ENERGY RATIO (%): 86.2		LAT / LONG: 39.349967, -84.240874		1 OF 1																	
MATERIAL DESCRIPTION AND NOTES																									
		ELEV.		SPT/ROD		REC SAMPLE		GRADATION (%)		ODOT CLASS (g)		HOLE SEALED													
		631.6		N ₆₀		ID		GR		CS		FS		SI		CL		LL		PL		PI		WC	
BROWN, TOPSOIL		631.1		5		SS-1		45		14		16		14		11		31		21		10		16	
LOOSE TO MEDIUM DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, DAMP				4																					
				2		SS-2		45		14		16		14		11		31		21		10		17	
				2																					
				3		SS-3																			
				6																					
				7																					
		623.7		4		SS-4																			
VERY STIFF, GRAY, SILT AND CLAY, LITTLE GRAVEL, SOME SAND, DAMP				12																					
				2																					
				4																					
				6																					
				8																					
				10																					
				12																					
				14																					
				16																					
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				34																					

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BENTONITE PELLETS

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

LOG OF BORING

PROJECT: KING AVENUE BRIDGE TYPE: CULVERT REPLACEMENT		DRILLING FIRM / OPERATOR: STANTEC / MM SAMPLING FIRM / LOGGER: STANTEC / DC		DRILL RIG: CME 45#3T (815) HAMMER: CME AUTOMATIC		STATION / OFFSET: 119+18, 22' LT.		EXPLORATION ID B-013-1-17																			
PID: 106724 SFN:		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 2/5/18		ALIGNMENT: PROPOSED		ELEVATION: 641.8 (MSL) EOB: 40.8 ft.																			
START: 7/30/18 END: 7/30/18		SAMPLING METHOD: SPT		ENERGY RATIO (%): 86.2		LAT / LONG: 39.349685, -84.240393		PAGE 1 OF 1																			
MATERIAL DESCRIPTION AND NOTES				GRADATION (%)				ATTERBERG		HOLE																	
				CS FS SI CL LL PI WC						ODOT CLASS (GI) SEALED																	
ELEV.				SPT/ RQD		REC SAMPLE N ₆₀ (%) ID		GR		HP (tsf)																	
DEPTHS																											
BROWN, TOPSOIL MEDIUM DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, SILT, AND CLAY, DAMP				641.8		5		37		15		12		15		A-2-6 (0)											
				641.4		5		14		80		SS-1															
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, DAMP TO MOIST -SS-3: MEDIUM DENSE				637.3		4		17		73		SS-2		15		12		A-2-6 (0)									
				637.3		7		30		93																	
-BOULDER FROM 8.4'-9.2'						8		100		SS-4								A-1-b (V)									
						9																					
-BOULDER FROM 11.3'-11.8'						10		100		SS-5		13		5		NP		NP		A-1-b (0)							
						11		76		100		SS-6		16		9		NP		NP		A-1-b (0)					
DENSE TO VERY DENSE, BROWN, COARSE AND FINE SAND, LITTLE GRAVEL, SOME SILT, TRACE CLAY, DAMP TO MOIST -SS-8: MEDIUM DENSE				624.3		12		26		80		SS-8								A-3a (V)							
						13		34		100		SS-9		25		21		7		NP		NP		A-3a (0)			
-BOULDER FROM 28.3'-28.7'						14		55		100		SS-7								A-1-b (V)							
						15		26		80		SS-8										A-3a (V)					
-BOULDER FROM 32.5'-32.9'						16		89		100		SS-11								A-3a (V)							
						17		34		100		SS-9		29		21		7		NP		NP		A-3a (0)			
-BOULDER FROM 35.9'-36.4'						18		26		80		SS-8								A-3a (V)							
						19		37		100		SS-10		29		21		7		NP		NP		A-3a (0)			
-BOULDER FROM 38.0'-39.0'						20		34		100		SS-9		18		25		21		7		NP		NP		A-3a (0)	
						21		14		34		100		SS-9		18		25		21		7		NP		NP	
-BOULDER FROM 28.3'-28.7'						22		37		100		SS-10		18		29		21		7		NP		NP		A-3a (0)	
						23		11		37		100		SS-10		18		29		21		7		NP		NP	
-BOULDER FROM 32.5'-32.9'						24		89		100		SS-11										A-3a (V)					
						25		28		89		100		SS-11										A-3a (V)			
-BOULDER FROM 35.9'-36.4'						26		34		100		SS-11										A-3a (V)					
						27		13		34		100		SS-11										A-3a (V)			
-BOULDER FROM 38.0'-39.0'						28		50/4"		100		SS-12										A-3a (V)					
						29		50/4"		50/4"		100		SS-12										A-3a (V)			
-BOULDER FROM 32.5'-32.9'						30		52		100		SS-13										A-3a (V)					
						31		14		52		100		SS-13										A-3a (V)			
-BOULDER FROM 35.9'-36.4'						32		22		100		SS-13										A-3a (V)					
						33		50/2"		22		100		SS-13										A-3a (V)			
-BOULDER FROM 38.0'-39.0'						34		50/2"		100		SS-14										A-3a (V)					
						35		23		50/5"		100		SS-15										A-3a (V)			
-BOULDER FROM 38.0'-39.0'						36		50/5"		100		SS-15										A-3a (V)					
						37		50/5"		50/5"		100		SS-16										A-3a (V)			
-BOULDER FROM 38.0'-39.0'						38		50/5"		100		SS-16										A-3a (V)					
						39		50/5"		50/5"		100		SS-16										A-3a (V)			
-BOULDER FROM 38.0'-39.0'						40		18		88		SS-17										A-3a (V)					
						40		18		50/4"		88		SS-17										A-3a (V)			
EOB				601.0																							

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

BID/CONTRACT DOCUMENTS

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE
MIAMI RIVER IMPROVEMENTS PROJCT
(WAR-CR 282-0.97)**

DBE GOAL 10%

**ON BEHALF OF
NEIL F. TUNISON
WARREN COUNTY ENGINEER**

**WARREN COUNTY BOARD OF COMMISSIONERS
406 JUSTICE DRIVE
LEBANON, OHIO 45036
(513) 695-1250**

PROPOSAL PRICE (BID) SHEET

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
	ROADWAY				
201	Clearing and Grubbing, As Per Proposal Note	1	Lump		
202	Structure Removed	1	Lump		
202	Portions of Structure Removed	1	Lump		
202	Pavement Removed, As Per Proposal Note	865	SY		
202	Walk Removed	332	SF		
202	Steps Removed	1	Lump		
202	Concrete Barrier Removed	114	FT		
202	Curb Removed	92	FT		
202	Pipe Removed, 24" and Under	307	FT		
202	Pipe Removed, Over 24"	160	FT		
202	Guardrail Removed	1,793.75	FT		
202	Manhole Removed	1	Each		
202	Catch Basin Removed	4	Each		
203	Excavation Including Pavement Removal, As Per Proposal Note	15,572	CY		
203	Excavation, As Per Plan	732	CY		
203	Embankment	38,898	CY		
203	Embankment, As Per Plan	14,376	CY		
204	Subgrade Compaction	10,890	SY		
204	Proof Rolling	1	Hour		
206	Cement	53	Ton		
206	Curing Coat	1,507	SY		
206	Cement Stablized Subgrade, 14 Inches Deep	1,507	SY		
Special	Undercutting Subgrade, As Per Proposal Note	1,000	CY		
Special	Granular Repair of Subgrade, As Per Proposal Note	1,000	CY		
606	Guardrail, Type MGS	262.5	FT		
606	Guardrail, Type MGS with Long Posts	925	FT		
606	Guardrail, Barrier Design, Type MGS, As Per Plan	12.5	FT		
606	Guardrail, Type MGS, 25' Long-Span	50	FT		
606	Anchor Assembly, MGS Type E	2	Each		
606	Anchor Assembly, MGS Type T	4	Each		
606	Bridge Terminal Assembly, MGS Type 1	3	Each		
606	Bridge Terminal Assembly, MGS Type 1, Barrier Design, As Per Plan	1	Each		
607	Fence, Snow	1,300	FT		
607	Fence, Misc.: Wood Fence	449	FT		
607	Fence, Misc.: Barricade Gate, As Per Plan	1	Each		
609	Curb, Type 4-C	74	FT		
609	Curb, Type 6	3,199	FT		
609	Combination Curb and Gutter, Type 9	251	FT		
609	4" Concrete Traffic Island	303	SY		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
622	Concrete Barrier, Single Slope, Type D	1,059	FT		
622	Concrete Barrier End Section, Type D	2	Each		
622	Concrete Barrier End Anchorage, Reinforced, Type D	5	Each		
623	Reference Monument	14	Each		
Special	Spill Prevention Control and Countermeasures Plan, As Per Plan	1	Lump		
878	Inspection and Compaction Testing of Unbound Material	1	Lump		
				Sub-Total =	
	EROSION CONTROL				
601	Tied Concrete Block Mat, With Type 1 Underlayment	109	SY		
601	Seeding and Erosion Control With Turf Reinforcing Mat, Type 3 & Percussion Driven Earth Anchors	432	SY		
601	Rock Channel Protection, Type B with Filter	470	CY		
601	Rock Channel Protection, Type C with Filter	52	CY		
601	Paved Gutter, Type 1-2	1,026	SY		
601	Bioretention Cell, As Per Plan	778	CY		
659	Soils Analysis Test	2	Each		
659	Topsoil	2,729	CY		
659	Topsoil, As Per Plan	41	CY		
659	Seeding and Mulching, As Per Plan	25,132	SY		
659	Commercial Fertilizer	3.32	Ton		
659	Lime	5.08	Acre		
659	Water	133	M Gal		
670	Slope Erosion Protection	911	SY		
670	Ditch Erosion Protection	59	SY		
671	Erosion Control Mat	549	SY		
832	Storm Water Pollution Prevention Plan, As Per Proposal Note	1	Lump		
832	Storm Water Pollution Prevention Inspections	1	Lump		
832	Storm Water Pollution Prevention Inspection Software	1	Lump		
832	Erosion Control, As Per Proposal Note	65,000	Each	\$ 1.00	\$ 65,000.00
836	Seeding and Erosion Control With Turf Reinforcing Mat, Type 1	331	SY		
				Sub-Total =	
	ENVIRONMENTAL				
Special	Site Specific Health and Safety Plan (SSHSP), As Per Plan	1	Lump		
Special	Work Involving Non-Regulated Materials	1,500	Ton		
Special	Work Involving Hazardous Waste	250	Ton		
Special	Work Involving Solid Waste	250	Ton		
Special	Work Involving Non-Regulated Water	1,000	Gal		
Special	Work Involving Regulated Water	1,000	Gal		
				Sub-Total =	

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
	DRAINAGE				
602	Concrete Masonry	5.1	CY		
605	4" Unclassified Pipe Underdrains, As Per Plan	257	FT		
605	6" Shallow Pipe Underdrains	2,918	FT		
605	6" Unclassified Pipe Underdrains	30	FT		
611	4" Conduit, Type B, As Per Plan	75	FT		
611	6" Conduit, Type F for Underdrain Outlets	156	FT		
611	12" Conduit, Type B	486	FT		
611	12" Conduit, Type C	13	FT		
611	15" Conduit, Type B	158	FT		
611	15" Conduit, Type C	265	FT		
611	15" Conduit, Type D	232	FT		
611	18" Conduit, Type B	25	FT		
611	24" Conduit, Type A, 706.02, 707.01 (Aluminized), 707.04, 707.33, 707.34, 707.35	71	FT		
611	24" Conduit, Type B	131	FT		
611	24" Conduit, Type C	143	FT		
611	30" Conduit, Type C	29	FT		
611	36" Conduit, Type A, 706.02, 707.01 (Aluminized), 707.04, 707.33, 707.34, 707.35	118	FT		
611	24" x 38" Conduit, Type D, 706.04	58	FT		
611	Catch Basin, No. 2-2B	10	Each		
611	Catch Basin, No. 2-5	2	Each		
611	Catch Basin, No. 3	8	Each		
611	Catch Basin, No. 3A	6	Each		
611	Catch Basin, No. 8	1	Each		
				Sub-Total =	
	PAVEMENT				
254	Pavement Planing, Asphalt Concrete, As Per Proposal Note	345	SY		
301	Asphalt Concrete Base, PG 64-22	1,496	CY		
301	Asphalt Concrete Base, PG 64-22 (Driveways)	25	CY		
304	Aggregate Base	2,296	CY		
407	Non-Tracking Tack Coat	1,234	Gal		
441	Asphalt Concrete Surface Course, Type 1, (448), PG 64-22	323	CY		
441	Asphalt Concrete Intermediate Course, Type 1, (448) PG 64-22	372	CY		
441	Asphalt Concrete Surface Course, Type 1, (448), PG 64-22 (Driveways)	6	CY		
441	Asphalt Concrete Intermediate Course, Type 1, (448) PG 64-22, (Under Guardrail), As Per Plan	1	CY		
452	8" Non-Reinforced Concrete Pavement, Class QC 1P	450	SY		
452	12" Non-Reinforced Concrete Pavement, Class QC 1P	374	SY		
823	Asphalt Concrete Surface Course, Type 1, (448)	89	CY		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
823	Asphalt Concrete Intermediate Course, Type 1, (448)	104	CY		
				Sub-Total =	
	WATER WORK (CITY OF MASON RAW WATER MAIN)				
202	Abandon Misc: Existing 8" Water Main	458	FT		
638	8" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	824	FT		
				Sub-Total =	
	WATER WORK (WARREN COUNTY TEMPORARY WATER MAIN)				
202	Abandon Misc: Existing 10" Water Main	134	FT		
638	10" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	287	FT		
638	10" Gate Valve and Valve Box	2	EACH		
				Sub-Total =	
	WATER WORK (WARREN COUNTY RAW WATER MAIN)				
Special	Fill and Plug Existing 24" Conduit	830	FT		
202	Abandon Existing 24" Valve and Valve Box	1	Each		
638	Water Work, Misc.: 24" Water Main Ductile Iron Pipe ANSI Pressure Class 350, Mechanical Joints and Fittings	756	FT		
638	4" Butterfly Valve and Valve Box	2	Each		
638	24" Butterfly Valve and Valve Box	1	Each		
				Sub-Total =	
	WATER WORK (WARREN COUNTY WATER MAIN)				
202	Abandon Misc.: Existing 10" Water Main	2,233	FT		
638	6" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	14	FT		
638	8" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	18	FT		
638	10" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	15	FT		
638	12" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings	23	FT		
638	Water Work Misc.: 24" Water Main Ductile Iron Pipe ANSI Pressure Class 350, Mechanical Joints and Fittings	1,876	FT		
638	Water Work Misc.: 24" Water Main Ductile Iron Pipe ANSI Pressure Class 350, Push on Joints and Fittings	520	FT		
638	Water Work Misc.: 30" Spiral Insulated Aluminum Jacket	520	FT		
638	Water Work Misc.: Abutment Connection	2	Each		
638	Water Work, Misc.: EBAA XTEND Expansion Joint	2	Each		
638	Water Work Misc.: Pipe Hanger	58	Each		
638	6" Gate Valve and Valve Box	1	Each		
638	10" Gate Valve and Valve Box	1	Each		
638	12" Gate Valve and Valve Box	1	Each		
638	24" Gate Valve and Valve Box	4	Each		
638	6" Fire Hydrant	1	FT		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
638	Fire Hydrant Removed	1	Each		
				Sub-Total =	
	SANITARY SEWER (WARREN COUNTY)				
202	Removal Misc.: Existing Lift Station and Valve Vault	1	Lump		
202	Abandon Misc.: Existing 12" Sewer or Less, As Per Plan	40	FT		
638	8" Conduit, Type B, 748.01 Class 53	585	FT		
611	8" Conduit, Type B, SDR 26, As Per Plan	1,000	FT		
611	Manhole Reconstructed to Grade	2	Each		
611	Manhole, Misc.: Warren Co. Type S-1	5	Each		
611	Manhole, Misc.: Warren Co. Type S-1 Modified	1	Each		
611	Manhole, Misc.: Warren Co. Type S-2	3	Each		
638	Water Work, Misc.: 12.7" Spiral Insulated Aluminum Jacket	520	FT		
638	Water Work, Misc.: Sewer Abutment Connection	2	Each		
638	Water Work, Misc.: EBAA XTEND Expansion Joint	2	Each		
638	Water Work, Misc.: Pipe Hanger	58	Each		
				Sub-Total =	
	LIGHTING				
625	Conduit, 2", 725.04	726	FT		
625	Conduit, 4", 725.04	235	FT		
625	Trench	726	FT		
625	Junction Box	4	Each		
625	Pull Box, 725.08, 18" (Installation Only)	6	Each		
625	Pull Box, 725.08, 32" (Installation Only)	4	Each		
625	Light Pole Removed	2	Each		
625	Lighting, Misc.: Temporary Light, As Per Proposal Note	1	Each		
				Sub-Total =	
	TRAFFIC CONTROL				
621	RPM	62	Each		
626	Barrier Reflector, Type 1 (Bi-Directional)	14	Each		
626	Barrier Reflector, Type 3 (Bi-Directional)	22	Each		
630	Ground Mounted Support, No. 3 Post	527.4	FT		
630	Sign Post Reflector	24	Each		
630	Sign Support Assembly, Pole Mounted	2	Each		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
630	Sign Support Assembly, Bridge Mounted, Type 1	3	Each		
630	Sign Support Assembly, Bridge Mounted, Type 2	2	Each		
630	Sign Support Assembly, Barrier Mounted	3	Each		
630	Sign, Flat Sheet	207	SF		
630	Removal of Ground Mounted Sign and Disposal	65	Each		
630	Removal of Ground Mounted Sign and Reerection	1	Each		
630	Removal of Ground Mounted Post Support and Disposal	56	Each		
630	Removal of Ground Mounted Post Support and Reerection	1	Each		
630	Removal of Private Advertising Sign and Delivery, As Per Proposal Note	1	Lump		
630	Removal of Private Advertising Sign Foundation, As Per Proposal Note	1	Lump		
644	Edge Line, 4"	0.97	Mile		
644	Center Line	0.47	Mile		
644	Stop Line	13	FT		
644	Transverse/Diagonal Line	137	FT		
644	Parking Lot Stall Marking	540	FT		
644	Lane Arrow	4	Each		
644	Word on Pavment, 96"	4	Each		
644	Dotted Line, 8"	119	FT		
644	Handicap Symbol Marking	2	Each		
644	Yield Line	56	FT		
646	Edge Line, 4"	0.34	Mile		
646	Center Line	0.12	Mile		
646	Transverse/Diagonal Line	20	FT		
646	Word on Pavment, 96"	1	Each		
646	Dotted Line, 8"	32	FT		
646	Yield Line	16	FT		
				Sub-Total =	
	LANDSCAPING				
661	Evergreen Shrub, 18" Height, Broadmoor Juniper	85	Each		
661	Deciduous Tree, 1" Caliper	250	Each		
				Sub-Total =	
	RETAINING WALL				
202	Portions of Structure Removed, As Per Plan	1	Lump		
505	Pile Driving Equipment Mobilization	1	Lump		
507	Steel Piles, Misc.: Soldier Piles HP14x102, As Per Plan	428	FT		
518	Porous Backfill with Geotextile Fabric	42	CY		
Special	Structures: Precast Concrete Panels, As Per Plan	54	Each		
				Sub-Total =	

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
	BUILDING DEMOLITION				
202	Building Demolished, Building 19	1	Each		
202	Building Demolished, Building R21	1	Each		
202	Building Demolished, Building R22	1	Each		
202	Building Demolished, Building 29	1	Each		
202	Building Demolished, Building 53, As Per Plan	1	Each		
				Sub-Total =	
	BOX CULVERT (GRANDIN ROAD)				
202	Structure Removed	1	Lump		
503	Cofferdams and Excavation Bracing	1	Lump		
503	Unclassified Excavation	1	Lump		
509	Epoxy Coated Reinforcing Steel	4,312	Pound		
511	Class QC1 Concrete, Retaining/Wingwall Not Including Footing	12	CY		
511	Class QC 1 Concrete, Footing	25	CY		
511	Class QC 1 Concrete, Headwall, As Per Plan	2	CY		
512	Sealing of Concrete Surfaces (Epoxy-Urethane), As Per Proposal Note	66	SY		
512	Type 2 Waterproofing	250	SY		
516	1" Preformed Expansion Joint Filler	29	SF		
518	Porous Backfill with Geotextile Fabric	1	Lump		
518	Riprap, Type D	32	SY		
611	8' x 4' Conduit, Type A, 706.05, As Per Plan	100	FT		
				Sub-Total =	
	BRIDGE (WAR 282-0.89)				
202	Structure Removed, Over 20 Foot Span (Ex. King Avenue Bridge Over LMR), As Per Proposal Note	1	Lump		
Special	Wick Drain, As Per Plan	24,057	FT		
203	Granular Embankment, As Per Plan	4,900	CY		
Special	Settlement Platform, As Per Plan	4	Each		
503	Cofferdams and Excavating Bracing	1	Lump		
503	Cofferdams and Excavating Bracing, As Per Plan	1	Lump		
503	Unclassified Excavation, As Per Plan	1	Lump		
505	Pile Driving Equipment Mobilization	1	Lump		
507	Steel Piles HP 10x42, Furnished	3,800	FT		
507	Steel Piles HP 10x42, Driven	3,480	FT		
507	Steel Points or Shoes, As Per Plan	40	Each		
509	Epoxy Coated Reinforcing Steel	297,785	Pound		
509	No. 4 GFRP Deformed Bars	15,793	FT		
511	Class QC1 Concrete with QC/QA, Pier Above Footing	171	CY		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
511	Class QC1 Concrete QC/QA, Abutment not Including Footing	187	CY		
511	Class QC1 Concrete with QC/QA, Footing	326	CY		
511	Class QC3 Concrete, Misc.: Concrete with QC/QA, Superstructure, As Per Plan	963	CY		
512	Sealing of Concrete Surfaces (Epoxy Urethane), As Per Proposal Note	2,041	SY		
512	Treating of Concrete Bridge Deck with SRS, Including Approach Slabs, As Per Proposal Note	2,737	SY		
513	Structural Steel Members, Hybrid Girder, Level Six (6) Fabrication, As Per Plan	2,172,800	Pound		
513	Welded Stud Shear Connectors	3,990	Each		
516	Structural Expansion Joint Including Elastomeric Strip Seal	98	FT		
516	Elastomeric Bearing with Internal Laminates and Load Plate (Neoprene) 13" x 27" x 3.948"	5	Each		
516	Elastomeric Bearing with Internal Laminates and Load Plate (Neoprene) 18" x 27" x 4.848"	5	Each		
517	Railing (Concrete Parapet With Twin Steel Tube Railing), As Per Plan	517	FT		
518	Porous Backfill with Geotextile Fabric	168	CY		
518	6" Perforated Corrugated Plastic Pipe	164	FT		
518	6" Non-Perforated Corrugated Plastic Pipe, Including Specials	50	FT		
524	Drilled Shafts, 42" Diameter, Above Bedrock	1,226	FT		
524	Drilled Shafts, 42" Diameter, Into Bedrock	149	FT		
526	Reinforced Concrete Approach Slabs with QC/QA (T=17"), As Per Plan and As Per Proposal Note	236	SY		
526	Type A Installation	80	FT		
845	Field Metallizing of Existing Structural Steel, As Per Plan	78,023	SF		
867	Temporary Wire Faced Mechanically Stabilized Earth Wall, As Per Plan	1	Lump		
869	High Load Multi-Rotational (HLMR) Bearings	5	Each		
				Sub-Total =	
	BRIDGE (WAR 150-0.01)				
503	Cofferdams and Excavation Bracing	1	Lump		
503	Unclassified Excavation	1	Lump		
504	Steel Sheet Piling Left In Place (Min. Section Modulus = 18.1), As Per Plan	905	SF		
505	Pile Driving Equipment Mobilization	1	Lump		
507	Steel Piles HP10x42, Furnished	2,830	FT		
507	Steel Piles HP10x42, Driven	2,500	FT		
509	Epoxy Coated Reinforcing Steel	22,194	Pound		
511	Class QC1 Concrete With QC/QA, Retaining/Wingwall Not Including Footing	110	CY		
511	Class QC1 Concrete With QC/QA, Footing	192	CY		
512	Sealing of Concrete Surfaces (Epoxy-Urethane), As Per Proposal Note	425	SY		
512	Type 2 Waterproofing	399	SY		
516	1" Prefomed Expansion Joint Filler	120	SF		
517	Railing Post, As Per Plan	4	Each		
518	Porous Backfill With Geotextile Fabric	105	CY		
518	6" Perforated Corrugated Plastic Pipe	209	FT		
518	6" Non-Perforated Corrugated Plastic Pipe, Including Specials, As Per Plan	74	FT		

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
 BID PROPOSAL**

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
611	Conduit, Type A, Precast Reinforced Concrete Arch Sections (32'x12'), As Per Proposal Note	60	FT		
				Sub-Total =	
	MAINTENANCE OF TRAFFIC				
410	Traffic Compacted Surface, Type A	150	CY		
502	Structure for Maintaining Traffic, As Per Plan	1	Lump		
503	Cofferdams and Excavation Bracing	1	Lump		
614	Work Zone Impact Attenuator, 24" Wide Hazards, (Uni-Directional)	1	Each		
614	Work Zone Impact Attenuator, 24" Wide Hazards, (Bi-Directional)	2	Each		
614	Asphalt Concrete for Maintaining Traffic	50	CY		
614	Barrier Reflector, Type 1, (One Way)	6	Each		
614	Barrier Reflector, Type 1, (Bi-Directional)	10	Each		
614	Object Marker, (Two Way)	16	Each		
614	Portable Changeable Message Sign, As Per Plan	1	SNMT		
614	Work Zone Center Line, Class I	0.13	Mile		
614	Work Zone Edge Line, Class I, 4"	0.80	Mile		
614	Work Zone Dotted Line, Class I	185	FT		
614	Work Zone Transverse/Diagonal Line, Class I	18	FT		
614	Work Zone Center Line, Class III, 642 Paint	0.09	Mile		
614	Work Zone Edge Line, Class III, 4", 642 Paint	0.08	Mile		
614	Work Zone Stop Line, Class I	48	FT		
614	Work Zone Arrow, Class I, 642 Paint	2	Each		
614	Work Zone Crosswalk Line, Class I, 24"	45	FT		
614	Busines Entrance Sign, As Per Plan	1	Each		
614	Work Zone Pavement Marking, Misc.: Work Zone Yeild Line, Type 1, 642 Paint	48	FT		
615	Pavement for Maintaining Traffic, Class B	845	SY		
616	Water	173	M Gal		
622	Portable Barrier 32", Unanchored	975	FT		
				Sub-Total =	
	MISCELLANEOUS				
108	CPM Progress Schedule, As Per Proposal Note	1	Lump		
614	Maintaining Traffic, As Per Proposal Note	1	Lump		
619	Field Office, Type C	24	MNTH		
623	Construction Layout Stakes and Surveying, As Per Proposal Note	1	Lump		
624	Mobilization	1	Lump		
Special	Contingency, As Per Proposal Note	350,000	Each	\$ 1.00	\$ 350,000.00
				Sub-Total =	
				Total Bid Price =	

BID PROPOSAL

Proposal for the King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project. This work consists of replacing the existing bridge and completing the related roadway items along King Avenue and Grandin Road. The project shall be as per plans and specifications as provided by the Warren County Engineer.

The undersigned do hereby propose to furnish all labor, materials, tools, equipment, etc., necessary to construct this project for the Warren County Engineer's Office. The above quotations to be in full force and effect for sixty (60) days after the date of opening bids. The full name and address of all persons and parties interested in the foregoing bids as principals are as follows:

TOTAL BID PRICE \$ _____

The contract will be awarded to the best and most responsive bid based on the qualifications of the Contractor and the total price of the Total Bid Price.

SIGNED

PRESIDENT

COMPANY

SECRETARY

BY

TITLE

DATE

ADDRESS

EXCEPTION SHEET

Exceptions: Exceptions to any bid specification must be clearly stated on this sheet. This sheet must be submitted with each bid. If there are no exceptions, please indicate "none" below.

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

8) _____

9) _____

10) _____

BIDDER IDENTIFICATION

ATTENTION BIDDER:

Please fill out this form and submit with your bid.

COMPANY NAME:

CHIEF EXECUTIVE OFFICER:

ADDRESS:

PHONE NUMBER:

FAX NUMBER:

PROJECT CONTACT PERSON:

PHONE NUMBER:

E-MAIL ADDRESS:

FEDERAL ID #:

WEBSITE ADDRESS:

TABLE OF CONTENTS

- Proposal Price (Bid) Sheet
- Exception Sheet
- Bidder Identification
- A) Invitation to Bidders
 - Directions to Warren County Administration Building
- B) General Instructions to Bidders
- C) Noncollusion Affidavit
- D) Bid Guaranty & Contract Bond
- E) Performance Bond
- F) Contract
- G) Bond & Insurance Requirements
- H) Experience Statement
- I) Affidavit of Non-Delinquency of Real and/or Personal Property Tax
- J) Non-Discrimination and Equal Employment Opportunity Requirements and Affidavit
- K) Findings for Recovery Affidavit
- L) Federal Davis-Bacon Wage
- M) Special Provisions/Technical Specifications

SECTION A

INVITATION TO BIDDERS

INVITATION TO BIDDERS

Sealed bids will be received by the Clerk of the County Commissioners, Warren County, Ohio, 406 Justice Drive, Lebanon, Ohio 45036, until 9:30 a.m., January 25, 2022, and then at said time bids will be opened and read aloud for the King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project (WAR-CR 282-0.97).

Bid documents and specifications are available online at the Warren County's Website at <https://www.co.warren.oh.us/commissioners/Bids/Default.aspx>. Questions regarding the technical specifications should be directed to Roy Henson, Bridge Engineer, at the Warren County Engineer's Office, at (513) 695-3310. **Only ODOT prequalified contractors are eligible to submit bids for this Project.** Pre-qualification status must be in force **at the time of bid, at the time of award, and through the life of the construction contract.** For work types that ODOT does not pre-qualify, the LPA must still select a qualified contractor. Subcontractors are not subject to the pre-qualification requirement. The "prime" contractor must perform no less than 30 percent of the total original contract price. Each bid shall contain the full name of each person or company submitting the bid and be accompanied by a bid bond for the full amount of the bid or a certified check in the amount equal to ten (10) percent of the bid.

A Bid guaranty, as required by Ohio Revised Code, Section 153.54, shall accompany each proposal submitted, as follows:

1. A Certified check, cashiers check, or letter of credit equal to ten (10) percent of the bid. A letter of credit may only be revocable by the Owner. Upon entering into a contract with the Owner, the contractor must file a performance bond for the amount of the contract, and the bid guaranty will then be returned to the successful and unsuccessful bidders upon contract execution.

OR

2. A form of bid guaranty bond (attached) for the full amount of the bid. Such bond is retained for the successful bidder but returned to unsuccessful bidders after the contract is executed.

Contact the Warren County Commissioner's Office at (513) 695-1250 should you need assistance in accessing the bidding information on the County's website. All contract addenda will be posted to the website prior to the bid opening. Bidders should check the website regularly to stay updated on any changes to the project.

Please be aware that if you are downloading this document to bid this project, and in order to stay updated on any change, please email Krystal Powell in the Commissioners' Office at krystal.powell@co.warren.oh.us with your contact information.

Bidders must comply with the Davis-Bacon Act for prevailing wage requirements for Federally funded projects.

All contractors and subcontractors involved with the project will, to the extent practicable, use Ohio products, materials, services, and labor in the implementation of their project. Additionally, contractors must comply with the Equal Employment Opportunity Requirements of Ohio Administrative Code Chapter 123.

Attention of bidders is called to all of the requirements contained in the bid packet. No bidder may withdraw his/her bid within sixty (60) days after the actual date of the opening thereof. All bids shall be properly signed by an authorized representative of the bidder.

All bids shall be sealed and plainly marked "**Bid Opening – King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project (WAR-CR 282-0.97).**"

Warren County reserves the right to reject any or all bids submitted, to waive any irregularities in bids, and enter into a contract with the Bidder who in Warren County's consideration offered the lowest and best bid.

By order of the Board of County Commissioner, County of Warren, State of Ohio.



Tina Osborne, Clerk

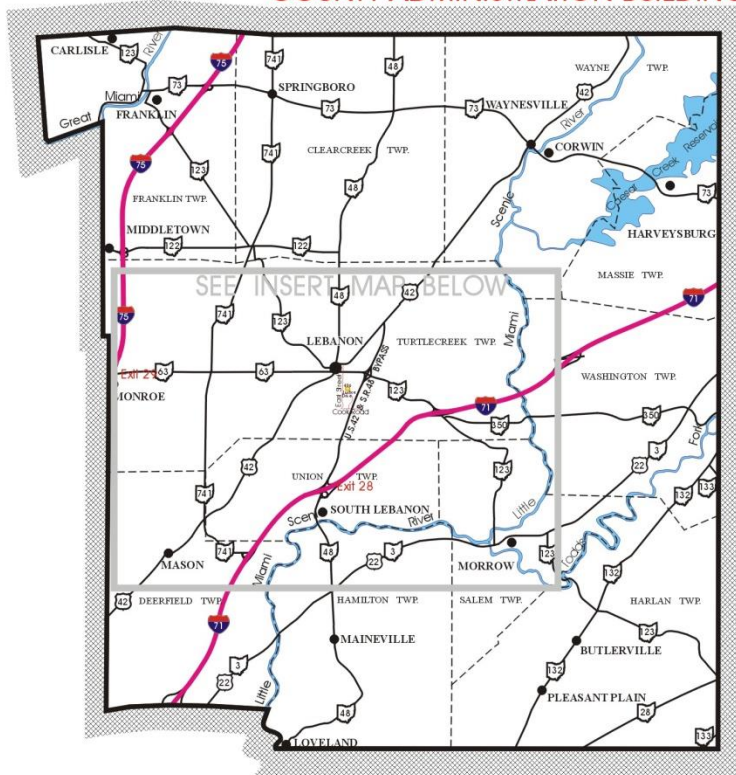


DIRECTIONS FROM INTERSTATE HIGHWAYS 71 & 75 TO WARREN COUNTY, OHIO

COUNTY ADMINISTRATION BUILDING



TRI-STATE REGION COUNTIES



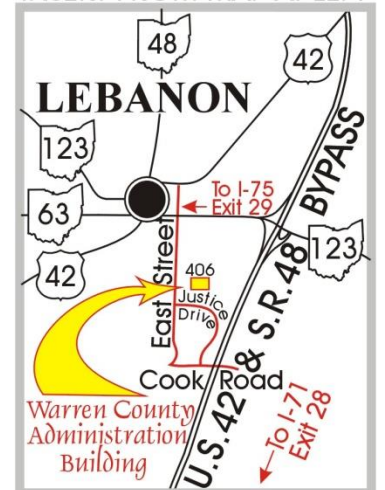
- FROM INTERSTATE 75:**
- Take Monroe / Lebanon Exit 29,
 - Head East on S. R. 63 into Lebanon,
 - Turn right onto East Street,
 - Turn left onto Justice Drive,
 - Turn left into parking lot,
 - At first driveway on left.

- FROM INTERSTATE 71:**
- Take Lebanon / South Lebanon Exit 28,
 - Head North on U. S. 42 / S. R. 48 Bypass,
 - Turn left onto Cook Road at traffic light,
 - Turn at first right onto Justice Drive,
 - Turn right at first street on right,
 - Then left into parking lot at first left.

INSERT FROM ABOVE MAP



INSERT FROM MAP AT LEFT



SECTION B

GENERAL INSTRUCTIONS TO BIDDERS

GENERAL INSTRUCTIONS TO BIDDERS

1. **Receipt and Opening of Bids:** The Warren County Board of Commissioners (herein referred to as "Owner"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the Office of the Warren County Board of Commissioners until 9:30 a.m., January 25, 2022, and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Warren County Board of Commissioners at 406 Justice Drive, Lebanon, Ohio 45036. Bids shall be submitted in a sealed envelope clearly marked "**Bid Opening – King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project (WAR-CR 282-0.97).**"

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual date of the opening thereof.

2. **Withdraw of Bid:** A Bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids, provided the bid was submitted in good faith and the reason for the price being substantially lower was a clerical mistake as opposed to a judgment mistake and was actually due to an unintentional omission of a substantial quantity of work, labor or material made directly in the compilation of the bid. Request to withdraw such bid must be made in writing and filed with the Owner within two business days after the opening of bids and prior to the acceptance thereof.
3. **Preparation of Bid:** Each bid must be submitted on the prescribed form and such documents as hereunder described. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures, and the foregoing certifications must be fully completed and executed when submitted.
4. **Method of Bidding:** The Owner invites the following bid(s):

King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project (WAR-CR 282-0.97)

Bids shall be submitted at the time and place indicated in the Invitation to Bidder and shall be included in a sealed envelope, marked with the project title and name and address of the bidder and accompanied by the bid security and other required documents.

Bids 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 at any time prior to the opening of bids.

The Owner invites unit price bids for the construction described in the plans and specifications. These unit prices shall be extended by estimated quantities to develop a total price for the project.

If the total price received from the lowest and best bidder exceeds the amount of funds available to finance the contract, the Owner may:

- a. Reject all bids;

- b. Augment the funds available in an amount sufficient to enable award to the lowest and best bidder;
 - c. Reduce the scope of work by eliminating certain items of work to produce a total bid which is within available funds;
 - d. Reduce the scope of work by reducing the quantity of certain items of work to produce a total bid which is within available funds;
 - e. Reduce the scope of work by a combination of adjustments as outlined in "c" and "d" above to produce a total bid which is within available funds.
 - f. The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates as produces a net amount which is within the available funds.
 - g. The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.
5. **Qualification of Bidder:** The Owner may make such investigations as he/she deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein; conditional bids will not be accepted.
6. **Bid Security:** Each bid must be accompanied by cash, certified check of the bidder, letter of credit equal to ten (10) percent of the bid, or a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner. (See Invitation to Bidders for required amounts) Such cash, checks or bid bonds will be returned to bidders after the Owner has awarded the bid and has executed the contract, or, if no award has been made within 60 days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he/she has not been notified of the acceptance of his/her bid.
7. **Liquidated Damages for Failure to Enter into Contract:** Submission of a bid shall be a representation by the Contractor that it has fully reviewed and is familiar with the Contract and all contract documents as defined in the contract and will execute the contract if awarded the bid. The successful bidder, upon his/her failure or refusal to execute and deliver the Contract (attached hereto) and required bonds within 10 days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid.
8. **Time of Completion and Liquidated Damages:** Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project by December 4, 2023. The completion date may be extended in the event of adverse weather conditions. Bidder must agree also to pay as liquidated damaged the sum of \$1,500.00 for each consecutive calendar day thereafter.
9. **NO DAMAGE FOR DELAY:** No payment, compensation or adjustment of any kind shall be made to the contract price for damages incurred by the contractor because of hindrances or delays in the progress of the work from any cause that is not proximately caused by the Owner's

action or failure to act. Whether such hindrances or delays are avoidable or unavoidable, the contractor agrees that he or she will make no claim for compensation, damages or mitigation of liquidated damages for any such delays. Examples of delays include (but are in no manner limited to) obtaining all necessary permission from any government agency or any private party, any act or failure to act by any other contractor, subcontractor and/or supplier, all foreseen and unforeseen events and any conditions or act of God. It is understood and agreed that the contractor assumes all risks of delays in prosecuting or completing the work under the contract that are not proximately caused by the Owner's action or failure to act. The contractor will accept in full satisfaction for such delays, an extension of time, if any, agreed to by the Owner.

10. **Conditions of Work:** Each bidder must inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provisions of his/her contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means or will not cause any interruption of or interference with the work of any other contractor.
11. **Addenda and Interpretations:** No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation must be in writing and addressed to: Roy Henson, Warren County Engineer's Office, 210 West Main Street, Lebanon, Ohio, 45036, and to be given consideration must be received at least five days prior to the date fixed for the opening of bids. All such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed by certified mail with return receipt requested to all prospective bidders (at the respective addresses furnished for such purposes), no later than three days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.
12. **Security for Faithful Performance:** Simultaneously with the delivery of the executed Contract, the Contractor shall furnish payment and performance bonds as security for faithful performance of this contract and for the payment of all subcontracts, suppliers and laborers performing labor on the project under the Contract and furnishing materials in connection with the Contract.

The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner. Please note that upon execution of the Contract if a Bid Guaranty/Contract Bond was submitted with your original bid a Performance Bond will not be required.
13. **Power of Attorney:** Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.
14. **Laws and Regulations:** The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.
15. **Method of Award - Lowest Qualified Bidder:** The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates as produces a net amount which is within the available funds.
16. **Obligation of Bidder:** At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract

documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect of his/her bid.

17. **Safety Standards and Accident Prevention:** With respect to all work performed under this contract, the Contractor shall:
 - a. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of title 29 of the code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, N. 75, Saturday, April 17, 1971.
 - b. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
 - c. Maintain at his/her office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or doctor's care of persons (including employees) who may be injured at the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.
18. **Examination of Site:** Each bidder shall, and is hereby directed to inspect the entire site of the proposed work and judge for him/herself as to all the circumstances affecting the cost and progress of the work and shall assume all patent and latent risks in connection therewith.
19. **Soil Conditions:** Subject to the convenience of the Owner, prospective bidders will be permitted to explore the site by making borings or digging test pits. In such event, the work shall be done at the sole expense and risk of the bidder, and he/she shall maintain and restore the site to original condition. The Owner does not guarantee the accuracy of any information or samples which it may have obtained from test borings or otherwise as to the kind or condition of the soil that may be encountered in the prosecution of the proposed work, neither does the Owner represent that the plans and specifications drawn are based upon any data so obtained. The Owner does not make any representation as to the soil which may be encountered or of soil or water which underlies the work or is adjacent thereto, including any difficulties that may be due to quicksand, or other unfavorable conditions that may be encountered in the work, whether apparent upon surface inspection or disclosed in the process of carrying forward the work.
20. **Water Supply:** All water for construction purposes, as well as the expense of having water conveyed about the work, must be provided by the Contractor and the cost of this work shall be included in the unit prices stipulated for the various items of the work to be done under this contract.
21. **Working Facilities:** The plans show, in the general manner, the existing structures and the land available for construction purposes. The bidders must satisfy themselves of the conditions and difficulties that may be encountered in the execution of the work at this site.
22. **Permits:** The Contractor shall take out all necessary permits from the proper authorities, and shall give all notices required by law or ordinance. The charge or fee for any permit issued by the proper authority shall be borne by the contractor.

23. **Signature of Bidders:** The firm, corporate or individual name of the bidder must be signed in ink in the space provided for the signatures on the proposed blanks. In the case of a corporation, the title of the officer signing must be stated and such officer must be thereunto duly authorized and the seal of said corporation duly affixed. In the case of a partnership, the signature of at least one of the partners must follow the firm name, using the term "member of the firm." In the case of an individual, use the terms "doing business as", or "sole owner." The bidder shall further state in his/her proposal the name and address of each person or corporation interested therein.
24. **Right to Accept or Reject Proposals:** The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.
25. **Non-Collusion Affidavit:** The successful bidder will be required to submit a non-collusion affidavit on the form included in these Bid/Contract documents (Section C). This affidavit shall be dated and executed as part of this bid.
26. **EEO Compliance:** Bidders please see Section J for EEO Compliance Requirements and Affidavit.
27. **Prevailing Wage Rates:** In the event that the rate of wages paid for any trade or occupant in the locality where such work is being performed are under current collective agreements or understandings between bona fide organizations of labor and employer, then the wages to be paid shall be not less than such agreed wage rates, nor less than the minimum rates compiled by the Federal Labor Standard Act. A copy of these prevailing wage rates has been included in these specifications as Exhibit L. Every Contractor and Subcontractor who is subject to Ohio Revised Code, Chapter 4115 shall, as soon as he/she begins performance under his/her contract with the Owner, supply the Prevailing Wage Coordinator for the Owner a schedule of the dates on which he/she is required to pay wages to employees. He/She shall also deliver to the Prevailing Wage Coordinator within three weeks after each pay date, a certified copy of his/her payroll which shall exhibit for each employee paid any wages, name, current address, social security number, number of hours worked each day of the pay period and the total for each week, hourly rate of pay, job classification, fringe payments, and deductions from wages. The certification of each payroll shall be executed by the Contractor, Subcontractor, or duly appointed agent thereof and shall recite that the payroll is correct and complete and that the wage rate shown is not less than those required by the contract.

In case the Owner orders the Contractor to perform extra or additional work which may make it necessary for the Contractor or any Subcontractor under this contract to employ a person not herein specified, the Owner will include in the contract change order for such extra or additional work, a minimum wage rate for such trade or occupation, and insofar as such extra or additional work is concerned, there shall be paid to each employee engaged in work of such trade or occupation, not less than the wage so included. Insofar as possible, local labor shall be employed on this work.

28. **Subletting of Contract:** The Contractor shall not sublet, sell, transfer or assign any portion of the contract without written consent of the Owner or his/her designated agent. When such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his/her own organization, work amounting to no less than fifty percent of the total contract cost, except that any time designated in the contract before computing the amount of work required to be performed by the Contractor with his/her own organization, No subcontract, or transfer of contract, shall in any way release the Contractor of his/her liability under the contract and bonds.

29. **Required Insurance:** In accordance with the specifications, the Contractor, without restricting the obligations and liabilities assumed under the Contract Documents, shall at his/her own cost and expense purchase and maintaining in force until final acceptance of his/her work, the forms of insurance coverage listed below.

Certificates from the insurance carrier stating the limits of liability and expiration date shall be filed with the Owner before operations are begun. Such certificates shall not merely name the types of policy provided but **shall specifically refer to this Contract** and shall name the Board of Warren County Commissioners as additionally insured. However, the original policy for Owner's Protective Bodily Injury (Item F) and Property Damages (Item G) shall at this time be delivered to the Owner for its possession.

All policies as hereinafter required shall be so written that the Owner will be notified of cancellation or restrictive amendment at least ten days prior to the effective date of such cancellation or amendment.

Item A - Workmen's Compensation and/or Employer's liability Insurance as required or specified by State Law.

Item B - Contractor's Direct and Completed Operations Bodily Injury Liability Insurance.

Item C - Contractor's direct and Completed Operations Property Damage Liability Insurance.

Item D - Contractor's Protective Bodily Injury Liability Insurance.

Item E - Contractor's Protective Damage Liability Insurance.

Item F - Owner's Protective Bodily Injury Liability Insurance, naming the Owner as insured.

Item G - Owner's Protective Property Damage Liability Insurance, naming the Owner as insured.

Item H - Bodily Injury Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item I - Property Damage Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item J - (Where Applicable) Such Protective (including Railroad Protective) and Contractual Bodily Injury Liability Insurance and such Protective (including Railroad Protective) and Contractual Property Damage Liability Insurance as shall be required by the railroad and other utility companies whose property, facilities or rights-of-way may be affected by the work to be done under this contract, in such amounts and in such form as each such utility company may require.

If any part of the work is sublet, insurance of the same types and limits as required by above items numbered A, B, C, D, E, H, and I shall be provided by or on behalf of the Subcontractors to cover that part of the work they have contracted to perform including Property Damage Liability Special Hazards coverage if so required by this contract.

Protective and Contractual Bodily Injury Liability Insurance required by Item J (where applicable) shall be in an amount and form as each railroad or utility company may require.

All Bodily Injury coverage (Items B, D, F, and H) shall be broadened by the inclusion of the terms "occurrence" in lieu of "caused by accident."

In addition to the Contractor's Direct Bodily Injury Liability Insurance (Item B) and the Contractor's Direct Property Damage Liability Insurance (Item C), the Contractor shall also provide Completed Operations Bodily Injury Liability Insurance and Completed Operations Property Damage Liability Insurance for the same amounts as provided for Item B and C during the period of one (1) year after the final acceptance date shall be the date the final estimate is paid to the Contractors. Performance Bond includes material and workmanship for 12 months after completion.

Vendor shall carry Commercial General Liability Insurance coverage. General Aggregate Limit Products – Completed Operations shall be \$2,000,000 Per Occurrence; \$2,000,000 Aggregate Limit, with no interruption of coverage during the entire term of this Agreement; \$1,000,000 Personal and Advertising Injury Limit; Each Occurrence Limit shall be \$1,000,000. Vendor shall obtain Explosion, Collapse, and Underground (XCU) coverage at the same limits as the commercial general liability insurance policy. Vendor shall also carry Comprehensive Automobile Liability Insurance for owned, non-owned, and hired vehicles. Bodily Injury and Property Damage Liability Limit shall be \$1,000,000 for each occurrence.

Vendor further agrees that if any Comprehensive General Liability or Professional Liability coverage is on a “claims made” basis, the policy provide that in the event this Agreement is terminated, Vendor shall continue such policy in effect for the period of any statute or statutes of limitation applicable to claims thereby insured, notwithstanding the termination of the Agreement.

By endorsement to the Comprehensive General Liability or Professional Liability coverage, Warren County shall be named as an additional insured with the same primary coverage as the principal insured – no policy of Comprehensive General Liability or Professional Liability coverage that provides only excess coverage for an additional insured is permitted.

Vendor shall provide Warren County with a certificate of insurance evidencing such coverage and conditions set forth herein, and shall provide thirty (30) days notice of cancellation or non-renewal to Warren County. Such certificates shall provide that the insurer notify Vendee in writing should any of the above described policies be canceled before the expiration date thereof, to be mailed by the insurer to the Vendee not less than 30 days prior to said cancellation date. Vendor shall also deliver to Lessor, at least 15 days prior to the expiration date of each policy or policies (or of any renewal policy or policies), certificates for the renewal policies of the insurance coverage required herein.

CONSULTANT shall carry statutory worker’s compensation insurance as required by law and shall provide CLIENT with certificates of insurance evidencing such coverage simultaneous with the execution of this Agreement

Cancellation or non-renewal of insurance shall be grounds to terminate this Agreement.

Vendor shall carry Builders Risk Insurance and all risk form, including subsidence and theft of materials from the job site. Such coverage shall be maintained until final acceptance of the Contract by the Owner and payable to the Owner for the benefit of the contractor. The limit for Builders Risk shall be the full value of construction.

30. **Maintenance of Rights-Of-Way:** All construction as proposed along all City, Township, County, State and Federal roads including storage and stockpiling of materials, is to be conducted within the limits of the public right-of-way. Bracing sheeting and shoring shall be used to keep all construction work within the construction limits unless work agreements are secured from the adjacent property Owners. It is the Contractor's responsibility to secure these work agreements, if deemed necessary. Copies of the work agreements shall be delivered to the Engineer and Owner prior to any work beginning on the affected property.

31. **Lights, Signs and Barricades:** Lights, signs and barricades shall be used to maintain traffic and safety for vehicular and pedestrian traffic during the course of this contract and shall be the sole responsibility of the Contractor.
32. **Foreign Corporation and Contractors:**
- Foreign Corporations*
- Definition: "Foreign Corporation" means a corporation incorporated under the laws of another state. No contract shall be entered into with a foreign corporation until the Secretary of State has certified that such corporation is authorized to do business in Ohio: and until, if the bidder so awarded the Contract is a person or partnership, it has filed with the Secretary of State a Power of Attorney designating the Secretary of State as its agent for the purpose of accepting service of summons in any action brought under Ohio Revised Code, Section 153.05 or under Sections 4123.01 to 4123.94, inclusive.
33. **Subcontracts:** Contractor shall provide an explanation as part of its bid package of all subcontractors intended to be used in performance of the work described in Part II., Section D. In the event the Owner does not object, Contractor may have such work performed by a subcontractor. Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, the Contract, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in the Agreement shall create any contractual relationship between any subcontractors and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.
34. **Real and/or Personal Property Tax Affidavit:** All bidders must complete the Real and/or Personal property tax affidavit (Section I) and submit with your bid. **This section should be fully completed whether or not you as a vendor/contractor own property in Warren County, Ohio.**
35. **Description of Project:**
- See Section M
36. **Scope of Work:** Provide all work as required by Contract and described in the Specifications herein (Section M) as necessary to provide for project completion.
37. **Required Forms:** Each Bidder shall complete and submit the following forms with his/her bid:
- Proposal Price (Bid) Sheet
Exception Sheet
Bidder Identification
Non-Collusion Affidavit
Bid Guaranty & Contract Bond
Experience Statement
Affidavit of Non-Delinquency of Taxes
Certificate of Compliance Non-Discrimination and Equal Employment Opportunity Affidavit
Findings for Recovery Affidavit
38. The successful Contractor may be required, at the request of the Owner, to submit a list of subcontractors and suppliers for said project.

39. **Additional Obligations Upon Contract Award:** Upon award of the bid but prior to execution of the Contract and Notice to Proceed, the Contractor shall submit all of the following documents, completed as required:
- 1) Contract
 - 2) Required Bonds
 - 3) Payment Draw Schedule (Required for Projects of \$500,000 or more)
 - 4) Certificates of Insurance
40. *Entire bid packet must be completed (except contract – Section F) and returned with bid proposal, as the entire bid packet becomes part of the contract documents.*
41. **STATEMENT: Do not submit confidential documents or documents of any type that contain trade secrets. All materials submitted become public records once opened and may be copied upon request to anybody including competitive bidders.**

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 10 01

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – SCHEDULED PERSON OR
ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

Board of Warren County Commissioners
406 Justice Drive, Lebanon, OH 45036

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

A. Section II – Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

B. With respect to the insurance afforded to these additional insureds, the following exclusion is added:

2. Exclusions

This insurance does not apply to "bodily injury" or "property damage" occurring after:

- (1) All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the site of the covered operations has been completed; or
- (2) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 10 01

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization: Board of Warren County Commissioners 406 Justice Drive Lebanon, OH 45036
Location And Description of Completed Operations:
Additional Premium:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Section II – Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" at the location designated and described in the schedule of this endorsement performed for that insured and included in the "products-completed operations hazard".

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 25 03 03 97

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED CONSTRUCTION PROJECT(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Construction Projects:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which can be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. A separate Designated Construction Project General Aggregate Limit applies to each designated construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under **COVERAGE A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under **COVERAGE C** regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".
 3. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the Designated Construction Project General Aggregate Limit for that designated construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Construction Project General Aggregate Limit for any other designated construction project shown in the Schedule above.
- 4.** The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Construction Project General Aggregate Limit.
- B.** For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under **COVERAGE A (SECTION I)**, and for all medical expenses caused by accidents under **COVERAGE C (SECTION I)**, which cannot be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Designated Construction Project General Aggregate Limit.
- C.** When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Construction Project General Aggregate Limit.

D. If the applicable designated construction project has been abandoned, delayed, or abandoned and then restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.

E. The provisions of Limits Of Insurance (SECTION III) not otherwise modified by this endorsement shall continue to apply as stipulated.

SECTION C

NONCOLLUSION AFFIDAVIT

NONCOLLUSION AFFIDAVIT

State of _____

BID Identification _____

CONTRACTOR _____, being first duly sworn, deposes and says that he/she is _____ (sole owner, a partner, president, secretary, etc.) of _____, the party making the foregoing BID; that such BID is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such BID is genuine and not collusive or sham; that said BIDDER has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or anyone else to put in a sham BID, or that any one shall refrain from Bidding; that said BIDDER has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the BID price of said BIDDER or of any other BIDDER, or to fix any overhead, profit, or cost element of such BID price, or of that of any other BIDDER, or to secure any advantage against the OWNER awarding the contract or anyone interested in the proposed contract; that all statement contained in such BID are true; and, further, that said BIDDER has not, directly or indirectly, submitted his/her BID price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith, to any corporation, partnership, company, association, organization, BID depository, or to any member or agent thereof, or to any other individual except to such person or persons who have a partnership or other financial interest with said BIDDER in his/her general business.

Signed:

Subscribed and sworn to before
me this ___ day of _____, 20__.

Seal of Notary

SECTION D

BID GUARANTY AND CONTRACT BOND

BID GUARANTY AND CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

(Insert full name or legal title of Contractor and Address)

as Principal and _____

(Insert full name or legal title of Surety)

as Surety, are hereby held and firmly bound unto the Warren County Board of Commissioners and the Ohio Department of Transportation and hereinafter called the Obligee, in the penal sum of the dollar amount of the bid submitted by the Principal to the Obligee on _____ to undertake the project known as:

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI
RIVER IMPROVEMENTS PROJECT (WAR-CR 282-0.97)**

The penal sum referred to herein shall be the dollar amount of the Principal's bid to the Obligee, incorporating any additive or deductive alternate proposals made by the Principal on the date referred to above to the Obligee, which are accepted by the Obligee, In no case shall the penal sum exceed the amount of _____ DOLLARS, \$ _____.

If this item is left blank, the penal sum will be the full amount of the Principal's bid, including alternates. Alternatively, if completed, the amount stated must not be less than the full amount of the bid, including alternates in dollars and cents. A percentage is not acceptable.

For the payment of the penal sum well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named Principal has submitted a bid on the above referred to project;

NOW, THEREFORE, if the Obligee accepts the bid of the Principal and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the Principal pays to the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid and such larger amount for which the Obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the Obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the Principal will pay the Obligee the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect. If the Obligee accepts the bid of the Principal and within TEN days after the awarding of the contract, enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein; and

IF THE SAID PRINCIPAL SHALL well and faithfully perform each and every condition of such contract; and indemnify the Obligee against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications, and bills of material therefore; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract: we

agreeing and assenting that this undertaking shall be for benefit of any materialman or laborer having a just claim, as well as for the Obligee herein; **THEN THIS OBLIGATION SHALL** be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of said contract or in or to the plans and specifications therefor shall in any wise affect the obligations of said surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

SIGNED AND SEALED this _____ day of _____ 20____.

PRINCIPAL

SURETY

By: _____

By: _____

Attorney-in-fact

Title: _____

Surety Agent's Name and Address:

SECTION E

PERFORMANCE BOND

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called
(Corporation, Partnership or Individual)

Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

WARREN COUNTY, OHIO BOARD OF COMMISSIONERS
406 Justice Drive
Lebanon, OH 45036

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the guaranty period(s), and if he/she shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition of the terms of the contract or the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in counterparts, each one of which shall be deemed an original, this the _____ day of _____ 20__.

ATTEST:

(Principal)

(SEAL)

By _____

ATTEST:

(SEAL)

(Surety)

IMPORTANT: Pursuant to Ohio Revised Code §122.87(A) a surety company is defined as, “. . . a company that is authorized by the department of insurance to issue bonds as a surety”.

SECTION F

CONTRACT

CONTRACT

THIS AGREEMENT, made this _____ day of _____, 2022, with the Warren County Board of Commissioners, 406 Justice Drive, Lebanon, Ohio hereinafter called "Owner" and **NAME, ADDRESS**, doing businesses as (an individual, partner, a corporation) hereinafter called "Contractor."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Owner, the Contractor hereby agrees with the Owner to commence and complete the construction described as follows:

KING AVENUE BRIDGE #282-0.97 REPLACEMENT OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT (WAR-CR 282-0.97)

hereinafter called the project, for the sum of \$AMOUNT (AMOUNT WRITTEN OUT) and all work in connection therewith, under the terms as stated in the Conditions of the Contract; and as his/her (it's or their) own proper cost and expense furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, Conditions of the Contract, the Specifications and Contract Documents. "Contract Documents" means and includes the following:

- Proposal Price (Bid) Sheet
- Exception Sheet
- Bidder Identification
- A) Invitation to Bidders
- B) General Instruction to Bidders
- C) Noncollusion Affidavit
- D) Bid Guaranty & Contract Bond
- E) Performance Bond
- F) Contract
- G) Bonding & Insurance Requirements
- H) Experience Statement
- I) Affidavit of Non-Delinquency of Real and/or Personal Property Tax
- J) Equal Employment Opportunity Requirements, Bid Conditions and Non-discrimination and Equal Employment Opportunity Affidavit
- K) Findings for Recovery Affidavit Wage Rate Determination
- L) Federal Davis Bacon Wage
- M) Special Provision/Technical Specifications

The CONTRACTOR hereby agrees to commence work under this contract on or before a date to be specified in a Written "Notice to Proceed" of the OWNER, and to fully complete the project is December 4, 2023 after the written Notice to Proceed has been issued from Warren County and ODOT and a preconstruction meeting has been held. The Contractor further agrees to pay, as liquidated damages, the sum of \$1,500.00 for each consecutive calendar day thereafter.

This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement. The nonperforming party shall have fifteen calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

OWNER may terminate or suspend performance of this Agreement for OWNER'S convenience upon a written notice to CONTRACTOR. CONTRACTOR shall terminate or suspend performance of the services/work on a schedule acceptable to OWNER.

The CONTRACTOR will indemnify and save the OWNER, their officers and employees, harmless from loss, expenses, costs, reasonable attorneys fees, litigation expenses, suits at law or in equity, causes of action, actions, damages, and obligations arising from (a) negligent, reckless or willful and wanton acts, errors or omissions by CONTRACTOR, its agents, employees, licensees, consultants or subconsultants; (b) the failure of the CONTRACTOR, its agents, employees, licensees, consultants or subconsultants to observe the applicable standard of care providing services pursuant to this agreement; (c) the intentional misconduct of the CONTRACTOR, its agents, employees, licensees, consultants or subconsultants that result in injury to persons or damage to property for which the OWNER may be held legally liable.

The CONTRACTOR does hereby agree to indemnify and hold the OWNER harmless for any and all sums for which the OWNER may be required to pay or for which the OWNER may be held responsible for failure of the CONTRACTOR or any subcontractor to pay the prevailing wage upon this project.

The OWNER agrees to pay the CONTRACTOR in the manner and at such times as set forth in the General Provisions such amounts as required by the Contract Documents.

This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, this Agreement, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in this Agreement shall create any contractual relationship between any subcontractor and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in two counterparts, each of which shall be deemed an original on the date first above written.

WARREN COUNTY BOARD OF COMMISSIONERS
(Owner)

David G. Young, President

ATTEST:

Name

(Seal)

ATTEST:

NAME
(Contractor)

By:

Name and Title

Approved as to Form:

Assistant Prosecutor

SECTION G

BONDING AND INSURANCE REQUIREMENTS

BONDING AND INSURANCE REQUIREMENTS

A state or local unit of government receiving a grant from the federal government which requires contracting for construction of facility improvement shall follow its own requirements relating to bid guarantees, performance bonds, and payment bonds, except for contracts or subcontracts exceeding \$100,000. For contracts or subcontracts exceeding \$100,000, the Federal agency may accept the bonding policy and requirements of the grantee provided the Federal agency has made a determination that the Government's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

- a. **A bid guaranty from each bidder.** The "bid guaranty" shall consist of a firm commitment such as a bid bond in the amount of one hundred (100) percent of the bid price, or ten (10) percent of the bid price if certified check or other negotiable instrument accompanying a bid, as assurance the bidder will, upon acceptance of his/her bid, execute such contractual documents as may be required within the time specified.
- b. **A performance bond on the part of the Contractor for 100 percent of the contract price.** A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

SECTION H

EXPERIENCE STATEMENT

EXPERIENCE STATEMENT

The Bidder is required to state in detail in the space provided below, what work he/she has done of a character similar to that included in the proposed contract, to give references and such other detailed information as will enable the Owner to judge of his/her responsibility, experience, skill and financial standing. Among other things, this statement shall include the following:

A record of similar work performed and evidence to the effect:

- (1) That the Bidder maintains a permanent place of business;
- (2) Has adequate facilities and equipment available for the work under the proposed contract;
- (3) That the Bidder has suitable financial means to meet obligations incidental to the work;
- (4) That the Bidder has appropriate technical experience and possesses sufficient skill and experience.

SECTION I

***AFFIDAVIT OF NON-DELINQUENCY OF REAL
AND/OR PERSONAL PROPERTY TAX***

***THIS SECTION SHOULD BE FULLY COMPLETED WHETHER OR NOT YOU AS A
VENDOR/CONTRACTOR OWN PROPERTY IN WARREN COUNTY, OHIO.***

SECTION J

***EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS,
BID CONDITIONS AND
NON-DISCRIMINATION AND EQUAL
EMPLOYMENT OPPORTUNITY AFFIDAVIT***

**EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS
AND BID CONDITIONS FOR
WARREN COUNTY CONSTRUCTION PROJECTS**

CERTIFICATE OF COMPLIANCE FOR EEO PURPOSES: (This section applies only to projects that are funded with Federal and State monies)

All bidders on the project **shall** submit together with their bid, a copy of a valid Certificate of Compliance for Equal Employment Opportunity purposes contained herein.

A copy of the Certificate of Compliance is enclosed with this bid response? Yes No

BIDDER'S EEO COVENANTS:

Throughout its performance of any contract awarded to it on this project, the bidder agrees to the following covenants:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry or sex. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry or sex. Such action shall include, but is not limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor will in all solicitations or advertisements for employees placed by or on behalf of the prime contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry or sex.
3. The contractor agrees to fully cooperate with the County, the State Equal Employment Opportunity Coordinator and with any other official or agency, or the State or Federal government which seeks to eliminate unlawful employment discrimination, and with all other State and Federal efforts to assure equal employment practices under its contract and the contractor shall comply promptly with all requests and directions from the County, the State Equal Opportunity Coordinator and any of the State of Ohio officials and agencies in this regard, both before and during construction.
4. Full cooperation as expressed in clause (3), above, shall include, but not be limited to, being a witness and permitting employees to be witnesses and complainants in any proceedings involving questions of unlawful employment practices, furnishing all information requested by the County and the State Equal Employment Opportunity Coordinator, and permitting access to its books, records, and accounts by the County and the State Equal Employment Opportunity Coordinator for purposes of investigation to ascertain compliance with applicable rules, regulations and orders.

5. In the event of the contractor's noncompliance with the nondiscrimination clauses of its contract or with any of the said rules, regulations, or orders, its contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further County construction contracts.

In the event that is contract is terminated for a material breach of EEO requirements, the contractor shall become liable for any and all damages which shall accrue to the County as a result of said breach.

6. The contractor will require the inclusion of language reflecting these same six covenants within every subcontract or purchase order it executes in the performance of its contract unless exempted by rules, regulations or orders of the State Equal Employment Opportunity Coordinator so that these provisions will be binding upon each subcontractor or vendor. The contractor will take such as the County may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in any litigation with a subcontractor, vendor or other party as a result of such direction by the County, the contractor may be requested to protect the interests of the County.

The bidder hereby adopts the foregoing covenants?

_____ Yes _____No

PLEASE NOTE: *The bidder's failure to adopt the Bidder's EEO Covenants and complete the foregoing certification will cause the bidder's proposal to be rejected as being non-responsive.*

CERTIFICATE OF COMPLIANCE
NON-DISCRIMINATION AND EQUAL EMPLOYMENT OPPORTUNITY AFFIDAVIT

STATE OF _____)

SS:

COUNTY OF _____)

_____ being first duly sworn, deposes and

says that he _____ of _____

the party who made the foregoing proposal; that such party as bidder does not and shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. If awarded the bid and contract under this proposal, said party shall take affirmative action to insure that applicants are employed and that employees are treated, during employment, without regard to their race, religion, color, sex, or national origin. If successful as the lowest and best bidder under the foregoing proposal, this party shall post non-discrimination notices in conspicuous places available to employees and applicants for employment setting forth the provisions of this affidavit.

Furthermore, said party agrees to abide by the assurances found in Section 153.54 of the Ohio Revised Code in the Contract Provisions with the Owner if selected as the successful bidder by the Owner.

Signature

Affiant

Company/Corporation

Address

City/State/Zip Code

Sworn to and subscribed before me this _____ day of _____, 20____.

Notary

(seal)

SECTION K

FINDINGS FOR RECOVERY AFFIDAVIT

FINDINGS FOR RECOVERY AFFIDAVIT

STATE OF _____
COUNTY OF _____, SS:

_____, upon being duly cautioned and sworn, hereby states the following based on personal knowledge:

1) That he/she is _____ (title), of _____ (name of bidder) and authorized to execute this affidavit; and,

2) That _____ (name of bidder) is not a person or entity against whom a finding for recovery has been issued by the Auditor of State, which finding for recovery is unresolved as defined in Ohio Revised Code [General Provisions] Section 9.24 (B); and,

3) That _____ (name of bidder) does not appear in the database of unresolved findings of recovery maintained by the Auditor of State pursuant to Ohio Revised Code [General Provisions] Section 9.24 (D).

Affiant

Sworn to and subscribed in my presence this ____ day of _____, 20__.

Notary Public
My Commission expires: _____

SECTION L

FEDERAL DAVIS-BACON WAGE

"General Decision Number: OH20210001 12/03/2021

Superseded General Decision Number: OH20200001

State: Ohio

Construction Types: Heavy and Highway

Counties: Ohio Statewide.

Heavy and Highway Construction Projects

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	01/22/2021
2	02/12/2021
3	04/23/2021
4	04/30/2021
5	05/21/2021
6	05/28/2021
7	06/18/2021
8	07/02/2021
9	07/09/2021
10	07/16/2021

11	07/30/2021
12	08/06/2021
13	09/24/2021
14	10/29/2021
15	11/05/2021
16	11/26/2021
17	12/03/2021

BROH0001-001 06/01/2021

DEFIANCE, FULTON (Excluding Fulton, Amboy & Swan Creek Townships), HENRY (Excluding Monroe, Bartlow, Liberty, Washington, Richfield, Marion, Damascus & Townships & that part of Harrison Township outside corporate limits of city of Napoleon), PAULDING, PUTNAM and WILLIAMS COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

BROH0001-004 06/01/2021

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 30.40	17.55

BROH0003-002 06/01/2021

FULTON (Townships of Amboy, Swan Creek & Fulton), HENRY (Townships of Washington, Damascus, Richfield, Bartlow, Liberty, Harrison, Monroe, & Marion), LUCAS and WOOD (Townships of Perrysburg, Ross, Lake, Troy, Freedom, Montgomery, Webster, Center, Portage, Middleton, Plain, Liberty, Henry, Washington, Weston, Milton, Jackson & Grand Rapids) COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

BROH0005-003 06/01/2020

CUYAHOGA, LORAIN & MEDINA (Hinckley, Granger, Brunswick, Liverpool, Montville, York, Homer, Harrisville, Chatham, Litchfield & Spencer Townships and the city of Medina)

Rates	Fringes
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BRICKLAYER

BRICKLAYERS; CAULKERS; CLEANERS; POINTERS; & STONEMASONS.....	\$ 36.64	17.13
SANDBLASTERS.....	\$ 36.39	17.13
SEWER BRICKLAYERS & STACK BUILDERS.....	\$ 36.64	17.13
SWING SCAFFOLDS.....	\$ 37.14	17.13

BROH0006-005 06/01/2021

CARROLL, COLUMBIANA (Knox, Butler, West & Hanover Townships),
STARK & TUSCARAWAS

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

BROH0007-002 06/01/2021

LAWRENCE

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

BROH0007-005 06/01/2021

PORTAGE & SUMMIT

	Rates	Fringes
BRICKLAYER.....	\$ 30.40	17.55

BROH0007-010 06/01/2017

PORTAGE & SUMMIT

	Rates	Fringes
MASON - STONE.....	\$ 28.65	14.55

BROH0008-001 06/01/2021

COLUMBIANA (Salem, Perry, Fairfield, Center, Elk Run,
Middleton, & Unity Townships and the city of New Waterford),
MAHONING & TRUMBULL

	Rates	Fringes
BRICKLAYER.....	\$ 30.40	17.55

 BROH0009-002 06/01/2021

BELMONT & MONROE COUNTIES and the Townships of Warren & Mt. Pleasant and the Village of Dillonvale in JEFFERSON COUNTY

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55
Refractory.....	\$ 31.45	19.01

 BROH0010-002 06/01/2021

COLUMBIANA (St. Clair, Madison, Wayne, Franklin, Washington, Yellow Creek & Liverpool Townships) & JEFFERSON (Brush Creek & Saline Townships)

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0014-002 06/01/2021

HARRISON & JEFFERSON (Except Mt. Pleasant, Warren, Brush Creek, Saline & Salineville Townships & the Village of Dillonvale)

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0016-002 06/01/2021

ASHTABULA, GEAUGA, and LAKE COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0018-002 06/01/2021

BROWN, BUTLER, CLERMONT, HAMILTON, PREBLE (Gasper, Dixon, Israel, Lanier, Somers & Gratis Townships) & WARREN COUNTIES:

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0022-004 06/01/2021

CHAMPAIGN, CLARK, CLINTON, DARKE, GREENE, HIGHLAND, LOGAN,
 MIAMI, MONTGOMERY, PREBLE (Jackson, Monroe, Harrison, Twin,
 Jefferson & Washington Townships) and SHELBY COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0032-001 06/01/2021

GALLIA & MEIGS

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0035-002 06/01/2021

ALLEN, AUGLAIZE, MERCER and VAN WERT COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0039-002 06/01/2021

ADAMS & SCIOTO

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

 BROH0040-003 06/01/2021

ASHLAND, CRAWFORD, HARDIN, HOLMES, MARION, MORROW, RICHLAND,
 WAYNE and WYANDOT (Except Crawford, Ridge, Richland & Tymochtee
 Townships) COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 31.93	22.54

FOOTNOTE: Layout Man and Sawman rate: \$1.00 per hour above journeyman rate.

Free standing stack work ground level to top of stack; Sandblasting and laying of carbon masonry material in swing stage and/or scaffold; Ramming and spading of plastics and gunniting: \$1.50 per hour above journeyman rate.

""Hot"" work: \$2.50 above journeyman rate.

BROH0044-002 06/01/2021

	Rates	Fringes
Bricklayer, Stonemason COSHOCOTON, FAIRFIELD, GUERNSEY, HOCKING, KNOX, KICKING, MORGAN, MUSKINGUM, NOBLE (Beaver, Buffalo, Seneca & Wayne Townships) & PERRY COUNTIES:.....	\$ 30.40	17.55

BROH0045-002 06/01/2021

FAYETTE, JACKSON, PIKE, ROSS and VINTON COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.66

BROH0046-002 06/01/2021

ERIE, HANCOCK, HURON, OTTAWA, SANDUSKY, SENECA, WOOD (Perry & Bloom Townships) and WYANDOT (Tymochtee, Crawford, Ridge & Richland Townships) COUNTIES & the Islands of Lake Erie north of Sandusky

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

FOOTNOTE: Layout Man and Sawman rate: \$1.00 per hour above journeyman rate.

Free standing stack work ground level to top of stack; Sandblasting and laying of carbon masonry material in swing stage and/or scaffold; Ramming and spading of plastics and gunniting: \$1.50 per hour above journeyman rate.

""Hot"" work: \$2.50 above journeyman rate.

BROH0052-001 06/01/2021

ATHENS COUNTY

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

BROH0052-003 06/01/2021

NOBLE (Brookfield, Noble, Center, Sharon, Olive, Enoch, Stock, Jackson, Jefferson & Elk Townships) and WASHINGTON COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

BROH0055-003 06/01/2021

DELAWARE, FRANKLIN, MADISON, PICKAWAY and UNION COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 30.40	17.55

CARP0003-004 05/01/2017

MAHONING & TRUMBULL

	Rates	Fringes
CARPENTER.....	\$ 26.20	17.42

CARP0069-003 05/01/2017

CARROLL, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
CARPENTER.....	\$ 25.98	15.98

CARP0069-006 05/01/2017

COSHOCTON, HOLMES, KNOX & MORROW

	Rates	Fringes
CARPENTER.....	\$ 24.04	15.29

CARP0171-002 05/01/2019

BELMONT, COLUMBIANA, HARRISON, JEFFERSON & MONROE

	Rates	Fringes
CARPENTER.....	\$ 27.37	20.02

CARP0200-002 05/01/2021

ADAMS, ATHENS, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA,
GUERNSEY, HIGHLAND, HOCKING, JACKSON, LAWRENCE, LICKING,
MADISON, MARION, MEIGS, MORGAN, MUSKINGUM, NOBLE, PERRY,
PICKAWAY, PIKE, ROSS, SCIOTO, UNION, VINTON and WASHINGTON
COUNTIES

	Rates	Fringes
CARPENTER.....	\$ 30.28	20.08
Diver.....	\$ 39.41	10.40
PILEDRIVERMAN.....	\$ 30.28	20.08

CARP0248-005 07/01/2008

LUCAS & WOOD

	Rates	Fringes
CARPENTER.....	\$ 27.27	14.58

CARP0248-008 07/01/2008

	Rates	Fringes
CARPENTER DEFIANCE, FULTON, HANCOCK, HENRY, PAULDING & WILLIAMS COUNTIES.....	\$ 23.71	13.28

CARP0254-002 05/01/2017

ASHTABULA, CUYAHOGA, GEauga & LAKE

	Rates	Fringes
CARPENTER.....	\$ 32.40	16.97

CARP0372-002 05/01/2016

ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM & VAN WERT

	Rates	Fringes
CARPENTER.....	\$ 24.54	18.21

CARP0639-003 05/01/2017		

MEDINA, PORTAGE & SUMMIT

	Rates	Fringes
CARPENTER.....	\$ 30.42	16.99

CARP0735-002 05/01/2019		

ASHLAND, ERIE, HURON, LORAIN & RICHLAND

	Rates	Fringes
CARPENTER.....	\$ 26.30	17.91

CARP1311-001 05/01/2017		

BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, DARKE,
GREENE, HAMILTON, LOGAN, MIAMI, MONTGOMERY, PREBLE, SHELBY &
WARREN

	Rates	Fringes
Carpenter & Piledrivermen.....	\$ 29.34	15.95
Diver.....	\$ 40.58	9.69

CARP1393-002 07/01/2008		

CRAWFORD, DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA,
PAULDING, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
Piledrivermen & Diver's Tender...	\$ 27.30	16.05

DIVERS - \$250.00 per day		

CARP1393-003 07/01/2008		

ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM, VAN WERT & WYANDOT

	Rates	Fringes
Piledrivermen & Diver's Tender...	\$ 25.15	15.92

DIVERS - \$250.00 per day

 CARP1871-006 05/01/2017

BELMONT, HARRISON, & MONROE

	Rates	Fringes
Diver, Wet.....	\$ 48.11	17.33
Piledrivermen; Diver, Dry.....	\$ 32.07	17.33

 CARP1871-008 05/01/2017

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE,
 LORAIN, MEDINA, PORTAGE, RICHLAND & SUMMIT

	Rates	Fringes
Diver, Wet.....	\$ 45.80	18.84
Piledrivermen; Diver, Dry.....	\$ 30.53	18.84

 CARP1871-014 05/01/2017

CARROLL, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
Diver, Wet.....	\$ 38.34	16.95
Piledrivermen; Diver, Dry.....	\$ 25.56	16.95

 CARP1871-015 05/01/2017

COSHOCTON, HOLMES, KNOX & MORROW

	Rates	Fringes
Diver, Wet.....	\$ 37.34	16.07
Piledrivermen; Diver, Dry.....	\$ 24.89	16.07

 CARP1871-017 05/01/2017

MAHONING & TRUMBULL

	Rates	Fringes
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Diver, Wet.....	\$ 40.65	17.62
Piledrivermen; Diver, Dry.....	\$ 27.10	17.62

 CARP2235-012 01/01/2014

COLUMBIANA & JEFFERSON

	Rates	Fringes
PILEDRIVERMAN.....	\$ 31.74	16.41

 CARP2239-001 07/01/2008

CRAWFORD, OTTAWA, SANDUSKY, SENECA & WYANDOT

	Rates	Fringes
CARPENTER.....	\$ 23.71	13.28

 * ELEC0008-002 05/24/2021

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING,
 PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
CABLE SPLICER.....	\$ 38.98	18.96
ELECTRICIAN.....	\$ 43.33	26.61

 ELEC0032-003 11/29/2020

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY, VAN WERT &
 WYANDOT (Crawford, Jackson, Marseilles, Mifflin, Ridgeland,
 Ridge & Salem Townships)

	Rates	Fringes
ELECTRICIAN.....	\$ 32.12	20.29

 ELEC0038-002 04/26/2021

CUYAHOGA, GEAUGA (Bainbridge, Chester & Russell Townships) &
 LORAIN (Columbia Township)

	Rates	Fringes
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ELECTRICIAN

Excluding Sound & Communications Work.....\$ 40.63 21.74

FOOTNOTES;

- a. 6 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; & Christmas Day
b. 1 week's paid vacation for 1 year's service; 2 weeks' paid vacation for 2 or more years' service

ELEC0038-008 04/26/2021

CUYAHOGA, GEAUGA (Bainbridge, Chester & Russell Townships) & LORAIN (Columbia Township)

Rates Fringes

Sound & Communication Technician

Communications Technician...\$ 28.80 12.77
Installer Technician.....\$ 27.55 12.77

FOOTNOTES;

- a. 6 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; & Christmas Day
b. 1 week's paid vacation for 1 year's service; 2 weeks' paid vacation for 2 or more years' service

ELEC0064-003 11/30/2020

COLUMBIANA (Butler, Fairfield, Perry, Salem & Unity Townships) MAHONING (Austintown, Beaver, Berlin, Boardman, Canfield, Ellsworth, Coitsville, Goshen, Green, Jackson, Poland, Springfield & Youngstown Townships), & TRUMBULL (Hubbard & Liberty Townships)

Rates Fringes

ELECTRICIAN.....\$ 35.67 16.37

ELEC0071-001 01/01/2019

ASHLAND, CHAMPAIGN, CLARK, COSHOCTON, CRAWFORD, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GUERNSEY, HIGHLAND, HOCKING, JACKSON (Coal, Jackson, Liberty, Milton, Washington & Wellston Townships), KNOX, LICKING, MADISON, MARION, MONROE, MORGAN,

MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE (Beaver, Benton, Jackson, Mifflin, Pebble, Peepee, Perry & Seal Townships), RICHLAND, ROSS, TUSCARAWAS (Auburn, Bucks, Clay, Jefferson, Oxford, Perry, Salem, Rush, Washington & York Townships), UNION, VINTON (Clinton, Eagle, Elk, Harrison, Jackson, Richland & Swan Townships), and WASHINGTON COUNTIES

	Rates	Fringes
Line Construction		
Equipment Operators.....	\$ 33.62	13.40
Groundmen.....	\$ 24.17	11.32
Linemen & Cable Splicers....	\$ 38.27	14.42

 ELEC0071-004 01/01/2019

AUGLAIZE, CLINTON, DARKE, GREENE, LOGAN, MERCER, MIAMI, MONTGOMERY, PREBLE, and SHELBY COUNTIES

	Rates	Fringes
Line Construction		
Equipment Operator.....	\$ 33.62	13.40
Groundman.....	\$ 24.17	11.32
Lineman & Cable Splicers....	\$ 38.27	14.42

 ELEC0071-005 12/31/2018

ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN

	Rates	Fringes
LINE CONSTRUCTION: Equipment Operator		
DOT/Traffic Signal & Highway Lighting Projects...	\$ 32.44	14.10
Municipal Power/Transit Projects.....	\$ 40.10	16.42
LINE CONSTRUCTION: Groundman		
DOT/Traffic Signal & Highway Lighting Projects...	\$ 25.06	12.26
Municipal Power/Transit Projects.....	\$ 31.19	14.11
LINE CONSTRUCTION: Linemen/Cable Splicer		
DOT/Traffic Signal & Highway Lighting Projects...	\$ 36.13	15.03
Municipal Power/Transit		

Projects.....\$ 44.56 17.58

ELEC0071-008 01/01/2019

COLUMBIANA, MAHONING, and TRUMBULL COUNTIES

	Rates	Fringes
Line Construction		
Equipment Operator.....	\$ 33.62	13.40
Groundman.....	\$ 24.17	11.32
Lineman & Cable Splicers....	\$ 38.27	14.42

ELEC0071-010 01/01/2019

BELMONT, CARROLL, HARRISON, HOLMES, JEFFERSON, MEDINA, PORTAGE,
STARK, SUMMIT, and WAYNE COUNTIES

	Rates	Fringes
Line Construction		
Equipment Operator.....	\$ 33.62	13.40
Groundman.....	\$ 24.17	11.32
Lineman & Cable Splicers....	\$ 38.27	14.42

ELEC0071-013 01/01/2019

BROWN, BUTLER, CLERMONT, HAMILTON, and WARREN COUNTIES

	Rates	Fringes
Line Construction		
Equipment Operator.....	\$ 33.62	13.40
Groundman.....	\$ 24.17	11.32
Lineman & Cable Splicers....	\$ 38.27	14.42

ELEC0071-014 01/01/2019

ADAMS, ATHENS, GALLIA, JACKSON (Bloomfield, Franklin, Hamilton,
Lick, Jefferson, Scioto & Madison Townships), LAWRENCE, MEIGS,
PIKE (Camp Creek, Marion, Newton, Scioto, Sunfish & Union
Townships), SCIOTO & VINTON (Brown, Knox, Madison, Vinton &
Wilkesville Townships)

	Rates	Fringes
Line Construction		
Equipment Operator.....	\$ 33.62	13.40

Groundman.....	\$ 24.17	11.32
Lineman & Cable Splicers....	\$ 38.27	14.42

 ELEC0082-002 11/30/2020

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN
 (Wayne, Clear Creek & Franklin Townships)

	Rates	Fringes
ELECTRICIAN.....	\$ 32.15	20.51

 ELEC0082-006 11/26/2018

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN
 (Wayne, Clear Creek & Franklin Townships)

	Rates	Fringes
Sound & Communication Technician		
Cable Puller.....	\$ 12.18	3.85
Installer/Technician.....	\$ 24.35	11.29

 ELEC0129-003 03/01/2021

LORAIN (Except Columbia Township) & MEDINA (Litchfield &
 Liverpool Townships)

	Rates	Fringes
ELECTRICIAN.....	\$ 36.40	17.71

 ELEC0129-004 03/01/2021

ERIE & HURON (Lyme, Ridgefield, Norwalk, Townsend, Wakeman,
 Sherman, Peru, Bronson, Hartland, Clarksfield, Norwich,
 Greenfield, Fairfield, Fitchville & New London Townships)

	Rates	Fringes
ELECTRICIAN.....	\$ 36.40	17.71

 ELEC0141-003 09/01/2019

BELMONT COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 30.63	25.87
ELECTRICIAN.....	\$ 30.38	25.87

 ELEC0212-003 11/26/2018

BROWN, CLERMONT & HAMILTON

	Rates	Fringes
Sound & Communication Technician.....	\$ 24.35	10.99

 ELEC0212-005 06/03/2020

BROWN, CLERMONT, and HAMILTON COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 31.30	19.07

 ELEC0245-001 01/01/2020

ALLEN, HARDIN, VAN WERT & WYANDOT (Crawford, Jackson,
 Marseilles, Mifflin, Richland, Ridge & Salem Townships)

	Rates	Fringes
Line Construction		
Equipment Operator.....	\$ 32.37	25.9%+6.75
Groundman Truck Driver.....	\$ 17.70	25.9%+6.75
Lineman.....	\$ 40.46	25.9%+6.75

FOOTNOTE: a. Half day's Paid Holiday: The last 4 hours of
 the workday prior to Christmas or New Year's Day

 ELEC0245-003 01/01/2020

DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA,
 PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, and WOOD COUNTIES

	Rates	Fringes
Line Construction		
Cable Splicer.....	\$ 46.53	25.9%+6.75

Groundman/Truck Driver.....	\$ 17.70	25.9%+6.75
Heli-arc Welding.....	\$ 40.76	25.9%+6.75
Lineman.....	\$ 40.46	25.9%+6.75
Operator - Class 1.....	\$ 32.37	25.9%+6.75
Operator - Class 2.....	\$ 28.32	25.9%+6.75
Traffic Signal & Lighting Technician.....	\$ 36.41	25.9%+6.75

FOOTNOTE: a. 6 Observed Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; & Christmas Day. Employees who work on a holiday shall be paid at a rate of double their applicable classified straight-time rates for the work performed on such holiday.

ELEC0245-004 01/01/2020

ERIE COUNTY

	Rates	Fringes
Line Construction		
Cable Splicer.....	\$ 46.53	25.9%+6.75
Groundman/Truck Driver.....	\$ 17.70	25.9%+6.75
Lineman.....	\$ 40.46	25.9%+6.75
Operator - Class 1.....	\$ 32.37	25.9%+6.75
Operator - Class 2.....	\$ 28.32	25.9%+6.75

FOOTNOTE: a. 6 Observed Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; & Christmas Day. Employees who work on a holiday shall be paid at a rate of double their applicable classified straight-time rates for the work performed on such holiday.

ELEC0246-001 10/29/2018

	Rates	Fringes
ELECTRICIAN.....	\$ 38.00	84%+a

FOOTNOTE: a. 1 1/2 Paid Holidays: The last scheduled workday prior to Christmas & 4 hours on Good Friday.

ELEC0306-005 05/28/2018

MEDINA (Brunswick, Chatham, Granger, Guilford, Harrisville, Hinckley, Homer, Lafayette, Medina, Montville, Sharon, Spencer, Wadsworth, Westfield & York Townships), PORTAGE (Atwater,

Aurora, Brimfield, Deerfield, Franklin, Mantua, Randolph, Ravenna, Rootstown, Shalersville, Streetsboro & Suffield Townships), SUMMIT & WAYNE (Baughman, Canaan, Chester, Chippewa, Congress, Green, Milton, & Wayne Townships)

	Rates	Fringes
CABLE SPLICER.....	\$ 36.87	16.56
ELECTRICIAN.....	\$ 34.54	5%+18.06

 ELEC0317-002 06/01/2021

GALLIA & LAWRENCE

	Rates	Fringes
CABLE SPLICER.....	\$ 32.68	18.13
ELECTRICIAN.....	\$ 35.10	27.47

 ELEC0540-005 12/28/2020

CARROLL (Northern half, including Fox, Harrison, Rose & Washington Townships), COLUMBIANA (Knox Township), HOLMES, MAHONING (Smith Township), STARK, TUSCARAWAS (North of Auburn, Clay, Rush & York Townships), and WAYNE (South of Baughman, Chester, Green & Wayne Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 34.00	25.50

 ELEC0573-003 05/31/2021

ASHTABULA (Colebrook, Wayne, Williamsfield, Orwell & Windsor Townships), GEAUGA (Auburn, Middlefield, Parkman & Troy Townships), MAHONING (Milton Township), PORTAGE (Charlestown, Edinburg, Freedom, Hiram, Nelson, Palmyra, Paris & Windham Townships), and TRUMBULL (Except Liberty & Hubbard Townships)

	Rates	Fringes
ELECTRICIAN.....	\$ 35.60	20.18

 ELEC0575-001 05/31/2021

ADAMS, FAYETTE, HIGHLAND, HOCKING, JACKSON (Bloomfield, Franklin, Hamilton, Jefferson, Lick, Madison, Scioto, Coal,

Jackson, Liberty, Milton & Washington Townships), PICKAWAY (Deer Creek, Perry, Pickaway, Salt Creek & Wayne Townships), PIKE (Beaver, Benton, Jackson, Mifflin, Pebble, PeePee, Perry, Seal, Camp Creek, Newton, Scioto, Sunfish, Union & Marion Townships), ROSS, SCIOTO & VINTON (Clinton, Eagle, Elk, Harrison, Jackson, Richland & Swan Townships)

	Rates	Fringes
ELECTRICIAN.....	\$ 34.25	19.74

 ELEC0648-001 08/30/2021

BUTLER and WARREN COUNTIES (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union & Washington Townships)

	Rates	Fringes
CABLE SPLICER.....	\$ 30.50	18.23
ELECTRICIAN.....	\$ 32.00	20.79

 ELEC0673-004 02/01/2020

ASHTABULA (Excluding Orwell, Colebrook, Williamsfield, Wayne & Windsor Townships), GEAUGA (Burton, Chardon, Claridon, Hambden, Huntsburg, Montville, Munson, Newbury & Thompson Townships) and LAKE COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 33.81	21.47
ELECTRICIAN.....	\$ 33.56	21.47

 ELEC0683-002 05/31/2021

CHAMPAIGN, CLARK, DELAWARE, FAIRFIELD, FRANKLIN, MADISON, PICKAWAY (Circleville, Darby, Harrison, Jackson, Madison, Monroe, Muhlenberg, Scioto, Walnut & Washington Townships), and UNION COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 35.50	21.99
ELECTRICIAN.....	\$ 35.50	21.99

 * ELEC0688-003 05/31/2021

ASHLAND, CRAWFORD, HURON (Richmond, New Haven, Ripley & Greenwich Townships), KNOX (Liberty, Clinton, Union, Howard, Monroe, Middleberry, Morris, Wayne, Berlin, Pike, Brown & Jefferson Townships), MARION, MORROW, RICHLAND and WYANDOT (Sycamore, Crane, Eden, Pitt, Antrim & Tymochtee Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 31.00	21.29

ELEC0972-002 06/01/2021		

ATHENS, MEIGS, MONROE, MORGAN, NOBLE, VINTON (Brown, Knox, Madison, Vinton & Wilkesville Townships), and WASHINGTON COUNITIES

	Rates	Fringes
CABLE SPLICER.....	\$ 37.35	27.81
ELECTRICIAN.....	\$ 34.30	27.62

ELEC1105-001 11/30/2020		

COSHOCTON, GUERNSEY, KNOX (Jackson, Clay, Morgan, Miller, Milford, Hilliar, Butler, Harrison, Pleasant & College Townships), LICKING, MUSKINGUM, PERRY, and TUSCARAWAS (Auburn, York, Clay, Jefferson, Rush, Oxford, Washington, Salem, Perry & Bucks Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 33.50	19.88

ENGI0018-003 05/01/2019		

ASHTABULA, CUYAHOGA, ERIE, GEauga, LAKE, LORAIN, MEDINA, PORTAGE, and SUMMIT COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 38.63	15.20
GROUP 2.....	\$ 38.53	15.20
GROUP 3.....	\$ 37.49	15.20

GROUP 4.....	\$ 36.27	15.20
GROUP 5.....	\$ 30.98	15.20
GROUP 6.....	\$ 38.88	15.20
GROUP 7.....	\$ 39.13	15.20

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; Wheel Excavator; and Asphalt Plant Engineer (Cleveland District Only).

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48"; Bulldozer; Endloader; Horizontal Directional Drill (Over 50,000 ft lbs thrust); Hydro Milling Machine; Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24" wide & under); Vermeer type Concrete Saw; and Maintenance Operators (Portage and Summit Counties Only).

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer (Portage and Summit

Counties Only); Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); Welding Machines; and Railroad Tie Inserter/Remover; Articulating/straight bed end dumps if assigned (minus \$4.00 per hour.

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway); Finishing Machine; Fireperson, Floating Equipment (all types); Forklift; Form Trencher; Hydro Hammer expect masonary; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); and Vibratory Compactor with Integral Power.

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt Plant); Generator; Masonry Fork Lift; Inboard-Outboard Motor Boat Launch; Oil Heater (asphalt plant); Oiler/Helper; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4" discharge); Signalperson; Tire Repairperson; VAC/ALLS; Cranes - Compact, track or rubber under 4,000 pound capacity; fueling and greasing; and Chainmen.

GROUP 6 - Master Mechanic & Boom from 150 to 180.

GROUP 7 - Boom from 180 and over.

ENGI0018-004 05/01/2019

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES,

HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, and YANDOT COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 37.14	15.20
GROUP 2.....	\$ 37.02	15.20
GROUP 3.....	\$ 35.98	15.20
GROUP 4.....	\$ 34.80	15.20
GROUP 5.....	\$ 29.34	15.20
GROUP 6.....	\$ 37.39	15.20
GROUP 7.....	\$ 37.64	15.20

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; and Wheel Excavator.

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring

Machine More than 48"; Bulldozer; Endloader; Hydro Milling Machine; Horizontal Directional Drill (over 50,000 ft. lbs. thrust); Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24" wide & under); and Vermeer type Concrete Saw.

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4" & over discharge); Railroad Tie Inserter/Remover; Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); and Welding Machines; Articulating/straight bed end dumps if assigned (minus \$4.00 per hour).

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway); Finishing Machine; Fireperson, Floating Equipment (all types); Fork Lift; Form Trencher; Hydro Hammer expect masonry; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); and Vibratory Compactor with Integral Power.

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt Plant); Generator; Masonary Forklift; Inboard-Outboard Motor Boat Launch; Oil Heater (asphalt plant); Oiler/Helper; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4" discharge); Signaller; Tire Repairperson; VAC/ALLS; Cranes - Compact, track or rubber under 4,000 pound capacity; fueling and greasing; and Chainmen.

GROUP 6 - Master Mechanic & Boom from 150 to 180.

GROUP 7 - Boom from 180 and over.

ENGI0066-023 06/01/2017

COLUMBIANA, MAHONING & TRUMBULL COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 1 - A & B.....	\$ 39.23	19.66
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 2 - A & B.....	\$ 38.90	19.66
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 3 - A & B.....	\$ 34.64	19.66
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 4 - A & B.....	\$ 30.70	19.66
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 5 - A & B.....	\$ 27.30	19.66
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 1 - C & D.....	\$ 35.96	19.66
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 2 - C & D.....	\$ 35.66	19.66
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 3 - C & D.....	\$ 31.76	19.66
HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 4 - C & D.....	\$ 28.14	19.66
HAZARDOUS/TOXIC WASTE PROJECTS		

GROUP 5 - C & D.....	\$ 25.03	19.66
ALL OTHER WORK		
GROUP 1.....	\$ 32.69	19.66
ALL OTHER WORK		
GROUP 2.....	\$ 32.42	19.66
ALL OTHER WORK		
GROUP 3.....	\$ 28.87	19.66
ALL OTHER WORK		
GROUP 4.....	\$ 25.58	19.66
ALL OTHER WORK		
GROUP 5.....	\$ 22.75	19.66

GROUP 1 - Rig, Pile Driver or Caisson Type; & Rig, Pile Hydraulic Unit Attached

GROUP 2 - Asphalt Heater Planer; Backfiller with Drag Attachment; Backhoe; Backhoe with Shear attached; Backhoe-Rear Pivotal Swing; Batch Plant-Central Mix Concrete; Batch Plant, Portable concrete; Berm Builder-Automatic; Boat Derrick; Boat-Tug; Boring Machine Attached to Tractor; Bullclam; Bulldozer; C.M.I. Road Builder & Similar Type; Cable Placer & Layer; Carrier-Straddle; Carryall-Scraper or Scoop; Chicago Boom; Compactor with Blade Attached; Concrete Saw (Vermeer or similar type); Concrete Spreader Finisher; Combination, Bidwell Machine; Crane; Crane-Electric Overhead; Crane-Rough Terrain; Crane-Side Boom; Crane-Truck; Crane-Tower; Derrick-Boom; Derrick-Car; Digger-Wheel (Not trencher or road widener); Double Nine; Drag Line; Dredge; Drill-Kenny or Similar Type; Easy Pour Median Barrier Machine (or similar type); Electromatic; Frankie Pile; Gradall; Grader; Gurry; Self-Propelled; Heavy Equipment Robotics Operator/Mechanic; Hoist-Monorail; Hoist-Stationary & Mobile Tractor; Hoist, 2 or 3 drum; Horizontal Directional Drill Operator; Jackall; Jumbo Machine; Kocal & Kuhlman; Land-Seagoing Vehicle; Loader, Elevating; Loader, Front End; Loader, Skid Steer; Locomotive; Mechanic/Welder; Metro Chip Harvester with Boom; Mucking Machine; Paver-Asphalt Finishing Machine; Paver-Road Concrete; Paver-Slip Form (C.M.I. or similar); Place Crete Machine with Boom; Post Driver (Carrier mounted); Power Driven Hydraulic Pump & Jack (When used in Slip Form or Lift Slab Construction); Pump Crete Machine; Regulator-Ballast; Hydraulic Power Unit not attached to Rig for Pile Drillings; Rigs-Drilling; Roto Mill or similar

Full Lane (8' Wide & Over); Roto Mill or similar type (Under 8'); Shovel; Slip Form Curb Machine; Speedwing; Spikemaster; Stonecrusher; Tie Puller & Loader; Tie Tamper; Tractor-Double Boom; Tractor with Attachments; Truck-Boom; Truck-Tire; Trench Machine; Tunnel Machine (Mark 21 Java or similar); & Whirley (or similar type)

GROUP 3 - Asphalt Plant; Bending Machine (Pipeline or similar type); Boring machine, Motor Driven; Chip Harvester without Boom; Cleaning Machine, Pipeline Type; Coating Machine, Pipeline Type; Compactor; Concrete Belt Placer; Concrete Finisher; Concrete Planer or Asphalt; Concrete Spreader; Elevator; Fork Lift (Home building only); Fork lift & Lulls; Fork Lift Walk Behind (Hoisting over 1 buck high); Form Line Machine; Grease Truck operator; Grout Pump; Gunnite Machine; Horizontal Directional Drill Locator; Single Drum Hoist with or without Tower; Huck Bolting Machine; Hydraulic Scaffold (Hoisting building materials); Paving Breaker (Self-propelled or Ridden); Pipe Dream; Pot Fireperson (Power Agitated); Refrigeration Plant; Road Widener; Roller; Sasgen Derrick; Seeding Machine; Soil Stabilizer (Pump type); Spray Cure Machine, Self-Propelled; Straw Blower Machine; Sub-Grader; Tube Finisher or Broom C.M.I. or similar type; & Tugger Hoist

GROUP 4 - Air Curtain Destructor & Similar Type; Batch Plant-Job Related; Boiler Operator; Compressor; Conveyor; Curb Builder, self-propelled; Drill Wagon; Generator Set; Generator-Steam; Heater-Portable Power; Hydraulic Manipulator Crane; Jack-Hydraulic Power driven; Jack-Hydraulic (Railroad); Ladavator; Minor Machine Operator; Mixer-Concrete; Mulching Machine; Pin Puller; Power Broom; Pulverizer; Pump; Road Finishing Machine (Pull Type); Saw-Concrete-Self-Propelled (Highway Work); Signal Person; Spray Cure Machine-Motor Powered; Stump Cutter; Tractor; Trencher Form; Water Blaster; Steam Jenny; Syphon; Vibrator-Gasoline; & Welding Machine

GROUP 5 - Brakeperson; Fireperson; & Oiler

IRON0017-002 05/01/2021

ASHTABULA (North of Route 6, starting at the Geauga County Line, proceeding east to State Route 45), CUYAHOGA, ERIE (Eastern 2/3), GEauga, HURON (East of a line drawn from the north border through Monroeville & Willard), LAKE, LORAIN, MEDINA (North of Old Rte. #224), PORTAGE (West of a line from Middlefield to Shalersville to Deerfield), and SUMMIT (North of Old Rte. #224, including city limits of Barberton) COUNTIES

	Rates	Fringes
IRONWORKER		
Ornamental, Reinforcing, & Structural.....	\$ 38.03	24.72

IRON0017-010 05/01/2021

ASHTABULA (Eastern part from Lake Erie on the north to route #322 on the south to include Conneaut, Kingsville, Sheffield, Denmark, Dorset, Cherry Valley, Wayne, Monroe, Pierpont, Richmond, Andover & Williamsfield Townships)

	Rates	Fringes
IRONWORKER		
Structural, including metal building erection & Reinforcing.....	\$ 38.03	24.72

* IRON0044-001 06/01/2021

ADAMS (Western Part), BROWN, BUTLER (Southern Part), CLERMONT, CLINTON (South of a line drawn from Blanchester to Lynchburg), HAMILTON, HIGHLAND (Excluding eastern one-fifth & portion of county inside lines drawn from Marshall to Lynchburg from the northern county line through E. Monroe to Marshall) and WARREN (South of a line drawn from Blanchester through Morrow to the west county line) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 31.32	21.00
Beyond 30-mile radius of Hamilton County Courthouse..	\$ 28.67	21.20
Up to & including 30-mile radius of Hamilton County Courthouse.....	\$ 27.60	20.70

IRON0044-002 06/01/2021

CLINTON (South of a line drawn from Blanchester to Lynchburg), HAMILTON, HIGHLAND (Excluding eastern one-fifth & portion of county inside lines drawn from Marshall to Lynchburg from the northern county line through E. Monroe to Marshall) & WARREN (South of a line drawn from Blanchester through Morrow to the

west county line)

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 29.75	21.00
Ornamental; Structural.....	\$ 31.32	21.00

IRON0055-003 07/01/2019

CRAWFORD (Area Between lines drawn from where Hwy #598 & #30 meet through N. Liberty to the northern border & from said Hwy junction point due west to the border), DEFIANCE (S. of a line drawn from where Rte. #66 meets the northern line through Independence to the eastern county border), ERIE (Western 1/3), FULTON, HANCOCK, HARDIN (North of a line drawn from Maysville to a point 4 miles south of the northern line on the eastern line), HENRY, HURON (West of a line drawn from the northern border through Monroeville & Willard), LUCAS, OTTAWA, PUTNAM (East of a line drawn from the northern border down through Miller City to where #696 meets the southern border), SANDUSKY, SENECA, WILLIAMS (East of a line drawn from Pioneer through Stryker to the southern border), WOOD & WYANDOT (North of Rte. #30)

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 21.30	20.92
Flat Road Mesh.....	\$ 29.77	21.30
Tunnels & Caissons Under Pressure.....	\$ 29.77	21.30
All Other Work.....	\$ 30.38	24.40

IRON0147-002 06/01/2021

ALLEN (Northern half), DEFIANCE (Northern part, excluding south of a line drawn from where Rte. #66 meets the northern line through Independence to the eastern county border), MERCER (Northern half), PAULDING, PUTNAM (Western part, excluding east of a line drawn from the northern border down through Miller City to where #696 meets the southern border), VAN WERT, and WILLIAMS (Western part, excluding east of a line drawn from Pioneer through Stryker to the southern border) COUNTIES

Rates Fringes

IRONWORKER.....\$ 30.35 23.40

IRON0172-002 06/01/2021

CHAMPAIGN (Eastern one-third), CLARK (Eastern one-fourth),
COSHOCKTON (West of a line beginning at the northwestern county
line going through Walhonding & Tunnel Hill to the southern
county line), CRAWFORD (South of Rte. #30), DELAWARE,
FAIRFIELD, FAYETTE, FRANKLIN, HARDIN (Excluding a line drawn
from Roundhead to Maysville), HIGHLAND (Eastern one-fifth),
HOCKING, JACKSON (Northern half), KNOX, LICKING, LOGAN (Eastern
one-third), MADISON, MARION, MORROW, MUSKINGUM (West of a line
starting at Adams Mill going to Adamsville & going from
Adamsville through Blue Rock to the southern border), PERRY,
PICKAWAY, PIKE (Northern half), ROSS, UNION, VINTON and WYANDOT
(South of Rte. #30) COUNTIES

Rates Fringes

IRONWORKER.....\$ 32.00 21.00

IRON0207-004 06/01/2021

ASHTABULA (Southern part starting at the Geauga County line),
COLUMBIANA (E. of a line from Damascus to Highlandtown),
MAHONING (N. of Old Route #224), PORTAGE (E. of a line from
Middlefield to Shalersville to Deerfield) & TRUMBULL

Rates Fringes

IRONWORKER

Layout; Sheeter.....\$ 32.07 26.00

Ornamental; Reinforcing;

Structural.....\$ 31.07 26.00

Ornamental; Reinforcing.....\$ 29.72 25.18

IRON0290-002 06/01/2021

ALLEN (Southern half), AUGLAIZE, BUTLER (North of a line drawn
from east to the west county line going through Oxford,
Darrtown & Woodsdale), CHAMPAIGN (Excluding east of a line
drawn from Catawla to the point where #68 intersects the
northern county line), CLARK (Western two-thirds), CLINTON
(Excluding south of a line drawn from Blanchester to
Lynchburg), DARKE, GREENE, HIGHLAND (Inside lines drawn from
Marshall to Lynchburg & from the northern county line through
East Monroe to Marshall), LOGAN (West of a line drawn from
West Liberty to where the northern county line meets the

western county line of Hardin), MERCER (Southern half), MIAMI, MONTGOMERY, PREBLE, SHELBY & WARREN (Excluding south of a line drawn from Blanchester through Morrow to the western county line) COUNTIES

	Rates	Fringes
IRONWORKER.....	\$ 30.99	23.10

IRON0549-003 12/01/2020		

BELMONT, GUERNSEY, HARRISON, JEFFERSON, MONROE & MUSKINGUM (Excluding portion west of a line starting at Adams Mill going to Adamsville and going from Adamsville through Blue Rock to the south border)

	Rates	Fringes
IRONWORKER.....	\$ 34.03	23.22

IRON0550-004 05/01/2021		

ASHLAND, CARROLL, COLUMBIANA (W. of a line from Damascus to Highlandtown), COSHOCTON (E. of a line beginning at NW Co. line going through Walhonding & Tunnel Hill to the South Co. line), HOLMES, HURON (S. of Old Rte. #224), MAHONING (S. of Old Rte. #224), MEDINA (S. of Old Rte. #224), PORTAGE (S. of Old Rte. #224), RICHLAND, STARK, SUMMIT (S. of Old Rte. #224, Excluding city limits of Barberton), TUSCARAWAS, & WAYNE

	Rates	Fringes
Ironworkers:Structural, Ornamental and Reinforcing.....	\$ 30.17	21.08

IRON0769-004 06/01/2021		

ADAMS (Eastern Half), GALLIA, JACKSON (Southern Half), LAWRENCE & SCIOTO

	Rates	Fringes
IRONWORKER.....	\$ 33.00	27.29

IRON0787-003 06/01/2021		

ATHENS, MEIGS, MORGAN, NOBLE, and WASHINGTON COUNTIES

	Rates	Fringes
IRONWORKER.....	\$ 30.68	23.05

* LAB00265-008 05/01/2021

	Rates	Fringes
LABORER		
ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL & WOOD COUNTIES		
GROUP 1.....	\$ 33.70	11.85
GROUP 2.....	\$ 33.87	34.20
GROUP 3.....	\$ 34.20	11.85
GROUP 4.....	\$ 34.65	11.85
CUYAHOGA AND GEAUGA COUNTIES ONLY: SEWAGE PLANTS, WASTE PLANTS, WATER TREATMENT FACILITIES, PUMPING STATIONS, & ETHANOL PLANTS CONSTRUCTION.....		
	\$ 34.93	11.85
CUYAHOGA, GEAUGA & LAKE COUNTIES		
GROUP 1.....	\$ 34.93	11.85
GROUP 2.....	\$ 35.10	11.85
GROUP 3.....	\$ 35.43	11.85
GROUP 4.....	\$ 35.88	11.85
REMAINING COUNTIES OF OHIO		
GROUP 1.....	\$ 33.27	11.85
GROUP 2.....	\$ 33.44	11.85
GROUP 3.....	\$ 33.77	11.85
GROUP 4.....	\$ 35.88	11.85

LABORER CLASSIFICATIONS

GROUP 1 - Asphalt Laborer; Carpenter Tender; Concrete Curing Applicator; Dump Man (Batch Truck); Guardrail and Fence Installer; Joint Setter; Laborer (Construction); Landscape Laborer; Mesh Handlers & Placer; Right-of-way Laborer; Riprap Laborer & Grouter; Scaffold Erector; Seal Coating; Surface Treatment or Road Mix Laborer; Sign Installer; Slurry Seal; Utility Man; Bridge Man; Handyman; Waterproofing Laborer; Flagperson; Hazardous Waste (level D); Diver Tender; Zone Person & Traffic Control

GROUP 2 - Asphalt Raker; Concrete Puddler; Kettle Man Pipeline); Machine Driven Tools (Gas, Electric, Air); Mason Tender; Brick Paver; Mortar Mixer; Power Buggy or Power Wheelbarrow; Paint Striper; Sheeting & Shoring Man; Surface Grinder Man; Plastic Fusing Machine Operator; Pug Mill Operator; & Vacuum Devices (wet or dry); Rodding Machine Operator; Diver; Screwman or Paver; Screed Person; Water Blast, Hand Held Wand; Pumps 4" & Under (Gas, Air or Electric) & Hazardous Waste (level C); Air Track and Wagon Drill; Bottom Person; Cofferdam (below 25 ft. deep); Concrete Saw Person; Cutting with Burning Torch; Form Setter; Hand Spiker (Railroad); Pipelayer; Tunnel Laborer (without air) & Caisson; Underground Person (working in Sewer and Waterline, Cleaning, Repairing & Reconditioning); Sandblaster Nozzle Person; & Hazardous Waste (level B)

GROUP 3 - Blaster; Mucker; Powder Person; Top Lander; Wrencher (Mechanical Joints & Utility Pipeline); Yarnier; Hazardous Waste (level A); Concrete Specialist; Concrete Crew in Tunnels (With Air-pressurized - \$1.00 premium); Curb Setter & Cutter; Grade Checker; Utility Pipeline Tapper; Waterline; and Caulker

GROUP 4 - Miner (With Air-pressurized - \$1.00 premium); & Gunite Nozzle Person

TUNNEL LABORER WITH AIR-PRESSURIZED ADD \$1.00 TO BASE RATE

SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING.

 PAIN0006-002 05/01/2018

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. of the East-West Turnpike) & SUMMIT (N. of the East-West Turnpike)

	Rates	Fringes
PAINTER		
COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS		
GROUP 1.....	\$ 27.90	16.16
GROUP 2.....	\$ 28.30	16.16
GROUP 3.....	\$ 28.60	16.16
GROUP 4.....	\$ 34.16	16.16
COMMERCIAL REPAINT		
GROUP 1.....	\$ 26.40	16.16

GROUP 2.....	\$ 26.80	16.16
GROUP 3.....	\$ 27.10	16.16

PAINTER CLASSIFICATIONS - COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS

GROUP 1 - Brush; & Roller

GROUP 2 - Sandblasting & Buffing

GROUP 3 - Spray Painting; Closed Steel Above 55 feet; Bridges & Open Structural Steel; Tanks - Water Towers; Bridge Painters; Bridge Riggers; Containment Builders

GROUP 4 - Bridge Blaster

PAINTER CLASSIFICATIONS - COMMERCIAL REPAINT

GROUP 1 - Brush; & Roller

GROUP 2 - Sandblasting & Buffing

GROUP 3 - Spray Painting

PAIN007-002 07/01/2019

FULTON, HENRY, LUCAS, OTTAWA (Excluding Allen, Bay, Bono, Catawba Island, Clay Center, Curtice, Danbury, Eagle Beach, Elliston, Elmore, Erie, Fishback, Gem Beach & Genova) & WOOD

	Rates	Fringes
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PAINTER

NEW COMMERCIAL WORK

GROUP 1.....	\$ 27.64	17.79
GROUP 2.....	\$ 27.39	17.79
GROUP 3.....	\$ 27.39	17.79
GROUP 4.....	\$ 27.39	17.79
GROUP 5.....	\$ 27.39	17.79
GROUP 6.....	\$ 27.39	17.79
GROUP 7.....	\$ 27.39	17.79
GROUP 8.....	\$ 27.39	17.79
GROUP 9.....	\$ 27.39	17.79

REPAINT IS 90% OF JR

PAINTER CLASSIFICATIONS

GROUP 1 - Brush; Spray & Sandblasting Pot Tender

GROUP 2 - Refineries & Refinery Tanks; Surfaces 30 ft. or over where material is applied to or labor performed on above ground level (exterior), floor level (interior)

GROUP 3 - Swing Stage & Chair

GROUP 4 - Lead Abatement

GROUP 5 - All Methods of Spray

GROUP 6 - Solvent-Based Catalized Epoxy Materials of 2 or More Component Materials, to include Solvent-Based Conversion Varnish (excluding water based)

GROUP 7 - Spray Solvent Based Material; Sand & Abrasive Blasting

GROUP 8 - Towers; Tanks; Bridges; Stacks Over 30 Feet

GROUP 9 - Epoxy Spray (excluding water based)

PAIN0012-008 05/01/2019

BUTLER COUNTY

	Rates	Fringes
PAINTER		
GROUP 1.....	\$ 21.95	10.20
GROUP 2.....	\$ 25.30	10.20
GROUP 3.....	\$ 25.80	10.20
GROUP 4.....	\$ 26.05	10.20
GROUP 5.....	\$ 26.30	10.20

PAINTER CLASSIFICATIONS

GROUP 1: Bridge Equipment Tender; Bridge/Containment Builder

GROUP 2: Brush & Roller

GROUP 3: Spray

GROUP 4: Sandblasting; & Waterblasting

GROUP 5: Elevated Tanks; Steeplejack Work; Bridge; & Lead Abatement

PAIN0012-010 05/01/2019

BROWN, CLERMONT, CLINTON, HAMILTON & WARREN

	Rates	Fringes
PAINTER		
HEAVY & HIGHWAY BRIDGES-		
GUARDRAILS-LIGHTPOLES-		
STRIPING		
Bridge Equipment Tender and Containment Builder....	\$ 21.95	10.20
Bridges when highest point of clearance is 60 feet or more; & Lead Abatement Projects.....	\$ 26.30	10.20
Brush & Roller.....	\$ 25.30	10.20
Sandblasting & Hopper Tender; Water Blasting.....	\$ 26.05	10.20
Spray.....	\$ 25.80	10.20

PAIN0093-001 12/01/2018

ATHENS, GUERNSEY, HOCKING, MONROE, MORGAN, NOBLE and
WASHINGTON COUNTIES

	Rates	Fringes
PAINTER		
Bridges; Locks; Dams; Tension Towers; & Energized Substations.....	\$ 34.04	18.50
Power Generating Facilities.	\$ 30.89	18.50

PAIN0249-002 06/01/2020

CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE

	Rates	Fringes
PAINTER		
GROUP 1 - Brush & Roller....	\$ 24.17	11.22
GROUP 2 - Swing, Scaffold Bridges; Structural Steel; Open Acid Tank; High		

Tension Electrical Equipment; & Hot Pipes.....	\$ 24.17	11.22
GROUP 3 - Spray; Sandblast; Steamclean; Lead Abatement.....	\$ 24.92	11.22
GROUP 4 - Steeplejack Work..	\$ 25.12	11.22
GROUP 5 - Coal Tar.....	\$ 25.67	11.22
GROUP 6 - Bridge Equipment Tender & or Containment Builder.....	\$ 32.88	11.22
GROUP 7 - Tanks, Stacks & Towers.....	\$ 27.81	11.22
GROUP 8 - Bridge Blaster, Rigger.....	\$ 35.88	11.22

PAIN0356-002 09/01/2009

KNOX, LICKING, MUSKINGUM, and PERRY

	Rates	Fringes
PAINTER		
Bridge Equipment Tenders and Containment Builders....	\$ 27.93	7.25
Bridges; Blasters; and Riggers.....	\$ 34.60	7.25
Brush and Roller.....	\$ 20.93	7.25
Sandblasting; Steam Cleaning; Waterblasting; and Hazardous Work.....	\$ 25.82	7.25
Spray.....	\$ 21.40	7.25
Structural Steel and Swing Stage.....	\$ 25.42	7.25
Tanks; Stacks; and Towers...	\$ 28.63	7.25

PAIN0438-002 12/01/2018

BELMONT, HARRISON and JEFFERSON COUNTIES

	Rates	Fringes
PAINTER		
Bridges, Locks, Dams, Tension Towers & Energized Substations.....	\$ 32.80	17.68
Power Generating Facilities.	\$ 29.65	17.68

PAIN0476-001 06/01/2020

COLUMBIANA, MAHONING, and TRUMBULL COUNTIES

	Rates	Fringes
PAINTER		
GROUP 1.....	\$ 26.47	14.53
GROUP 2.....	\$ 33.10	14.53
GROUP 3.....	\$ 26.68	14.53
GROUP 4.....	\$ 27.12	14.53
GROUP 5.....	\$ 27.12	14.53
GROUP 6.....	\$ 27.37	14.53
GROUP 7.....	\$ 28.47	14.53

PAINTER CLASSIFICATIONS:

GROUP 1: Painters, Brush & Roller

GROUP 2: Bridges

GROUP 3: Structural Steel

GROUP 4: Spray, Except Bar Joist/Deck

GROUP 5: Epoxy/Mastic; Spray- Bar Joist/Deck; Working Above
50 Feet; and Swingstages

GROUP 6: Tanks; Sandblasting

GROUP 7: Towers; Stacks

PAIN0555-002 06/01/2021

ADAMS, HIGHLAND, JACKSON, PIKE & SCIOTO

	Rates	Fringes
PAINTER		
GROUP 1.....	\$ 31.95	17.05
GROUP 2.....	\$ 33.47	17.05
GROUP 3.....	\$ 34.99	17.05
GROUP 4.....	\$ 37.97	17.05

PAINTER CLASSIFICATIONS

GROUP 1 - Containment Builder

GROUP 2 - Brush; Roller; Power Tools, Under 40 feet

GROUP 3 - Sand Blasting; Spray; Steam Cleaning; Pressure
Washing; Epoxy & Two Component Materials; Lead Abatement;

Hazardous Waste; Toxic Materials; Bulk & Storage Tanks of 25,000 Gallon Capacity or More; Elevated Tanks

GROUP 4 - Stacks; Bridges

PAIN0639-001 05/01/2011

	Rates	Fringes
Sign Painter & Erector.....	\$ 20.61	3.50+a+b+c

FOOTNOTES: a. 7 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; Christmas Day & 1 Floating Day
 b. Vacation Pay: After 1 year's service - 5 days' paid vacation; After 2, but less than 10 years' service - 10 days' paid vacation; After 10, but less than 20 years' service - 15 days' paid vacation; After 20 years' service - 20 days' paid vacation
 c. Funeral leave up to 3 days maximum paid leave for death of mother, father, brother, sister, spouse, child, mother-in-law, father-in-law, grandparent and inlaw provided employee attends funeral

PAIN0788-002 06/01/2020

ASHLAND, CRAWFORD, ERIE, HANCOCK, HURON, MARION, MORROW, OTTAWA (Allen, Bay, Bono, Catawba Island, Clay Center, Curtice, Danbury, Eagle Beach, Elliston, Elmore, Erie, Fishback, Gem Beach & Genoa), RICHLAND, SANDUSKY, SENECA & WYANDOT

	Rates	Fringes
PAINTER		
Brush & Roller.....	\$ 24.66	14.05
Structural Steel.....	\$ 26.26	14.05

WINTER REPAINT: Between December 1 to March 31 - 90%JR

\$.50 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK:

While working swingstage, boatswain chair, needle beam and horizontal cable. While operating sprayguns, sandblasting, cobblasting and high pressure waterblasting (4000psi).

\$1.00 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE

CLASSIFICATION OF WORK:

For the application of catalized epoxy, including latex epoxy that is deemed hazardous, lead abatement, or for work or material where special precautions beyond normal work duties must be taken. For working on stacks, tanks, and towers over 40 feet in height.

PAIN0813-005 12/01/2008

GALLIA, LAWRENCE, MEIGS & VINTON

	Rates	Fringes
PAINTER		
Base Rate.....	\$ 24.83	10.00
Bridges, Locks, Dams & Tension Towers.....	\$ 27.83	10.00

PAIN0841-001 06/01/2018

MEDINA, PORTAGE (South of and including Ohio Turnpike), and
SUMMIT (South of and including Ohio Turnpike) COUNTIES

	Rates	Fringes
Painters:		
GROUP 1.....	\$ 25.75	14.35
GROUP 2.....	\$ 26.40	14.35
GROUP 3.....	\$ 26.50	14.35
GROUP 4.....	\$ 26.60	14.35
GROUP 5.....	\$ 27.00	14.35
GROUP 6.....	\$ 39.20	11.75
GROUP 7.....	\$ 27.00	14.35

PAINTER CLASSIFICATIONS:

GROUP 1 - Brush, Roller & Paperhanger

GROUP 2 - Epoxy Application

GROUP 3 - Swing Scaffold, Bosum Chair, & Window Jack

GROUP 4 - Spray Gun Operator of Any & All Coatings

GROUP 5 - Sandblast, Painting of Standpipes, etc. from
Scaffolds, Bridge Work and/or Open Structural Steel,
Standpipes and/or Water Towers

GROUP 6 - Public & Commerce Transportation, Steel or Galvanized, Bridges, Tunnels & Related Support Items (concrete)

GROUP 7 - Synthetic Exterior, Drywall Finisher and/or Taper, Drywall Finisher and Follow-up Man Using Automatic Tools

 PAIN0841-002 06/01/2018

CARROLL, COSHOCTON, HOLMES, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
PAINTER		
Bridges; Towers, Poles & Stacks; Sandblasting Steel; Structural Steel & Metalizing.....	\$ 22.78	13.63
Brush & Roller.....	\$ 21.77	13.63
Spray; Tank Interior & Exterior.....	\$ 22.60	13.63

 PAIN1020-002 07/01/2020

ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, and WILLIAMS COUNTIES

	Rates	Fringes
PAINTER		
Brush & Roller.....	\$ 25.22	14.11
Drywall Finishing & Taping..	\$ 23.92	14.11
Lead Abatement.....	\$ 26.97	14.11
Spray, Sandblasting Pressure Cleaning, & Refinery.....	\$ 25.87	14.11
Swing Stage, Chair, Spiders, & Cherry Pickers...	\$ 25.47	14.11
Wallcoverings.....	\$ 22.82	14.11

All surfaces 40 ft. or over where material is applied to or labor performed on, above ground level (exterior), floor level (interior) - \$.50 premium

Applying Coal Tar Products - \$1.00 premium

PAIN1275-002 06/01/2020

DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION

	Rates	Fringes
PAINTER		
Bridges.....	\$ 34.64	14.40
Brush; Roller.....	\$ 25.16	14.40
Sandblasting; Steamcleaning; Waterblasting (3500 PSI or Over)& Hazardous Work.....	\$ 25.86	14.40
Spray.....	\$ 25.66	14.40
Stacks; Tanks; & Towers.....	\$ 28.67	14.40
Structural Steel & Swing Stage.....	\$ 25.46	14.40

PLAS0109-001 05/01/2018

MEDINA, PORTAGE, STARK, and SUMMIT COUNTIES

	Rates	Fringes
PLASTERER.....	\$ 28.86	17.11

PLAS0109-003 05/01/2018

CARROLL, HOLMES, TUSCARAWAS, and WAYNE COUNTIES

	Rates	Fringes
PLASTERER.....	\$ 28.21	17.11

PLAS0132-002 05/01/2018

BROWN, BUTLER, CLERMONT, HAMILTON, HIGHLAND, WARREN COUNTIES

	Rates	Fringes
PLASTERER.....	\$ 28.86	17.11

PLAS0404-002 05/01/2018

ASHTABULA, CUYAHOGA, GEAUGA, AND LAKE COUNTIES

Rates	Fringes
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PLASTERER.....\$ 29.63 17.11

PLAS0404-003 05/01/2018

LORAIN COUNTY

Rates Fringes

PLASTERER.....\$ 28.86 17.11

PLAS0526-022 05/01/2018

COLUMBIANA, MAHONING, and TRUMBULL COUNTIES

Rates Fringes

PLASTERER.....\$ 28.86 17.11

PLAS0526-023 05/01/2018

BELMONT, HARRISON, and JEFFERSON COUNTIES

Rates Fringes

PLASTERER.....\$ 28.21 17.11

PLAS0886-001 05/01/2018

FULTON, HANCOCK, HENRY, LUCAS, PUTNAM, and WOOD COUNTIES

Rates Fringes

PLASTERER.....\$ 29.63 17.11

PLAS0886-003 05/01/2018

DEFIANCE, ERIE, HURON, OTTAWA, PAULDING, SANDUSKY, and SENECA COUNTIES

Rates Fringes

PLASTERER.....\$ 28.86 17.11

PLAS0886-004 05/01/2018

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, and VAN WERT COUNTIES

Rates Fringes

PLASTERER.....\$ 28.21 17.11

PLUM0042-002 07/01/2020

ASHLAND, CRAWFORD, ERIE, HURON, KNOX, LORAIN, MORROW, RICHLAND
& WYANDOT

Rates Fringes

Plumber, Pipefitter,
Steamfitter.....\$ 34.82 24.67

PLUM0050-002 07/06/2020

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING,
PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD

Rates Fringes

Plumber, Pipefitter,
Steamfitter.....\$ 43.60 26.73

PLUM0055-003 05/04/2021

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, MEDINA (N. of Rte. #18 &
Smith Road) & SUMMIT (N. of Rte. #303, including the corporate
limits of the city of Hudson)

Rates Fringes

PLUMBER.....\$ 38.47 28.07

PLUM0083-001 07/01/2017

BELMONT & MONROE (North of Rte. #78)

Rates Fringes

Plumber and Steamfitter.....\$ 32.16 31.51

PLUM0094-002 05/01/2020

CARROLL (Northen Half), STARK, and WAYNE COUNTIES

Rates Fringes

PLUMBER/PIPEFITTER.....\$ 35.78 21.44

PLUM0120-002 05/03/2021

ASHTABULA, CUYAHOGA, GAUGA, LAKE, LORAIN (the C.E.I. Power House in Avon Lake), MEDINA (N. of Rte. #18) & SUMMIT (N. of #303)

	Rates	Fringes
PIPEFITTER.....	\$ 41.72	26.30

PLUM0162-002 06/01/2021

CHAMPAIGN, CLARK, CLINTON, DARKE, FAYETTE, GREENE, MIAMI, MONTGOMERY & PREBLE

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	\$ 33.40	27.09

PLUM0168-002 06/01/2021

MEIGS, MONROE (South of Rte. #78), MORGAN (South of Rte. #78) & WASHINGTON

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 37.09	33.26

PLUM0189-002 06/01/2019

DELAWARE, FAIRFIELD, FRANKLIN, HOCKING, LICKING, MADISON, MARION, PERRY, PICKAWAY, ROSS & UNION

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	\$ 38.45	16.98

PLUM0219-002 06/01/2021

MEDINA (Rte. #18 from eastern edge of Medina Co., west to eastern corporate limits of the city of Medina, & on the county road from the west corporate limits of Medina running due west to and through community of Risley to the western edge of

Medina County - All territory south of this line), PORTAGE, and SUMMIT (S. of Rte. #303) COUNTIES

	Rates	Fringes
Plumber and Steamfitter.....	\$ 40.42	24.66

PLUM0392-002 06/01/2021		

BROWN, BUTLER, CLERMONT, HAMILTON & WARREN

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 35.21	22.99

PLUM0396-001 06/01/2021		

COLUMBIANA (Excluding Washington & Yellow Creek Townships & Liverpool Twp. - Secs. 35 & 36 - West of County Road #427), MAHONING and TRUMBULL COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 35.35	27.01

PLUM0495-002 06/01/2018		

CARROLL (Rose, Monroe, Union, Lee, Orange, Perry & Loudon Townships), COLUMBIANA (Washington & Yellow Creek Townships & Liverpool Township, Secs. 35 & 36, West of County Rd. #427), COSHOCTON, GUERNSEY, HARRISON, HOLMES, JEFFERSON, MORGAN (South to State Rte. #78 & from McConnelsville west on State Rte. #37 to the Perry County line), MUSKINGUM, NOBLE, and TUSCARAWAS COUNTIES

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	\$ 38.24	23.09

PLUM0577-002 06/01/2019		

ADAMS, ATHENS, GALLIA, HIGHLAND, JACKSON, LAWRENCE, PIKE, SCIOTO & VINTON

Rates	Fringes
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Plumber, Pipefitter,
 Steamfitter.....\$ 34.90 24.11

 PLUM0776-002 07/01/2020

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY and VAN WERT
 COUNTIES

Rates Fringes

Plumber, Pipefitter,
 Steamfitter.....\$ 37.63 25.58

 TEAM0377-003 05/01/2021

STATEWIDE, EXCEPT CUYAHOGA, GEAUGA & LAKE

Rates Fringes

TRUCK DRIVER
 GROUP 1.....\$ 29.74 15.70
 GROUP 2.....\$ 30.16 15.70

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Asphalt Distributor; Batch; 4- Wheel Service;
 4-Wheel Dump; Oil Distributor & Tandem

GROUP 2 - Tractor-Trailer Combination: Fuel; Pole Trailer;
 Ready Mix; Semi-Tractor; & Asphalt Oil Spraybar Man When
 Operated From Cab; 5 Axles & Over; Belly Dump; End Dump;
 Articulated Dump; Heavy Duty Equipment; Low Boy; & Truck
 Mechanic

 TEAM0436-002 05/01/2021

CUYAHOGA, GEAUGA & LAKE

Rates Fringes

TRUCK DRIVER
 GROUP 1.....\$ 30.65 16.95
 GROUP 2.....\$ 31.15 16.95

GROUP 1: Straight & Dump, Straight Fuel

GROUP 2: Semi Fuel, Semi Tractor, Euclids, Darts, Tank,

Asphalt Spreaders, Low Boys, Carry-All, Tourna-Rockers, Hi-Lifts, Extra Long Trailers, Semi-Pole Trailers, Double Hook-Up Tractor Trailers including Team Track & Railroad Siding, Semi-Tractor & Tri-Axle Trailer, Tandem Tractor & Tandem Trailer, Tag Along Trailer, Expandable Trailer or Towing Requiring Road Permits, Ready-Mix (Agitator or Non-Agitator), Bulk Concrete Driver, Dry Batch Truck, Articulated End Dump

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate

(weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in

the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

SECTION M

***SPECIAL PROVISIONS/TECHNICAL
SPECIFICATIONS
AND
ODOT'S LPA TEMPLATE
REQUIRED CONTRACT PROVISIONS***

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
SPECIAL PROVISIONS/TECHNICAL SPECIFICATIONS**

The 2019 Ohio Department of Transportation Construction and Material Specifications and the Supplemental Specifications shall govern this project unless stated otherwise by the Warren County Engineer, herein referred to as “Engineer”, “Project Engineer”, and “County Engineer”.

It is required that the bidder be an ODOT pre-qualified Contractor to complete the construction work required in these Bid Documents. The Contractor, Sub-Contractor, and Fabricators must meet or exceed the ODOT Minimum Skills Requirements for all Work Types involved in this project.

Conflicting Items in Bid Documents

Whenever the Technical Specifications and Bid Proposal Quantities differ from the Construction Plans, the Technical Specifications and Bid Proposal Quantities shall control for the bidding of this project.

Project Responsibilities

This project is bid as an ODOT LPA Project by the Warren County Engineer’s Office. ODOT involvement in the project will follow the typical ODOT LPA process. The project is funded with federal funds through ODOT, state funds through the Ohio Public Works Commission (OPWC), and local funds by the Warren County Engineer’s Office.

Construction Engineering and Project Inspection

The Warren County Engineer’s Office will acquire the services of an ODOT Prequalified Consultant to oversee all construction engineering and project inspection for the project. The Warren County Engineer’s Office will also acquire the services of a Certified Professional (CP) under OEPA’s Voluntary Action Program (VAP) to provide guidance in identification and the management of wastes generated during the project.

Operations Schedule

The Contractor shall advise and coordinate all work with the Engineer. A detailed Critical Path Method Progress Schedule, per ODOT Proposal Note 107 (10/19/18), shall be furnished by the Contractor to the Engineer. The Engineer and the Owner prior to the beginning of the work shall approve the schedule of operations. Changes to said schedule are to be issued in writing and approved by the Engineer before operations are changed or rescheduled. The Contractor shall schedule operations so that the improved areas have had sufficient time to cure, set and/or harden before the area is opened to traffic or use. The Contractor shall be responsible for the immediate repair of the improved area if any damage is done by traffic. The Contractor shall also be responsible for the immediate rectification of problems created in areas outside of the improved areas attributable to the failure of the improved area, i.e., the tracking of materials into unimproved areas. Payment for the work listed above shall be included in the Lump Sum bid price for Item 108 CPM Progress Schedule.

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OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
SPECIAL PROVISIONS/TECHNICAL SPECIFICATIONS**

Preconstruction Meeting

Prior to the commencement of the construction activities, the Warren County Engineer will arrange a meeting between the Contractor, the Warren County Engineer, the Warren County Water and Sewer Department, the City of Mason, the Village of South Lebanon, the SW Ohio Scenic River Manager, Little Miami State Park Manager, ODOT, Consultant providing construction engineering and project inspection, and Certified Professional Consultant under OEPA's Voluntary Action Program. The time, date and location of said meeting will be determined after the awarding of the contract, and all parties will be notified by the Warren County Engineer. At the preconstruction meeting the Contractor shall submit to the Project Engineer a construction schedule, list of subcontractors, list of suppliers, and approved material list.

Project Start Date

The Contractor shall begin the construction once a written notice-to-proceed has been given by the Board of Warren County Commissioners and a preconstruction meeting with the Warren County Engineer has been held. The anticipated first day of construction is Monday, March 7, 2022, the tree removal must be completed by March 31, 2022.

Completion Time

The anticipated completion date is Monday, December 4, 2023. Liquidated damages for non-completion beyond this date shall follow the CMS 108.07. Once work has started it shall be expected that work will be performed every work day on the project in an expeditious manner until the project is complete unless of incimate weather.

Working Restrictions

No work shall be done between 6:00 pm Friday and 7:00 am Monday or during holidays, unless approved by the County Engineer. In addition, night work of any type shall be strictly prohibited, unless approved by the County Engineer.

Payment of Work

Contractor estimates shall not be submitted more than once a month to the Warren County Engineer for work included in the Contract between the Board of Warren County Commissioners and the Contractor. This is an LPA project with federal funds and an OPWC project with state funds, so estimates will be reviewed by the County Engineer and then sent to ODOT and OPWC for reviews. ODOT will make direct payments to the Contractor for eligible construction costs, OPWC will make direct payments to the Contractor for eligible construction costs, and Warren County will make payments to the Contractor for the remaining construction costs.

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
SPECIAL PROVISIONS/TECHNICAL SPECIFICATIONS**

Change Orders

No change orders involving performance or nonperformance contract quantities of project materials shall be processed without direct approval by the Warren County Engineer.

Storage of Construction Materials

The Contractor shall obtain prior approval of the Owner and/or Engineer for the locations to be used for the temporary storage of construction materials, tools, and/or machinery. **Storage of any fuel or toxic/hazardous materials within the 100 year floodplain of the Little Miami River is prohibited.** All such materials, tools, and machinery shall be neatly and compactly piled in such a manner as to cause the least inconvenience to the property owners and to traffic. Under no circumstances shall existing drainage courses be blocked or water hydrants, valves, or meter pits covered.

Protection of Areas Outside of Work Limits

The Contractor shall be responsible for the protection of areas outside of the designated work limits, but which may be adjacent to those work limits. This will include those areas used by construction traffic for access to and from the work areas. Where the Engineer determines that the Contractor's operations have been responsible for damage to areas outside of the work limits, the Contractor shall be responsible for the repair of the area subject to the approval of the Engineer. No additional compensation will be due to the Contractor for any repair of these areas.

Instream Work (Little Miami River, Stream 1, and Stream 7)

The Contractor shall not perform any excavation or place any fill material below the Ordinary High Water Elevation of the river at the location of the new bridge. Earth disturbing equipment shall not be used in the river at the location of the new bridge. USACE permits will be obtained to allow fill in the river for the demolition of the existing bridge, as detailed in the Demolition Plan sheets. In stream work shall take place during the rivers low flow between August 1st and October 31st, 2023. It is anticipated that the permits will limit the in stream work for the box culvert replacement at Stream 1 and the 36 inch culvert replacement at Stream 7 to the streams low flow between August 1st and October 31st as well. Waivers for the Stream 1 and 7 restrictions will be requested by the WCEO.

Waterway Permits

The waterway permits being obtained from USACE are a NWP 14 (Linear Transportation Projects), NWP 58 (Utility Line Activities for Water and Other Substances), Section 10 Permit (Rivers and Harbors Act of 1899). The PCN application for the NW and Section 10 permits was submitted to USACE on 7/28/21 by ODOT. It is anticipated that these permits will be approved no later than the project award date in February 2022.

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
SPECIAL PROVISIONS/TECHNICAL SPECIFICATIONS**

The waterway permit being obtained for this project from the OEPA is a Director's Authorization (DA) for coverage under the 401 Water Quality Certification for the Nationwide Permits. The DA was submitted to OEPA on 7/28/21 by ODOT. It is anticipated that this permit will be approved no later than the project award date in February 2022.

Debris Removal

The Contractor shall be responsible for removal from the site of all construction debris material. All debris material shall be disposed of in a proper manner and shall be as directed by any applicable local, state or federal regulations. Contractor shall take precautions to avoid any demolition debris from entering the stream. Any material that does fall into the stream shall be removed as soon as possible.

Since a portion of the construction site has a potential of encountering elevated levels of lead, arsenic, benzo(a)pyrene, and naphthalene in soils and elevated metal levels in groundwater based on previous sampling investigations, the services of a Certified Professional (CP) under OEPA's Voluntary Action Program (VAP) is in place to provide guidance in identification and the management of wastes generated during the project.

Asbestos Notification for Bridge #282-0.97

An asbestos survey of the existing Bridge #282-0.97 over the Little Miami River, SFN 8335001, was completed by a certified asbestos hazard evaluation specialist (CAHES) on 9/4/19. A copy of the Ohio Environmental Protection Agency Notification of Demolition and Renovation form partially completed by Warren County and a copy of the asbestos survey will be provided to the Contractor at the preconstruction meeting. Although, asbestos abatement is not required, the Contractor shall finalize the form and submit it along with the necessary fee to the Ohio EPA, DAPC Asbestos Program, at least 10 days prior to demolition activities. A completed form and payment can be mailed to the Ohio EPA or it can be completed and paid online at the following website <http://epa.ohio.gov/dapc/atu/asbestos>. Payment for the work listed above as well as the Ohio EPA form fee shall be included in the Lump Sum bid price for Item 202 Structure Removed, Over 20 Foot Span.

Debris Containment

The Contractor shall prevent all material, bridge sealers, and other construction debris from falling into the river during the entire project. Any material which falls into the river shall be removed immediately. The Contractor shall utilize appropriate aprons for complete containment of all sealer debris particles from spillage or over spray. Disposal of material within wetlands, floodplains, or within 1,000 feet of the Little Miami River is prohibited.

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
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Utility Notification

The Contractor shall notify at least 48 hours before breaking ground all public and/or private service corporation having wires, poles, conduits, manholes, or other structures that may be affected by the construction on this project, including all structures which are affected and not shown on the plans. Owners of underground utilities, which are members of OUPS, can be notified by calling 1-800-362-2764. Non-member underground utility owners must be called directly.

Utility Adjustments and Verification

The Contractor shall adjust to proposed grade all existing utility facilities, i.e. manholes, catch basins, valves, boxes, etc., prior to the commencement of paving operation. This shall include utility facilities, not shown on the plan, which may be found to be located within the pavement area. Work performed on the utility facilities shall be in strict accordance with the specifications of the applicable utility owner and shall be performed under the direction, supervision and inspection of said owner.

Existing Pipe

The location, size, type and depth of all existing pipe are shown as according to the best information. The Engineer will not be responsible for any variations found during construction. Where the plans provide for conduit to be connected to, or to cross either over or under, or close to an existing underground structure, it shall be the responsibility of the Contractor to locate the existing structure, both as to line and grade, before he starts to lay the proposed conduit, in order to assure compatibility of line and grade of the proposed conduit. Payment for all operations described above shall be included in the unit bid price for the pertinent conduit item.

Maintenance of Sewer Flows

The Contractor shall conduct his operations so as to maintain at all times storm water and sewer flows through existing facilities to remain in place and through existing facilities to be replaced until new facilities are completed and placed in use.

Grading at Inlets and Outfalls of Proposed Conduits

The cost of the necessary reconstruction and/or regrading of swales or disturbed areas at the inlets and outfalls of all proposed conduits shall be included in the price bid for the pertinent conduit and inlet items.

Restoration of Areas Disturbed by Drainage Facilities

Soil areas disturbed by construction of underdrains, trench drains, catch basins or other drainage facilities shall be regraded to drain properly and then restored. The cost of restoration of these

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
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SPECIAL PROVISIONS/TECHNICAL SPECIFICATIONS**

soil areas is to be per the unit bid for the pertinent item. Pavement areas disturbed by the construction of the drainage facilities will be restored as per the pertinent asphalt typical section. Payment for the restoration of these areas will be at the unit bid price for the pertinent item.

Conduit End Treatment

Immediately after placement of any conduits, the Contractor shall construct the end treatments required by the plans at both the outlet and inlet ends. This shall include headwalls, concrete riprap, rock channel protection, sodding, etc.

Conduit, Drainage and Utility Items

Unless otherwise specified on the plans, the unit price bid for the pertinent conduit, drainage and/or utility item shall include the cost of all-necessary appurtenances, connections, fittings, plugs, tees, collars, etc.

Unless otherwise noted on the plans, the unit price for the pertinent conduit, drainage and/or utility item is to include the costs involved in the excavation of the trench in unclassified material, the supplying and placing of the required bedding material and the backfilling of the trench with the specified material to the appropriate subgrade elevations.

The contractor shall take precaution while excavating for pipe near existing utilities. If necessary, the contractor shall hand dig in areas where proposed pipe is to be installed near an existing utility. The Contractor shall hold Warren County harmless of liabilities which may arise from the damaging of existing utilities. The payment for hand digging in areas near existing utilities shall be paid for under the unit bid price for the pertinent item.

Little Miami River and Scenic Trail Work Coordination

The Contractor shall notify the Ohio Department of Natural Resources SW Ohio Scenic River Manager and the Little Miami State Park Manager two weeks prior to starting construction on the project, performing any work near the Little Miami River or the Little Miami Scenic Trail, and in advance of the existing bridge demolition.

Contact Information is:

SW Ohio Scenic River Manager
Aaron Rourke
Aaron.Rourke@dnr.state.oh.us
937-382-1096 (Office)
614-230-8534 (Cell)

Little Miami State Park Manager
Melissa Clark
Melissa.Clark@dnr.state.oh.us
937-382-1096 (Office)
937-408-8554 (Cell)

The SW Ohio Scenic River Manager shall conduct a final inspection before the completion of the project.

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
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Item 201 - Clearing and Grubbing

This work shall consist of clearing, grubbing, scalping, removal of trees and stumps, and removing and disposing of all vegetation and debris within the limits of construction, except such objects as are to remain or are to be removed in accordance with other sections of these specifications. It is estimated that 150 trees ranging in size from 18” to 48” diameters will need to be removed for the construction of the project. The Contractor shall keep clearing to a minimum removing only what is necessary to complete construction. **Tree removal must be completed outside of bat roosting season, all tree work shall be completed by March 31st, 2022.** Payment for the work listed above shall be included in the Lump Sum bid price for Item 201 Clearing and Grubbing.

Endangered Bat Habitat Removal

The project is located within the known habitat ranges of the federally listed and protected Indiana Bat and Northern Long-eared Bat. No trees shall be removed under this project from April 1st through September 30th. All necessary tree removal shall occur from October 1st through March 31st. This requirement is necessary to avoid and minimize impacts to these species as required by the Endangered Species Act. For the purpose of this note, a tree is defined as a live, dying, or dead woody plant, with a trunk 3 inches or greater in diameter at a height of 4.5 feet above the ground surface, and with a minimum height of 13 feet.

Item 202 – Removals

This work shall consist of the removal, wholly or in part, and satisfactory disposal of all buildings, fences, guardrails, structures, old pavements, abandoned pipe lines, storage tanks, septic tanks, privy vaults, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the contract. It shall also include the salvaging of designated materials and backfilling the resulting trenches, holes, and pits.

Item 202 – Structure Removed, Over 20 Foot Span

The Contractor shall be responsible for all the equipment, materials, and labor necessary in the removal of the existing bridge over the Little Miami River. The demolition consists of removal of the asphalt wearing course, bridge rail, concrete box beams, and the reinforced concrete abutments and piers as detailed in the plans. The Contractor shall remove the asphalt wearing course before any portion of the bridge is removed and shall make every effort to keep deck material and other debris out of the river during removal through the use of appropriate aprons or barriers. Any material that enters the river shall be removed immediately. The abutments and piers shall be removed to 1 foot below the existing grade, piers located in the river shall be removed to down to the same elevation as the surrounding riverbed. Excavated areas for abutment and pier footing removals shall be backfilled and compacted with suitable fill material. An USACE permit has been obtained to allow fill in the river for the demolition of the existing

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
OVER LITTLE MIAMI RIVER IMPROVEMENTS PROJECT
SPECIAL PROVISIONS/TECHNICAL SPECIFICATIONS**

bridge, as detailed in the Demolition Plan sheets. In stream work shall take place during the rivers low flow between August 1st and October 31st, 2023. Prior to starting the demolition work, the WCEO is to coordinate a mussel relocation effort in the area of the existing bridge. The mussel relocation shall take place between May 1st and October 1st, 2023. The Contractor shall take into consideration the deterioration and condition of the existing concrete box beams when planning means and methods of removing asphalt wearing surface. The bridge is currently posted for reduced weights based on number of axels per vehicle. Payment for the work listed above shall be included in the Lump Sum bid price for Item 202 Structure Removed, Over 20 Foot Span.

Existing Bridge Plans

The Warren County Engineer can provide the existing bridge plans and the concrete box beam shop drawings to the Contractor at their request.

Item 202 – Pavement Removed

There are two locations where pavement removal is not included in the cost of excavation. One is the removal of 520 SY of pavement north of the existing Little Miami River bridge abutment, as detailed in the Grading Plan. The second is 110 SY of pavement along the side of Grandin Road, which is part of the old buildings being removed, as detailed in the Plan and Profile sheet. Payment for the work listed above shall be included in the bid price per SY for Item 202 Pavement Removed.

Item 203 – Excavation Including Pavement Removal

All excavation work shall comply with Item 203 Excavation in the 2019 ODOT Construction and Materials Specifications. Payment for the excavation work including the existing asphalt pavement removal and saw cutting, as detailed in the plans shall be included in bid price per CY for Item 203 Excavation including Pavement Removal. The Contractor shall saw cut the pavement areas before removing to obtain a uniform edge.

Roadway Embankment

Approximately 10,000 CY of unexcavated clay fill material is on Deerfield Township’s property located between the Kings Mills Elementary School and the Kings Mansion near the intersection of King Avenue and Kings Court. The Contractor can excavate this material and use it as a portion of the roadway embankment for the project. The Warren County Engineer can provide the soil boring report for the embankment material to the Contractor at their request.

The Procter & Gamble Company facility located at 8700 Mason-Montgomery Road, Mason, OH 45040 has fill material to accommodate a portion of the embankment needed for the project. If the Contractor plans to use this fill material it will be the responsibility of the Contractor to work out arrangements for access to the site and loading of the fill material with the Company’s contact: John Reese, Phone: 513-720-9661, Email: Reese.j.1@pg.com

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Item 254 – Pavement Planing, Asphalt Concrete

The Contractor shall perform pavement planing, approximately 1 ½ inches, on Grandin Road from Sta 119+50 to Sta 120+80, prior to the resurfacing of this area. This work shall conform to the 2019 Ohio Department of Transportation Construction and Material Specifications and shall be completed as directed by the Engineer. A butt joint shall be constructed at each start/stop locations. Each butt joint shall provide a smooth transition and shall also be properly sealed. The Contractor shall be responsible for removing and disposing of the cuttings. The cost of this work shall be paid for at the unit price bid per SY of Item 254 Pavement Planing.

Asphalt Concrete

All material furnished and work performed shall conform to the 2019 Ohio Department of Transportation Construction and Material Specifications (ODOT CMS) for Item 301 Asphalt Concrete Base, Item 441 Asphalt Concrete Intermediate Course, and Item 441 Asphalt Concrete Surface Course. The Contractor shall supply the County Engineer with a weigh ticket for each load of material placed.

No material shall be placed upon collected water. Asphalt surfaces shall be clear of dirt and debris prior to the placing of each subsequent lift. The Contractor shall adhere to the judgment of the Warren County Engineer’s designated representatives.

The Contractor's attention is directed to Section 401.14 of the ODOT Specifications and is hereby instructed that requirements for preparation of asphalt pavement to be resurfaced will be adhered to, and cost of any and all cleaning is to be included in the unit price bid for Item 301 and Item 441.

Butt Joints - A butt joint shall be constructed by grinding/planing existing pavement at each start/stop location, or where newly placed asphalt abuts existing pavement or curb at intersections or cross roads. All grinding/ planing shall be in accordance with Item 254 Pavement Planing, Bituminous. The butt joints shall be constructed by grinding/planing the existing pavement for a length of 6 feet, varying in depth from 2” to 0”. The newly formed joint shall be properly installed so as to provide a smooth transition and shall also be properly sealed. The cost of constructing each butt joint by pavement planing/grinding shall be included and paid for in Item 441 Asphalt Concrete.

Item Special – Undercutting Subgrade

All subgrade areas beneath new pavement must be shaped and compacted in accordance with the plans and/or specifications.

Where areas of unsuitable subgrade material are found, the unsuitable material shall be removed and replaced as per Section 204. The removal of the material will be to the limits determined in

**KING AVENUE BRIDGE #282-0.97 REPLACEMENT
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SPECIAL PROVISIONS/TECHNICAL SPECIFICATIONS**

the field by the Engineer, and the limits of the removal will be measured by the Engineer in order to determine quantities for payment. The Contractor shall be responsible for scheduling his operations with the Engineer so that the proper measurements may be obtained for these calculations. It is anticipated that the maximum depth of the excavation will be three (3) feet. An estimated quantity of 1,000 CY of Item Special Undercutting Subgrade has been included in the proposal for use in undercutting unsuitable soil areas as determined by the Engineer.

The Contractor shall remove the unsuitable materials from the site and the Contractor shall be responsible for the proper disposal of said waste materials. The Borrow materials used for replacing the unsuitable subgrade materials shall consist of soils as described in Section 203 and shall be of such unit weight as to be satisfactory for subgrade construction as required by the specifications. Granular materials shall not be used unless specifically authorized by the Engineer. The embankment materials shall be placed in layers and to the density requirements as described in Section 203.

The undercut areas beneath new pavement must be shaped and compacted using a heavy duty, tamping-type compactor. Compaction shall be in accordance with the requirements for soil embankment in Section 203.06.

The costs involved in removing the unsuitable material and furnishing, placing and compacting the Borrow materials shall be included in the unit bid price for Item Special Undercutting Subgrade, regardless of the haul distances required in furnishing the Borrow material.

The Contractor shall schedule and conduct all of his operations from removal of the existing pavement through the compaction of subgrade so as to protect and maintain at all times the condition of the exposed subgrade material. The Contractor shall take all necessary precautions so as to provide proper drainage and prevent standing water on the subgrade. Any unsuitable subgrade conditions that are caused by either the action and/or inaction of the Contractor shall be corrected to the satisfaction of the Engineer by the Contractor at the Contractor's expense. Payment will be made at the unit bid price per CY of Item Special Undercutting Subgrade.

Item Special – Granular Repair of Subgrade

Where areas of unsuitable subgrade material are found, the unsuitable material shall be removed and replaced with one of the following:

- (1) all No. 1 crushed limestone or crushed air cooled slag choked with 4" of crushed 3/4" gravel
- (2) a 50%-50% mix of No. 1 and No. 2 crushed limestone or crushed air cooled slag choked with 4" of crushed 3/4" gravel

The removal of the material will be to the limits determined in the field by the Engineer, and the limits of the removal will be measured by the Engineer in order to determine quantities for

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payment. The Contractor shall be responsible for scheduling his operations with the Engineer so that the proper measurements may be obtained for these calculations. It is anticipated that the maximum depth of the excavation will be three (3) feet. An estimated quantity of 1,000 CY of Item Special Granular Repair of Subgrade has been included in the proposal for use in replacing unsuitable soil areas as determined by the Engineer.

The Contractor shall remove the unsuitable materials from the site and the Contractor shall be responsible for the proper disposal of said waste materials. The embankment materials shall be placed in layers and to the density requirements as described in Section 203.

The repaired subgrade areas beneath new pavement must be shaped and compacted using a heavy duty, tamping-type compactor. Compaction shall be in accordance with the requirements for soil embankment in Section 203.06.

The costs involved in removing the unsuitable material and furnishing, placing and compacting the granular materials shall be included in the unit bid price for Item Special Granular Repair of Subgrade, regardless of the haul distances required in furnishing the granular material or disposing of the unsuitable material.

The Contractor shall schedule and conduct all of his operations from removal of the existing pavement through the compaction of subgrade so as to protect and maintain at all times the condition of the exposed subgrade material. The Contractor shall take all necessary precautions so as to provide proper drainage and prevent standing water on the subgrade. Any unsuitable subgrade conditions that are caused by either the action and/or inaction of the Contractor shall be corrected to the satisfaction of the Engineer by the Contractor at the Contractor's expense. Payment will be made at the unit bid price per CY of Item Special Granular Repair of Subgrade.

Item 455 – Quality Control Plan, Testing and Assurance for QC/QA Concrete

The Contractor shall develop and submit a Quality Control Plan (QCP) for all QC/QA concrete items included in the proposal. The Contractor shall be responsible the Quality Control (QC) for all the QC/QA concrete items. The Warren County Engineer's Office will acquire the services of an ODOT Prequalified Consultant to provide the Quality Assurance (QA) for all QC/QC concrete items.

Item 512 - Sealing of Concrete Surfaces (Epoxy Urethane)

The Contractor shall seal portions of the abutments, pier, and bridge superstructure for the bridge over the Little Miami River, the precast arch structure wingwalls/headwalls of the Little Miami Scenic Trail underpass of Grandin Road, and the box culvert retaining/wingwalls on Grandin Road as detailed in the plans, with an epoxy urethane sealant after the concrete has cured. The sealing of concrete surfaces shall be in accordance with section 512.03. The Contractor shall take precautions to keep spillage and overspray from entering the river. Payment for the work

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listed above shall be included in the bid price per SY for Item 512 Sealing of Concrete Surfaces (Epoxy Urethane).

Item 512 – Treating of Concrete Bridge Deck with SRS, Including Approach Slabs

The Contractor shall treat the portion of the concrete bridge deck and concrete approach slabs as detailed in the plans with a soluble reactive silicate sealer after the concrete has cured. The sealing of concrete surfaces shall be in accordance with section 512.05. The Contractor shall take precautions to keep spillage and overspray from entering the river. The Contractor shall flush the concrete bridge deck and concrete approach slabs with water after the application has had time to dry (see manufacture's recommendation) prior to striping or opening to traffic. Payment for the work listed above shall be included in the price bid per SY for Item 512 Treating of Concrete Bridge Deck with SRS, Including Approach Slabs.

Item 526 – Reinforced Concrete Approach Slabs with QC/QA (T=17")

The Contractor shall be responsible for all the labor and material necessary in constructing the reinforced concrete approach slabs as detailed in the plans. Concrete shall be Class "QC 2" (28 day compressive strength = 4500 psi). A corrosion inhibitor admixture per ODOT Specification 515.15 shall be added to the concrete mix at the dosage recommended by the manufacturer. Contractor shall follow section 499.03 for concrete slump and section 511.17 for sawing grooves into concrete approach slabs. Payment for the work listed above shall be included in the bid price per SY for Item 526 Reinforced Concrete Approach Slabs with QC/QA (T=17").

Item 611 – Pipe Culverts, Sewers, Drains, and Drainage Structures

This work shall consist of the construction or reconstruction of pipe culverts, sewers and drains hereinafter referred to as Type A, Type B, Type C, Type D, Type E and Type F Conduit. The work shall be in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or established by the Engineer. This work shall include the following: excavating for pipe and foundations for same, including clearing and grubbing and the removal of all materials necessary for placing the pipe except removals listed separately; furnishing and placing granular or concrete bedding and granular backfill as required; constructing and subsequently removing all necessary cofferdams, cribs and sheeting; pumping and dewatering; sealing or banding all pipe joints where required; furnishing and installing all necessary pipe bends and branches of a type at least equal to the conduit of which they become a part; joining to existing and proposed appurtenances as required; performing leakage tests as specified; restoration of disturbed facilities and surfaces; and providing erosion control pads and animal guards on underdrain and farm drain outlets.

The Contractor is responsible for supplying, delivering and installing the Precast Concrete Sections and the related material. All related material shall be included with the bid and shall be provided by the Contractor. The Contractor shall furnish, unload, assemble, and install the Precast Concrete Sections and all related material at the location shown on the plans. All

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castings for manholes, catch basins and inlets shall conform to those specified in the standard construction drawings or as specified by the Engineer. All castings which might be subject to vehicle traffic shall be of the heavy-duty grade. Grated inlet tops shall be placed as specified on the plans. Top of casting elevations are subject to final adjustments as approved by the Engineer. All castings used shall be subject to the final approval of the Engineer.

Item 611 – Conduit, Type A, Precast Reinforced Concrete Arch Sections (32’x12’)

The Contractor shall be responsible for the bridge load rating associated with the Precast Reinforced Concrete Arch Culvert. Submit precast shop drawings and bridge load rating that have been signed and stamped by a Professional Engineer licensed in the State of Ohio to the Warren County Engineer, attention Roy G. Henson, 210 W. Main Street, Lebanon, Ohio 45036 (Roy.Henson@co.warren.oh.us) for review and approval. The bridge load rating shall be analyzed by the Load and Resistance Factor Rating (LRFR) method in accordance with the AASHTO Manual for Bridge Evaluation and the ODOT Bridge Design Manual (BDM). The load rating report shall provide the safe load capacity for the HL-93 design vehicle, the four Ohio legal trucks (2F1, 3F1, 4F1, 5C1), the four specialized hauling vehicles (SU4, SU5, SU6, SU7) and the two emergency vehicles (EV2, EV3). The load rating report shall consist of a current completed ODOT BR 100 Summary Report that is stamped, signed, and dated by a professional engineer. The professional engineer shall also submit any hand calculations and computer input/output sheets. Payment for the work listed above shall be included in the bid price per FT for Item 611 Conduit, Type A, Precast Reinforced Concrete Arch Sections (32’x12’).

Item 614 – Maintaining Traffic

Traffic control shall be the sole responsibility of the Contractor. Warren County shall be held harmless from liabilities caused by improper traffic control by the Contractor. The contractor shall indemnify Warren County from any and all liabilities due to improper maintenance of traffic. All road construction signs shall also be the responsibility of the Contractor. All traffic control shall conform to the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) as well as the Ohio Department of Transportation Standards at all times.

Any devices that are determined by the Engineer to be substandard shall be repaired to the satisfaction of the Engineer or shall be immediately removed from the site and replaced with acceptable devices. Any temporary traffic control devices that are determined by the Engineer to have become substandard during the course of the project shall be removed from the jobsite and immediately replaced by devices meeting the approval of the Engineer.

The Contractor shall provide and maintain all signs, barricades, labor, flagmen, steel plates, etc. for all work on this project. The Contractor shall notify the Warren County Engineer two (2) weeks prior to any road closure. The Contractor shall maintain access to the driveways located in the work area for the duration of the project. The Contractor shall provide alternatives to garbage collection services, mail delivery services, and emergency rescue services for all residents within

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the closed portions of roadway during the road closures. Any conflicting markings shall be removed or covered in accordance with Item 614.

The Contractor shall reference the maintenance of traffic general notes including the sequence of construction, phasing of the maintenance of traffic, and detours as detailed in the construction plan set.

The Contractor shall be responsible for all the labor and material necessary in the maintenance of canoe traffic as detailed in the maintenance of canoe traffic plan note and detour sheet in the construction plans. Canoe traffic shall be maintained throughout construction of the entire project either through the existing river channel or through a portage trail approved by the Engineer.

The Contractor shall be responsible for all the labor and material necessary for the maintenance of traffic on the Little Miami Scenic Trail as detailed in the sequence of construction notes and closure detail sheet.

Two Portable Changeable Message Signs and two notice of road closure signs shall be installed by the Contractor in advance of the road closures during Phase 4 and 5 of construction. The PCMS shall be installed one week prior to the closures and the notice of road closure signs shall be installed two weeks prior to the closures. The signs shall be erected on the right hand side of the road facing traffic and shall be located in the field so as not to interfere with any permanent signs. The notice of closure signs shall be W20-H13 signs and shall state the following.....KING AVENUE or GRANDIN ROAD WILL BE CLOSED FOR XX WEEKS STARTING (EXACT CLOSURE DATE).

Methods of maintaining traffic shall conform to the Manual of Uniform Traffic Control Devices and Item 614 of the ODOT Specifications. Payment for the work listed above shall be included in the Lump Sum bid price for Item 614 Maintaining Traffic.

Item 623 – Construction Layout Stakes and Surveying

All centerline of survey and property corner monumentation that is disturbed during construction shall be reset by a Professional Surveyor. Payment for the construction layout and work listed above shall be included in the Lump Sum bid price for Item 623 Construction Layout Stakes and Surveying.

Item 625 – Street Lighting

The Village of South Lebanon has a contract with Duke Energy to complete most of the street lighting work necessary for the roundabout. The Contractor is only responsible to complete the bid items included in the Bid Proposal. Duke Energy will be supplying the pull boxes for the project and the Contractor will only be responsible for installing them. The Contractor shall give Warren County a twenty-five (25) working day notice so Duke Energy can be scheduled to

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complete the street lighting prior to the completion of the project. If Duke Energy completes the street lighting items such that the permanent street lights are operational prior to the opening of the roundabout, Item 625 – Temporary Light shall be non-performed.

Item 625 – Lighting, Misc.: Temporary Light

If directed, this work shall consist of providing and installing a Class III Wood Pole – Minimum 40’, 2 – 15’ Low Mast Bracket Arms, 2 – 250 HPS Cobra Head style light fixtures, including all wiring and hardware. The Contractor shall utilize the permanent power service for the power source of the temporary light by overhead wires. The Contractor will not be permitted to use any pull boxes for the temporary lighting. The class III Wood Pole shall be placed in the center of the center island of the roundabout. See the Lighting Notes and Lighting Plan Sheet for Temporary Light details. This item also includes the removal of all components once the permanent lights are in place and functional. The Contractor is responsible for any inspection, maintenance and replacement needed to perform this work.

Item 630 – Private Advertising Sign

The Contractor shall provide notice to the Engineer 30 days prior to needing the Peter’s Cartridge Factory Apartments sign located on the west side of Grandin Road removed. The owner of the property has requested they be notified to remove the sign. If the owner does not remove the sign within the 30 days, the Contractor will be authorized to remove the sign and place it at a designated area on the property. Regardless of the owner or Contractor removing the sign, the Contractor will be responsible for removing the concrete sign foundation.

Pavement Marking

All pavement marking material and work shall comply with Item 641 Pavement Marking-General, Item 644 Thermoplastic Pavement Marking, and Item 646 Epoxy Pavement Marking in the 2019 ODOT Construction and Materials Specifications. All pavement marking material on concrete bridge deck, concrete approach slabs, and concrete pavement shall be epoxy.

Item 611/638 – Sanitary Sewer and Water Mains

The Contractor is responsible for all labor, equipment and materials to provide sanitary sewer and water main installations. Item includes conduits, valves and boxes, clean outs, fittings, excavation and preparation of trenches including placing bedding and backfill, rock excavation, temporary protections and shoring of the existing aerial utilities, pumping and dewatering, providing all joints and restraining (blocking & anchors), bends, joining to existing mains, performing necessary testing (pressure, leakage, and disinfections), and restoration of any disturbed underground facilities.

If it appears that the existing or proposed sanitary sewer/water main will have less than 24” of clearance between an existing or proposed conduit/other utility, then the Warren County Water

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and Sewer Department shall be contacted. Clearances less than 24” but greater than 12” **may be acceptable** if trench is backfilled with Controlled Density Fill (CDF) / Low Strength Mortar (LSM). The cost associated with the CDF/LSM shall be included in the pertinent Item 611/638 bid item.

Item 638 – City of Mason Raw Water Main Work

The City of Mason prefers to maintain service of this water main from April 1st through October 31st or to provide the shortest downtime as possible for the conversion from existing to proposed. This water main work will be paid for using local funds by the WCEO. The WCEO will request reimbursement from the City of Mason at a later date.

Item 611/638 – Warren County Water and Sewer Department Work

The Contractor shall follow the Sequence of Construction detailed in the Maintenance of Traffic General Notes of the plans for the segmental construction of the sanitary sewer and water main work associated with the project. This work will be paid for using local funds by the WCEO. The WCEO will request reimbursement from the Warren County Water and Sewer Department at a later date.

Item 832 – Storm Water Pollution Prevention Plan

The Contractor is responsible for modifying the Project Site Plan sheet to prepare a SWPPP that meets the Ohio EPA NPDES (National Pollutant Discharge Elimination System) Permit requirements. An Ohio EPA (NOI Permit) has been issued for this project and will be provided to the Contractor after awarding. The Contractor shall develop the SWPPP in accordance with Supplemental Specification 832 after the contract is awarded and prior to any earth disturbing construction activity. The Contractor’s engineer must sign, seal, and submit the proposed plan to the Warren County Engineer’s Office for review by the Warren County Soil & Water Department. The Warren County Engineer’s Office will grant a start of work upon receiving the acceptable SWPPP. Payment for the work listed above shall be included in the Lump Sum bid price for Item 832 Storm Water Pollution Prevention Plan.

The Contractor shall complete a Co-Permittee Notice of Intention (NOI) application to request shared coverage under the NPDES construction Stormwater General Permit (CGP). The contractor shall certify their intention to comply with the CGP when submitting the completed Co-Permittee NOI application. The Contractor shall complete the Co-Permittee NOI application in accordance with the OEPA's eBusiness Center instructions.

The Contractor shall insure that conditions of the SWPPP permit be met at all stages of construction. The Contractor shall inspect and maintain the project site in accordance with the "OEPA Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollution Discharge Elimination System" pages 1-60. The Contractor shall indemnify and hold harmless the Warren County Engineer for any action(s) or non-action(s)

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which does not comply with the Ohio Environmental Protection Agency policies and regulations as set forth in the "OEPA Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollution Discharge Elimination System" pages 1-60.

The SWPPP, the "OEPA Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollution Discharge Elimination System" pages 1-60, the Warren County Engineer's Office NOI application, the contractor's Co-Permittee NOI application and the letter(s) granting permit coverage shall be retained on-site during working hours.

The Contractor shall implement and maintain the project site in accordance with the SWPPP and OEPA by utilizing the SWPPP Contingency items as directed by the Warren County Engineer. The costs associated with implementing and maintaining the SWPPP shall be included under the pertinent SWPPP Contingency Item.

The Contractor shall complete a Co-Permittee NOI application and inspect, implement and maintain the SWPPP in compliance with the Ohio Environmental Protection Agency regulations as specified in the publication titled "Ohio Environmental Protection Agency Authorization for Storm Water Discharges Associated with Construction Activity Under the National Pollutant Discharge Elimination System", pages 1-60. The entire publication is available on the internet at: http://epa.ohio.gov/portals/35/permits/OHC000005/Final_OHC000005.pdf

Item 832 – Erosion Control

The Contractor shall execute the design details created in the Storm Water Pollution Prevention Plan in accordance with Supplemental Specification 832. The Contractor shall furnish and install temporary sediment and erosion control best management practices required prior to any earth disturbing activity. All pollution prevention measures must be maintained for the duration of construction. The Contractor shall remove all best management practices before the project is accepted. Payment for this work shall be included in the unit bid price per Each for Item 832 Erosion Control. This price is standard for all bidders, set at \$1.00 Each for a total price of \$65,000.

Report of Geotechnical Exploration

The Warren County Engineer can provide the geotechnical report for the associated project to the Contractor at their request.

Item Special – Contingency

This Item will be used in the event that there are change orders in the contract. No work will be paid or recognized under this item unless agreed upon in writing by an authorized representative of the Warren County Engineer's Office. Any Item over the plan quantity will not be paid or recognized unless agreed upon in writing by an authorized representative of the Warren County Engineer. Payment for this work shall be included in the bid price per Each for Item Special

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Contingency. This price is standard for all bidders and is set at \$1.00 Each for a total of \$350,000.00.

4A
WAR-CR 230/CR 134-3.14/0.54

“Bidders are advised that the following utility facilities will not be cleared from the construction area at the time of award of the contract. These utility facilities shall remain in place or be relocated within the construction limits of the project as set out below.”

All station locations listed below are approximate unless otherwise stated.

DUKE ENERGY – Aerial Electric Distribution Lines and Fiber Optic Cable

At the beginning of the project, Duke Energy electric has existing aerial distribution lines and fiber optic cable that crosses King Avenue at Sta 99+05, then runs along the south side of King Avenue crossing the road again at the switchback curve, then along the east side of relocated King Avenue heading south crossing the Little Miami River, then along the east side of Grandin Road crossing to the west side of the road at Sta 117+50, then along the west side of Grandin Road to the end of the project.

During Phase 1 construction, 5 new poles, aerial distribution lines, and fiber optic cable will be relocated along the north side of proposed King Avenue. 5 existing poles, aerial distribution lines, and fiber optic cable east of proposed King Avenue will remain in place since not disturbed by project construction. The poles, aerial distribution lines, and fiber optic cable crossing south of the Little Miami River will be removed during Phase 1 construction. 5 new poles will be installed along the east side of proposed Grandin Road from the Little Miami River to Sta 116+60, 23 ft left, prior to the start of Phase 2 construction. All new aerial electric distribution lines will be installed prior to the completion of Phase 4 construction. The fiber optic cable will be in place and active on the new poles and existing poles (east of proposed King Avenue heading down to the river) for the duration of the project. Aerial electric lines will be removed prior to Phase 2 construction through Phase 4 construction from Sta 105+54, 133 ft left to Sta 120+80, 28 ft right.

DUKE ENERGY – Underground 8” Transmission Gas Main

Starting at the eastern Little Miami Scenic Trail tie in location, Duke Energy gas has an existing 8” transmission gas main that runs along the south side of the trail, crossing to the west side of proposed and existing Grandin Road at Sta 111+95, then south along the west side of existing Grandin Road until crossing back over to the east side of proposed and existing Grandin Road at Sta 117+90, then runs south to the end of the project.

Duke Energy gas will install a new 8” transmission gas main starting near the south end of the project limits on Grandin Road near Sta 120+25, 18 ft left. The main will crossing existing Grandin Road near the tie in location to existing main and run north along the west side of Grandin Road. Near Sta 112+00, the new main will turn east crossing proposed Grandin Road and tie into the existing 8” transmission gas main just east of the Little Miami Scenic Trail bridge footings at Stat 112+00, 60 ft left.

DUKE ENERGY – Underground 4” High Pressure Gas Main

Duke Energy gas has an existing 2” high pressure gas main starting from a Duke Energy Station that converts transmission main to high pressure main at Sta 113+15, 30 ft right, near the center of the proposed Grandin Road roundabout. The existing 2” high pressure gas main crosses the existing Grandin Road and follows the center line of the proposed Cartridge Factory Drive west to the end of the project, this is a service to the Peter’s Cartridge Factory Development.

Duke Energy gas will install a new 4” high pressure gas main starting at the south end of the project limits on existing Grandin Road. The main will run north along the west side of existing Grandin Road until tying into the existing 2” high pressure gas main at the Cartridge Factory Drive servicing the development. Once the new 4” high pressure gas main is in place the existing Duke Energy Station at Sta 113+15, 30 ft right will be removed.

CINCINNATI BELL – Aerial Line

Cincinnati Bell has an existing aerial line on the same five poles as Duke Energy – Electric south of the Little Miami Scenic Trail along Grandin Road to the end of the project. See Duke Energy – Electric for more information. Cincinnati Bell has an underground service line to the Cartridge Factory that starts at the second pole south of the river at Sta 112+30, 35 ft right, and crosses existing Grandin Road to the west.

Relocation of aerial line to Duke Energy - Electric’s 4 new poles along the east side of proposed Grandin Road from the Little Miami Scenic Trail to Sta 116+60, 23 ft left, prior to the start of Phase 2 construction. The aerial line will be in place and active on the 4 new poles and the 2 existing poles (south of proposed box culvert on Grandin Road) for the duration of the project. The underground service line for the Cartridge Factory will need to be extended to the new pole at Sta 112+25, 56 ft left or a new service line will be installed.

SPECTRUM – Aerial Line

Spectrum has an existing aerial line on the same five poles as Duke Energy – Electric south of the Little Miami Scenic Trail along Grandin Road to the end of the project. See Duke Energy – Electric for more information. Spectrum has an underground service line to the Cartridge Factory that starts at the second pole south of the river at Sta 112+30, 35 ft right, and crosses existing Grandin Road to the west.

Relocation of aerial line to Duke Energy - Electric’s 4 new poles along the east side of proposed Grandin Road from the Little Miami Scenic Trail to Sta 116+60, 23 ft left, prior to the start of Phase 2 construction. The aerial line will be in place and active on the 4 new poles and the 2 existing poles (south of proposed box culvert on Grandin Road) for the duration of the project. The underground service line for the Cartridge Factory will need to be extended to the new pole at Sta 112+25, 56 ft left or a new service line will be installed.

CITY OF MASON – Underground 8” Raw Water Main

The City of Mason has an existing 8” raw water main that runs along the north side of the existing King Avenue Bridge over the Little Miami River, crossing proposed King Avenue at Sta 103+40, then runs along the north side of King Avenue through the switchback curve to the east project limits at the existing Carter Park Trail.

A new relocated 8" raw water main will be constructed as part of the project due to the large amount of fill be placed over the existing 8" water main, see sheets 126-127. The proposed 8" raw water main connects to the existing 8" water main and runs along the west side of proposed King Avenue, crossing proposed King Avenue at Sta 105+97 just in front of the rear abutment for the new bridge over the Little Miami River, then runs along the east side of proposed King Avenue and Carter Park Connection, connecting to the existing 8" raw water main in the King Avenue switchback curve near the existing Carter Park Trail.

WARREN COUNTY WATER & SEWER – Underground 10" & 24" Water Mains

The Warren County Water & Sewer Department has an existing 10" water main that runs along King Avenue and Grandin Road for the entire length of the project. At the Begin Project Sta 98+72.17, the water main is located along the north side of proposed King Avenue, it runs east along the north side until the switchback curve and turns south, crossing under the Little Miami River and the proposed King Avenue bridge at Sta 109+95 to the east side of existing Grandin Road, then runs south along the east side of Grandin Road to the box culvert crossing at Sta 118+90 where it crosses to the west side of Grandin Road, then continues south along the west side to the end of the project. At Sta 113+00 there is a water service that crosses existing Grandin Road to the west and runs along the Cartridge Factory Drive.

In order to construct the forward abutment of the Little Miami River bridge and the bridge to carry Grandin Road over the Little Miami Scenic Trail, a temporary 10" water main will be constructed as part of the project in order to keep the existing 10" water main in service during the project, see sheet 127A. The temporary 10" water main connects to the existing 10" water main at Sta 110+90 and runs approximately 40 ft west of the existing water main and ties back in to the existing 10" water main at Sta 112+30.

For an update to their network, a new 24" water main will be constructed as part of the project, replacing the existing 10" water main as described above, see sheets 119-125. The proposed 24" water main connects to a recently constructed 24" water main at Sta 98+40 running east from Kings Mills on the north side of proposed King Avenue, enters into the proposed pavement of King Avenue at Sta 99+00 and leaves the pavement at Sta 101+75, follows along the north side of proposed King Avenue until the proposed rear abutment of the bridge over the Little Miami River, then attaches to the eastern two steel girders for the entire length of the bridge (aerial) until the forward abutment and proposed Grandin Road, then leaves proposed Grandin Road at Sta 111+30 to the east and runs south, crossing proposed Grandin Road to the west at Sta 112+25 and runs south along proposed Grandin Road, entering into the pavement of proposed Grandin Road at Sta 115+80 and runs south in the pavement until tying into the existing 10" water main at Sta 119+25, proposed 24" water main stub for future extension continues south in the pavement of proposed Grandin Road until End of Project Sta 12+80 at the south project limits.

WARREN COUNTY WATER & SEWER – Underground 24" Raw Water Main

The Warren County Water & Sewer Department has an existing 24" raw water main that runs along the north side of the existing Little Miami Scenic Trail starting at the eastern limits of the project, crosses existing Grandin Road to the west side at Sta 112+00, then runs south along the west side of existing Grandin Road to Sta 118+80, where it turns to the west and runs behind the Cartridge Factory.

In order to construct the bridge that will carry Grandin Road over the Little Miami Scenic Trail, a relocated 24" raw water main will be constructed as part of the project, see sheets 124-125. The

proposed 24" raw water connects to the existing 24" raw water main at Sta 111+70, 100 ft left, then runs southwest into the pavement of proposed Grandin Road at Sta 112+30, then follows in the proposed pavement south until connecting to the existing 24" raw water main at Sta 118+80, 25 ft left.

WARREN COUNTY WATER & SEWER – Underground 21" Sanitary Sewer

The Warren County Water & Sewer Department has an existing 21" sanitary sewer located under the Little Miami Scenic Trail at Beginning Work Sta 900+75, leaves the pavement at Sta 902+00 and runs along the south side of the proposed trail, crossing proposed Grandin Road at Sta 112+03, then continues to run along the south side of the proposed trail, crossing the proposed Carter Park Connector and Little Miami Scenic Trail parking lot, to the east project limits at the trail tie in Sta 910+39.22.

WARREN COUNTY WATER & SEWER – Lift Station & Underground 8" Sanitary Sewer

The Warren County Water & Sewer Department has an existing sanitary sewer lift station that will be removed/abandoned as part of the project, see sheet 110. The lift station is located approximately 200 ft west of the Begin Project Sta 98+72.17 on the north side of King Avenue.

A new 8" gravity sanitary sewer will be constructed to eliminate the need for the lift station as part of the project, see sheets 111-113. The proposed sanitary sewer connects to the existing 8" sewer lines at the location of the removed/abandoned sanitary lift station, then runs along the north side of King Avenue and enters the pavement of proposed King Avenue at Sta 98+50 and continues in the pavement until the proposed rear abutment of the bridge over the Little Miami River, then attaches to the western two steel girders for the entire length of the bridge (aerial) until the forward abutment and proposed Grandin Road, then leaves proposed Grandin Road at Sta 111+20 to the west and runs south, crossing the proposed Little Miami Scenic Trail at Sta 903+43 and ties into the existing 21" sanitary sewer along the trail.

GENERAL COMMENTS

The Contractor shall exercise caution when working in proximity to the existing and/or relocated utility facilities.

Bidders are advised that the utility relocation plans are on file and may be reviewed at the Warren County Engineer's Office.

Sections 105.06 and 107.17 of the Department of Transportation Construction and Material Specifications require, among other things, that the Contractor cooperate with all utilities located within the limits of this construction project and take responsibility for the protection of the utility property and services.

Environmental Commitments Special Provisions

County	Warren
Route	WAR-CR82
Section	0.97
PID	106724

Commitment Area	Commitment
Construction	
Storage of Fuels, Petrochemicals and Equipment	The Contractor shall not store idle equipment, petrochemicals and toxic/hazardous materials in the floodplain or near any drainage ways, ditches or streams that could convey such materials to the Little Miami River or any of its tributaries. Furthermore, prevention measures shall be implemented to avoid the discharge of petrochemicals and toxic/hazardous materials into the floodplain, the river, or any tributary drainage ways, ditches or streams. Refueling of equipment shall not occur in the floodplain or near any tributary drainage ways, ditches or streams. If the Contractor determines it is not feasible to relocate equipment outside the floodplain, then under review and approval of the Project Engineer, equipment will be permitted, however, all refueling activities must be done in an environmentally responsible manner.
Spill Prevention	The Contractor shall develop a Spill Prevention Countermeasure and Contingency Plan (SPCC) in the event of a spill or break in an equipment hydraulic line, which may discharge into waters of the state. All spills must be reported to the Ohio Spill Line (1-800-282-9378) in accordance with OAC 3750.06.
Sediment and Erosion Control	A sediment and erosion control plan shall be developed for the site in accordance with comments provided by the ODNR Scenic River Coordinator. The plan shall be submitted to the Project Engineer for review, and implemented prior to the commencement of earthwork activities.
Material Disposal	The Contractor shall dispose of all construction debris, earthen debris, excess asphalt or concrete, wood debris from clearing, excess fill material, material excavated from the river bottom and trash at an approved upland site or landfill above the 100-year flood elevations. Disposal of all such materials in the wetlands, floodplains, or within 100 feet of the Little Miami State and National Scenic River is prohibited.
In-Stream Work	Rock Channel Protection (RCP) used around piers and abutments shall be kept to the minimum amount needed to prevent scour and shall consist of clean, washed (free of any toxic or fine materials) non-erodible fill only (absolutely no new or used concrete, asphalt or other earthen debris). RCP shall be placed from bridge decks whenever possible. If in-stream work is necessary, then all work pads shall be kept to the absolute minimum size needed to facilitate in-stream work. In-stream work shall be conducted through the use of water diversions such as sheet-piling, membrane dams, etc. that do not require the placement of earthen fill whenever possible. In-stream work shall be performed from August 1 through October 31 during low flow conditions. All fill used as RCP, or used in the construction of temporary construction access fills shall be clean, washed non-erodible fill (absolutely no new or used concrete, asphalt or other earthen debris) of the minimum size needed to prevent materials from being washed out during expected high flows.

Environmental Commitments Special Provisions

County	Warren
Route	WAR-CR82
Section	0.97
PID	106724

Commitment Area	Commitment
De-Watering	The Contractor shall implement measures to prevent the direct discharge of wastewater of any kind directly into the Little Miami River or any of its tributary streams, drainage ways or ditches. If dewatering is necessary to facilitate work in the floodplain, all wastewater shall be pumped onto a vegetated area a sufficient distance from the river to allow for complete infiltration. Excavation work in the floodplain shall be limited to dry periods of the year (August through October) to avoid possible inundation of the project construction site by a flood event. If discharge to a vegetated area is not feasible, then wastewater should be discharged into a sediment filter bag or into a temporary detention/retention pond with sufficient retention time to permit for the settling of all suspended solids.
Clearing and Grubbing	The Contractor shall implement measures to ensure all stream bank vegetation is left undisturbed to the maximum extent possible. Areas where vegetation is removed shall be re-vegetated with native tree species (provided upon request from the Project Engineer to the ODNR Southwest Regional Scenic Rivers Manager via email to Aaron.Rourke@dnr.state.oh.us) and any disturbed stream-banks shall be returned to previously existing contours and elevations. Trees shall be three to five gallon containerized nursery stock. After a full growing season, any stakes and guide wires will be removed and properly disposed of, and any trees that die during the first growing season will be replaced. Care will be taken not to girdle or scuff tree trunks or damage any standing tree.
Maintenance of Traffic	The Project Designer shall ensure that Maintenance of Traffic (MOT) Plan is finalized and included in the Final Design Plans and specifies how vehicular traffic will be maintained using the local roadway system during construction. In addition, the MOT Plans will specify how recreational boating activities on the Little Miami River will be maintained, including how recreational activities on the Little Miami Scenic Trail will be maintained when temporary restrictions are required.
Bank Restoration	Any bank restoration outside of the bridge right-of-way will follow bio-engineering principles and incorporate natural materials and native vegetation to the greatest extent possible. The use of rock channel protection within the bridge right-of-way and rip-rap within the river channel will be avoided to the greatest degree possible. Vegetation will be used to the greatest extent possible and aesthetic landscaping will be used with consideration given to the consistency with the scenic character of the area. Any bank and corridor restoration will be consistent with the bio-engineered bank stabilization that has been installed as part of the Peters Cartridge remediation.
Stormwater	Stormwater runoff will be discharged onto the landscape to infiltrate; no stormwater will be discharged directly to the river through the use of scuppers, grates, etc. Additionally, stormwater energy will be reduced to the greatest extent possible prior to discharge into the river to avoid the creation of unintended rills, gullies, or head cuts on the bank. Where it is environmentally feasible and appropriate based on the safety considerations of the project, consideration will be given to allowing infiltration by pervious pavement or aggregate in construction of the project components including the roundabout and parking lot.

Environmental Commitments Special Provisions

County	Warren	
Route	WAR-CR82	
Section	0.97	
PID	106724	
Commitment Area	Commitment	
	Painting and Sand/Water Blasting	Utilize appropriate aprons for complete containment of all paint debris particles and other debris if painting, sand or water blasting any portion of the bridge is necessary. Remove all debris immediately from 1000 feet of the Little Miami River and dispose of at an approved upland site above the 100-year flood elevations. Disposal in wetlands, floodplains or within 1000 feet of State Scenic Rivers is prohibited.
Design	In-Stream Structures	Where feasible, no in-stream structural components will be permitted. Place all piers and abutments above the ordinary high-water mark of the stream bank and place as far back from the top of the bank as possible. Columnar piers will be preferred over flat faced piers. Elevate bridge approaches on columnar piers so as to limit the placement of fill for embankments within the one hundred-year floodplain to allow for less restriction of flood flows. Expand the structural opening to accommodate the one hundred-year flood flow as much as possible.
	Removal of Old Bridge Structures	The Contractor shall completely remove all components of the existing structure (piers, abutments, etc.). At a minimum, remove piers down to the same elevation as the surrounding riverbed. Remove asphalt deck material before any portion of the bridge is removed. Make every effort to keep deck material and other debris out of the river during removal through the use of appropriate aprons or other barriers. Remove all material which falls into the water immediately.
	Scenic Rivers Signage	ODOT shall provide signage to be installed by the Contractor on the King Avenue and Grandin Road approach to the new bridge that announces the Little Miami National and State Scenic River, and install signage that indicates bridge name, road name/number on the upstream side of the new bridge.
Ecological	Waterway Permitting	The Warren County Engineer's Office (WCEO) will obtain all appropriate waterway permits prior to any work (including the placement of any temporary or permanent fill) within the jurisdictional boundary of any waterway, including wetlands, and all appropriate waterway permits will be included in the plans and adhered to during construction. Work over the Little Miami River is not permitted until the Contractor receives USCG approval.
	Stormwater Permits	A Notice of Intent will be required under the NPDES General Permit for stormwater discharges associated with construction activities. The Warren County Engineer's Office shall be responsible for obtaining the NPDES Permit and the Contractor shall be responsible for developing a Stormwater Pollution Prevention Plan in accordance with CMS, Supplemental Specification 832.
	Floodplain Permit	The Warren County Engineer's Office (WCEO) will be responsible for ensuring all appropriate floodplain coordination is conducted prior to construction.
	Section 4(f) - Carter Park and LMST	Access to Carter Park, including trails and shared use paths from King Avenue, and the Little Miami Scenic Trail (LMST) will be restricted for the duration of construction activities due to safety concerns and lack of a feasible and safe detour. To protect Carter Park, the LMST, and the public, the Contractor shall install and maintain temporary construction fencing along the known boundaries of Carter Park and the LMST within the project construction limits prior to the start of construction activities and install signage to alert users of Carter Park and the LMST of construction activities, access restrictions or closures, and to direct users to secondary access points.

Environmental Commitments Special Provisions

County	Warren
Route	WAR-CR82
Section	0.97
PID	106724
Commitment Area	Commitment
	The Contractor shall closely coordinate the construction schedule with the Warren County Engineer's Office, the Project Engineer, ODNR Scenic Rivers, ODNR Parks and Watercraft, and Deerfield Township prior to the start of and during construction activities.
Section 6(f)	The Project Manager will ensure the Section 6(f) process is completed and that final approval of the Small Conversion is provided by NPS (which includes acquisition of replacement property) prior to submission of the Project Closeout Package by the Project Manager/Engineer.
Bat Tree Cutting Restrictions	The project is located within the known habitat ranges of the federally listed and protected Indiana bat and northern long-eared bat. The Contractor shall not remove trees under this project from April 1 through September 30. All necessary tree removal shall occur from October 1 through March 31. The Contractor shall demarcate clearing limits in the field to avoid any unauthorized tree clearing. This requirement is necessary to avoid and minimize impacts to these species as required by the Endangered Species Act. For the purposes of this note, a tree is defined as a live, dying, or dead woody plant, with a trunk three inches or greater in diameter at a height of 4.5 feet above the ground surface, and with a minimum height of 13 feet.
Mussel Survey and Relocation	A Federally permitted malacologist will perform a mussel salvage and relocation in accordance with the most recent version of the Ohio Mussel Survey Protocol prior to the start of construction activities below the Ordinary High Water Mark of the Little Miami River. The results of the mussel survey and/or salvage work will be submitted to the ODOT District 8 Environmental Coordinator (Keith.Smith@dot.ohio.gov) for coordination with the USFWS. The Contractor cannot perform any work below the Ordinary High Water Mark until the mussel salvage and relocation work has been completed and approval has been received.
Sole Source Aquifer or Drinking Water Protection Area	The following Plan Note will be included in the plans to protect the drinking water resources within the project area during construction: <i>"This project is located in or near the source of a public drinking water supply. In order to minimize the potential to contaminate this water supply, project-related refueling and maintenance activities shall not be performed within a buffer of fifty feet from the Little Miami River and will be performed in an environmentally responsible manner using best management practices. Any fuel in excess of 300 gallons to be stored onsite shall be in a double wall containment tank. In addition, chemicals in excess of 55 gallons used on the project shall not be stored at the project site for longer than 14 consecutive days. The Contractor shall immediately take steps to mitigate any event, such as a spill of fuels, oils, or chemicals, that could threaten to contaminate the drinking water supply. Any such spill or event shall be reported immediately to Chris Brausch of Warren County Water and Sewer Department at 513-695-1377. If the spill is a reportable amount, the Contractor should contact Ohio EPA's 24-hour a day emergency spill hotline at 1-800-282-9378 for clean-up of the spill."</i>
Regulated Materials	RM-001, Former King Powder Company, King Avenue A Regulated Material Review Investigation will be performed for Site RM-001(Former King Powder Company) prior to submission of Stage 3 Design Plans and any resulting commitments will be incorporated into the Final Plans.

Environmental Commitments Special Provisions

County	Warren
Route	WAR-CR82
Section	0.97
PID	106724
Commitment Area	Commitment
	<p>The Project Engineer shall directly coordinate all planned construction activities with the USEPA and OEPA, due to the regulatory history and issues associated with Site RM-002 (former Peters Cartridge Company). Any negotiated actions with agencies shall be placed in the plans.</p> <p>The Contractor shall develop a Site Specific Health and Safety Plan and Spill Prevention Countermeasure and Contingency Plan in the event of a spill or break in an equipment hydraulic line, which may discharge into waters of the state. All spills must be reported to the Ohio Spill Line (1-800-282-9378) in accordance with Ohio Administrative Code 3750.06.</p> <p>The Contractor shall ensure dust control measures are fully implemented due to the metal levels in the soils.</p> <p>The Contractor shall store portions of clean fill within the project area for purposes of re-establishing the soil cap.</p> <p>Replace in-kind all trees and grasses immediately adjacent to the existing bridge.</p> <p>The Contract shall ensure the monitoring well on the western side of the current bridge is avoided and preserved, and is not utilized for construction activity. If the well cannot be avoided, the Project Engineer will need to obtain approval from the USACE and/or OEPA prior to impacts occurring to the well.</p> <p>A Water Management Plan shall be developed to govern the operations for construction in the vicinity of Site RM-002 (former Peters Cartridge Company property). The plan shall include instructions on maintaining normal drainage and collecting and disposing of water in the aforementioned removal areas. The Contractor shall dewater, store, and subsequently dispose of these waters by appropriate methods. The Contractor shall obtain all necessary permits and/or authorization needed to store, test (for disposal), transport, and treat/dispose of the water in accordance with all applicable local, state, or federal regulations. Work involved with this item includes the complying with the SSH&P, handling, storage, and disposal of the regulated water and/or nonregulated water.</p>
Notification	<p>The ODNR Southwest Ohio Regional Scenic Rivers Manager (Aaron.Rourke@dnr.state.oh.us or 614-230-8534) shall be invited to attend a pre-construction meeting with the Contractor present and shall be notified of the project start date one week prior to the start of work. During construction, ODOT will perform periodic inspections of the project to ensure Scenic River recommendations are being met.</p>
Recreational Boating	<p>The Contractor shall maintain access for recreational boating activities along the Little Miami River at all times during construction activities, except during periods of construction activities deemed unsafe (e.g. beam placement, demolition, etc.). During these periods, the river shall be closed 300 feet upstream and downstream of the project area. The Project Designer will include diagrams in the plans indicating where signage/buoys/markers are to be placed and include appropriate language to use to alert recreational boaters of construction activity and how to navigate safely around/through the project area.</p> <p>When short duration closures are needed to accommodate construction activities deemed unsafe, the Contractor shall implement flaggers 300 feet upstream and downstream to hold recreational boating traffic until the project area becomes safe again.</p>

Environmental Commitments Special Provisions

County		Warren
Route		WAR-CR82
Section		0.97
PID		106724
Commitment Area		Commitment
		<p>The Project Designer will include language and/or diagrams of signage to be placed at the nearest upstream and downstream public access points that detail information about the duration of possible recreational impacts that would impact recreation and detail portage instructions for paddlers of construction activities, access restrictions or closures, and to direct users to secondary access points.</p> <p>Prior to project construction, the Contractor and the Project Engineer shall meet with the ODNR Trails Administrator (614-265-6575 or Thomas.Arbour@dnr.state.oh.us) for a site visit to review necessary signage, coordination, and communications with area canoe liveries, including Loveland Canoe and Kayak.</p> <p>The Project Engineer shall notify the ODNR Trails Administrator and canoe liveries that use the Little Miami River at least 14 days prior to the start of construction activities and 14 days prior to the start of bridge demolition activities to allow appropriate notifications to be posted on ODNR's online boating webpage and to allow canoe liveries to post information and make itinerary changes, as needed.</p> <p>If on-the-water law enforcement assistance is needed during any portion of the demolition or construction phase, the Contractor shall notify the ODNR Law Enforcement Officer (937-902-4950 or Shannon.Hoffer@dnr.state.oh.us).</p>
Real Estate		<p>Real estate agreements between the ODNR Ohio Scenic Rivers Program and ODOT/Warren County will be required. The construction footprint extends onto Scenic River's property on the north side of the Little Miami River. Any real estate agreement that permits access and/or long-term maintenance and responsibility must be fully executed prior to the start of any work or the placing of any equipment on ODNR property. If applicable, the Ohio Scenic River Program's specific comments and requests, including land use requirements, will be incorporated in the real estate agreement.</p>

Native Ohio Tree Species Suitable for Planting Within 1,000 Feet of State Wild, Scenic and Recreational Rivers

Box Elder - *Acer negundo* +
 Red Maple - *Acer rubrum* +
 Silver Maple - *Acer saccharinum* +
 Sugar Maple - *Acer saccharum*
 Black Maple - *Acer nigrum*

Green Ash - *Fraxinus pennsylvanica* +
 White Ash - *Fraxinus americana* +

Black Oak - *Quercus velutina*
 Bur Oak - *Quercus macrocarpa*
 Chestnut Oak - *Quercus montana*
 Chinquapin Oak - *Quercus muehlenbergii*
 Shingle Oak - *Quercus imbricaria*
 Pin Oak - *Quercus palustris* +
 Red Oak - *Quercus rubra*
 Swamp White Oak - *Quercus bicolor* +
 White Oak - *Quercus alba*
 Post Oak - *Quercus stellata*

Ohio Buckeye - *Aesculus glabra*
 Yellow Buckeye - *Aesculus octandra*

Red Mulberry - *Morus rubra*

Downy Serviceberry - *Amelanchier arborea*
 Black Cherry - *Prunus serotina*

Honey Locust - *Gleditsia triacanthos* +
 Black Locust - *Robinia pseudoacacia*
 Kentucky Coffeetree - *Gymnocladus dioica*

American Basswood - *Tilia Americana*

Alternate Leaf Dogwood - *Cornus alternifolia*
 Silky Dogwood - *Cornus amomum* +
 Rough Leaved Dogwood - *Cornus drummondii*

Black Willow - *Salix nigra* +
 Sandbar Willow - *Salix exigua* +
 Eastern Cottonwood - *Populus deltoides* +

Black Walnut - *Juglans nigra* +

Shagbark Hickory - *Carya ovata*
 Shellbark Hickory - *Carya laciniosa*
 Bitternut Hickory - *Carya cordiformis*
 Pignut Hickory - *Carya glabra*
 Mockernut Hickory - *Carya tomentosa*

American Beech - *Fagus grandifolia*

American Elm - *Ulmus americana* +
 Slippery Elm - *Ulmus rubra* +

Hackberry - *Celtis occidentalis*

Tuliptree - *Liriodendron tulipifera*
 Cucumbertree - *Magnolia acuminata*

Pawpaw - *Asimina triloba* +

Smooth Serviceberry - *Amelanchier laevis*

Sycamore - *Platanus occidentalis* +

Eastern Redbud - *Cercis canadensis*

Hop-tree - *Ptelea trifoliata*

Red Osier Dogwood - *Cornus sericea* +
 Gray Dogwood - *Cornus racemosa*
 Flowering Dogwood - *Cornus florida*

+ species suitable for planting within the one-hundred year floodplain

**ODOT’s LPA Template (ODOT Spec Book and LPA Spec Book)
Required Contract Provisions.**

1. ODOT’S 2019 CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND ITS SUPPLEMENTS

With the exception of Section 100 “General Provisions” included in the matrix below, ODOT’s Construction and Material Specifications (CM&S) and its supplements are hereby incorporated by reference, in their entirety, as if rewritten herein. The incorporation of this document by reference does not interfere with the order of precedence set forth in Section 105.04 of the CMS Manual.

In accordance with the Locally Administrated Transportation Projects Manual of Procedures (LATPM), when bidding this project, the Contractor should replace the terms “the Department”, “the Engineer”, “the DCE” and “the DCA” with the term “the Local Public Agency (LPA).” Furthermore, nothing in this document is intended to alter the LPA’s adherence to Ohio Revised Code, local ordinance or other applicable requirements which are properly established.

Excluded 2019 Specifications			
Section 102.01	Section 103.01	Section 105.19	
Section 102.03	Section 103.02	Section 107.04	
Section 102.06	Section 103.04	Section 107.13	
Section 102.09	Section 103.05	Section 108.01	
Section 102.10	Section 103.06	Section 108.02(B)	
Section 102.11	Section 103.07	Section 108.02(E)	
Section 102.13	Section 104.02(A)	Section 108.02(G)	
Section 102.14	Section 105.05	Section 108.08	
Section 102.17			

2. STEEL AND IRON PRODUCTS MADE IN THE UNITED STATES

Furnish steel and iron products that are made in the United States according to the applicable provisions of Federal regulations stated in 23 CFR 635.410 and State of Ohio laws, and ORC 153.011 and 5525.21.

“United States” means the United States of America and includes all territory, continental or insular, subject to the jurisdiction of the United States. Both the State and Federal requirements contained in (A.) and (B.) of this section apply to this contract.

A. Federal Requirements. All steel or iron products incorporated permanently into the Work must be made of steel or iron produced in the United States and all subsequent manufacturing must be performed in the United States. Manufacturing is any process that modifies the chemical content; physical shape or size; or final finish of a product. Manufacturing begins with the initial melting and mixing and continues through the bending and coating stages. If a domestic product is taken out of the United States for any process, it becomes a foreign source material.

B. State Requirements. All steel products used in the Work for load-bearing structural purposes must be made from steel produced in the United States. State requirements do not apply to iron.

C. Exceptions. ODOT may grant specific written permission to use foreign steel or iron products in bridge construction and foreign iron products in any type of construction. ODOT may grant such exceptions under either of the following conditions:

1. The cost of products to be used does not exceed 0.1 percent of the total Contract cost, or \$2,500, whichever is greater. The cost is the value of the product as delivered to the project.
2. The specified products are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet the requirements of the Contract Documents. ODOT may require the Contractor to obtain letters from three different suppliers documenting the unavailability of a product from a domestic source, if the shortage is not previously established.

D. Proof of Domestic Origin. Furnish documentation to the Engineer showing the domestic origin of all steel and iron products covered by this section, before they are incorporated into the Work. Products without a traceable domestic origin will be treated as a non-domestic product.

3. CERTIFICATION AGAINST DEBARMENT AND SUSPENSION

The bidder hereby certifies by signing this proposal that, except as noted below, under penalty of perjury and under other such penalties as the laws of this state and the United States of America provide, that the company or any person associated there with in the capacity of owner, partner, director, officer, principal investigator, project director, manager, auditor, or any position involving the administration of federal funds is **not** currently under suspension, debarment, voluntary exclusion or determination of ineligibility by any federal agency; that the company or any person associated therewith in the capacity of owner, partner, director, officer, principal investigator, project director, manager, auditor, or any position involving the administration of federal funds has **not** been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past three (3) years; that the company or any person associated therewith in the capacity of owner, partner, director, manager, auditor, or any position involving the administration of federal funds does **not** have a proposed debarment pending; that the company or any person associated there with in the capacity of owner, partner, director, officer, principal investigator has **not** been indicted, convicted, or had a civil judgment rendered against the company, or themselves by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

If there are exceptions to any of the above clauses, please include a statement with the bid package detailing these exceptions.

Exceptions will not necessarily result in denial of award but will be considered in determining bidder responsibility. For any exception noted, indicate below to whom it applies, initiating agency and dates of action. Providing false information may result in criminal prosecution or administrative sanctions. Execution of this proposal on the signature portion thereof shall constitute also signature of this certification as permitted by Title 28 United States Code, Section 1746.

4. PREQUALIFICATION

Only pre-qualified contractors are eligible to submit bids for this PROJECT. Pre-qualification status must be in force **at the time of bid, at the time of award, and through the life of the construction contract.** For work types that ODOT does not pre-qualify, the LPA must still select a qualified contractor. Subcontractors are not subject to the pre-qualification requirement. The "prime" contractor must perform no less than 30 percent of the total original contract price.

5. PN033 - 4/18/2008- AS PER PLAN DESIGNATION

For the last several years the “As Per Plan” designation has been added to some item descriptions in the proposal to assist the Contractors to easily identify standard items that have been altered by plan notes.

The “As Per Plan” designation has proven to be a very useful tool for the Contractors. However, its use was never intended to relieve the Contractors of their responsibility to read, bid and construct all items in accordance with all governing plan notes. Therefore, the absence of an “As Per Plan” designation on some item descriptions in the proposal for which there are clear and controlling plan notes does not relieve the Contractors of the responsibility to read, bid and construct those particular items in accordance with the governing plan notes.

Be advised that the item descriptions in the bidding proposal must be read or interpreted with the governing plan notes and the Construction and Material Specification Manual. A claim based upon an “order of precedence” basis will be denied. In the event that a conflict, either real or perceived, exists between the item description and the governing plan note, the Contractors are to request clarification through the pre-bid process.

6. FEDERALLY REQUIRED EEO CERTIFICATION FORM

The bidder hereby certifies that he **has**, **has not**, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that he **has**, **has not**, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements. *The Bidder must circle the appropriate “has or has not” above.*

7. PN 017 - 10/15/2004 - FEDERALLY REQUIRED EEO CERTIFICATION CLAUSE

The Federally Required EEO Certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7 (b) (1)) and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontractors which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

8. PN 026 - 10/15/2004 - CERTIFICATION OF NONSEGREGATED FACILITIES

(a) Certification of Non-segregated Facilities, as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities (for a Federal-aid highway construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause).

(b) Bidders are cautioned as follows: By signing this bid, the bidder has agreed to the provisions of the “Certification of Non-segregated Facilities” in this proposal. This certification provides that the bidder

does not maintain or provide for his employees' facilities which are segregated on a basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that the bidder will not maintain such segregated facilities.

(c) Bidders receiving Federal-aid highway construction contract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, will be required to provide for the forwarding of the following notice to prospective subcontractors for construction contracts and material suppliers where the subcontracts or material supply agreements exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity clause.

"Notice to Prospective Subcontractors and Material Suppliers of Requirement for Certification of Non-segregated Facilities" -

- (a) A Certification of Non-segregated Facilities as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, which is included in the proposal, or attached hereto, must be submitted by each subcontractor and material supplier prior to the award of the subcontract or consummation of a material supply agreement if such subcontract or agreement exceeds \$10,000 and is not exempt from the provisions of the Equal Opportunity clause.
- (b) Subcontractors and material suppliers are cautioned as follows: By signing the subcontract or entering into a material supply agreement, the subcontractor or material supplier will be deemed to have signed and agreed to the provisions of the "Certification of Non-segregated Facilities" in the subcontract or material supply agreement. This certification provides that the subcontractor or material supplier does not maintain or provide for his employees' facilities which are segregated on the basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that the subcontractor or material supplier will not maintain such segregated facilities.
- (c) Subcontractors or material suppliers receiving subcontract awards or material supply agreements exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause will be required to provide for the forwarding of this notice to prospective subcontractors for construction contracts and material suppliers where the subcontracts or material supply agreements exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity clause.

9. PN 003 - 10/15/2004 - TITLE VI RELATED STATUTES NON-DISCRIMINATION STATEMENT

The LPA, under Title VI of the Civil Rights Act and related statutes, ensures that no person in the LPA, shall on the grounds of race, color, national origin, sex, disability or age be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

10. CERTIFICATION OF COMPLIANCE WITH AFFIRMATIVE ACTION PROGRAMS

In accordance with Ohio Administrative Code §9.47, before any Contract is awarded, the LPA will require the Bidder to furnish a valid Certificate of Compliance with Affirmative Action Programs, issued by the State EEO Coordinator dated prior to the date fixed for the opening of bids.

11. PN 020 – 11/21/2011 - NOTICE OF REQUIREMENT OF AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

The Bidder's attention is called to the affirmative action obligations required by the specifications set forth in 23 CFR Part 230, 41 CFR Part 60, Executive Order 11246, Section 503, and the affirmative action provisions of Vietnam Era Veterans' Readjustment Assistance Act (VEVRAA) of 1974.

Utilization goals applicable to the project, expressed in percentages, for minority and female participation for each construction craft can be found on ODOT's website at <http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/default.aspx>. These goals are based on 2000 census data and represent the area, per craft, minority and female availability pool.

Minority and female utilization obligations by craft per county (applicable to project):

<http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Construction/CountyAvailability-ByTrade.pdf>

Statewide utilization obligations by craft (applicable to the Contractor's statewide workforce):

<http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Construction/StatewideAverages-ByTrade.pdf>

Effective 11/21/2011 the New Hire Definition will be as follows:

An individual who has a break in service (not on an employer's payroll) for a period of 12 months or longer and the person affected is not a salaried employee but belongs to a union craft. Individuals compensated for training or incidental work which does not cause a break in unemployment compensation, i.e., paid by voucher check or petty cash, are considered new hires if the individual's break in service is 12 months or longer.

The time frame for a new hire shall be associated with the first project worked for that contractor regardless of whether it is public or private. When reporting new hires, the contractor shall identify that employee as a new hire on that specific project only. Subsequent work, barring a break in service of 12 months or more, would not qualify the employee as a new hire for that contractor.

The Contractor's compliance shall be based on the implementation of affirmative action obligations required by the specifications set forth in 23 CFR Part 230, and its good faith efforts to meet these obligations. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and females on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the affirmative action obligations shall be a violation of the contract and regulations in 23 CFR Part 230. The good faith efforts put forth by the contractor will be measured against the total work hours performed. Under FHWA, ODOT is the authority tasked with ensuring that the contractor adheres to the aforementioned regulations. In addition to complying with the Required Contract Provisions as outlined in the attached subcontract agreement the Contractor shall provide immediate written notification to the ODOT and the Prime Contractor when referral practices of the union or unions with which the Contractor has a collective bargaining agreement impede the company's efforts to meet its equal opportunity obligations.

The Office of Federal Contract Compliance Programs (OFCCP) administers and enforces equal employment opportunity laws that apply to Federal government contractors and subcontractors supplying goods and services, including construction, to the Federal Government under 41 CFR Part 60, Executive Order 11246, Section 503, and the affirmative action provisions of VEVRAA. The OFCCP monitors compliance with these laws primarily through compliance evaluations, during which a compliance officer examines the contractor's affirmative action efforts and employment practices. Under Executive Order 11246, the OFCCP may perform contract compliance reviews on contractors involved with federally funded ODOT projects.

Requirements for affirmative action obligations governing OFCCP contract compliance reviews are those listed in the Construction Contractors Technical Assistance Guide.

https://www.dol.gov/sites/dolgov/files/OFCCP/Construction/508_cctag_12032020.pdf

The Department of Administrative Services (DAS), Equal Opportunity Division, is responsible for ensuring state contractors implement and adhere to the State of Ohio's affirmative action program pursuant to Ohio Administrative Code (OAC) 123:2-3-02. Specifically, this unit's responsibilities include the issuance of certificates of compliance under ORC 9.47 and 153.08, conducting project site visits and compliance reviews (desk audits) to ensure contractors utilize minorities and women in the construction trades, as well as maintaining a working environment free of discrimination, harassment and intimidation. The DAS may perform contract compliance reviews on contractors involved with state funded ODOT projects. Requirements for affirmative action obligations governing DAS contract compliance reviews are those listed in the O.A.C. for the Metropolitan Statistical Area in which a project is located. <http://das.ohio.gov/Divisions/EqualOpportunity/ConstructionCompliance.aspx>

All prime and subcontractors regardless on the number of employees or the state contract amount are required to submit monthly utilization reports (Input Form 29) to Ohio Department of Administrative Services covering the contractor's total workforce within the state of Ohio. The reports must be filed electronically by the 10th of each month, beginning with the contract award and continuing until the contractor or subcontractor completes performance of the state contract. <http://das.ohio.gov/Divisions/EqualOpportunity/InputForm29.aspx>

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs, 200 N. High Street, Room 409, Columbus, Ohio 43215, within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontract and the geographical area in which the subcontract is to be performed.

12. PN 029 - 10/15/2004 - ON-THE JOB TRAINING (OJT) PILOT PROGRAM

The requirements of this Training Special Provision supersede subparagraph 7b of the Special Provision entitled Special Employment Opportunity Responsibilities and implements 23 U.S.C. 140(a).

The following must be included as part of the Contractor's equal employment opportunity affirmative action training program:

The Contractor must provide on-the-job training aimed at developing full journey persons in the type or job classification in which they work.

The contractor is not required to have a specific number of trainees assigned to this project. The number of trainees will be distributed among the work classifications on the basis of the Contractor's needs and the availability of the journey persons in the various classifications. The Contractor will be credited for each trainee employed by him or her who is currently enrolled or becomes enrolled in an approved program.

Training and upgrading of minorities and women toward journey person status is a primary objective of this Training Special Provision. Accordingly, the Contractor must make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a

reasonable area of recruitment. This training commitment is not intended, and will not be used, to discriminate against any applicant for training, regardless of whether the applicant is a member of a minority group or not.

No employee will be employed as a trainee in any classification in which he or she has successfully completed a training course leading to journey person status or in which he or she has been employed as a journey person. The Contractor must satisfy this requirement by including appropriate questions in the employee's application or by other suitable means. Regardless of the method used, the Contractor's records must document the findings in each case.

The minimum length and type of training for each classification will be established in the training program selected by the Contractor.

No payment by the LPA will be made to the Contractor for providing this training. However, if the Contractor fails to provide adequate training and cannot show good faith efforts on its part to provide adequate training, it will be subject to a formal compliance review to determine the Contractor's efforts in meeting the EEO laws and regulations.

The Contractor must provide the following reports:

1. CR1 Report [Click Here for copy of CR1 Report](#)
 - A. To be completed on each trainee
 - B. To be filled out at the start of training and finish of training or at the end of the year, whichever comes first
 - C. To be submitted to the ODOT District in which the Contractor's home office is located.
2. Tracking will be on an annual basis. The Contractor must submit the subsequent CR1 to the ODOT District in which the Contractors home office is located.

The prime or subcontractor conducting the training must be involved in at least one Federal project per calendar year in order to get FHWA training credit. Participation in the OJT Program is not project or contract specific.

All Contractors are encouraged to participate in the OJT program. Such a program will be considered when examining the contractor's Good Faith Efforts toward meeting its contractual affirmative action obligations.

All Contractors shall submit their own Training Program or Apprenticeship Certificate, for approval, to the ODOT District in which the company's home office is located.

All OJT Trainees must have the appropriate certification. Apprenticeship Certificates can be obtained from the State of Ohio, Bureau of Apprenticeship and Training. The union apprenticeship agreement is not acceptable verification of an apprentice's enrollment in a union sponsored training program. A copy of the Apprenticeship Certificate along with a statement indicating the number of months/years the employee has been in the apprenticeship program must be submitted to the ODOT EEO Coordinator in the company's home district and to the prevailing wage coordinator in the district responsible for the project within 90 days of the apprentice beginning work on the project.

13. PN 059 - 10/15/2004 - WAGE DETERMINATION APPEALS PROCESS

- 1.) Has there been an initial decision in the matter? This can be:
 - * An existing published wage determination
 - * A survey underlying a wage determination
 - * A Wage and Hour Division letter setting forth a position on a wage determination matter
 - * A conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response for this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determination
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D. C. 20210

- 2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (see 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U. S Department of Labor
200 Constitution Avenue, N.W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requester considers relevant to the issue.

- 3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

- 4.) All decisions by the Administrative Review Board are final.

14. PN 061 –10/22/2012- WAGE SCALE ON ALL FEDERAL-AID PROJECTS

The wage rates for this project were determined by the Secretary of Labor in accordance with Federal-Aid requirements. LPA must formally incorporate into contract documents.

Contractors shall use only the classifications and wage rates set forth in the United States Department of Labor (USDOL) wage decision found at website noted below on payrolls submitted to the District Office. Additionally, please note that the wage modification in effect at the time of the project sale date, shall be used by all contractors.

This USDOL wage decision may be viewed, by accessing the United States Department of Labor (USDOL) website at:

beta.SAM.gov

This contract requires the payment of the total of the basic hourly rates plus the fringe benefits payments for each classification in accordance with the following regulations which by reference are made part of this contract:

- 1) The U.S. Department of Labor Regulations, Title 29, Subtitle A, Part 5, Sections 5.5, 5.31, and 5.32, most recent revision at contract execution.
- 2) Form FHWA-1273 (most recent revision at contract execution) Part IV. Payment of Predetermined Minimum Wage and Part V. Statements and Payrolls.

The failure to pay prevailing wages to all laborers and mechanics employed on this project, shall be considered a breach of contract. Such a failure may result in the termination of the contract and debarment.

The Contractor and all subcontractors shall pay all wages and fringe benefits by company check. All payroll records and canceled pay checks shall be maintained for at least three years after final acceptance as defined in Section 109.12 of the Ohio Department of Transportation Construction and Materials Specifications. The Contractor's and all subcontractor's payroll records and canceled pay checks shall be made available for inspection by the Department and the U.S. Department of Labor, upon request, anytime during the life of the contract, and for three years thereafter by the U.S. Department of Labor. Additionally, the Contractor and all subcontractors shall permit such representatives to interview any employees during working hours while the employee is on the job.

The wage and fringe rates determined for this project shall be posted by the Contractor in a prominent and accessible place on the project, field office, or equipment yard where they can be easily read by the workers.

The Contractor and all subcontractors shall submit to the District Construction Office, certified payrolls each week beginning three weeks after the start of work. These payrolls shall be on a Form A-87 or equivalent and shall show the following:

- 1) Employee name, address, classification, and hours worked.
- 2) The basic hourly and overtime rate paid, total pay, and the manner in which fringe benefit payments have been irrevocably made.
- 3) The project number and pay week dates.
- 4) Original signature of a company officer on the certification statement.

[Click for Form A-87](#) then scroll down page to Pre-Uniform Guidance and click "Timecard Example A-87 Compliant".

Additionally, a copy of the "Apprentice Certification" obtained from the Ohio State Apprenticeship Council, must accompany all certified payrolls submitted for all apprentices working on this project.

Please be aware that it is ultimately the responsibility of the Contractor to ensure that all laws relating to prevailing wages in the USDOL Regulations, Title 29, parts 1 and 5, are strictly adhered to by all subcontractors on the project.

If the Contractor or any subcontractor fails to comply with any of the provisions contained in this proposal note, the Department may terminate the contract, debar the Contractor or Subcontractor and/or withhold or suspend pay estimates after written notice and a reasonable opportunity to comply has been provided.

The applicable wage and fringe rates for this project are to be incorporated in their entirety as an attachment to the executed contract.

15. LIMITATION ON USE OF CONTRACT FUNDS FOR LOBBYING

1. The prospective bidder certifies, by signing and submitting this bid proposal, to the best of his or her knowledge and belief, that:
 - (a.) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - (b.) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. This certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective bidder also agrees by submitting his or her bid proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

16. PN 045 - 10/15/2004 - NON -COLLUSION AFFIDAVIT

In accordance with Title 23 United States Code, Section 112 and Ohio Revised Code, Chapter 1331 et. seq: and Sections 2921.11 and 2921.13, the bidder hereby states, under penalty of perjury and under other such penalties as the law provides, that he or his agents or employees have not entered either directly or indirectly into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal. Execution of this proposal on the signature portion thereof shall constitute also signature of this Non-Collusion Affidavit as permitted by title 28 United States Code, Section 1746.

REPORTING BID RIGGING

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially, and caller anonymity will be respected.

17. PN 014 - 10/15/2004 - DRUG-FREE WORKPLACE

The prime contractor agrees to comply with all applicable state and federal laws regarding drug-free workplace. The prime contractor shall make a good faith effort to ensure that all its employees, while working on this project, will not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way.

The prime contractor shall also require that this contractual obligation be placed in all subcontractor and materialman contracts that it enters into and further requires that all subcontractors and materialmen place the same contractual obligations in each of their lower tier contracts.

18. PN 034 - 05/25/2011 – DRUG FREE SAFETY PROGRAM

During the life of this project, the Contractor and all its Subcontractors, that provide labor on the Project site, must be enrolled in and remain in good standing in the Ohio Bureau of Worker’s Compensation (“OBWC”) Drug-Free Safety Program (“DFSP”) or a comparable program approved by the OBWC.

In addition to being enrolled in and in good standing in an OBWC-approved DFSP or a comparable Drug Free Workplace Program (“DFWP”) approved by the OBWC, the LPA requires each Contractor and Subcontractor that provides labor, to subject its employees who perform labor on the project site to random drug testing of 5 percent of its employees. The random drug testing percentage must also include the on-site supervisors of the Contractors and Subcontractors. Upon request, the Contractor and Subcontractor shall provide evidence of required testing to the LPA.

Each Subcontractor shall require all lower-tier Subcontractors that provides labor on the project site with whom the Subcontractor is in contract for the Work to be enrolled in and be in good standing in the OBWC DFSP or an OBWC-approved DFWP prior to a lower-tier Subcontractor providing labor at the Site.

The LPA will declare a bid non-responsive and ineligible for award if the Contractor is not enrolled and in good standing in the Ohio Bureau of Workers’ Compensation’s DFSP Discount Program or a similar program approved by the Bureau of Workers’ Compensation within 8 days of the bid opening. Furthermore, the LPA will deny all requests to sublet when the subcontractor does not comply with the provisions of this proposal note.

Failure of the Contractor to require a Subcontractor to be enrolled in and be in good standing in the OBWC DFSP or an OBWC-approved DFWP prior to the time that the Subcontractor provides labor at the Site, shall result in the Contractor being found in breach of the Contract and that breach shall be used in the responsibility analysis of that Contractor or the Subcontractor who was not enrolled in a program for future contracts with the State for five years after the date of the breach.

19. OHIO WORKERS’ COMPENSATION COVERAGE

The Contractor must secure and maintain valid Ohio workers’ compensation coverage until the project has been finally accepted by the Ohio Department of Transportation. A certificate of coverage evidencing valid workers’ compensation coverage must be submitted to the LPA before the contract will be executed by the LPA.

The Contractor must immediately notify the LPA, in writing, if it or any subcontractor fails or refuses to renew their workers' compensation coverage. Furthermore, the Contractor must notify the LPA, in writing, if it's or any of its subcontractor's workers' compensation policies are canceled, terminated or lapse.

The failure to maintain valid workers' compensation coverage shall be considered a breach of contract which may result in the Contractor or subcontractor being removed from the project, withholding of pay estimates and/or termination of the contract.

20. PN 038 - 10/15/2004 - UNRESOLVED FINDING FOR RECOVERY

The Contractor affirmatively represents to the LPA that it is not subject to a finding for recovery under Ohio Revised Code §9.24, or that it has taken the appropriate remedial steps required under §9.24 or otherwise qualifies under that section. The Contractor agrees that if this representation is deemed to be false, the contract shall be void ab initio as between the parties to this contract, and any funds paid by the state hereunder shall be immediately repaid to the LPA, or an action for recovery may be immediately commenced by the LPA and/or for recovery of said funds.

21. PN 039 - 10/15/2004 - ASSIGNMENT OF ANTITRUST CLAIMS IN STATE CONTRACT LANGUAGE

The Contractor should recognize that in actual economic practice, overcharges resulting from antitrust violations are usually borne by ODOT and/or the LPA. As consideration for the Award of the Contract and intent to be legally bound, the Contractor acting herein by and through the person signing this contract on behalf of the Contractor as a duly authorized agent, hereby assigns, sells, conveys, and transfers to ODOT and/or the LPA any and all right, title and interest to any and all claims and causes of action the Contractor now has or hereafter requires under state or federal antitrust laws provided that the claims or causes of action related to the goods or services that are the subject to the contract. In addition, the Contractor warrants and represents that it will require any and all of its subcontractors and first tier suppliers to assign any and all federal and state antitrust claims and causes of action to ODOT and/or the LPA. The provisions of this article shall become effective at the time the LPA executes this contract without further acknowledgment by any of the parties.

All contracting entities shall assign their rights and responsibilities to ODOT and/or the LPA for all antitrust claims and causes of action regarding subcontractors.

22. PN 024 – 04/21/2006 – US ARMY CORPS OF ENGINEERS AND OHIO ENVIRONMENTAL PROTECTION AGENCY PERMITS

The above referenced permits are incorporated and made a part of this contract as special provisions incorporated herein. Therefore, in the event that the Contractor or its agents refuse or fail to adhere to the requirements of the US Army Corps of Engineers 404 Permit, and/or the Ohio Environmental Protection Agency's 401 Water Quality Certification and an assessment or fine, is made or levied against the Ohio Department of Transportation, the Contractor shall reimburse the Department within thirty (30) calendar days of the notice of assessment or fine or the Department may withhold the amount of the fine from the Contractor's next pay estimate. All money collected or withheld from the Contractor shall be delivered to the permitting agencies issuing the assessment or fine.

These fines are not to be construed as a penalty but are liquidated damages to recover costs assessed against the Department due to the Contractor's refusal or failure to comply with the permits.

23. PN 007 – 1/31/2021- DBE TRUCKING

The Code of Federal Regulations Title 49, Section 26.55(d)(4)(5)(6) governs trucking operations.

The Disadvantaged Business Enterprise (DBE) trucking firm must be able to quote and negotiate its own prices. The DBE trucking firm must also provide a quote for each project that the firm is to be utilized toward the project DBE goal.

The DBE will be responsible for the management and supervision of their trucking operation on each contract. A DBE is not performing a CUF if the contract exists for the purpose of creating the appearance of DBE participation.

The DBE must own and operate at least one fully licensed, insured, and operational truck used on the contract.

The DBE receives credit for the total value of the transportation services the DBE provides on the contract using trucks the DBE owns, insures, and operates using drivers it employs (not 1099/independent contractors).

The DBE may lease trucks on a long-term basis (a year or more) and receive full DBE credit as long as employees of the DBE operate the truck.

A lease must indicate that the DBE has exclusive use of and control over the truck, including responsibility of maintenance and insurance. This does not preclude the leased truck from working for others during the term of the lease with the DBEs consent, as long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the DBEs name and identification number as well.

The DBE must carry a copy of the lease agreement in the leased truck when working onsite.

Truck Monitoring:

Credit for expenditures with DBEs for materials or supplies toward the DBE goal is described as follows:

1. A DBE firm may be a regular dealer in bulk items such as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business if the firm both owns and operates distribution equipment for the products. Any supplementing of a regular dealer's own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.
2. When the materials or supplies are obtained from a DBE MSV (Materials and Supplies Vendor) manufacturer the prime contractor may receive credit for 100 percent of the cost of the materials or supplies toward the DBE goal. For purposes of this section, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.
3. When the materials or supplies are purchased from a DBE MSV regular dealer or supplier the prime contractor may receive credit for up to 60 percent of the cost of the materials or supplies toward the DBE goal. For purposes of this section, a regular dealer or supplier is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

In the past, 60% of the cost of materials and supplies purchased from a DBE MSV (100% from a DBE MSV manufacturer) would usually be counted toward DBE goals. Effective September 1, 2018:

- o Prime contractors must obtain information about the method of procurement for each item to be procured from a DBE MSV. The DBE Affirmation Form has been modified to accommodate this information.
- o To be eligible to receive 100% credit toward DBE goals for a materials and supplies subcontract:
 - The DBE MSV must be certified with the correct (manufacturer) NAICS code for the item
 - The DBE MSV must be certified with the correct descriptor for the item
 - The role the DBE MSV will play on the specific procurement in question must be consistent with the manufacture of the item, as indicated by the information
 - o provided by the DBE MSV
- o To be eligible to receive 60% credit toward DBE goals for a materials and supplies subcontract:
 - The DBE MSV must be certified with the correct (wholesale or retail) NAICS code for the item
 - The DBE MSV must be certified with the correct descriptor for the item
 - The role the DBE MSV will play on the specific procurement in question must be consistent with the regular sale or lease of the item, as indicated by the information provided by the DBE MSV
 - The item must not be drop-shipped
- o The above scenario applies to both bulk items (petroleum products, steel, cement, gravel, stone, asphalt, and others that ODOT may consider to be bulk items) and non-bulk items. For bulk items, there is an additional scenario whereby a contract with a DBE MSV could receive 60% credit. To be eligible to receive 60% credit toward DBE goals for a bulk item materials and supplies subcontract:
 - The DBE MSV must be certified with the correct (wholesale or retail and
 - o trucking) NAICS codes for the item
 - The DBE MSV must be certified with the correct descriptor for the item
 - The role the DBE MSV will play on the specific procurement in question must be
 - o consistent with the regular sale or lease of the item, as indicated by the
 - o information provided by the DBE MSV
 - The DBE MSV must deliver the bulk item from a non-DBE vendor to the prime contractor using distribution equipment that it both owns (or for which it has a long-term (1 year or more) lease) and operates with its regular (not ad hoc) employees.
- o If not eligible for 100% or 60% credit, an item may still be eligible for credit toward DBE goals, but only for the fee or commission the DBE MSV receives for its services, and only if the following additional criteria are met:
 - The DBE MSV must be certified with NAICS code 425120 Wholesale Trade Agents
 - o and Brokers
 - The DBE MSV must convincingly explain how the prime contractor benefits by transacting business with it rather than directly with the non-DBE vendor from which the DBE MSV is re-selling.
- o The usual good faith efforts process applies.
- o All credit toward DBE goals is conditional. Actual credit will be determined based upon invoices, receipts, and/or transportation documents/bills of lading, which must be submitted to ODOT as they are received throughout the course of the project.

DBE TRUCKING DISCLOSURE AFFIDAVIT

In order to ensure that Prime Contractors are monitoring DBE trucking/hauling operations on projects with federal funding, prime contractors must complete the DBE Trucking Disclosure Affidavits Section (“Affidavit”) when completing and submitting the Prompt Payment Spreadsheet for reimbursement. The Affidavit will be completed by the Prime on the Prompt Payment Spreadsheet and once submitted will be routed to the project’s SharePoint site. This information will be used to affirm DBE and non-DBE trucking utilized by each DBE firm performing those duties during the previous month. The LPA/ODOT will monitor trucking with the following requirements for all Local-let projects:

- Prime Contractors will be required to provide a master list of all anticipated DBE trucking firms to the District Construction Monitor (DCM) at the time of the Pre-Construction Meeting.
- If no DBE trucking is anticipated on a project, the Prime will check the box “No Anticipated DBE Trucking Affidavit” on the first submittal of the Prompt Payment Spreadsheet. If DBE trucking/hauling does occur, the Prime must notify the LPA within seven (7) days of the DBE trucking activity. The Prime will then complete the Affidavits as required below on each Prompt Payment Spreadsheet.
- Prime Contractors will be required to complete the Affidavit disclosing the DBE trucking operations when completing the new Prompt Payment Spreadsheet. the previous month. The Prime will Complete the Trucking Affidavit section on the Prompt Payment Spreadsheet on each reimbursement submittal. The Prime Contractor will select one of the following options on the Trucking Affidavit section of the form.
 - The DBE firm performed trucking by utilizing their own equipment and workforce and/or work was subcontracted to another DBE (i.e. only trucking that can be counted for DBE participation was utilized).
 - No other information is required. The Prime will sign and submit the Affidavit.
 - The DBE firm utilized DBE & Non-DBE trucking.
 - If selected, the Prime will provide a list of Non-DBE trucking that was utilized (i.e., not all trucking will earn DBE credit).
 - No trucking was performed.
 - No other information is required. The Prime will sign and submit the Affidavit.
- The DCM will perform a check of the Affidavit when reviewing the Prompt Payment Spreadsheet when submitted for reimbursement. The LPA and/or Compliance Managers will follow up on any red flags. For example, if the LPA compares information collected during the CUF process with the affidavit and sees any discrepancies.
- Trucking will continue to be monitored at project sites by construction field staff and the LPAs.

SANCTIONS AND ADMINISTRATIVE REMEDIES

Failure by the prime contractor to follow the DBE Trucking Disclosure Affidavit requirements may result in the issuance of sanctions as follows:

- 1st Level Occurrence: The Department will issue a Letter of Reprimand to the contractor (applies if there is a failure to submit the Affidavits and/or the Affidavits are not submitted timely; if the prime completes the No Anticipated DBE Trucking Affidavit, utilizes DBE trucking and does not notify the

- LPA within seven days of the activity);
- 2nd Level Occurrence: The Department may withhold an estimate in the amount due to the DBE trucking firm that the Affidavit was not submitted for (applies if there is a failure to submit the Affidavits and/or the Affidavits are not submitted timely; if the prime completes the No Anticipated DBE Trucking Affidavit, utilizes DBE trucking and does not notify the LPA within seven days of the activity);
- 3rd Level Occurrence: If a pattern of not submitting the Affidavit(s) persists or the Contractor has falsified, misrepresented or withheld information, ODOT can pursue other remedies available by law including suspension, revocation, and/or debarment.

Factors to be considered in issuing sanctions may include, but are not limited to the following:

- The Contractor's past project practices;
- The magnitude and the type of offense;
- The degree of the Contractor's culpability;
- Any steps taken to rectify;
- The Contractor's record of performance on other projects; and
- The number of times the Contractor has been previously sanctioned by ODOT.

DBE MSV DIRECTORY - <http://www.dot.state.oh.us/Divisions/ODI/SDBE/Pages/DBE-Directory.aspx>
(select MSV only)

DBE AFFIRMATION FORM - The new DBE Affirmation Form is now available at
<http://www.dot.state.oh.us/Divisions/ODI/SDBE/Pages/Resources.aspx>.

Opening Prompt Payment (PP) Spreadsheet (Trucking Affidavit Section on PP Spreadsheet) through GoFormz:

1. Obtain a MyODOT account
 - a. Click [Link](#)
 - b. Click "Launch MyODOT"
 - c. Click: "Click Here"
 - d. Complete Account Application under "Request an Account"
2. Getting GoFormz Access
 - a. Email GoFormz.Help@dot.ohio.gov put Create GoFormz Account in the subject line
 - b. Login for Goformz will be emailed back
 - c. Click www.goformz.com

Addition guidance can be found by [Click Here](#)

24. PN 013 – 03/15/2019 - DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION PLAN AND GOOD FAITH EFFORTS

Guidance for Bidders – Federally Funded Projects with a DBE Goal, to ensure compliance with the requirements outlined in PN 013 [Click Here](#)

DBE UTILIZATION PLAN

All Bidders shall submit a DBE Utilization Plan at the time of bid setting forth specific information demonstrating how the Bidder will achieve the DBE goal. By submitting a DBE Utilization Plan, the Bidder is affirming that they will be using the DBE firms identified in the Utilization Plan to meet the DBE contract goal. The DBE Utilization Plan shall be submitted with Formstack at time of bid submission. Any bids received without electronic submission of the DBE Utilization Plan at or before bid time, will be deemed unresponsive. **Bidders shall submit their DBE Utilization Plans via:** https://odot.formstack.com/forms/dbe_copy. This file contains the current list of certified DBEs and is updated regularly. The DBE Utilization Plan must be filled out completely and submitted prior to bid opening.

The DBE Utilization Plan shall include the following information:

- 1) The names and addresses of the certified DBE firm(s) that will be used to meet the DBE goal;
- 2) A description of the work that each DBE will perform. To count toward meeting a goal, each DBE firm must be certified in a NAICS code applicable to the kind of work the firm would perform on the contract;
- 3) Whether the DBE firm(s) being used to meet the goal will be utilized as a subcontractor, regular dealer, manufacturer, consultant or other capacity; and
- 4) The dollar amount of the participation of each DBE firm used to meet the DBE goal.

PROJECTS AWARDED ON ALTERNATES

In the event the project is awarded on alternates which increases or decreases the total dollar amount of the bid, a revision to the DBE Utilization Plan and DBE Affirmation Form(s) shall be submitted and approved by the Office of Small & Disadvantaged Business Enterprise within five (5) calendar days after the notification of the alternates.

DBE AFFIRMATION

The Apparent Low Bidder shall ensure the DBE firms being utilized to meet the DBE goal affirm their participation in the bid within five (5) calendar days after the bid opening to ODOT. The contract dollar amount(s) and/or DBE firm(s) included in the Apparent Low Bidder's DBE Utilization Plan must match the contract dollar amount(s) and/or DBE firm(s) included on the DBE Affirmation Form(s). If the contract dollar amount(s) and/or DBE firm(s) do not match, the Apparent Low Bidder shall utilize the Request to Terminate/Substitute DBE Form located at <https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/business-economic-opportunity/dbe/dbe-resources> (form name is DBE Termination Form) and submit for review and approval by the Office of Small & Disadvantaged Business Enterprise within five (5) calendar days of the bid opening.

The Apparent Low Bidder shall utilize the DBE Affirmation Form located at <https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/business-economic-opportunity/dbe/dbe-resources>. You will then need to click the link of the webpage "DBE Affirmation Form (PN 013) – Projects sold after September 1, 2018 or thereafter. The DBE Affirmation Form will be utilized as written confirmation from each listed DBE firm that it is participating in the contract in the type and amount of work provided in the Bidder's DBE Utilization Plan. The Apparent Low Bidder shall submit a separate DBE Affirmation Form for

each DBE it is utilizing for the DBE goal and their Good Faith Efforts package if they were not able to attain the DBE Goal via DBE participation.

All other Bidders shall submit a DBE Affirmation Form(s) if notified that the information is required in order for ODOT to complete its assessment. Bidders shall have five (5) calendar days from the date of notification to submit all required DBE Affirmation Forms to ODOT. Notification will be by email.

In the event a DBE firm fails to confirm the information contained in the DBE Affirmation Form within five (5) calendar days of bid opening, the Apparent Low Bidder shall submit a Request to Terminate/Substitute DBE Form, as set forth herein. The Request to Terminate/Substitute DBE Form shall be submitted within five (5) calendar days after bid opening in order for the Apparent Low Bidder to still be considered for contract award. The Apparent Low Bidder shall include as its reason for termination the DBE firm's failure to provide a timely affirmation and should include all efforts the Apparent Low Bidder made to obtain the affirmation from the DBE firm and shall attach proof of these efforts, if available. If the Apparent Low Bidder intends to replace the DBE Firm, it shall include the replacement firm's information on the form. In the event the Apparent Low Bidder is unable to affirm a DBE firm included in its original DBE Utilization Plan at bid submission and it results in a goal shortfall, Good Faith Efforts (GFE's) must be submitted by the fifth calendar day after bid opening. All GFE documentation submitted for consideration should demonstrate the efforts the Bidder made prior to the time of bid submission to secure sufficient DBE participation on the project to meet the DBE goal although the Bidder was unable to do so. A DBE firm's failure to timely confirm information contained in the DBE Affirmation Form will be considered as good cause to terminate the DBE firm and will also be considered a part of the Apparent Low Bidder's Good Faith Efforts in meeting the goal.

DBE BIDDERS

In the event that the Bidder is also a certified DBE firm, the Bidder is required to complete a DBE Utilization Plan as set forth above. In this instance, however, the certified DBE Bidder would not need to submit a DBE Affirmation Form for the work it is planning to self-perform in order to meet the goal. ODOT will consider the submission of the bid as the certified DBE Bidder's written confirmation that it is participating in the contract. However, a DBE Affirmation Form must be submitted for all other DBE firms that are being utilized toward the DBE goal.

JOINT VENTURES

In the event that the Bidder is a Joint Venture, the Joint Venture will only be considered a Certified DBE firm if the Joint Venture itself has been certified. The Joint Venture may, however, utilize a Certified DBE firm that is also a partner in the Joint Venture as part of its DBE Utilization Plan. The Certified DBE Firm/Joint Venture Partner, however, does not need to submit a DBE Affirmation Form for any work that the Certified DBE Firm/Joint Venture Partner is going to perform to meet the goal. ODOT will consider submission of the Joint Venture's bid as the Certified DBE Firm/Joint Venture Partner's confirmation that it is participating in the contract.

GOOD FAITH EFFORTS

In the event that the DBE contract goal established by ODOT is not met, the Apparent Low Bidder shall demonstrate that it made adequate good faith efforts to meet the goal, even though it did not succeed in obtaining enough DBE participation to do so.

If the Apparent Low Bidder does not meet the goal at bid time, the Apparent Low Bidder shall submit its Good Faith Efforts (GFE's) documentation within five (5) calendar days of the bid opening. Submission of DBE affirmation(s) with additional participation sufficient to meet the DBE contract goal does not cure the Apparent Low Bidder's failure to meet the goal at bid time or eliminate the Apparent Low Bidder's responsibility of submitting GFE's within five (5) calendar days of the bid opening.

The Apparent Low Bidder shall demonstrate its GFE's by submitting the following information within five (5) calendar days after the bid opening:

- (1) All written quotes received from certified DBE firms;
- (2) All written (including email) communications between the Apparent Low Bidder and DBE firms;
- (3) All written solicitations to DBE firms, even if unsuccessful;
- (4) Copies of each non-DBE quote when a non-DBE was selected over a DBE for work on the contract;
- (5) Phone logs of communications with DBE firms.

The Apparent Low Bidder shall utilize the Pre-Bid GFE Template to document their GFE's. This template and supporting documentation shall be sent along with any DBE Affirmation Forms within five (5) calendar days of bid opening. ODOT has provided Good Faith Efforts Guidance located at <https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/business-economic-opportunity/dbe/dbe-resources>

All other Bidders shall submit documentation of GFE's if notified that the information is required in order for ODOT to complete its bid assessment. Bidders shall have five (5) calendar days from the date of notification to submit all required GFE documentation. Notification will be by phone or email.

ODOT shall utilize the guidance set forth in 49 CFR §26.53 Appendix A in determining whether the Bidder has made adequate good faith efforts to meet the goal.

ADMINISTRATIVE RECONSIDERATION

ODOT will review the GFE documentation and issue a written determination on whether adequate GFE's have been demonstrated prior to contract award. If ODOT determines that the Apparent Low Bidder has failed to demonstrate adequate GFE's to meet the goal, the Apparent Low Bidder will have an opportunity for administrative reconsideration prior to the contract being awarded.

As part of this reconsideration, the Apparent Low Bidder may provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. Such written documentation or argument must be provided to ODOT, attention to the Office of Chief Legal Counsel, 1980 West Broad Street, MS 1500, Columbus, Ohio 43223 (with copy to the Office of Contract Sales, MS 4110), within two (2) business days of ODOT's written determination that GFE's were not adequately demonstrated. The Apparent Low Bidder may also include in their written documentation a request for an in-person meeting to discuss the issue of whether it met the goal or made adequate good faith efforts to do so. ODOT's Office of Chief Legal Counsel will respond to the Apparent Low Bidder within five (5) business days of receiving written documentation or holding the in-person meeting.

ODOT will send the Apparent Low Bidder a written decision on reconsideration explaining the basis for finding that the Apparent Low Bidder did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the United States Department of Transportation.

TERMINATION OR REPLACEMENT OF A DBE

By submitting a DBE Utilization Plan, the Bidder is committing to use the DBE firms identified in the plan. The Apparent Low Bidder/Awarded Contractor shall utilize the specific DBEs listed in the DBE Utilization Plan to perform the work and supply the materials for which each is listed unless the Apparent Low Bidder/Awarded Contractor obtains written consent as provided in this paragraph. In order to request termination or substitution of a DBE firm, the Apparent Low Bidder/Awarded Contractor shall utilize the Request to Terminate/Substitute DBE Form located at <https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/business-economic-opportunity/dbe/dbe-resources>. Once on the webpage, scroll down to the form named "DBE Termination Form (PN013)

This termination/replacement procedure applies only to DBE firms or the amount of work being utilized to meet the goal.

Without ODOT's written consent to terminate/replace a DBE firm being utilized to meet the goal, the Awarded Contractor shall not be entitled to any payment for DBE listed work or material unless it is performed or supplied by the listed DBE.

GOOD CAUSE

ODOT may provide written consent to terminate a DBE only if it agrees, for reasons stated in a concurrence document, that the Apparent Low Bidder/Awarded Contractor has good cause to terminate the DBE firm.

For purposes of this paragraph, good cause to terminate a DBE includes the following circumstances:

- 1) The listed DBE firm fails or refuses to provide the required DBE Affirmation Form or to execute a written contract;
- 2) The listed DBE firm fails or refuses to perform the work of its subcontract in a manner consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE firm to perform its work on the subcontract results from the bad faith or discriminatory action of the awarded contractor;
- 3) The listed DBE firm fails or refuses to meet the awarded contractor's reasonable, nondiscriminatory bond requirements.
- 4) The listed DBE firm becomes bankrupt, insolvent, or exhibits credit unworthiness;
- 5) The listed DBE firm is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law;
- 6) ODOT has determined that the listed DBE firm is not a responsible contractor;
- 7) The listed DBE firm voluntarily withdraws from the project and provides to you written notice of its withdrawal;
- 8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- 9) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract; and
- 10) Other documented good cause that ODOT determines compels the termination of the DBE firm. Provided, that good cause does not exist if the awarded contractor seeks to terminate a DBE it relied upon to obtain the contract so that the awarded contractor can self-perform the work for which the DBE contractor was engaged or so that the awarded contractor can substitute another DBE or non-DBE contractor after contract award.

REPLACEMENT

When a DBE firm is terminated or fails to complete its work on the contract for any reason the Awarded Contractor must make GFEs to find another DBE firm to replace the original DBE. These GFEs shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal. The GFEs shall be documented by the Awarded Contractor. If ODOT requests documentation under this provision, the Awarded Contractor shall submit the documentation within seven (7) calendar days, which may be extended for an additional seven (7) calendar days if necessary at the request of the contractor, and ODOT shall provide a written determination to the contractor stating whether or not GFEs have been demonstrated.

In addition to post-award terminations, the provisions of this section apply to pre-award deletions and substitutions of DBE firms put forward by Bidders in the DBE Utilization Plan.

ADDITION

In the event additional DBE participation is required for the project, the Awarded Contractor shall utilize the DBE Affirmation Form located at <https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/business-economic-opportunity/dbe/dbe-resources>. The DBE Affirmation Form, “DBE Affirmation Form (PN013) – Projects sold on September 1, 2018 or thereafter”, will be utilized as written confirmation from each DBE firm that it is participating in the contract in the kind and amount of work on the project.

WRITTEN NOTICE TO DBE

Before transmitting to ODOT its request to terminate and/or substitute a DBE firm, the Apparent Low Bidder/Awarded Contractor must give notice in writing to the DBE firm, with a copy to ODOT, of its intent to request to terminate and/or substitute, and the reason(s) for the request.

The Apparent Low Bidder/Awarded Contractor must give the DBE five (5) calendar days to respond to the notice, advising ODOT and the Apparent Low Bidder/Awarded Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why ODOT should not approve the Apparent Low Bidder/Awarded Contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), ODOT may provide a response period shorter than five (5) days.

GOAL ATTAINMENT POST AWARD

The Awarded Contractor shall make available upon request a copy of all DBE subcontracts. The Awarded Contractor shall ensure that all subcontracts or agreements with DBEs require that the subcontract and all lower tier subcontractors be performed in accordance with this Proposal Note.

Approval of a DBE Utilization Plan does not ensure approval of C-92 Requests to Sublet nor does approval of a DBE Utilization Plan indicate that the DBE goal has been met. ODOT will monitor goal attainment throughout the life of the project. It is the responsibility of the Awarded Contractor to advise ODOT of any changes to the DBE Utilization plan throughout the life of the project. The DBE goal of a project is stated as a percentage of the contract. In the event the contract amount increases or decreases, the actual dollar amount of the DBE goal for the project may increase or decrease accordingly.

SANCTIONS AND ADMINISTRATIVE REMEDIES

PRE-BID

Failure by the Apparent Low Bidder to do any of the following shall result in the bid being rejected in accordance with ORC §5525.08:

- 1) Failure to submit a complete DBE Utilization Plan at the time of bid;
- 2) Failure to submit DBE Affirmation Form(s) and/or failure to submit Request to Terminate/Substitute DBE Form(s) as required by this Proposal Note; and
Failure to meet the goal and/or failure to demonstrate GFEs to meet the goal as required by this Proposal Note.

POST-BID Failure by the Awarded Contractor to carry out the requirements of this Proposal Note, including the submission of adequate good faith efforts to meet the goal for a project, is a material breach of the contract and may result in the issuance of sanctions as follows:

1st Tier:	Letter of Reprimand
2nd Tier:	Damages equivalent to the DBE shortfall
3rd Tier:	If a pattern of paying damages persists or the Contractor has falsified, misrepresented or withheld information, ODOT can pursue other remedies available by law including suspension, revocation, and/or debarment.

Factors to be considered in issuing sanctions may include, but are not limited to the following:

- the magnitude and the type of offense
- the degree of the Contractor's culpability
- any steps taken to rectify
- the Contractor's record of performance on other projects including, but not limited to:
 - annual DBE participation
 - annual DBE participation on projects without goals
 - the number of complaints ODOT has received regarding the Contractor
 - the number of times the Contractor has been previously sanctioned by ODOT

25. PN - 031 – 9/1/2020 – Local-let Construction Projects

The U.S. Department of Transportation's (DOT's) rules related to Disadvantaged Business Enterprises are published in the Code of Federal Regulations (CFR), 49 CFR Part 26. Within 49 CFR Part 26, 49 CFR 26.29 lays out the prompt payment requirements that apply to ODOT (the Department), its subrecipients (LPA's), and, by extension, both Prime Contractors and Subcontractors (including non-DBEs). The 49 CFR 26.29 requirements apply only to federally funded contracts (i.e., contracts with DOT financial assistance). The Prime Contractor must comply with this Proposal Note and the Department's prompt payment requirements as published in 107.21 of the Construction and Materials Specifications (C&MS).

The Department will monitor payments made by Prime Contractors and Subcontractors for compliance with this Proposal Note, C&MS 107.21 and, where applicable, 49 CFR 26.29. To facilitate this monitoring, the Department requires prime contractors to report their payments to all subcontractors with the submission of each invoice. The payment data reported must include any retainage withheld and any previously withheld retainage released. All such reporting must take place through a web-based submission on GoFormz. Invoices will not be approved and processed for payment unless this reporting form has been submitted and received by the Department.

The Prime Contractor must report the following information:

- 1.) The name of the payee;
- 2.) The dollar amount of the payment to the payee;
- 3.) The date the payee was paid;
- 4.) The amount of retainage withheld (if any).

The Prime Contractor must sign each reported payment and submit to ODOT via the GoForms website.

If the Prime Contractor fails to submit the aforementioned documentation with each invoice, they will be determined to be non-compliant and invoices will not be processed for payment.

Payees must verify each payment reported by the payer within 30 days of the payment being signed by the payer. This verification must include:

- 1.) Whether the payment was received, and if so, whether it was as expected or not;
- 2.) The dollar amount of the payment received; 2
- 3.) The date the payment was received.

SANCTIONS AND ADMINISTRATIVE REMEDIES

Failure by the prime contractor to follow Prompt Payment requirements may result in the issuance of sanctions as follows:

1st Tier: Letter of Reprimand

2nd Tier: Damages equivalent to the daily liquidated damages amount found in section 108.07 for each incident of non-compliance

3rd Tier: If a pattern of paying damages persists or the Contractor has falsified, misrepresented or withheld information, ODOT can pursue other remedies available by law including suspension, revocation, and/or debarment.

Factors to be considered in issuing sanctions may include, but are not limited to the following:

- the magnitude and the type of offense;
- the degree of the Contractor's culpability;
- any steps taken to rectify;
- the Contractor's record of performance on other projects; and
- the number of times the Contractor has been previously sanctioned by ODOT.

26. WAIVER OF CM&S 614.03

ODOT's 2019 Construction and Material Specifications section 614.03, third paragraph, does not apply to any project which is not physically located on the National Highway System (NHS), and/or does not impact NHS traffic in any way.

27. ODOT AS OBLIGEE ON BOND

The contractor shall furnish a performance and payment bond in an amount at least equal to 100 percent of the estimate as security for the faithful performance of its contract. In addition to the project Owner, ODOT shall be named as an obligee.

28. NON-DISCRIMINATION PROVISIONS

1) **Compliance with Regulations:** The CONTRACTOR will comply with the regulations relative to nondiscrimination in Federally-assisted programs of the United States Department of Transportation (hereinafter "U.S. DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the "Regulations"), which are herein incorporated by reference and made a part of this contract.

In addition, the CONTRACTOR will comply with the provisions of the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, FHWA Guidance, and any other Federal, State, and/or local laws, rules and/or regulations (hereinafter referred to as "ADA/504").

(2) **Nondiscrimination:** The CONTRACTOR, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, or disability, in the

selection and retention of subcontractors, including procurements of materials and leases of equipment. The CONTRACTOR will not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations, as well as the ADA/504 regulations.

(3) **Solicitations for Contractors or Subcontractors, including Procurement of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the CONTRACTOR for work to be performed under a contract or subcontract, including procurements of materials or leases of equipment, each potential subcontractor, or supplier will be notified by the CONTRACTOR of the CONTRACTOR's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, sex, age, or disability.

(4) **Information and Reports:** The CONTRACTOR will provide all information and reports required by the Regulations or directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the STATE or the Federal Highway Administration (hereinafter "FHWA") to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of the CONTRACTOR is in the exclusive possession of another who fails or refuses to furnish this information, the CONTRACTOR will so certify to the STATE or FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.

(5) **Sanctions for Noncompliance:** In the event of the CONTRACTOR's noncompliance with the nondiscrimination provisions of this contract, the LPA will impose such contract sanctions as it or STATE / FHWA may determine to be appropriate, including, but not limited to:

- (a) Withholding of payments to the CONTRACTOR under the contract until the CONTRACTOR complies, and/or
- (b) Cancellation, termination or suspension of the contract, in whole or in part.

(6) **Incorporation of Provisions:** The CONTRACTOR will include the provisions of paragraphs (1) through (5) above in every contract or subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The CONTRACTOR will take such action with respect to any subcontractor procurement as the LPA or STATE / FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that, in the event the CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor, or supplier as a result of such direction, the CONTRACTOR may request the LPA / STATE to enter into such litigation to protect the interests of the LPA and the STATE, and, in addition, the LPA / STATE may request the United States to enter into such litigation to protect the interests of the United States.

29. PN 095 – 03/30/2020 Potential Impacts and Delays Due to COVID-19

In an effort to anticipate the potential impacts to the Project caused by the COVID-19 threat and in following direction from the Governor and other authorities, the Contractor is on notice of the need to comply with all federal, state and local orders generated to prevent the spread of contagious or infectious diseases, including the Stay at Home Order from the Ohio Director of Health dated March 22, 2020, and subsequent orders, located through the following website:

<https://coronavirus.ohio.gov/wps/portal/gov/covid-19/home>

Contractor is on notice that the Project is considered essential and that the contractor and his employees, subcontractors and suppliers are considered essential businesses and performing essential functions as defined under the Stay at Home Order.

Notwithstanding any other provisions of the contract documents, in the event of project delay or impacts to performance due to a voluntary or mandatory COVID-19 virus Directives, Orders, quarantine or closure directed by government authorities, either party may, by providing notice to the other party as required

under CMS 108.02(F), extend the Completion Date for a period of up to thirty (30) days. Extensions under this paragraph shall be considered an excusable, non-compensable delay in accordance with CMS 108.06(B). If any portion of the Work is still not able to be performed upon the expiration of the extension, either party may provide notice to the other party requesting a termination for convenience under 108.09. The termination for convenience remains at the sole discretion of the LPA's Person in Responsible Charge in conjunction with the Office of Local Programs.

The Contractor and LPA will exercise best efforts to utilize remote services to perform Work that otherwise cannot be performed in person due to a voluntary or mandatory COVID19 virus quarantine, closure, or impact as directed by Stay at Home Order.

Impacts to the Project generated by the Stay at Home Order shall not be considered an "issue" under 108.02 (F) for Projects sold after the date of this Note. Contractors are on notice that their bids should include any impacts they foresee or should have reasonably foreseen due to the Stay at Home Order or existing or reasonably foreseeable orders by any other federal, state or local official.

If any emergency order or declaration of any government official is lifted at any time, the LPA will provide written notice to the Contractor that this Note shall be considered void thirty (30) days after receipt of the written notice. If the Stay at Home Order from the Ohio Director of Health dated March 22, 2020 is lifted at any time, this Note shall be considered null and void thirty (30) days after the lifting of those orders.

30. PN 015 – 04/17/2020 - CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS

The required contract provisions for federal-aid construction contracts (contained in Form FHWA 1273 revised May 2012 and located here) are hereby incorporated by reference as if rewritten herein. Form FHWA-1273 shall be physically incorporated in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreement for supplies or services related to a construction contract). The prime contractor shall be responsible for ensuring that the FHWA-1273 is physically incorporated into all lower-tier subcontracts.

SANCTIONS AND ADMINISTRATIVE REMEDIES

Failure by the prime contractor to include the provisions of FHWA-1273 in their contract or in their lower-tier subcontracts may result in the issuance of sanctions as follows:

1st Tier: Letter of Reprimand

2nd Tier: Damages equivalent to the daily liquidated damages amount found in section 108.07 for each incident of non-compliance

3rd Tier: If a pattern of paying damages persists or the Contractor has falsified, misrepresented or withheld information, the LPA can pursue other remedies available by law including suspension, revocation, and/or debarment.

Factors to be considered in issuing sanctions may include, but are not limited to the following:

- the magnitude and the type of offense;
- the degree of the Contractor's culpability;
- any steps taken to rectify;
- the Contractor's record of performance on other projects; and
- the number of times the Contractor has been previously sanctioned by the LPA.

31. PN 032 – 01/31/2021 – C92s Required on - Local-let Construction Projects

State and Federal law requires that all contractors and subcontractors participating on state or federally funded projects be evidenced in writing and in conformity with all applicable state and federal laws and regulations.

Effective immediately, all projects advertising after 2/1/2021, will require that a Request to Sublet (C92) form is completed for each subcontractor working on the project prior to the start of work.

A template for this form may be found and submit via the GoFormz website located at www.goformz.com.

32. REQUIRED CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS (Electronic Form FHWA 1273 – May 1, 2012)

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Government wide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

- A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however,

the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of

minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage

rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor

to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number

for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working

hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable

predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any

workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or

without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) The prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) The prime contractor remains responsible for the quality of the work of the leased employees;

(3) The prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) The prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The

contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or

to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when

the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally

possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier

subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment

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to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Appendix A

Checklist for Bidders- Federally Funded Projects with a DBE Goal

- Quotes have been obtained by DBE firms for participation on the project
- NAICS codes have been verified on the Ohio Unified DBE Directory that the DBE firms to be utilized can be applied toward the project goal for the specific work wanted:
<http://www.dot.state.oh.us/Divisions/ODI/SDBE/Pages/DBE-Directory.aspx>
- DBE Utilization Plan has been completed & submitted electronically prior to bid opening via: https://odot.formstack.com/forms/dbe_copy (This applies to all Bidders including DBE Firms)
- The Utilization Plan submitted as described above, meets or exceeds the DBE Goal established for the project
- If the DBE Goal has not been met that Good Faith Efforts have been submitted prior to bid to opening to: Dot.contractslettingmgr@dot.ohio.gov
- The affirmation form that is required 5 calendar days after bid opening has been downloaded ready to send out to all DBE firms listed on the Utilization Plan:
<http://Transportation.ohio.gov/Divisions/ODI/SDBE/Pages/Resources.aspx>.

OPWC PROPOSAL NOTES – For insertion into Bid Documents (Rev 6/16)

1. STEEL PRODUCTS MADE IN THE UNITED STATES

Domestic steel use requirements as specified in Ohio Revised Code §153.011 apply to this project. Copies of §153.011 can be obtained from any of the offices of the department of administrative services or through <http://codes.ohio.gov/orc/153.011>.

2. UNRESOLVED FINDING FOR RECOVERY

The Contractor affirmatively represents to the local contracting authority that it is not subject to a finding for recovery under Ohio Revised Code §9.24, or that it has taken the appropriate remedial steps required under §9.24 or otherwise qualifies under that section. The Contractor agrees that if this representation is deemed to be false, the contract shall be void ab initio as between the parties to this contract, and any funds paid by the state hereunder shall be immediately repaid to the local contracting authority, or an action for recovery may be immediately commenced by the local government and/or for recovery of said funds.

3. OHIO WORKERS' COMPENSATION COVERAGE

The Contractor must secure and maintain valid Ohio workers' compensation coverage until the project has been finally accepted by the local contracting authority. A certificate of coverage evidencing valid workers' compensation coverage must be submitted to the local contracting authority before the contract is executed.

The Contractor must immediately notify the local contracting authority, in writing, if it or any subcontractor fails or refuses to renew their workers' compensation coverage. Furthermore, the Contractor must notify the local contracting authority, in writing, if its or any of its subcontractor's workers' compensation policies are canceled, terminated or lapse.

The failure to maintain valid workers' compensation coverage shall be considered a breach of contract which may result in the Contractor or subcontractor being removed from the project, withholding of pay estimates and/or termination of the contract.

4. DRUG-FREE WORKPLACE PROGRAM

In accordance with Ohio Revised Code §153.03 and during the life of this project, the Contractor and all its Subcontractors that provide labor on the Project site must be enrolled in and remain in good standing in the Ohio Bureau of Worker's Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC.

5. OHIO PREFERENCE

In accordance with Ohio Revised Code §164.05 (A)(6), to the extent practicable, the Contractor and subcontractor shall use Ohio products, materials, services and labor in connection with this project.

6. BID GUARANTY

In accordance with Ohio Revised Code §153.54, the contractor shall file with the bid a bid guaranty in the form of either: 1) a bond for the full amount of the bid, or 2) a certified check, cashier's check, or letter of credit equal to 10% of the bid.

7. OHIO ETHICS LAW

Contractor agrees that it is currently in compliance and will continue to adhere to the requirements of Ohio Ethics law as provided by Section 102.03 and 102.04 of the Ohio Revised Code.

8. STATE OF OHIO EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

NOTICE TO CONTRACTORS:

The provisions of the Ohio Administrative Code (OAC) 123:2-3-02 through 124:2-9 regarding Equal Employment Opportunity on State Construction Contracts and State-assisted Construction Contracts, and

OAC 123:2-3-02 through 123:2-9 regarding Equal Employment Opportunity and Female Utilization Goals are applicable to this project, and each contractor will be required to comply in all aspects of these provisions.

CERTIFICATE OF COMPLIANCE FOR EEO PURPOSES:

All prime contractors must secure a valid Certificate of Compliance from the Department of Administrative Services, Equal Opportunity Division, prior to execution of a construction contract.

See <http://www.das.ohio.gov/Divisions/EqualOpportunity/CertificateofCompliance/tabid/129/Default.aspx> for instructions for electronic filing.

>>> Does this bidder have a valid Certificate of Compliance? ___Yes ___No

>>> If "No" to the above, will this bidder be able to obtain a valid Certificate of Compliance prior to the execution of a contract? ___Yes ___No

Bidder must provide a "Yes" answer to one or the other of the above questions.

BIDDER'S AFFIRMATIVE ACTION REQUIREMENTS:

Each prime contract bidder must submit an affirmative action program regarding equal employment opportunity to and receive approval from the State Equal Employment Opportunity (EEO) Coordinator prior to the bid opening, **OR** the prime contract bidder must have evidence within its bid adoption of the minority and female utilization work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

>>> Has the prime contract bidder prepared and submitted an Affirmative Action Program to the State Equal Employment Opportunity Coordinator and that program has been approved by the State Equal Employment Opportunity Coordinator prior to the bid opening ? ___Yes ___No

>>>If "no", with this bid response, the prime contract bidder hereby adopts the minority and female work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

BIDDER'S EEO COVENANTS:

Throughout its performance of any contract awarded to it on this State-assisted project, the prime contract bidder agrees to the following covenants:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry or sex. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry or sex. Such action shall include, but is not limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will in all solicitations or advertisements for employees placed by or on behalf of the prime contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry or sex.

(3) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State Administering Agency advising the said labor union or workers' representatives of the contractor's commitments under this covenant and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of the Ohio Department of Administrative Services, Equal Opportunity Division and with the implementing rules, regulations and applicable orders of the State Equal Employment Opportunity Coordinator.

(5) The contractor agrees to fully cooperate with the State Administering Agency, the State Equal Employment Opportunity Coordinator and with any other official or agency, or the State or Federal government which seeks to eliminate unlawful employment discrimination, and with all other State and Federal efforts to assure equal employment practices under its contract and the contractor shall comply promptly with all requests and directions from the State Administering Agency, the State Equal Employment Opportunity Coordinator and any of the State of Ohio officials and agencies in this regard, both before and during construction.

(6) Full cooperation as expressed in clause (5), above, shall include, but not be limited to, being a witness and permitting employees to be witnesses and complainants in any proceeding involving questions of unlawful employment practices, furnishing all information and monthly utilization work hour reports required by the OAC 123: 2-9-01 and by the rules, regulations and orders of the State Equal Employment Opportunity Coordinator pursuant thereto, and permitting access to its books, records, and accounts by the State Administering Agency and the State Equal Employment Opportunity Coordinator for purposes of investigation to ascertain compliance with such rules, regulations and orders. Specifically, contractors will submit workforce utilization reports to the State Equal Opportunity Coordinator by the 10th of each month. The monthly reports must be electronically submitted through the following website: <http://das.ohio.gov/EOD/CCInputForm29.htm>

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of its contract or with any of the said rules, regulations, or orders, its contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further State Contracts or State-assisted Construction Contracts in accordance with procedures authorized in OAC 123:2-3 through 2-9 and such other sanctions may be instituted and remedies invoked, as provided in OAC 123:2-3 through 2-9 or by regulation, or order of the State Equal Employment Opportunity Coordinator, or as otherwise provided by law.

In the event that its contract is terminated for a material breach of OAC 123:2-3 through 2-9 the contractor shall become liable for any and all damages which shall accrue to the State Administering Agency and Applicant and the State of Ohio as a result of said breach.

(8) The contractor will require the inclusion of language reflecting these same eight covenants within every subcontract or purchase order it executes in the performance of its contract unless exempted by rules, regulations or orders of the State Equal Employment Opportunity Coordinator issued pursuant to O.A.C. 123:2-3-02 so that these provisions will be binding upon each subcontractor or vendor. The contractor will take such actions as the Administering Agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in any litigation with a subcontractor, vendor or other party as a result of such direction by the State Administering Agency, the contractor may be requested to protect the interests of the State.

>>>The prime contract bidder hereby adopts the foregoing covenants ? ___Yes ___No

BIDDER'S CERTIFICATION:

The undersigned, being a duly authorized officer of the prime contract bidder, does hereby certify to and agree with the foregoing statements and covenants regarding its subscription to the State's Equal Employment Opportunity Requirements for State-assisted Construction Contracts.

_____/_____/_____
Signature of Authorized Officer Date

Title

>>> PLEASE NOTE: Only a bidder possessing a valid certificate will be awarded a contract pursuant to Chapter 153 of the Revised Code by an owner referred to in section 153.01 of the Revised Code. Application shall be made at least ten working days prior to the date that the bidder expects to receive the certificate. The bidder's failure to elect one of the two Bidder's Affirmative Action Requirements, adopt the Bidder's EEO Covenants, and complete the foregoing certification may cause the bidder's proposal to be rejected as being non-responsive to the State's Equal Employment Opportunity Requirements and in non-compliance with the State Equal Employment Opportunity Bid Conditions. In addition, the bidder must, prior to the execution of a contract, submit to the local subdivision a valid Certificate of Compliance for Equal Employment Opportunity purposes.

"APPENDIX B" OF THE STATE EEO BID CONDITIONS

SPECIFIC AFFIRMATIVE ACTION STEPS

The following Affirmative Action steps are directed at increasing minority utilization:

(1) The contractor should maintain a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the contractor, and the reasons therefore. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred back by the union or if referred, not employed by the contractor, the file should document this and the reason therefore.

To Demonstrate Compliance: Maintain a file of the names, addresses, telephone numbers, and craft of each minority and female applicant showing (a) the date of contact and whether the person was hired; if not, the reason, (b) if the person was sent to a union for referral, and the results (c) follow-up contacts when the contractor was hiring.

(2) The contractor should promptly notify the State Contracting Agency when the Union or Unions with which the contractor has collective bargaining agreements does not refer to the contractor a minority or female worker referred (to the union) by the contractor, or when the contractor has information that the union referral process has impeded efforts to meet its goals.

To Demonstrate Compliance: Have a copy of letters sent, or do not claim the union is impeding the contractors' efforts to comply.

(3) The contractor should disseminate its Equal Employment Opportunity policy within its organization by including it in any company newsletters and annual reports; by advertising at reasonable intervals in union publications; by posting of the policy; by specific review of the policy with minority and female employees; and by conducting staff meetings to explain and discuss the policy.

To Demonstrate Compliance: Have a written EEO policy which includes the name and how to contact the contractor's EEO Officer and (a) include the policy in any company policy manuals, (b) post a copy of the Policy on all company bulletin boards (in the office and on all job sites), (c) records, such as reports or diaries, etc., that each minority and female employee is aware of the Policy and that it has been discussed with them, (d) that the policy has been discussed regularly at staff meetings and (3) copies of newsletters and annual reports which include the Policy.

(4) The contractor should continually monitor all personnel activities to ensure that its EEO policy is being carried out, including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.

To Demonstrate Compliance: Have records that the company EEO Officer reviews all: (a) monthly workforce reports, (b) hiring and terminations, (c) training provided on-the-job, (d) minority and female employees quarterly for promotion and encourages them to prepare for and seek promotion. The records should be the EEO Officer's job description, reports, memos, personnel files, etc., documenting the activities for possible discriminatory patterns.

(5) The contractor should disseminate its EEO policy externally by informing and discussing it with all recruiting sources; by advertising it in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.

To Demonstrate Compliance: Have copies of (a) letters sent, at least six months or at the start of each new major contract, to all recruiting sources (including labor unions) requiring compliance with the

Policy, (b) advertising, which has the EEO "tagline" on the bottom, and (c) purchase order and subcontract agreement forms will include or make reference to the State EEO Covenant, Appendix A or B of the Ohio Administrative Code 123:2-3-02.

(6) The contractor should make specific and reasonably recurrent oral and written recruitment efforts directed at minority and women's organizations, and training organizations with the contractor's recruitment area.

To Demonstrate Compliance: Have a record either in a follow-up file for each organization or on the reverse of the notification letter sent under Item 1, above, of the dates, individuals contacted and the results of the contract from telephone calls or personal meetings with the individuals or groups notified under Item 1.

(7) The contractor, where reasonable, should develop on-the-job training opportunities and participate and assist in all Department of Labor funded and/or approved training programs (including Apprenticeship) Programs relevant to the contractor's employee needs consistent with its obligations in the Bid Conditions.

To Demonstrate Compliance: Have records of contributions in cash, equipment supplied and/or contractor personnel provided as instructors for Bureau of Apprenticeship and Training approved or Department of Labor funded training programs and records of the hiring and training of minorities and females referred to Company by such programs.

(8) The contractor should solicit bids for subcontracts (and joint ventures) from available minority and female subcontractors engaged in the trades covered by the Bid Conditions, including circulation of minority and female contractors associations.

To Demonstrate Compliance: Have copies of letters or other direct solicitation of bids for subcontracts/joint ventures from minority/female contractors with a record of the specific response and any follow-up the contractor has done to obtain a price quotation or to assist a minority/female contractor in preparing or reducing a price quotation; have a list of all minority/female subcontracts awarded or joint ventures participated in with dollar amounts, etc.

EXPLANATION OF AN ACCEPTABLE AFFIRMATIVE ACTION PROGRAM:

An Affirmative Action Program is a set of specific and result-oriented procedures to which a Contractor shall apply every good faith effort. The objective of those procedures and efforts is to assure equal employment opportunity. An acceptable Affirmative Action Program will include an analysis of all trades employed by the Contractor within the last year with an explanation of whether Minorities are currently being under-utilized in any one or more trades. A necessary prerequisite to the development of a satisfactory Affirmative Action Program is the identification and analysis of problem areas inherent in Minority employment and an evaluation of opportunities for utilization of Minority group personnel.

Part I - Basic Contents of an Affirmative Action Program:

1. Development or reaffirmation of the contractor's EEO policy in all personnel actions.
2. Formal internal and external dissemination of contractor's EEO policy.
3. Establishment of responsibilities for implementation of the contractor's affirmative action program.
4. Identification of problem areas (deficiencies) by organizational units and job classification.

5. Establishment of goals and objectives by organizational units and job classification, including timetables for completion.
6. Development and execution of action oriented programs designed to eliminate problems and further designed to attain established goals and objectives.
7. Design and implementation of internal audit and reporting systems to measure effectiveness of the total programs.
8. Compliance of personnel policies and practices with Federal sex discrimination guidelines (41 CFR Part 60-20).
9. Active support of local and national community action programs and community service programs, designed to improve the employment opportunities of minorities.
10. Consideration of ethnic minorities and women not currently in the work force having requisite skills who can be recruited through affirmative action measures.
11. Summary data on applicant flow, hires, terminations and promotions, and training for the last twelve months or the last one hundred applicants, hires, etc., whichever is less.

Part II - Analysis of Individual Trades

1. The minority population of the labor area surrounding (contractor's) projects.
2. The size of the minority unemployment force in the labor area surrounding (the contractor's) projects.
3. The percentage of minority work force as compared with the total work force in the immediate labor area.
4. The general availability of minorities having requisite skills in the immediate labor area.
5. The availability of minorities having requisite skills in the area in which the contractor can reasonably recruit.
6. The availability of promotable minority employees within the contractor's organization.
7. The anticipated expansion, contraction, and turnover of an in the work force.
8. The existence of training institutions capable of training minorities in the requisite skills.
9. The degree of training which the contractor is reasonably able to undertake as a means of making all job classes available to minorities.

Goals, timetables and affirmative action commitments must be designed to correct any identifiable deficiencies. Where deficiencies exist and where numbers or percentages are relevant in developing corrective action, the contractor shall establish and set forth specific goals and timetables. Such goals and timetables, with supporting data and the analysis thereof shall be a part of the contractor's written affirmative action program. Where the contractor has not established a goal, its written affirmative action program must specifically analyze each of the factors listed above, and must detail its reason for a lack of a goal. The goals and timetables should be attainable in terms of the contractor's analysis of its deficiencies and its entire action. Thus, in establishing its goals and timetables, the contractor should consider the results which could be reasonably expected from its good faith efforts to make its overall affirmative action program work. If the contractor does not meet its goals and timetables, the

contractor's good faith efforts shall be judged as to whether the contractor is following its program and attempting to make the program work toward the attainment of its goals.

Support data for the above analysis and program shall be compiled and maintained as part of the contractor's affirmative action program. This data should include applicant flow data and applicant rejection ratios indicating minority status.

Compliance Status: No State Contractor's compliance status shall be judged alone by whether or not he reaches his goals and meets his timetables. Rather each Contractor's compliance posture shall be reviewed and determined by reviewing the contents of his program, the extent of his adherence to his program and his good faith efforts to make his program work toward the realization of the program's goals within the timetables set for completion.

"APPENDIX C" OF THE STATE EEO BID CONDITIONS

FEMALE UTILIZATION GOALS

OAC 123:2-3-05 Required utilization analysis and goals

(A) Each state-involved contractor shall include in his/her affirmative action program the information and analysis required pursuant to part IV 401-C of appendix A of rule 123:2-1-01 of the Administrative Code, in addition to female utilization requirements pursuant to the governor's "Executive Order 84-9" and this rule.

(B) As required by the governor's "Executive Order 84-9", the utilization of women shall be, at a minimum, that currently in use by the federal government as of February 15, 1984. This requirement stated at C.F.R. part 60-4 is 6.9 percent utilization of women. This requirement shall remain at 6.9 percent unless further amended by the governor in a subsequent order. This requirement shall be met by a determination of work hours utilized in the same manner as minority utilization hours are calculated.



BOARD OF COUNTY COMMISSIONERS
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TOM GROSSMANN
SHANNON JONES
DAVID G. YOUNG

ADVERTISEMENT FOR BIDS

Sealed bids will be received by the Clerk of the County Commissioners, Warren County, Ohio, 406 Justice Drive, Lebanon, Ohio 45036, until 9:30 a.m., January 25, 2022, and then at said time bids will be opened and read aloud for the King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project (WAR-CR 282-0.97).

Bid documents and specifications are available online at the Warren County's Website at <https://www.co.warren.oh.us/commissioners/Bids/Default.aspx>. Questions regarding the technical specifications should be directed to Roy Henson, Bridge Engineer, at the Warren County Engineer's Office, at (513) 695-3310. **Only ODOT prequalified contractors are eligible to submit bids for this Project.** Pre-qualification status must be in force **at the time of bid, at the time of award, and through the life of the construction contract.** For work types that ODOT does not pre-qualify, the LPA must still select a qualified contractor. Subcontractors are not subject to the pre-qualification requirement. The "prime" contractor must perform no less than 30 percent of the total original contract price. Each bid shall contain the full name of each person or company submitting the bid and be accompanied by a bid bond for the full amount of the bid or a certified check in the amount equal to ten (10) percent of the bid.

A Bid guaranty, as required by Ohio Revised Code, Section 153.54, shall accompany each proposal submitted, as follows:

1. A Certified check, cashier's check, or letter of credit equal to ten (10) percent of the bid. A letter of credit may only be revocable by the Owner. Upon entering into a contract with the Owner, the contractor must file a performance bond for the amount of the contract, and the bid guaranty will then be returned to the successful and unsuccessful bidders upon contract execution.

OR

2. A form of bid guaranty bond (attached) for the full amount of the bid. Such bond is retained for the successful bidder but returned to unsuccessful bidders after the contract is executed.

Contact the Warren County Commissioner's Office at (513) 695-1250 should you need assistance in accessing the bidding information on the County's website. All contract addenda will be posted to the website prior to the bid opening. Bidders should check the website regularly to stay updated on any changes to the project.

Bidders must comply with the Davis-Bacon Act for prevailing wage requirements for Federally funded projects.

All contractors and subcontractors involved with the project will, to the extent practicable, use Ohio products, materials, services, and labor in the implementation of their project. Additionally, contractors must comply with the Equal Employment Opportunity Requirements of Ohio Administrative Code Chapter 123.

Attention of bidders is called to all of the requirements contained in the bid packet. No bidder may withdraw his/her bid within sixty (60) days after the actual date of opening thereof.

All bids shall be sealed and plainly marked "**Bid Opening – King Avenue Bridge #282-0.97 Replacement Over Little Miami River Improvements Project (WAR-CR 282-0.97).**"

The Board of Warren County Commissioners reserve the right to accept the lowest and best bid, to reject all bids, and to waive any irregularities in bids.

By order of the Board of County Commissioners, Warren County, Ohio.

Tina Osborne, Clerk