

SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S: FRA-161-15.80

PID: 116322

Date: 04/05/2023

1. Waterway Permits Time Restrictions:

Regional General Permit (RGP) Section A (Linear Transportation) is authorized for FRA-161-15.80, PID 116322. A copy of the RGP and authorization letter (ID 2022-00697-SCR) shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: **April 05, 2023**. The permit expires: **October 24, 2024**.

For authorized work in aquatic resources (including streams, wetlands, jurisdictional ditches, captured streams, lakes, ponds), the Department will consider the Contractor's submission of a reauthorization to the waterway permit expiration date based on project constraints. If more than one permit is authorized for the project, then all permits become invalid once the first permit expires. In order for the request to be considered, the Contractor must submit a justification to the Engineer at least 90 days prior to the waterway permit expiration date. The Engineer will submit the request for a time extension to the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) for consideration and coordination with the U.S. Army Corps of Engineers (USACE), Ohio Environmental Protection Agency (OEPA), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), and Ohio Department of Natural Resources (ODNR) as appropriate.

2. Deviations From Permitted Construction Activities:

No deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

NOTE: Plan sheets submitted with the Pre-Construction Notification were approved by the USACE in accordance with RGP A and are included in these Special Provisions.

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-2159) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-2159) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions:

Work in the following aquatic resources is further restricted as follows:

Stream Name /Description	Location	Work restriction dates (No in-stream work permitted)
Rocky Fork	STA 2186+70 to STA2187+48	None

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of “fill” include, but are not limited to: bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary access fills.

Fills placed within a stream identified in the above table (outside of the work restriction dates) can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

4. Materials:

Materials utilized in or adjacent to aquatic resources for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Asphalt products are specifically excluded for use as fill. Chromated Copper Arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in aquatic resources.

5. Cultural Resources:

Per CMS 107.10, if archeological sites, historical sites, or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-Cultural Resource Section at 614-466-2159. In the event of human remains are identified by OES-Cultural Resources Section, the Engineer shall also contact the Franklin County Sheriff’s Office at (614) 525-3360.

6. Aquatic Resource Demarcation:

The attached tables D, E and F include detailed fill quantities authorized within the aquatic resources. Aquatic resources not authorized for impact by these Special Provisions shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows

- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1 - 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours. All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09). Notify the Engineer, in writing, a minimum of 30 days in advance of blasting, for submission to ODOT-OES-WPU (614-466-2159) for coordination with ODNR.

9. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer. Please forward a copy to ODOT-OES-WPU (614-466-2159).

10. Temporary Access Fills:

Special Provisions Notes:

Definitions:

Hydraulic Opening

The cross-sectional area allowing an unimpeded discharge equal to twice the highest monthly flow without producing a rise in the backwater above **elevation 952.60 (0.5-feet above the Ordinary High Water Mark (OHWM))**.

Standard Temporary Discharge

Discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above **elevation 952.60 (0.5-feet above the OHWM)**. The U.S. Geologic Service publication "Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio" provides equations that estimate monthly flow for Ohio Waterways These flows are also available in a web application by USGS StreamStats, (<https://water.usgs.gov/osw/streamstats/ohio.html>). The highest monthly flow is the highest monthly mean discharge occurring in a 12-month period from January to December.

Average Monthly Flow

The average monthly flow represents the estimated "normal" flow.

Temporary Access Fills (TAFs)

Include, but are not limited to, dewatering fills, causeways, cofferdams, access pads, temporary bridges, etc. below the OHWM.

Requirements

21 calendar days prior to the initiation of any in-stream work, provide the Engineer with Working Drawings that include:

- Plan view drawing (50 scale or less) showing the location of all TAFs proposed for use on the project
- Scaled cross section and profile drawing showing the OHWM and the proposed hydraulic opening.
- Identify the minimum diameter size, placement location and thickness of non-erodible Dumped Rock Fill material on the plan and profile.
- Calculations analyzing the hydraulic impacts of the TAF on the waterway. Include in the calculations an analysis of the hydraulic opening sized adequately to pass the Standard Temporary Discharge without producing a rise in backwater above elevation 952.60. Include, in the analysis, calculated channel velocities adjacent to the TAF, culvert exit velocities, calculated headwater and tailwater elevations, and any additional appropriate calculations to assess potential impacts to the waterway during normal and anticipated high flow (twice the highest monthly flow) events.
- A description of all temporary material to be placed below the OHWM elevation.
- A description of the installation and staging of all temporary fill over the life of the contract.
- Identify the protection methods and/or structural Best Management Practices for minimizing impacts to the waterway.
- Volume of temporary fill below the OHWM elevation.
- A description of the diversion ditches, equipment, conduits or means for maintaining normal flows in the waterway.
- A description of the removal of all temporary fill and restoration of the channel and all areas impacted by the TAFs.
- A schedule outlining the timing of the placement and removal of all temporary fill.
- Have competent individuals prepare and check the Working Drawings and hydraulic calculations. Provide a cover sheet containing the preparer(s) and checker(s): First Name, Last Name and Initials. The preparer(s) and checker(s) shall not be the same individual. Have an Ohio Registered Engineer review, approve, sign, seal and date the Working Drawings and hydraulic calculations according to ORC 4733 and OAC 4733-35. Include the following statement on the Working Drawings:

“These Working Drawings were prepared in compliance with the terms of these Special Provisions and all contract documents.”

Do not begin in-stream work until the Engineer has accepted the Working Drawings and hydraulic calculations.

The design and construction of the Contractor’s TAF must minimize impacts to water bodies, stream banks, stream beds, and riparian zones to the maximum extent practicable.

Fording of waterways and other aquatic resources is prohibited.

Construct TAFs in such a manner that will maintain flows, minimize upstream flooding, and avoid overtopping the TAF on a regular basis. *TAFs shall be designed and constructed so that the hydraulic opening provides capacity for a discharge equal to twice the highest monthly flow without producing a rise in the backwater above elevation 952.60.*

If the Contractor proposes a TAF which does not meet all the requirements of these Special Provisions, the Contractor must submit a request in writing for a modified TAF to the Engineer. The request must include all Working Drawings and hydraulic calculations required by these Special Provisions. The Department makes no guarantee to grant the request. The Contractor's proposed TAF request will be coordinated by OES with the USACE and the OEPA, as appropriate. The time frame allowed for the coordination of the contractor's proposed TAF will be a minimum of 60 days.

Installation of any temporary fill without appropriate authorization is strictly prohibited. All direct coordination with the USACE and/or OEPA will be performed through OES.

TAFs Construction and Payment

Begin planning and installing causeways and access fills as early in construction as possible to avoid conflicts with these Special Provisions or other environmental commitments that have been included in the construction plans.

TAFs in Streams and Rivers may include, but are not limited to, causeways, cofferdams, access pads, sheet piling, temporary bridges, etc. The Contractor must make every attempt to minimize disturbance to waterbodies, stream banks, stream beds and riparian zones during the construction, maintenance, and removal of the TAF. Construct the TAFs as narrow as practical. Install in-stream conduits parallel to the stream banks. Make the TAFs in shallow areas rather than deep pools where possible. Minimize clearing, grubbing, and excavation of stream banks, and approach sections. Construct the TAFs as to not cause erosion or allow sediment deposits in the waterway.

Prior to the initiation of any in-stream work, establish a monument upstream of the proposed TAF to visually monitor the water elevation in the waterway where the fill is permitted. Maintain the monument throughout the project. Provide visual marks on the monument that identify elevations **952.60** and **953.60**. Ensure that the monument can be read from the bank of the waterway. Have this elevation set and certified by an Ohio Registered Surveyor. All costs associated with furnishing and maintaining the above referenced monument is incidental to the work.

Should the surface water elevation exceed the elevation **953.60**, the Department will compensate the Contractor for repair of any resulting damage to the TAF up to the elevation **953.60**, except as noted. The Department will recognize this event as an excusable, non-compensable delay in accordance with Section 108.06 B. of the Construction & Materials Specifications.

Follow the requirements in Item 502 for Structures for Maintaining Traffic and in Item 503 for Cofferdams and Excavation Bracing and any modifications to these items as shown in the plans. The Department will not pay for repair and maintenance of TAFs associated with Items 502 and 503 as a result of surface water elevation exceeding **953.60**. Compensation for damages associated with waterway flows will be provided as described in Items 502 and 503.

Construct the TAFs, not including Items 502 and 503, to a water elevation of at least 953.60 (1.5-feet above the OHWM). If more than one-third the width of the stream is filled, then use culvert pipes to allow the movement of aquatic life. Ensure that any ponding of water behind the TAF will not damage property, flood roadways, or threaten human health and safety.

The following minimum requirements apply to TAFs where culverts are used.

- A. Furnish culverts on the existing stream bottom.
- B. Avoid a drop in water elevation at the downstream end of the culvert that would result in an adverse impact to the waterway.
- C. Furnish a sufficient number of culverts in addition to stream openings to provide a discharge equal to twice the highest monthly flow without producing a rise in the backwater above elevation 952.60.
- D. Furnish culverts with a minimum diameter of 18 inches (0.5 m).

All TAFs must be constructed of suitable materials. Causeways and access fills must be encapsulated with clean, non-erodible, nontoxic Dumped Rock Fill, Type A, B, C, or D, meeting the requirements of C&MS 703.19.B. Utilize appropriately sized Dumped Rock Fill determined by the Contractor's engineer for encapsulating the sides of the TAF. Encapsulate all sides of the TAF with the non-erodible material. For causeways, contractors may use clean aggregate meeting C&MS 703.01 Size Number 1 and 2 for creating a working surface above the OHWM. Extend the non-erodible encapsulating material to at least the elevation of the top of the working surface. Extend clean aggregate up the slope from the original stream bank for 50 feet (10 m) to remove erodible material and prevent tracking from equipment onto the TAF.

When the work requiring TAF is complete, all portions of the TAF (including all rock and culverts) will be removed in its entirety. Do not dispose of TAF material in other aquatic resources or where erosion into another aquatic resource is possible. The stream bottom affected by the TAFs will be restored to its pre-construction elevations. The TAFs will not be paid as a separate item but will be included by the Contractor as part of the total project cost.

Unless specific TAF compensation is included in the plans, all environmental protection and control associated with the authorized activities are incidental to the work within the boundaries of the aquatic resources.

11. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into jurisdictional waters of the U.S. is permitted during the excavation process. If any changes to the proposed work are deemed necessary, Notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU (614-466-2159).

12. Demolition Debris:

The intentional discharge of demolition debris from any structure (including but not limited to bridges, culverts, abutments, wing walls, piers) is not authorized for this project. If any demolition debris inadvertently falls into aquatic resources, it must be removed immediately.

The Engineer will immediately in writing of any inadvertent fill discharged into aquatic resources. Also contact ODOT-OES-WPU at 614-466-2159 if any unintentional discharge occurs.

13. Construction Completion Certification:

Upon completion of the work, notify the Engineer. The USACE Construction Completion Certification must be completed and signed by the Engineer then provided via US mail or email to:

Waterway Permits Program Manager
ODOT - Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
Adrienne.Earley@dot.ohio.gov

A copy of the certification has been attached to these Special Provisions.

TABLE D. STREAM DISCHARGE AND FILL QUANTITIES

Stream	Station	Description of Impacts	Length (LF)	Width (LF)	Depth (LF)	Permanent Fill Below OHWM						Total Permanent Fill			Total Temporary Fill			Total Impact Length
						Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP									
						Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)
Rocky Fork	STA 2186 + 70 to STA 2187 + 32	Structure widening, piers, scour protection, TAF	150 LF	40 FT	4 LF	25 LF	0.005 AC	45 CY	150 LF	0.07 AC	245 CY	150 LF	0.07 AC	290 CY	85 LF	0.07 AC	503 CY	150 LF

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

TABLE E. WETLAND DISCHARGE AND FILL QUANTITIES

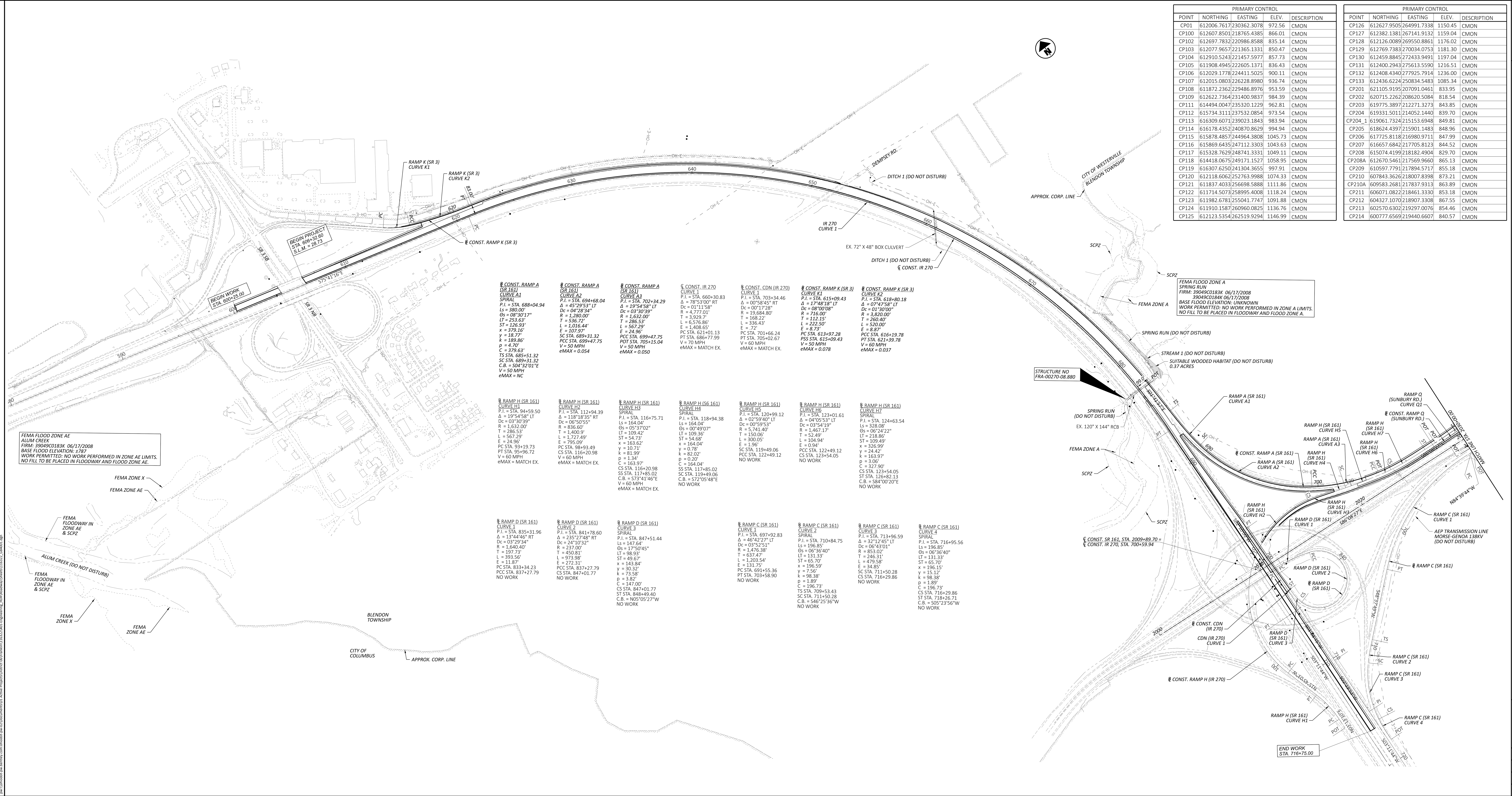
Wetland	Station	Description of Impacts	Acreage (AC)	Depth (LF)	Permanent Fill Within Wetland Boundary				Total Permanent Fill		Total Temporary Fill		Total Impact Acreage
					Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)		Proposed RCP						
					Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)
Wetland O	STA 2186 + 83 to STA 2187 + 48	Structure widening, piers, scour protection	0.04 AC	1 LF	0.001 AC	20 CY	0.01 AC	16 YC	0.011 AC	36 CY	0.0 AC	0 CY	0.011 AC

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

TABLE F. OTHER WATERS DISCHARGE AND FILL QUANTITIES

Ditch	Station	Description of Impacts	Length (LF)	Width (LF)	Depth (LF)	Permanent Fill Below OHWM									Total Permanent Fill			Total Temporary Fill			Total Impact Length
						Proposed RCP and Concrete Block Matting			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)									
						Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)
Ditch 2	STA 2165+02	Slope erosion protection, grading	842 LF (0.11 AC)	5.5 LF	1 LF	8 LF	0.001 AC	2 CY	4 LF	0.001 AC	1 CY				12 LF	0.002 AC	3 CY	0.0 LF	0.0 AC	0.0 CY	12 LF
Ditch 9	STA 2362+70 to 2363+20	Conduit installation, grading	1,485 LF (0.38 AC)	9 LF	1 LF				42 LF	0.007 AC	13 CY	38 LF	0.001 AC	2 CY	42 LF	0.008 AC	15 CY	0.0 LF	0.0 AC	0.0 CY	42 LF
Ditch 10	STA 2164+80 to 2165+15	Slope erosion protection, conduit installation, grading	447 LF (0.05 AC)	5 LF	1 LF	10.5 LF	0.002 AC	3 CY	18 LF	0.006	4 CY	1.5 LF	<0.001 AC	1 CY	18 LF	0.008 AC	8 CY	0.0 LF	0.0 AC	0.0 CY	18 LF

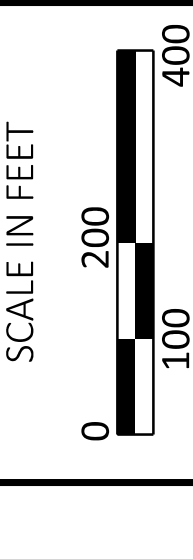
LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

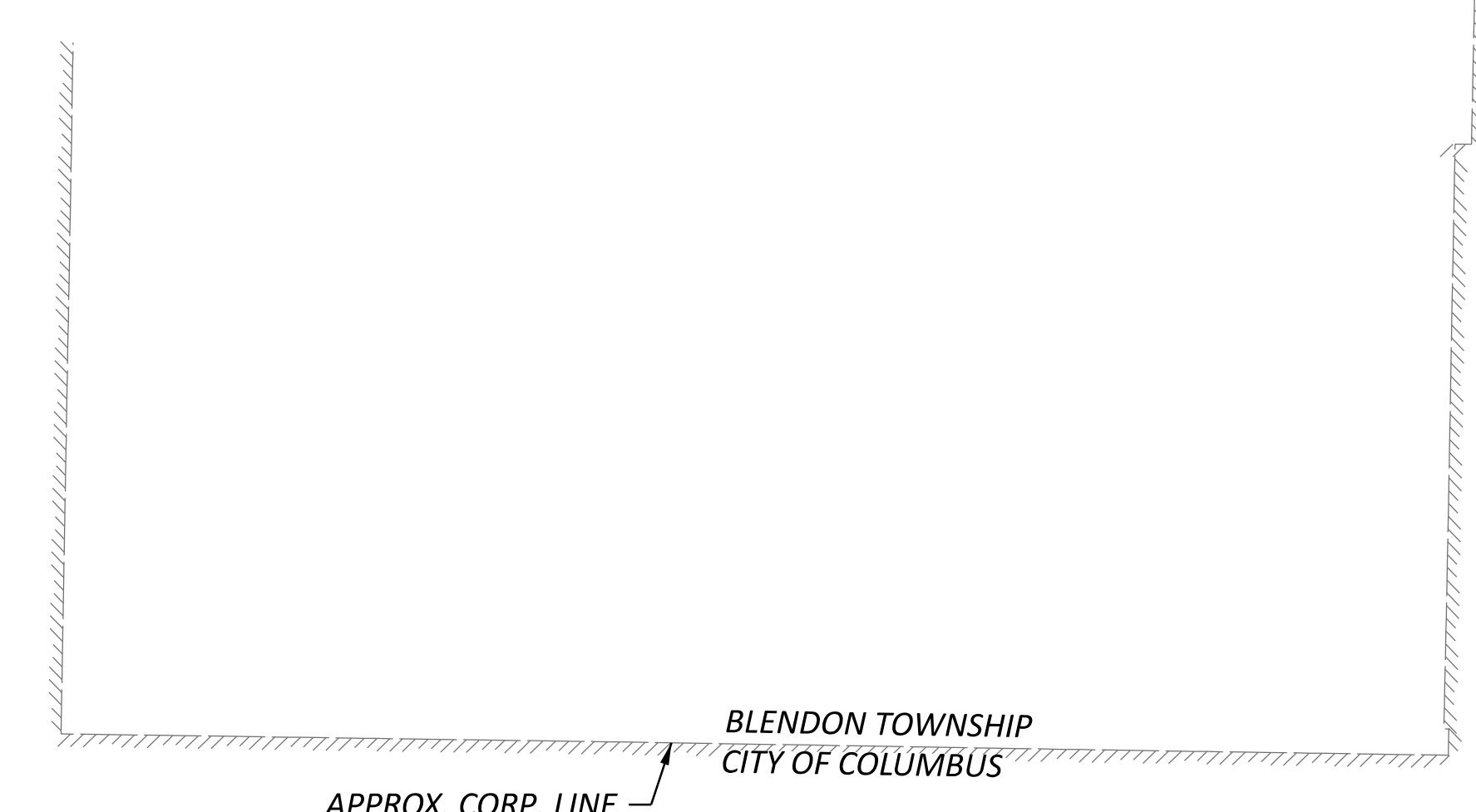
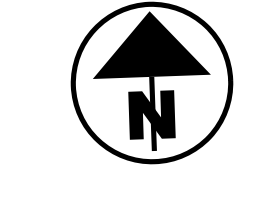
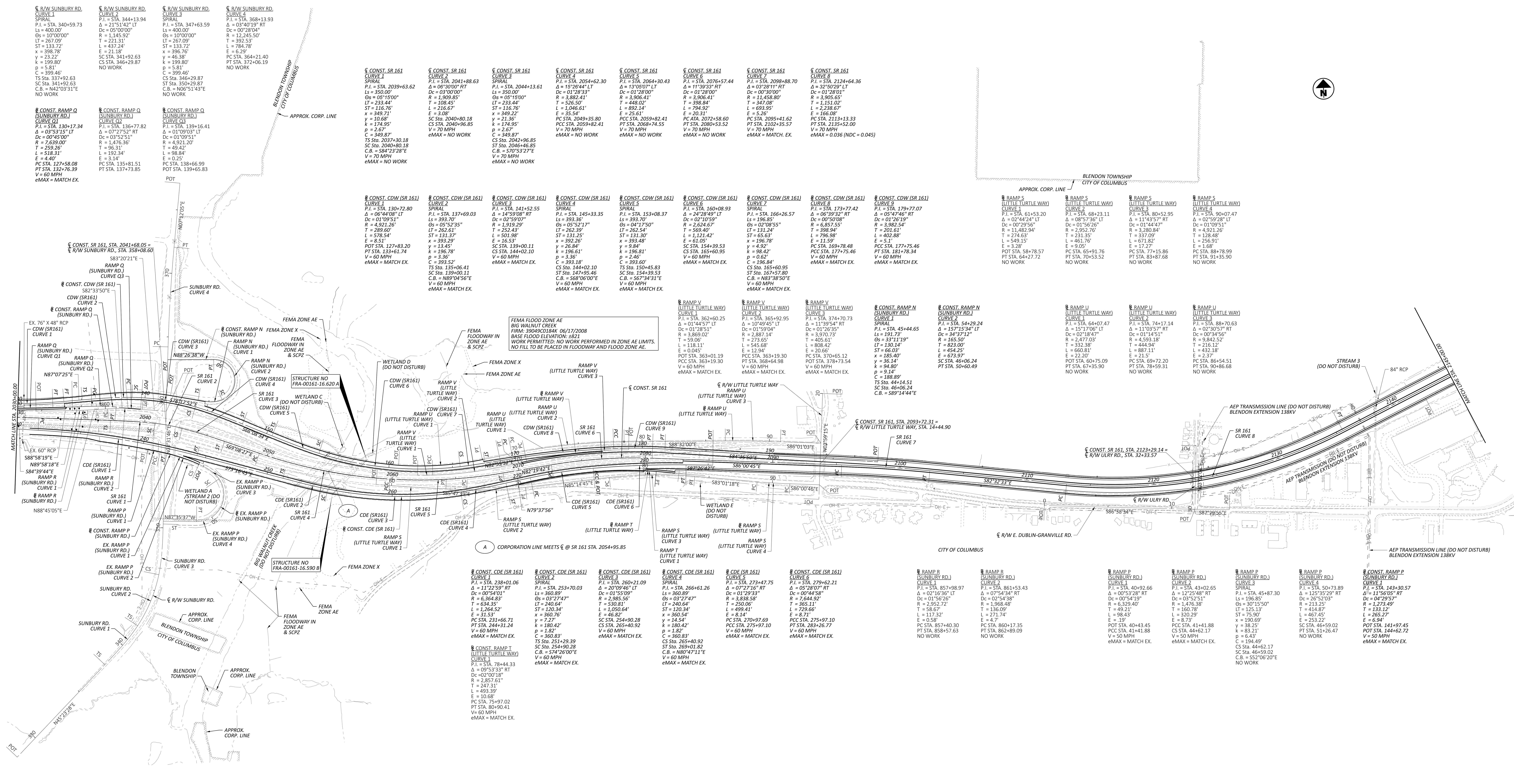


PRIMARY CONTROL			
POINT	NORTHING	EASTING	ELEV.
CP01	612006.7617	230362.3078	972.56
CP100	612607.8501	218765.4385	866.01
CP102	612697.7832	220986.8588	835.14
CP103	612077.9657	221365.1331	850.47
CP104	612910.5243	221457.5977	857.73
CP105	611908.4945	222605.1371	836.43
CP106	612029.1778	224411.5025	900.11
CP107	612015.0803	226228.8980	936.74
CP108	611872.2362	229486.8976	953.59
CP109	612622.7364	231400.9837	984.39
CP111	614494.0047	235320.1229	962.81
CP112	615734.3111	237532.0854	973.54
CP113	616309.6071	239023.1843	983.94
CP114	616178.4352	240870.8629	994.94
CP115	615878.4857	244964.3808	1045.73
CP116	615869.6435	247112.3303	1043.63
CP117	615328.7629	248741.3331	1049.11
CP118	614418.0675	249171.1527	1058.95
CP119	616307.6250	241304.3655	997.91
CP120	612118.6062	252763.9988	1074.33
CP121	611837.4033	256698.5888	1111.86
CP122	611714.5073	258995.4008	1118.24
CP123	611982.6781	255041.7747	1091.88
CP124	611910.1587	260960.0825	1136.76
CP125	612123.5354	262519.9294	1146.99

PRIMARY CONTROL			
POINT	NORTHING	EASTING	ELEV.
CP126	612627.9505	264991.7338	1150.45
CP127	612382.1381	267141.9132	1159.04
CP128	612126.0089	269550.8861	1176.02
CP129	612769.7383	270034.0753	1181.30
CP130	612459.8845	272433.9491	1197.04
CP131	612400.2943	275613.5590	1216.51
CP132	612408.4340	277925.7914	1236.00
CP133	612436.6224	250834.5483	1085.34
CP201	621105.9195	207091.0461	833.95
CP202	620715.2262	208620.5084	818.54
CP203	619775.3897	212271.3273	843.85
CP204	619331.5011	214052.1440	839.70
CP204.1	619061.7324	215153.6948	849.81
CP205	618624.4397	215901.1483	848.96
CP206	617725.8118	216980.9711	847.99
CP207	616657.6842	217705.8123	844.52
CP208	615074.4199	218182.4904	829.70
CP208A	612670.5461	217569.9660	865.13
CP209	610597.7791	217894.5717	855.18
CP210	607843.3626	218007.8398	873.21
CP210A	609583.2681	217837.9313	863.89
CP211	606071.0822	218461.3330	853.18
CP212	604327.1070	218907.3308	867.55
CP213	602570.6302	219297.0076	854.46
CP214	600777.6569	219440.6607	840.57

SCHEMATIC PLAN - IR 270
 STA. 580+00 TO STA. 720+00



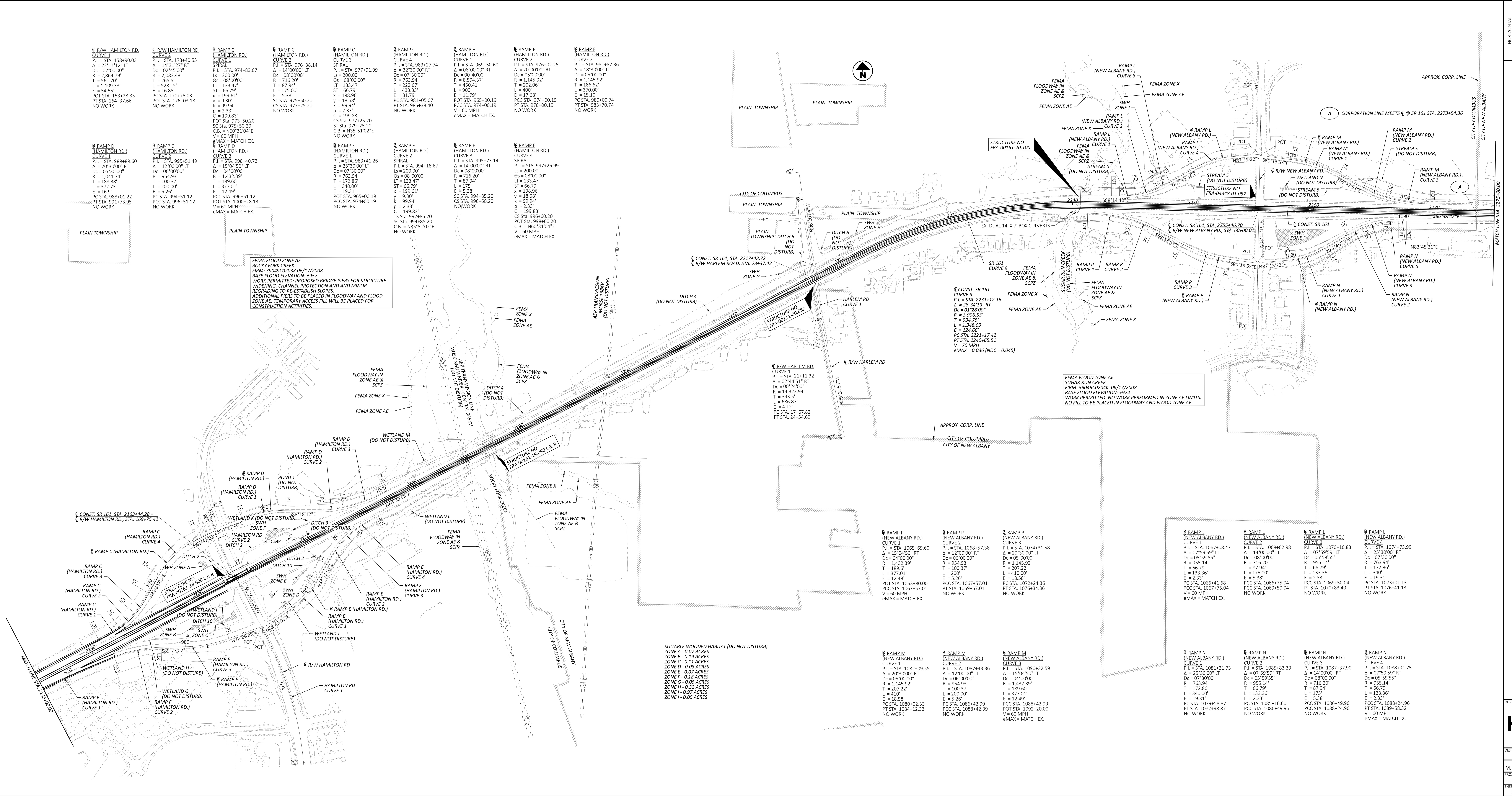


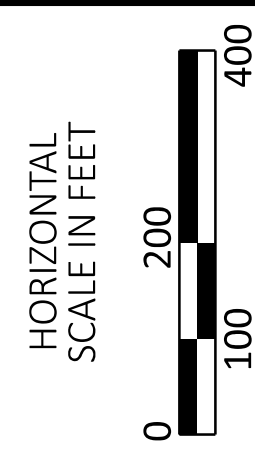
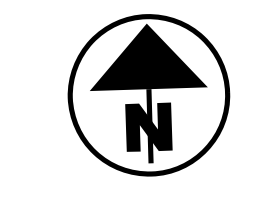
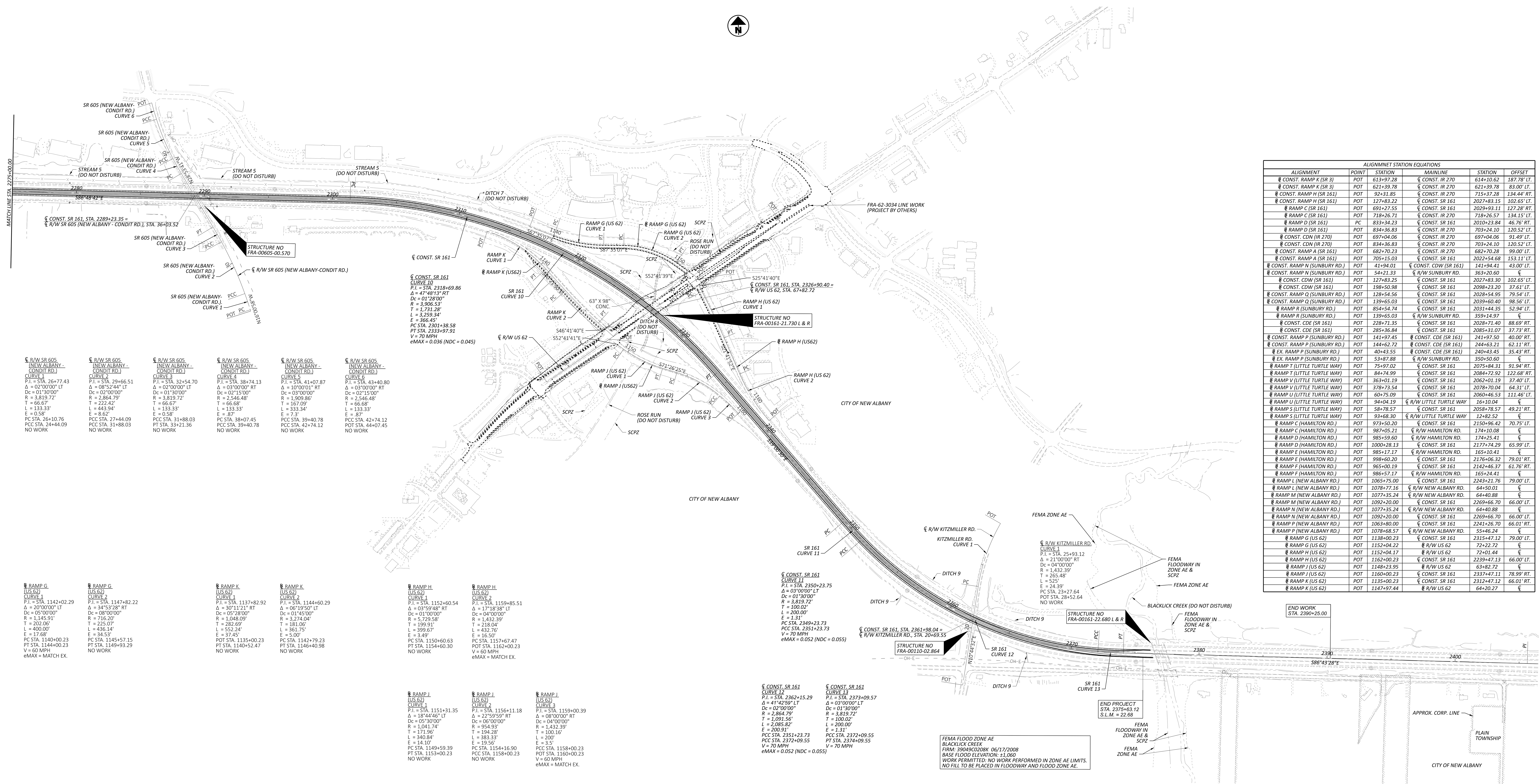
CONST. SR 161 CURVE 1	CONST. SR 161 CURVE 2	CONST. SR 161 CURVE 3	CONST. SR 161 CURVE 4	CONST. SR 161 CURVE 5	CONST. SR 161 CURVE 6	CONST. SR 161 CURVE 7	CONST. SR 161 CURVE 8	CONST. SR 161 CURVE 9
P.I. = STA. 2039+63.62 Δ = 05°15'00" R = 1,909.85' L = 233.44' ST = 116.76' E = 3.08' C = 349.22' PC STA. 2040+80.18 PT STA. 2040+80.18 V = 70 MPH eMAX = NO WORK	P.I. = STA. 2041+88.63 Δ = 06°30'00" R = 1,909.85' L = 233.44' ST = 116.76' E = 3.08' C = 349.22' PC STA. 2040+80.18 PT STA. 2040+80.18 V = 70 MPH eMAX = NO WORK	P.I. = STA. 2044+13.61 Δ = 05°15'00" R = 1,909.85' L = 233.44' ST = 116.76' E = 3.08' C = 349.22' PC STA. 2049+35.80 PT STA. 2049+35.80 V = 70 MPH eMAX = NO WORK	P.I. = STA. 2054+62.30 Δ = 15°26'44" R = 3,882.41' L = 526.50' ST = 1,046.61' E = 25.54' PC STA. 2059+82.41 PT STA. 2059+82.41 V = 70 MPH eMAX = NO WORK	P.I. = STA. 2064+30.43 Δ = 13°05'07" R = 3,906.41' L = 448.02' ST = 1,046.61' E = 25.54' PC STA. 2069+82.41 PT STA. 2069+82.41 V = 70 MPH eMAX = NO WORK	P.I. = STA. 2076+57.44 Δ = 11°39'33" R = 3,906.41' L = 448.02' ST = 1,046.61' E = 25.54' PC STA. 2072+58.60 PT STA. 2072+58.60 V = 70 MPH eMAX = NO WORK	P.I. = STA. 2098+88.70 Δ = 03°28'11" R = 3,906.41' L = 448.02' ST = 1,046.61' E = 25.54' PC STA. 2095+41.62 PT STA. 2095+41.62 V = 70 MPH eMAX = MATCH EX.	P.I. = STA. 2124+64.36 Δ = 32°50'29" R = 3,906.41' L = 448.02' ST = 1,046.61' E = 25.54' PC STA. 2113+13.33 PT STA. 2113+13.33 V = 70 MPH eMAX = 0.036 (NDC = 0.045)	P.I. = STA. 2039+63.62 Δ = 05°15'00" R = 1,909.85' L = 233.44' ST = 116.76' E = 3.08' C = 349.22' PC STA. 2040+80.18 PT STA. 2040+80.18 V = 70 MPH eMAX = NO WORK

CONST. CDW (SR 161) CURVE 1	CONST. CDW (SR 161) CURVE 2	CONST. CDW (SR 161) CURVE 3	CONST. CDW (SR 161) CURVE 4	CONST. CDW (SR 161) CURVE 5	CONST. CDW (SR 161) CURVE 6	CONST. CDW (SR 161) CURVE 7	CONST. CDW (SR 161) CURVE 8	CONST. CDW (SR 161) CURVE 9
P.I. = STA. 130+72.80 Δ = 06°44'08" R = 4,921.26' L = 399.60' ST = 131.37' E = 8.51' C = 393.52' PC STA. 127+83.20 PT STA. 133+61.74 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 137+69.03 Δ = 14°59'08" R = 4,921.26' L = 399.60' ST = 131.37' E = 8.51' C = 393.52' PC STA. 127+83.20 PT STA. 133+61.74 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 141+52.55 Δ = 14°59'08" R = 4,921.26' L = 399.60' ST = 131.37' E = 8.51' C = 393.52' PC STA. 127+83.20 PT STA. 133+61.74 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 145+33.35 Δ = 02°59'07" R = 1,741.99' L = 262.61' ST = 131.25' E = 16.53' C = 393.18' PC STA. 144+02.10 PT STA. 144+02.10 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 153+08.37 Δ = 02°10'59" R = 1,741.99' L = 262.61' ST = 131.25' E = 16.53' C = 393.18' PC STA. 154+39.53 PT STA. 154+39.53 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 160+08.93 Δ = 02°10'59" R = 1,741.99' L = 262.61' ST = 131.25' E = 16.53' C = 393.18' PC STA. 169+78.48 PT STA. 169+78.48 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 166+26.57 Δ = 02°10'59" R = 1,741.99' L = 262.61' ST = 131.25' E = 16.53' C = 393.18' PC STA. 169+78.48 PT STA. 169+78.48 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 173+77.42 Δ = 06°39'32" R = 3,982.54' L = 398.94' ST = 127.63' E = 5.11' C = 196.84' PC STA. 177+75.46 PT STA. 177+75.46 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 179+77.07 Δ = 05°47'46" R = 3,982.54' L = 398.94' ST = 127.63' E = 5.11' C = 196.84' PC STA. 177+75.46 PT STA. 177+75.46 V = 60 MPH eMAX = MATCH EX.

CONST. CDE (SR 161) CURVE 1	CONST. CDE (SR 161) CURVE 2	CONST. CDE (SR 161) CURVE 3	CONST. CDE (SR 161) CURVE 4	CONST. CDE (SR 161) CURVE 5	CONST. CDE (SR 161) CURVE 6	CONST. CDE (SR 161) CURVE 7	CONST. CDE (SR 161) CURVE 8	CONST. CDE (SR 161) CURVE 9
P.I. = STA. 238+01.06 Δ = 11°22'59" R = 6,364.83' L = 1,264.52' E = 31.53' PC STA. 231+66.71 PT STA. 244+21.24 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 253+70.03 Δ = 00°54'01" R = 6,364.83' L = 1,264.52' E = 31.53' PC STA. 231+66.71 PT STA. 244+21.24 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 260+21.09 Δ = 20°09'46" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 254+90.28 PT STA. 265+40.92 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 266+61.26 Δ = 01°55'09" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 254+90.28 PT STA. 265+40.92 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 273+47.75 Δ = 07°27'16" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 275+97.10 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 279+62.21 Δ = 05°28'07" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 275+97.10 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 285+98.97 Δ = 02°16'36" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 283+26.77 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 287+49.34 Δ = 00°54'38" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 283+26.77 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 293+29.14 Δ = 02°16'36" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 283+26.77 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.

RAMP P (SR 161) CURVE 1	RAMP P (SR 161) CURVE 2	RAMP P (SR 161) CURVE 3	RAMP P (SR 161) CURVE 4	RAMP P (SR 161) CURVE 5	RAMP P (SR 161) CURVE 6	RAMP P (SR 161) CURVE 7	RAMP P (SR 161) CURVE 8	RAMP P (SR 161) CURVE 9
P.I. = STA. 238+01.06 Δ = 11°22'59" R = 6,364.83' L = 1,264.52' E = 31.53' PC STA. 231+66.71 PT STA. 244+21.24 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 253+70.03 Δ = 00°54'01" R = 6,364.83' L = 1,264.52' E = 31.53' PC STA. 231+66.71 PT STA. 244+21.24 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 260+21.09 Δ = 20°09'46" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 254+90.28 PT STA. 265+40.92 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 266+61.26 Δ = 01°55'09" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 254+90.28 PT STA. 265+40.92 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 273+47.75 Δ = 07°27'16" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 275+97.10 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 279+62.21 Δ = 05°28'07" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 275+97.10 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 285+98.97 Δ = 02°16'36" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 283+26.77 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 287+49.34 Δ = 00°54'38" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 283+26.77 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.	P.I. = STA. 293+29.14 Δ = 02°16'36" R = 3,600.89' L = 1,050.64' E = 46.82' PC STA. 283+26.77 PT STA. 283+26.77 V = 60 MPH eMAX = MATCH EX.





ALIGNMENT STATION EQUATIONS					
ALIGNMENT	POINT	STATION	MAINLINE	STATION	OFFSET
CONST. RAMP K (SR 3)	POT	613+97.28	CONST. IR 270	614+10.62	187.78' LT.
CONST. RAMP K (SR 3)	POT	621+39.78	CONST. IR 270	621+39.78	83.00' LT.
CONST. RAMP H (SR 161)	POT	92+31.85	CONST. IR 270	715+37.28	134.44' RT.
CONST. RAMP H (SR 161)	POT	127+83.22	CONST. SR 161	2027+83.15	102.65' LT.
RAMP C (SR 161)	POT	691+27.55	CONST. SR 161	2029+93.11	127.28' RT.
RAMP C (SR 161)	POT	718+26.71	CONST. IR 270	718+26.57	134.15' LT.
RAMP D (SR 161)	PC	833+34.23	CONST. SR 161	2010+23.84	46.76' RT.
RAMP D (SR 161)	POT	834+36.83	CONST. SR 161	703+24.10	120.52' LT.
CONST. CDW (IR 270)	POT	697+04.06	CONST. IR 270	697+04.06	91.49' LT.
CONST. CDW (IR 270)	POT	824+26.83	CONST. IR 270	703+24.10	120.52' LT.
CONST. RAMP A (SR 161)	POT	682+70.23	CONST. IR 270	682+70.28	99.00' LT.
CONST. RAMP A (SR 161)	POT	705+15.03	CONST. SR 161	2022+54.68	153.11' LT.
CONST. RAMP N (SUNBURY RD.)	POT	41+94.01	CONST. CDW (SR 161)	141+94.41	43.00' LT.
CONST. RAMP N (SUNBURY RD.)	POT	54+21.33	R/W SUNBURY RD.	363+20.60	0
CONST. CDW (SR 161)	POT	127+83.25	CONST. SR 161	2027+83.30	102.65' LT.
CONST. CDW (SR 161)	POT	198+50.98	CONST. SR 161	2098+23.20	37.61' LT.
CONST. RAMP Q (SUNBURY RD.)	POT	128+54.56	CONST. SR 161	2028+54.95	79.54' LT.
CONST. RAMP Q (SUNBURY RD.)	POT	139+65.03	CONST. SR 161	2039+60.40	98.56' LT.
CONST. RAMP R (SUNBURY RD.)	POT	854+54.74	CONST. SR 161	2031+44.35	52.94' LT.
RAMP R (SUNBURY RD.)	POT	139+65.03	R/W SUNBURY RD.	359+14.97	0
CONST. CDE (SR 161)	POT	228+71.35	CONST. SR 161	2028+71.40	88.69' RT.
CONST. CDE (SR 161)	POT	285+36.84	CONST. SR 161	2085+31.07	37.73' RT.
CONST. RAMP P (SUNBURY RD.)	POT	141+97.45	CONST. CDE (SR 161)	241+97.50	40.00' RT.
CONST. RAMP P (SUNBURY RD.)	POT	144+62.73	CONST. CDE (SR 161)	244+63.21	62.11' RT.
EX. RAMP P (SUNBURY RD.)	POT	40+43.55	CONST. CDE (SR 161)	240+43.45	35.43' RT.
EX. RAMP P (SUNBURY RD.)	POT	53+87.88	R/W SUNBURY RD.	350+50.60	0
RAMP T (LITTLE TURTLE WAY)	POT	75+97.02	CONST. SR 161	2075+84.31	91.94' RT.
RAMP T (LITTLE TURTLE WAY)	POT	84+74.99	CONST. SR 161	2084+72.92	122.68' RT.
RAMP V (LITTLE TURTLE WAY)	POT	363+01.19	CONST. SR 161	2062+01.19	37.40' LT.
RAMP V (LITTLE TURTLE WAY)	POT	378+73.54	CONST. SR 161	2078+70.04	64.31' LT.
RAMP U (LITTLE TURTLE WAY)	POT	60+75.09	CONST. SR 161	2060+46.53	111.46' LT.
RAMP U (LITTLE TURTLE WAY)	POT	94+04.19	R/W LITTLE TURTLE WAY	16+10.04	0
RAMP S (LITTLE TURTLE WAY)	POT	58+78.57	CONST. SR 161	2058+78.57	49.21' RT.
RAMP S (LITTLE TURTLE WAY)	POT	93+68.30	R/W LITTLE TURTLE WAY	12+82.52	0
RAMP C (HAMILTON RD.)	POT	973+50.20	CONST. SR 161	2150+06.42	70.75' LT.
RAMP C (HAMILTON RD.)	POT	987+05.21	R/W HAMILTON RD.	174+10.08	0
RAMP D (HAMILTON RD.)	POT	985+59.60	R/W HAMILTON RD.	174+25.41	0
RAMP D (HAMILTON RD.)	POT	1000+28.13	CONST. SR 161	2177+74.29	65.99' LT.
RAMP E (HAMILTON RD.)	POT	985+17.17	R/W HAMILTON RD.	165+10.41	0
RAMP E (HAMILTON RD.)	POT	998+60.20	CONST. SR 161	2176+06.32	79.01' RT.
RAMP F (HAMILTON RD.)	POT	965+00.19	CONST. SR 161	2142+46.37	61.76' RT.
RAMP F (HAMILTON RD.)	POT	986+57.17	R/W HAMILTON RD.	165+24.41	0
RAMP L (NEW ALBANY RD.)	POT	1065+75.00	CONST. SR 161	2243+21.76	79.00' LT.
RAMP L (NEW ALBANY RD.)	POT	1078+77.16	R/W NEW ALBANY RD.	64+50.01	0
RAMP M (NEW ALBANY RD.)	POT	1077+35.24	R/W NEW ALBANY RD.	64+40.88	0
RAMP M (NEW ALBANY RD.)	POT	1092+20.00	CONST. SR 161	2269+66.70	66.00' LT.
RAMP N (NEW ALBANY RD.)	POT	1077+35.24	R/W NEW ALBANY RD.	64+40.88	0
RAMP N (NEW ALBANY RD.)	POT	1093+20.00	CONST. SR 161	2269+66.70	66.00' LT.
RAMP P (NEW ALBANY RD.)	POT	1063+80.00	CONST. SR 161	2241+26.70	66.01' RT.
RAMP P (NEW ALBANY RD.)	POT	1078+68.57	R/W NEW ALBANY RD.	55+46.24	0
RAMP G (US 62)	POT	1138+00.23	CONST. SR 161	2315+47.12	79.00' LT.
RAMP G (US 62)	POT	1152+04.22	R/W US 62	72+22.72	0
RAMP H (US 62)	POT	1152+04.17	R/W US 62	72+01.44	0
RAMP H (US 62)	POT	1162+00.23	CONST. SR 161	2239+47.13	66.00' LT.
RAMP J (US 62)	POT	1148+23.95	R/W US 62	63+82.72	0
RAMP J (US 62)	POT	1160+00.23	CONST. SR 161	2337+47.11	78.99' RT.
RAMP K (US 62)	POT	1135+00.23	CONST. SR 161	2312+47.12	66.01' RT.
RAMP K (US 62)	POT	1147+97.44	R/W US 62	64+20.27	0

SCHEMATIC PLAN - SR 161
STA. 2275+00 TO STA. 2400+00

UTILITIES

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

GAS

COLUMBIA GAS OF OHIO
3550 JOHNNY APPLESEED COURT
COLUMBUS, OH 43231
ATTN: ROB CALDWELL
614-818-2104
RCALDWELL@NISOURCE.COM

COLUMBIA GAS OF OHIO - TRANSMISSION
1600 EASTGATE PKWY
GAHANNA, OH 43230
ATTN: ROBERT REED
740-279-0870
ROBERT1_REED@TCENERGY.COM

TELEPHONE/CABLE/FIBER

AEP-TELECOM
1-RIVERSIDE PLAZA
COLUMBUS, OH 43215
ATTN: UNA BLANUSA
614-716-2531
OHFIBERRELOCATE@AEP.COM

AT&T - OHIO
111 NORTH 4TH STREET
ROOM 802
COLUMBUS, OH 43215
ATTN: DONALD G. MARSHALL, JR.
614-216-2396
DM619W@ATT.COM

CHARTER COMMUNICATIONS (SPECTRUM)
3760 INTERCHANGE DR.
COLUMBUS, OH 43204
614-255-6349
DL-MOH-CONSTRUCTION-FRELO-TEAM@CHARTER.COM

COLUMBUS FIBERNET
1600 WALCUTT ROAD
COLUMBUS, OH 43228
614-921-8524
ATTN: MATT BLACKSTONE
MABLACKSTONE@COLUMBUSFIBER.NET

LUMEN (CENTURY LINK)
6185 HUNTLEY RD.
SUITE E
COLUMBUS, OH 43229
ATTN: STEVE KAUFFMAN
614-255-2112
STEVE.KAUFFMAN@LUMEN.COM

CROWN CASTLE FIBER
2 EASTON OVAL
SUITE 425
COLUMBUS, OH 43219
JON TARNOWSKI
585-445-5813
JON.TARNOWSKI@CROWNCastle.COM

VERIZON (MCI)
757 COMMERCE CT.
LEWIS CENTER, OH 43035
ATTN: ROBERT DILLOW
614-816-0361
ROBERT.DILLOW@VERIZON.COM

MIDDLE MILE INFRASTRUCTURE
3760 INTERCHANGE DR.
COLUMBUS, OH 43204
ATTN: SEAN CHANEY
614-351-6286
SCCHANEY@TEAMFISHEL.COM

WATER

CITY OF COLUMBUS
910 DUBLIN RD.
COLUMBUS, OH 43215-9053
ATTN: MARK GERHART
614-645-6729
DPU_GIS_MAPPING@COLUMBUS.GOV

AQUA OHIO - WATER
5481 BUENOS AIRES BLVD.
WESTERVILLE, OH 43081
ATTN: JAKE LOGAN
614-882-6586 X50559
JELOGAN@AQUAAMERICA.COM

CITY OF NEW ALBANY PUBLIC SERVICE
7800 BEVELHYMER RD.
NEW ALBANY, OH 43054
614-855-0076
PUBLICSERVICE@NEWALBANYOHIO.ORG

ELECTRIC

AEP OHIO
700 MORRISON RD.
GAHANNA, OH 43230
ATTN: PAUL PAXTON
740-348-5322
PTPAXTON@AEP.COM

AEP TRANSMISSION
8600 SMITHS MILL RD.
NEW ALBANY, OH 43054
ATTN: MICHAEL CARR
380-205-5072
TL_PUBLICPROJECTS@AEP.COM

CITY OF COLUMBUS DIVISION OF POWER
3568 INDIANOLA AVE.
COLUMBUS, OH 43214
614-645-8276
ATTN: SCOTT WOLFE
SAWOLFFE@COLUMBUS.GOV

SANITARY

CITY OF COLUMBUS DPU-DIVISION OF SEWERAGE & DRAINAGE
1250 FAIRWOOD AVE.
COLUMBUS, OH 43206
ATTN: MARK GERHART
614-645-6729
DPU_GIS_MAPPING@COLUMBUS.GOV

AQUA OHIO - SEWER
5481 BUENOS AIRES BLVD.
WESTERVILLE, OH 43081
ATTN: JAKE LOGAN
614-882-6586 X50559
JELOGAN@AQUAAMERICA.COM

CITY OF NEW ALBANY PUBLIC SERVICE
7800 BEVELHYMER RD.
NEW ALBANY, OH 43054
614-855-0076
PUBLICSERVICE@NEWALBANYOHIO.ORG

ITS/CTSS/TRAFFIC

ODOT ITS LAB
1606 W BROAD ST
COLUMBUS, OH 43223
614-387-4113
CEN.ITS.LAB@GOT.OHIO.GOV

ODOT DISTRICT 6 TRAFFIC
400 E. WILLIAM STREET
DELAWARE, OH 43015
ATTN: TROY BRYANT
740-833-8110
TROY.BRYANT@DOT.OHIO.GOV

CITY OF NEW ALBANY PUBLIC SERVICE
7800 BEVELHYMER RD.
NEW ALBANY, OH 43054
614-855-0076
PUBLICSERVICE@NEWALBANYOHIO.ORG

TRAFFIC CONT.:

CITY OF COLUMBUS DEPT. OF PUBLIC SERVICE TRAFFIC MANAGEMENT
1820 EAST 17TH AVE.
COLUMBUS, OH 43219
OFFICE: 614-645-7393

CITY OF COLUMBUS DEPT. OF TECHNOLOGY
1355 MCKINLEY AVE.
BUILDING C
COLUMBUS, OH 43222
CONTRACTOR LINE: 614-645-7756

CITY OF COLUMBUS SUPPORT SERVICES DIVISION - COMUNICATIONS
4211 GROVES ROAD
COLUMBUS, OH 43232
TELEPHONE: 614-724-7047
RADIO ROOM: 614-724-4006

ROUNDING

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

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.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRUCT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS, AS DEFINED ABOVE, WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

EXISTING UTILITY DEPTH ASSUMPTIONS FOR CROSS SECTIONS

ALL EXISTING UTILITIES DISPLAYED IN THE ROADWAY CROSS SECTIONS ARE SHOWN AT THE ASSUMED DEPTHS IN THE TABLE BELOW UNLESS OTHERWISE NOTED IN THE CROSS SECTION PLANS.

UTILITY	SIZE	ROUTE	ASSUMED DEPTH
EX. ELECTRIC	2"	IR-270	42"
EX. FIBER OPTIC	1.5"	IR-270	100"
EX. FIBER OPTIC	4"	IR-270	36"
EX. GAS	4"	IR-270	72"
EX. TELECOM	1.5"	IR-270	72"
EX. WATER	6"	IR-270	72"
EX. WATER	8"	IR-270	72"
EX. ELECTRIC	2"	RAMP A	42"
EX. FIBER OPTIC	4"	RAMP A	36"
EX. CCTV	1.5"	CDW & CDE	40"
EX. ELECTRIC	2"	CDW & CDE	40"
EX. FIBER OPTIC	4"	CDW & CDE	36"
EX. SIGNALS	1.5"	CDW & CDE	40"
EX. SIGNALS	4"	CDW & CDE	36"
EX. GAS	6"	CDW & CDE	40"
EX. GAS	2"	CDW & CDE	40"
EX. TELECOM	1.5"	CDW & CDE	40"
EX. TELECOM	4"	CDW & CDE	60"
EX. WATER	24"	CDW & CDE	120"
EX. ELECTRIC	2"	SR 161	40"
EX. FIBER OPTIC	4"	SR 161	36"
EX. GAS	4"	SR 161	40"
EX. GAS	6"	SR 161	60"
EX. GAS	8"	SR 161	40"
EX. GAS	20"	SR 161	60"
EX. SIGNALS	4"	SR 161	36"
EX. WATER	16"	SR 161	120"
EX. WATER	24"	SR 161	180"
EX. WATER	30"	SR 161	96"

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.



AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 200 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
OBSTRUCTION EVALUATION GROUP
10101 HILLWOOD PARKWAY
FORT WORTH, TX 76177
FAX: (817) 222-5920
HTTP://CEAAA.FAA.GOV

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
OHIO.AIRPORT.PROTECTION@DOT.OHIO.GOV

ITEM 202 - CABLE BARRIER REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL OF HIGH TENSION CABLE BARRIER AND ANY SUPPORTS, BRACKETS, POSTS, END ANCHORAGES, CONCRETE FOUNDATIONS, CONCRETE PADS, AND ANY EXCAVATIONS ASSOCIATED WITH THE REMOVAL.

PAYMENT TO BE MADE PER THE FOLLOWING PLAN PAY ITEM
ITEM 202 - CABLE BARRIER REMOVED, AS PER PLAN LINEAR FEET

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.

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

ITEM 203 - EMBANKMENT AND EXCAVATION ADJUSTMENTS

A VOLUME ADJUSTMENT FOR PAVEMENT TO BE REMOVED IS PROVIDED IN THE TABLE BELOW FOR ALL EARTHWORK CLASSIFIED UNDER ITEMS 203 - EMBANKMENT, AND 203 - EXCAVATION.

ALIGNMENT	STA. BEGIN	STA. END	AVERAGE PAVEMENT REMOVAL DEPTH (IN)	AVERAGE PAVEMENT REMOVAL WIDTH (FT)	EXCAVATION ADJUSTMENT (CY)
RAMP K	615+44.35	617+09.55	11	6	34
IR 270	607+40.00	617+14.65	11	12	398
IR 270	617+14.65	622+50.00	11	36.3	660
IR 270	622+50.00	626+00.00	11	11.7	140
IR 270	626+00.00	652+24.07	11	7	624
IR 270	665+45.64	678+90.24	11	7	320
IR 270	683+19.13	687+60.42	11	11.9	179
IR 270 (LT)	687+60.42	696+11.17	11	10.9	315
IR 270 (RT)	687+60.42	698+70.00	11	4	151
RAMP A	682+70.23	687+65.94	11	54.4	916
RAMP A	687+65.94	704+00.00	11	38	2,109
RAMP H	113+00.00	116+00.00	9.1	4.7	40
RAMP H	116+00.00	120+50.00	9.1	36.4	461
CDW	120+50.00	124+72.52	11	10	144
CDW	124+72.52	130+50.24	11	28.7	563
CDW	130+50.24	133+64.68	11	43.6	466
CDW	190+33.56	198+50.98	11	12	334
CDE	270+00.00	279+91.84	11	3	102
CDE	282+40.77	283+50.00	11	3	12
CDE	283+50.00	285+36.84	11	10	64
SR 161	2085+31.07	2090+07.19	12	10	177
SR 161	2090+07.19	2153+36.00	12	20	4,689
SR 161	2153+36.00	2162+41.58	12	22	738
SR 161	2164+82.58	2375+63.12	11	8	5,726
TOTAL EXCAVATION VOLUME EXCLUDED FROM PROJECT EARTHWORK					19,362
PROJECT TOTALS FROM CROSS SECTIONS	EMBANKMENT (CY)	19,509	EXCAVATION (CY)	141,849	
PROJECT TOTALS CARRIED TO GENERAL SUMMARY	EMBANKMENT (CY)	19,509	EXCAVATION (CY)	122,487	

ITEM 203 EMBANKMENT AT APPROACH SLABS

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS AT THE BRIDGES LISTED BELOW.

BRIDGE	LOCATION	VOLUME (CY)
FRA-00161-18.600 L	REAR ABUTMENT	101
FRA-00161-18.600 L	FORWARD ABUTMENT	93
FRA-00161-19.090 L & R	FORWARD ABUTMENT	3
FRA-00161-21.730 L & R	REAR ABUTMENT	272
FRA-00161-21.730 L & R	FORWARD ABUTMENT	272
TOTALS CARRIED TO GENERAL SUMMARY		741

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING TO BE USED IF SUBGRADE STABILIZATION ALTERNATIVE 2 IS USED SEE TYPICAL SECTIONS

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
- COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
- APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE TYPICAL SECTIONS LEGEND IN A TABLE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.
- EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
- PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.
- FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

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.

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.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE J, ASTM D4956 TYPE XI REFLECTIVE SHEETING, PER CMS 730.193.

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

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)

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 J, ASTM D4956 TYPE XI REFLECTIVE SHEETING, PER CMS 730.193.

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 - IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE TYPE 1 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1 (UNIDIRECTIONAL OR BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR (EACH), TYPE 2 LISTED BELOW

IR 270 STA. 616+57, TYPE 2 (70 MPH, 24" WIDE), UNI-DIRECTIONAL
 IR 270 STA. 683+41, TYPE 2 (70 MPH, 24" WIDE), BI-DIRECTIONAL
 CDW STA. 169+93.27, TYPE 2 (60 MPH, 36" WIDE), UNI-DIRECTIONAL

PAYMENT SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 622, THE CONTRACTOR SHALL REPLACE SECTIONS OF MEDIAN BARRIER AS SHOWN IN THE PLANS. THE MEDIAN BARRIER SHALL MATCH THE SIZE AND SHAPE OF THE EXISTING BARRIER.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	15,358 CU. YD.
659, SEEDING AND MULCHING	138,222 SQ. YD.
659, REPAIR SEEDING AND MULCHING	6,911 SQ. YD.
659, INTER-SEEDING	6,911 SQ. YD.
659, COMMERCIAL FERTILIZER	19.28 TON
659, LIME	28.56 ACRES
659, WATER	1,138 M. GAL.
659, MOWING	933 M. SQ.FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. A 5.0% ADJUSTMENT FACTOR HAS BEEN APPLIED TO THESE AREAS TO ACCOUNT FOR SLOPE LENGTHS.

REMOVAL MISC.: EXISTING TRAFFIC EQUIPMENT

THIS WORK CONSISTS OF REMOVING EXISTING TRAFFIC EQUIPMENT AS NOTED IN THE PLANS.

ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THIS WORK, INCLUDING REMOVAL OF THE EXISTING TRAFFIC EQUIPMENT, POLE, FOUNDATION AND CONDUIT, SHALL BE INCLUDED IN THE UNIT PRICE EACH FOR REMOVAL MISC.: EXISTING TRAFFIC EQUIPMENT.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

PROVIDE CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. FURNISH A STUB MEETING THE REQUIREMENTS OF 707 WITH A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THOROUGHLY CLEAN AND REGALVANIZE OR OTHERWISE SUITABLY REPAIR THE FIELD WELDED JOINT, IF USED. MEET WELDING REQUIREMENTS OF 513.21.

PROVIDE A MASONRY COLLAR PER STANDARD CONSTRUCTION DRAWING DM-1.1, TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS USED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, IS INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 OR 522.

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.

DRAINAGE DISCHARGE CONTINUANCE

FURNISH A DRAINAGE DISCHARGE CONTINUANCE FOR ANY DRAINAGE DISCHARGE DISTURBED BY THE WORK AND NOT SHOWN IN THE PLANS. THE LOCATION, TYPE (CONDUIT OR SWALE), SIZE AND GRADE OF THE DRAINAGE DISCHARGE CONTINUANCE WILL BE AGREED TO BY THE ENGINEER

FURNISH AN INSPECTION WELL AT THE RIGHT OF WAY LINE IN ACCORDANCE WITH SCD DM-3.1 FOR EACH DRAINAGE DISCHARGE THAT OUTLETS THROUGH A CURB OPENING, OR INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST IS INCLUDED IN ITEM 611, INSPECTION WELL.

FURNISH A WELL GRADED TRANSITION BETWEEN THE DITCH AND THE SWALE WHEN OUTLETTING A SWALE TO A DITCH. THE COST FOR THE GRADED TRANSITION IS INCLUDED IN ITEM 203, EMBANKMENT AS PER PLAN.

FURNISH AN EROSION CONTROL PAD AS SHOWN IN SCD DM-1.1 WHEN OUTLETTING A CONDUIT TO A DITCH. THE COST FOR THE EROSION CONTROL PAD IS INCLUDED IN ITEM 611, CONDUIT, MISC.: TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED HOLE OR A CURB SECTION WITH A HOLE WHEN OUTLETTING A CONDUIT THROUGH A CURB OPENING. THE COST OF DRILLING, OR FURNISHING THE CURB SECTION WITH HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC.: TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED CORE HOLE WHEN OUTLETTING INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST OF THE DRILLED CORE HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC.: TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE.

DOCUMENTATION
 THE CONTRACTOR SHALL FURNISH WRITTEN DOCUMENTATION TO THE ENGINEER AND TO THE DISTRICT R/W PERMIT OFFICE. THE DOCUMENTATION INCLUDES THE CONSTRUCTION PROJECT NUMBER, PID, COUNTY, ROUTE, SECTION, LATITUDE AND LONGITUDE OF THE DRAINAGE DISCHARGE AT THE R/W, THE NAME OF PROPERTY OWNER WITH ADDRESS, THE DATE THE DRAINAGE DISCHARGE WAS LOCATED, THE DATE THE DRAINAGE DISCHARGE CONTINUANCE WAS FURNISHED, A DETAILED DESCRIPTION OF THE WORK AND PICTURES OF THE DRAINAGE DISCHARGE CONTINUANCE (IN PDF OR JPEG FORMAT). THE DOCUMENTATION IS INCLUDED IN ITEM 611, CONDUIT, MISC.: TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE OR ITEM 203, EMBANKMENT AS PER PLAN.

DRAINAGE DISCHARGE CONTINUANCE REMOVAL
 THE ENGINEER MAY REQUIRE THE NEWLY INSTALLED DRAINAGE DISCHARGE CONTINUANCE TO BE REMOVED.

REMOVE THE NEWLY INSTALLED CONDUIT AND ANY EXISTING CONDUIT TO THE RIGHT OF WAY LINE. FOR CONDUIT THAT OUTLETS THROUGH THE CURB RESTORE THE CURB BY FILLING THE HOLE WITH CLASS QC 1 CONCRETE OR REPLACE THE CURB SECTION. FOR CONDUIT THAT OUTLETS TO A STORM SEWER OR DRAINAGE STRUCTURE LEAVE 6 INCHES PROTRUDING OUTSIDE OF THE CONDUIT. PLUG THE PROTRUDING CONDUIT WITH EITHER A MANUFACTURED CAP OR CLASS QC 1 CONCRETE. FOR CONDUIT THAT OUTLETS TO THE DITCH REMOVE THE EROSION CONTROL PAD. RESTORE ALL AREAS AS REQUIRED. PLUG THE EXISTING CONDUIT REGARDLESS OF SIZE AT THE RIGHT OF WAY LINE WITH CLASS QC 1 CONCRETE AND RESTORE ALL AREAS AS REQUIRED. ALL COSTS ARE INCLUDED IN ITEM 202, REMOVAL MISC. CONDUIT.

DAM THE SWALE THAT OUTLETS TO THE DITCH AT THE R/W AS DIRECTED BY THE ENGINEER. ALL COSTS ARE INCLUDED IN ITEM 203, EMBANKMENT AS PER PLAN.



DRAINAGE DISCHARGE CONTINUANCE CONTINUED

REMOVE THE INSPECTION WELL AND RESTORE ALL AREAS AS REQUIRED. THE COST IS INCLUDED IN ITEM 202, REMOVAL MISC. INSPECTION WELL.

CONDUIT MATERIAL TYPES
THE FOLLOWING CONDUIT MATERIAL TYPES ARE PERMITTED:
707.33, 707.41 NON- PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, AND 707.52 SDR35.

PAY ITEMS
EACH OF THE PAY ITEMS LISTED BELOW FOR CONDUIT MISCELLANEOUS TYPES B, C, E AND F FOR DRAINAGE DISCHARGE CONTINUANCE INCLUDE CONDUIT SIZES 2 INCH TO 10 INCH. THERE IS NO COST DIFFERENTIATION FOR SIZE IN THESE PAY ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE DRAINAGE DISCHARGE CONTINUANCE:

- ITEM 611, 1 EACH INSPECTION WELL
- ITEM 611, 50 FT.CONDUIT, MISC TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE
- ITEM 611, 50 FT.CONDUIT, MISC TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE
- ITEM 611, 25 FT.CONDUIT, MISC TYPE E FOR DRAINAGE DISCHARGE CONTINUANCE
- ITEM 611, 25 FT.CONDUIT, MISC TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE
- ITEM 202, 50 FT. REMOVAL MISC CONDUIT
- ITEM 202, 1 EACH REMOVAL MISC INSPECTION WELL
- ITEM 203, 5 CUBIC YARD EMBANKMENT AS PER PLAN

REVIEW OF DRAINAGE FACILITIES

PRIOR TO THE START OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT, CONTRACTOR AND LOCALS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES IS DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION ARE MAINTAINED BY THE DEPARTMENT.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

CAREFULLY REMOVE AND STORE ALL CASTINGS WITHIN THE RIGHT OF WAY FOR SALVAGE BY (DEPARTMENT) (CITY) (VILLAGE) (COUNTY) FORCES.

PAYMENT FOR ALL OF THE ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE. UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

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

- ITEM 601, TIED CONCRETE BLOCK MAT, TYPE 1 11 SQ. YD.
- ITEM 605, AGGREGATE DRAINS 25 FT.
- ITEM 611, 6 " CONDUIT, TYPE F 150 FT.
- ITEM 611, PRECAST REINFORCED CONCRETE OUTLET 6 EACH
- ITEM 605, 6 " UNCLASSIFIED PIPE UNDERDRAINS 50 FT.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 2,750 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK CONSISTS OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. DISPOSE OF ALL MATERIAL PER 105.16 AND 105.17. CLEAN OUT TO THE APPROVAL OF THE ENGINEER.

CLEANOUT OF THE PIPE IS PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL, PIPE CLEANOUT. THIS PRICE INCLUDES THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

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

- ITEM SPECIAL, PIPE CLEANOUT, 24" AND UNDER 500 FT.
- ITEM SPECIAL, PIPE CLEANOUT, 27" TO 48" 100 FT.
- ITEM SPECIAL, PIPE CLEANOUT, OVER 48" 100 FT.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

VEGETATED FILTER STRIP

THIS PLAN UTILIZES VEGETATED FILTER STRIP(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AND ITEM 670, SLOPE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND THE FORESLOPE AS SPECIFIED IN THE PLANS.

ITEM 611 - MANHOLE FRAME AND COVER, AS PER PLAN - BOLT DOWN LID

EXISTING MANHOLES LOCATED IN EXISTING PAVEMENT SHALL BE MODIFIED TO HAVE BOLT DOWN LIDS. THE CONTRACTOR CAN DEVELOP AND SUBMIT A BOLT DOWN LID DESIGN TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK. IF A DESIGN IS NOT SUBMITTED, THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING FRAME AND LID WITH A NEW FRAME AND BOLT DOWN LID. ALL WORK AND MATERIALS SHALL CONFORM TO THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS FOR ITEM 611. ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THIS WORK, INCLUDING ANY PAVEMENT REPLACEMENT AND REPAIR INCIDENTAL TO THE INSTALLATION OF THE BOLT DOWN LID, SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 611 – MANHOLE FRAME AND COVER, AS PER PLAN – BOLT DOWN LID.

THE FOLLOWING TABLE LISTS THE LOCATIONS FOR THE BOLT DOWN LIDS.

MANHOLE	STATION	OFFSET
D2-161-678	CDW 170+54.14	29.59' RT

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 25 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 8 INCHES 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.

ITEM 611 - INLET, NO. 3B, AS PER PLAN

THIS WORK CONSISTS OF INSTALLING A BARRIER INLET AS DETAILED ON SHEETS 385 - 386.

ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THIS WORK, INCLUDING ANY PAVEMENT REPLACEMENT AND REPAIR INCIDENTAL TO THE INSTALLATION OF THE AS PER PLAN BARRIER INLET SHALL BE INCLUDED IN THE UNIT PRICE EACH FOR ITEM 611 - INLET, NO. 3C, AS PER PLAN

ITEM 611 - INLET, NO. 3C, AS PER PLAN

THIS WORK CONSISTS OF INSTALLING A BARRIER INLET AS DETAILED ON SHEETS 385 - 386.

ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THIS WORK, INCLUDING ANY PAVEMENT REPLACEMENT AND REPAIR INCIDENTAL TO THE INSTALLATION OF THE AS PER PLAN BARRIER INLET SHALL BE INCLUDED IN THE UNIT PRICE EACH FOR ITEM 611 - INLET, NO. 3C, AS PER PLAN

REMOVAL MISC.: SLOTTED DRAIN

THIS ITEM SHALL INCLUDE EVERYTHING REQUIRED TO REMOVE THE EXISTING SLOTTED DRAIN AND BACKFILL THE CAVITY LEFT BEHIND AFTER ITS REMOVAL. REMOVAL WILL BE PAID AT THE CONTRACT PRICE BID, WHICH SHALL BE FULL COMPENSATION FOR ALL SERVICES, MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

DESIGN AGENCY



DESIGNER
CLW

REVIEWER
MJL STAGE 3

PROJECT ID
116322

SHEET TOTAL
58 | 741

ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE, AS PER PLAN (T=VARIES)

THIS ITEM SHALL CONFORM TO THE SPECIFICATIONS OF ITEM 254 IN THE CMS, WITH THE FOLLOWING CONDITIONS:

THE REMOVAL OF THE EXISTING ASPHALT LAYER AS WELL AS PORTIONS OF THE EXISTING APPROACH SLAB SHALL BE REMOVED IN ORDER TO PROPERLY INSTALL THE ASPHALT INTERMEDIATE COURSE LIFTS.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE FOLLOWING ITEM:

ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE, AS PER PLAN (T=VARIES)

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG70-22M & ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG76-22M

LOCATE LONGITUDINAL JOINTS IN THE SURFACE COURSE SUBJECT TO THE FOLLOWING REQUIREMENTS:

FOR PAVEMENT SECTIONS WITH 2 LANES IN A SINGLE DIRECTION, PLACE A SINGLE COLD LONGITUDINAL JOINT BETWEEN THE 2 LANES.

FOR PAVEMENT SECTIONS WITH 3 OR 4 LANES IN A SINGLE DIRECTION, (PG 70-22M ONLY) PLACE A SINGLE COLD LONGITUDINAL JOINT BETWEEN THE SECOND AND THIRD LANE FROM THE MEDIAN.

FOR PAVEMENT SECTIONS WITH 5 OR 6 LANES IN A SINGLE DIRECTION, (PG 70-22M ONLY) PLACE 2 COLD LONGITUDINAL JOINTS. THE FIRST WILL BE PLACED BETWEEN THE SECOND AND THIRD LANE FROM THE MEDIAN. THE SECOND WILL BE PLACED BETWEEN THE FOURTH AND FIFTH LANE FROM THE MEDIAN.

WHEN LANES BECOME IN CONTACT WITH THE STRIPED GORE, THEY ARE CONSIDERED TO BE ON THE RAMP AND COUNTED SEPARATELY FROM THE MAINLINE.

A COLD LONGITUDINAL JOINT IS PERMITTED BETWEEN THE MAINLINE AND SHOULDER FOR THIS PROJECT. THIS INCLUDES ONE JOINT ALONG ONE OF THE TWO LINES THAT MAKE UP THE STRIPED GORE. ITEM 872 VRAM QUANTITIES DO NOT INCLUDE THESE LOCATIONS AND IT IS NOT TO BE PLACED THERE.

ITEM SPECIAL - REINFORCED MESH FOR LONGITUDINAL JOINTS

DESCRIPTION:

THIS WORK CONSISTS OF PLACEMENT OF A SELF ADHESIVE GLASS FIBER MESH OVER JOINTS DESIGNATED IN THE PLAN AND/OR BY THE ENGINEER PRIOR TO PLACEMENT OF ASPHALT CONCRETE.

MATERIAL:

WHERE REINFORCEMENT IS PLACED BETWEEN SURFACE AND INTERMEDIATED COURSES. FURNISH GLASSGRID FIBERGLASS REINFORCEMENT WITH MODIFIED POLYMER COATING AND PRESSURE-SENSITIVE ADHESIVE BACKING MEETING THE FOLLOWING PROPERTIES:

PROPERTIES	GlassGrid No. 8502
Material Width	5 ft.
Material - Self Adhesive fiberglass strand coated with elastomeric polymer per ASTM D6637	25% minimum dry pickup
Tensile Strength per ASTM D6637	655 x 1230 ± 85 lbs/in
Tensile Elongation ASTM D6637	2.5 ± 0.5%
Melting Point ASTM D276	>450 °F
Mass/Unit Area ASTM D5261	18 oz/sq yd
Grid pattern	0.5 in x 0.5 in

WHERE REINFORCEMENT IS PLACED BETWEEN SURFACE COURSE AND A PLANED SURFACE. FURNISH GLASSGRID FIBERGLASS REINFORCEMENT WITH MODIFIED POLYMER COATING AND PRESSURE-SENSITIVE ADHESIVE BACKING BONDED TO A NONWOVEN POLYPROPYLENE MEETING THE FOLLOWING PROPERTIES:

PROPERTIES	GlassGrid No. GG200
Material Width	5 ft.
Material - Self Adhesive fiberglass strand coated with elastomeric polymer per ASTM D6637	25% minimum dry pickup
Tensile Strength per ASTM D6637	655 x 1230 ± 85 lbs/in
Tensile Elongation ASTM D6637	2.5 ± 0.5%
Melting Point ASTM D276	>450 °F
Mass/Unit Area ASTM D5261	22 oz/sq yd
Grid pattern	1.0 in x 0.75 in

BEFORE INSTALLATION SUBMIT A LETTER TO THE PROJECT ENGINEER WITH A STATEMENT CERTIFYING MATERIAL RECEIVED MEETS THE ABOVE PROPERTIES. SUBMIT TO THE PROJECT ENGINEER ACTUAL DATED (SALES FLYER DATA NOT ACCEPTABLE) TEST DATA WITH THE CERTIFICATION LETTER.

CONSTRUCTION:

PERFORM ALL REQUIRED REPAIRS PRIOR TO PLACING MESH.

ENSURE ALL AREAS WHERE MESH IS TO BE PLACED ARE FREE OF ALL DIRT AND OTHER LOOSE MATERIALS BY SWEEPING OR OTHER APPROVED METHOD. PLACE NON-TRACKING TACK COAT AT RATE SPECIFIED IN CMS AND WAIT 2 HOURS BEFORE PLACING THE MESH ON A PAVEMENT SURFACE THAT IS BETWEEN 40° F AND 140° F.

PLACE MESH UNDER TENSION TO PREVENT RIPPLING. REMOVE RIPPLES BY PULLING, OR IF NECESSARY (IN CURVES FOR EXAMPLE), BY CUTTING AND FLATTENING THE MESH. OVERLAP TRANSVERSE JOINTS OF THE MESH 3 TO 6 INCHES. OVERLAP LONGITUDINAL JOINTS OF THE MESH BY 1 INCH MINIMUM. ROLL THE MESH SURFACE 2 PASSES WITH A RUBBER COATED DRUM ROLLER, RUBBER TIERED ROLLER OR OTHER METHOD ACCEPTABLE TO THE MANUFACTURER. CLEAN RUBBER ROLLER IF BUILDUP ON THE RUBBER SURFACE INTERFERES WITH MESH PLACEMENT. DO NOT USE A STEEL DRUM ROLLER.

ITEM SPECIAL - REINFORCED MESH FOR LONGITUDINAL JOINTS CONTINUED

PLACED MESH WILL HANDLE SPEED CONTROLLED EMERGENCY OR CONSTRUCTION TRAFFIC BUT DAMAGED SECTIONS MUST BE REMOVED AND/OR REPAIRED. AT THE CONTRACTOR'S EXPENSE. DO NOT ALLOW MUD OR OTHER MATERIAL TO COLLECT ON THE MESH PRIOR TO ASPHALT CONCRETE PLACEMENT. COVER MESH WITH ASPHALT CONCRETE THE SAME DAY UNLESS WEATHER BECOMES UNSUITABLE.

MEASUREMENT:

MEASURE MESH PLACEMENT BY THE LINEAL FEET OF JOINT COVERED. DO NOT ALLOW FOR MESH OVERLAP.

PAYMENT:

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES, COMPLETED IN PLACE, AT THE CONTRACT PRICES, AS DESCRIBED ABOVE, AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. YD.	REINFORCED MESH FOR LONGITUDINAL JOINTS

DESIGN AGENCY



DESIGNER
CLW

REVIEWER
MJL STAGE 3

PROJECT ID
116322

SHEET TOTAL
59 | 741

ENVIRONMENTAL COMMITMENTS

NO IN-STREAM WORK ON BIG WALNUT CREEK, ALUM CREEK, SUGAR RUN, ROSE RUN, AND BLACK LICK CREEK: THE PROJECT INVOLVES CONSTRUCTION ACTIVITIES THAT WILL OCCUR DIRECTLY OVER LISTED CREEKS. NO WORK BELOW THE ORDINARY HIGH WATER MARK OF THE STREAM WILL OCCUR, INCLUDING THE PLACEMENT OF TEMPORARY OR PERMANENT FILL, OR FORDING THE STREAM. NO DEBRIS MAY BE SWEEPED OR WASHED INTO THE STREAMS.

WATERWAY PERMIT: THE CONTRACTOR SHALL NOT PERFORM WORK WITHIN THE JURISDICTIONAL BOUNDARIES OF ANY WATERWAY, INCLUDING WETLANDS, UNTIL THE NECESSARY WATERWAY PERMIT(S) ARE OBTAINED. THIS INCLUDES THE PLACEMENT OF ANY TEMPORARY OR PERMANENT FILLS.

SECTION 4(F): THE FOLLOWING MEASURES TO MINIMIZE HARM HAVE BEEN ADDED AS PROJECT PLAN NOTES TO ADDRESS IMPACTS TO THE NEW ALBANY LEISURE TRAIL:

- A. ACCESS TO THE NEW ALBANY LEISURE TRAIL WILL BE MAINTAINED AT ALL TIMES, EXCEPT FOR THE TIME NEEDED TO COMPLETE CONSTRUCTION ACTIVITIES AT THE US 62 INTERCHANGE WITH SR 161, WHICH WILL BE LESS THAN THE TIME NEEDED FOR CONSTRUCTION OF THE PROJECT (APPROXIMATELY FOUR MONTHS IN TOTAL). PEDESTRIANS USING THE NEW ALBANY LEISURE TRAIL WILL BE SHIFTED TO EITHER SIDE OF THE ROADWAY TO MAINTAIN TRAFFIC WHENEVER FULL CLOSURES ARE NOT REQUIRED.
- B. TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED ACROSS THE NEW ALBANY LEISURE TRAIL ON EITHER SIDE OF THE US 62 INTERCHANGE WITH SR 161 PRIOR TO THE START OF CONSTRUCTION ACTIVITIES THAT REQUIRE A FULL CLOSURE OF THE TRAIL TO PROTECT THE NEW ALBANY LEISURE TRAIL AND THE PUBLIC.
- C. APPROPRIATE SIGNAGE SHALL BE INSTALLED TO ALERT USERS OF THE NEW ALBANY LEISURE TRAIL OF CONSTRUCTION ACTIVITIES, ACCESS RESTRICTIONS OR CLOSURES.
- D. THE CONTRACTOR SHALL BE REQUIRED TO CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH ODOT AND THE CITY OF NEW ALBANY PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AT THE US 62 INTERCHANGE WITH SR 161.

SECTION 4(F): THE FOLLOWING MEASURES TO MINIMIZE HARM HAVE BEEN ADDED AS PROJECT PLAN NOTES TO ADDRESS IMPACTS TO THE BIG WALNUT CREEK RECREATIONAL WATERWAY.

- A. RECREATIONAL BOATING ACCESS ALONG BIG WALNUT CREEK WITHIN THE PROJECT AREA SHALL BE MAINTAINED AT ALL TIMES BY SHIFTING BOAT TRAFFIC TO ONE SIDE OF THE STREAM UTILIZING SIGNAGE/BUOYS AND/OR MARKERS, EXCEPT FOR THE TIME NEEDED TO TEMPORARILY COMPLETE FULL-LENGTH BRIDGE WORK WHICH WILL BE LESS THAN THE TIME NEEDED FOR CONSTRUCTION OF THE PROJECT (APPROXIMATELY ONE MONTH IN TOTAL).
- B. THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNAGE/BUOYS AND/OR MARKERS 300 FEET UPSTREAM AND DOWNSTREAM OF THE PROJECT AREA TO ALERT PADDLERS/BOATERS OF CONSTRUCTION ACTIVITY, INCLUDING 'WATER TRAIL CLOSED' SIGNS WHEN CLOSURES TO THE BIG WALNUT CREEK RECREATIONAL WATERWAY WILL OCCUR.
- C. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER WHEN ACCESS RESTRICTIONS TO BIG WALNUT CREEK BECOME NECESSARY DURING ANY PHASE OF CONSTRUCTION AND/OR IMPACTS TO BOATER SAFETY WILL OCCUR. THE PROJECT MANAGER/ENGINEER SHALL NOTIFY THE ODNR TRAILS ADMINISTRATOR PRIOR TO ANY CHANGES BEING IMPLEMENTED.
- D. THE PROJECT ENGINEER SHALL NOTIFY THE ODNR TRAILS ADMINISTRATOR 14 CALENDAR DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AT THE SR 161 BRIDGES OVER BIG WALNUT CREEK TO ALLOW ODNR TO POST NOTICE OF IMPENDING PROJECT CONSTRUCTION ON THE APPROPRIATE ODNR WEBPAGES AND ASSOCIATED ONLINE BOATING MAPS. AS PART OF NOTIFICATION EFFORTS, THE PROJECT ENGINEER SHALL ALSO PROVIDE PLANS THAT INDICATE SIGNAGE LOCATION ALONG THE WATERWAY AND ANY ADDITIONAL PLANNED NOTIFICATION EFFORTS WITH ODNR THAT WILL TAKE PLACE DURING OR AFTER CONSTRUCTION. THE ODNR TRAILS ADMINISTRATOR WILL BE NOTIFIED WHEN THE PROJECT IS COMPLETE, AND ALL SIGNAGE HAS BEEN REMOVED.

ENVIRONMENTAL COMMITMENTS CONTINUED

ENDANGERED SPECIES: THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY ENDANGERED NORTHERN LONG-EARED AND INDIANA BAT, AND THE STATE ENDANGERED LITTLE BROWN AND TRICOLORED BATS. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT AND ORC 1531.25. 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.

ENDANGERED SPECIES: APPROXIMATELY 21.29 ACRES OF SUITABLE WOODED HABITAT (SWH) IS PRESENT WITH THE STUDY AREA. UP TO 19.43 ACRES MAY BE IMPACTED BY THE PROJECT. THE REMAINING 1.86 ACRES HAVE BEEN MARKED AS "DO NOT DISTURB (DND)" WITHIN THE DESIGN PLANS.

FLOODPLAINS: THE PROJECT IS LOCATED WITHIN FEMA FLOOD ZONES AND THE PROJECT DESIGNER SHALL ENSURE THE PROJECT IS DESIGNED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL FLOODPLAIN PROTECTION STANDARDS. APPROPRIATE FLOODPLAIN PERMITTING SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION. A STATEMENT OF FINDINGS DETAILING THE RESULTS OF THE FINAL FLOODPLAIN ANALYSIS WILL BE MADE AVAILABLE ON THE PROJECT WEBSITE.

PAVEMENT CUTTING, SAWING AND EXCAVATION OPERATIONS NOTE

CONTRACTORS PERFORMING PAVEMENT-CUTTING OPERATIONS ON CITY OF COLUMBUS STREETS AND ROADWAYS SHALL PROTECT THE ENVIRONMENT FROM DISCHARGES CREATED BY THEIR PAVEMENT CUTTING OPERATIONS. NOTE THAT COLUMBUS CITY CODE 1145 PROHIBITS NON-STORMWATER DISCHARGE INTO THE CITY OF COLUMBUS SEWER SYSTEM, CURB INLETS AND ANY PART OF ITS MS4 (MUNICIPAL SEPARATE STORM SEWER SYSTEM).

THE REQUIREMENT INCLUDES BUT IS NOT LIMITED TO WET OR DRY SAW-CUTTING, JACK HAMMERING, EXCAVATION EQUIPMENT USE, ETC. THE CONTRACTOR WORK CREWS SHALL RECOVER AND DISPOSE OF DETRITUS, POLLUTED WATERS, OR OTHER SUCH DISCHARGES RESULTING FROM THEIR PAVEMENT CUTTING OPERATIONS AND PROTECT ALL STORM SEWER INLETS FROM RECEIVING ANY DISCHARGES FROM THE CONSTRUCTION OPERATIONS. THE CONTRACTOR RESPONSIBLE FOR EACH PAVEMENT CUTTING ACTIVITY SHALL BE SOLELY LIABLE FOR NOTICE OF VIOLATIONS (NOV/S) AND FINES ISSUED BY CITY OF COLUMBUS AND/OR STATE OF OHIO AUTHORITIES.

EQUIPMENT, MATERIALS AND METHODS SHALL BE PROVIDED BY THE CONTRACTOR TO WORK CREWS PERFORMING THE PAVEMENT CUTTING ACTIVITY AND MADE AVAILABLE TO WORK CREWS FOR USE IN CLEANING UP DISCHARGES RESULTING FROM SUCH CUTTING ACTIVITIES AND PREVENTING RUNOFF. ALL WORK CREWS SHALL BE TRAINED TO EXERCISE AND EMPLOY EQUIPMENT, MATERIALS, AND ENVIRONMENTAL PROTECTIVE MEASURES TO PREVENT POLLUTED DISCHARGES FROM ENTERING THE CITY OF COLUMBUS STORM SEWER SYSTEM AND WATERS OF THE STATE OF OHIO.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE INLET PROTECTION IS ADEQUATE. THE MOST STRINGENT PROJECT PLANS, NOTES, AND/OR DRAWINGS INCLUDING STORMWATER POLLUTION PREVENTION PLAN (SWP3) OR SPILL PREVENTION/REMEDATION PLAN SHALL APPLY TO ALL PAVEMENT CUTTING, SAWING OR EXCAVATION OPERATIONS.

ITEM 203 ROADWAY MISC. - COLUMBUS RECREATION AND PARKS DEPARTMENT STANDARD PLAN NOTE

PRIOR TO SUBMISSION OF FINAL SITE COMPLIANCE PLAN, ANY ENTITY REQUESTING NON-PARK USE/DEVELOPMENT MUST SUBMIT A NON-PARK USE OF PARKLAND (NPUP) APPLICATION TO CRPD PROPERTY MANAGER TINA MOHN AT TMMOHN@COLUMBUS.GOV TO SECURE A PERMIT TO ENTER CRPD PROPERTY. THE CONTRACTOR SHALL CONTACT COLUMBUS RECREATION & PARKS DEPARTMENT'S (CRPD) INSPECTOR, KEITH MAY, AT KAMAY@COLUMBUS.GOV THIRTY (30) CALENDAR DAYS PRIOR TO ANY WORK ON OR NEAR CRPD PROPERTY. THE CONTRACTOR SHALL SUBMIT A WORK SCHEDULE AND COORDINATE ACCESS WITH CRPD INSPECTOR PRIOR TO ANY WORK ON OR NEAR CRPD PROPERTY. SCHEDULED EVENTS BY CRPD SHALL TAKE PRECEDENCE OVER THE CONTRACTOR'S WORK SCHEDULE, AND THE CONTRACTOR SHALL ADJUST WORK SCHEDULE AS NECESSARY. THE CONTRACTOR SHALL NOT ENTER INTO A CRPD PROPERTY NOR STAGE/STORE ANY MATERIALS OR EQUIPMENT OUTSIDE THEIR WORK LIMITS ON CRPD PROPERTY WITHOUT A PERMIT ISSUED BY CRPD. THE PERMIT MUST BE POSTED ONSITE AT ALL TIMES. ANY AND ALL CRPD PARK AREAS DISTURBED BY THE CONTRACTOR DURING THE COURSE OF THEIR WORK ACTIVITIES SHALL BE RESTORED TO CONDITIONS THAT MEET OR EXCEED EXISTING CONDITIONS WITHIN THE TIME FRAMES NOTED IN THE APPROVED SCHEDULE AND SHALL BE TO THE SATISFACTION OF CRPD. UNLESS SPECIFIC PERMISSIONS ARE GRANTED BY CRPD, ACCESS TO, FROM, ON, OVER, UNDER, THROUGH, OR ACROSS CRPD PROPERTY IS NOT GRANTED OR IMPLIED. FAILURE TO HAVE A PERMIT IN PLACE THAT IS THAT IS CONSISTENT WITH CRPD NPUP POLICY WILL RESULT IN DELAY OF FINAL SITE COMPLIANCE APPROVAL SIGNATURE BY RECREATION & PARKS/CITY FORESTER.

THIS NOTE APPLIES TO THE FOLLOWING ROUTES AND STATION RANGES WITHIN THE LIMITS OF THE CITY OF COLUMBUS.
 SR 161 - STA. 2054+95.85 TO STA. 2273+54.36
 CDW - STA. 156+26.08 TO STA. 198+50.98
 CDE - STA. 253+64.88 TO STA. 285+36.84

PAYMENT FOR THIS WORK WILL BE COVERED UNDER THE FOLLOWING PAY ITEM.
 ITEM 203 - ROADWAY, MISC: COLUMBUS RECREATION AND PARKS DEPARTMENT NOTE - LUMP SUM

ITEM 203 ROADWAY MISC. - COLUMBUS PUBLIC TREE PROTECTION NOTE

A TREE PROTECTION PLAN WITH A DRAWING OF ANY WORK LOCATED WITHIN THE DRIP LINE OF A PUBLIC TREE SHALL BE INCLUDED IN THE APPROVED FINAL SITE COMPLIANCE PLAN (FSCP). REFER TO CRPD STANDARD DRAWING FOR TREE PROTECTION. CONSTRUCTION MATERIALS, EXCAVATION DEBRIS, FUEL, EQUIPMENT, OR VEHICLES ARE NOT TO BE STOCKPILED, STORED, DUMPED, OR PARKED WITHIN THE DRIP LINE OF PUBLIC TREES. ALL TREES MUST BE PROTECTED AGAINST INJURY OR DAMAGE TO BRANCHES, TRUNKS, OR ROOTS FROM CONSTRUCTION AND EXCAVATION, AS DESCRIBED IN THE "BEST MANAGEMENT PRACTICES MANAGING TREES DURING CONSTRUCTION" A COMPANION PUBLICATION TO ANSI A300 PART 5. IF THERE IS A QUESTION WHETHER A TREE OR NOT NEEDS TO BE PROTECTED, THE CONTRACTOR MUST CONTACT THE CITY FORESTRY SECTION AT (614) 724-1276. FAILURE TO CONTACT THE CITY FORESTRY REPRESENTATIVE IN ADVANCE OF CONSTRUCTION WILL RESULT IN THE CONTRACTOR REIMBURSING CITY FORESTRY FOR THE COST OF ANY AND ALL DAMAGE AS DETERMINED BY THE CURRENT ANSI A300/CITY OF COLUMBUS EXECUTIVE ORDER 2015-01 FOR TREE PROTECTION AND REPLACEMENT.

THIS NOTE APPLIES TO THE FOLLOWING ROUTES AND STATION RANGES WITHIN THE LIMITS OF THE CITY OF COLUMBUS.
 SR 161 - STA. 2054+95.85 TO STA. 2273+54.36
 CDW - STA. 156+26.08 TO STA. 198+50.98
 CDE - STA. 253+64.88 TO STA. 285+36.84

PAYMENT FOR THIS WORK WILL BE COVERED UNDER THE FOLLOWING PAY ITEM.
 ITEM 203 - ROADWAY, MISC: COLUMBUS TREE PROTECTION NOTE - LUMP SUM

ITEM 203 ROADWAY MISC. - COLUMBUS PAVEMENT, SAWING, AND EXCAVATION NOTE

CONTRACTORS PERFORMING PAVEMENT-CUTTING OPERATIONS ON CITY OF COLUMBUS STREETS AND ROADWAYS SHALL PROTECT THE ENVIRONMENT FROM DISCHARGES INTO THE CITY OF COLUMBUS SEWER SYSTEM, CURB INLETS, AND ANY PART OF ITS MS4 (MUNICIPAL STORM SEWER SYSTEM).

THE REQUIREMENT INCLUDES BUT IS NOT LIMITED TO WET OR DRY SAW-CUTTING, JACK HAMMERING, EXCAVATION EQUIPMENT USE, ETC. THE CONTRACTOR WORK CREWS SHALL RECOVER AND DISPOSE OF DETRITUS, POLLUTED WATERS, OR OTHER SUCH DISCHARGES RESULTING FROM THEIR PAVEMENT CUTTING OPERATIONS AND PROTECT ALL STORM SEWER INLETS FROM RECEIVING ANY DISCHARGES FROM THE CONSTRUCTION OPERATIONS. THE CONTRACTOR RESPONSIBLE FOR EACH PAVEMENT CUTTING ACTIVITY SHALL BE SOLELY LIABLE FOR NOTICE OF VIOLATIONS (NOV/S) AND FINES ISSUED BY THE CITY OF COLUMBUS AND/OR STATE OF OHIO AUTHORITIES.

EQUIPMENT, MATERIALS AND METHODS SHALL BE PROVIDED BY THE CONTRACTOR TO WORK CREWS PERFORMING THE PAVEMENT CUTTING ACTIVITY AND MADE AVAILABLE TO WORK CREWS FOR USE IN CLEANING UP DISCHARGES RESULTING FROM SUCH CUTTING ACTIVITIES AND PREVENTING RUNOFF. ALL WORK CREWS SHALL BE TRAINED TO EXERCISE AND EMPLOY EQUIPMENT, MATERIALS, AND ENVIRONMENTAL PROTECTIVE MEASURES TO PREVENT POLLUTED DISCHARGES FROM ENTERING THE CITY OF COLUMBUS STORM SEWER SYSTEM AND WATERS OF THE STATE OF OHIO.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE INLET PROTECTION IS ADEQUATE. THE MOST STRINGENT PROJECT PLANS, NOTES, AND/OR DRAWINGS INCLUDING STORMWATER POLLUTION PREVENTION PLAN (SWP3) OR SPILL PREVENTION/PROTECTION PLAN SHALL APPLY TO ALL PAVEMENT CUTTING, SAWING OR EXCAVATION OPERATIONS.

THIS NOTE APPLIES TO THE FOLLOWING ROUTES AND STATION RANGES WITHIN THE LIMITS OF THE CITY OF COLUMBUS.
 SR 161 - STA. 2054+95.85 TO STA. 2273+54.36
 CDW - STA. 156+26.08 TO STA. 198+50.98
 CDE - STA. 253+64.88 TO STA. 285+36.84

PAYMENT FOR THIS WORK WILL BE COVERED UNDER THE FOLLOWING PAY ITEM.
 ITEM 203 - ROADWAY, MISC: COLUMBUS PAVEMENT, SAWING, AND EXCAVATION NOTE - LUMP SUM

DESIGN AGENCY



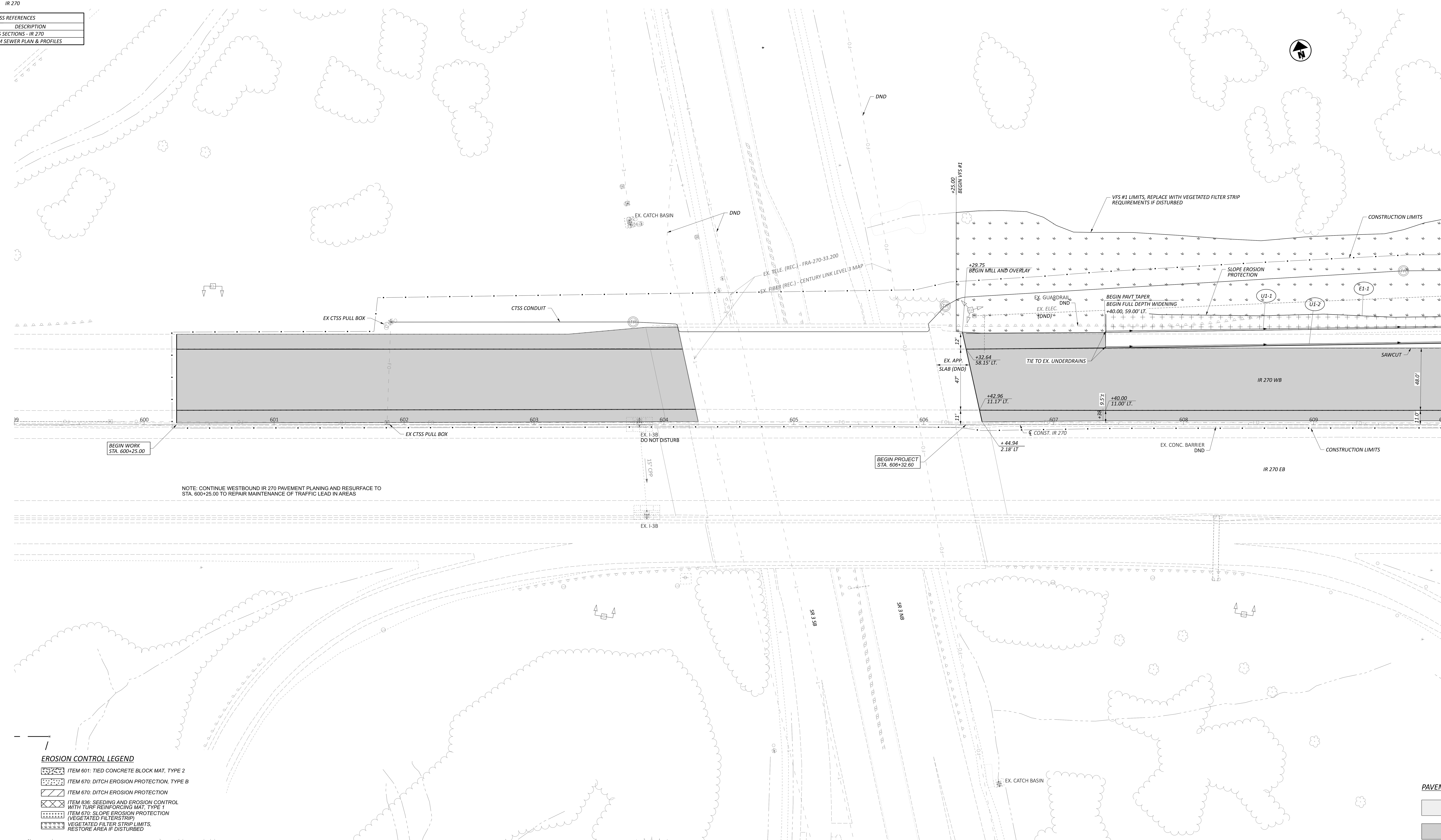
DESIGNER
CLW

REVIEWER
MJL STAGE 3

PROJECT ID
116322

SHEET TOTAL
60 | 741

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



NOTE: CONTINUE WESTBOUND IR 270 PAVEMENT PLANING AND RESURFACE TO STA. 600+25.00 TO REPAIR MAINTENANCE OF TRAFFIC LEAD IN AREAS

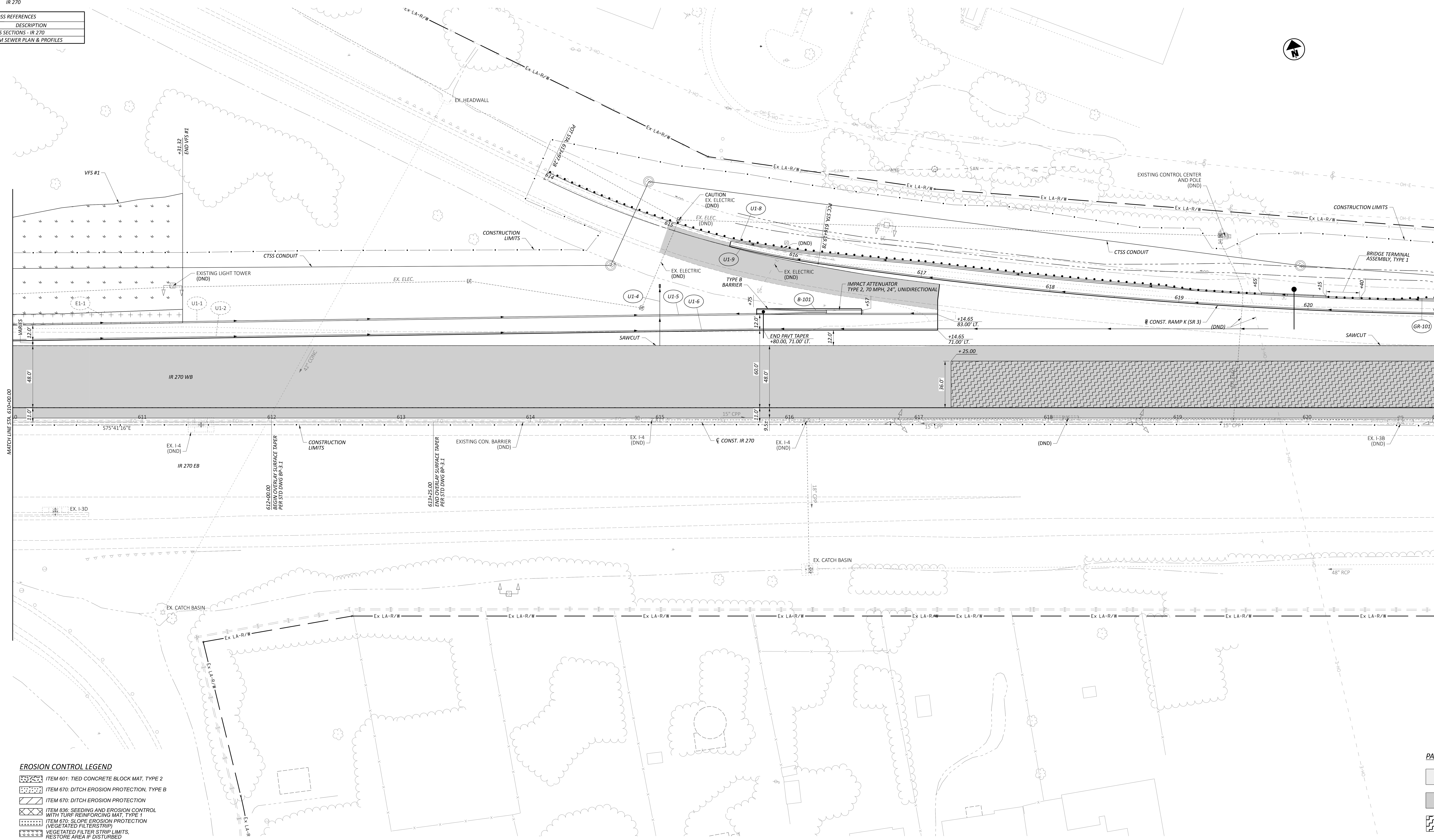
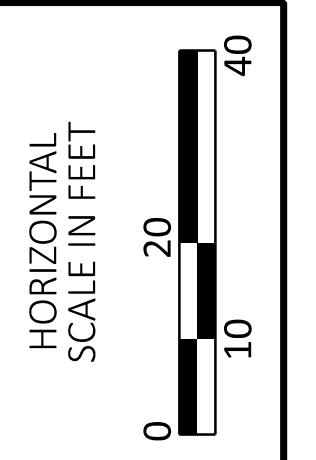
EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION, TYPE 1
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
- VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTERSTRIP)
- VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY
- LONGITUDINAL DIAMOND GROOVING

PLAN - IR 270
STA. 610+00.00 TO STA. 621+00.00

DESIGN AGENCY
WSP
WSP USA, Inc.
2 Memphis Pl.
Suite 400
Columbus, OH 43215

DESIGNER
ABS

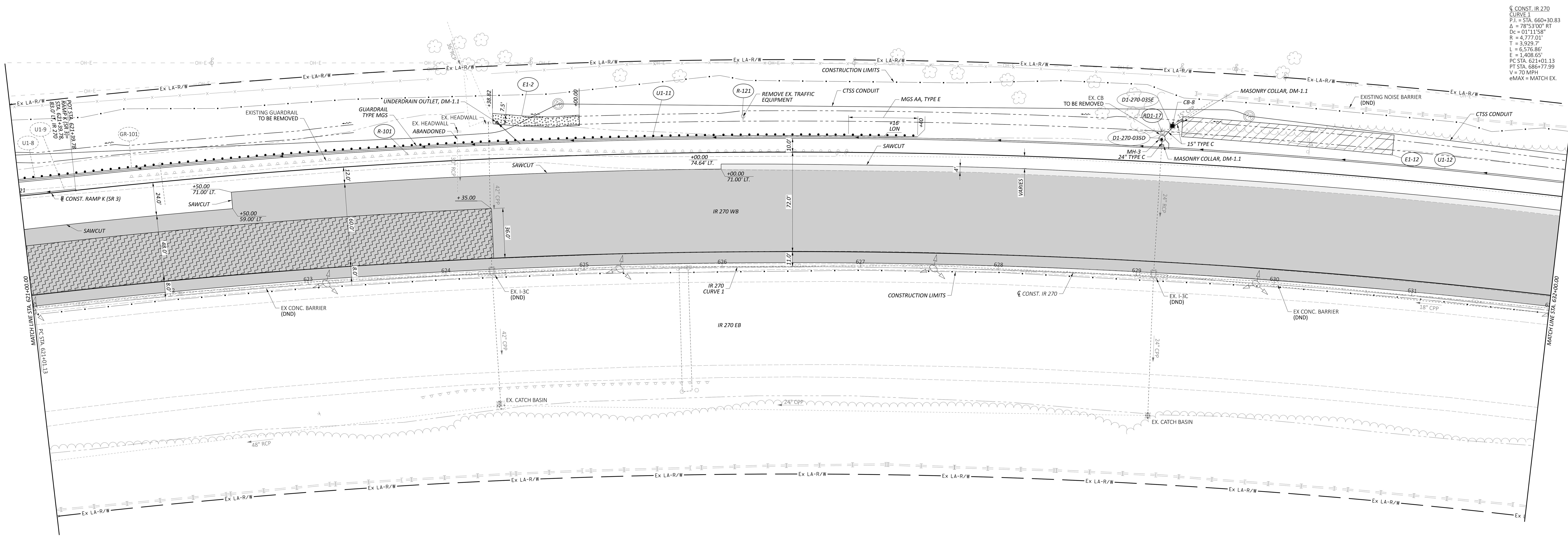
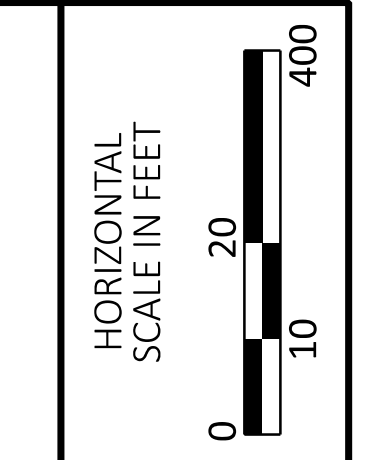
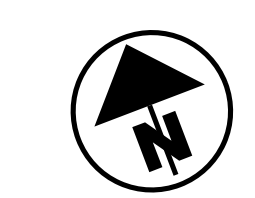
REVIEWER
DFP 02/10/23

PROJECT ID
116332

SHEET TOTAL
183 / 846

FRA-161-15-80
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CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



§ CONST. IR 270
 CURVE 1
 P.I. = STA. 660+30.83
 Δ = 78°53'00\"/>

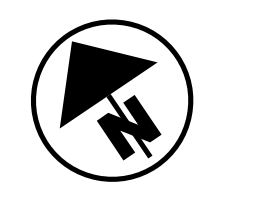
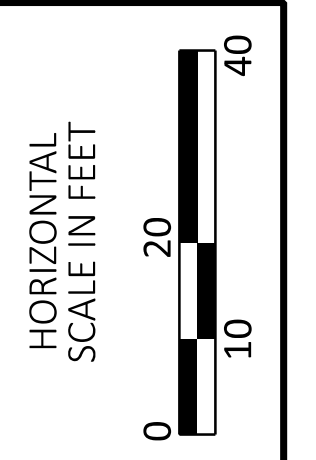
EROSION CONTROL LEGEND

	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
	ITEM 870: SLOPE EROSION PROTECTION (VEGETATED FILTERSTRIP)
	VEGETATED FILTER STRIP LIMITS. RESTORE AREA IF DISTURBED.

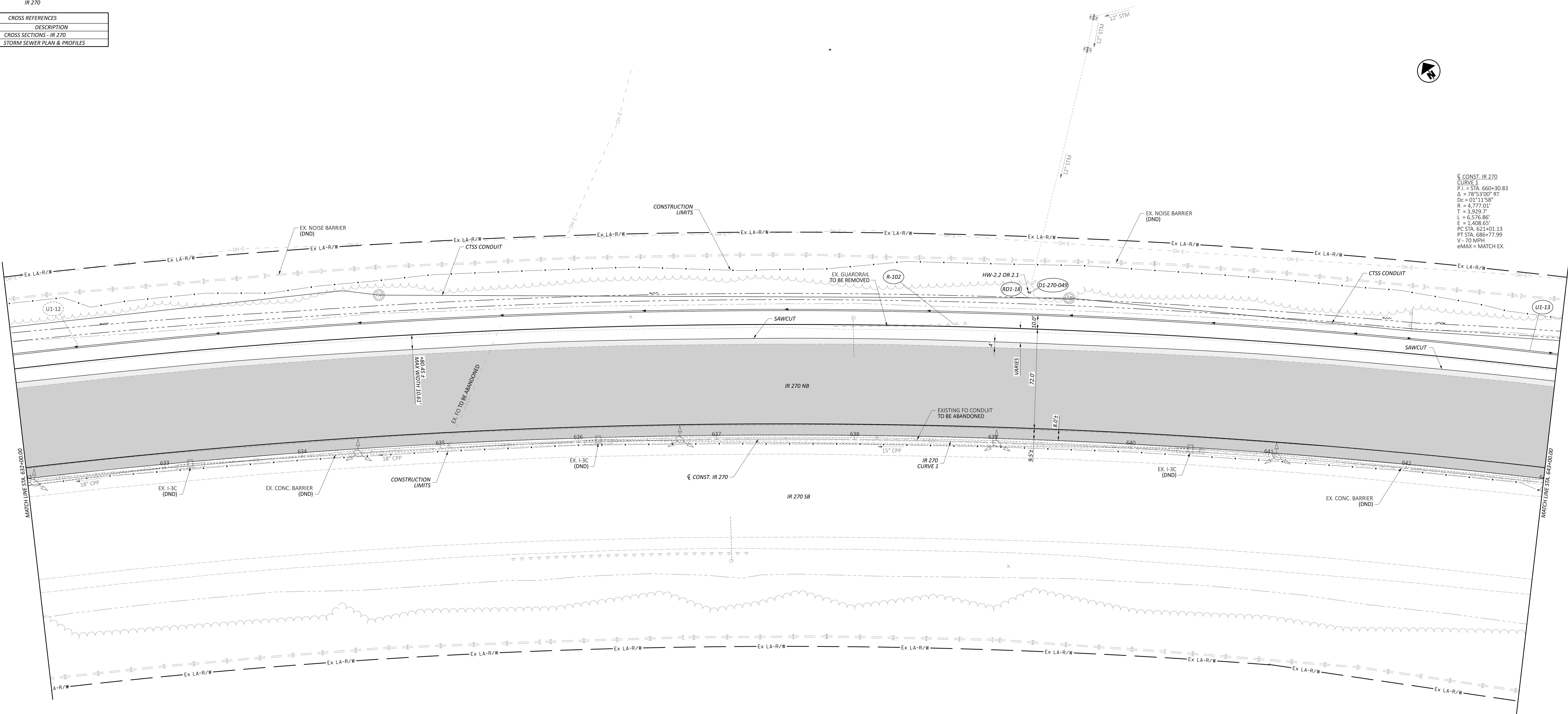
PAVEMENT LEGEND

	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY
	LONGITUDINAL DIAMOND GROOVING

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



C CONST. IR 270
 CURVE 1
 P.I. = STA. 660+30.83
 $\Delta = 78^{\circ}53'00''$ RT
 $D_c = 01111'58''$
 $R = 4,777.01'$
 $T = 3,929.7'$
 $L = 6,576.86'$
 $E = 1,408.65'$
 PC STA. 621+01.13
 PT STA. 686+77.99
 $V = 70$ MPH
 $e_{MAX} = \text{MATCH EX.}$



EROSION CONTROL LEGEND

	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION, TYPE A
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2
	ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTERSTRIP)
	VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

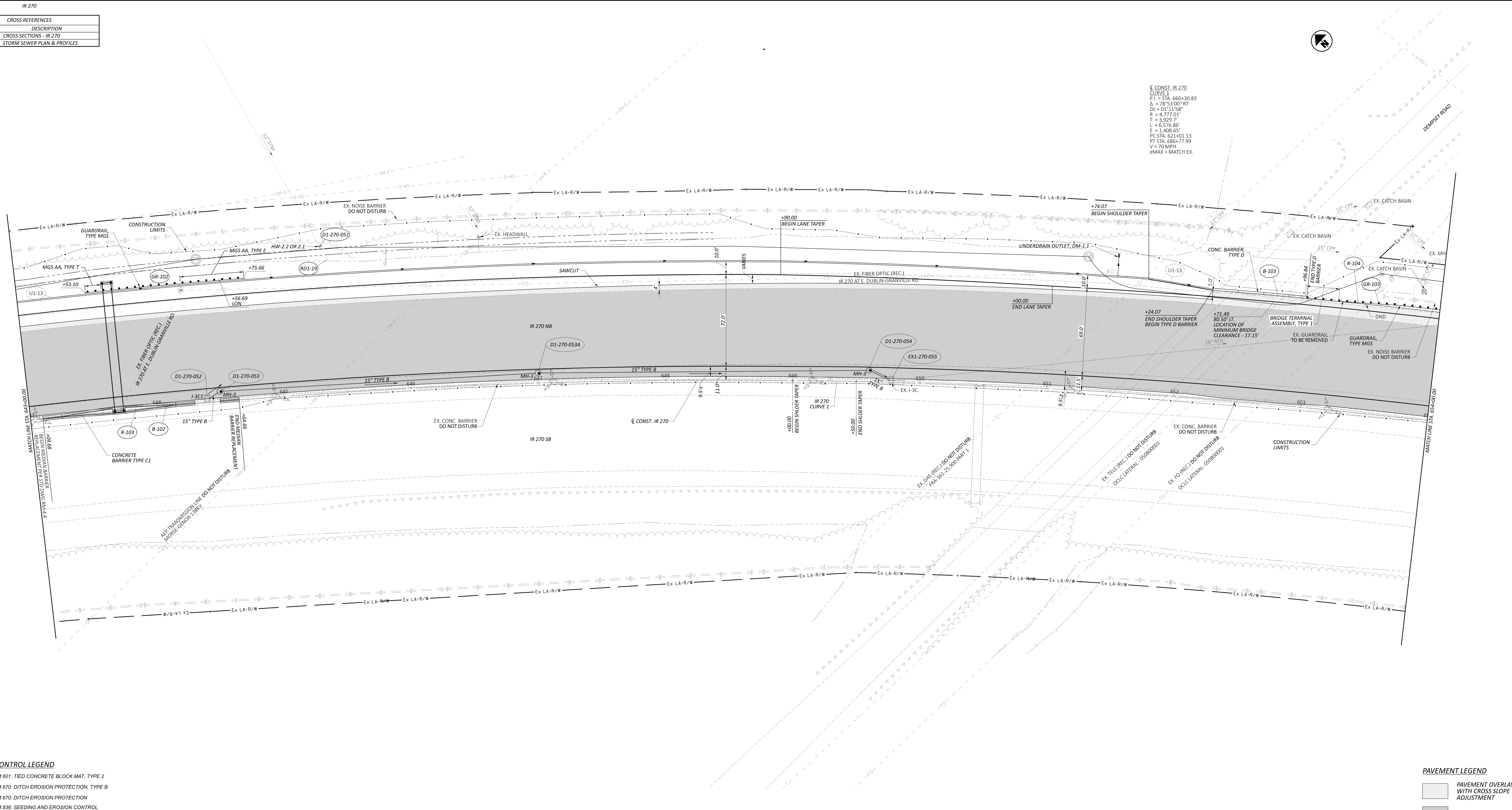
	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY

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 TIME: 7:29:36 PM
 USER: C:\Users\...

PLAN - IR 270
 STA. 632+00.00 TO STA. 643+00.00

DESIGN AGENCY
WSP
 WSP USA, Inc.
 2 Meritway Pl.
 Suite 400
 Columbus, OH 43215
 DESIGNER: ABS
 REVIEWER: DFP
 PROJECT ID: 116322
 SHEET TOTAL: 185 / 846

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



C CONST. IR 270
 CURVE 1
 P.I. = STA. 660+30.83
 Δ = 78°53'00" RT
 Dc = 01'11" 58"
 R = 4,777.01'
 T = 3,929.7'
 L = 6,576.86'
 E = 1,408.65'
 PC STA. 621+01.13
 PT STA. 686+17.99
 V = 70 MPH
 eMAX = MATCH EX.

EROSION CONTROL LEGEND

[Symbol]	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
[Symbol]	ITEM 670: DITCH EROSION PROTECTION, TYPE B
[Symbol]	ITEM 670: DITCH EROSION PROTECTION
[Symbol]	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF-REINFORCING MAT, TYPE 1
[Symbol]	ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
[Symbol]	VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

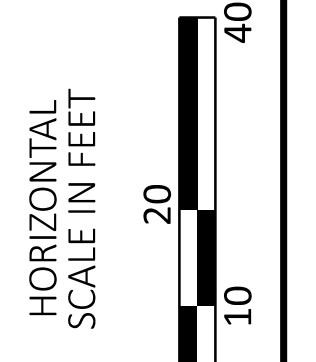
PAVEMENT LEGEND

[Symbol]	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
[Symbol]	PAVEMENT OVERLAY

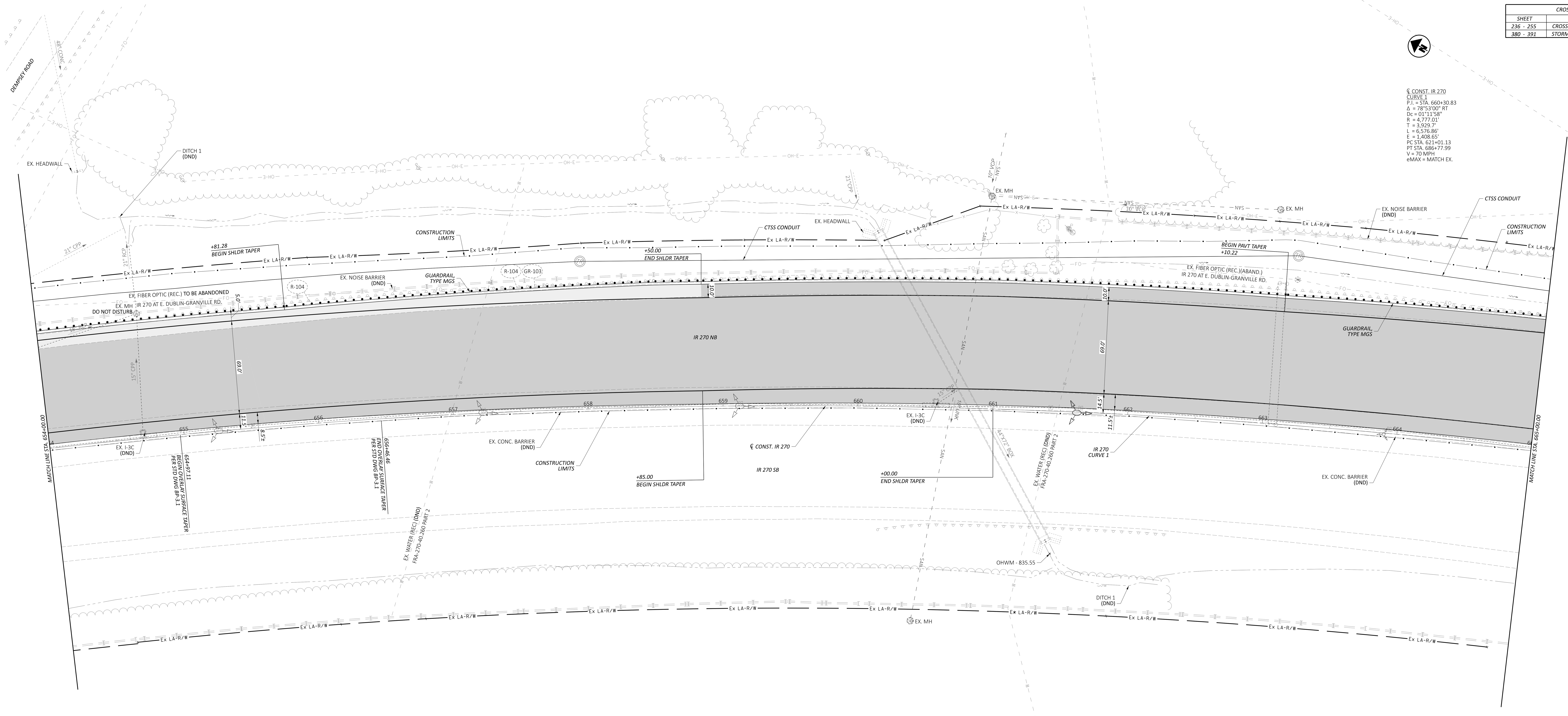
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PLAN - IR 270
 STA. 643+00.00 TO STA. 654+00.00

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



§ CONST. IR 270
 CURVE 1
 P.I. = STA. 660+30.83
 $\Delta = 78^{\circ}53'00''$ RT
 $D_c = 0111158'$
 $R = 4,777.01'$
 $T = 3,939.7'$
 $L = 6,576.86'$
 $E = 1,408.65'$
 PC STA. 621+01.13
 PT STA. 686+77.99
 $V = 70$ MPH
 $e_{MAX} = MATCH EX.$



EROSION CONTROL LEGEND

	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
	ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTERSTRIP)
	VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY

FRA-161-15-80
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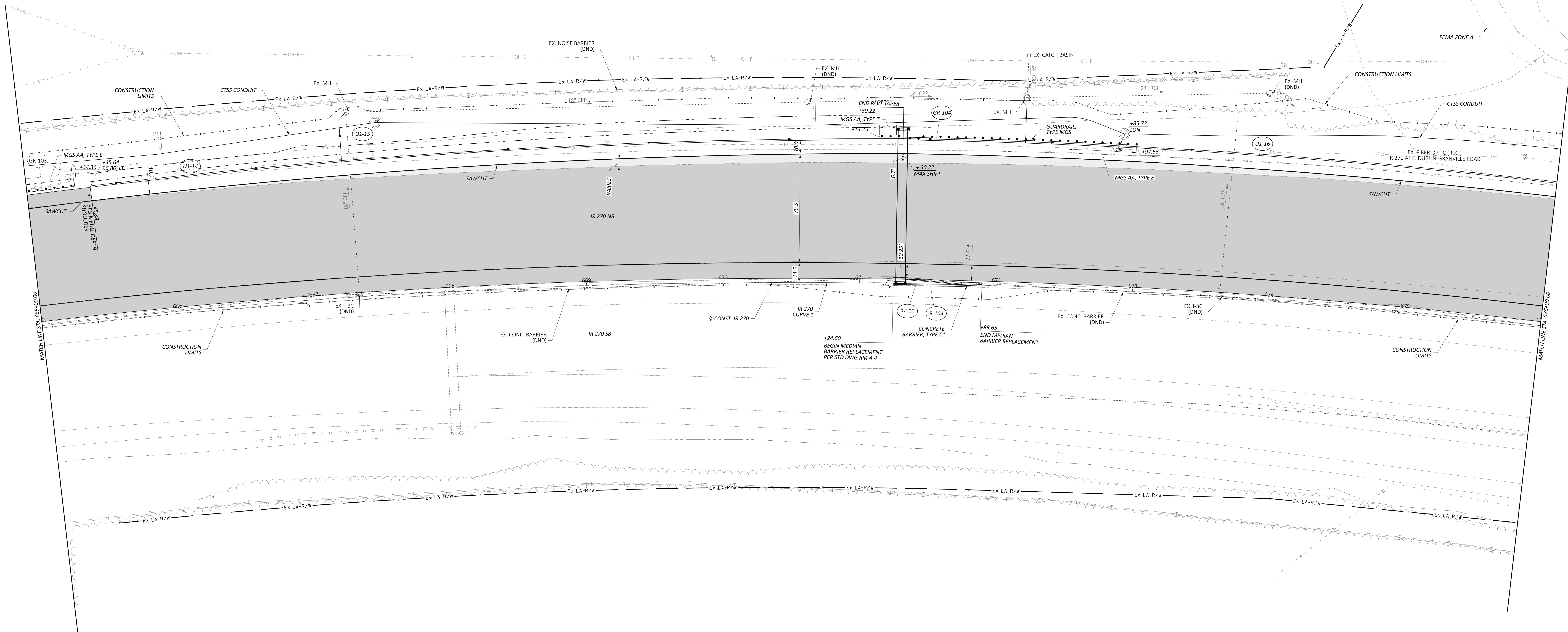
PLAN - IR 270
 STA. 654+00.00 TO STA. 665+00.00

DESIGN AGENCY

 WSP USA, Inc.
 2 Memphis Pl.
 Suite 400
 Columbus, OH 43215
 DESIGNER
 ABS
 REVIEWER
 DFP 02/10/23
 PROJECT ID
 116322
 SHEET TOTAL
 187 846

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES

C CONST. IR 270
 CURVE 1
 P.I. = STA. 660+30.83
 $\Delta = 78^{\circ}53'00''$ RT
 $D_c = 01^{\circ}11'58''$
 $R = 4,777.01'$
 $T = 3,929.7'$
 $L = 6,576.86'$
 $E = 1,408.65'$
 PC STA. 621+01.13
 PT STA. 686+77.99
 $V = 70$ MPH
 eMAX = MATCH EX.



EROSION CONTROL LEGEND

[Symbol]	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
[Symbol]	ITEM 670: DITCH EROSION PROTECTION, TYPE B
[Symbol]	ITEM 670: DITCH EROSION PROTECTION
[Symbol]	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
[Symbol]	ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
[Symbol]	VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

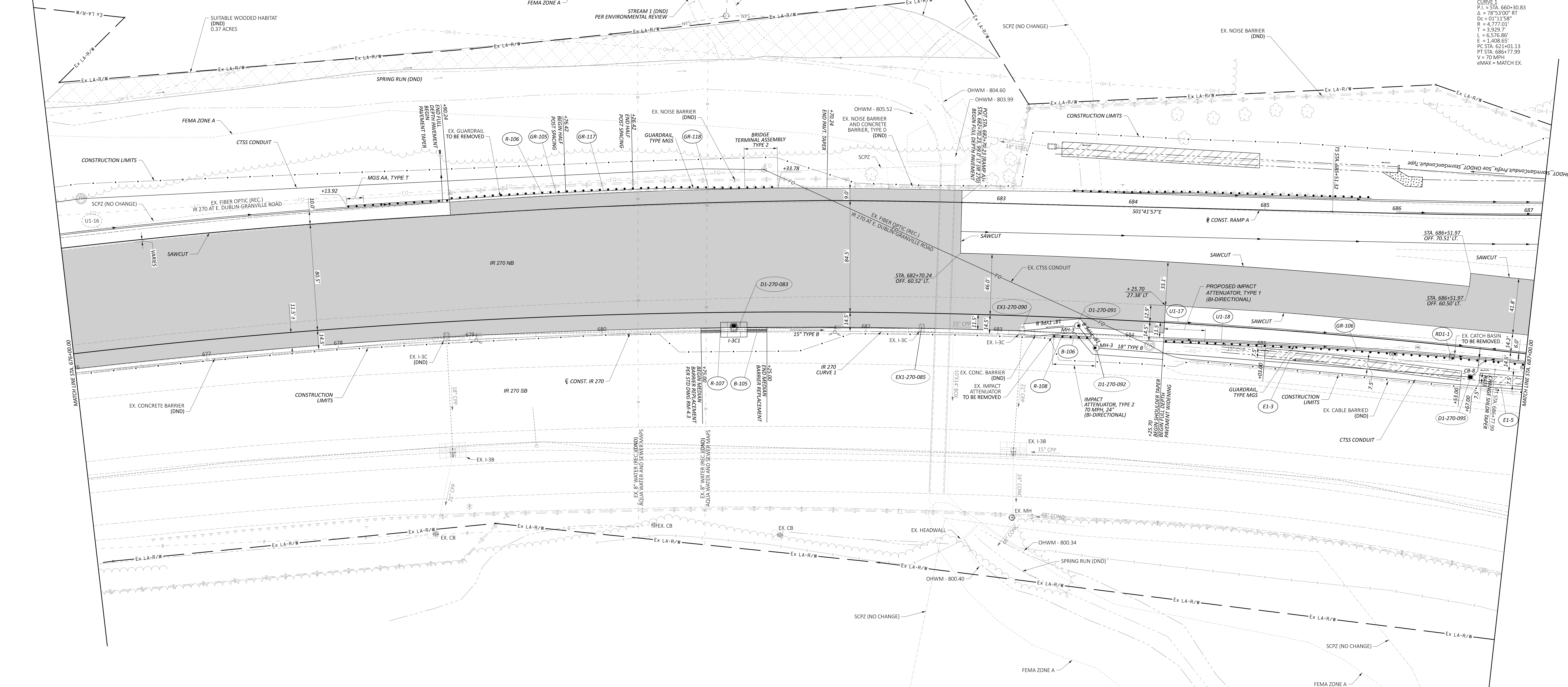
PAVEMENT LEGEND

[Symbol]	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
[Symbol]	PAVEMENT OVERLAY

DESIGN AGENCY: **WSP**
 WSP USA, Inc.
 2 Meritway Pl.
 Suite 400
 Columbus, OH 43215
 DESIGNER: ABS
 REVIEWER: DFP 02/10/23
 PROJECT ID: 116332
 SHEET TOTAL: 188 / 846
 PLAN - IR 270
 STA. 665+00.00 TO STA. 676+00.00

FFA-161-15-80
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CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



C CONST. IR 270
 CURVE 1
 P.I. = STA. 660+30.83
 A = 78°53'00" RT
 Dc = 011'11.93"
 R = 4,777.01'
 T = 3,929.7'
 L = 6,576.86'
 E = 1,408.65'
 PC STA. 621+01.13
 PT STA. 686+77.99
 V = 70 MPH
 eMAX = MATCH EX.

EROSION CONTROL LEGEND

	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
	ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
	VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY

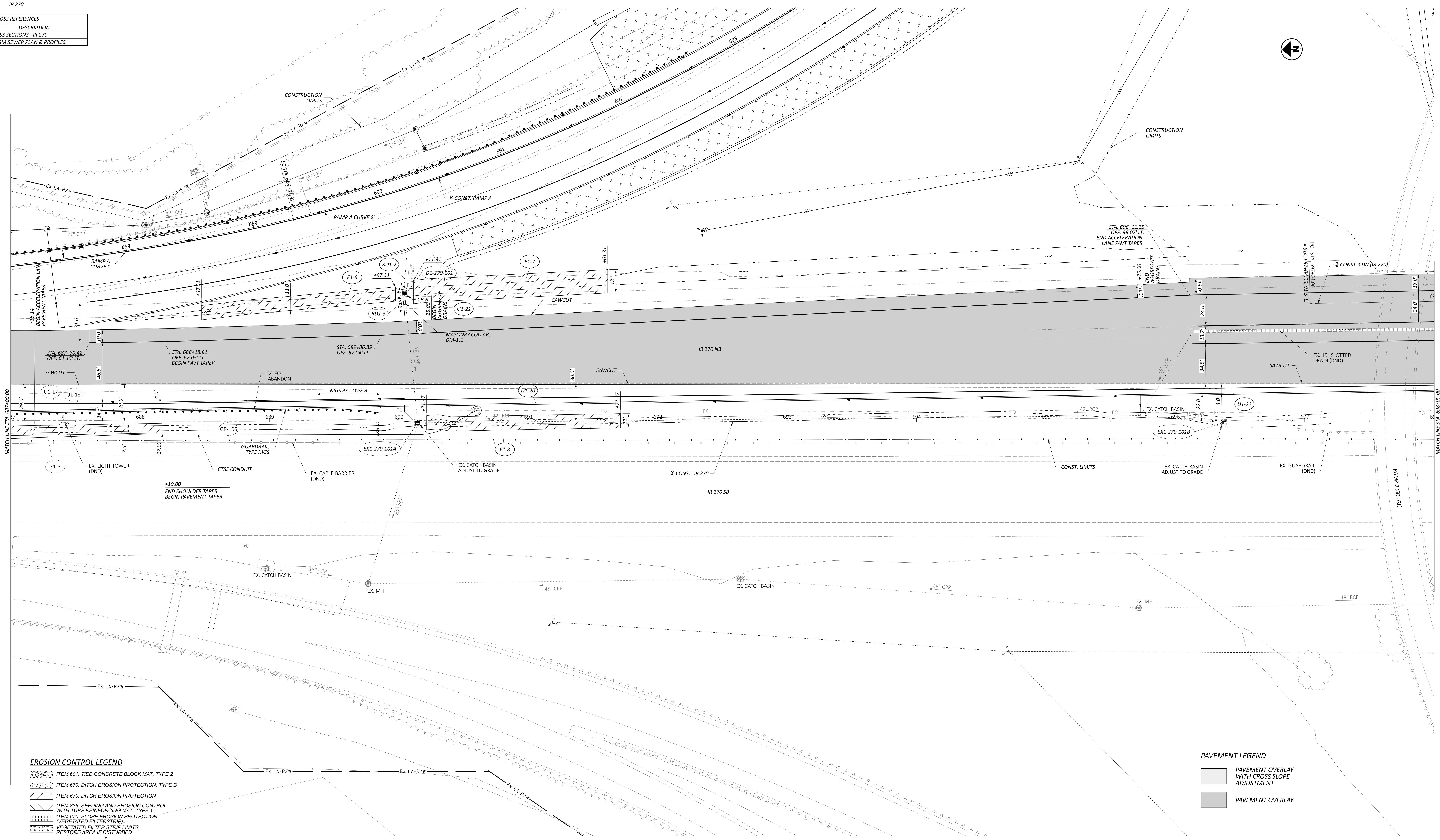
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DESIGN AGENCY: WSP
 WSP USA, Inc.
 2100 W. 12th St.
 Columbus, OH 43215

DESIGNER: ABS
 REVIEWER: DFP
 PROJECT ID: 116332
 SHEET TOTAL: 189 / 844

PLAN - IR 270
 STA. 676+00.00 TO STA. 687+00.00

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



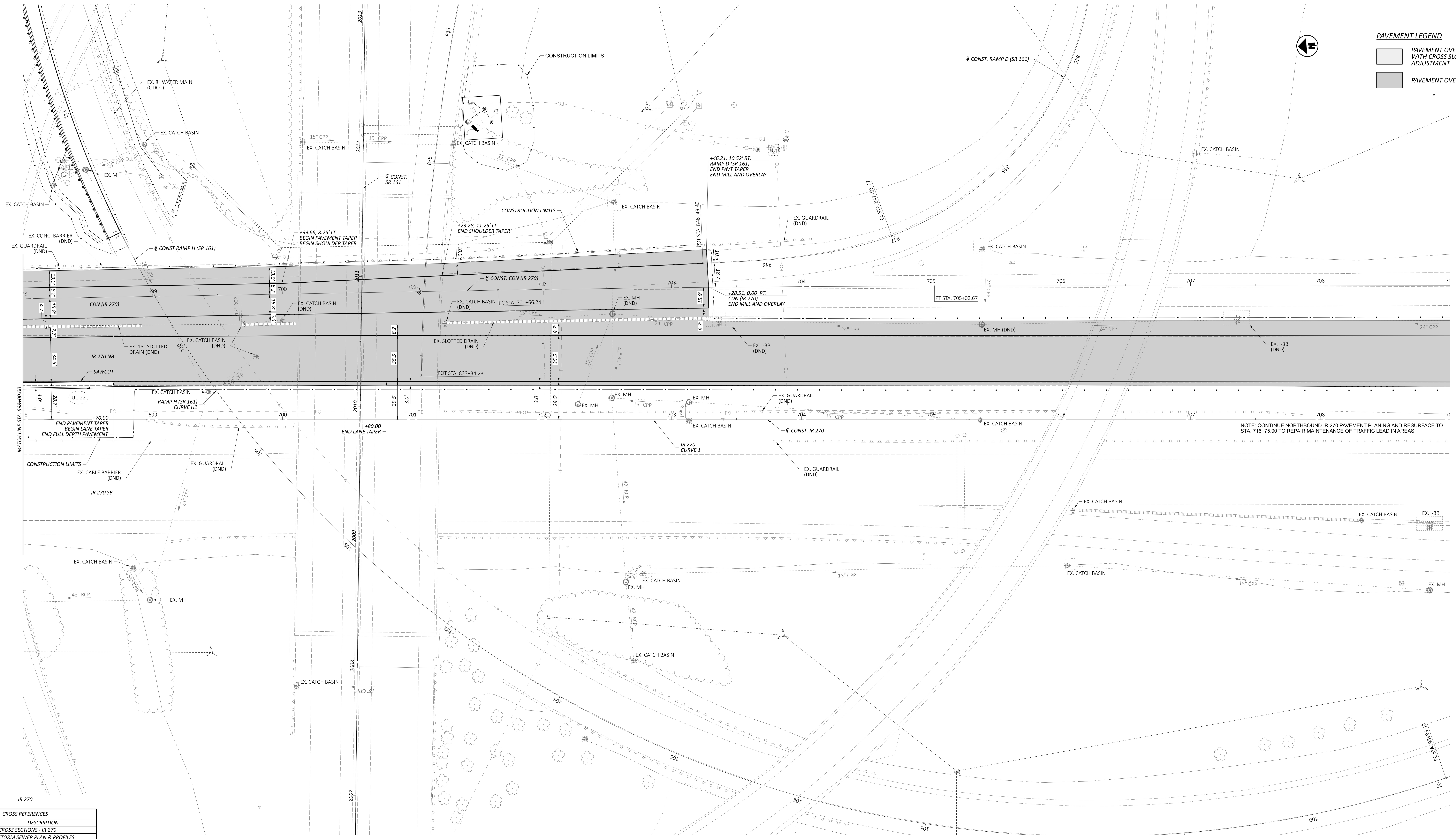
EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
- VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS-SLOPE ADJUSTMENT
- PAVEMENT OVERLAY

CROSS REFERENCES	
SHEET	DESCRIPTION
236 - 255	CROSS SECTIONS - IR 270
380 - 391	STORM SEWER PLAN & PROFILES



PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY

DESIGN AGENCY: **WSP**
 WSP USA, Inc.
 21 Memphis Pl.
 Suite 400
 Columbus, OH 43215

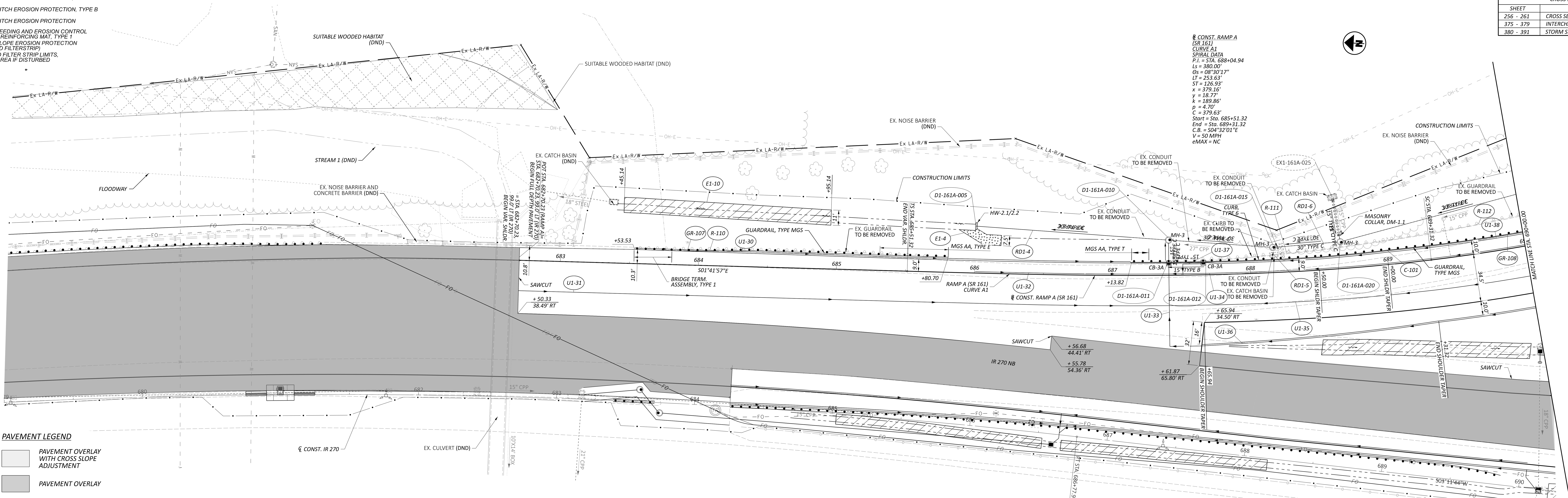
DESIGNER: ABS
 REVIEWER: DFP
 PROJECT ID: 116322
 SHEET TOTAL: 191 / 846

NOTE: CONTINUE NORTHBOUND IR 270 PAVEMENT PLANING AND RESURFACE TO STA. 716+75.00 TO REPAIR MAINTENANCE OF TRAFFIC LEAD IN AREAS

EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
- VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

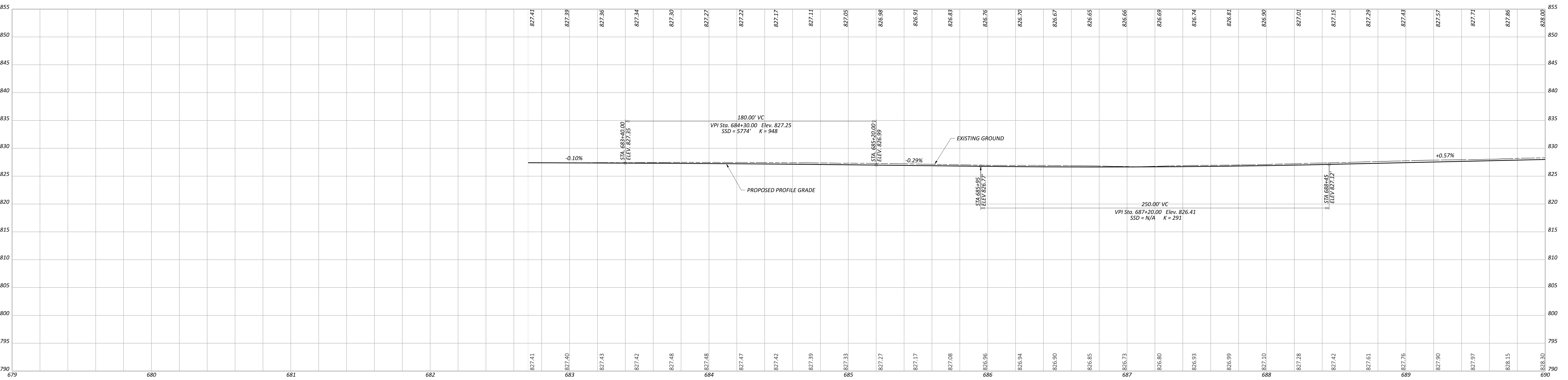
CROSS REFERENCES	
SHEET	DESCRIPTION
256 - 261	CROSS SECTIONS - RAMP A
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



CONST. RAMP A (SR 161)
 CURVE A1
 SPIRAL DATA
 P.I. = STA. 688+04.94
 Ls = 380.00
 Gs = 08°30'17"
 LT = 253.63
 ST = 126.93'
 x = 379.16'
 y = 18.77'
 k = 189.86'
 p = 4.70'
 C = 379.63'
 Start = Sta. 685+51.32
 End = Sta. 689+31.32
 C.B. = S04°32'01"E
 V = 50 MPH
 eMAX = NC

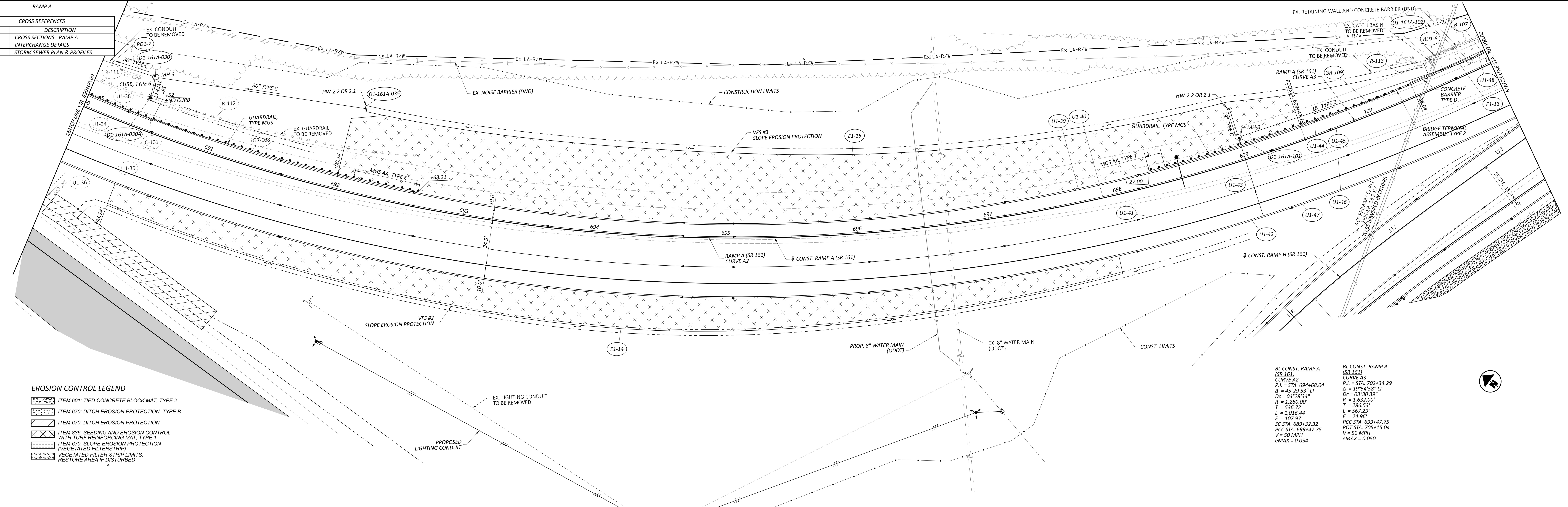
PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



FR-161-15-80
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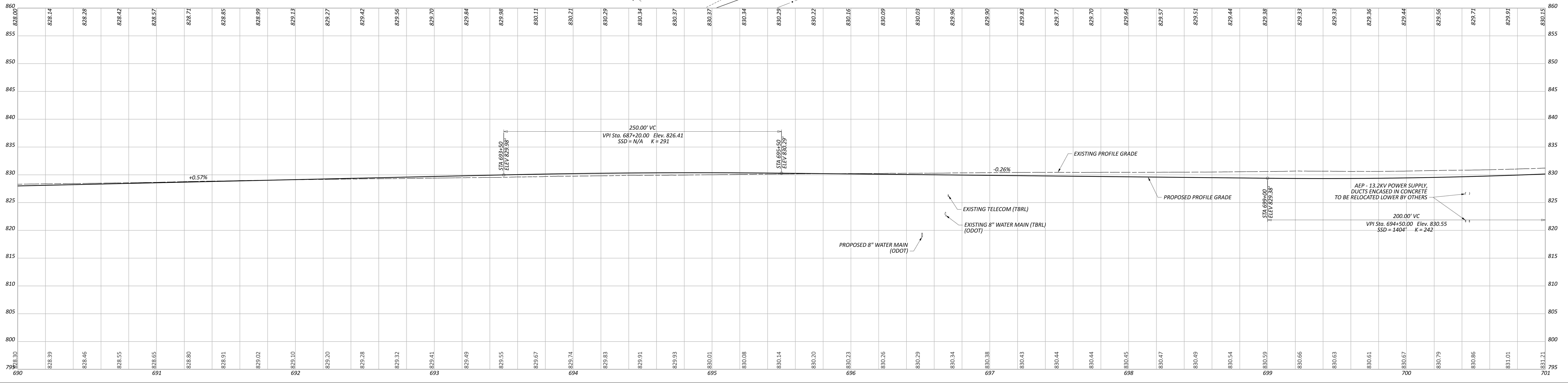
CROSS REFERENCES	
SHEET	DESCRIPTION
256 - 261	CROSS SECTIONS - RAMP A
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
- VEGETATED FILTER STRIP LIMITS. RESTORE AREA IF DISTURBED

<p>BL CONST. RAMP A (SR 161) CURVE A2 P.I. = STA. 694+68.04 $\Delta = 45^{\circ}29'53''$ LT $Dc = 04^{\circ}28'34''$ $R = 1,280.00'$ $T = 536.72'$ $L = 1,016.44'$ $E = 107.97'$ SC STA. 689+32.32 PCC STA. 699+47.75 $V = 50$ MPH $eMAX = 0.054$</p>	<p>BL CONST. RAMP A (SR 161) CURVE A3 P.I. = STA. 702+34.29 $\Delta = 19^{\circ}54'58''$ LT $Dc = 03^{\circ}30'39''$ $R = 1,632.00'$ $T = 286.53'$ $L = 567.29'$ $E = 24.96'$ POT STA. 705+15.04 $V = 50$ MPH $eMAX = 0.050$</p>
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FRA-161-15-80
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PLAN AND PROFILE - RAMP A (SR 161)
 STA. 690+00.00 TO STA. 701+00.00

DESIGN AGENCY

 WSP USA, Inc.
 2750 W. Main St.
 Columbus, OH 43215

DESIGNER
 ABS

REVIEWER
 DFP 02/10/23

PROJECT ID
 116322

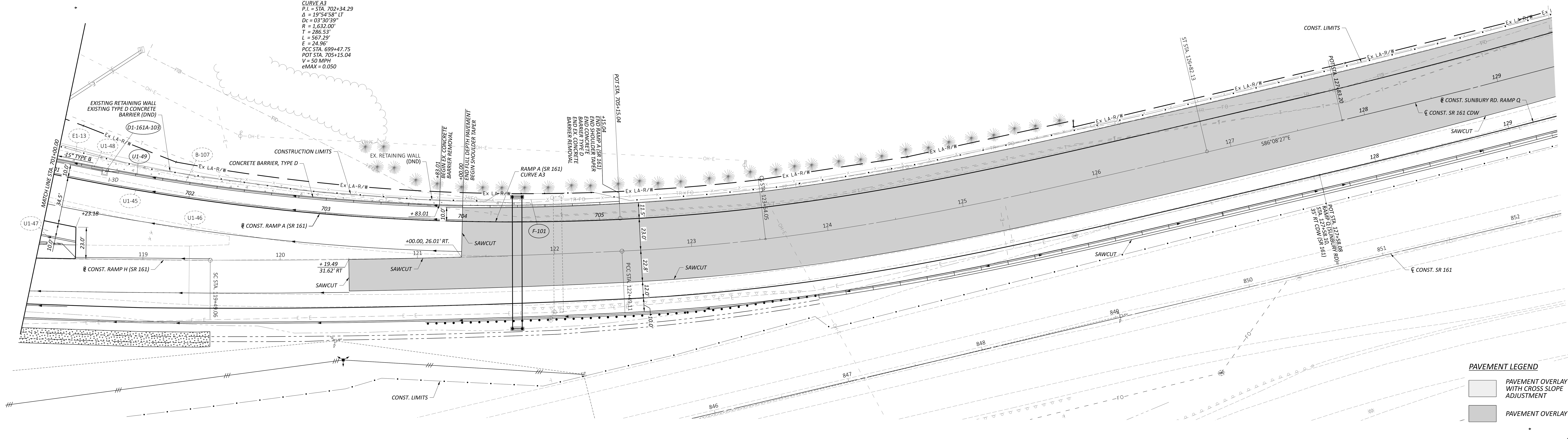
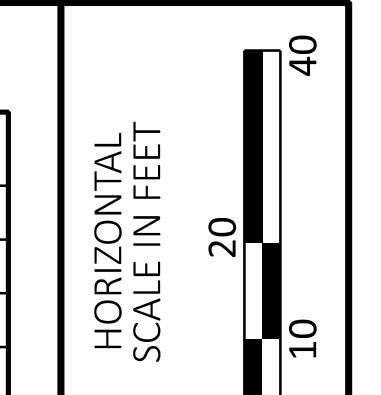
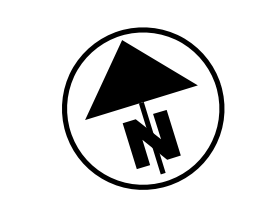
SHEET TOTAL
 193 / 844

EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTERSTRIP)
- VEGETATED FILTER STRIP LIMITS. RESTORE AREA IF DISTURBED

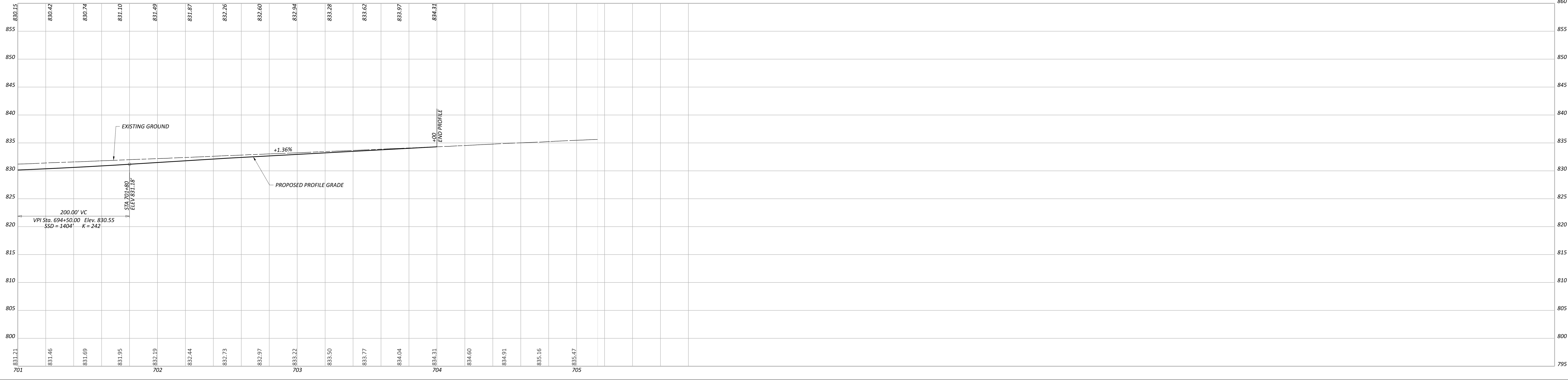
BL CONST. RAMP A (SR 161)
 CURVE A3
 P.I. = STA. 702+34.29
 $\Delta = 19^{\circ}54'58''$ LT
 $D_c = 03^{\circ}30'39''$
 $R = 1,632.00'$
 $T = 286.53'$
 $L = 567.29'$
 $E = 24.96'$
 PCC STA. 699+47.75
 POT STA. 705+15.04
 $V = 50$ MPH
 $e_{MAX} = 0.050$

RAMP A	
CROSS REFERENCES	
SHEET	DESCRIPTION
256 - 261	CROSS SECTIONS - RAMP A
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY

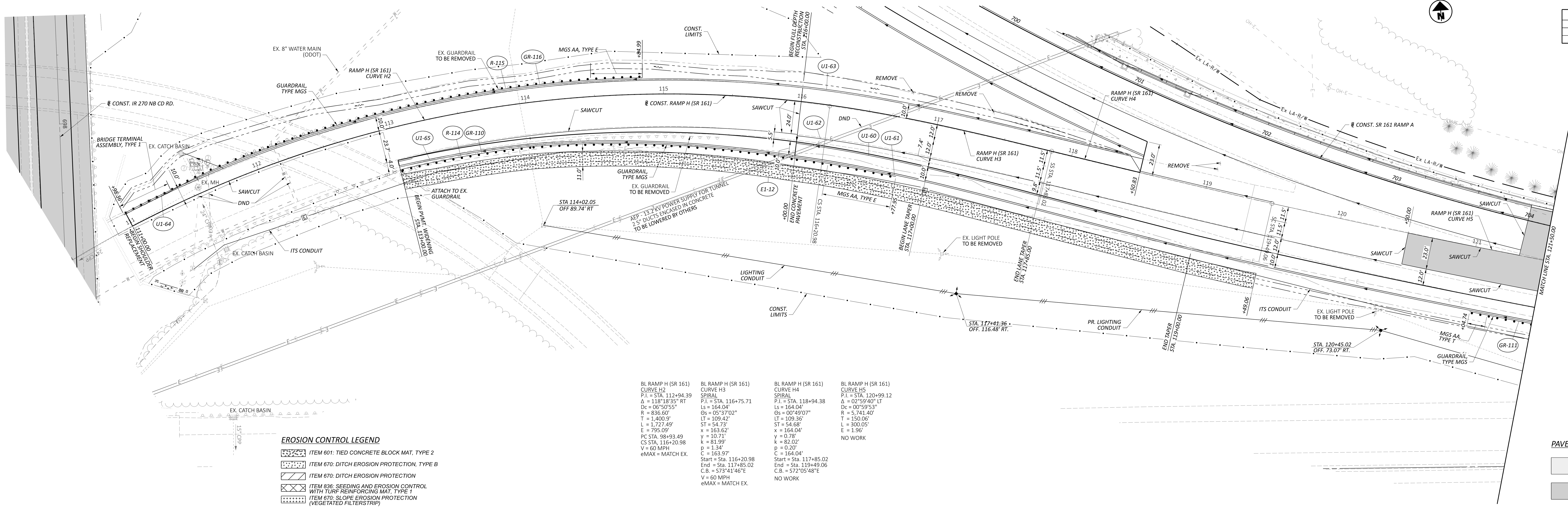
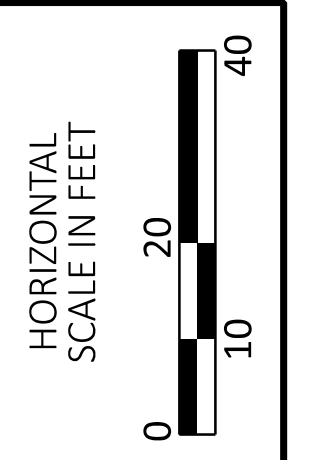


PLAN AND PROFILE - RAMP A (SR 161)
 STA. 701+00.00 TO END WORK

DESIGN AGENCY

 WSP USA, Inc.
 2 Memphis Pl.
 Suite 400
 Columbus, OH 43215
 DESIGNER: ABS
 REVIEWER: DFP 02/10/23
 PROJECT ID: 11632_01
 SHEET TOTAL: 194 / 846

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



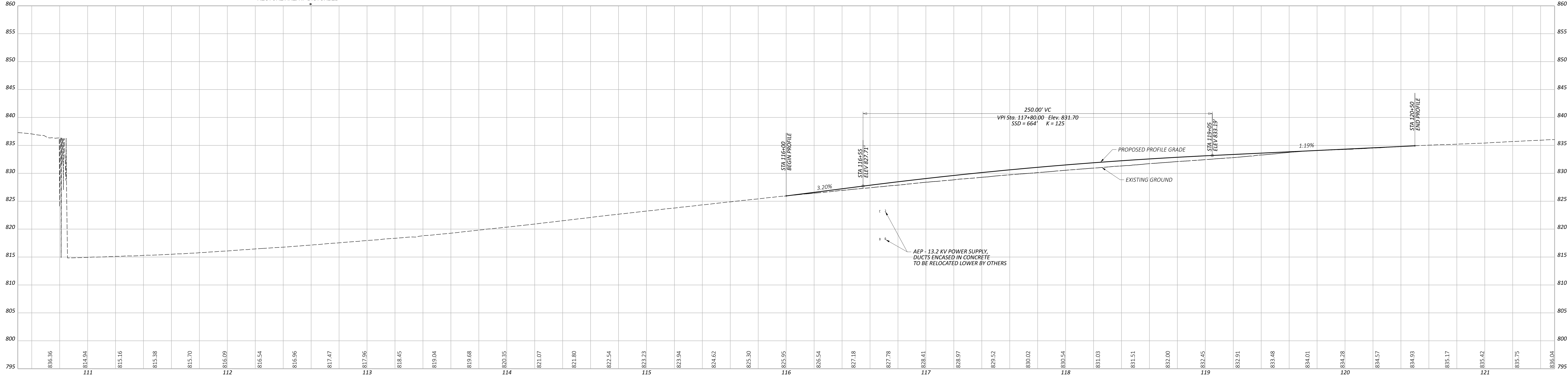
BL RAMP H (SR 161) CURVE H2 P.I. = STA. 112+94.39 $\Delta = 118^{\circ}18'35"$ RT $D_c = 06^{\circ}50'55"$ $R = 836.60'$ $T = 1,400.9'$ $L = 1,727.49'$ $E = 795.09'$ $PC STA. 98+93.49$ $CS STA. 116+20.98$ $V = 60$ MPH $eMAX = MATCH EX.$	BL RAMP H (SR 161) CURVE H3 SPIRAL $P.I. = STA. 116+75.71$ $L_s = 164.04'$ $Q_s = 05^{\circ}3'702"$ $LT = 109.42'$ $ST = 54.73'$ $x = 163.62'$ $y = 10.71'$ $k = 81.99'$ $p = 1.34'$ $C = 163.97'$ $Start = Sta. 116+20.98$ $End = Sta. 117+85.02$ $C.B. = S72^{\circ}05'48"E$ $V = 60$ MPH $eMAX = MATCH EX.$	BL RAMP H (SR 161) CURVE H4 SPIRAL $P.I. = STA. 118+94.38$ $L_s = 164.04'$ $Q_s = 00^{\circ}49'03"$ $LT = 109.36'$ $ST = 54.68'$ $x = 164.04'$ $y = 0.78'$ $k = 82.02'$ $p = 0.20'$ $C = 164.04'$ $Start = Sta. 117+85.02$ $End = Sta. 119+49.06$ $C.B. = S72^{\circ}05'48"E$ NO WORK	BL RAMP H (SR 161) CURVE H5 SPIRAL $P.I. = STA. 120+99.12$ $\Delta = 02^{\circ}59'40"$ LT $D_c = 00^{\circ}59'53"$ $R = 5,741.40'$ $T = 150.06'$ $L = 300.05'$ $E = 1.96'$ NO WORK
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EROSION CONTROL LEGEND

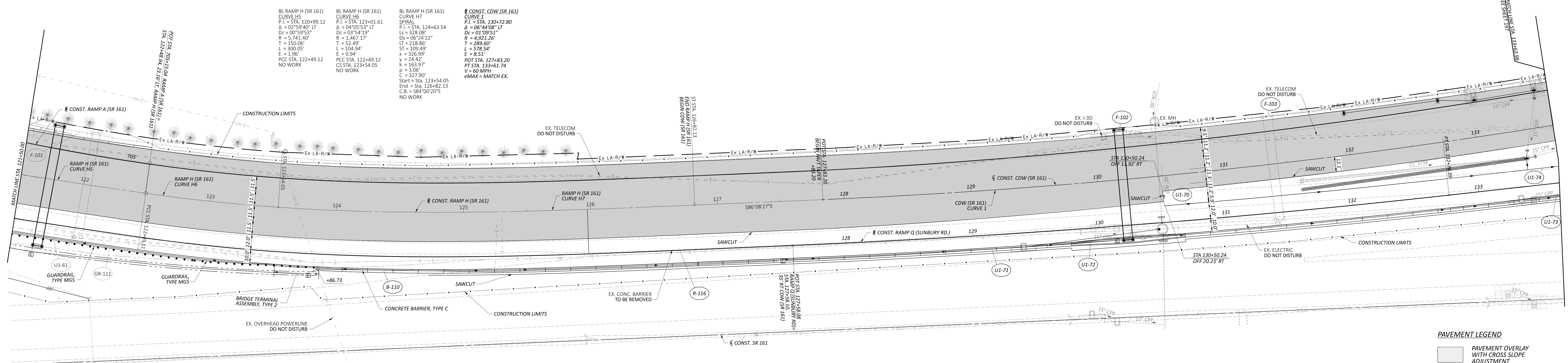
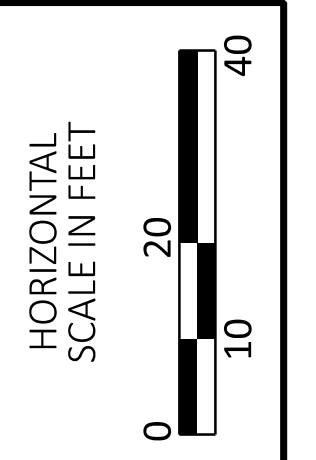
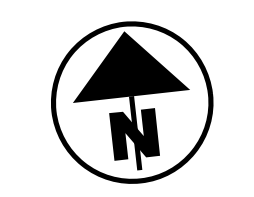
	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
	ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
	VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY



CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



BL RAMP H (SR 161)
CURVE H5
P.I. = STA. 120+99.12
 $\Delta = 02^{\circ}59'40"$ LT
 $Dc = 00^{\circ}59'53"$
 $R = 5,741.40'$
 $T = 150.06'$
 $L = 300.05'$
 $E = 1.96'$
PCC STA. 122+49.12
NO WORK

BL RAMP H (SR 161)
CURVE H6
P.I. = STA. 123+01.61
 $\Delta = 04^{\circ}05'53"$ LT
 $Dc = 03^{\circ}54'19"$
 $R = 1,467.17'$
 $T = 52.49'$
 $L = 104.94'$
 $E = 0.94'$
PCC STA. 122+49.12
CS STA. 123+54.05
NO WORK

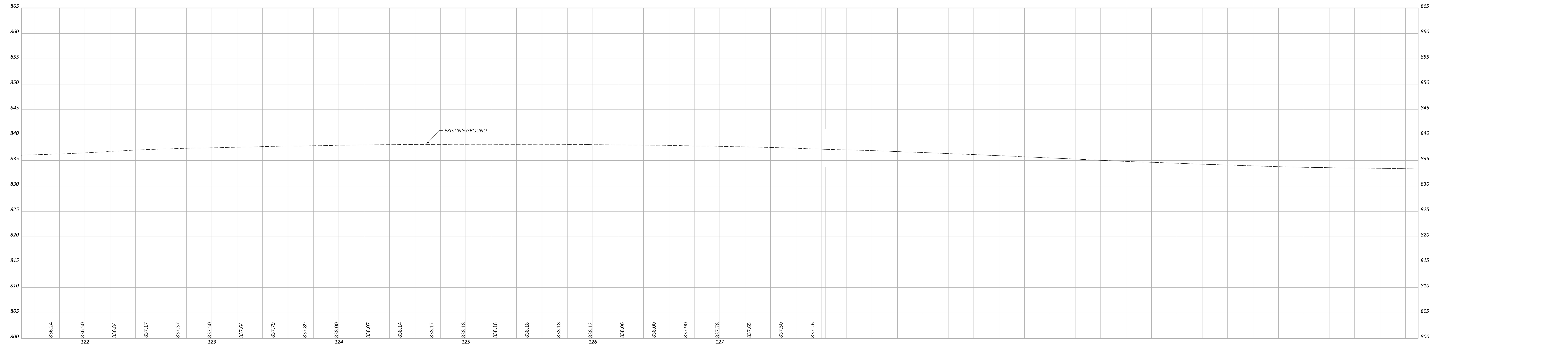
BL RAMP H (SR 161)
CURVE H7
SPIRAL
P.I. = STA. 124+63.54
 $Ls = 328.08'$
 $Os = 06^{\circ}24'22"$
LT = 218.86'
ST = 109.49'
 $x = 326.99'$
 $y = 24.42'$
 $k = 163.97'$
 $p = 3.06'$
 $C = 327.90'$
Start = Sta. 123+54.05
End = Sta. 126+82.13
C.B. = $S84^{\circ}00'20"E$
NO WORK

CONST. CDW (SR 161)
CURVE 1
P.I. = STA. 130+72.80
 $\Delta = 06^{\circ}44'08"$ LT
 $Dc = 01^{\circ}09'51"$
 $R = 4,921.26'$
 $T = 289.60'$
 $L = 578.54'$
 $E = 8.54'$
POT STA. 127+83.20
POT STA. 127+83.20
PT STA. 133+61.74
 $V = 60$ MPH
 $eMAX = MATCH EX.$

PAVEMENT LEGEND

PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT

PAVEMENT OVERLAY



PLAN AND PROFILE - RAMP H (SR 161) & CDW (SR 161)
STA. 121+50.00 TO 133+63.98

FRA-161-15-80
 MODEL: 116322, GP1300, REF SIZE: 66x34, INCH, DATE: 2/6/2023, TIME: 7:24:10 PM, USER: CWALLEN
 src: \\hds01-cv-bentley.com\hds01-cv-02\Documents\01 Active Projects\District 09\Franklin\116322\DOT Engineering - DTP\Review\Sheet\116322_DPT_1502.dgn

DESIGN AGENCY
WSP

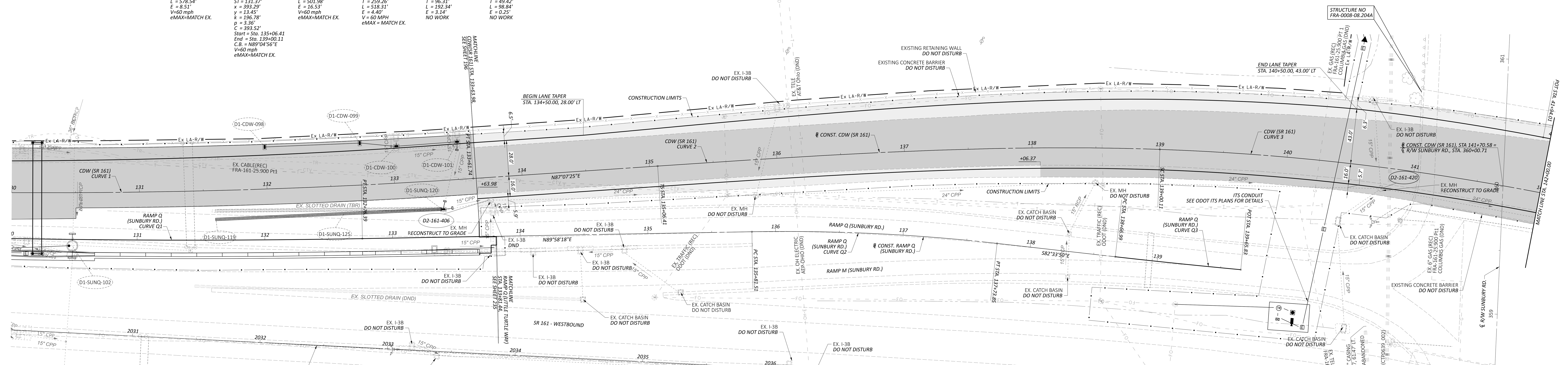
WSP USA, Inc.
2 Merriam Pt.
Suite 400
Columbus, OH 43215

DESIGNER: ABS
REVIEWER: DFP
PROJECT ID: 116322
SHEET TOTAL: 196 / 846

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

CONST. CDW (SR 161)	CONST. CDW (SR 161)	CONST. CDW (SR 161)	CONST. RAMP Q (SUNBURY RD.)	CONST. RAMP Q (SUNBURY RD.)	CONST. RAMP Q (SUNBURY RD.)
CURVE 1 P.I. = STA. 130+72.80 Δ = 05°44'08" LT Dc = 01'09'51" R = 4,921.26' T = 289.60' L = 578.54' E = 8.51' V = 60 mph eMAX = MATCH EX.	CURVE 2 P.I. = STA. 137+69.03 Δ = 05°52'35" Dc = 01'09'51" R = 4,921.26' T = 289.60' L = 578.54' E = 8.51' V = 60 mph eMAX = MATCH EX.	CURVE 3 P.I. = STA. 141+52.55 Δ = 14°59'08" RT Dc = 02°59'07" R = 1,919.29' T = 252.43' L = 501.98' E = 16.53' V = 60 mph eMAX = MATCH EX.	CURVE Q1 P.I. = STA. 130+17.34 Δ = 03°53'15" LT Dc = 00°45'00" R = 7,639.00' T = 259.26' L = 518.31' E = 4.40' V = 60 MPH eMAX = MATCH EX.	CURVE Q2 P.I. = STA. 136+77.82 Δ = 07°27'52" RT Dc = 01°09'51" R = 1,476.36' T = 49.42' L = 192.34' E = 3.14' V = 60 MPH NO WORK	CURVE Q3 P.I. = STA. 139+16.41 Δ = 01°09'51" LT Dc = 01°09'51" R = 4,921.26' T = 49.42' L = 98.84' E = 0.25' V = 60 MPH NO WORK

TEXT LEGEND
DND = DO NOT DISTURB
TBR = TO BE REMOVED

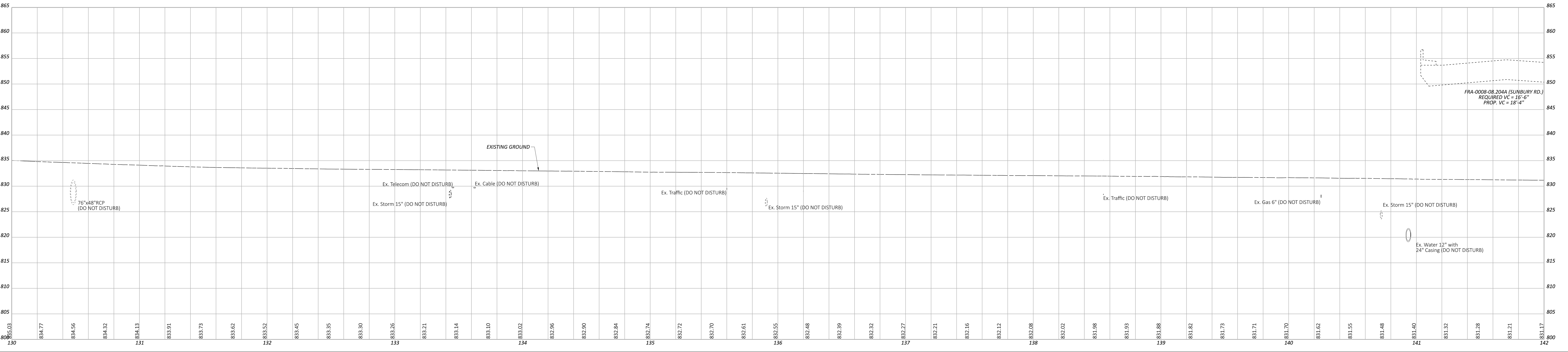


EROSION CONTROL LEGEND

[Symbol]	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
[Symbol]	ITEM 670: DITCH EROSION PROTECTION, TYPE B
[Symbol]	ITEM 670: DITCH EROSION PROTECTION
[Symbol]	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND

[Symbol]	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
[Symbol]	PAVEMENT OVERLAY



PLAN AND PROFILE - CDW (SR 161)
STA. 133+63.98 TO STA. 142+00.00

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

CONST. RAMP N (SUNBURY RD.)
 CURVE 1
 SPIRAL DATA
 P.I. = STA. 43+44.65
 Δ = 157°15'34" LT
 Ls = 191.73'
 Os = 33°11'19"
 LT = 130.14'
 ST = 66.03'
 x = 185.40'
 y = 36.14'
 k = 94.80'
 p = 9.14'
 C = 188.89'
 Start = Sta. 44+14.51
 End = Sta. 46+06.24
 C.B. = S89°14'44"E
 V=50 MPH
 eMAX=MATCH EX.

CONST. RAMP N (SUNBURY RD.)
 CURVE 2
 P.I. = STA. 54+29.24
 Δ = 157°15'34" LT
 Ls = 191.73'
 Os = 33°11'19"
 LT = 130.14'
 ST = 66.03'
 x = 185.40'
 y = 36.14'
 k = 94.80'
 p = 9.14'
 C = 188.89'
 Start = Sta. 44+14.51
 End = Sta. 46+06.24
 C.B. = S89°14'44"E
 V=50 MPH
 eMAX=MATCH EX.

CONST. CDW (SR 161)
 CURVE 3
 P.I. = STA. 141+52.55
 Δ = 14°59'08" RT
 Ls = 393.36'
 Os = 05°52'17"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 144+02.10
 End = Sta. 147+95.46
 C.B. = S68°06'00"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. CDW (SR 161)
 CURVE 4
 P.I. = STA. 145+33.35
 Δ = 14°59'08" RT
 Ls = 393.36'
 Os = 05°52'17"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 144+02.10
 End = Sta. 147+95.46
 C.B. = S68°06'00"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. CDW (SR 161)
 CURVE 5
 P.I. = STA. 153+08.37
 Δ = 14°59'08" RT
 Ls = 393.36'
 Os = 05°52'17"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 150+45.83
 End = Sta. 154+39.53
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 1
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 2
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 3
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 4
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 5
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 6
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 7
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 8
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 9
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

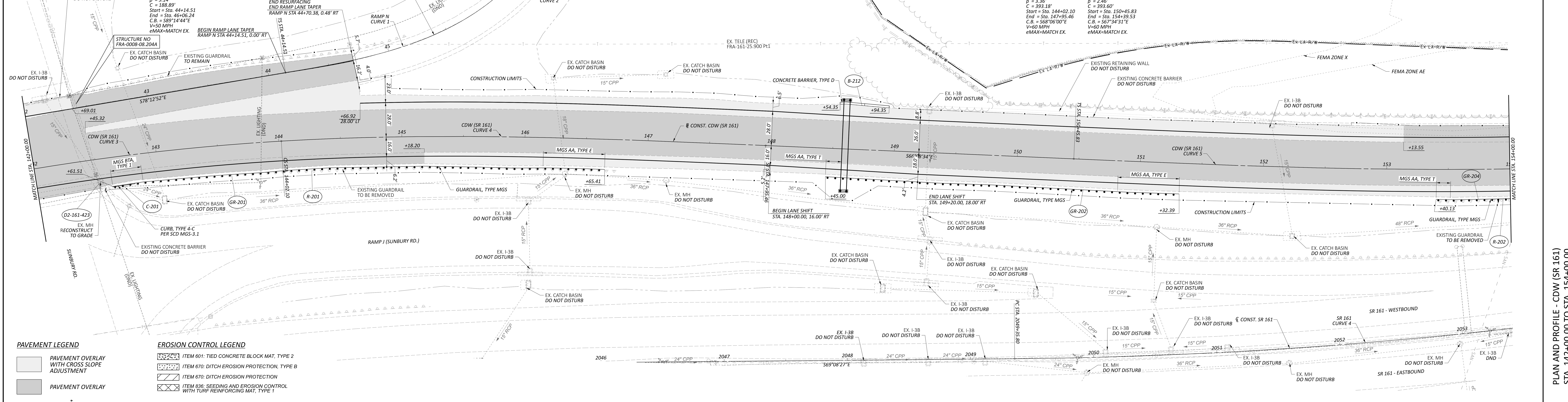
CONST. SR 161
 CURVE 10
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 11
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 12
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 13
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

CONST. SR 161
 CURVE 14
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Ls = 393.36'
 Os = 04°17'50"
 LT = 262.39'
 ST = 131.25'
 x = 392.26'
 y = 26.84'
 k = 196.61'
 p = 3.36'
 C = 393.18'
 Start = Sta. 2054+62.30
 End = Sta. 2054+62.30
 C.B. = S67°34'31"E
 V=60 MPH
 eMAX=MATCH EX.

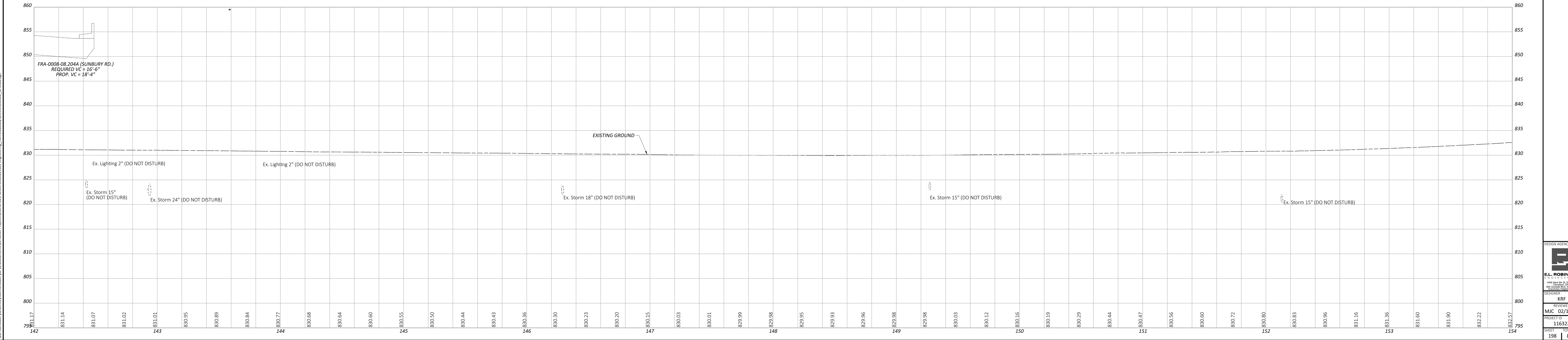


PAVEMENT LEGEND

[Pattern]	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
[Pattern]	PAVEMENT OVERLAY

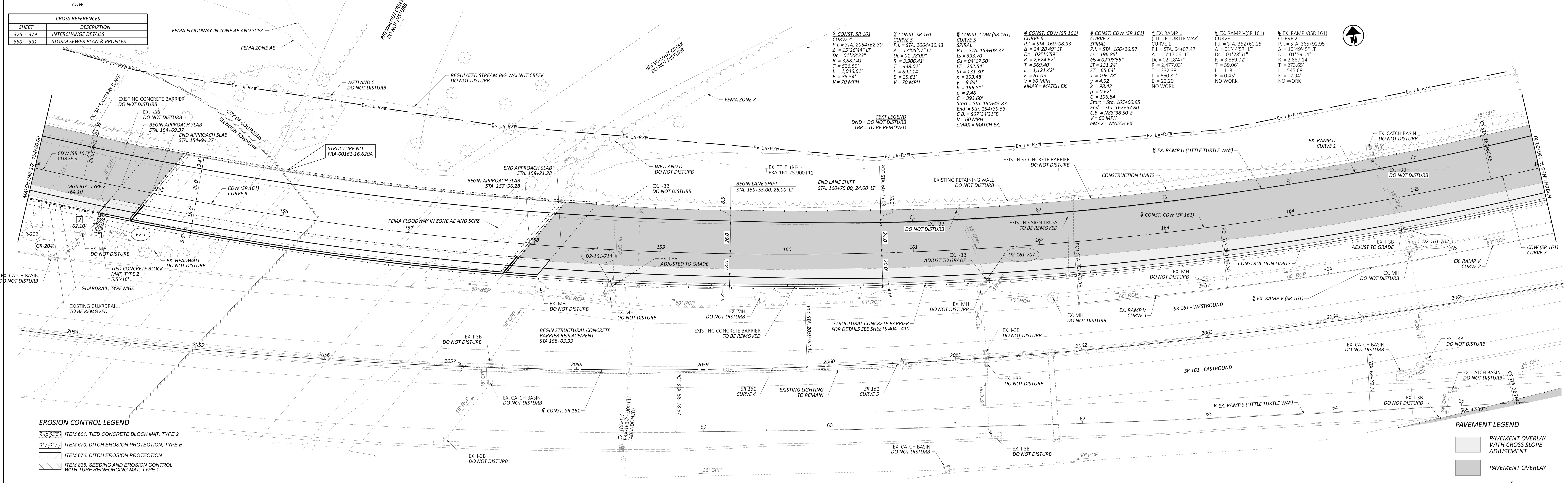
EROSION CONTROL LEGEND

[Pattern]	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
[Pattern]	ITEM 670: DITCH EROSION PROTECTION, TYPE B
[Pattern]	ITEM 670: DITCH EROSION PROTECTION
[Pattern]	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1



PLAN AND PROFILE - CDW (SR 161)
 STA. 142+00.00 TO STA. 154+00.00
 DESIGN AGENCY: E.L. ROBINSON
 PROJECT ID: 116322
 SHEET TOTAL: 198 / 846
 DATE: 02/10/23
 REVIEWER: KRF
 DESIGNER: MUC

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

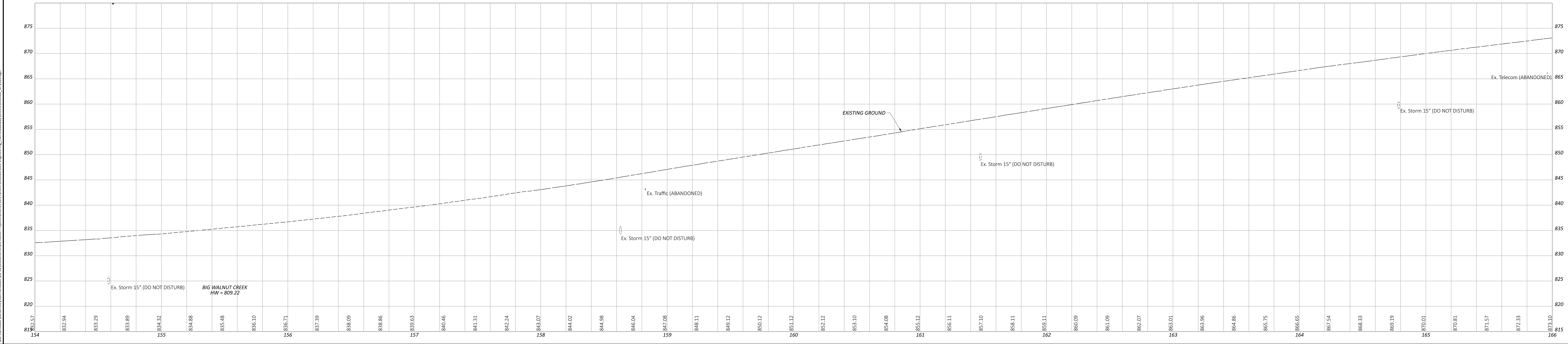


EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



TEXT LEGEND
 DND = DO NOT DISTURB
 TBR = TO BE REMOVED

CONST. SR 161 CURVE 4
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Dc = 01'28'33"
 R = 3,880.41'
 T = 526.50'
 L = 1,046.61'
 E = 35.54'
 V = 70 MPH

CONST. SR 161 CURVE 5
 P.I. = STA. 2064+30.43
 Δ = 13°05'07" LT
 Dc = 01'28'00"
 R = 3,908.41'
 T = 448.02'
 L = 892.14'
 E = 25.61'
 V = 70 MPH

CONST. CDW (SR 161) CURVE 5 SPIRAL
 P.I. = STA. 153+08.37
 Δ = 24°28'49" LT
 Dc = 02°10'59"
 R = 2,624.67'
 T = 569.40'
 L = 1,121.42'
 E = 61.05'
 V = 60 MPH
 eMAX = MATCH EX.

CONST. CDW (SR 161) CURVE 6
 P.I. = STA. 160+08.93
 Δ = 24°28'49" LT
 Dc = 02°10'59"
 R = 2,624.67'
 T = 569.40'
 L = 1,121.42'
 E = 61.05'
 V = 60 MPH
 eMAX = MATCH EX.

CONST. CDW (SR 161) CURVE 7 SPIRAL
 P.I. = STA. 166+26.57
 Δ = 196.85'
 Dc = 02°10'59"
 R = 2,624.67'
 T = 569.40'
 L = 1,121.42'
 E = 61.05'
 V = 60 MPH
 eMAX = MATCH EX.

EX. RAMP U (LITTLE TURTLE WAY) CURVE 1
 P.I. = STA. 64+07.47
 Δ = 15°17'06" LT
 Dc = 02°18'47"
 R = 2,477.03'
 T = 2,477.03'
 L = 1,121.42'
 E = 61.05'
 V = 60 MPH
 eMAX = MATCH EX.

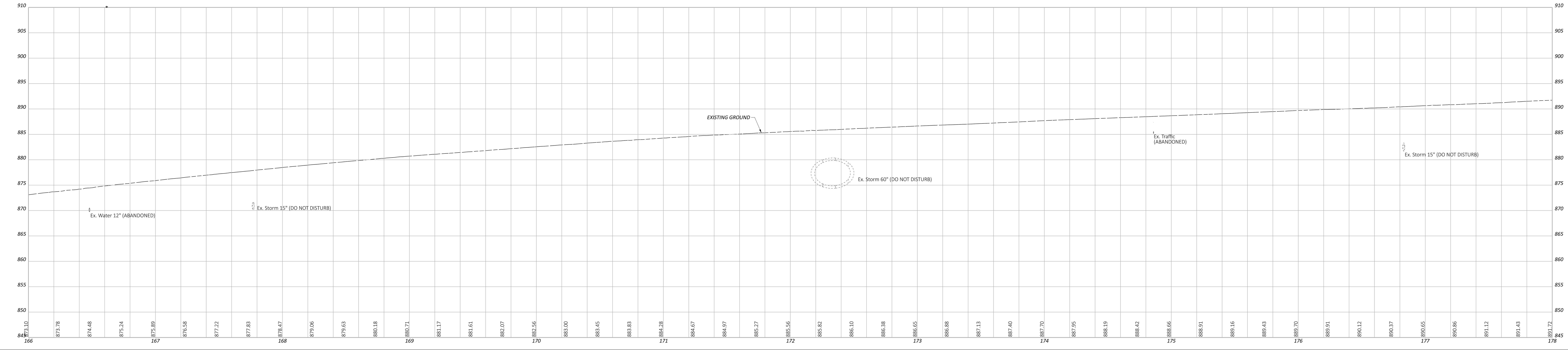
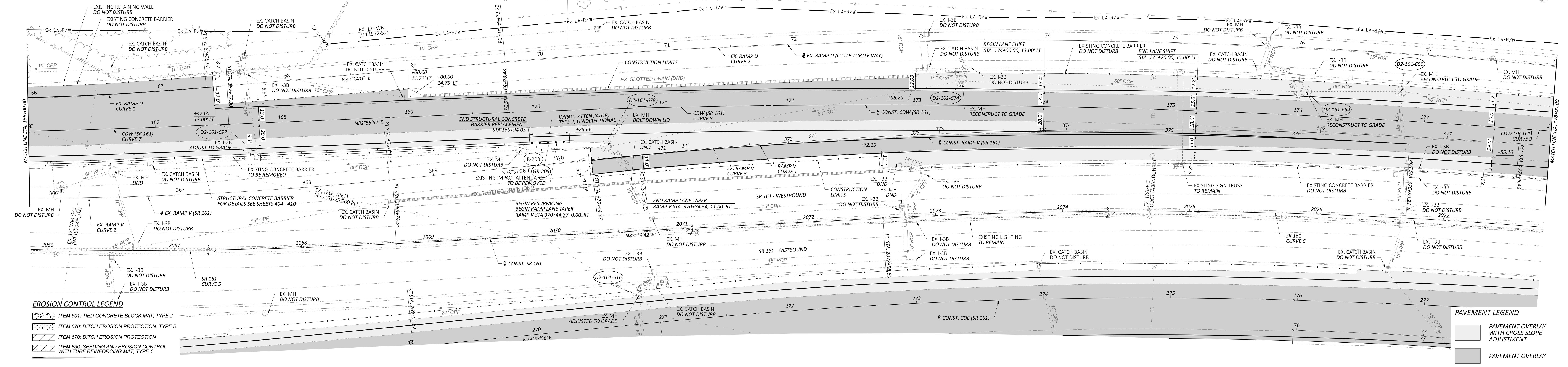
EX. RAMP V (SR 161) CURVE 1
 P.I. = STA. 165+60.95
 Δ = 15°17'06" LT
 Dc = 02°18'47"
 R = 2,477.03'
 T = 2,477.03'
 L = 1,121.42'
 E = 61.05'
 V = 60 MPH
 eMAX = MATCH EX.

EX. RAMP V (SR 161) CURVE 2
 P.I. = STA. 362+60.25
 Δ = 01°44'57" LT
 Dc = 01°28'51"
 R = 3,869.02'
 T = 59.06'
 L = 118.11'
 E = 0.45'
 NO WORK

EX. RAMP V (SR 161) CURVE 2
 P.I. = STA. 365+92.95
 Δ = 10°49'45" LT
 Dc = 01°59'04"
 R = 2,887.14'
 T = 273.65'
 L = 545.68'
 E = 12.94'
 NO WORK

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

CDW	CONST. SR 161	CONST. SR 161	CONST. CDW (SR 161)	CONST. CDW (SR 161)	CONST. CDW (SR 161)	CONST. CDW (SR 161)	EX. RAMP U	EX. RAMP U	CONST. RAMP V	EX. RAMP V	EX. RAMP V	EX. RAMP V
	CURVE 5	CURVE 6	CURVE 7	CURVE 8	CURVE 9	CURVE 1	(LITTLE TURTLE WAY)	(LITTLE TURTLE WAY)	(SR 161)	(SR 161)	(SR 161)	(SR 161)
	P.I. = STA. 2064+30.43	P.I. = STA. 2076+57.44	P.I. = STA. 173+77.42	P.I. = STA. 179+77.07	P.I. = STA. 179+77.07	P.I. = STA. 179+77.07	P.I. = STA. 64+07.47	P.I. = STA. 74+17.14	P.I. = STA. 373+67.49	P.I. = STA. 365+92.95	P.I. = STA. 374+70.73	P.I. = STA. 374+70.73
	$\Delta = 13^{\circ}05'07''$ LT	$\Delta = 11^{\circ}39'33''$ RT	$\Delta = 06^{\circ}39'32''$ RT	$\Delta = 05^{\circ}47'46''$ RT	$\Delta = 09^{\circ}14'34''$ RT	$\Delta = 09^{\circ}14'34''$ RT	$\Delta = 11^{\circ}03'57''$ RT	$\Delta = 15^{\circ}17'06''$ LT	$\Delta = 10^{\circ}49'45''$ LT	$\Delta = 11^{\circ}39'54''$ RT	$\Delta = 11^{\circ}39'54''$ RT	$\Delta = 11^{\circ}39'54''$ RT
	Dc = 01'28'00"	Dc = 01'28'00"	Dc = 00'50'00"	Dc = 01'26'19"	Dc = 01'26'19"	Dc = 01'26'19"	Dc = 01'14'51"	Dc = 01'14'51"	Dc = 01'26'00"	Dc = 01'59'04"	Dc = 01'26'35"	Dc = 01'26'35"
	R = 3,906.41'	R = 3,906.41'	R = 6,857.55'	R = 3,997.38'	R = 3,997.38'	R = 3,997.38'	R = 2,477.03'	R = 2,477.03'	R = 3,997.38'	R = 2,887.14'	R = 3,970.73'	R = 3,970.73'
	T = 448.02'	T = 398.84'	T = 131.24'	T = 398.94'	T = 2,477.03'	T = 2,477.03'	T = 332.38'	T = 332.38'	T = 3,997.38'	T = 2,887.14'	T = 405.61'	T = 405.61'
	L = 892.14'	L = 794.92'	L = 65.63'	L = 796.98'	L = 402.88'	L = 402.88'	L = 196.70'	L = 196.70'	L = 644.94'	L = 545.68'	L = 808.42'	L = 808.42'
	E = 25.61'	E = 20.31'	E = 11.59'	E = 11.59'	E = 5.11'	E = 5.11'	E = 887.11'	E = 887.11'	E = 20.31'	E = 12.94'	E = 20.66'	E = 20.66'
	V = 70 MPH	V = 70 MPH	V = 60 MPH	V = 60 MPH	V = 60 MPH	V = 60 MPH	NO WORK	NO WORK	V = 60 MPH	V = 60 MPH	V = 60 MPH	V = 60 MPH
			eMAX = MATCH EX.	eMAX = MATCH EX.	eMAX = MATCH EX.	eMAX = MATCH EX.	NO WORK	NO WORK	eMAX = MATCH EX.	eMAX = MATCH EX.	eMAX = MATCH EX.	eMAX = MATCH EX.



EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

CONST. SR 161
CURVE 2
P.I. = STA. 2076+57.44
Δ = 11°39'33" RT
Dc = 01°28'00"
R = 3,906.41'
T = 398.84'
L = 794.52'
E = 20.31'
V = 70 MPH

CONST. CDW (SR 161)
CURVE 2
P.I. = STA. 179+77.07
Δ = 05°47'46" RT
Dc = 01°26'19"
R = 3,982.54'
T = 201.61'
L = 402.88'
E = 5.1'
V = 60 MPH
eMAX = MATCH EX.

EX. RAMP U (LITTLE TURTLE WAY)
CURVE 2
P.I. = STA. 74+17.14
Δ = 11°03'57" RT
Dc = 01°14'51"
R = 4,593.18'
T = 444.94'
L = 887.11'
E = 21.5'
NO WORK

EX. RAMP U (LITTLE TURTLE WAY)
CURVE 3
P.I. = STA. 88+70.63
Δ = 02°30'57" RT
Dc = 00°34'56"
R = 9,842.52'
T = 216.12'
L = 432.18'
E = 2.33'
NO WORK

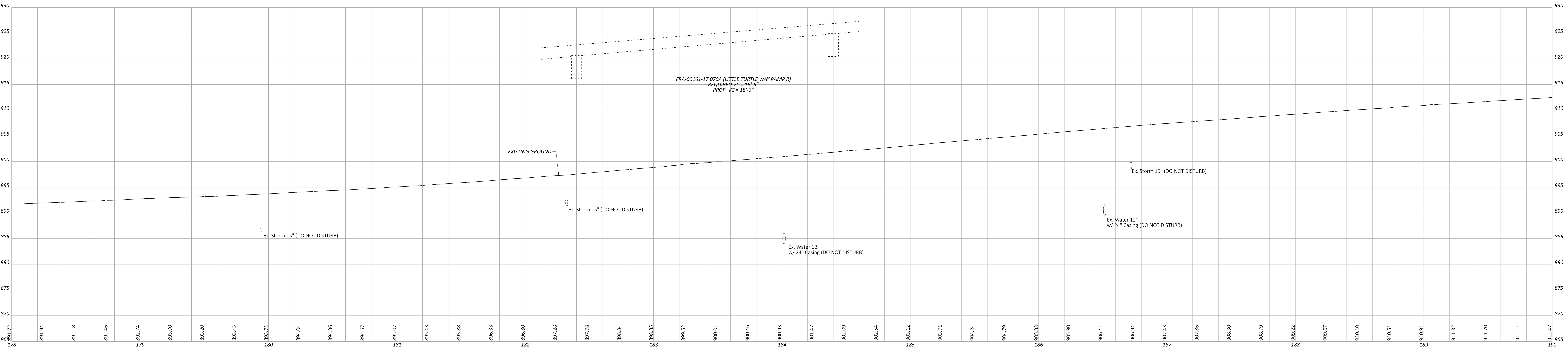
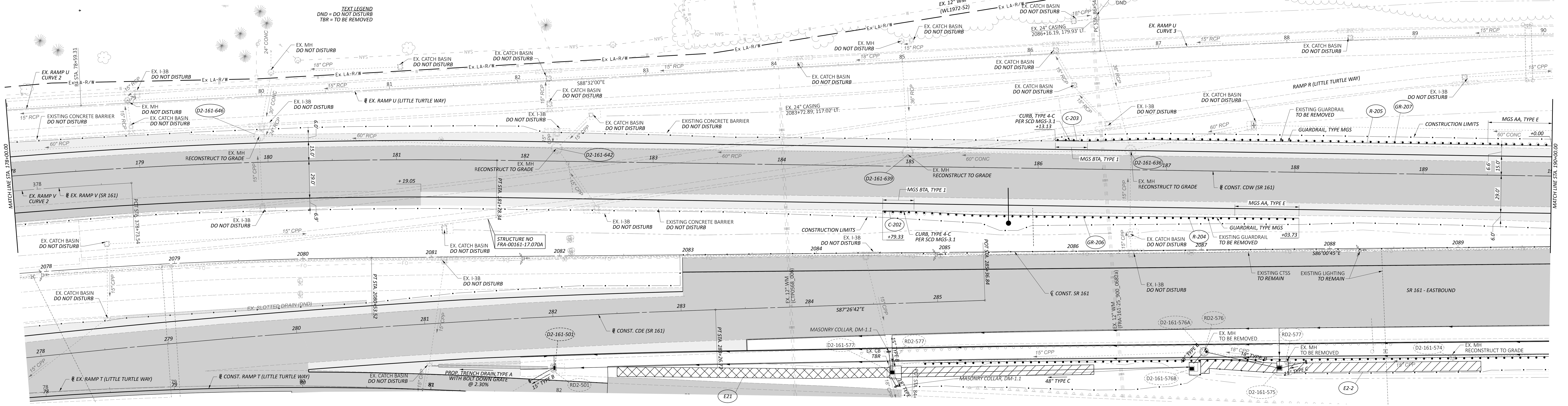
EX. RAMP V (SR 161)
CURVE 3
P.I. = STA. 374+70.73
Δ = 11°39'54" RT
Dc = 01°26'55"
R = 3,970.73'
T = 405.61'
L = 808.42'
E = 20.66'
V = 60 MPH
eMAX = MATCH EX.

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY

TEXT LEGEND
DND = DO NOT DISTURB
TBR = TO BE REMOVED



PLAN AND PROFILE - CDW (SR 161)
STA. 178+00.00 TO STA. 190+00.00

DESIGN AGENCY
E.L. ROBINSON
1000 West 11th Street, Suite 200
Ogden, Utah 84403
PHONE: 435.244.2200
FAX: 435.244.2201
WWW.ELROBINSON.COM

DESIGNER: KRF
REVIEWER: MUC
DATE: 02/10/23
PROJECT ID: 116322
SHEET TOTAL: 201 / 846

FRA-161-15-80
DATE: 2/10/23 TIME: 7:48:30 PM USER: CWALBR
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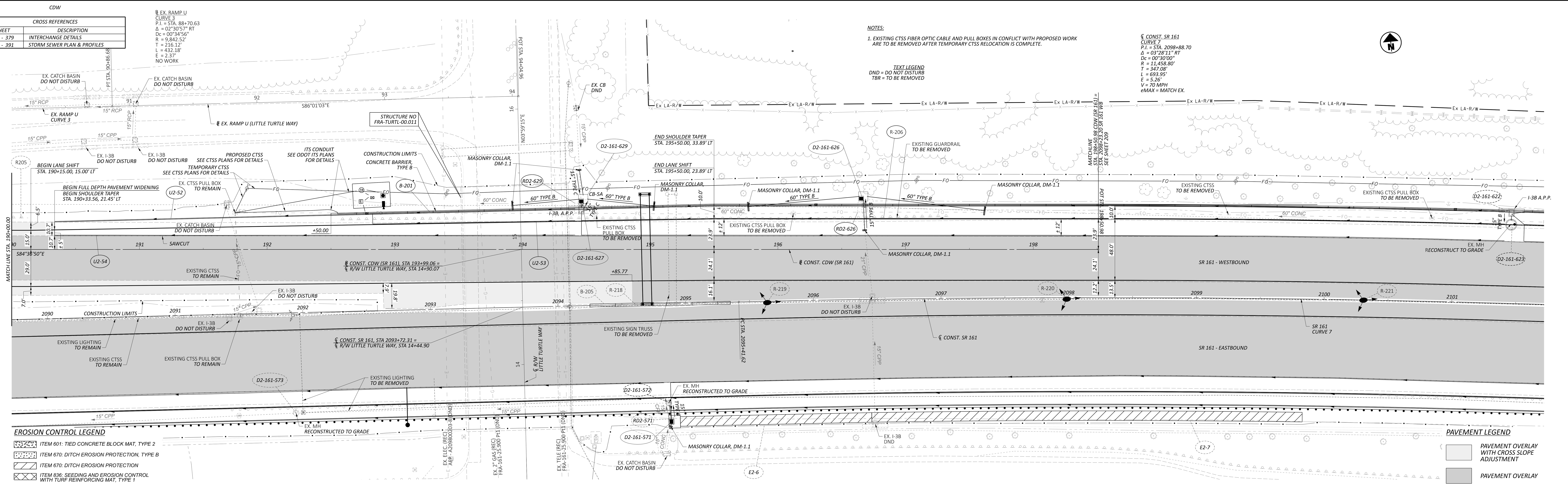
CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

EX. RAMP U
CURVE 3
P.I. = STA. 88+70.63
Δ = 02°30'57" RT
Dc = 007'34.56'
R = 9,842.52'
T = 216.12'
L = 432.18'
E = 4.37'
NO WORK

NOTES:
1. EXISTING CTSS FIBER OPTIC CABLE AND PULL BOXES IN CONFLICT WITH PROPOSED WORK ARE TO BE REMOVED AFTER TEMPORARY CTSS RELOCATION IS COMPLETE.

CONST. SR 161
CURVE 7
P.I. = STA. 2098+88.70
Δ = 03°28'11" RT
Dc = 00'30'00"
R = 11,458.80'
T = 347.08'
L = 693.95'
E = 5.26'
V = 70 MPH
eMAX = MATCH EX.

TEXT LEGEND
DND = DO NOT DISTURB
TBR = TO BE REMOVED

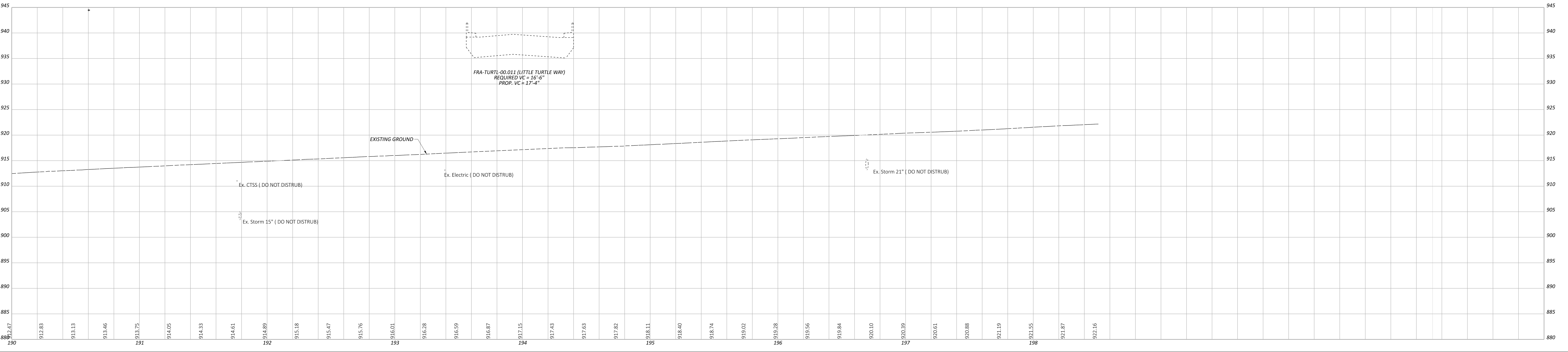


EROSION CONTROL LEGEND

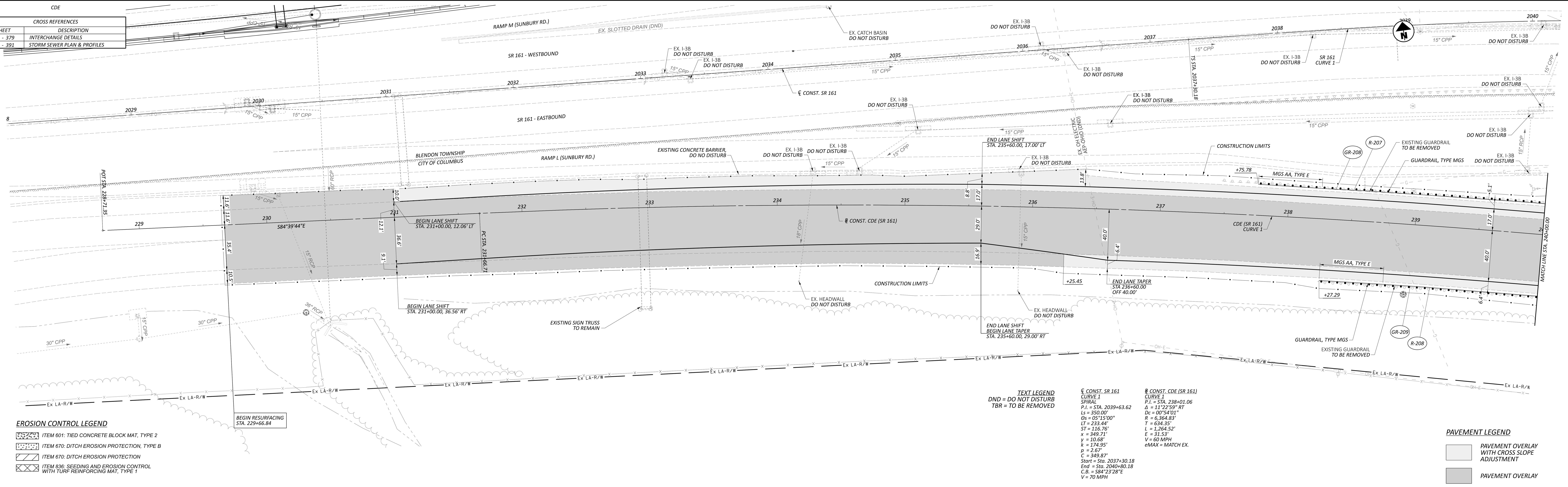
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[Symbol]	ITEM 670: DITCH EROSION PROTECTION, TYPE B
[Symbol]	ITEM 670: DITCH EROSION PROTECTION
[Symbol]	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND

[Symbol]	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
[Symbol]	PAVEMENT OVERLAY



CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



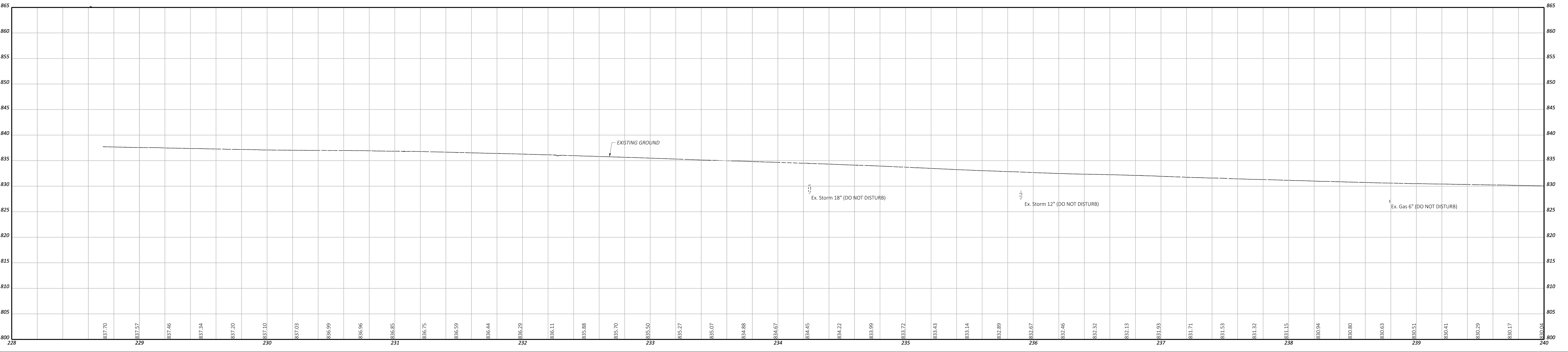
- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

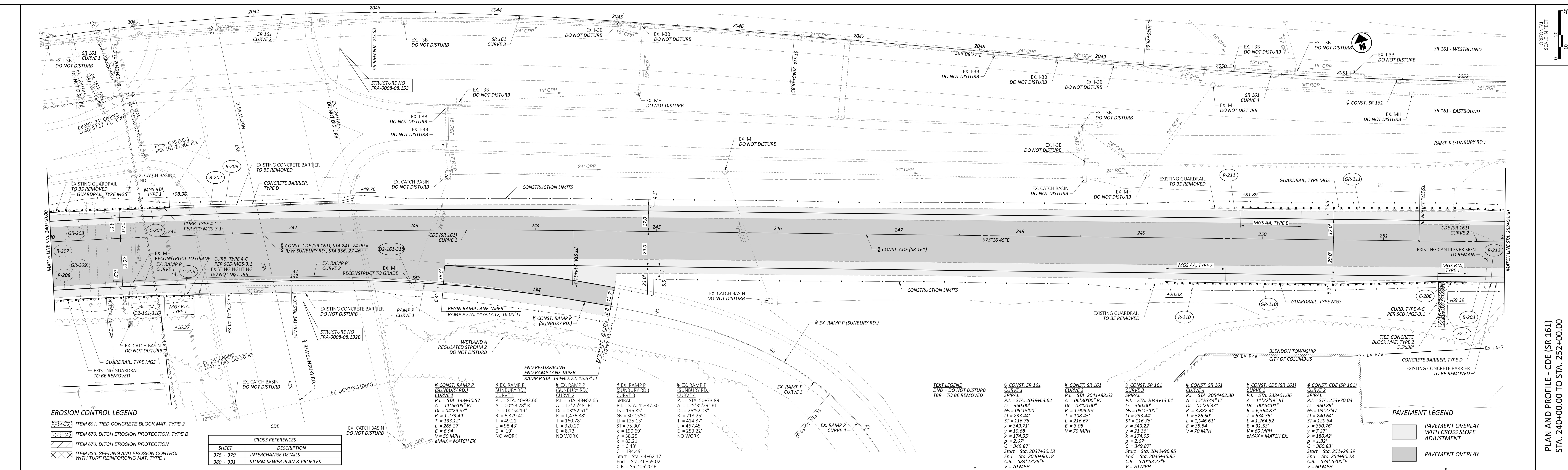
TEXT LEGEND
 DND = DO NOT DISTURB
 TBR = TO BE REMOVED

CONST. SR 161 CURVE 1 SPIRAL
 P.I. = STA. 2039+63.62
 Ls = 350.00'
 Os = 05°15'00"
 Lt = 233.44'
 St = 116.76'
 x = 349.71'
 y = 10.68'
 k = 174.95'
 p = 2.67'
 C = 349.87'
 Start = Sta. 2037+30.18
 End = Sta. 2040+80.18
 C.B. = S84°23'28"E
 V = 70 MPH

CONST. CDE (SR 161) CURVE 1
 P.I. = STA. 238+01.06
 Δ = 11°22'59" RT
 De = 00°34'01"
 R = 6,364.83'
 T = 634.35'
 L = 1,264.52'
 E = 31.53'
 V = 60 MPH
 eMAX = MATCH EX.

- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY





EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION, TYPE A
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

STRUCTURE NO FRA-0008-08.1328

WETLAND A REGULATED STREAM 2 DO NOT DISTURB

END RESURFACING END RAMP LANE TAPER RAMP P STA. 144+62.72, 15.67' LT

EX. RAMP P (SUNBURY RD.) CURVE 1
 P.I. = STA. 143+30.57
 Δ = 11°56'05" RT
 Dc = 04°29'57"
 R = 1,273.49'
 T = 133.12'
 L = 265.27'
 E = 6.94'
 V = 50 MPH
 eMAX = MATCH EX.

EX. RAMP P (SUNBURY RD.) CURVE 2
 P.I. = STA. 40+92.66
 Δ = 00°53'28" RT
 Dc = 00°54'19"
 R = 6,329.40'
 T = 49.21'
 L = 98.43'
 E = 19'
 V = 50 MPH

EX. RAMP P (SUNBURY RD.) CURVE 3
 P.I. = STA. 43+02.65
 Δ = 12°25'48" RT
 Dc = 03°52'51"
 R = 1,476.38'
 T = 160.78'
 L = 320.29'
 E = 8.73'
 V = 50 MPH

EX. RAMP P (SUNBURY RD.) CURVE 4
 P.I. = STA. 50+73.89
 Δ = 12°53'29" RT
 Dc = 30°52'03"
 R = 213.25'
 T = 414.87'
 L = 467.45'
 E = 253.22'
 V = 70 MPH

TEXT LEGEND
 DND = DO NOT DISTURB
 TR = TO BE REMOVED

CONST. SR 161 CURVE 1 SPIRAL
 P.I. = STA. 2039+63.62
 Δ = 06°30'00" RT
 Dc = 03°00'00"
 R = 1,908.85'
 T = 108.45'
 L = 216.67'
 x = 349.71'
 y = 10.68'
 k = 174.95'
 p = 2.67'
 C = 349.87'

CONST. SR 161 CURVE 2 SPIRAL
 P.I. = STA. 2041+88.63
 Δ = 06°30'00" RT
 Dc = 03°00'00"
 R = 1,908.85'
 T = 108.45'
 L = 216.67'
 x = 349.71'
 y = 10.68'
 k = 174.95'
 p = 2.67'
 C = 349.87'

CONST. SR 161 CURVE 3 SPIRAL
 P.I. = STA. 2044+13.61
 Δ = 15°26'44" LT
 Dc = 01°28'33"
 R = 3,882.41'
 T = 526.50'
 L = 1,046.61'
 x = 360.76'
 y = 7.27'
 k = 180.42'
 p = 1.82'
 C = 360.83'

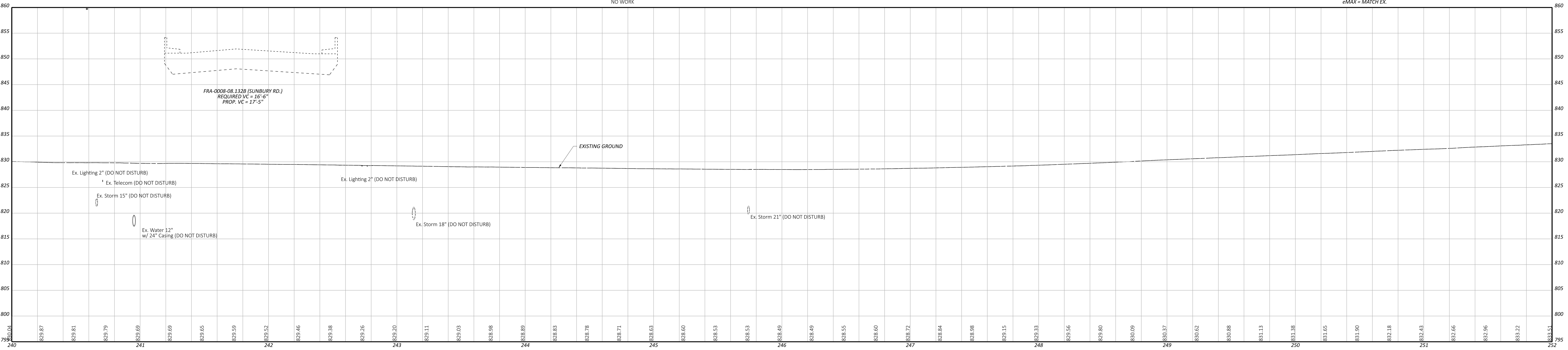
CONST. SR 161 CURVE 4
 P.I. = STA. 2054+62.30
 Δ = 15°26'44" LT
 Dc = 01°28'33"
 R = 3,882.41'
 T = 526.50'
 L = 1,046.61'
 x = 360.76'
 y = 7.27'
 k = 180.42'
 p = 1.82'
 C = 360.83'

CONST. CDE (SR 161) CURVE 1
 P.I. = STA. 238+01.06
 Δ = 11°22'59" RT
 Dc = 00°54'01"
 R = 6,364.83'
 T = 634.35'
 L = 1,264.52'
 x = 31.53'
 y = 31.53'
 V = 60 MPH
 eMAX = MATCH EX.

CONST. CDE (SR 161) CURVE 2
 P.I. = STA. 253+70.03
 Δ = 11°22'59" RT
 Dc = 00°54'01"
 R = 6,364.83'
 T = 634.35'
 L = 1,264.52'
 x = 31.53'
 y = 31.53'
 V = 60 MPH
 eMAX = MATCH EX.

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



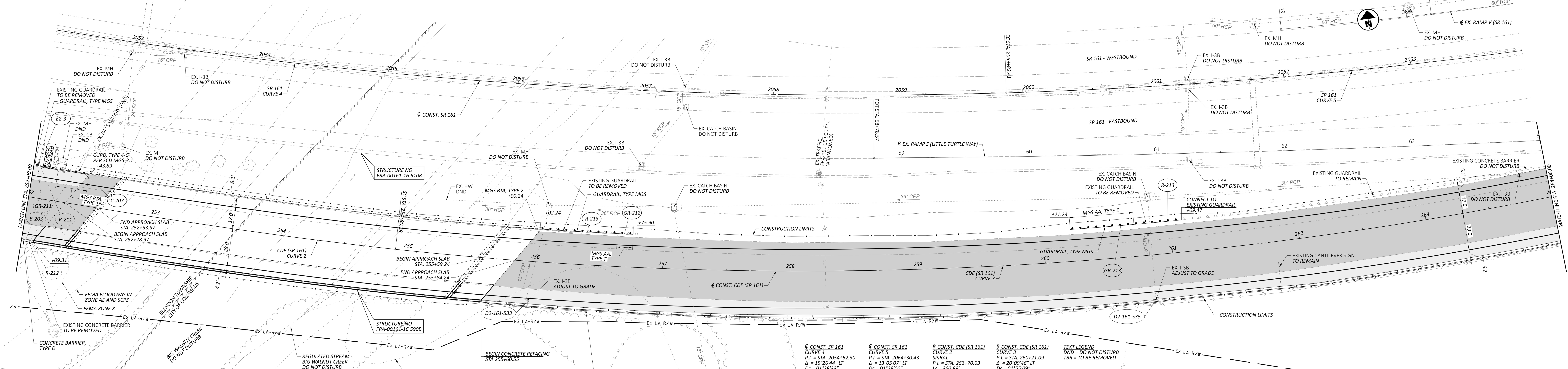
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MODEL: 16152_02230_1615202.dwg DATE: 2/6/2023 TIME: 7:38:09 PM USER: CWALBR

PLAN AND PROFILE - CDE (SR 161)
 STA. 240+00.00 TO STA. 252+00.00

E.L. ROBINSON
 DESIGN AGENCY
 PROJECT ID: 116332
 SHEET TOTAL: 204 / 846

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

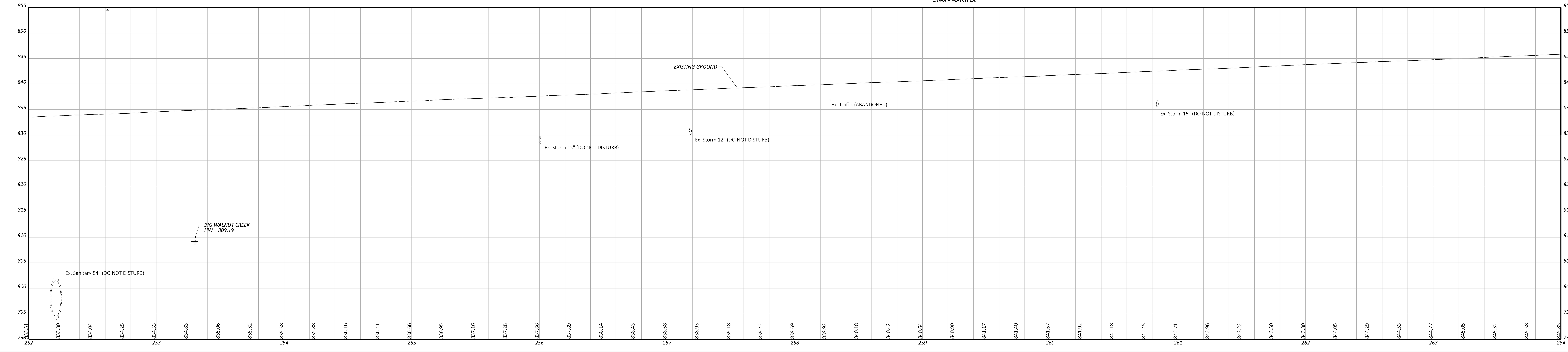


EROSION CONTROL LEGEND

	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND

	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY



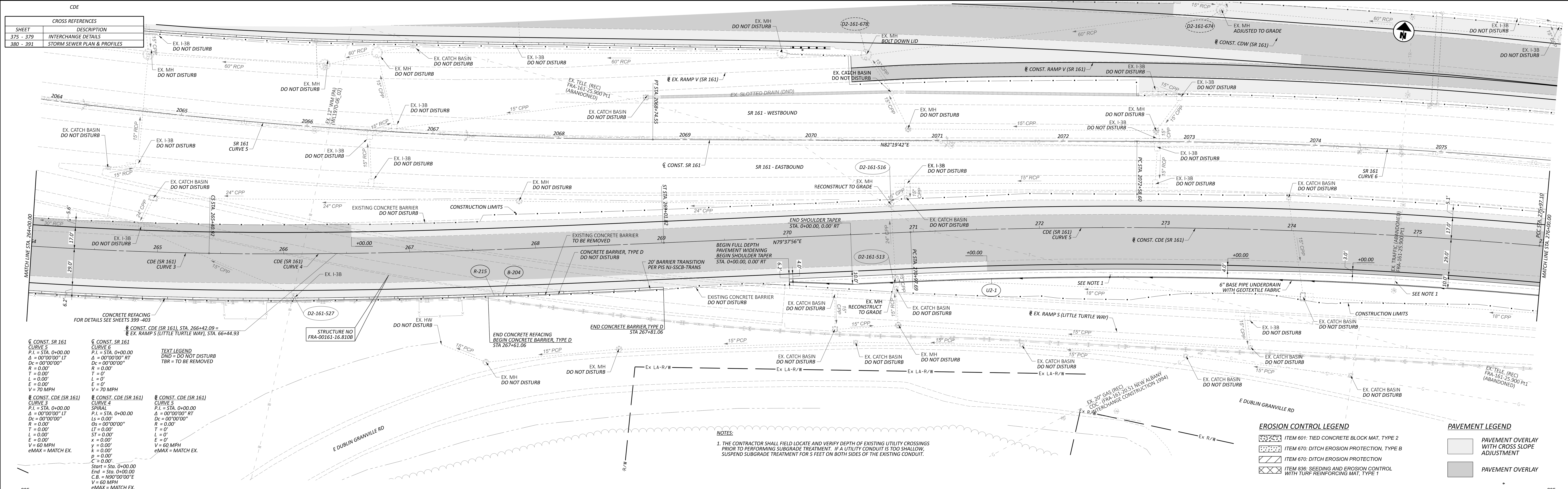
PLAN AND PROFILE - CDE (SR 161)
STA. 252+00.00 TO STA. 264+00.00

DESIGN AGENCY
E.L. ROBINSON
1800 West 11th Street, Suite 100
Tulsa, Oklahoma 74104
Tel: 918.438.2200
Fax: 918.438.2201
www.elrobinson.com

DESIGNER: **KRF**
REVIEWER: **MIC 02/10/23**
PROJECT NO: **116332**
SHEET TOTAL: **205 846**

116332-15-80
DATE: 02/10/23
TIME: 7:38:34 PM
USER: C:\Users\...
PROJECT: 116332-15-80

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



<p>CONST. SR 161 CURVE 5 P.I. = STA. 0+00.00 Δ = 00°00'00" LT Dc = 00'00'00" R = 0.00' T = 0.00' L = 0.00' E = 0.00' V = 70 MPH</p> <p>CONST. CDE (SR 161) CURVE 3 P.I. = STA. 0+00.00 Δ = 00°00'00" LT Dc = 00'00'00" R = 0.00' T = 0.00' L = 0.00' E = 0.00' V = 60 MPH eMAX = MATCH EX.</p>	<p>CONST. SR 161 CURVE 6 P.I. = STA. 0+00.00 Δ = 00°00'00" RT Dc = 00'00'00" R = 0.00' T = 0' L = 0' E = 0' V = 70 MPH</p> <p>CONST. CDE (SR 161) CURVE 4 P.I. = STA. 0+00.00 Δ = 00°00'00" RT Dc = 00'00'00" R = 0.00' T = 0' L = 0' E = 0' V = 60 MPH eMAX = MATCH EX.</p>	<p>CONST. CDE (SR 161) CURVE 5 P.I. = STA. 0+00.00 Δ = 00°00'00" RT Dc = 00'00'00" R = 0.00' T = 0' L = 0' E = 0' V = 60 MPH eMAX = MATCH EX.</p>
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TEXT LEGEND
DND = DO NOT DISTURB
TBR = TO BE REMOVED

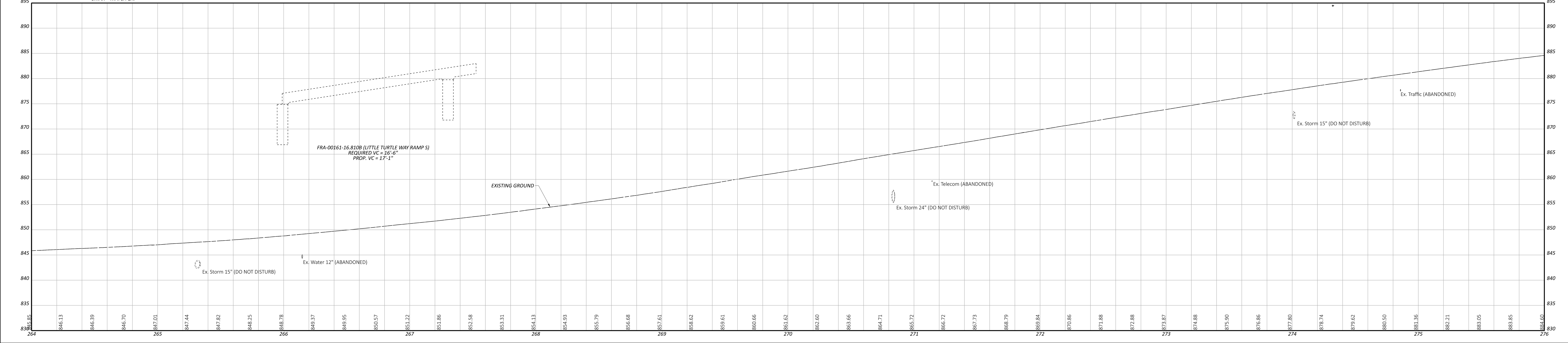
NOTES
1. THE CONTRACTOR SHALL FIELD LOCATE AND VERIFY DEPTH OF EXISTING UTILITY CROSSINGS PRIOR TO PERFORMING SUBGRADE TREATMENT. IF A UTILITY CONDUIT IS TOO SHALLOW, SUSPEND SUBGRADE TREATMENT FOR 5 FEET ON BOTH SIDES OF THE EXISTING CONDUIT.

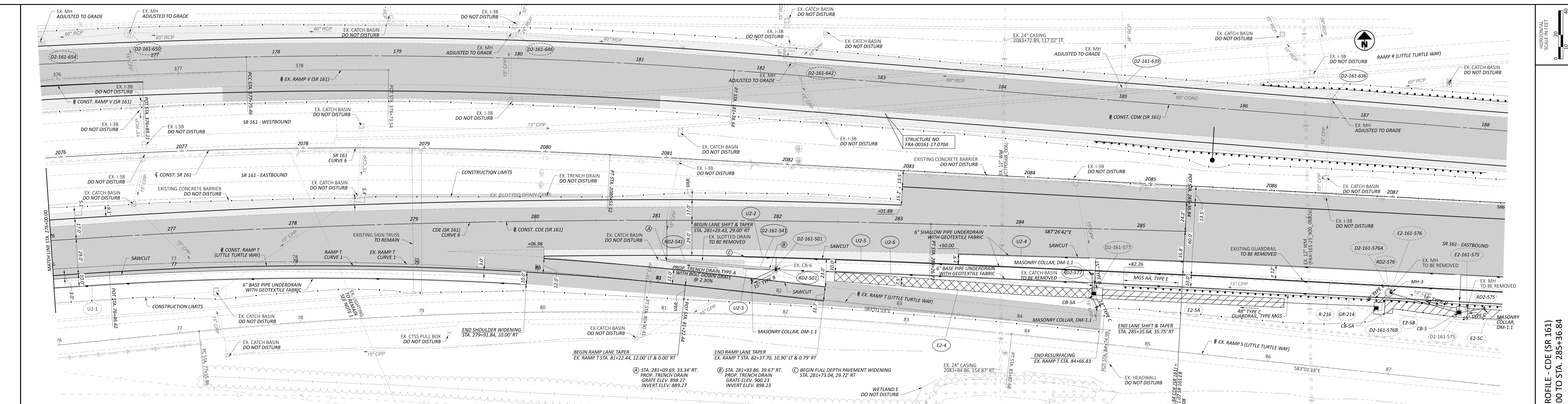
EROSION CONTROL LEGEND

	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND

	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY





CONST. SR 161 CURVE 6
 P.I. = STA. 2076+57.44
 Δ = 11°39'33" RT
 Dc = 01'28'00"
 R = 3,906.41'
 T = 398.84'
 L = 794.92'
 E = 20.31'
 V = 70 MPH

CONST. CDE (SR 161) CURVE 6
 P.I. = STA. 279+62.21
 Δ = 02°28'07" RT
 Dc = 00'44'58"
 R = 7,644.92'
 T = 365.11'
 L = 729.66'
 E = 8.71'
 V = 60 MPH
 eMAX = MATCH EX.

CONST. RAMP T (LITTLE TURTLE WAY) CURVE 1
 P.I. = STA. 78+84.98
 Δ = 09°31'13" RT
 Dc = 02'00'00"
 R = 2,864.79'
 T = 247.31'
 L = 493.39'
 E = 10.68'
 V = 60 MPH
 eMAX = MATCH EX.

EX. RAMP T (LITTLE TURTLE WAY) CURVE 1
 P.I. = STA. 78+44.33
 Δ = 09°53'33" RT
 Dc = 02'00'18"
 R = 2,857.61'
 T = 247.31'
 L = 493.39'
 E = 10.68'
 V = 60 MPH
 eMAX = MATCH EX.

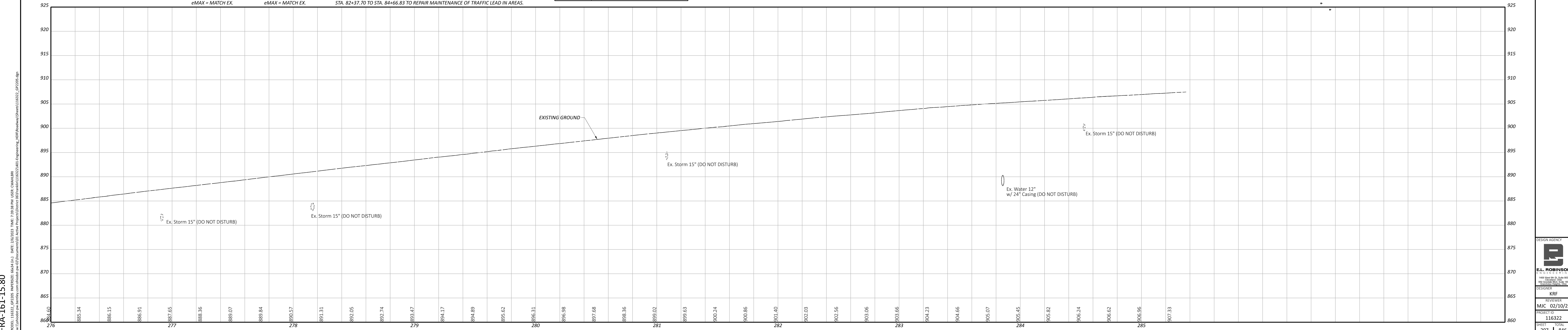
TEXT LEGEND
 DND = DO NOT DISTURB
 TBR = TO BE REMOVED

NOTES:
 1. THE CONTRACTOR SHALL FIELD LOCATE AND VERIFY DEPTH OF EXISTING UTILITY CROSSINGS PRIOR TO PERFORMING SUBGRADE TREATMENT. IF A UTILITY CONDUIT IS TOO SHALLOW, SUSPEND SUBGRADE TREATMENT FOR 5 FEET ON BOTH SIDES OF THE EXISTING CONDUIT.
 2. EX. RAMP T (LITTLE TURTLE WAY) PAVEMENT PLANNING AND RESURFACING FROM STA. 82+37.70 TO STA. 84+66.83 TO REPAIR MAINTENANCE OF TRAFFIC LEAD IN AREAS.

CROSS REFERENCES	
SHEET	DESCRIPTION
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

EROSION CONTROL LEGEND
 ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 ITEM 670: DITCH EROSION PROTECTION, TYPE B
 ITEM 670: DITCH EROSION PROTECTION
 ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

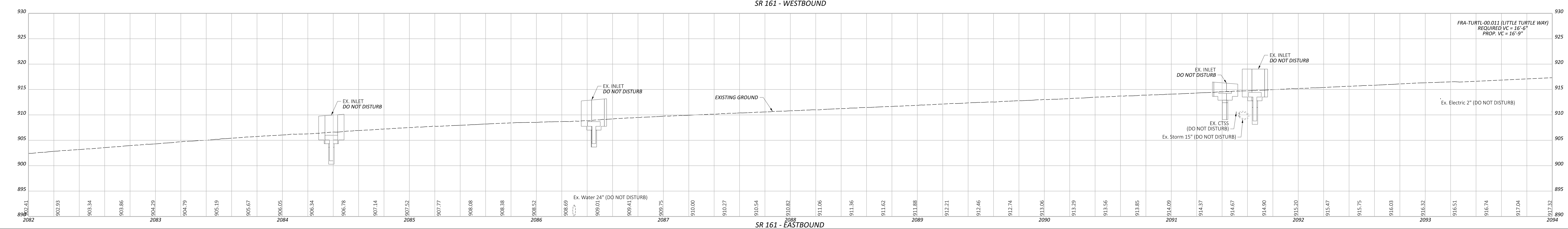
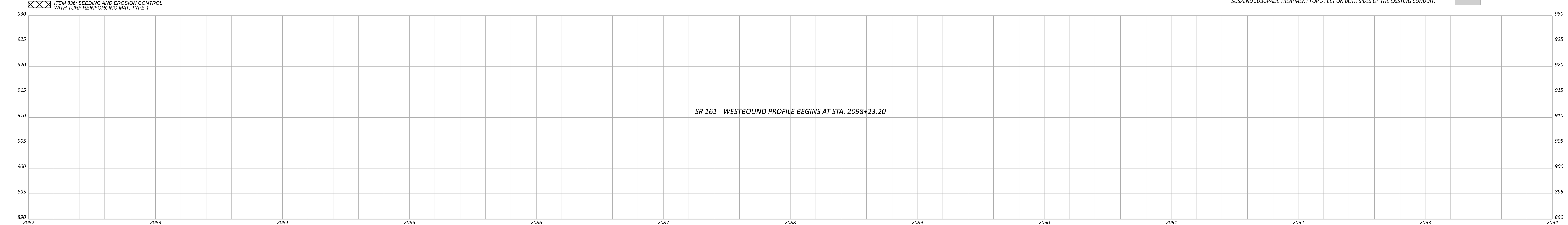
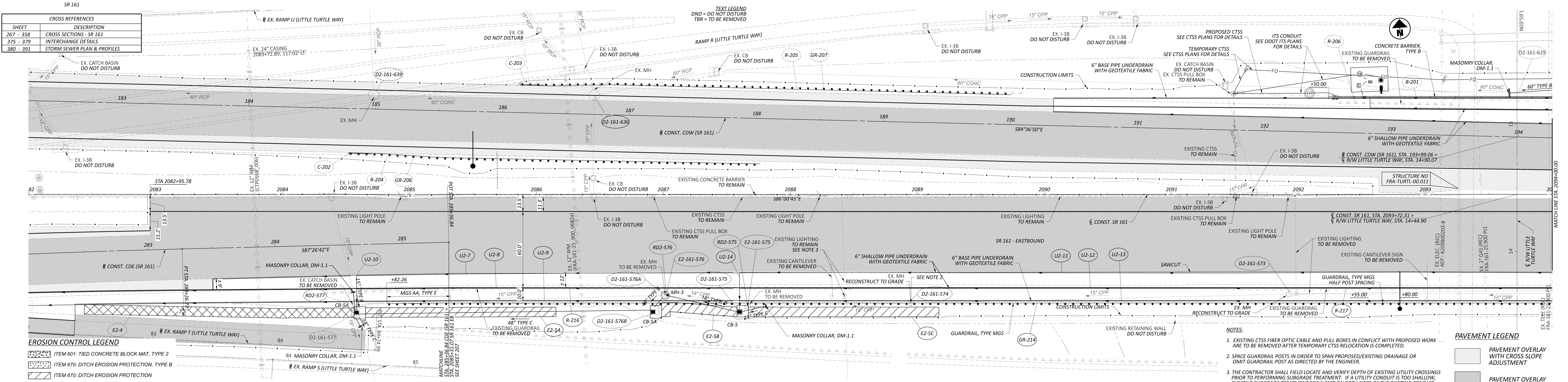
PAVEMENT LEGEND
 PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 PAVEMENT OVERLAY



PLAN AND PROFILE - CDE (SR 161)
 STA. 276+00.00 TO STA. 285+36.84

E.L. ROBINSON
 DESIGN AGENCY
 REVIEWER
 MUC 02/10/23
 PROJECT ID
 116332
 SHEET TOTAL
 207 846

CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



SR 161

FRA-161-15.80
 MODEL: 11/23/23 09:21:01 AM
 DATE: 2/6/2023 TIME: 7:48:21 PM
 USER: C:\Users\...
 PROJECT: SR 161
 SHEET: 161-15.80

HORIZONTAL SCALE: 1"=100'

DESIGN AGENCY

DESIGNER

KRF

REVIEWER

MIC 02/10/23

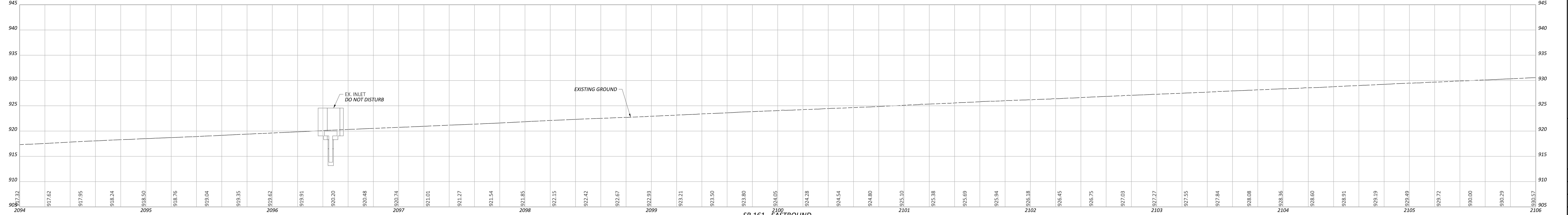
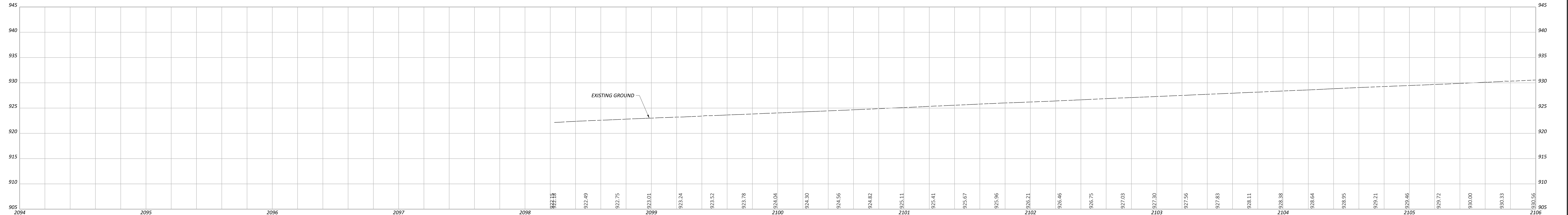
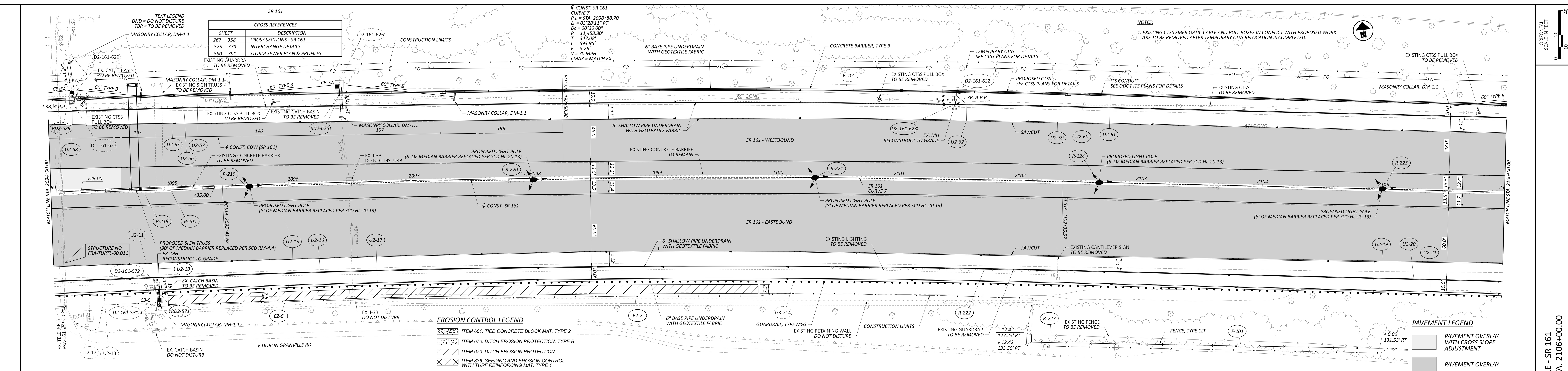
PROJECT ID

116322

SHEET TOTAL

208 846

PLAN AND PROFILE - SR 161
 STA. 2082+00.00 TO STA. 2094+00.00



FFA-161-15-80

DATE: 02/10/23 TIME: 7:41:09 PM USER: C:\Users\...
 PROJECT: SR 161 INTERCHANGE
 SHEET: 161-15-80

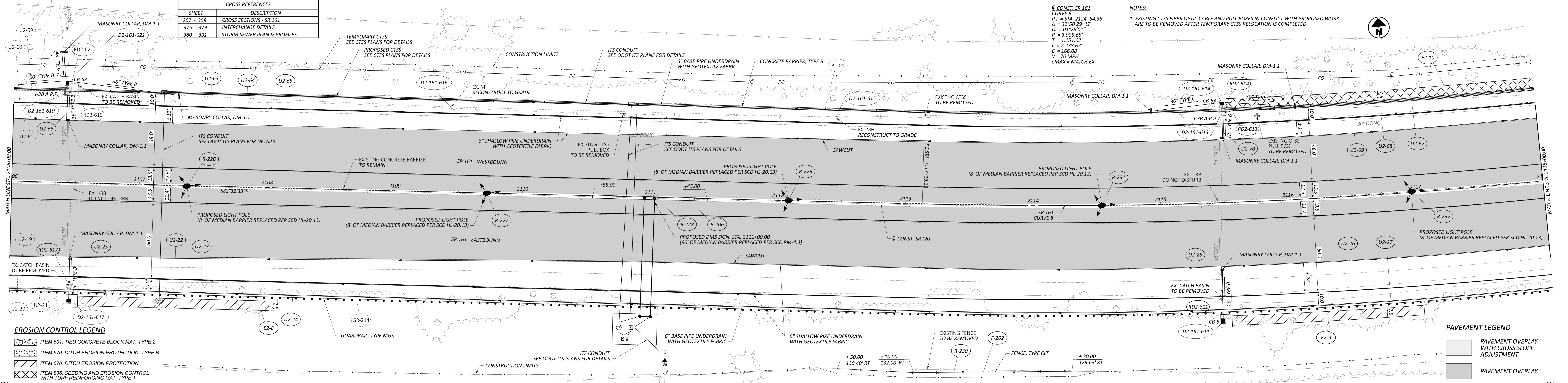
PLAN AND PROFILE - SR 161
 STA. 2094+00.00 TO STA. 2106+00.00

DESIGN AGENCY: E.L. ROBINSON
 PROJECT ID: 116332
 SHEET: 1581
 209 846

CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

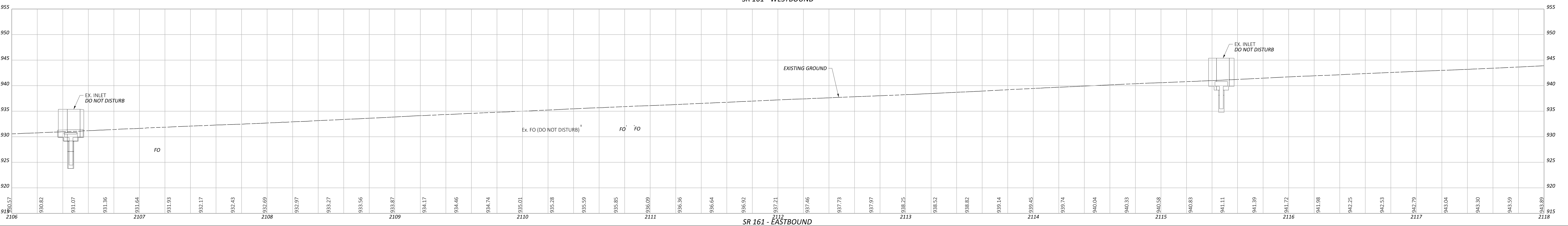
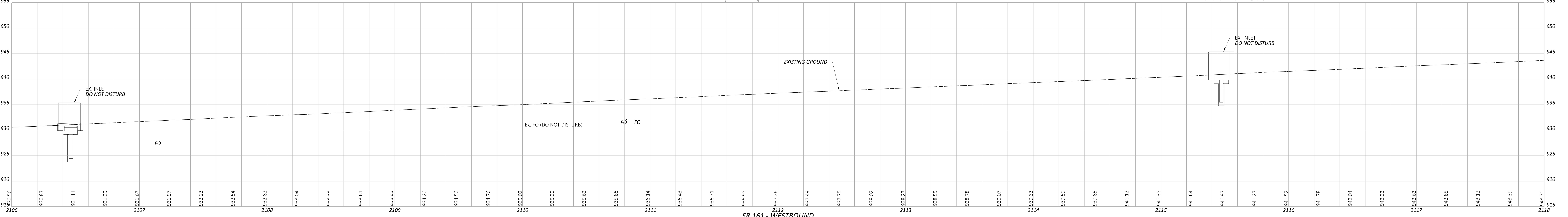
CONST. SR 161
 CURVE 8
 P.I. = STA. 2124+64.36
 $\Delta = 32^{\circ}50'29"$ LT
 $D_c = 01^{\circ}28'01"$
 $R = 3,905.65'$
 $T = 1,151.03'$
 $L = 2,238.67'$
 $E = 166.08'$
 $V = 70$ MPH
 $e_{MAX} = \text{MATCH EX.}$

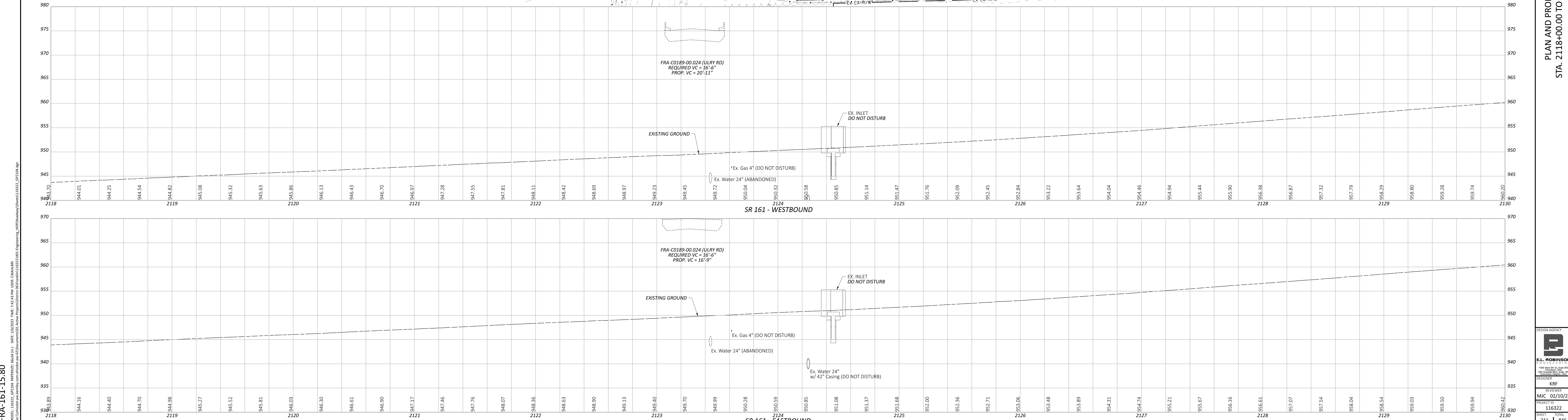
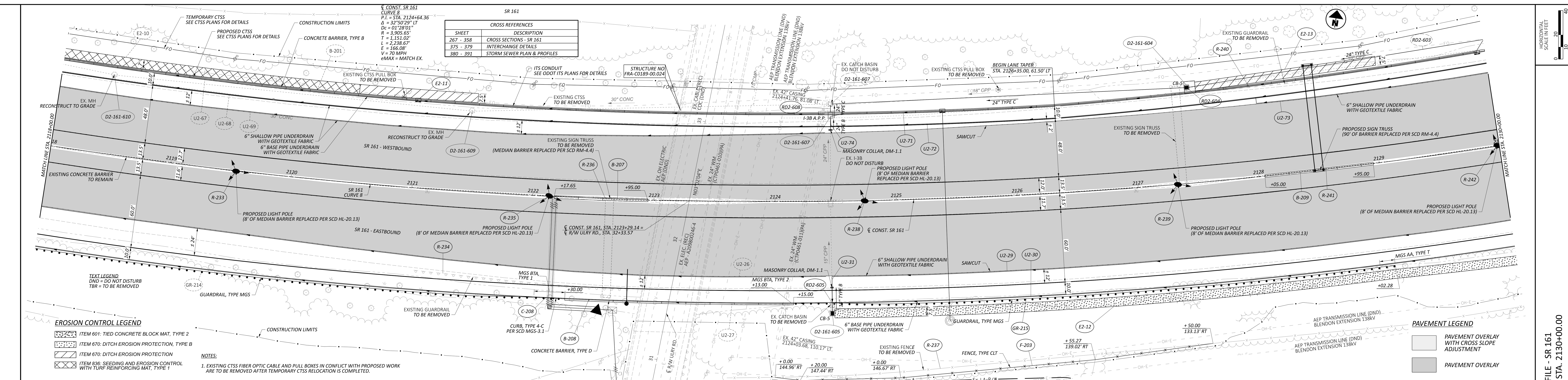
NOTES:
 1. EXISTING CTSS FIBER OPTIC CABLE AND PULL BOXES IN CONFLICT WITH PROPOSED WORK ARE TO BE REMOVED AFTER TEMPORARY CTSS RELOCATION IS COMPLETED.



- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY





EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

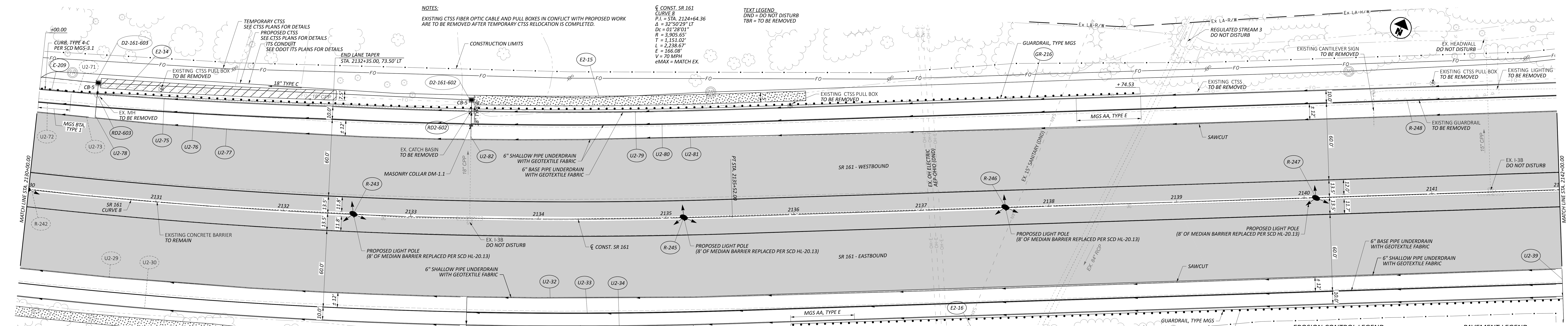
NOTES:

- EXISTING CTSS FIBER OPTIC CABLE AND PULL BOXES IN CONFLICT WITH PROPOSED WORK ARE TO BE REMOVED AFTER TEMPORARY CTSS RELOCATION IS COMPLETED.

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY

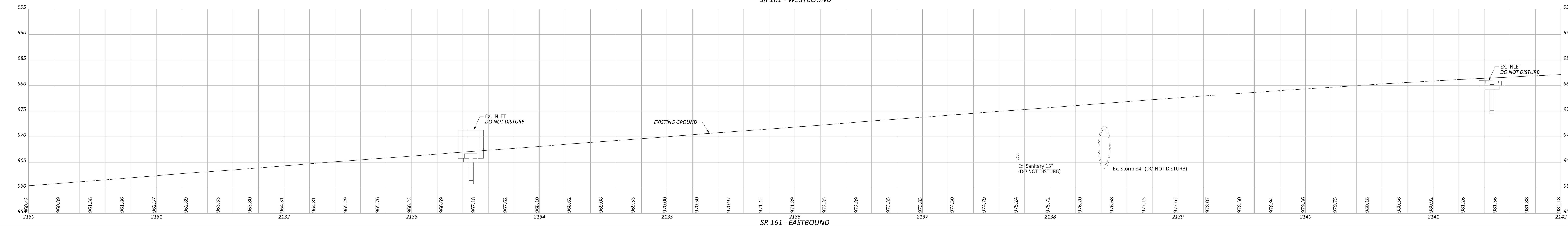
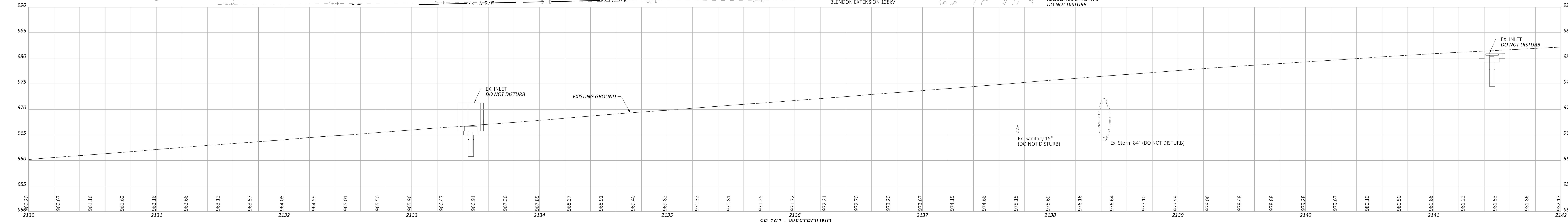
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CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

EROSION CONTROL LEGEND	
[Symbol]	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
[Symbol]	ITEM 670: DITCH EROSION PROTECTION, TYPE B
[Symbol]	ITEM 670: DITCH EROSION PROTECTION
[Symbol]	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND	
[Symbol]	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
[Symbol]	PAVEMENT OVERLAY

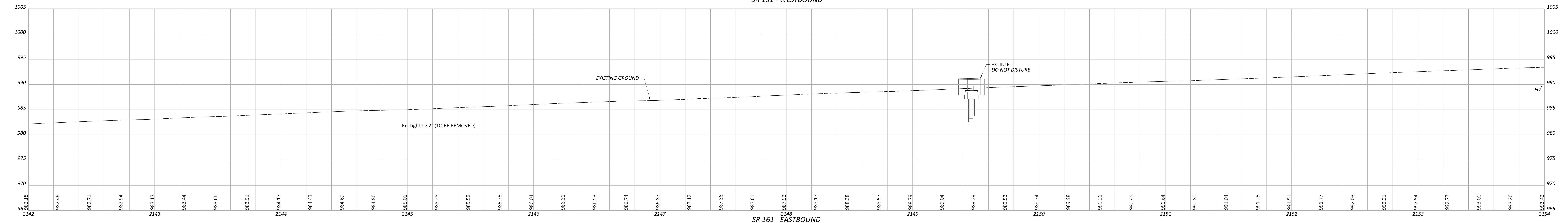
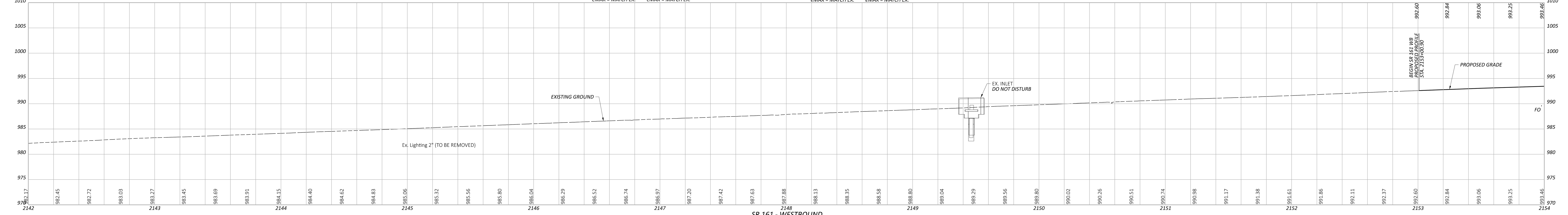
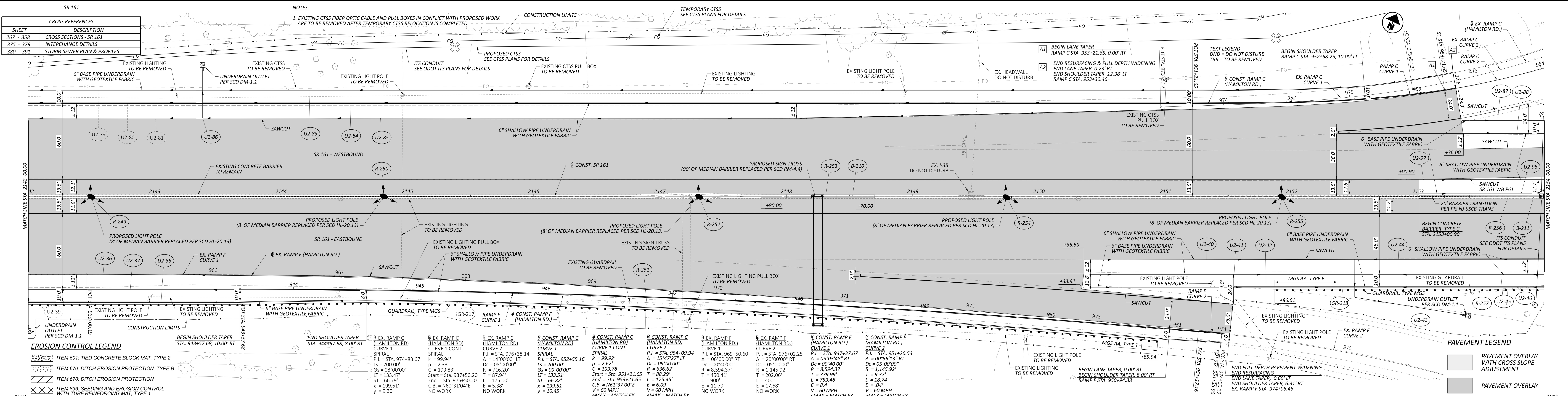


PLAN AND PROFILE - SR 161
 STA. 2130+00.00 TO STA. 2142+00.00

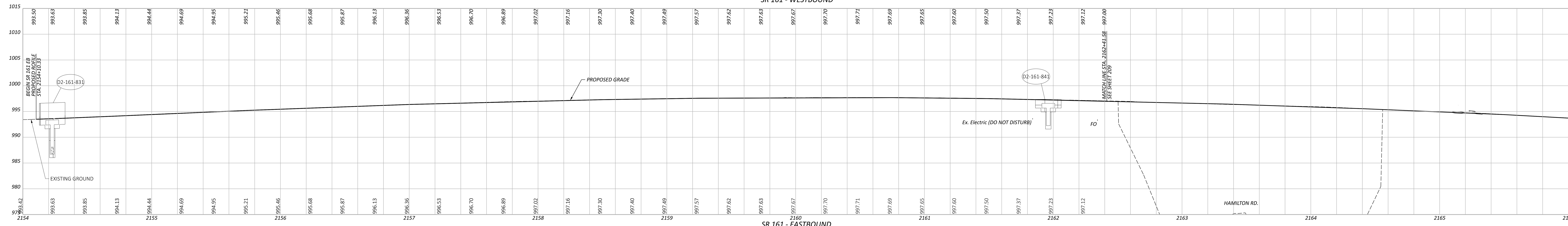
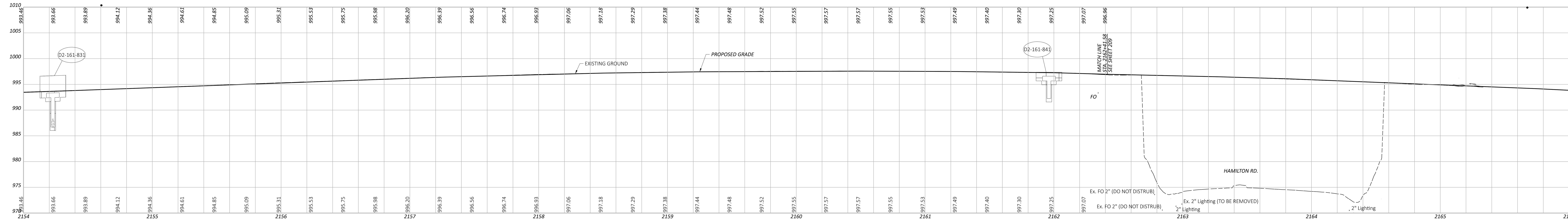
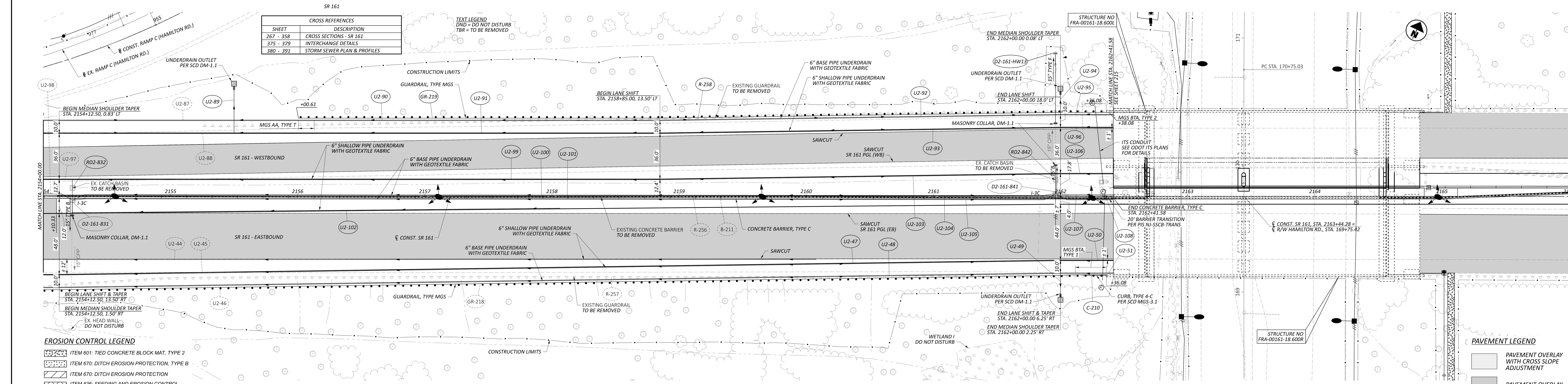
DESIGN AGENCY: E.L. ROBINSON
 PROJECT ID: 116321
 SHEET TOTAL: 212 / 846

SHEET	CROSS REFERENCES
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

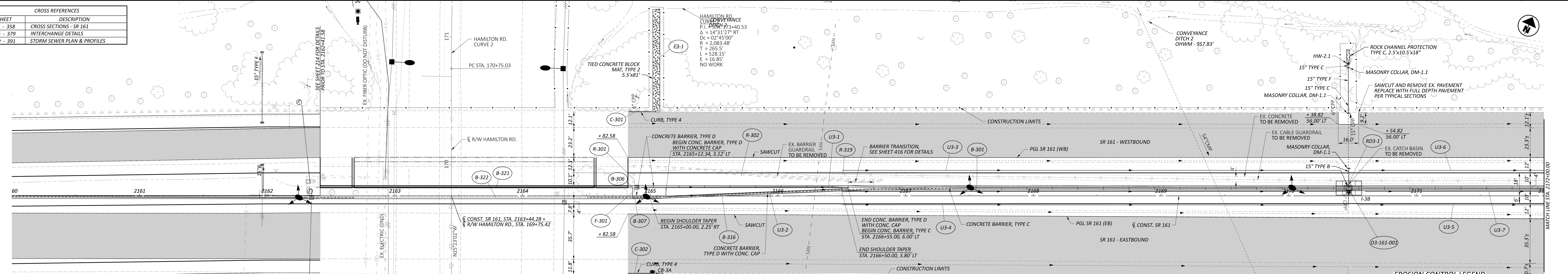
NOTES:
 1. EXISTING CTSS FIBER OPTIC CABLE AND PULL BOXES IN CONFLICT WITH PROPOSED WORK ARE TO BE REMOVED AFTER TEMPORARY CTSS RELOCATION IS COMPLETED.



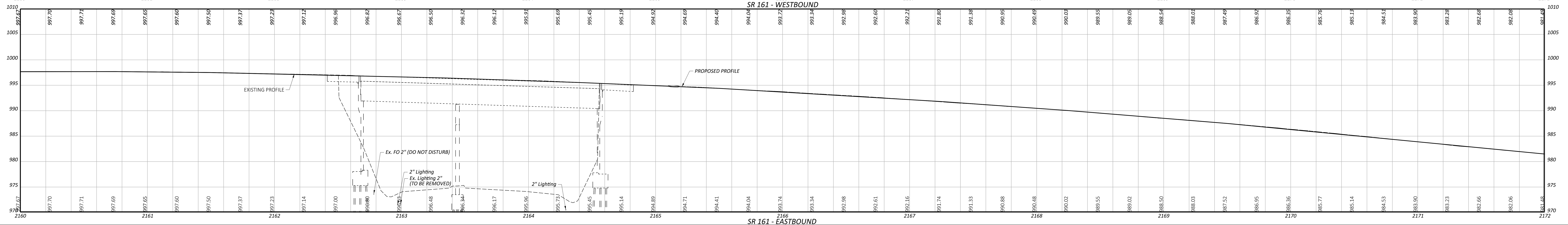
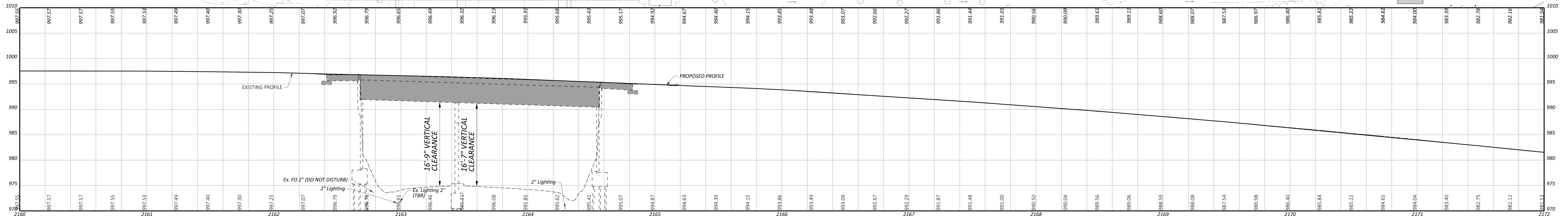
PLAN AND PROFILE - SR 161
 STA. 2142+00.00 TO STA. 2154+00.00
 DESIGN AGENCY: E.L. ROBINSON
 PROJECT ID: 116322
 SHEET TOTAL: 213 OF 846



CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION, TYPE C
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
 - ITEM 870: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
 - VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED
- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY



PLAN AND PROFILE - SR 161
 STA. 2160+00 TO STA. 2172+00
 DESIGN AGENCY: HR
 DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116322
 SHEET: 151
 215 846

CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

RAMP D (HAMILTON RD)
CURVE 3
P.I. = STA. 998+40.72
 $\Delta = 15^{\circ}04'50''$ LT
Dc = $34^{\circ}00'00''$
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T = 189.60'
L = 377.03'
E = 12.49'
V = 60 MPH
eMAX = MATCH EX

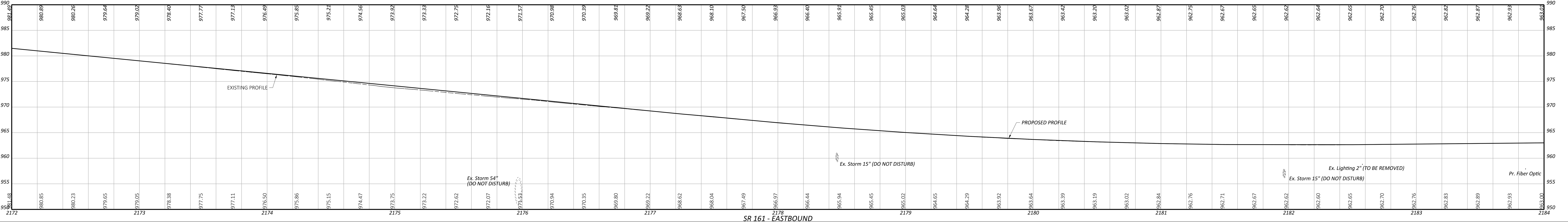
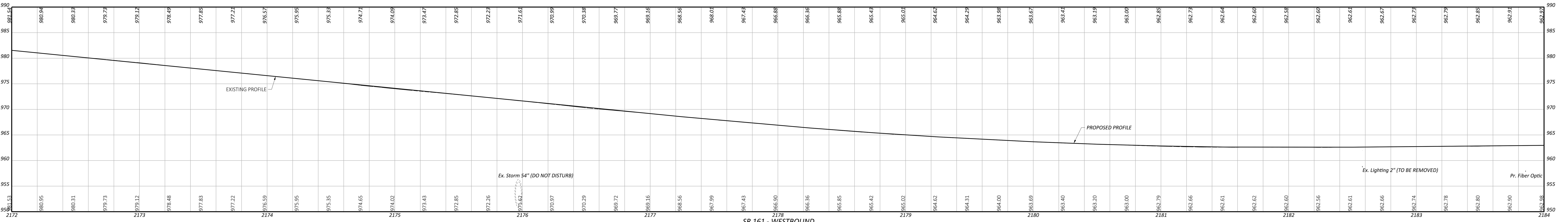
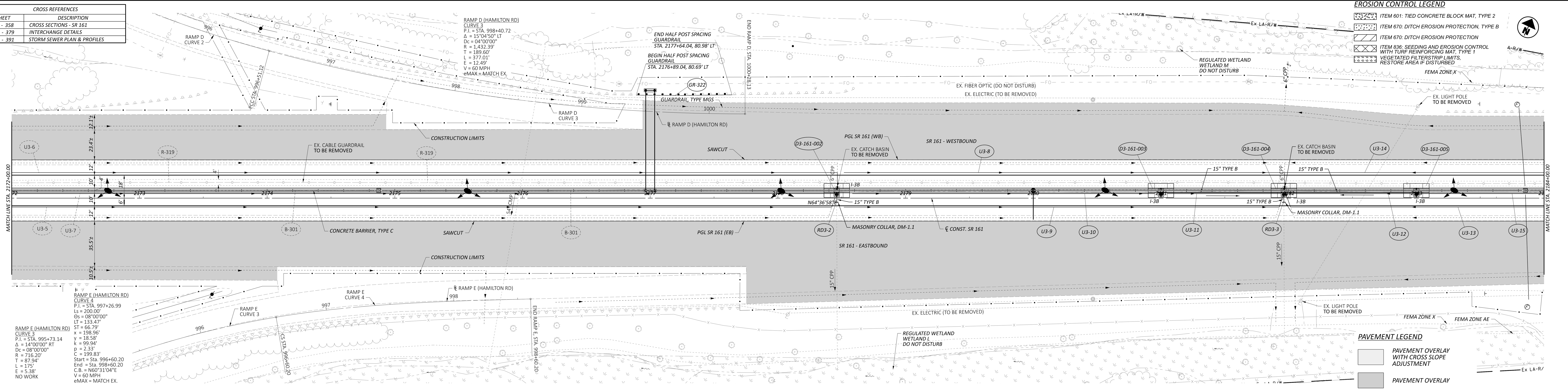
END HALF POST SPACING
GUARDRAIL
STA. 2177+64.04, 80.98' LT
BEGIN HALF POST SPACING
GUARDRAIL
STA. 2176+89.04, 80.69' LT

EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

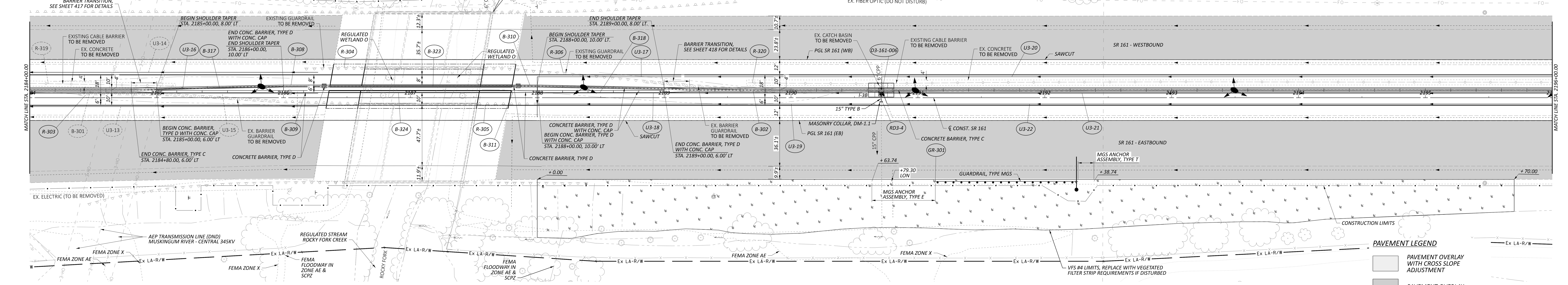
PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



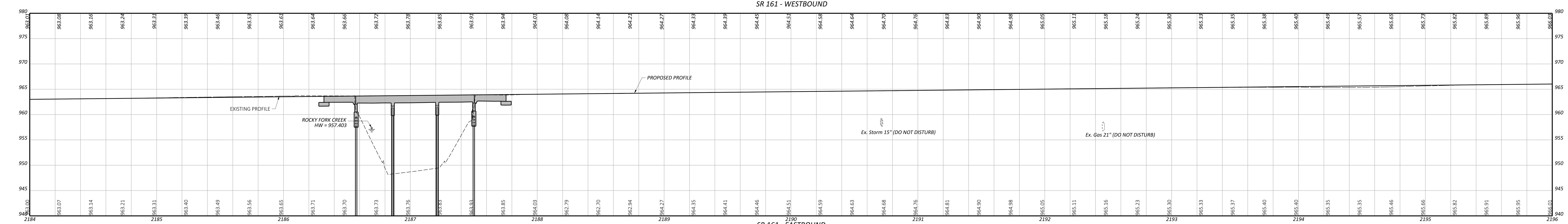
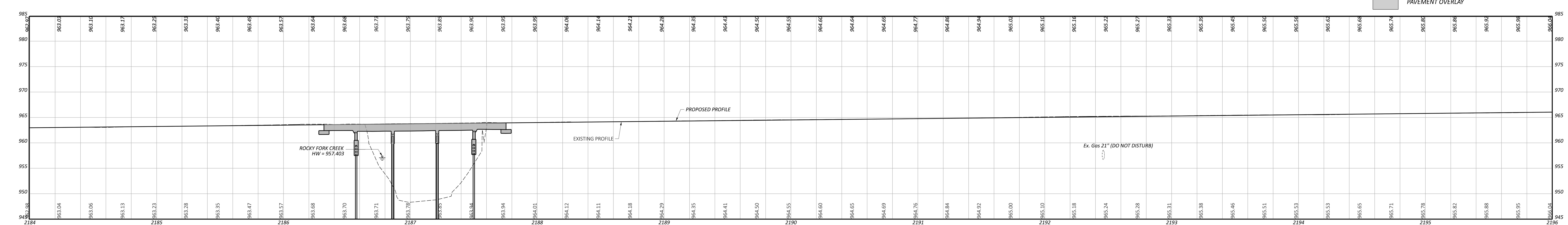
CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

REGULATED WETLAND M (DO NOT DISTURB)
DO NOT DISTURB
REGULATED WETLAND O
DO NOT DISTURB
FEMA FLOODWAY IN ZONE AE & SCPZ
ROCKY FORK
EX. FIBER OPTIC (DO NOT DISTURB)
BARRIER TRANSITION, SEE SHEET 417 FOR DETAILS
REGULATED WETLAND O
DO NOT DISTURB
EX. FIBER OPTIC (DO NOT DISTURB)
EX. FIBER OPTIC (DO NOT DISTURB)
EX. FIBER OPTIC (DO NOT DISTURB)



EROSION CONTROL LEGEND	
	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
	VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND	
	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY

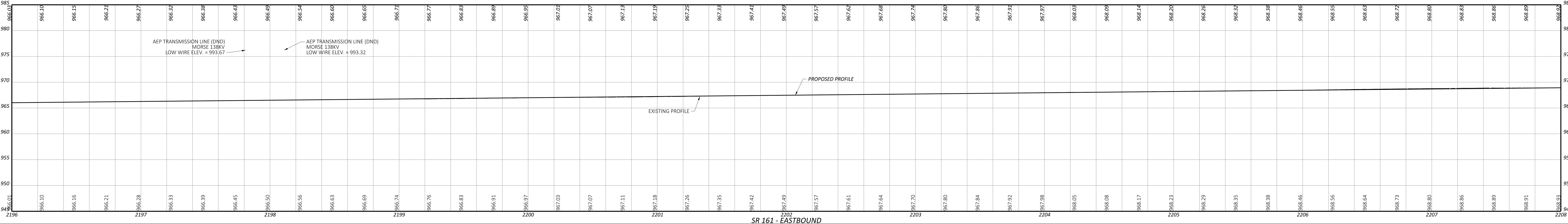
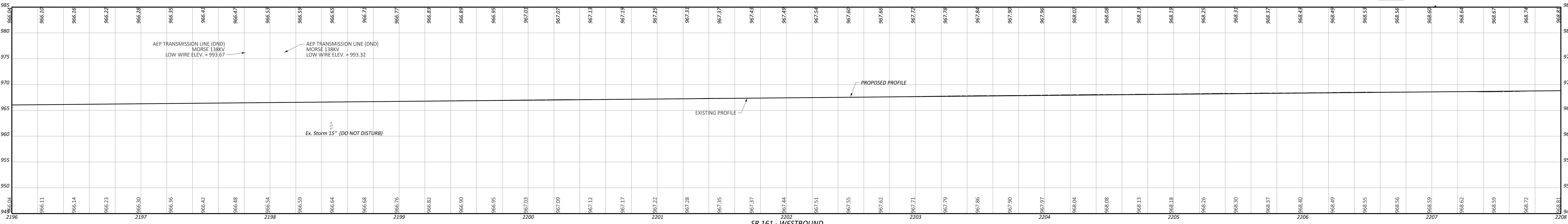
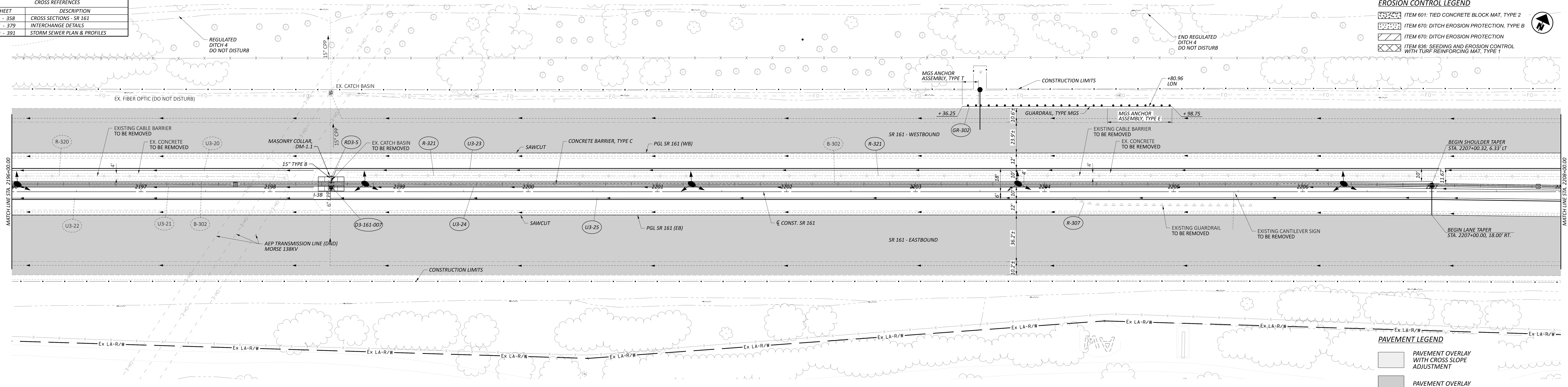


PLAN AND PROFILE - SR 161
 STA. 2184+00 TO STA. 2196+00

CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

EROSION CONTROL LEGEND	
	ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
	ITEM 670: DITCH EROSION PROTECTION, TYPE B
	ITEM 670: DITCH EROSION PROTECTION
	ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND	
	PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
	PAVEMENT OVERLAY

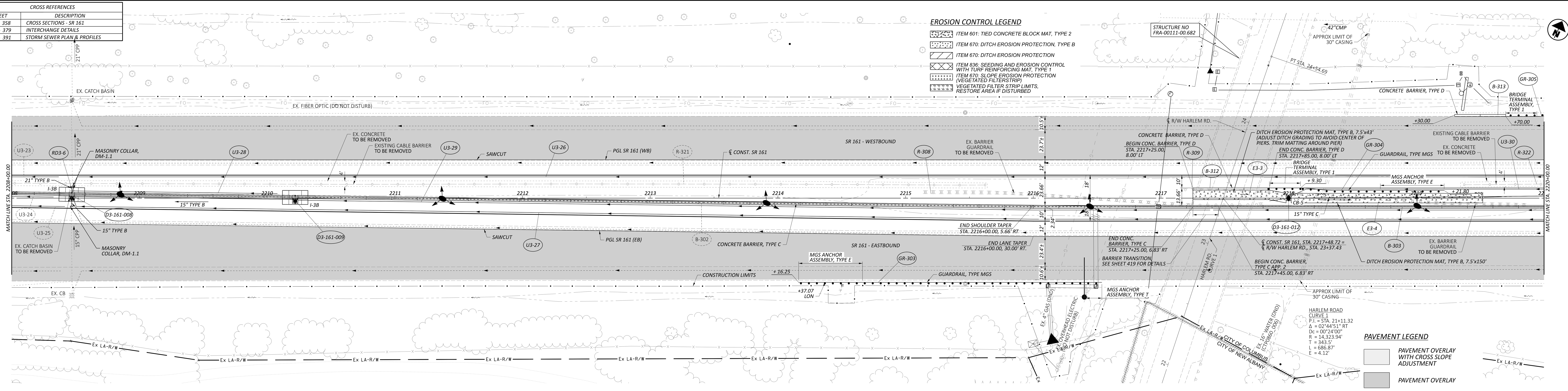


PLAN AND PROFILE - SR 161
 STA. 2196+00 TO STA. 2208+00
 DESIGN AGENCY: HDR
 DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116332
 SHEET TOTAL: 181
 218 846

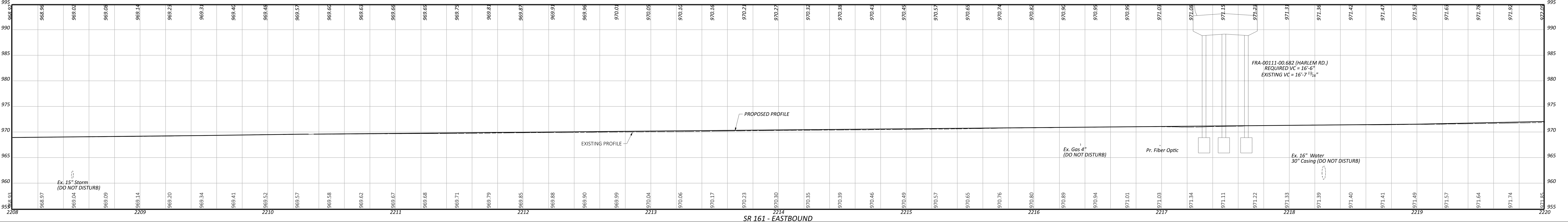
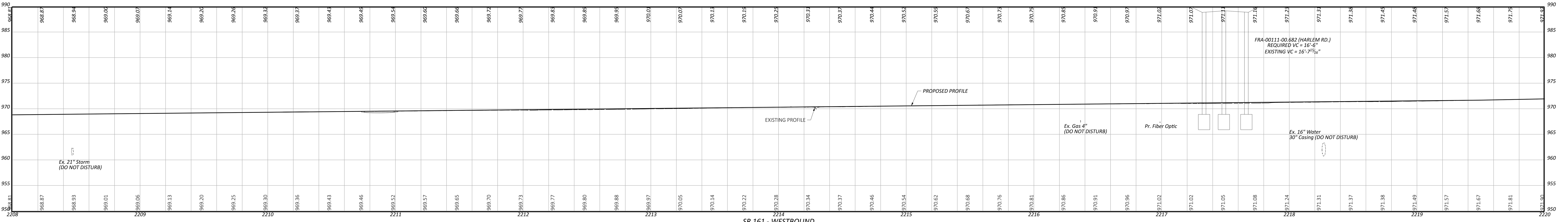
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 PLOT USER: CWALSH

CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
 - ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTERSTRIP)
 - VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED



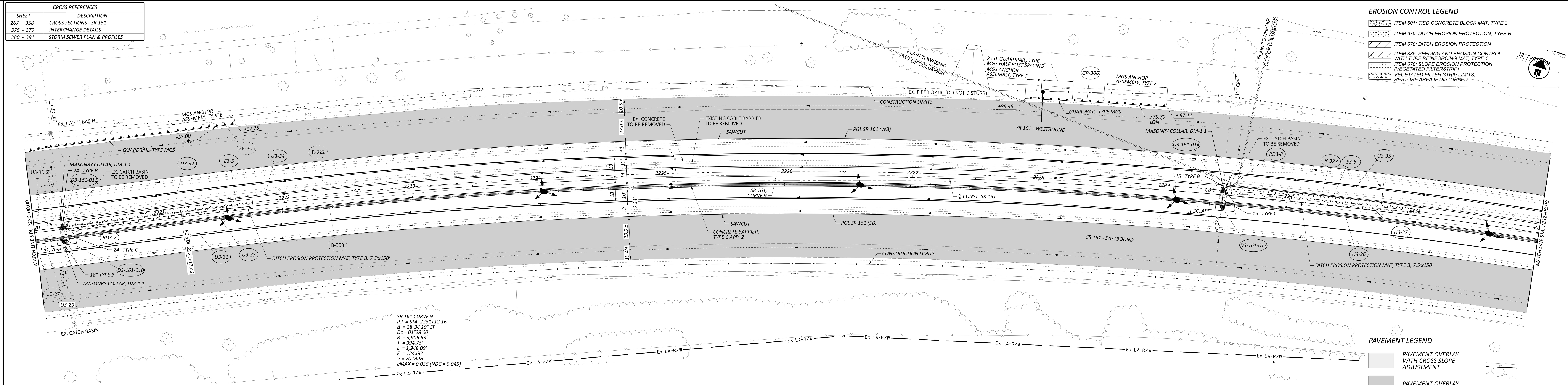
- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY



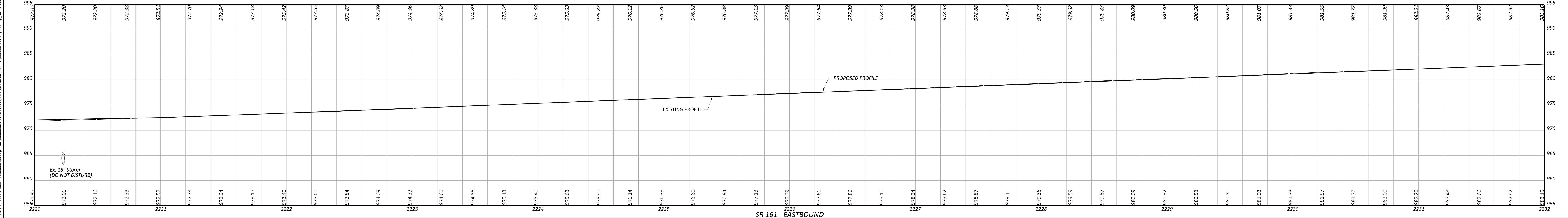
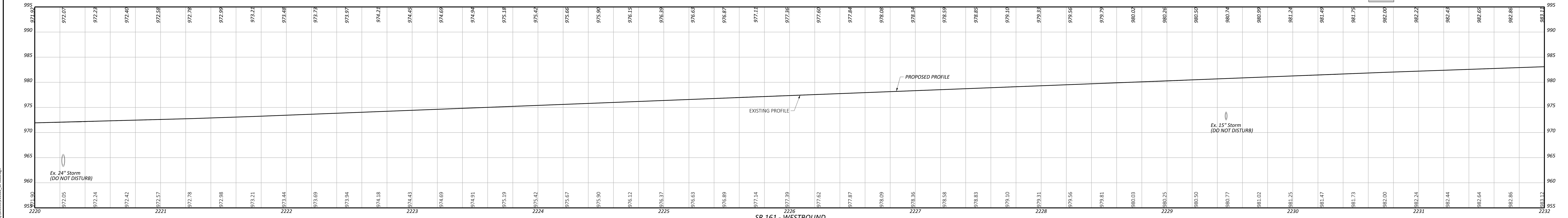
CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION, TYPE C
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
 - ITEM 670: SLOPE EROSION PROTECTION (VEGETATED FILTER STRIP)
 - VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY

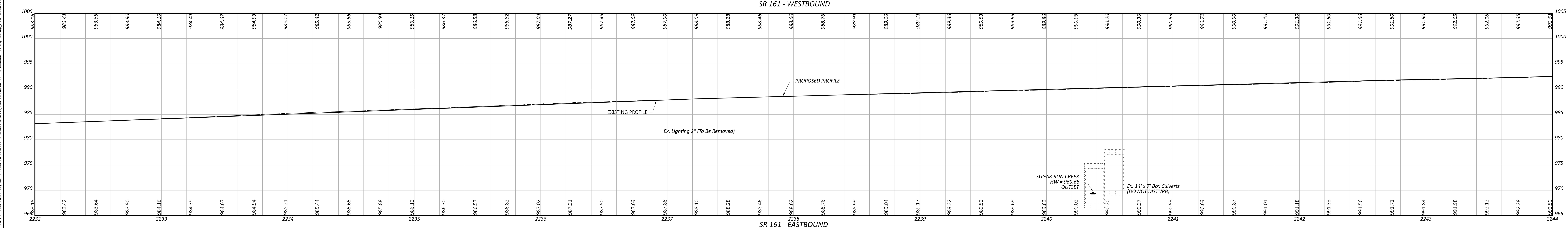
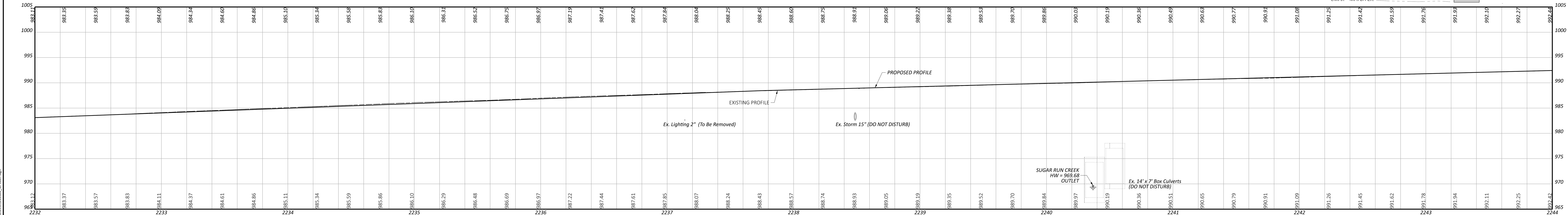
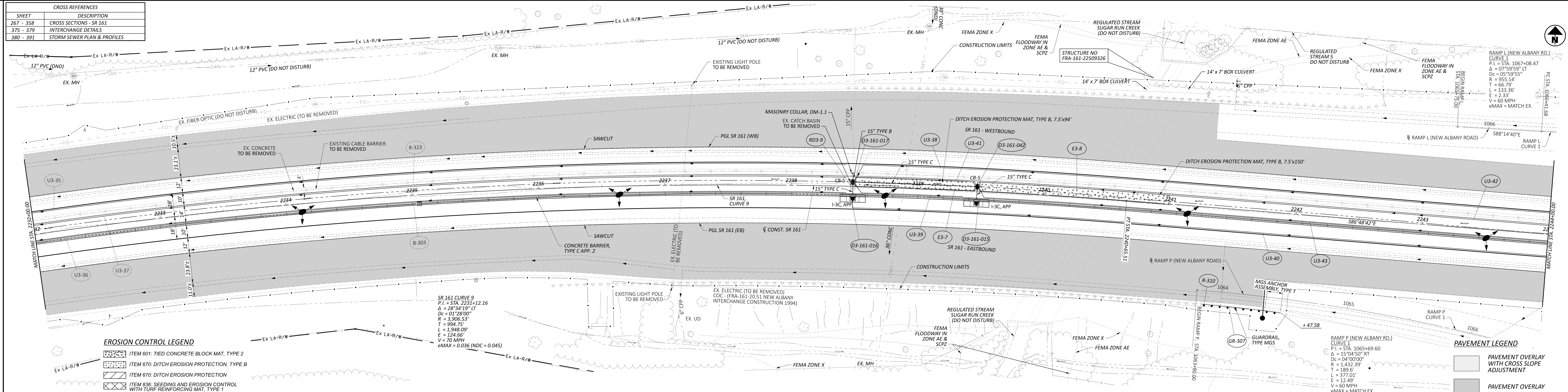


SR 161 CURVE 9
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 $D_c = 01^{\circ}28'00''$
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 $T = 994.75'$
 $L = 1,948.09'$
 $E = 124.66'$
 $V = 70$ MPH
 $e_{MAX} = 0.036$ (NDC = 0.045)



FR-161-15-80
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CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



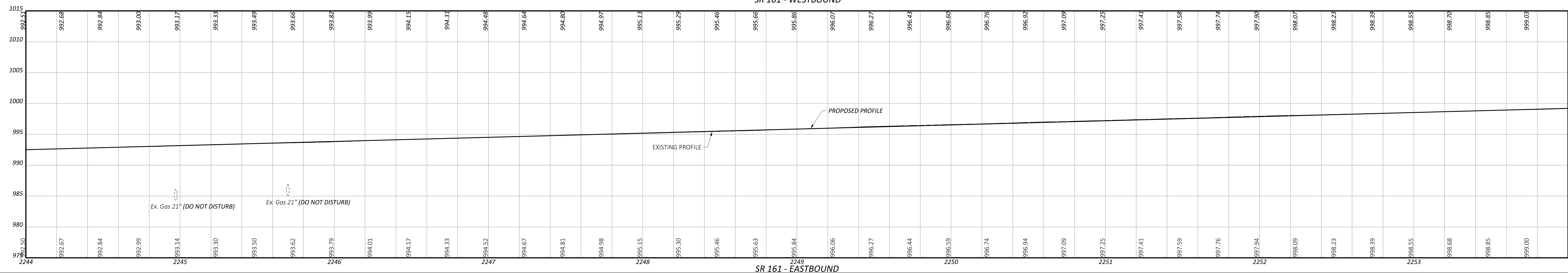
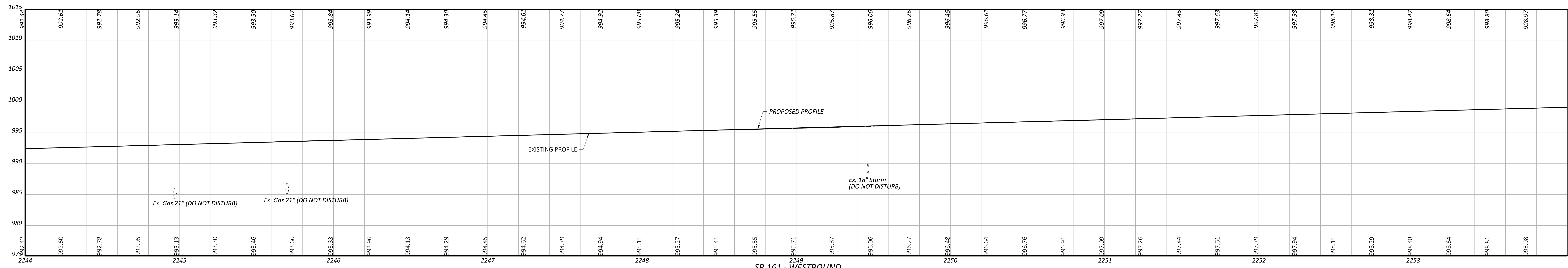
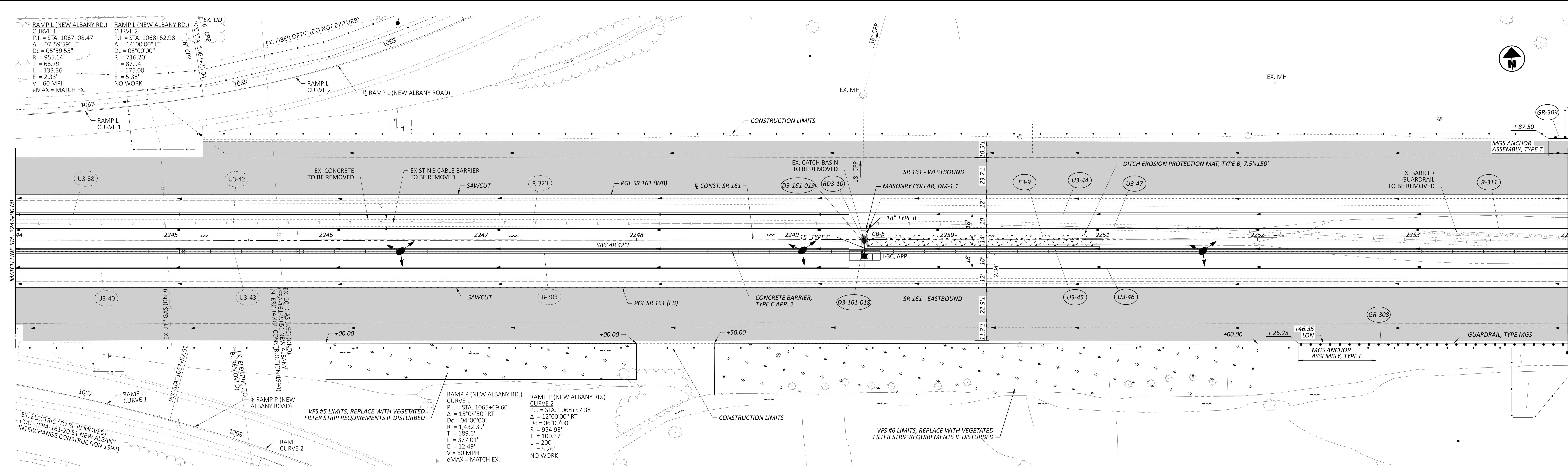
PLAN AND PROFILE - SR 161
 STA. 2232+00 TO STA. 2244+00

DESIGN AGENCY
HR

DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116322
 SHEET TOTAL: 221 | 846

FRA-161-15-80
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 www.hydrocad.com

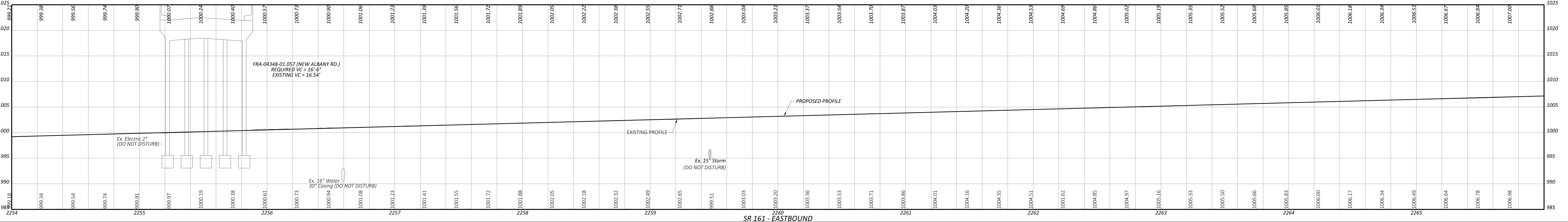
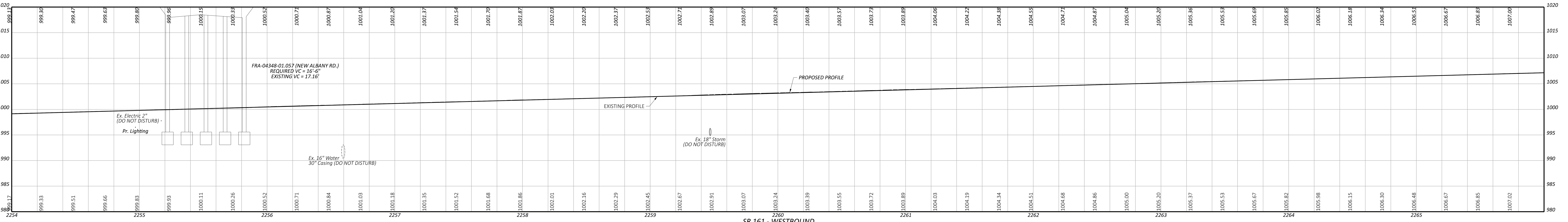
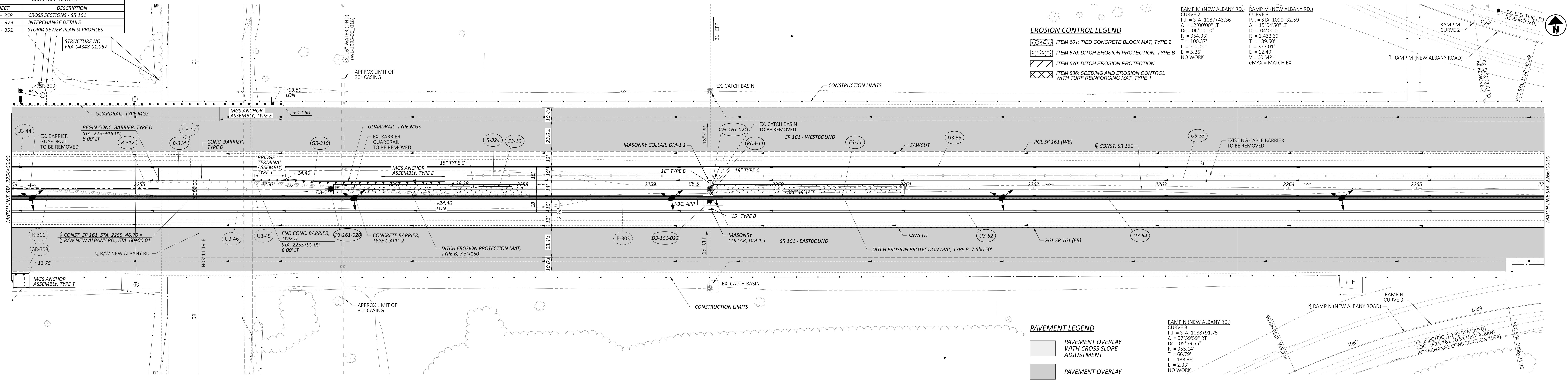
CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
 - VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED
- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY

FRA-161-15-80
 MODEL: 116332_021023_RP1580.dwg DATE: 02/10/23 TIME: 7:58:58 PM USER: CWALSH
 www.hydrocad.com

SHEET	CROSS REFERENCES
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



PLAN AND PROFILE - SR 161
 STA. 2254+00 TO STA. 2266+00
 DESIGN AGENCY: HDR
 DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116332
 SHEET: 223 OF 246

FRA-161-15-80
 MODEL: 116332_021023_PlanProfile.dwg
 DATE: 02/10/23
 TIME: 10:45 AM
 USER: CWALSH
 PLOT: 116332_021023_PlanProfile.dwg

CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

RAMP M (NEW ALBANY RD.)
CURVE 3
P.I. = STA. 1090+32.59
Δ = 15°04'50" LT
Dc = 04°00'00"
R = 1,432.39'
T = 189.60'
L = 377.01'
E = 12.49'
V = 60 MPH
eMAX = MATCH EX.

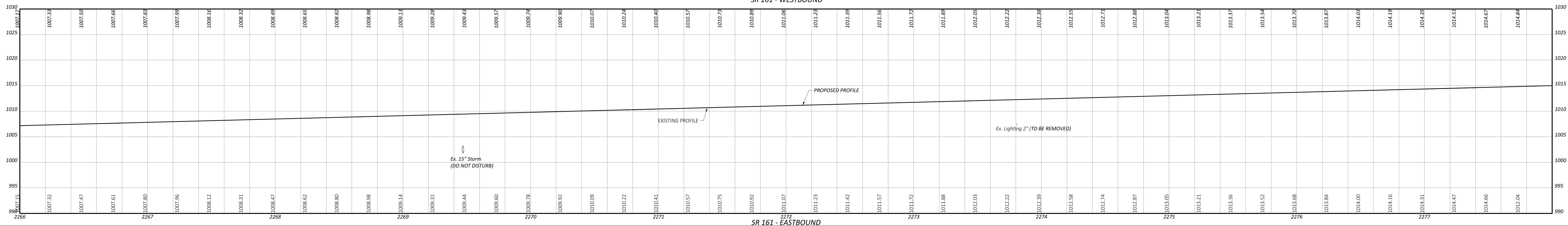
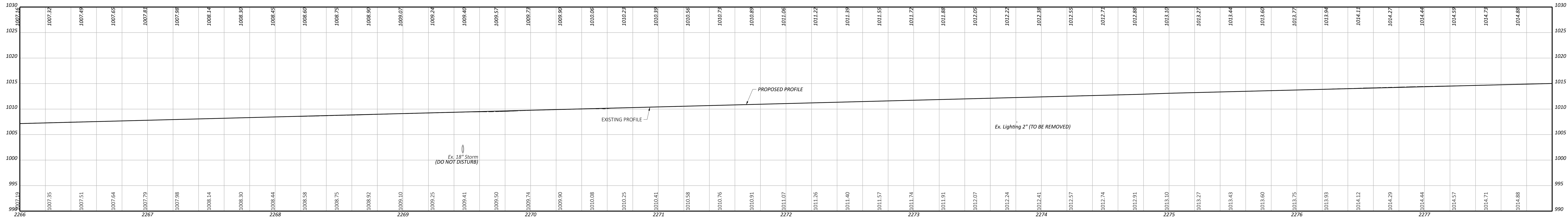
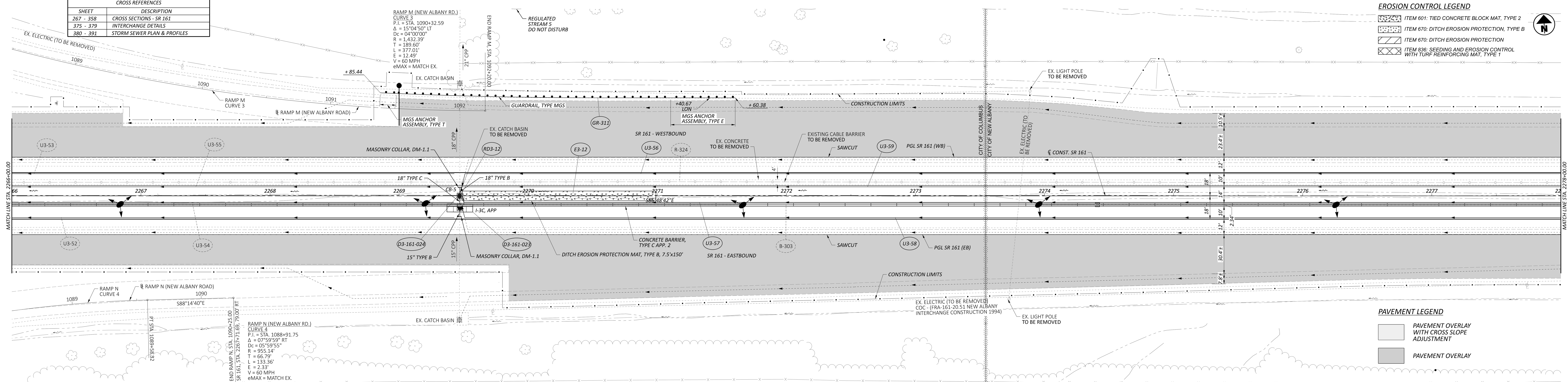
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Dc = 05°59'55"
R = 955.14'
T = 66.79'
L = 133.36'
E = 2.33'
V = 60 MPH
eMAX = MATCH EX.

EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION, TYPE A
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND

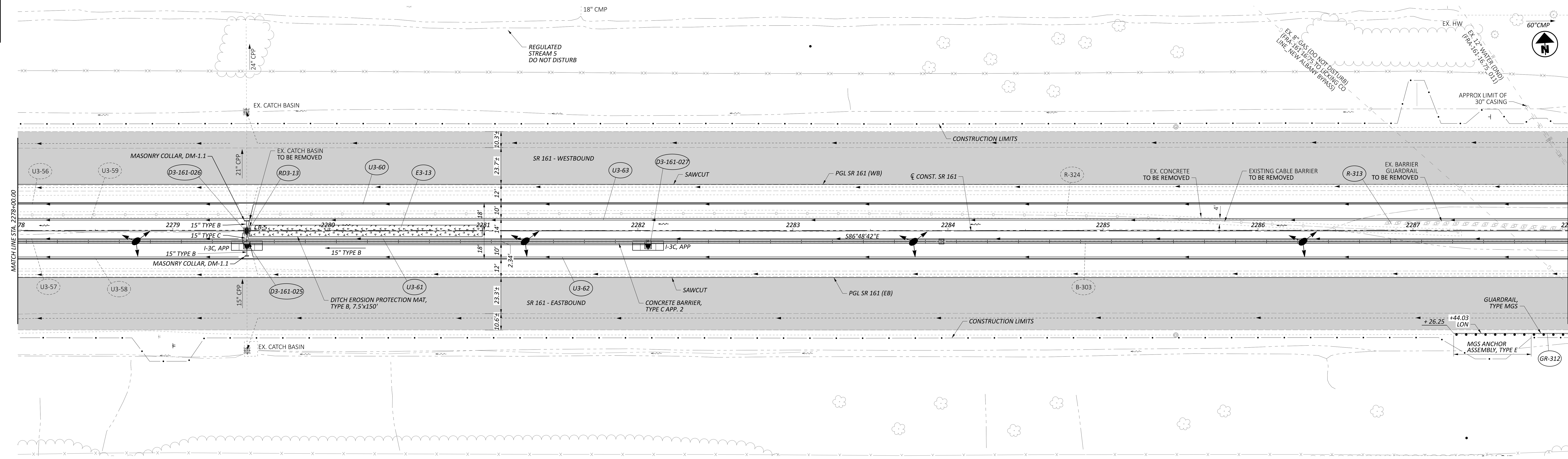
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



PLAN AND PROFILE - SR 161
 STA. 2266+00 TO STA. 2278+00
 DESIGN AGENCY: **HR**
 DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116322
 SHEET: 1581
 224 846

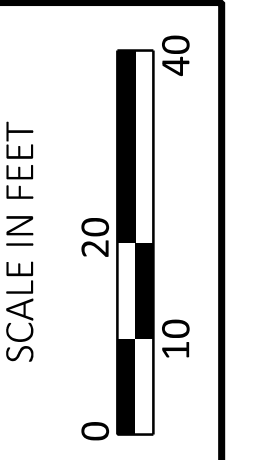
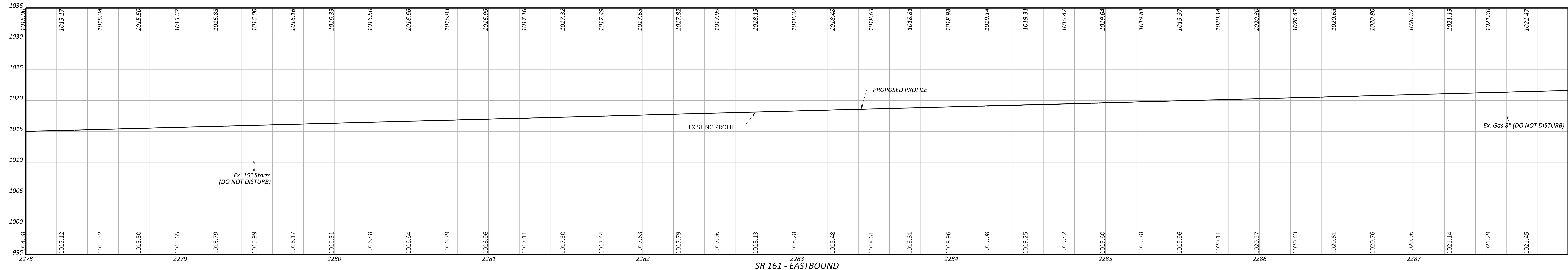
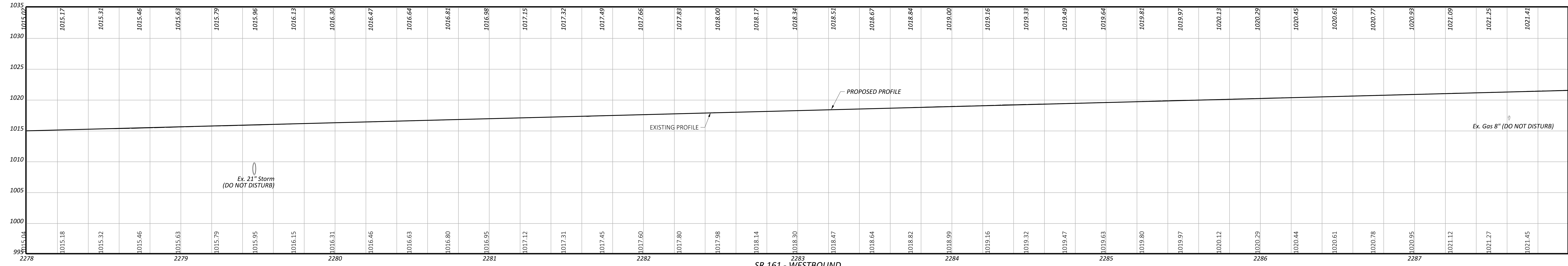
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CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY



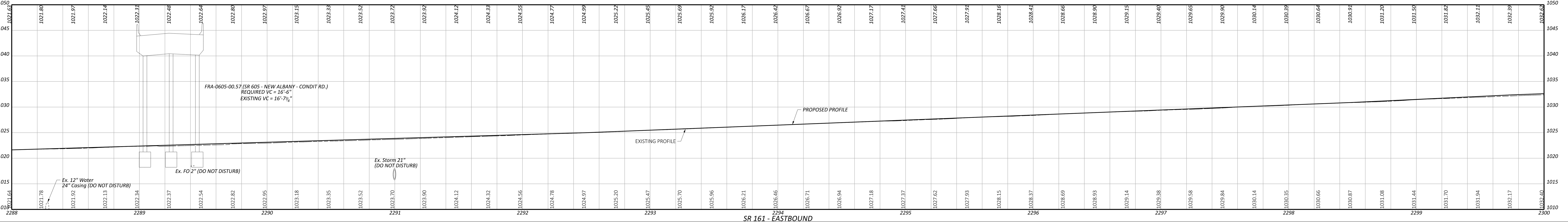
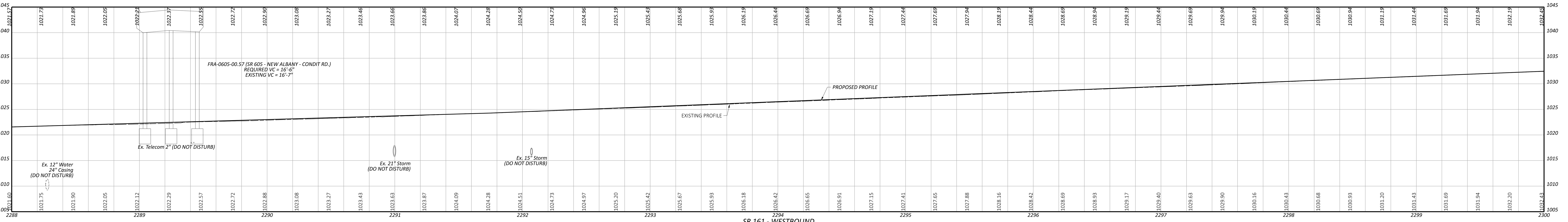
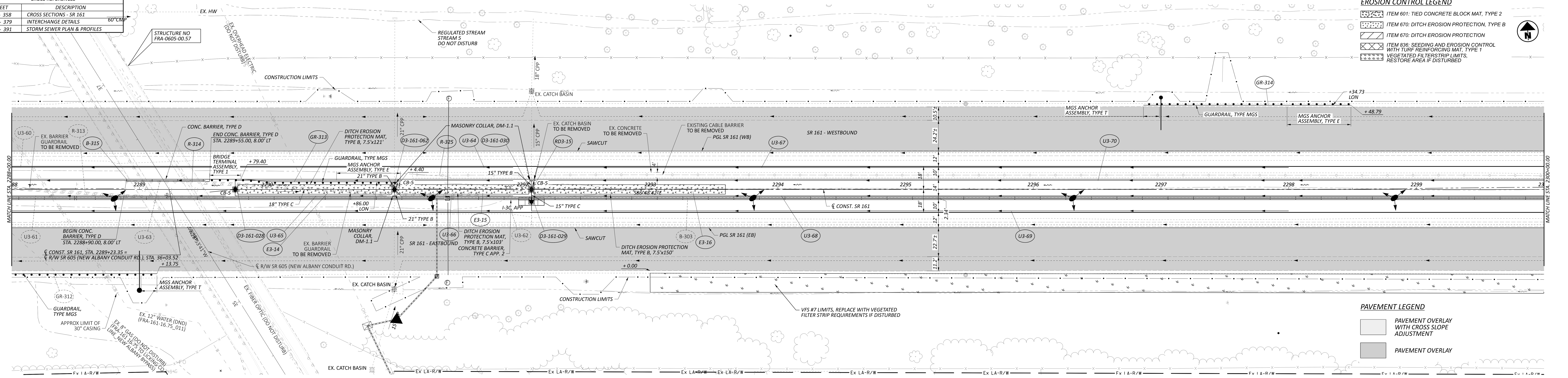
PLAN AND PROFILE - SR 161
STA. 2278+00 TO STA. 2288+00

DESIGN AGENCY	
DESIGNER	MIL
REVIEWER	KF 02/10/23
PROJECT ID	116332
SHEET TOTAL	225 / 846

SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
 - VEGETATED FILTERSTRIP LIMITS, RESTORE AREA IF DISTURBED

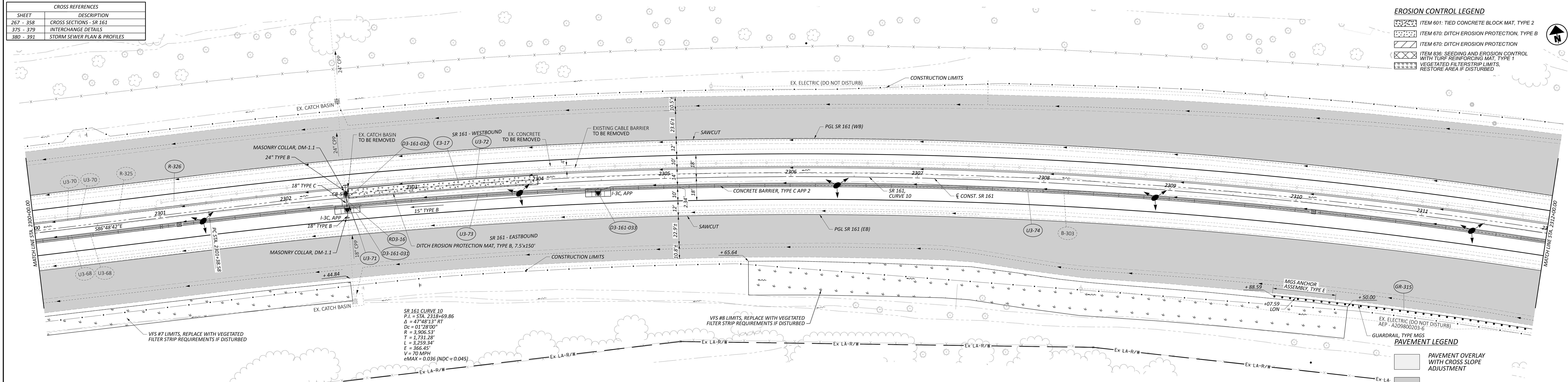
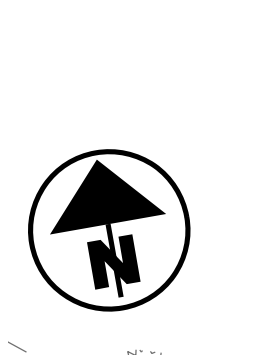
- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY



CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

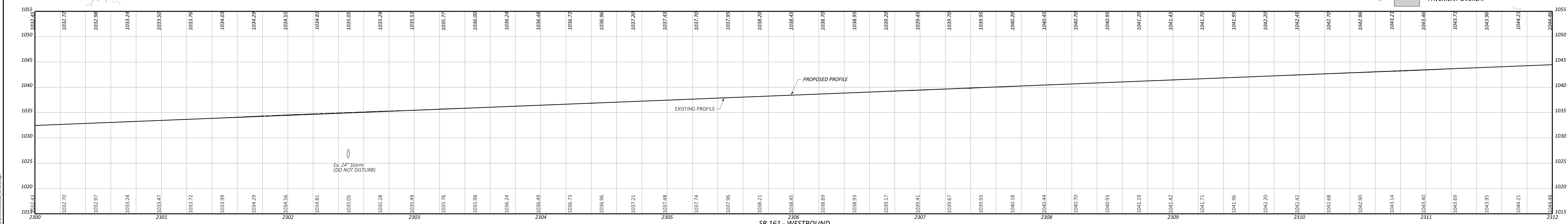
EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- VEGETATED FILTER STRIP LIMITS, RESTORE AREA IF DISTURBED

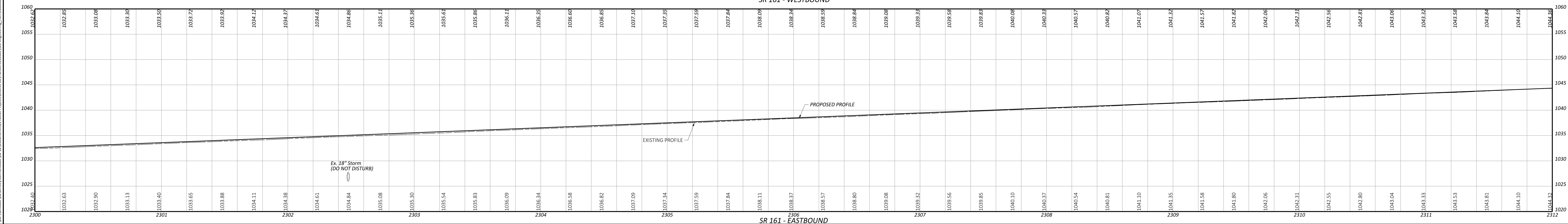


PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



SR 161 - WESTBOUND



SR 161 - EASTBOUND

PLAN AND PROFILE - SR 161
STA. 2300+00 TO STA. 2312+00

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DESIGN AGENCY

DESIGNER: MIL
 REVIEWER: KF
 PROJECT ID: 116322
 SHEET: 227 OF 231

CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

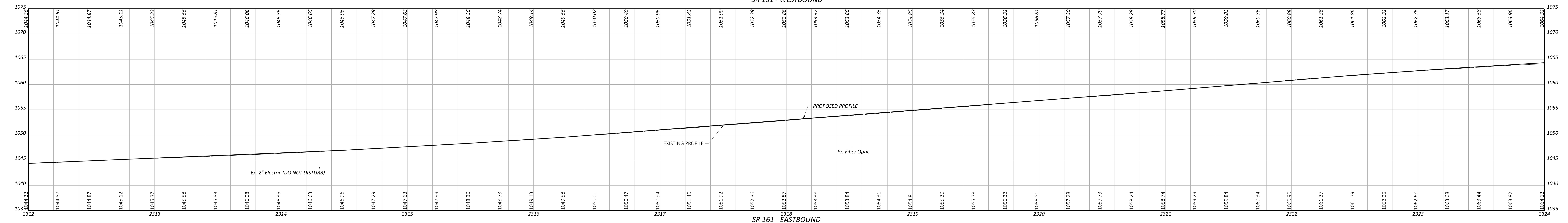
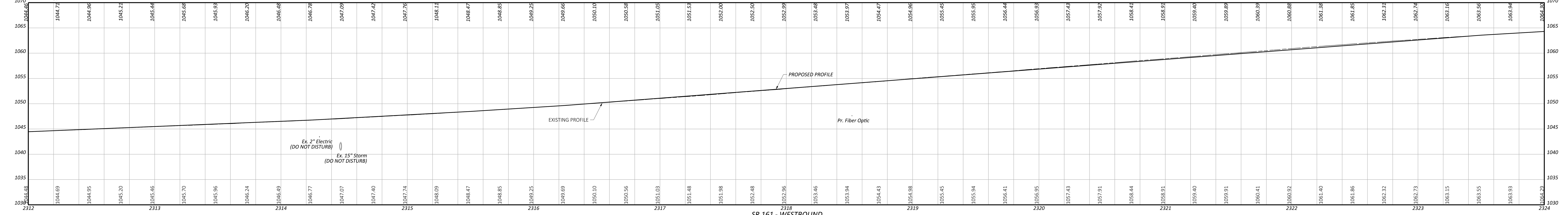
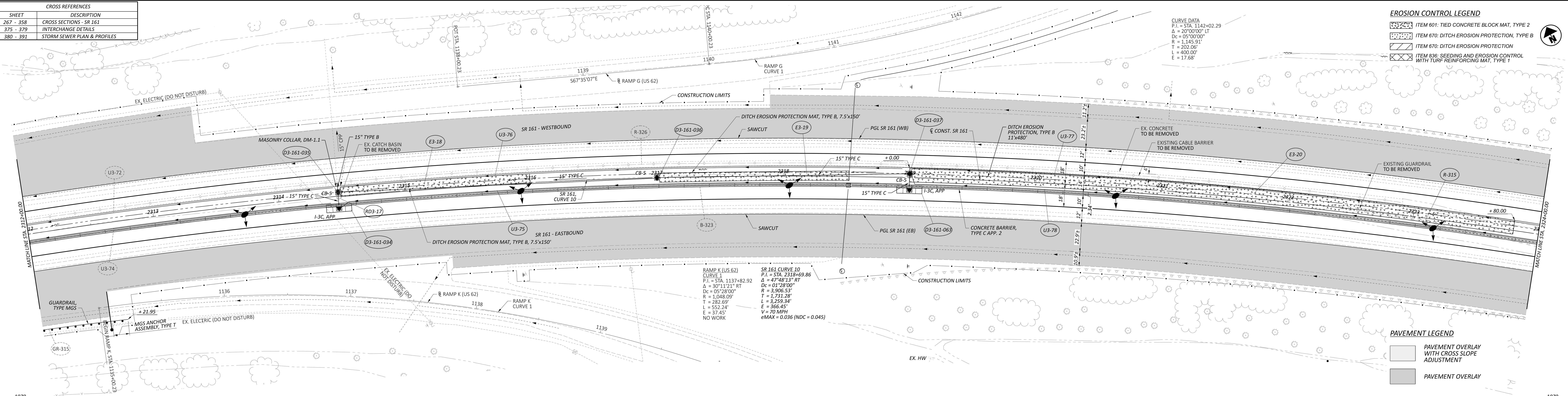
EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 670: DITCH EROSION PROTECTION
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY

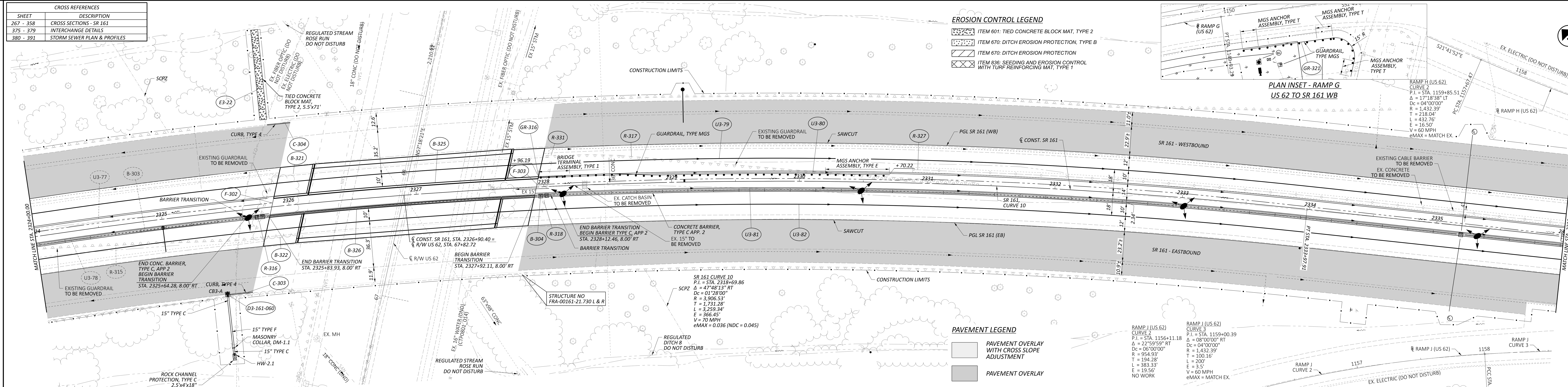
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 $R = 1,145.91'$
 $T = 202.06'$
 $L = 400.00'$
 $E = 17.68'$



PLAN AND PROFILE - SR 161
 STA. 2312+00 TO STA. 2324+00
 DESIGN AGENCY: **HR**
 DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116332
 SHEET TOTAL: 228 / 846

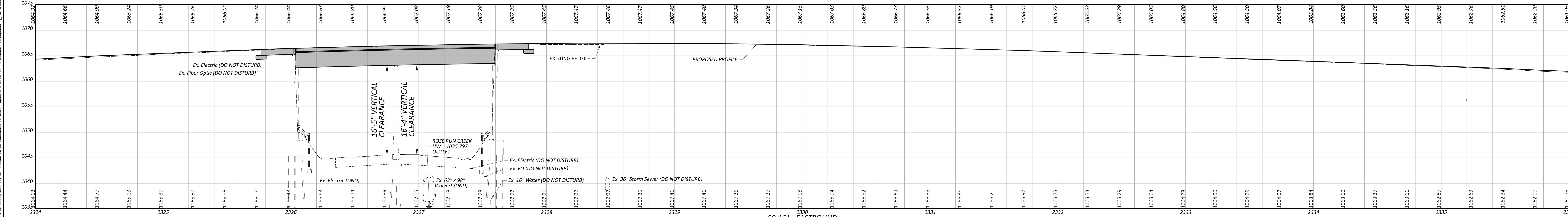
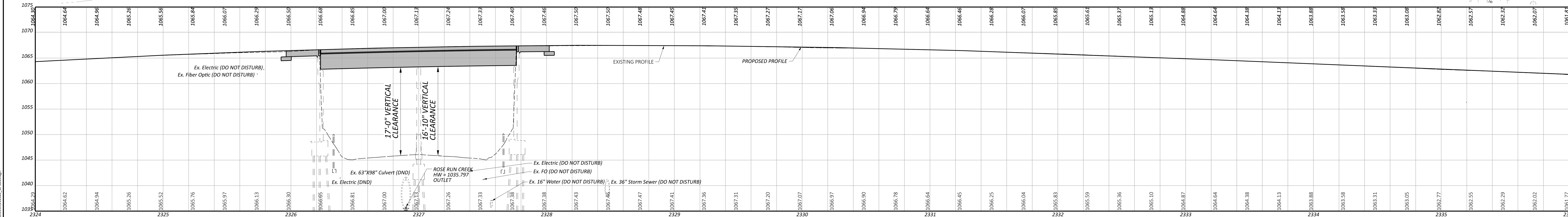
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 PLOT: 2/10/23 10:00:00 AM

SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1

- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY



PLAN AND PROFILE - SR 161
 STA. 2324+00 TO STA. 2336+00

DESIGN AGENCY
HR
 DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116332
 SHEET TOTAL: 391
 229 846

FRA-161-15-80
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CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

RAMP H (US 62)
 CURVE 2
 P.I. = STA. 1159+85.51
 $\Delta = 171^{\circ}18'38''$ LT
 $D_c = 04^{\circ}00'00''$
 $R = 1,432.39'$
 $T = 218.04'$
 $L = 432.76'$
 $E = 16.50'$
 $V = 60$ MPH
 $e_{MAX} = \text{MATCH EX.}$

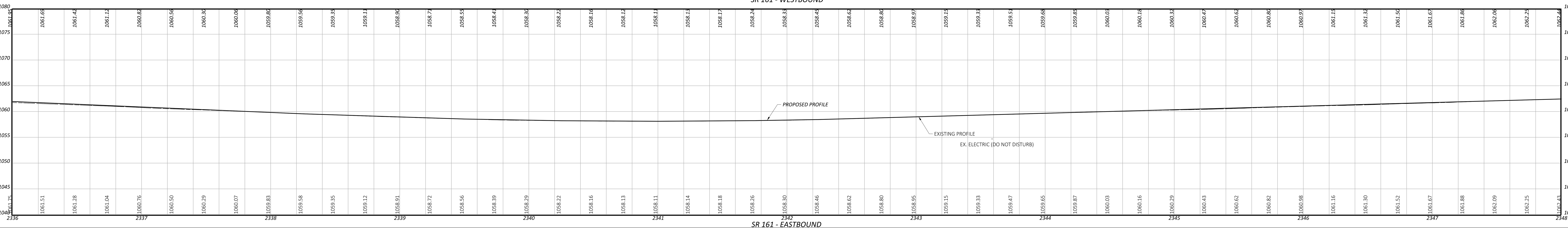
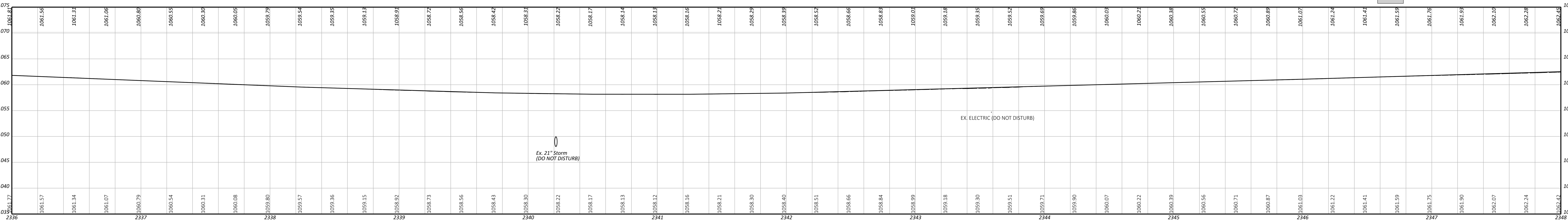
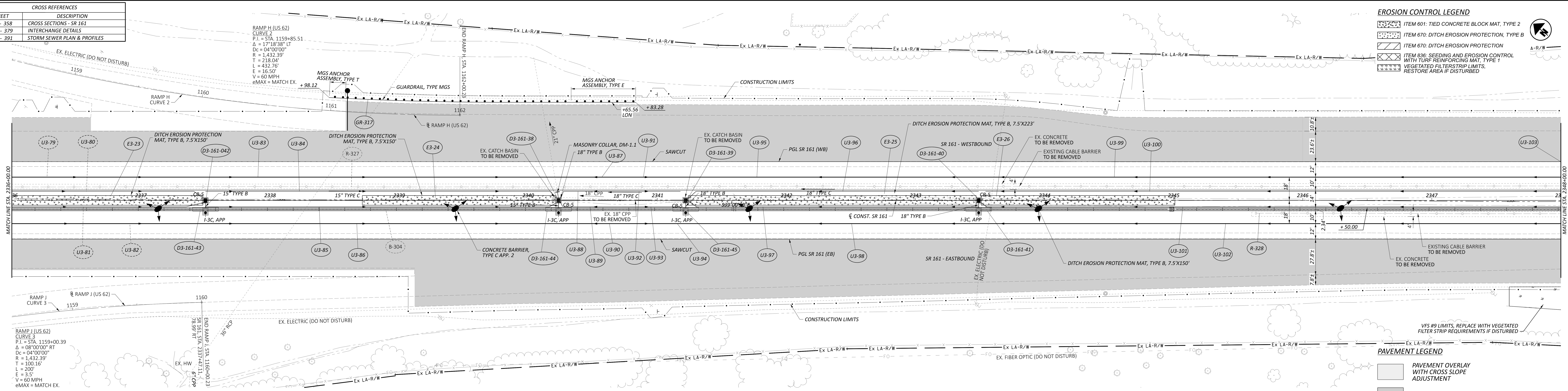
RAMP J (US 62)
 CURVE 3
 P.I. = STA. 1159+00.39
 $\Delta = 08^{\circ}00'00''$ RT
 $D_c = 04^{\circ}00'00''$
 $R = 1,432.39'$
 $T = 100.16'$
 $L = 200'$
 $V = 60$ MPH
 $e_{MAX} = \text{MATCH EX.}$

EROSION CONTROL LEGEND

- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
- ITEM 670: DITCH EROSION PROTECTION, TYPE B
- ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- VEGETATED FILTERSTRIP LIMITS, RESTORE AREA IF DISTURBED

PAVEMENT LEGEND

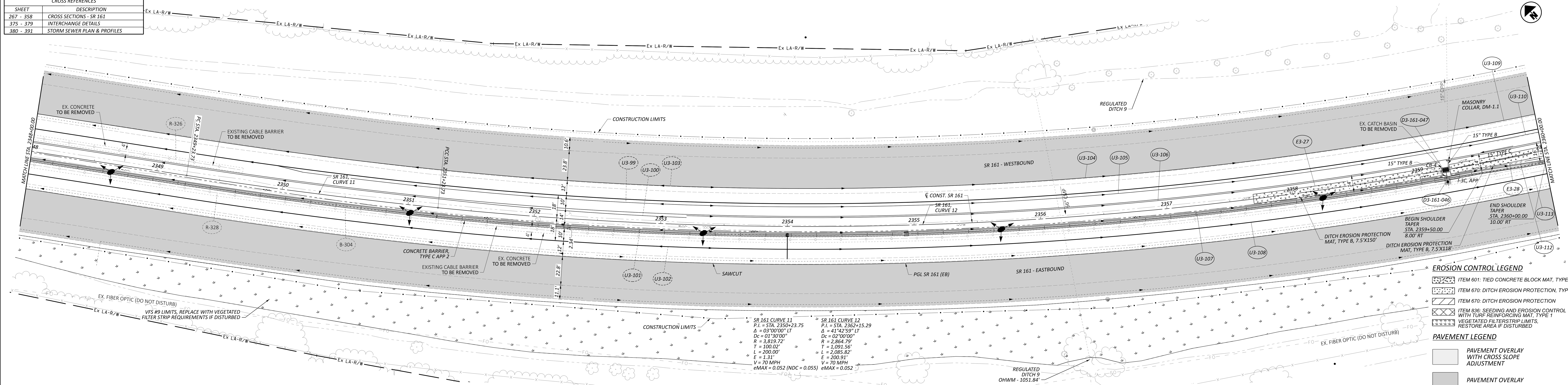
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



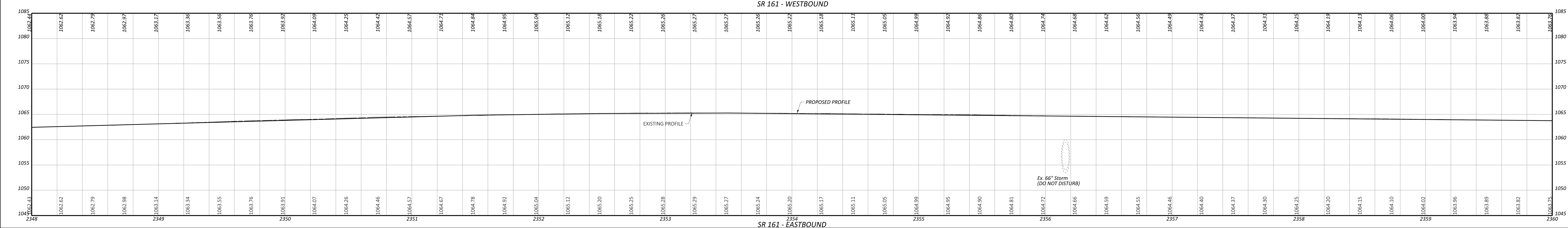
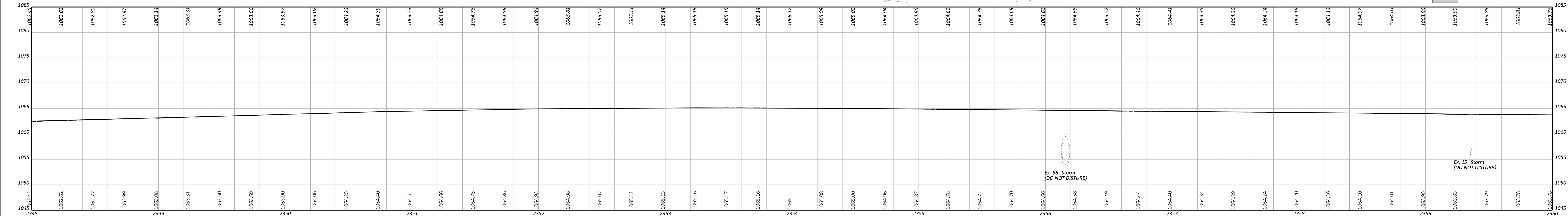
PLAN AND PROFILE - SR 161
 STA. 2336+00 TO STA. 2348+00
 DESIGN AGENCY: HR
 DESIGNER: MIL
 REVIEWER: KF 02/10/23
 PROJECT ID: 116322
 SHEET: 1381
 230 846

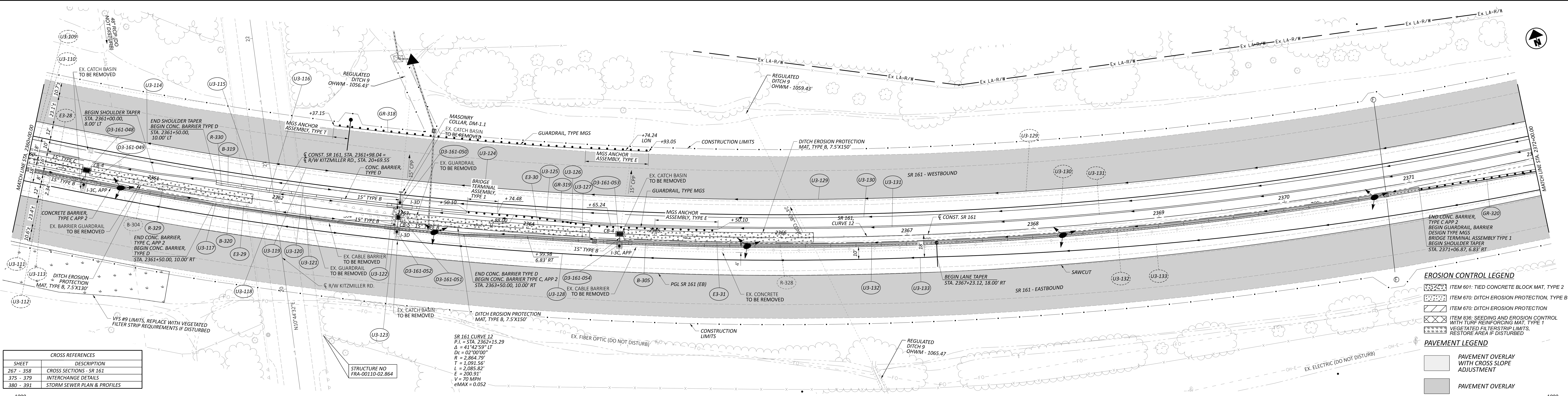
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CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

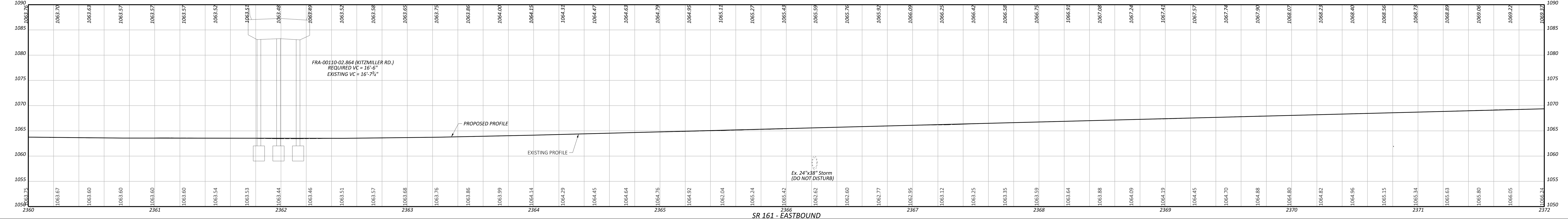
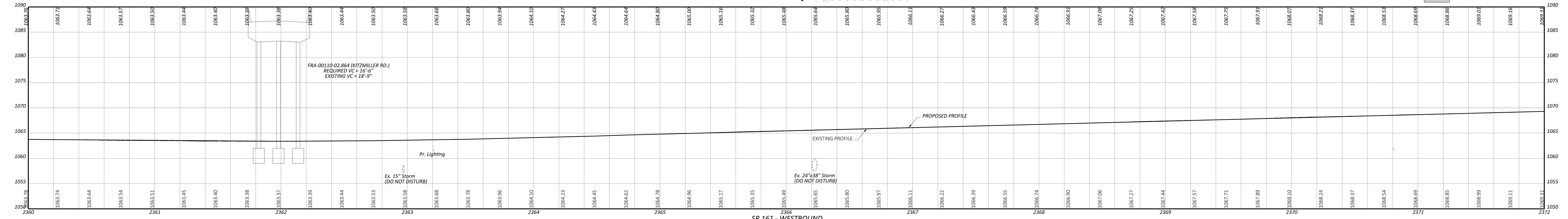


- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
 - VEGETATED FILTERSTRIP LIMITS, RESTORE AREA IF DISTURBED
- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY





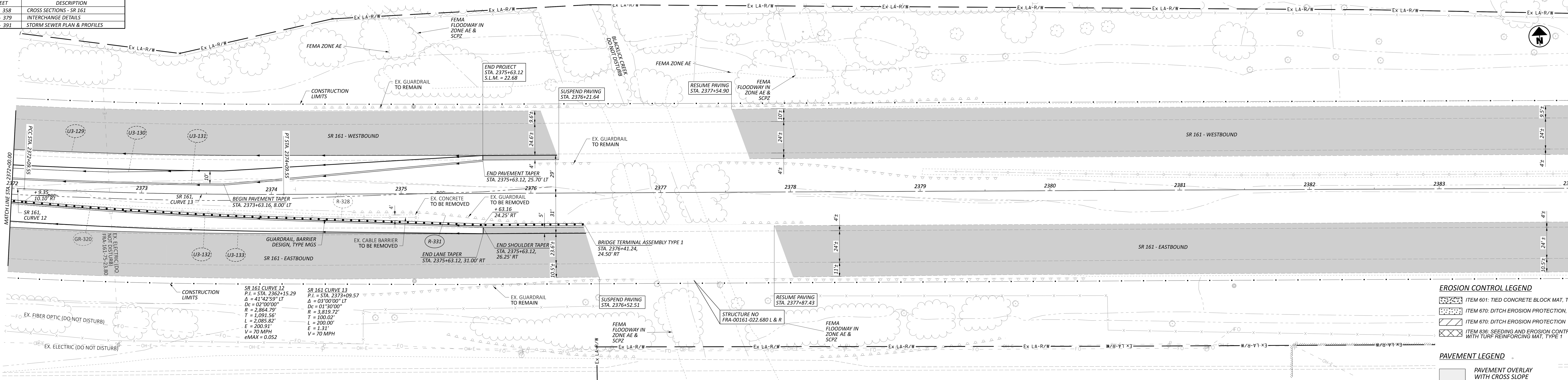
CROSS REFERENCES	
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



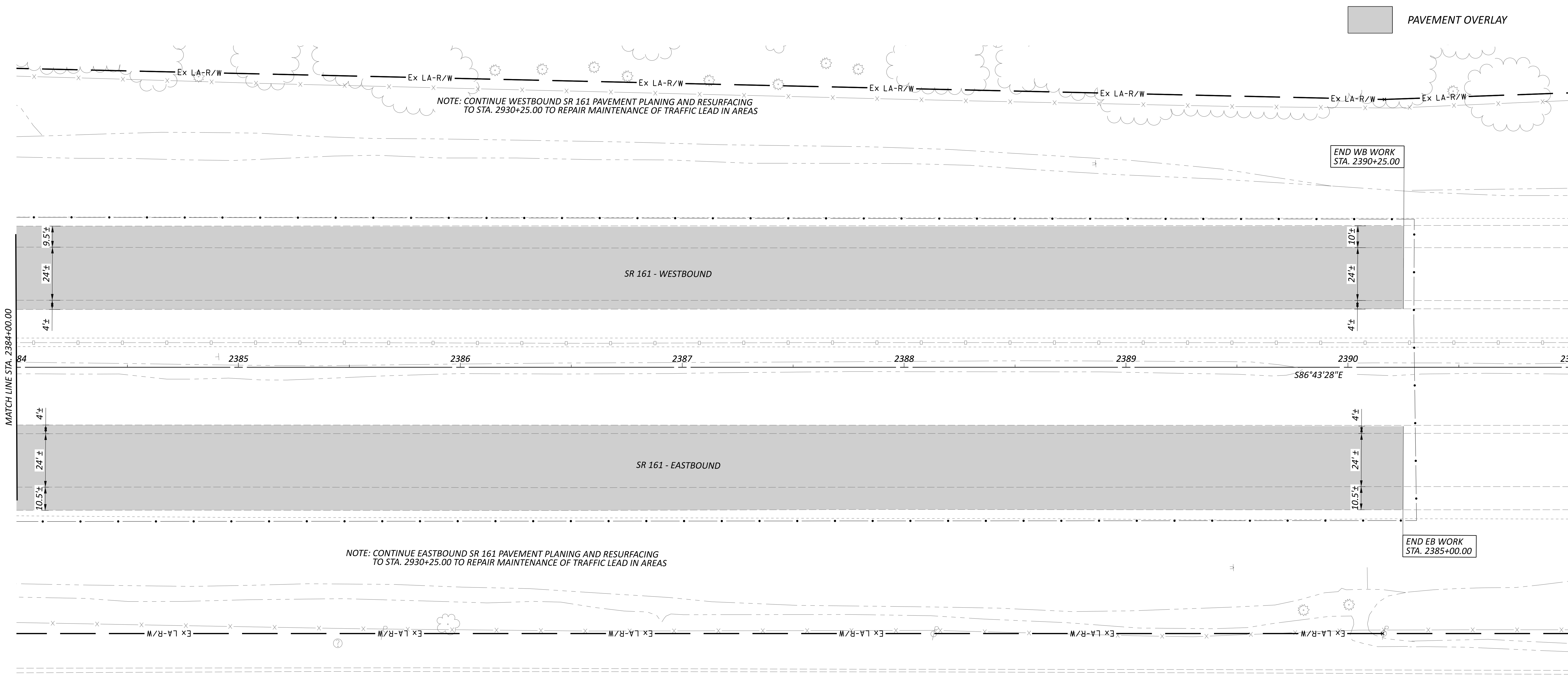
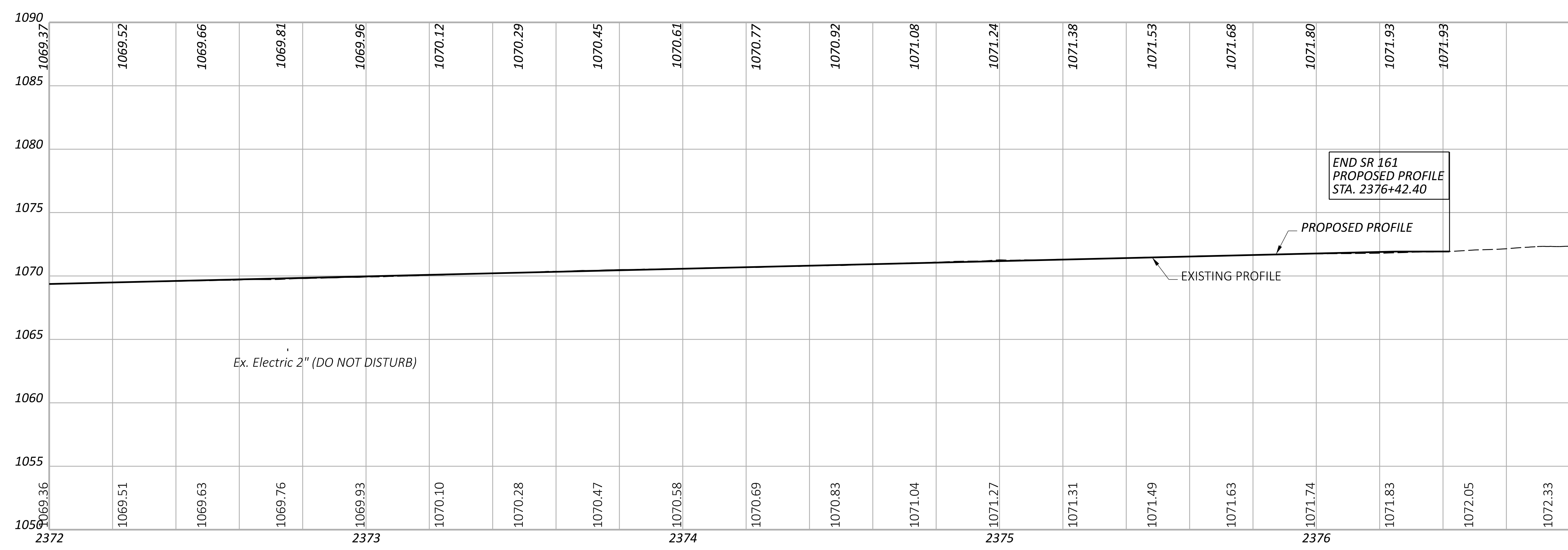
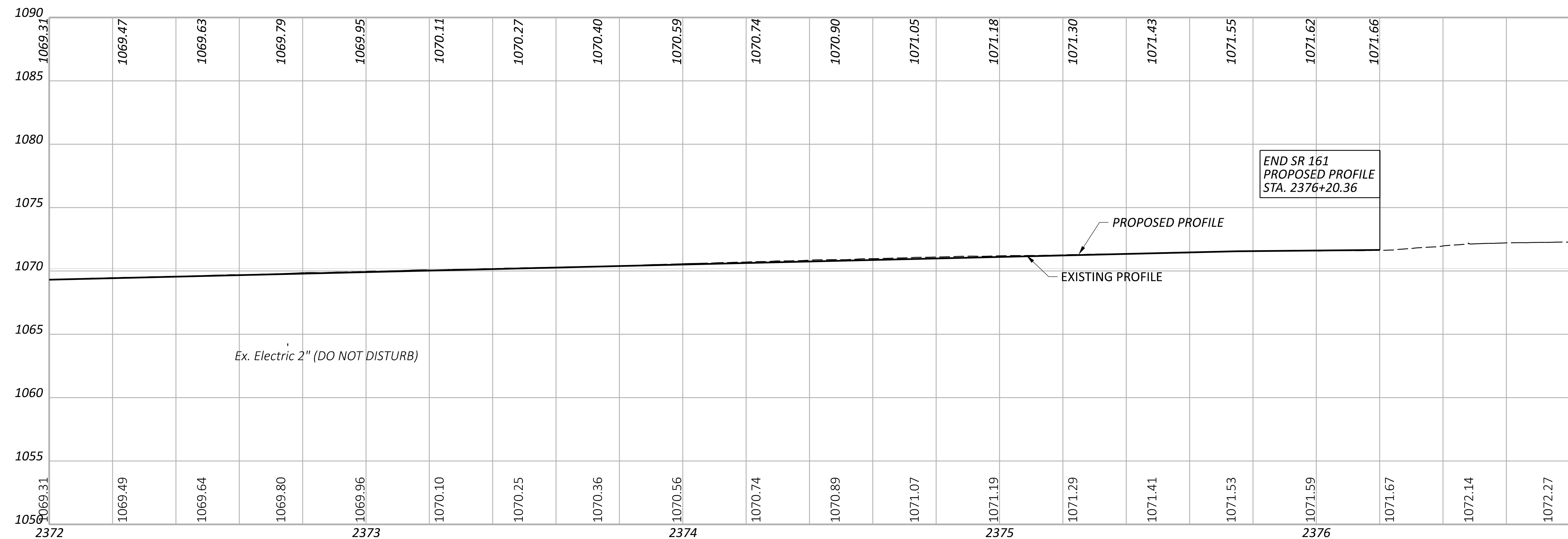
- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
 - VEGETATED FILTERSTRIP LIMITS, RESTORE AREA IF DISTURBED
- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY

PLAN AND PROFILE - SR 161
 STA. 2360+00 TO STA. 2372+00

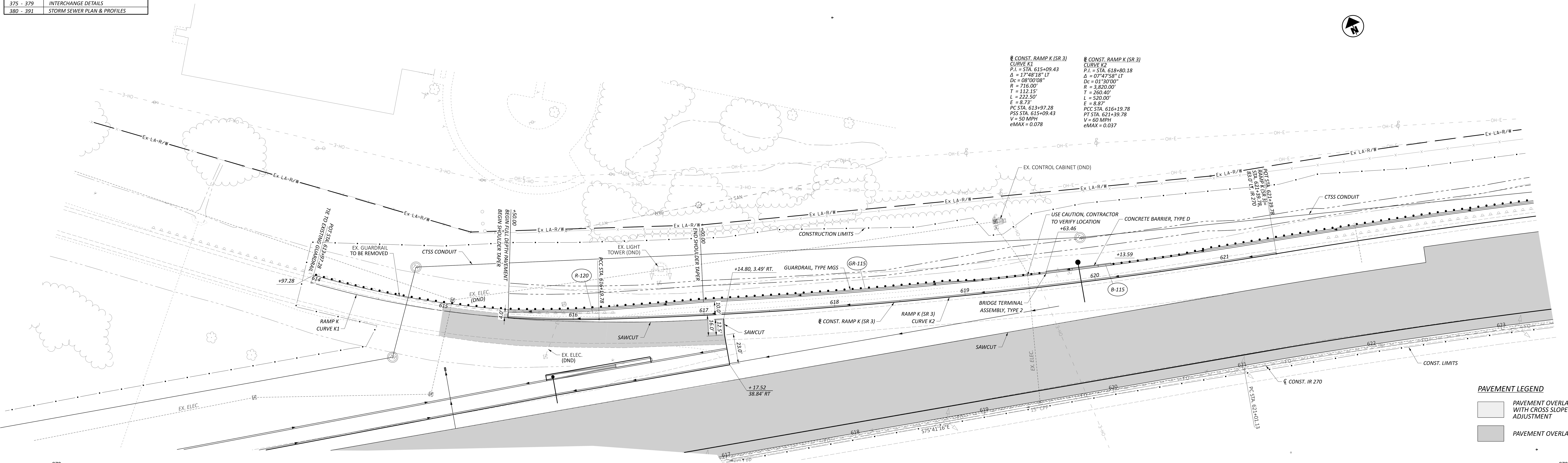
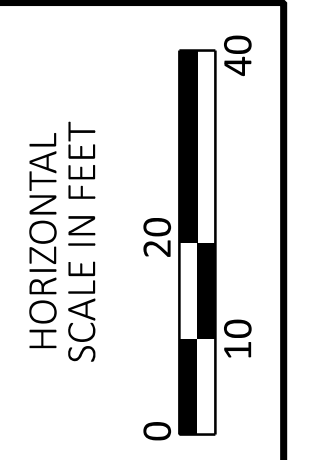
SHEET	DESCRIPTION
267 - 358	CROSS SECTIONS - SR 161
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



- EROSION CONTROL LEGEND**
- ITEM 601: TIED CONCRETE BLOCK MAT, TYPE 2
 - ITEM 670: DITCH EROSION PROTECTION, TYPE B
 - ITEM 670: DITCH EROSION PROTECTION
 - ITEM 836: SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1
- PAVEMENT LEGEND**
- PAVEMENT OVERLAY WITH CROSS-SLOPE ADJUSTMENT
 - PAVEMENT OVERLAY



CROSS REFERENCES	
SHEET	DESCRIPTION
359	CROSS SECTIONS - RAMP K
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES

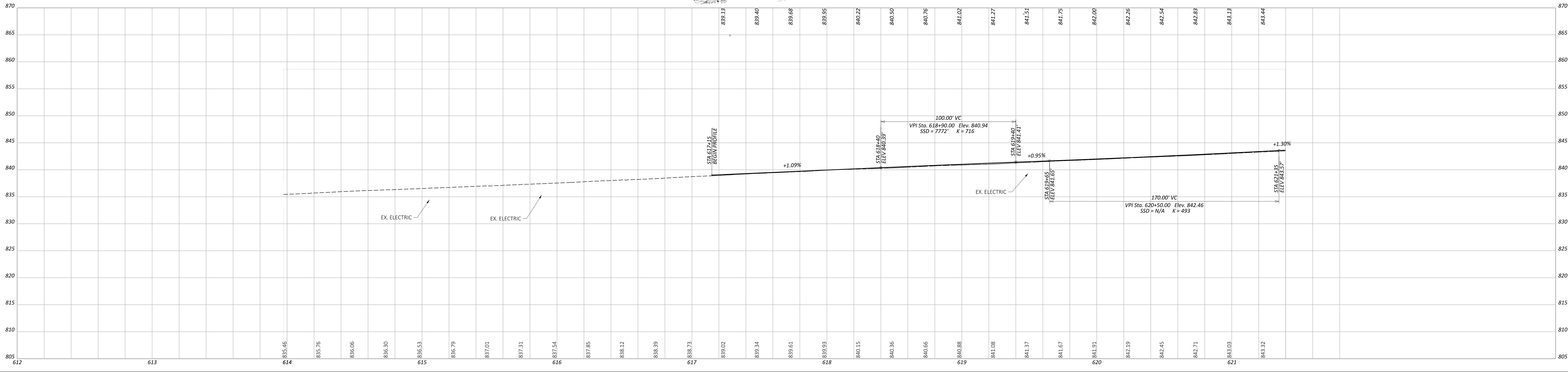


CONST. RAMP K (SR 3) CURVE K1
 P.I. = STA. 615+09.43
 $\Delta = 17^{\circ}48'18''$ LT
 $D_c = 08^{\circ}00'08''$
 $R = 716.00'$
 $T = 112.15'$
 $L = 222.50'$
 $E = 8.73'$
 PCC STA. 613+97.28
 PSS STA. 615+09.43
 $V = 50$ MPH
 $e_{MAX} = 0.078$

CONST. RAMP K (SR 3) CURVE K2
 P.I. = STA. 618+80.18
 $\Delta = 07^{\circ}47'38''$ LT
 $D_c = 01^{\circ}30'00''$
 $R = 3,820.00'$
 $T = 260.40'$
 $L = 520.00'$
 $E = 8.87'$
 PCC STA. 616+19.78
 PT STA. 621+39.78
 $V = 60$ MPH
 $e_{MAX} = 0.037$

PAVEMENT LEGEND

- PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
- PAVEMENT OVERLAY



PLAN AND PROFILE - RAMP K (SR 3)
 BEGIN WORK TO END WORK

DESIGN AGENCY
 WSP USA, Inc.
 2350 Wintonia Pl.
 Suite 400
 Columbus, OH 43215

DESIGNER
 ABS

REVIEWER
 DFP



PROJECT ID
 116322

SHEET TOTAL
 234 / 846

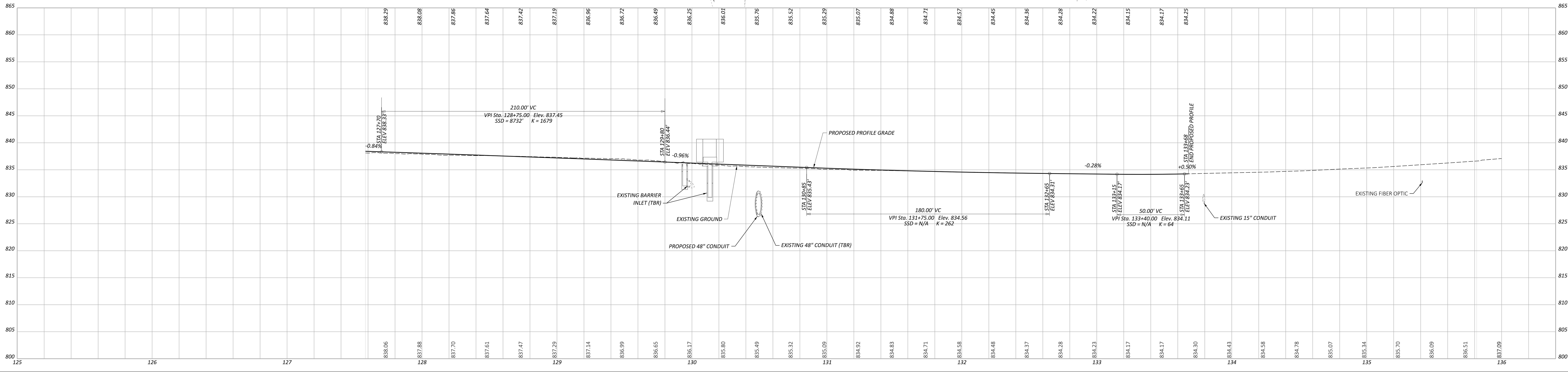
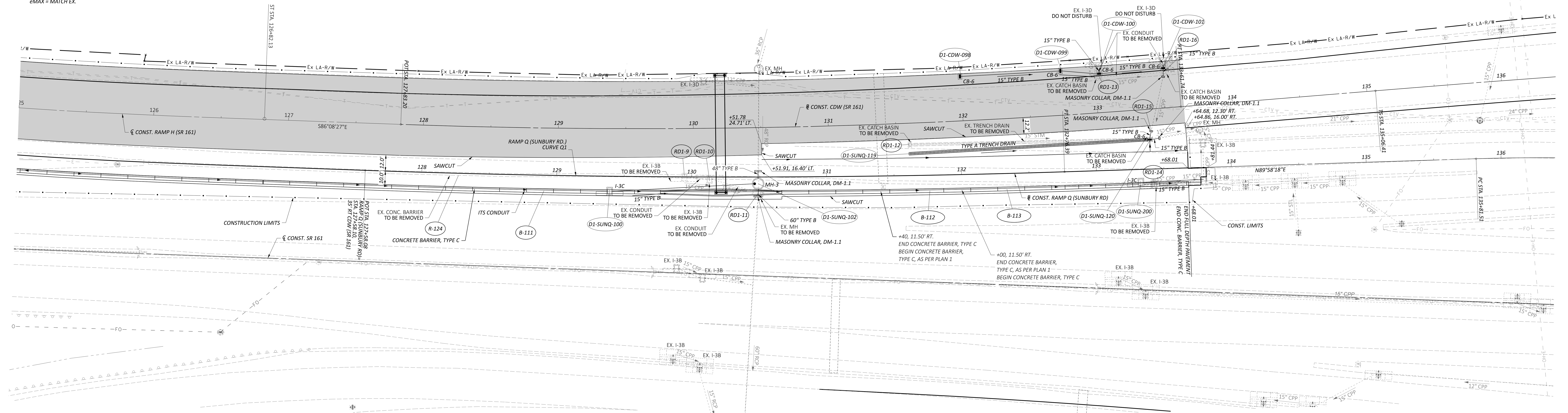
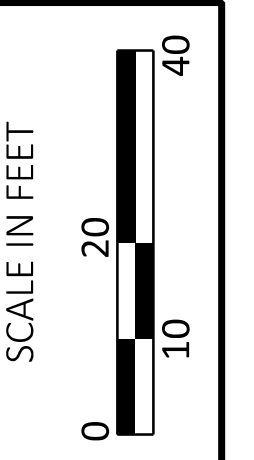
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CONST. RAMP Q
(SUNBURY RD.)
CURVE Q1
PI = STA. 130+17.34
 $\Delta = 03^{\circ}53'15''$ LT
 $Dc = 00^{\circ}45'00''$
 $R = 7,633.00'$
 $T = 259.26'$
 $L = 518.31'$
 $E = 4.40'$
PC STA. 127+58.08
PT STA. 132+76.39
 $V = 60$ MPH
 $eMAX = MATCH$ EX.

PAVEMENT LEGEND

-  PAVEMENT OVERLAY WITH CROSS SLOPE ADJUSTMENT
-  PAVEMENT OVERLAY

CROSS REFERENCES	
SHEET	DESCRIPTION
360 - 361	CROSS SECTIONS - RAMP Q
375 - 379	INTERCHANGE DETAILS
380 - 391	STORM SEWER PLAN & PROFILES



PLAN AND PROFILE - RAMP 'Q' (SUNBURY RD.)
BEGIN WORK TO END WORK

DESIGN AGENCY
WSP
WSP USA, Inc.
2 Meritway Pl.
Suite 400
Columbus, OH 43215

DESIGNER
ABS

REVIEWER
DFP 02/10/23

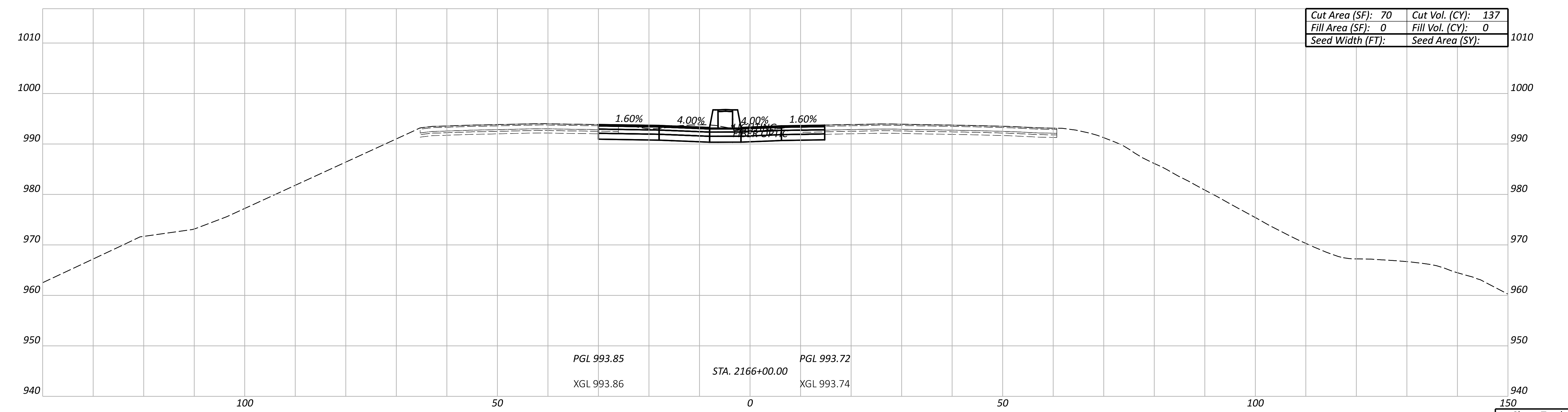
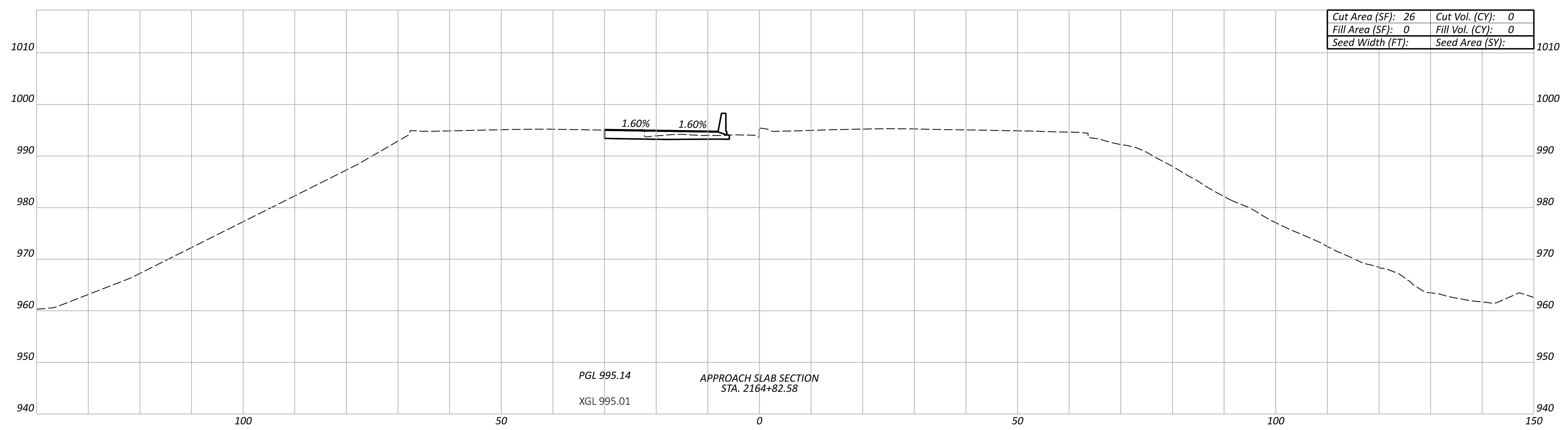
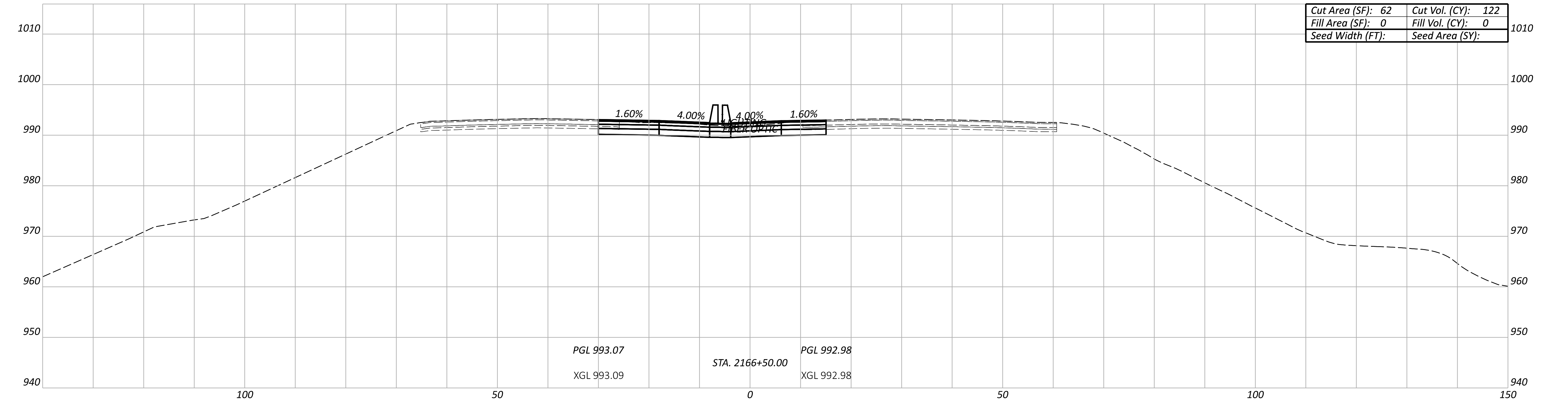
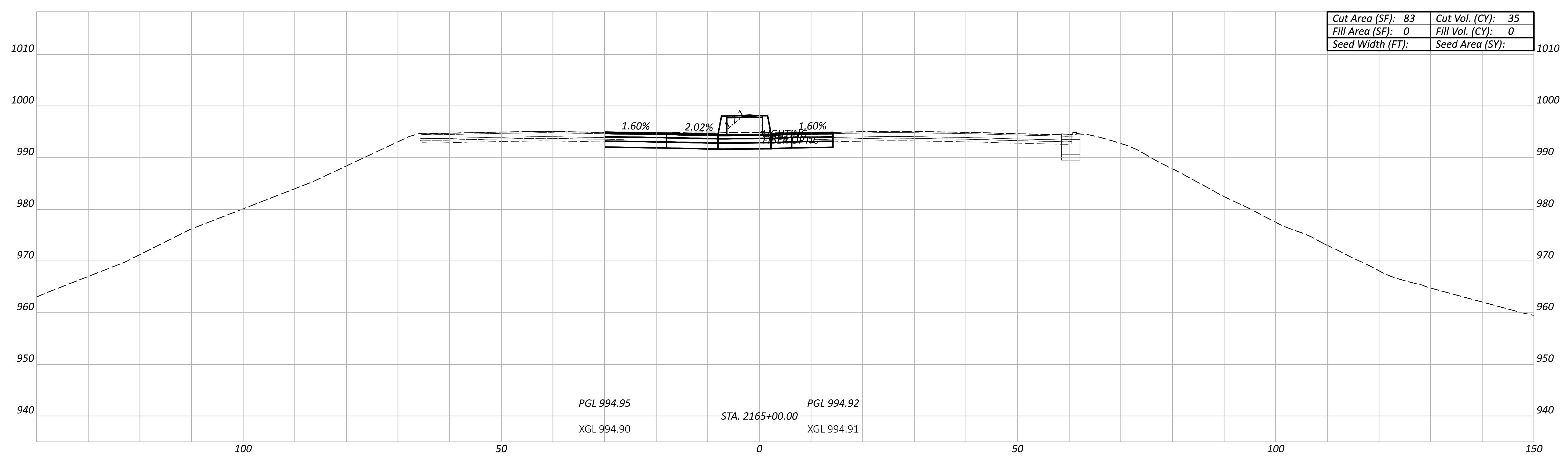
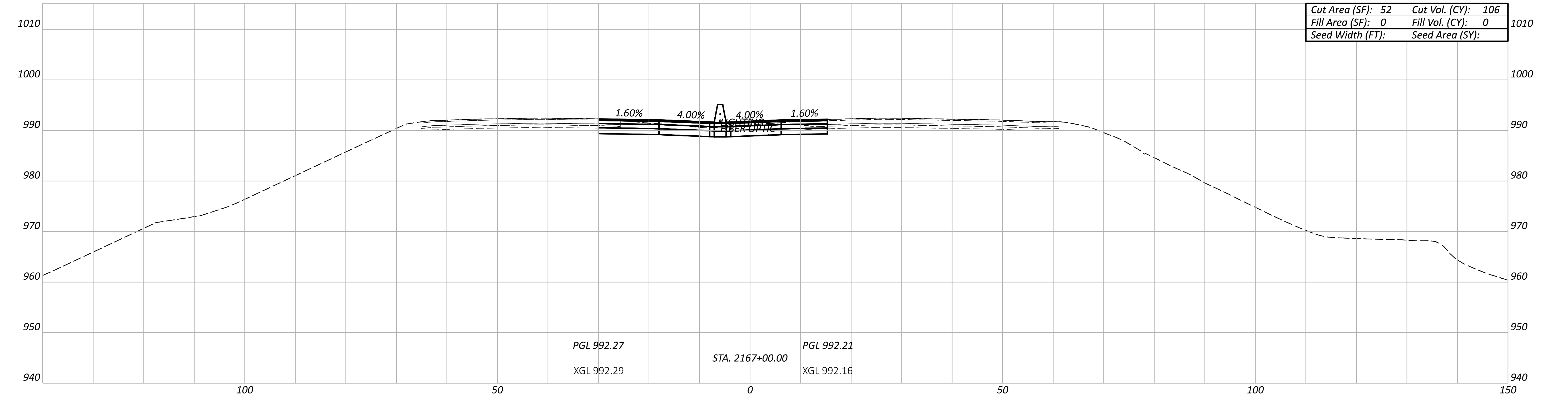
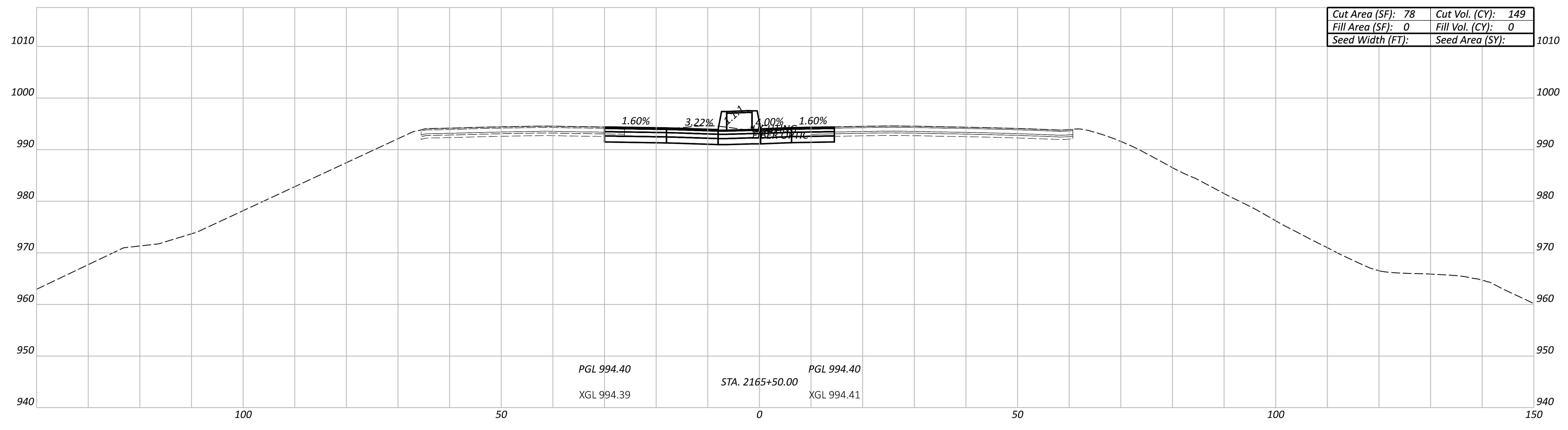
PROJECT ID
116332

SHEET TOTAL
235 / 846

FFA-161-15-80

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DESIGNER NOTES:
 1: ALL EXISTING UTILITIES SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED. SEE GENERAL NOTES SHEET 56 FOR TABLE OF ASSUMED DEPTHS.
 2: CROSS SECTION END AREAS INCLUDE EXISTING PAVEMENT REMOVAL AREAS AS NORMAL CUT AND FILL. A TOTAL PROJECT EARTHWORK VOLUME ADJUSTMENT IS PROVIDED IN THE GENERAL NOTES TO ACCOUNT FOR EXCAVATION VOLUME ADJUSTMENTS FOR ITEM 202 PAVEMENT REMOVAL AREAS.
 3: PAVEMENT OVERLAYS ARE NOT SHOWN IN THE CROSS SECTIONS - REFER TO TYPICAL SECTIONS FOR PAVEMENT MILL AND OVERLAY DETAILS.
 4: SEEDING AND MULCHING AREAS TO BE PROVIDED AS A PROJECT TOTAL NOTE DEVELOPED FROM PLAN AREAS RATHER THAN AVERAGE END AREAS. SEE GENERAL NOTES SHEET 53 FOR SEEDING AND MULCHING QUANTITIES.



CROSS SECTIONS - SR 161
 STA. 2164+82.58 TO STA. 2167+00.00

FRA-161-15-80

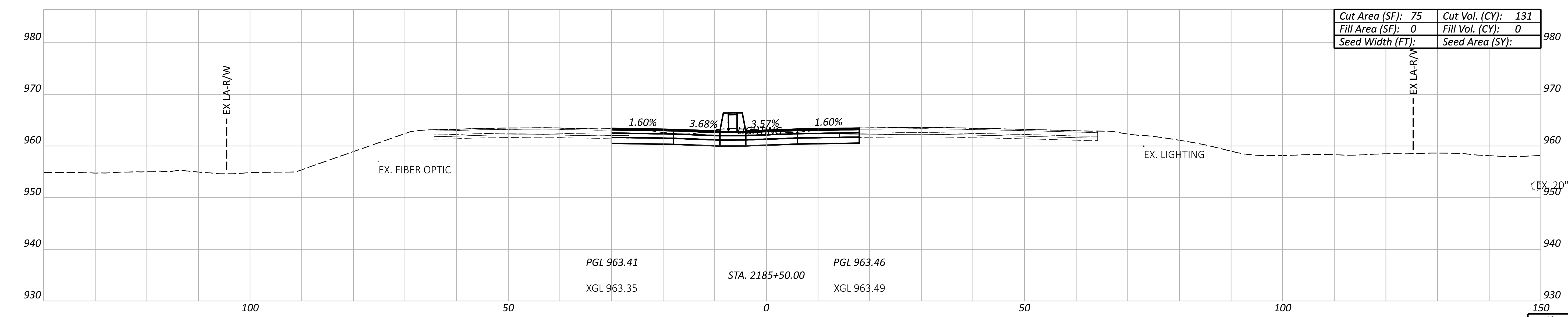
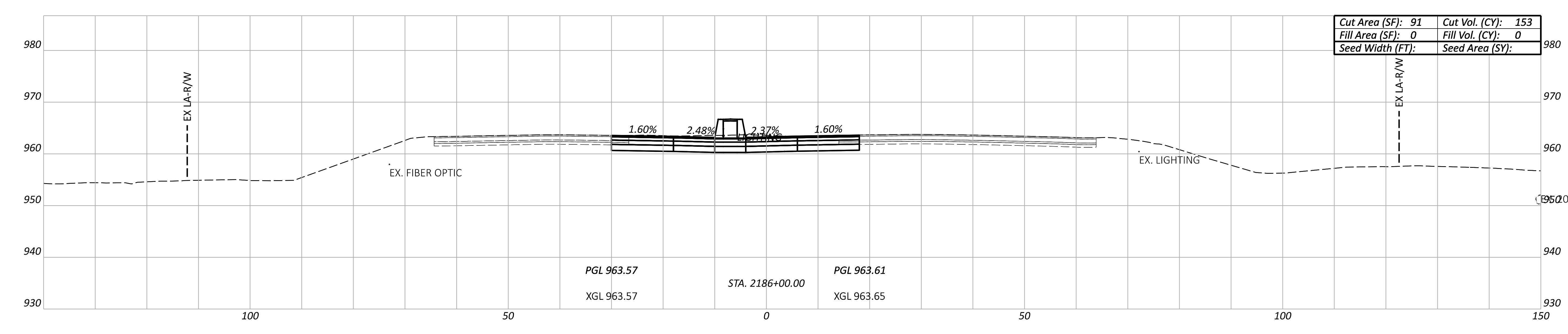
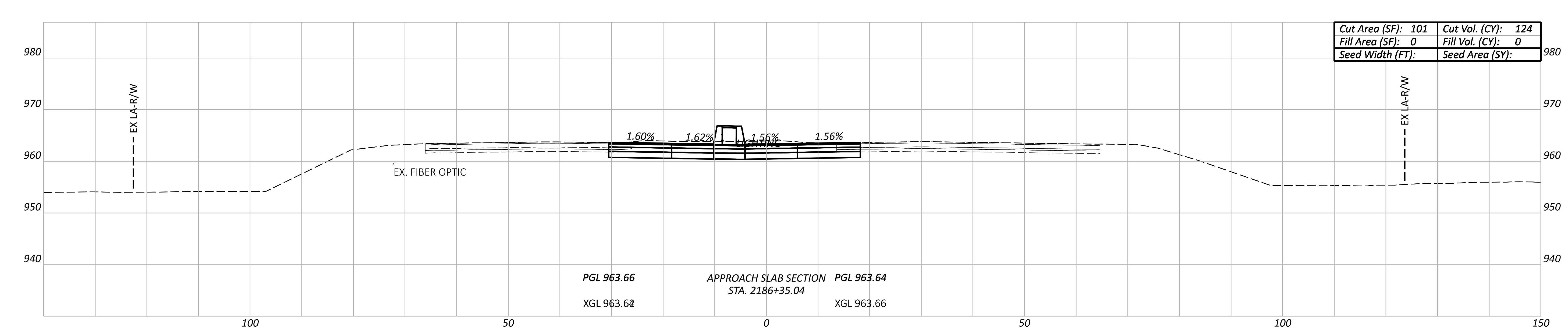
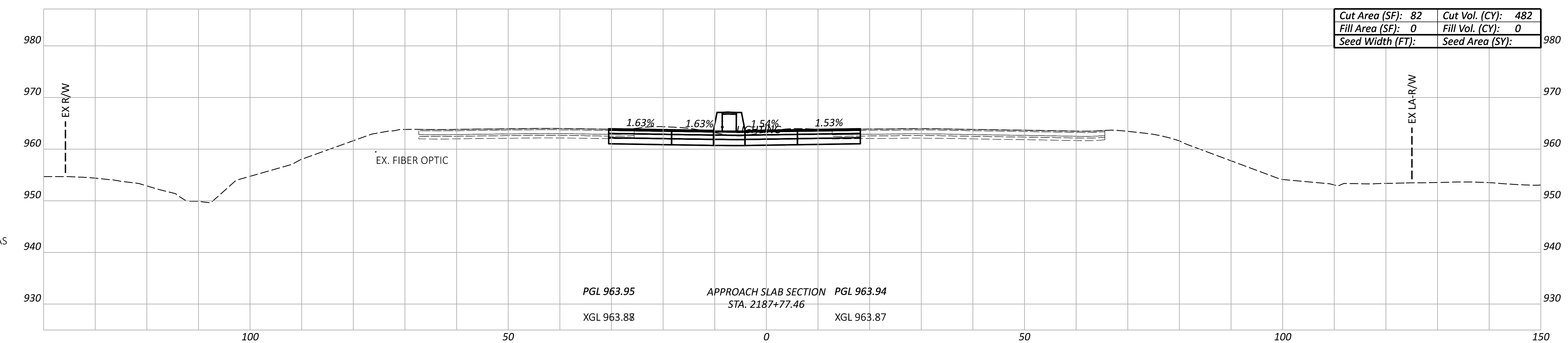
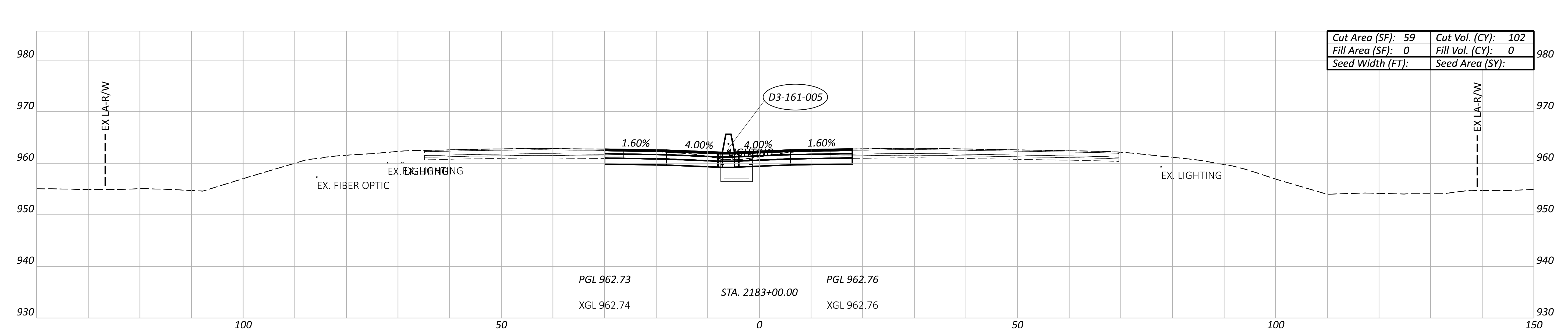
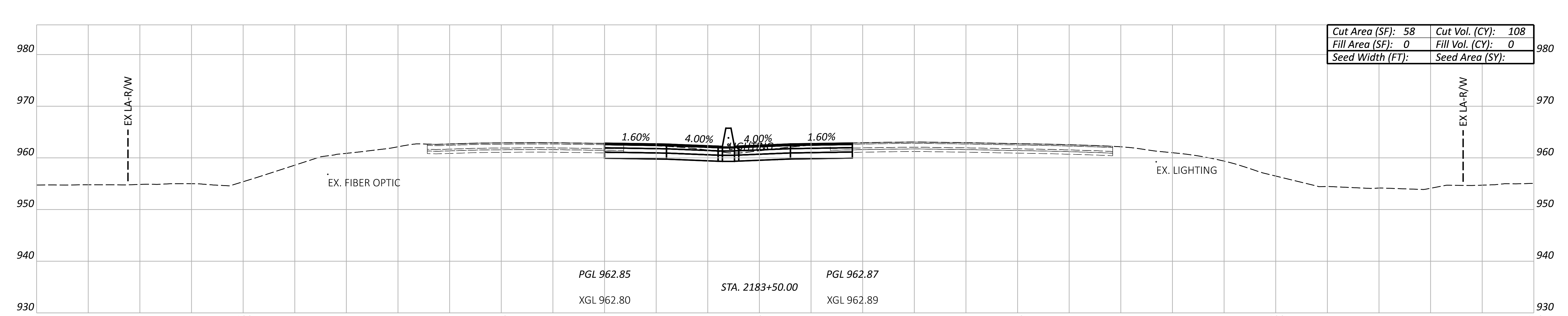
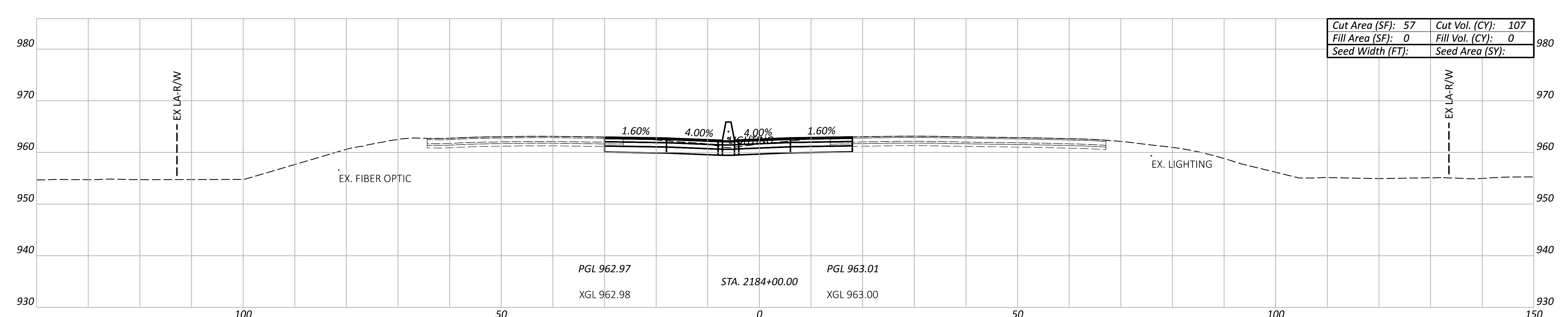
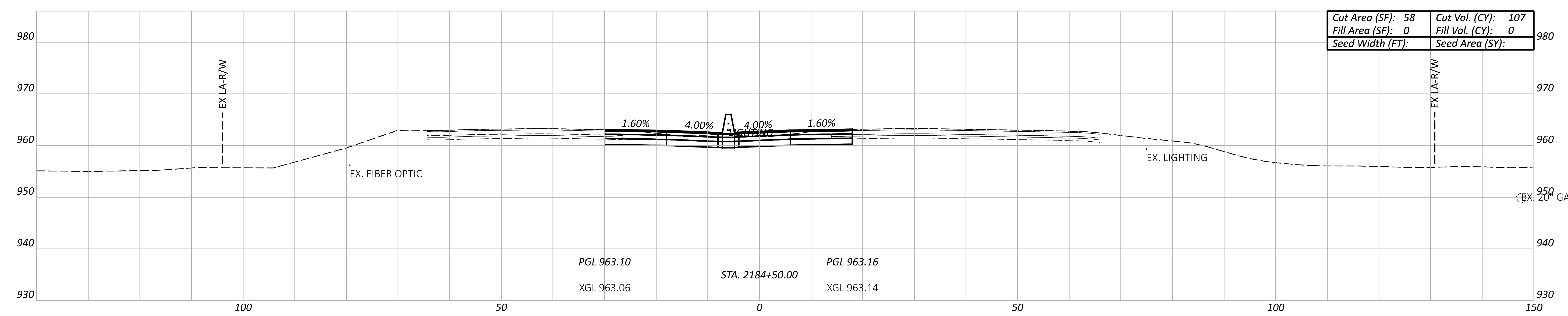
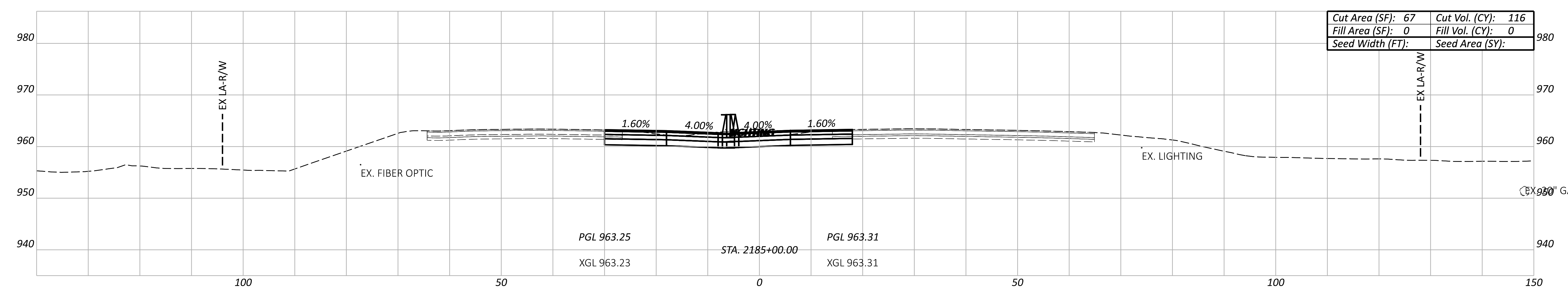
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DESIGN AGENCY

 DESIGNER: MIL
 REVIEWER: KF
 PROJECT ID: 116322
 SHEET TOTAL: 310 / 846

Sheet Totals	116322
Seeding	310
Cut	846
Fill	

DESIGNER NOTES:
 1. ALL EXISTING UTILITIES SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED. SEE GENERAL NOTES SHEET 56 FOR TABLE OF ASSUMED DEPTHS.
 2. CROSS SECTION END AREAS VOLUMES INCLUDE EXISTING PAYMENT REMOVAL AREAS AS NORMAL CUT AND FILL. A TOTAL PROJECT EARTHWORK VOLUME ADJUSTMENT IS PROVIDED IN THE GENERAL NOTES TO ACCOUNT FOR EXCAVATION VOLUME ADJUSTMENTS FOR ITEM 202 PAVEMENT REMOVAL AREAS.
 3. PAVEMENT OVERLAYS ARE NOT SHOWN IN THE CROSS SECTIONS - REFER TO TYPICAL SECTIONS FOR PAVEMENT MILL AND OVERLAY DETAILS.
 4. SEEDING AND MULCHING AREAS TO BE PROVIDED AS A PROJECT TOTAL NOTE DEVELOPED FROM PLAN AREAS RATHER THAN AVERAGE END AREAS. SEE GENERAL NOTES SHEET 53 FOR SEEDING AND MULCHING QUANTITIES.



CROSS SECTIONS - SR 161
 STA. 2183+00.00 TO STA. 2187+50.00

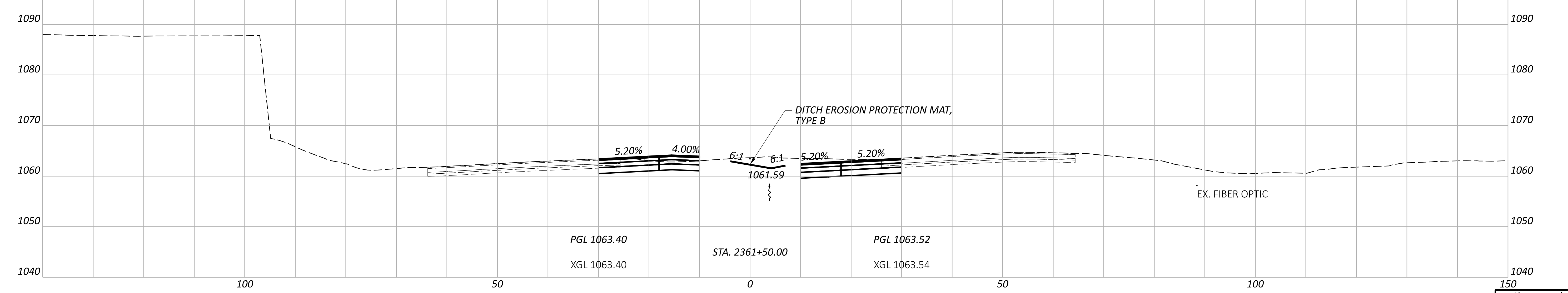
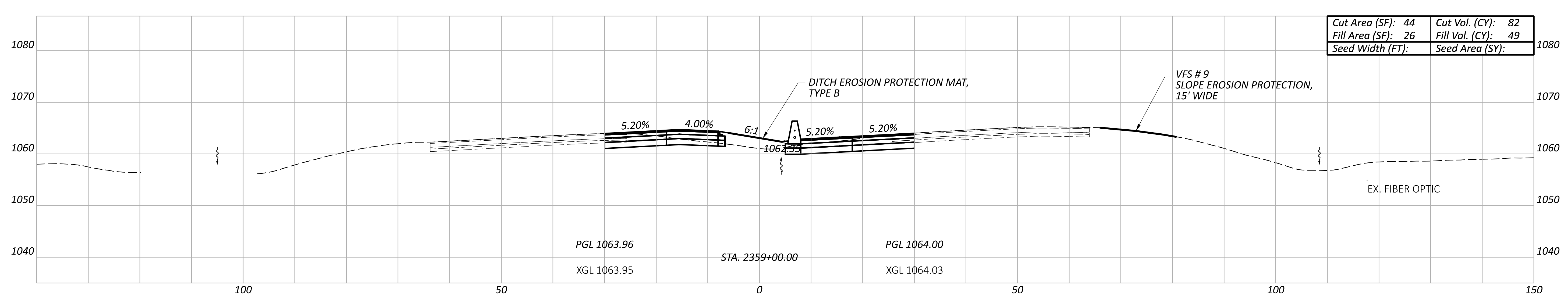
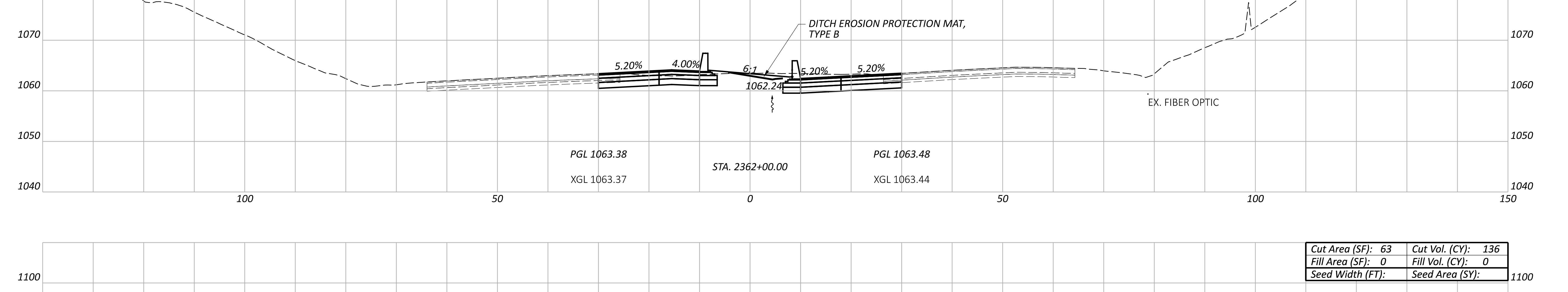
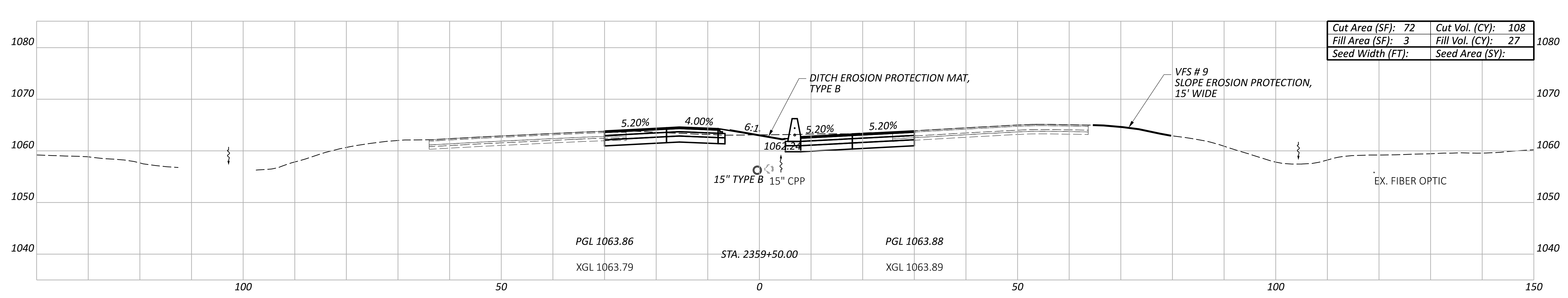
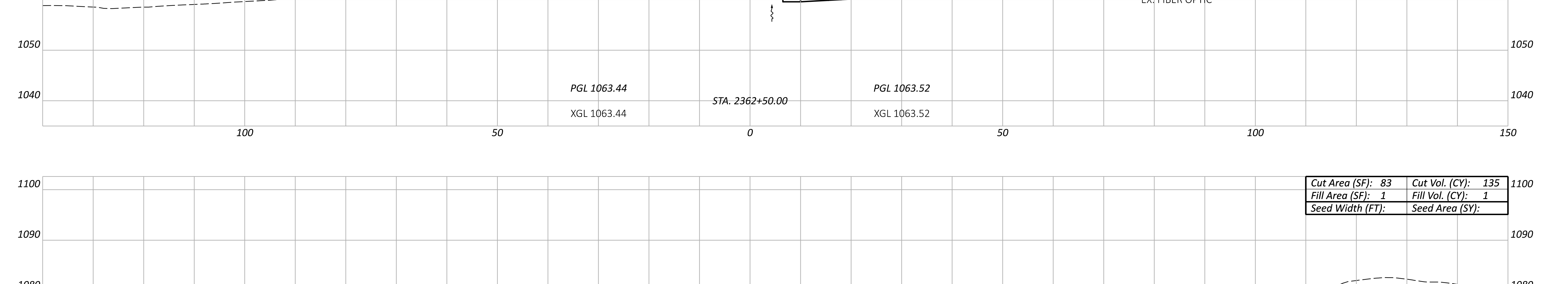
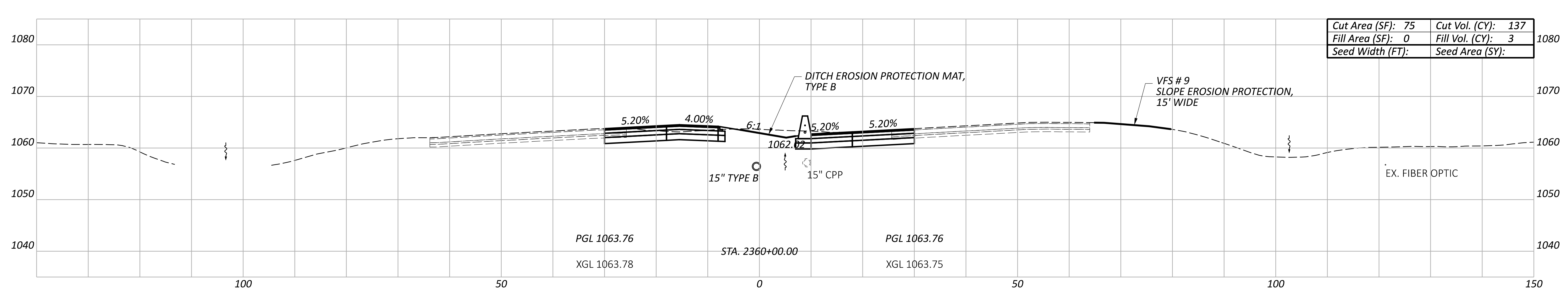
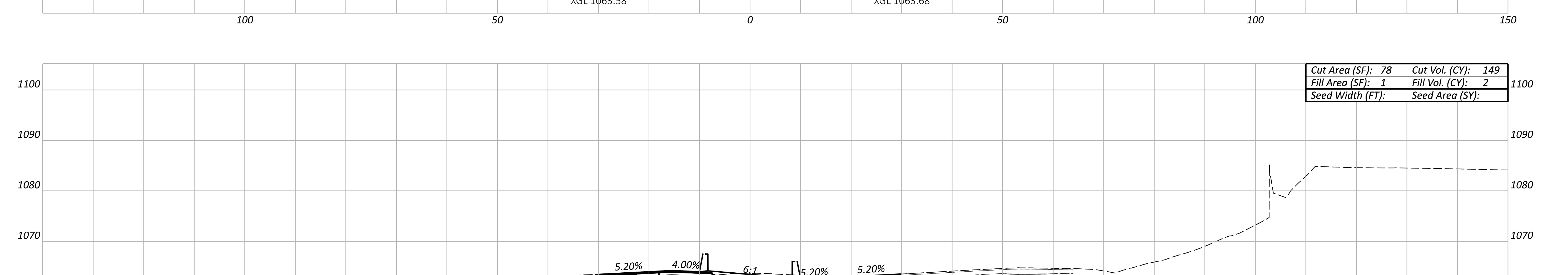
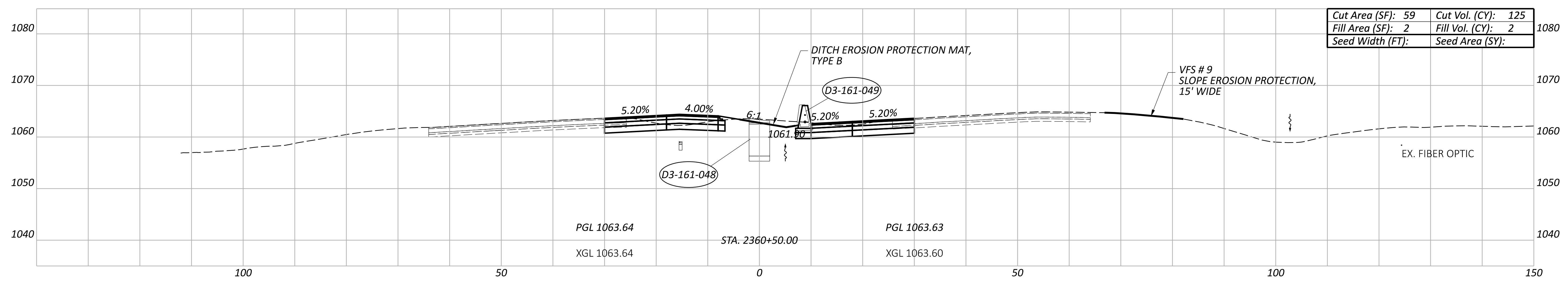
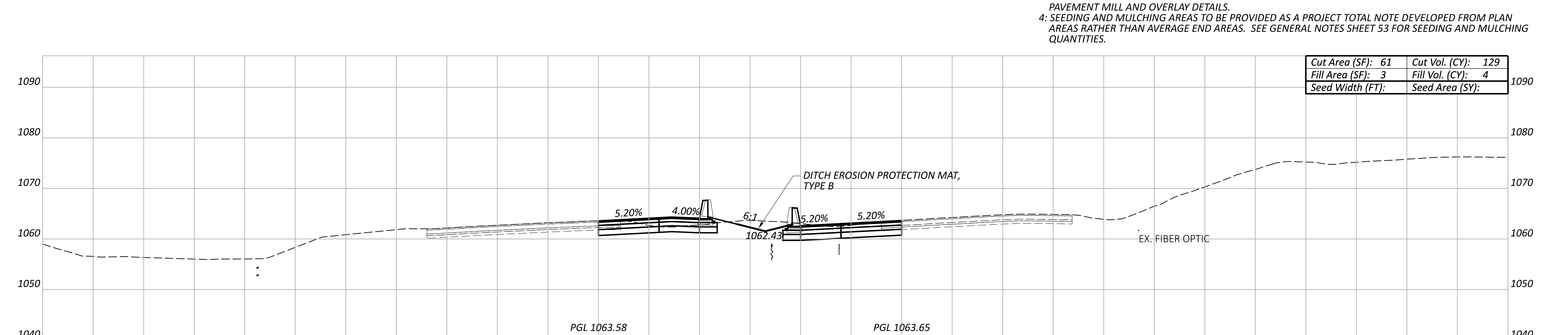
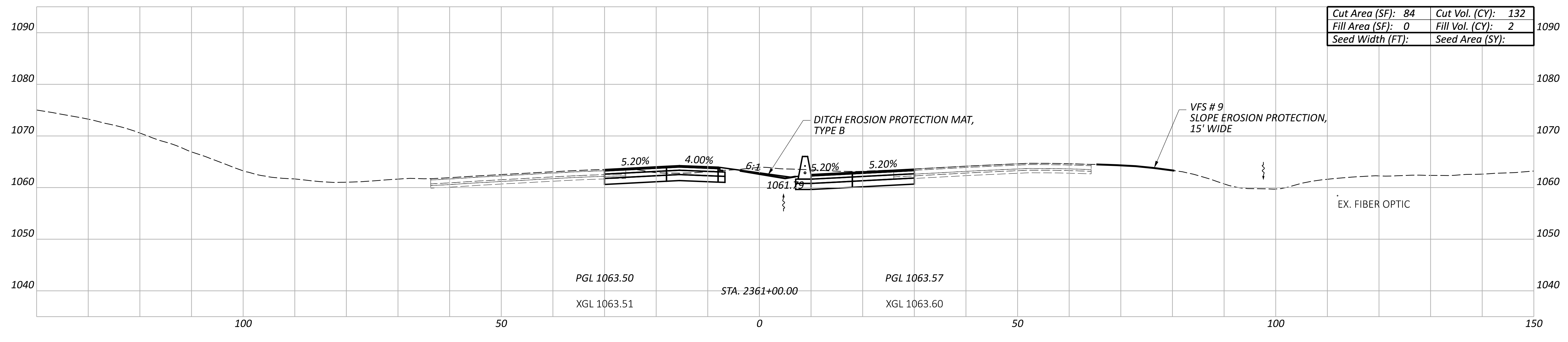
FRA-161-15-80

MODEL PLOT DATE: 02/10/23 11:51:09 AM USER: cwalsh@hcr.com
 PROJECT: SR 161 - 2183+00.00 TO STA. 2187+50.00
 SHEET: FRA-161-15-80

DESIGN AGENCY

 DESIGNER: MIL
 REVIEWER: KF
 PROJECT ID: 116322
 SHEET TOTAL: 315
 SHEET TOTAL: 846

DESIGNER NOTES:
 1. ALL EXISTING UTILITIES SHOWN AT ASSUMED DEPTHS UNLESS OTHERWISE NOTED. SEE GENERAL NOTES SHEET 56 FOR TABLE OF ASSUMED DEPTHS.
 2. CROSS SECTION END AREAS VOLUMES INCLUDE EXISTING PAVEMENT REMOVAL AREAS AS NORMAL CUT AND FILL. A TOTAL PROJECT EARTHWORK VOLUME ADJUSTMENT IS PROVIDED IN THE GENERAL NOTES TO ACCOUNT FOR EXCAVATION VOLUME ADJUSTMENTS FOR ITEM 202 PAVEMENT REMOVAL AREAS.
 3. PAVEMENT OVERLAYS ARE NOT SHOWN IN THE CROSS SECTIONS - REFER TO TYPICAL SECTIONS FOR PAVEMENT MILL AND OVERLAY DETAILS.
 4. SEEDING AND MULCHING AREAS TO BE PROVIDED AS A PROJECT TOTAL NOTE DEVELOPED FROM PLAN AREAS RATHER THAN AVERAGE END AREAS. SEE GENERAL NOTES SHEET 53 FOR SEEDING AND MULCHING QUANTITIES.



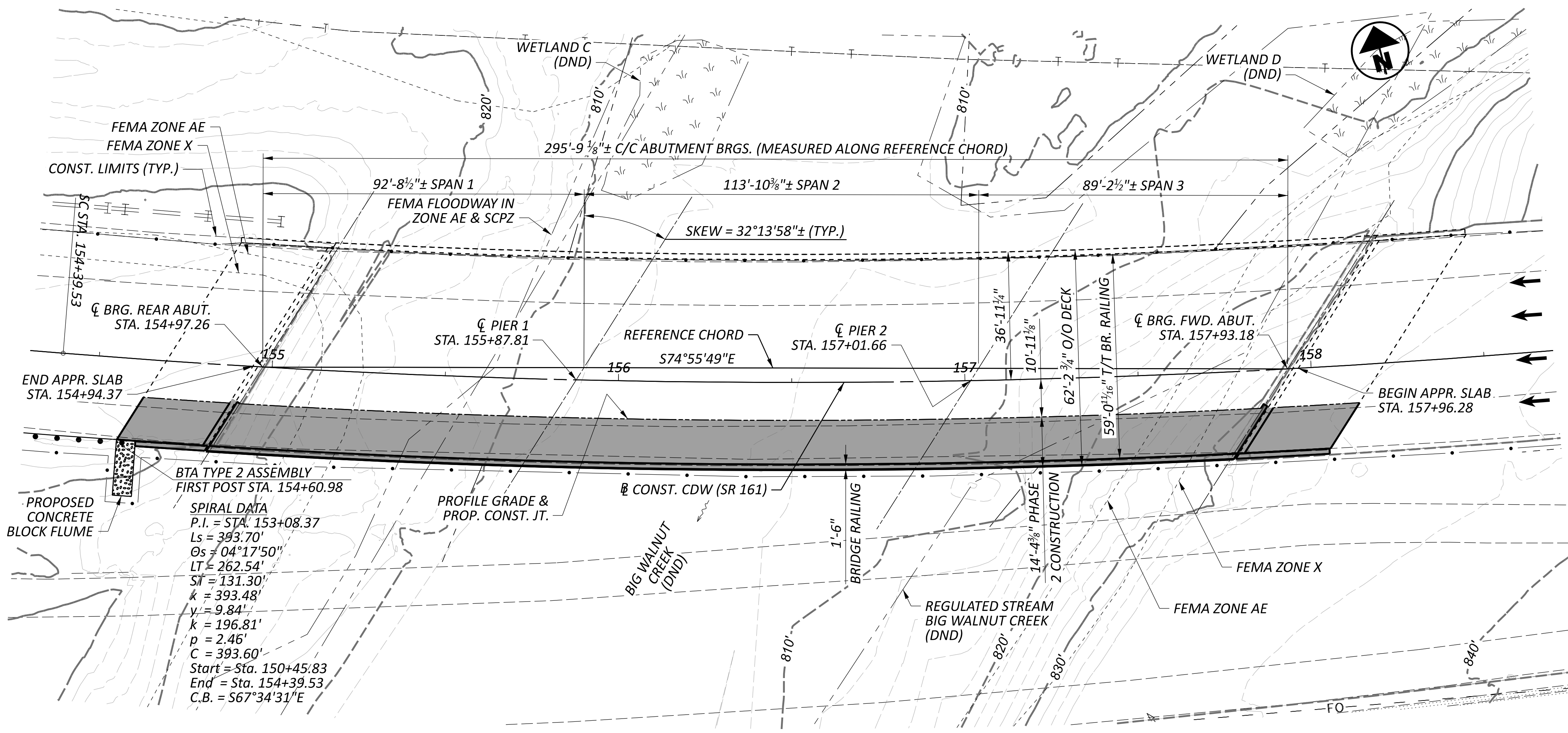
CROSS SECTIONS - SR 161
 STA. 2359+00.00 TO STA. 2363+00.00

FRA-161-15-80

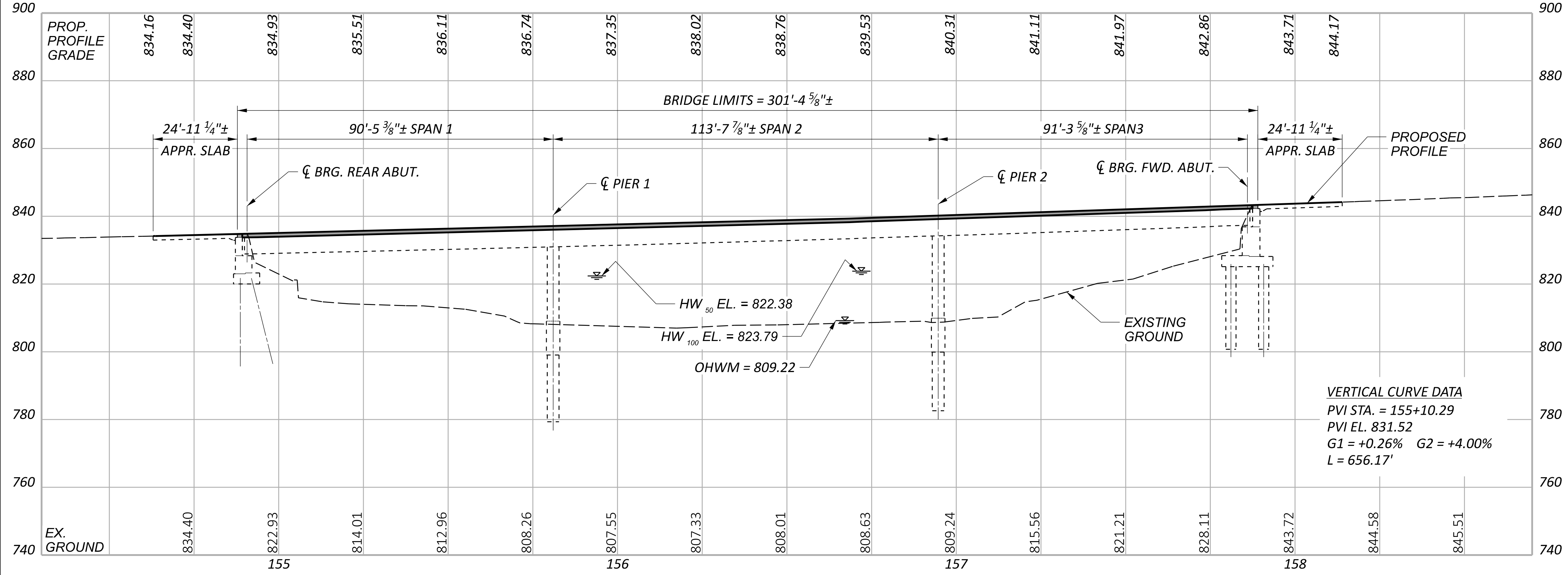
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DESIGNER	MIL
REVIEWER	KF
PROJECT ID	116322
SHEET TOTAL	355
Cut	846
Fill	

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PLAN



PROFILE ALONG PROFILE GRADE

LEGEND:
 [Symbol] - PROPOSED BRIDGE WORK LIMITS

DESIGN TRAFFIC:
 2024 ADT = 54,951 2045 ADT = 71,690
 2024 ADTT = 2748 2045 ADTT = 3585
 DIRECTIONAL DISTRIBUTION = N/A

HYDRAULIC DATA
 DRAINAGE AREA = 194 SQ. MILES
 Q (50) = 16245 CFS V (50) = 5.31 FT/S
 Q (100) = 20129 CFS V (100) = 5.84 FT/S
 Hw (50) = EL. 822.38
 Hw (100) = EL. 823.79
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.92 FEET

BENCHMARK DATA
 FOR BENCHMARK INFORMATION, SEE ROADWAY PLANS SHEET 3

EXISTING STRUCTURE

TYPE: 3-SPAN CONTINUOUS A572 GRADE 350 (PAINTED) STEEL GIRDER WITH COMPOSITE REINFORCED CONCRETE DECK AND SUPERSTRUCTURE

SPANS: 90'-5 3/8"±, 113'-7 7/8"±, 91'-3 5/8"± C/C BRGS. ALONG PROFILE GRADE
 ROADWAY: 59'-0 13/16" TOE/TOE BRIDGE RAILING
 LOADING: MS 18 CASE 1 & ALTERNATIVE MILITARY LOADING
 SKEW: 32°13'58"± L.F. MEASURED AT REFERENCE CHORD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 24'-11 1/8"± LONG (AS-1-81)
 ALIGNMENT: CURVE LEFT
 CROWN: SUPERELEVATION 0.060 FT/FT
 STRUCTURAL FILE NUMBER: 2509539
 DATE BUILT: 2006
 DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: REMOVE AND REPLACE RIGHT RAILING, AND RIGHT SIDE OF EXISTING DECK, BACKWALLS, EXPANSION JOINTS, AND WINGWALLS TO MATCH MODIFIED CROSS SLOPE. OVERLAY RIGHT SIDE OF APPROACH SLABS WITH ASPHALT. SEAL CONCRETE SURFACES.

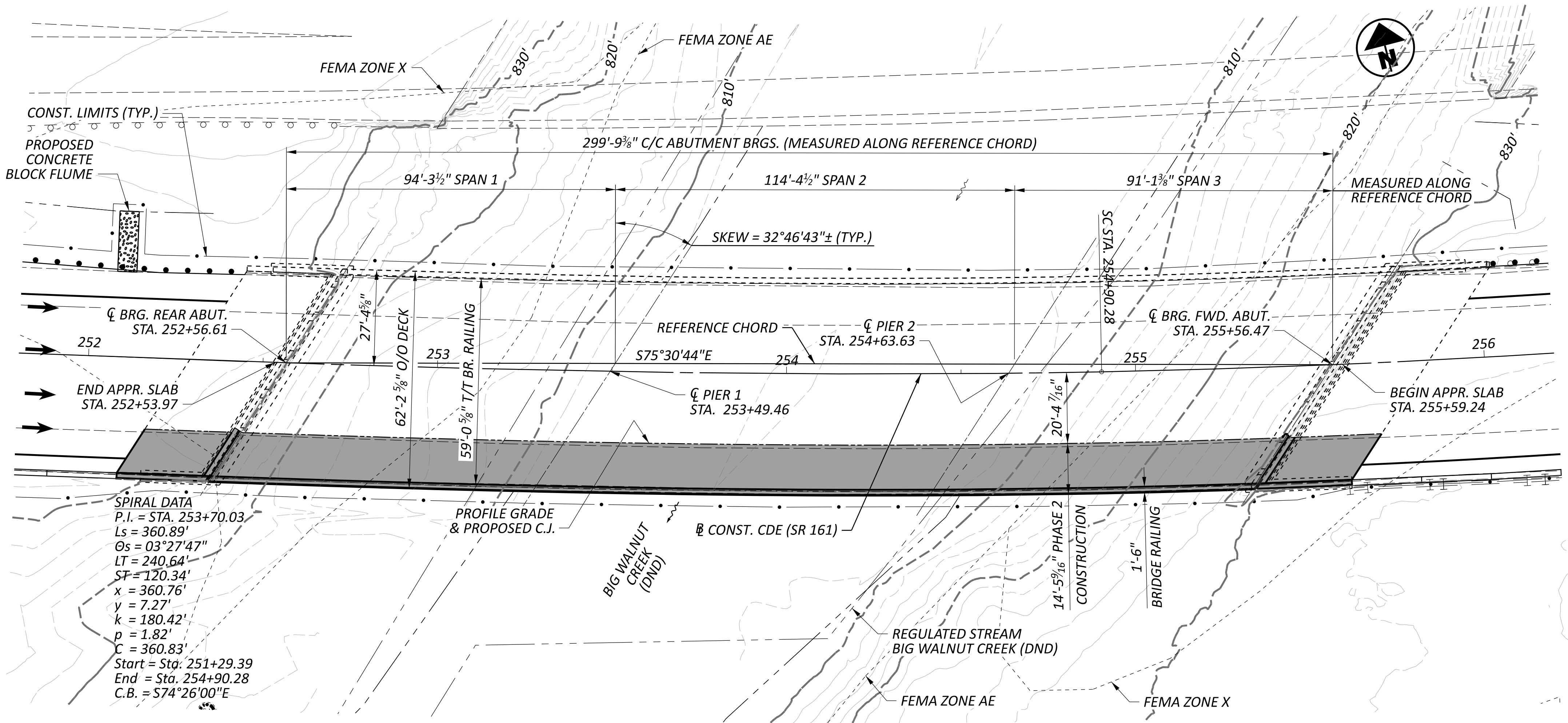
SPANS: 90'-5 3/8"±, 113'-7 7/8"±, 91'-3 5/8"± C/C BRGS. ALONG PROFILE GRADE
 ROADWAY: 59'-0 13/16" TOE/TOE BRIDGE RAILING
 DESIGN LOADING: SEE GENERAL NOTES
 SKEW: 32°13'58"± L.F. MEASURED AT REFERENCE CHORD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 24'-11 1/8"± LONG (AS-1-81)
 ALIGNMENT: CURVE LEFT
 CROWN: SUPERELEVATION 0.060 FT/FT
 DECK AREA: 17,898 SF

COORDINATES: LATITUDE N 40°04'51.19"
 LONGITUDE W 82°53'28.64"

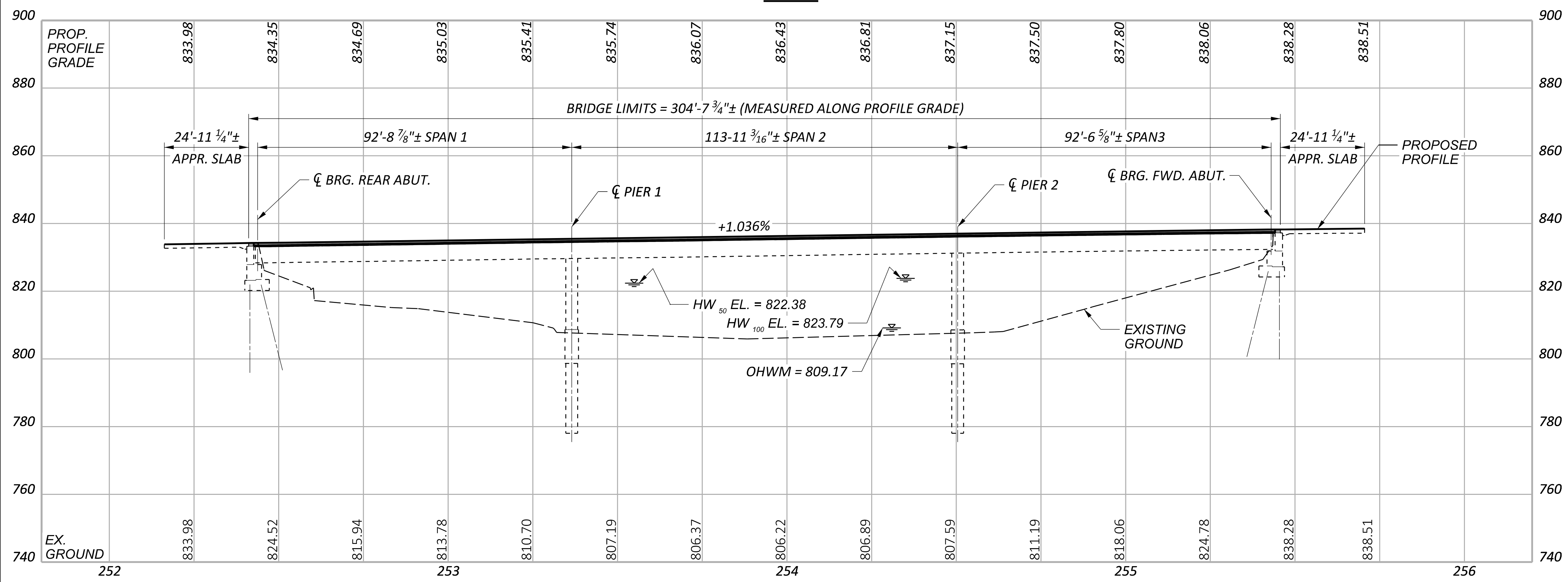
SITE PLAN
 BRIDGE NO. FRA-00161-16.620 A
 CDW (SR 161) OVER BIG WALNUT CREEK

SFN	2509539
DESIGN AGENCY	
DESIGNER	FIB
CHECKER	TAS
REVIEWER	RER
PROJECT ID	116322
SUBSET	TOTAL
1	20
SHEET	TOTAL
588	846

MODEL: CLP_CDE - FRA-161 PAPER SIZE: 34x22 (in.) DATE: 2/16/2023 TIME: 5:30:03 PM USER: CWAHLBRI
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PLAN



PROFILE ALONG PROFILE GRADE

LEGEND:
 - PROPOSED BRIDGE WORK LIMITS

DESIGN TRAFFIC:
 2024 ADT = 53,296 2045 ADT = 65,990
 2024 ADTT = 3198 2045 ADTT = 3959
 DIRECTIONAL DISTRIBUTION = N/A

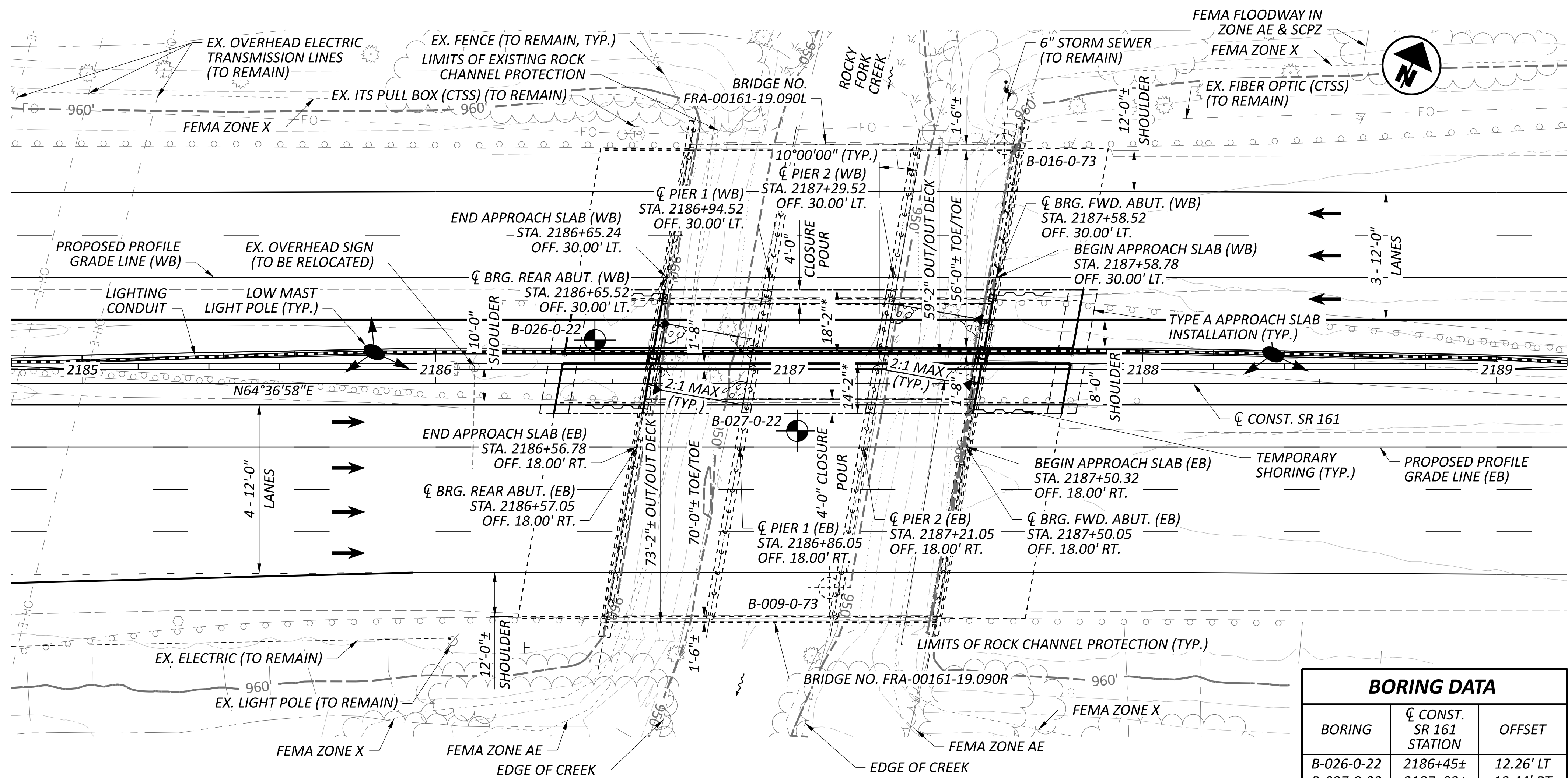
HYDRAULIC DATA
 DRAINAGE AREA = 194 SQ. MILES
 Q (50) = 16245 CFS V (50) = 5.31 FT/S
 Q (100) = 20129 CFS V (100) = 5.84 FT/S
 Hw (50) = EL. 822.38
 Hw (100) = EL. 823.79
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 3.80 FEET

BENCHMARK DATA
 FOR BENCHMARK INFORMATION, SEE ROADWAY PLANS SHEET 3

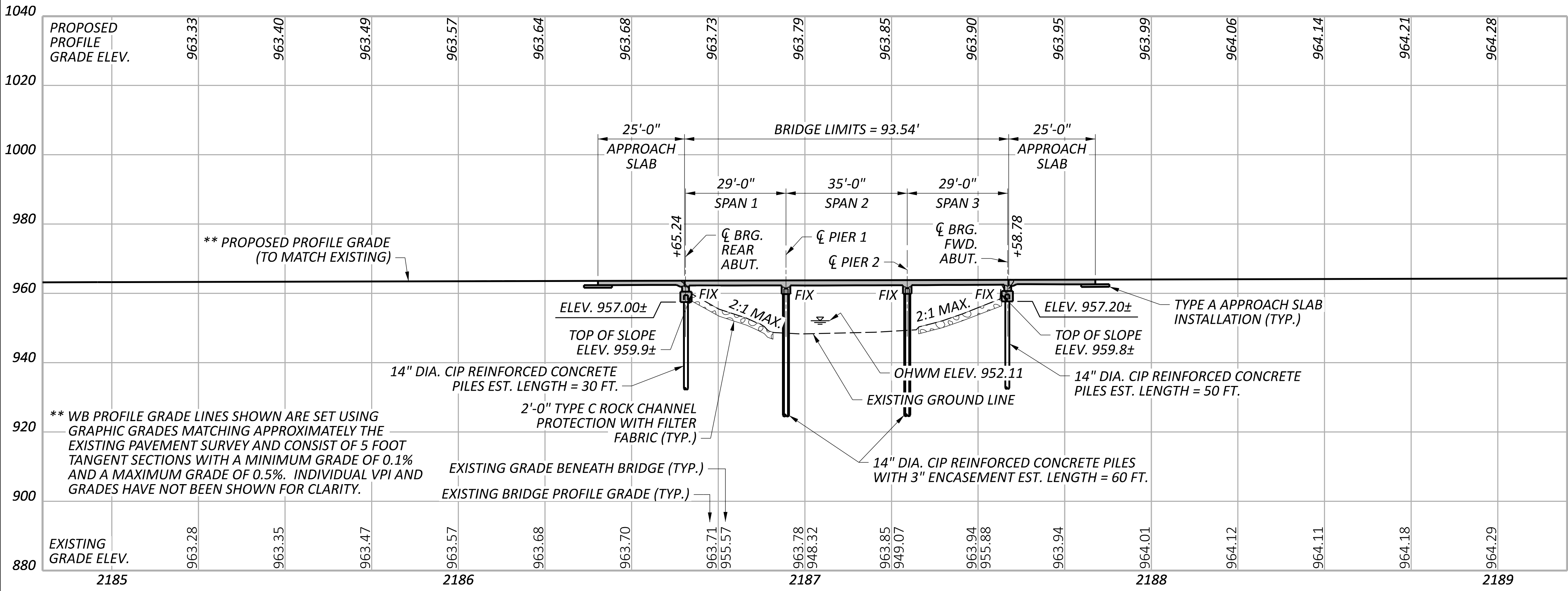
EXISTING STRUCTURE	
TYPE:	3-SPAN CONTINUOUS A572 GRADE 350 (PAINTED) STEEL GIRDER WITH COMPOSITE REINFORCED CONCRETE DECK AND SUPERSTRUCTURE
SPANS:	92'-8 7/8"±, 113'-11 3/16"±, 92'-6 5/8"± C/C BRGS. ALONG PROFILE GRADE
ROADWAY:	59'-0 5/8" TOE/TOE BRIDGE RAILING
LOADING:	MS 18 CASE 1 & ALTERNATIVE MILITARY LOADING
SKEW:	32°46'43"± L.F. MEASURED AT REFERENCE CHORD
WEARING SURFACE:	1" MONOLITHIC CONCRETE
APPROACH SLABS:	24'-11 1/8"± LONG (AS-1-81)
ALIGNMENT:	CURVE LEFT
CROWN:	SUPERELEVATION VARIES 0.058 MAX.
STRUCTURAL FILE NUMBER:	2509520
DATE BUILT:	2006
DISPOSITION:	TO BE REHABILITATED
PROPOSED STRUCTURE	
TYPE:	REMOVE AND REPLACE RIGHT RAILING, AND RIGHT SIDE OF EXISTING DECK, BACKWALLS, EXPANSION JOINTS, AND WINGWALLS TO MATCH MODIFIED CROSS SLOPE. OVERLAY REAR RIGHT APPROACH SLAB WITH ASPHALT AND FORWARD RIGHT APPROACH SLAB WITH SUPERPLASTISIZED DENSE CONCRETE. SEAL CONCRETE SURFACES.
SPANS:	92'-8 7/8"±, 113'-11 3/16"±, 92'-6 5/8"± C/C BRGS. ALONG PROFILE GRADE
ROADWAY:	59'-0 5/8" TOE/TOE BRIDGE RAILING
DESIGN LOADING:	SEE GENERAL NOTES
SKEW:	32°46'43"± L.F. MEASURED AT REFERENCE CHORD
WEARING SURFACE:	1" MONOLITHIC CONCRETE
APPROACH SLABS:	24'-11 3/8"± LONG (AS-1-81)
ALIGNMENT:	CURVE LEFT
CROWN:	SUPERELEVATION VARIES 0.058 MAX.
DECK AREA:	18,759 SF
COORDINATES:	LATITUDE N 40°04'49.04" LONGITUDE W 82°53'31.35"

SITE PLAN
BRIDGE NO. FRA-00161-16.590 B
CDE (SR 161) OVER BIG WALNUT CREEK

SFN	2509520
DESIGN AGENCY	
DESIGNER	FIB
CHECKER	TAS
REVIEWER	RER
PROJECT ID	116322
SUBSET	TOTAL
1	20
SHEET	TOTAL
608	846



PLAN



PROFILE ALONG PROPOSED PROFILE GRADE LINE (WB)

BORING DATA		
BORING	CL CONST. SR 161 STATION	OFFSET
B-026-0-22	2186+45±	12.26' LT
B-027-0-22	2187+02±	13.44' RT

BENCHMARK DATA			
CP111	STA. 2189+38.84,	ELEV. 962.81,	OFFSET 78.12 RT.,
	CL CONST. SR 161,	CONCRETE MONUMENT	
CP112	STA. 2214+68.95,	ELEV. 973.54,	OFFSET 94.22 LT.,
	CL CONST. SR 161,	CONCRETE MONUMENT	

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

- NOTES**
- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 - FOR EASTBOUND PROFILE, SEE SHEET 2 OF 33.
 - AN ELEVATION ADJUSTMENT OF -0.50' WAS USED TO ESTABLISH EXISTING SUBSTRUCTURE ELEVATIONS FROM THE EXISTING PLANS.

DESIGN TRAFFIC:
 2024 ADT = 64716 2024 ADTT = 5177
 2045 ADT = 86550 2045 ADTT = 6924
 DIRECTIONAL DISTRIBUTION = 0.50

- LEGEND**
- HISTORIC BORING LOCATION
 - PROJECT BORING LOCATION

* PHASE 1A CONSTRUCTION

HYDRAULIC DATA
 DRAINAGE AREA= 10.4 SQ. MILES
 Q(50)= 1910 CFS V(50)= 5.10 FT/S
 Q(100)= 2250 CFS V(100)= 5.49 FT/S
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 4.24 FEET.

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB ON CAPPED PILE ABUTMENTS AND CAPPED PILE PIERS.

SPANS: 29'-0"±, 35'-0"±, 29'-0"± C/C BEARINGS
 ROADWAY: 42'-0"± (LEFT/WB); 60'-0"± (RIGHT/EB) TOE/TOE BRIDGE RAILING
 LOADING: HS-20-44 & ALTERNATE MILITARY LOADING
 SKEW: 10°00'00"± LEFT FORWARD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 25'-0"± LONG (AS-1-81)
 ALIGNMENT: TANGENT
 CROWN: 0.016± FT./FT.
 STRUCTURE FILE NUMBER: 2509288 (LEFT/WB); 2509296 (RIGHT/EB)
 DATE BUILT: 1996
 DISPOSITION: TO BE WIDENED

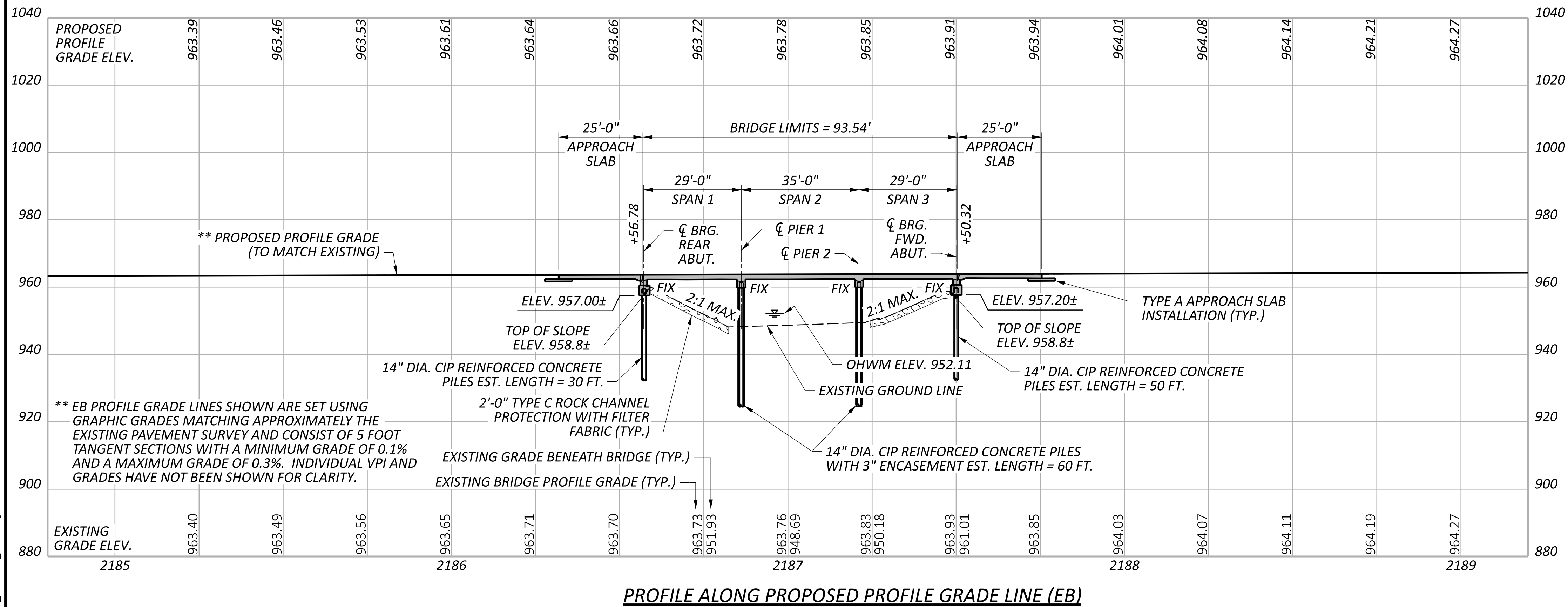
PROPOSED STRUCTURE

PROPOSED WORK: FOR BOTH L AND R STRUCTURES, WIDEN CONCRETE SLAB ON WIDENED CAPPED PILE ABUTMENTS AND CAPPED PILE PIERS

SPANS: 29'-0", 35'-0", 29'-0" C/C BEARINGS
 ROADWAY: 56'-0"± (LEFT/WB); 70'-0"± (RIGHT/EB) TOE/TOE BRIDGE RAILING
 DESIGN LOADING: SEE GENERAL NOTES
 SKEW: 10°00'00" LEFT FORWARD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 25'-0" LONG, 15" THICK (AS-1-15) TYPE A INSTALLATION (AS-2-15)
 ALIGNMENT: TANGENT
 CROWN: 0.016 FT/FT
 DECK AREA: 5,534 SF (LEFT/WB); 6,844 SF (RIGHT/EB)
 COORDINATES: LATITUDE 40°05'12.00"N (LEFT); 40°05'11.54"N (RIGHT)
 LONGITUDE 82°50'46.75"W (LEFT); 82°50'46.58"W (RIGHT)

SITE PLAN - (1 OF 2)
 BRIDGE NO. FRA-00161-19.090 L&R
 SR 161 OVER ROCKY FORK CREEK

SFN	2509288 (L)
SFN	2509296 (R)
DESIGN AGENCY	
DESIGNER	JTW
CHECKER	CMR
REVIEWER	
DWW	02/10/23
PROJECT ID	116322
SUBSET	TOTAL
1	33
SHEET	TOTAL
667	846



PROFILE ALONG PROPOSED PROFILE GRADE LINE (EB)

NOTE:

- FOR ADDITIONAL INFORMATION, NOTES, AND ASSOCIATED PLAN VIEW, SEE SHEET 1 OF 33.

SITE PLAN - (2 OF 2)
 BRIDGE NO. FRA-00161-19.090 L&R
 SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)

SFN 2509296 (R)

DESIGN AGENCY



8890 LYRA DR.
 SUITE 100
 COLUMBUS, OH 43240
 614.839.5770

DESIGNER	CHECKER
JTW	CMR

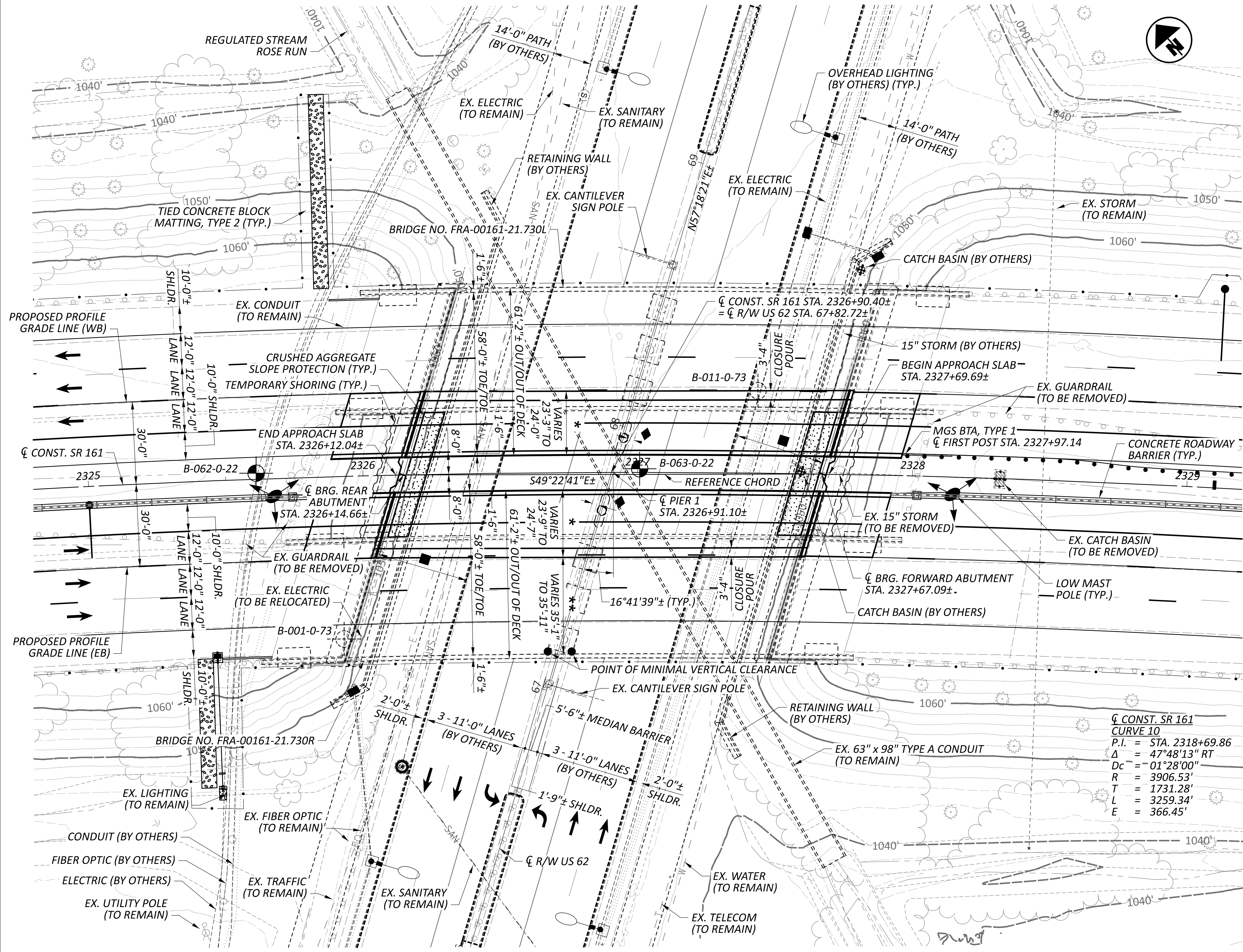
REVIEWER

DWW 02/10/23

PROJECT ID
 116322

SUBSET	TOTAL
2	33

SHEET	TOTAL
668	846



PLAN

BORING DATA			
BORING	☐ CONST. SR 161 STATION	OFFSET	TOP OF ROCK
B-001-0-73	2325+91±	59± RT.	N/A
B-011-0-73	2327+43±	30± LT.	ELEV. 997.8±
B-062-0-22	2325+61±	2± LT.	ELEV. 996.9±
B-063-0-22	2327+01±	1± LT.	ELEV. 997.1±

DESIGN TRAFFIC:
 2024 ADT = 64716 2024 ADTT = 5177
 2045 ADT = 86550 2045 ADTT = 6924
 DIRECTIONAL DISTRIBUTION = 0.50

BENCHMARK DATA

CP116	STA. 2311+27.89,	ELEV. 1043.63,	OFFSET 92.34 LT.,	CMON
CP117	STA. 2327+18.84,	ELEV. 1049.11,	OFFSET 426.68 LT.,	CMON
CP118	STA. 2336+26.66,	ELEV. 1058.95,	OFFSET 122.15 LT.,	CMON

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEETS.

NOTES

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

AN ELEVATION ADJUSTMENT OF -0.60' WAS USED TO ESTABLISH EXISTING SUBSTRUCTURE ELEVATIONS SHOWN THAT ARE TAKEN FROM THE EXISTING PLANS.

LEGEND

- PROJECT BORING LOCATION
 - HISTORIC BORING LOCATION
 - * PHASE 1A CONSTRUCTION
 - ** PHASE 1B CONSTRUCTION
 - 30'-0" REQUIRED CLEAR ZONE
35'-1½"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (US 62 NB)
33'-10"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (US 62 SB)
 - ◆ 30'-0" REQUIRED CLEAR ZONE
3'-0"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (US 62 NB)
3'-0"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (US 62 SB)
MEDIAN BARRIER PROTECTION PROVIDED
 - 15'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
16'-4¾"± ACTUAL MINIMUM VERTICAL CLEARANCE (US 62 NB)
16'-4¾"± ACTUAL MINIMUM VERTICAL CLEARANCE (US 62 SB)
- MGS BTA = MIDWEST GUARDRAIL SYSTEM BRIDGE TERMINAL ASSEMBLY

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM (A572) COMPOSITE WITH REINFORCED CONCRETE DECK ON REINFORCED CONCRETE PIER AND ABUTMENTS
 SPANS: 76'-2½"±, 76'-2½"± C/C BEARINGS
 ROADWAY: 42'-0"± TOE/TOE PARAPET
 LOADING: HS-20-44 (CASE II) & ALTERNATE MILITARY LOADING
 SKEW: 16°41'39"± LEFT FORWARD
 WEARING SURFACE: 1"± MONOLITHIC CONCRETE
 APPROACH SLABS: 25'± LONG, 15"± THICK (AS-1-81)
 ALIGNMENT: 01°28'00"± CURVE RIGHT
 SUPERELEVATION: 0.036± FT/FT
 STRUCTURE FILE NUMBER: 2503530 (RIGHT/EB) 2503565 (LEFT/WB)
 DATE BUILT: 1996
 DISPOSITION: TO BE WIDENED

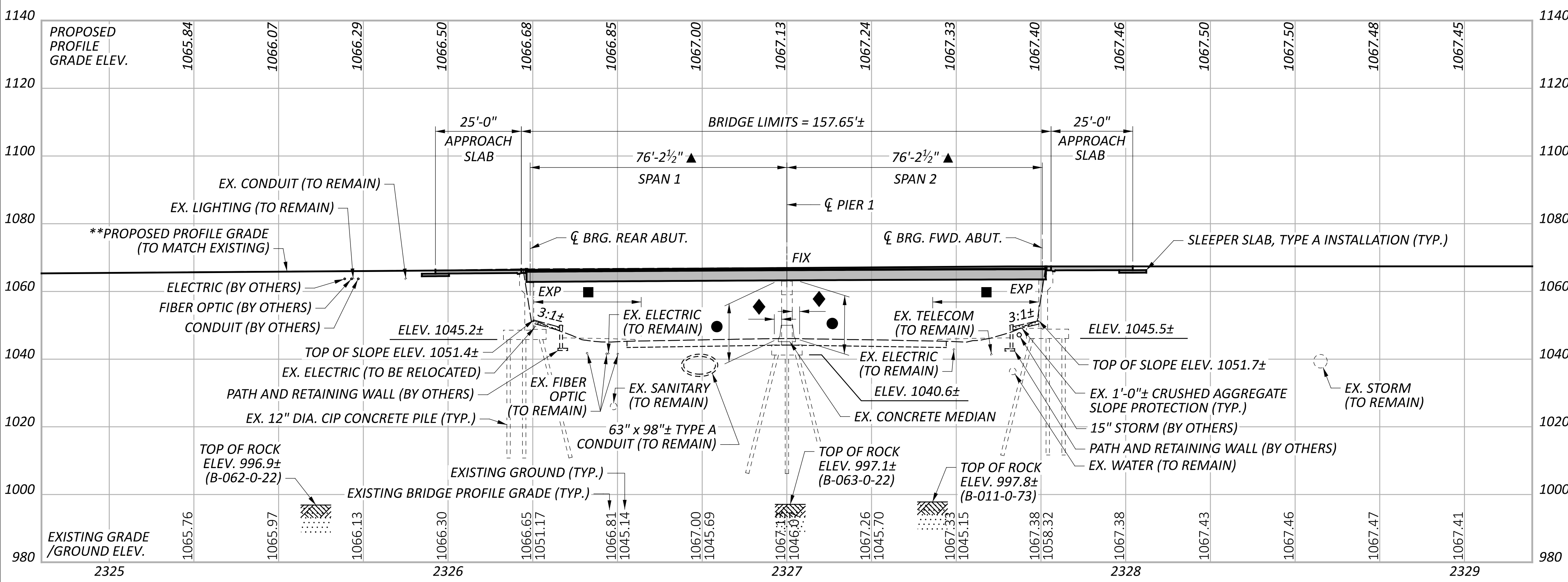
PROPOSED STRUCTURE

PROPOSED WORK: WIDENED SUPERSTRUCTURES ON WIDENED SUBSTRUCTURES
 TYPE: CONTINUOUS STEEL (A709) ROLLED BEAM COMPOSITE WITH REINFORCED CONCRETE DECK ON REINFORCED CONCRETE PIER AND ABUTMENTS
 SPANS: 76'-2½"±, 76'-2½"± C/C BRG. (MEASURED ALONG REFERENCE CHORD)
 ROADWAY: 58'-0" TOE/TOE BRIDGE RAILING
 DESIGN LOADING: SEE GENERAL NOTES
 SKEW: 16°41'39" LEFT FORWARD
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: 25'-0" LONG, 15" THICK (AS-1-15, AS-2-15)
 ALIGNMENT: 01°28'00" CURVE RIGHT
 SUPERELEVATION: 0.036 FT/FT
 DECK AREA: 9438 SF (RIGHT) / 9422 SF (LEFT)
 COORDINATES: LATITUDE 40°05'17.27"N (RIGHT) / 40°05'17.73"N (LEFT)
 LONGITUDE 82°47'55.37"W (RIGHT) / 82°47'54.39"W (LEFT)

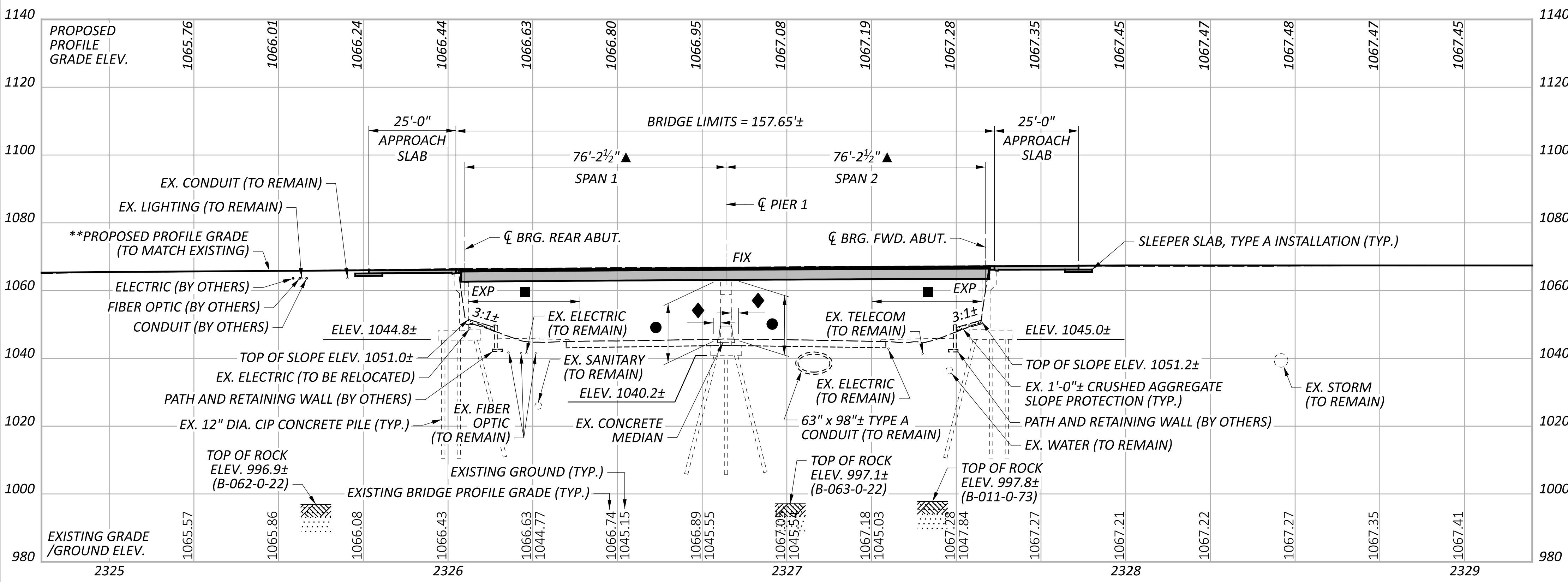
SITE PLAN - (1 OF 2)
 BRIDGE NO. FRA-00161-21.730 L&R
 SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN	2503530
SFN	2503565
DESIGN AGENCY	HDR
DESIGNER	RBK
CHECKER	BTA
REVIEWER	
DWW	STAGE 3
PROJECT ID	116322
SUBSET	TOTAL
1	54
SHEET	TOTAL
688	741

MODEL: BLP_SR161_WB_3 - Profile 1 (Sheet) PAPER SIZE: 34x22 (in.) DATE: 1/8/2023 TIME: 2:51:51 PM USER: CWAHLBRI
 pw:\ohiodoc-pw.bentley.com\ohiodoc-pw-02\Documents\01.Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Structures\SFN_2503530_Sheet\116322_SFN_2503530_SPO02.dgn



PROFILE ALONG PROPOSED PROFILE GRADE LINE (WB)



PROFILE ALONG PROPOSED PROFILE GRADE LINE (EB)

FOUNDATION DATA
 ALL PROPOSED REAR AND FORWARD ABUTMENT PILES SHALL BE 12" DIA. CIP CONCRETE PILES WITH AN ESTIMATED LENGTH OF 40 FEET.
 ALL PROPOSED PIER 1 DRILLED SHAFTS SHALL BE 3'-6" DIAMETER.

**EB AND WB PROFILE GRADE LINES SHOWN ARE SET USING GRAPHIC GRADES MATCHING APPROXIMATELY THE EXISTING PAVEMENT SURVEY AND CONSIST OF 5 FOOT TANGENT SECTIONS WITH A MINIMUM GRADE OF 0.1% AND A MAXIMUM GRADE OF 0.9%. INDIVIDUAL VPI AND GRADES HAVE NOT BEEN SHOWN FOR CLARITY.
 ▲ - MEASURED ALONG REFERENCE CHORD

NOTE:
 1. FOR ADDITIONAL INFORMATION, NOTES, AND ASSOCIATED PLAN VIEW, SEE SHEET 1 OF 54.

SITE PLAN - (2 OF 2)
 BRIDGE NO. FRA-00161-21.730 L&R
 SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN	2503530
SFN	2503565
DESIGN AGENCY	
DESIGNER	RBK
CHECKER	BTA
REVIEWER	
DWW	STAGE 3
PROJECT ID	116322
SUBSET	TOTAL
2	54
SHEET	TOTAL
689	741



**US Army Corps of Engineers
Huntington District**

Permit Number: 2022-00697-SCR

Name of Permittee: Ohio Department of Transportation

Date of Issuance: March 30, 2023

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers - Huntington District
Building 10/ Section 10
PO Box 3990
Columbus, OH 43218-3990

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date