

UNION COUNTY ENGINEER'S OFFICE

UNI-CR194-02.30

UNION COUNTY

PROJECT DESCRIPTION

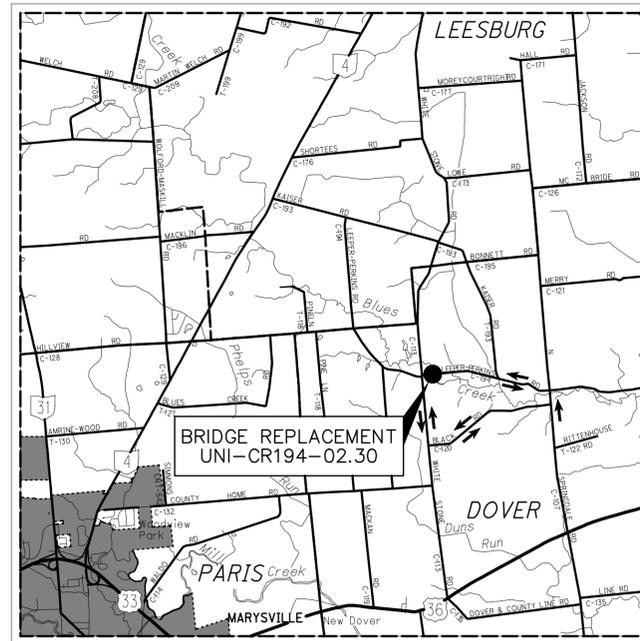
IMPROVEMENT TO CR194 (LEEPER-PERKINS RD) OVER BLUES CREEK, BY BRIDGE REPLACEMENT OF THE EXISTING TWO SPAN PRESTRESSED CONCRETE BOX BEAM BRIDGE ON SPREAD FOOTING AND CAP AND COLUMN PIER. THE PROPOSED STRUCTURE WILL BE EITHER A THREE SPAN CONCRETE SLAB ON CAP AND COLUMN ABUTMENT AND PIERS OR A SINGLE SPAN PRESTRESSED CONCRETE CONCRETE BOX BEAM ON REINFORCED CONCRETE ABUTMENTS ON STEEL H-PILING. IMPROVEMENTS TO THE APPROACH ROADWAY ARE INCLUDED IN THIS PROJECT. BRIDGE TYPE AND ROADWAY IMPROVEMENT LIMITS WILL BE CONFIRMED/DETERMINED DURING THE DESIGN/BUILD PROCESS.

PROJECT EARTH DISTURBED AREA: ACRES
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
 NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES

2019 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET X.



LOCATION MAP

LATITUDE: 40° 17' 3.75" LONGITUDE: 83° 17' 44.68"



- PORTION TO BE IMPROVED -----
- INTERSTATE HIGHWAY -----
- FEDERAL ROUTES -----
- STATE ROUTES -----
- COUNTY & TOWNSHIP ROADS -----
- OTHER ROADS -----
- LOCAL DETOUR ----->

DESIGN DESIGNATION

CURRENT ADT (2022) ----- 740
 DESIGN YEAR ADT (2042) ----- 950
 DESIGN HOURLY VOLUME (2042) ----- 100
 DIRECTIONAL DISTRIBUTION ----- 53%
 TRUCKS (24 HOUR B&C) ----- 2.00%
 DESIGN SPEED ----- 55 MPH
 LEGAL SPEED ----- 55 MPH
 DESIGN FUNCTIONAL CLASSIFICATION:
 RURAL LOCAL ROAD
 NHS PROJECT ----- NO

DESIGN EXCEPTIONS

NONE

INDEX OF SHEETS:

- TITLE SHEET 1
- SCHEMATIC PLAN 2
- TYPICAL SECTION 3
- PLAN & PROFILE 4
- CROSS SECTIONS 5
- BRIDGE SITE PLAN 6

STAGE 1 SUBMITTAL
02/11/2022
NOT FOR CONSTRUCTION



ENGINEERS SEAL:



SIGNED: _____
 DATE: _____

STRUCTURAL SEAL:



SIGNED: _____
 DATE: _____

OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS

		SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	7-18-14	MT-101.60	1-17-20	800	10-19-18
DM-4.4	1-15-16	PSBD-2-07	7-20-18	832	
DS-1-92	7-18-03	TST-1-99	7-20-18		
MGS-1.1	1-19-18				
MGS-2.1	1-19-18				
MGS-3.1	1-19-18				

APPROVED _____
 DATE _____ UNION COUNTY ENGINEER

APPROVED _____
 DATE _____ UNION COUNTY COMMISSIONER

APPROVED _____
 DATE _____ UNION COUNTY COMMISSIONER

APPROVED _____
 DATE _____ UNION COUNTY COMMISSIONER

PLAN PREPARED BY:
E. P. FERRIS
 AND ASSOCIATES
 INC
 Consulting Civil Engineers and Surveyors

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FEDERAL PROJECT NO.

PID NO.

CONSTRUCTION PROJECT NO.

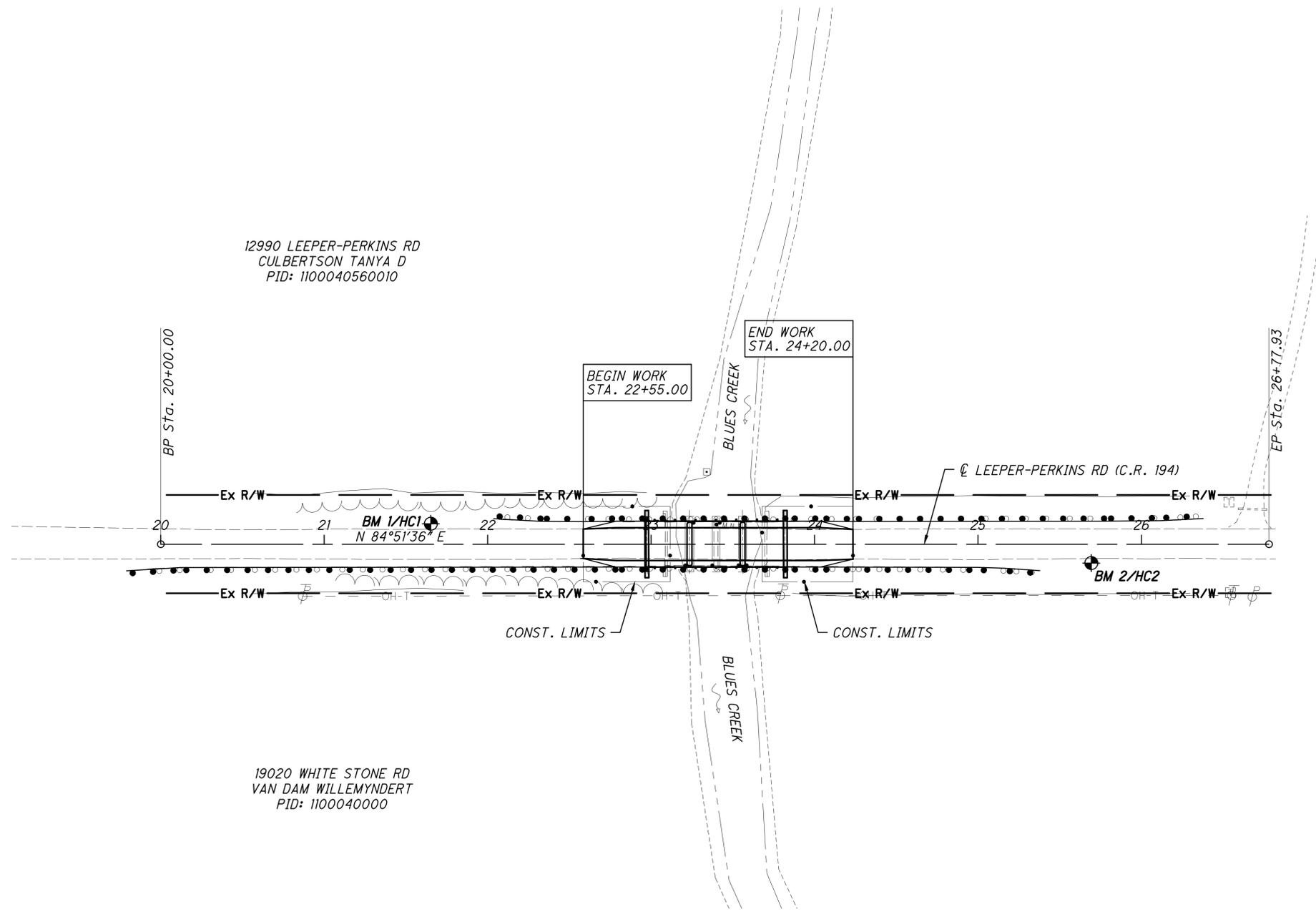
RAILROAD INVOLVEMENT

NONE

UNI-CR194-02.30

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BASIS OF STATIONING
 EX. R/W AND HORIZONTAL ALIGNMENT PROVIDED BY UNION COUNTY ENGINEER'S OFFICE.

HORIZONTAL CONTROL POINTS			
ID.	NORTHING	EASTING	DESCRIPTION
1	226057.53	1746316.34	IPS
2	226069.79	1746721.06	IPS

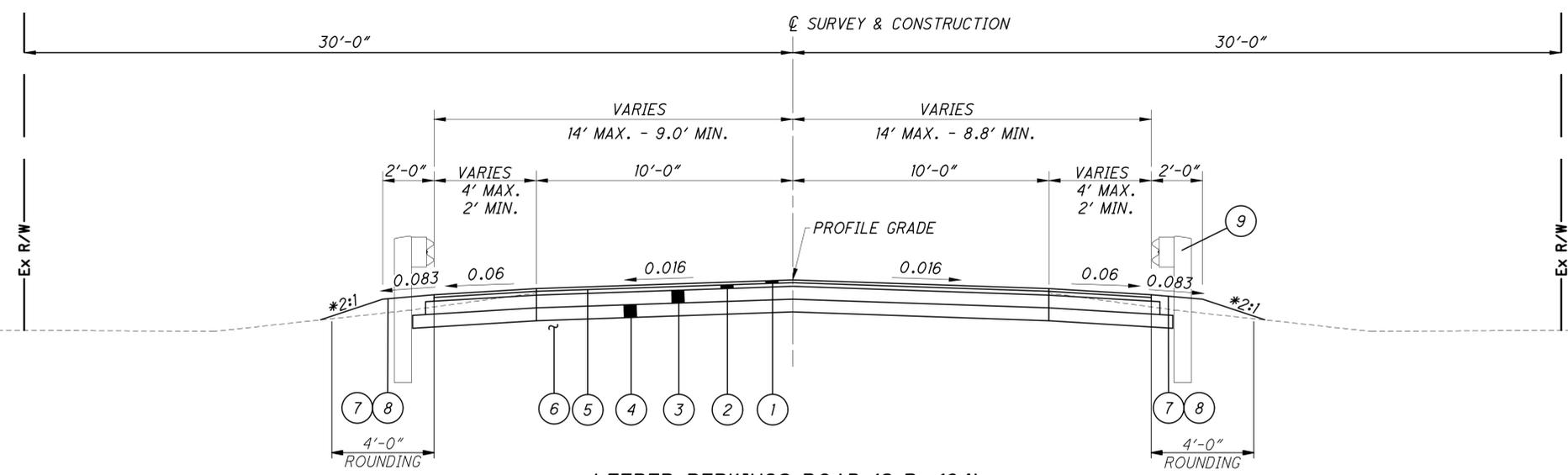
BENCHMARKS		
BENCHMARK	ELEVATION	DESCRIPTION
BM 1	951.21	5/8" REBAR 30" LONG W/ RED PLASTIC CAP STAMPED EP FERRIS TRAVERSE
BM 2	948.25	5/8" REBAR 30" LONG W/ RED PLASTIC CAP STAMPED EP FERRIS TRAVERSE

CALCULATED
 RJB
 CHECKED
 M/L/S

0 20 40 80
 HORIZONTAL
 SCALE IN FEET

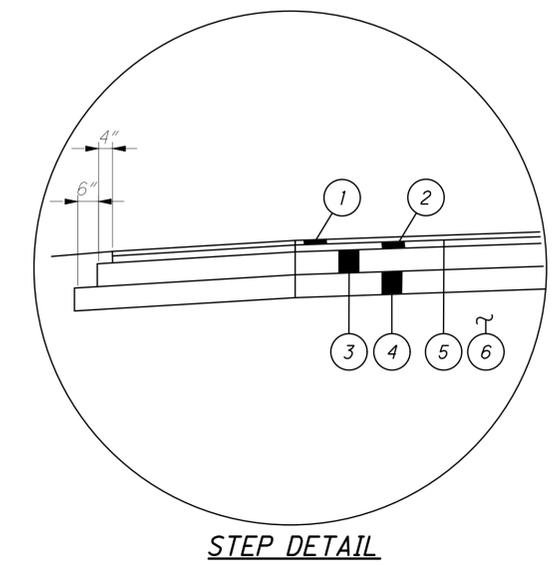
SCHEMATIC PLAN

UNI-CR194-02.30



LEEPER-PERKINGS ROAD (C.R. 194)
 STA. 22+55.00 TO STA. 22+93.65
 STA. 23+79.65 TO STA. 24+20.00

- | ITEM | DESCRIPTION |
|------|--|
| ① | 441 ~ 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 |
| ② | 441 ~ 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) |
| ③ | 301 ~ 6" ASPHALT CONCRETE BASE, PG64-22 |
| ④ | 304 ~ 6" AGGREGATE BASE |
| ⑤ | 407 ~ TACK COAT @ 0.08 GAL./S.Y. |
| ⑥ | 204 ~ SUBGRADE COMPACTION |
| ⑦ | 653 ~ TOPSOIL, FURNISHED AND PLACED, 4" |
| ⑧ | 659 ~ SEEDING AND MULCHING |
| ⑨ | 606 ~ MGS GUARDRAIL |
- (A) EX. PAVEMENT
 * - SEE CROSS SECTIONS

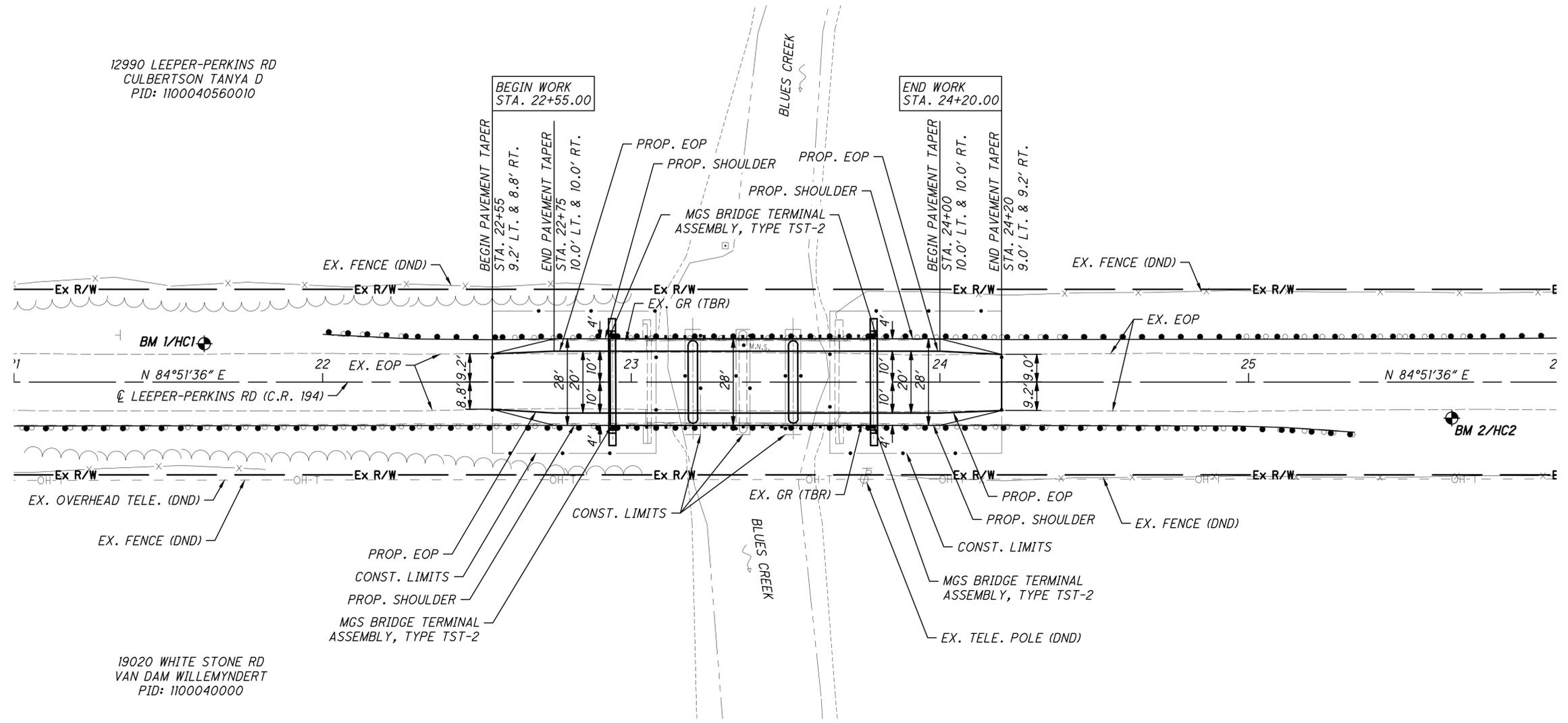


STEP DETAIL

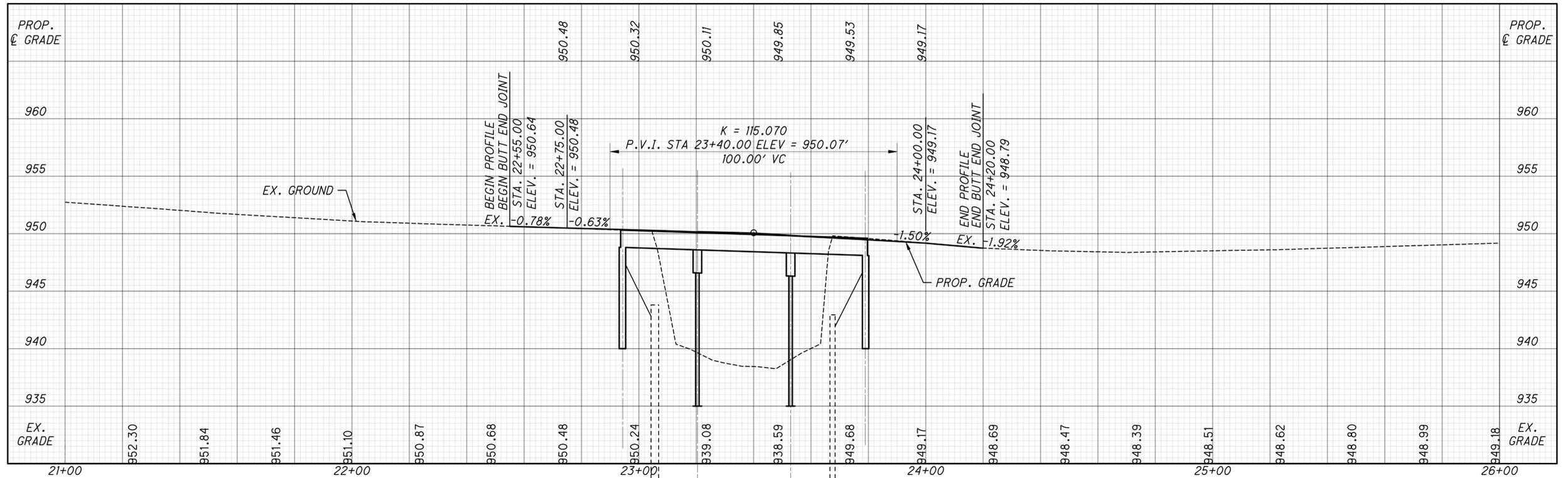
TYPICAL SECTION

UNI-CR194-02.30

12990 LEEPER-PERKINS RD
 CULBERTSON TANYA D
 PID: 1100040560010



19020 WHITE STONE RD
 VAN DAM WILLEMYNDERT
 PID: 11000400000



CALCULATED
 RJB
 CHECKED
 M/S

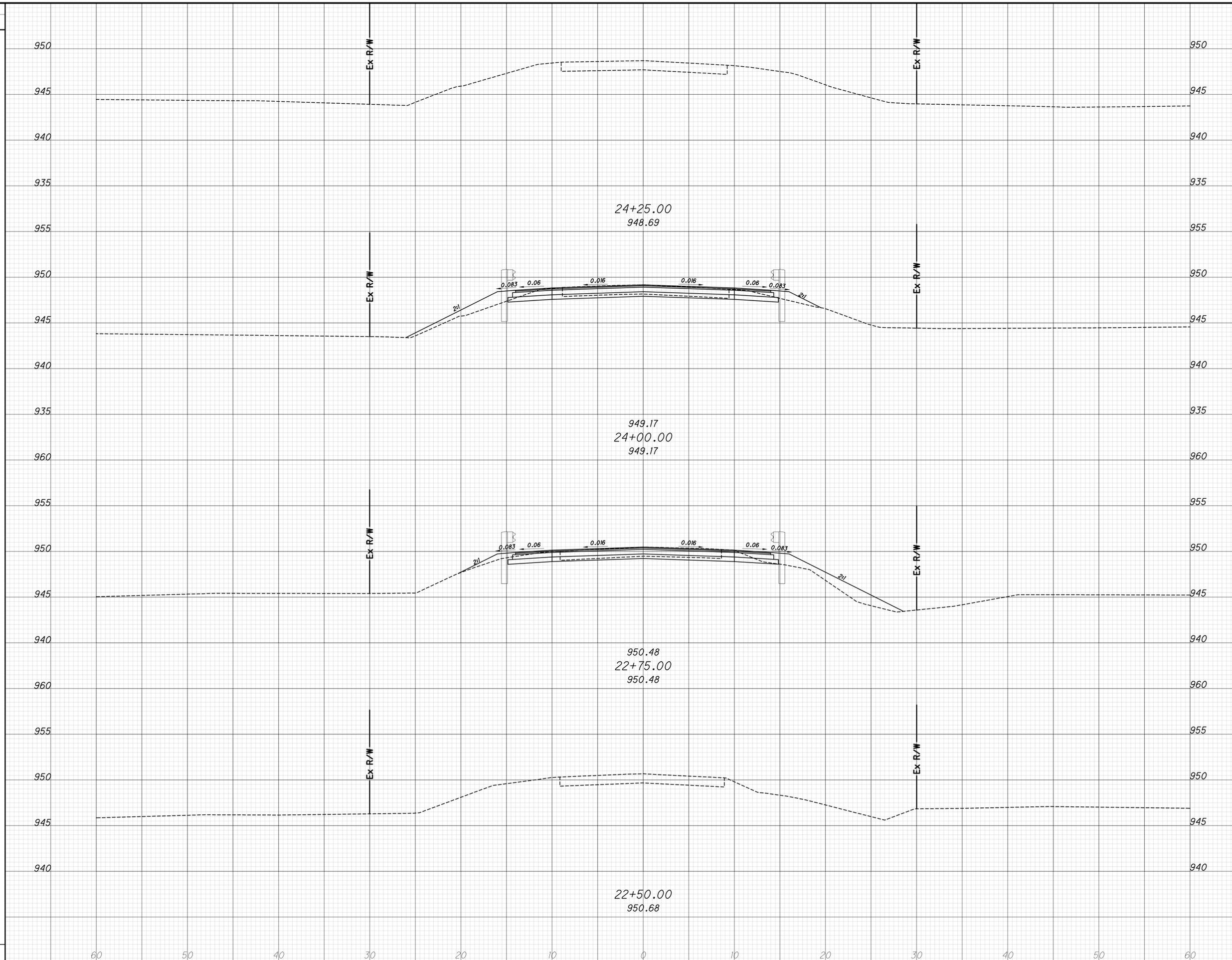
PLAN AND PROFILE - C.R. 194
 STA. 22+55 TO STA. 24+20

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SEEDING	
END WIDTH	SO. YDS.

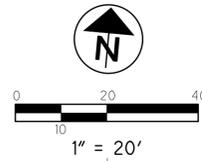


END AREA		VOLUME		CALCULATED RUB	CHECKED M/L S
CUT	FILL	CUT	FILL		

**CROSS SECTIONS
STA. 22+50 TO STA. 24+25**

UNI-CR194-02.30

5
6



BENCHMARK DATA

BM #1 STA. 21+61.65 ELEV. 951.21 OFFSET 12.36' LT
 BM #2 STA. 25+65.86 ELEV. 948.25 OFFSET 11.69' RT

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET

NOTES

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

TRAFFIC DATA

DESIGN TRAFFIC:
 2022 ADT = 740
 2042 ADT = 950
 DIRECTIONAL DISTRIBUTION = 53%

LEGEND

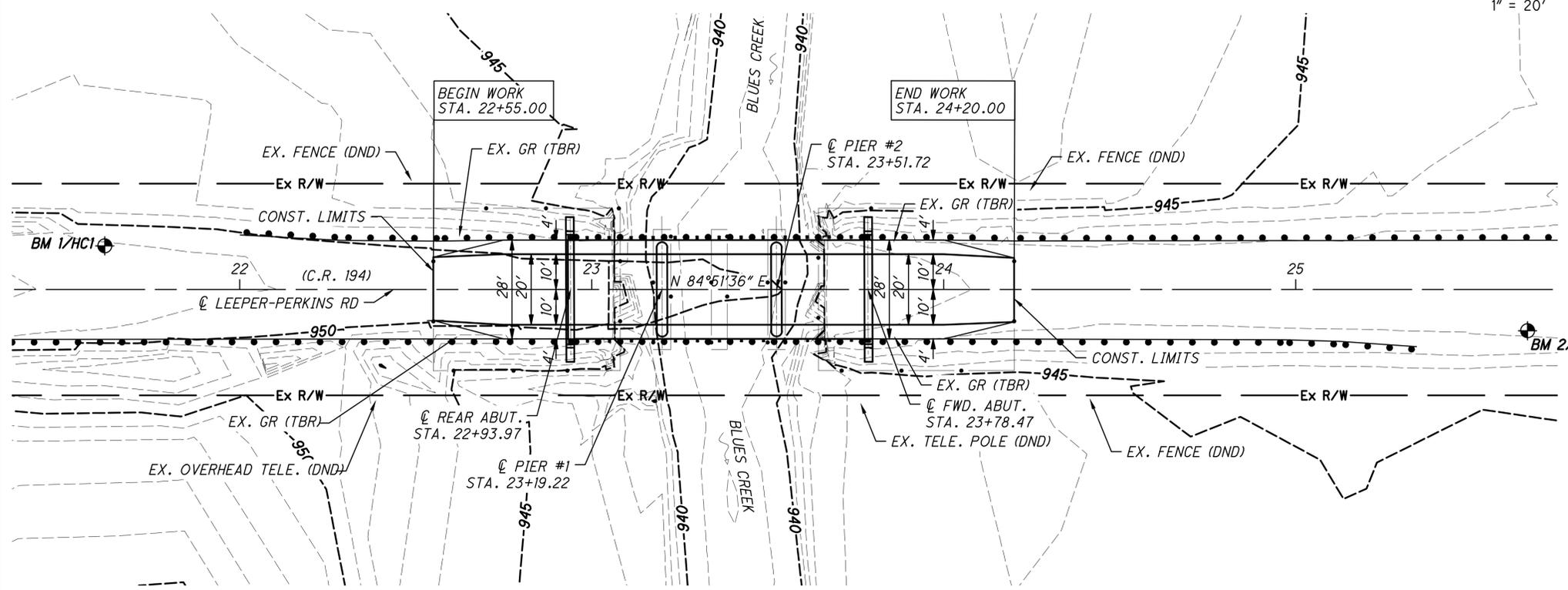
- EXISTING STRUCTURE TO REMAIN
- SOIL BORING

HYDRAULIC DATA

DRAINAGE AREA = 18.9 SQ. MILES
 Q (10) = 1590 CFS V (10) = 5.27 FT/S
 Q (100) = 2910 CFS V(100) = 5.84 FT/S
 STRUCTURE CLEARS THE 10 YEAR STORM EVENT BY 1.56 FT.

FIRST GUARDRAIL POST LOCATION

- REAR ABUTMENT LEFT - STA. 22+93.97, 14.33' LT.
- REAR ABUTMENT RIGHT - STA. 22+93.97, 14.33' RT.
- FORWARD ABUTMENT LEFT - STA. 23+78.47, 14.33' LT.
- FORWARD ABUTMENT RIGHT - STA. 23+78.47, 14.33' RT.



PLAN

WATER SURFACE ELEVATIONS	
A: H (OHWM)	EL. 944.52
B: H (10)	EL. 946.29
C: H (100)	EL. 948.01

EXISTING STRUCTURE

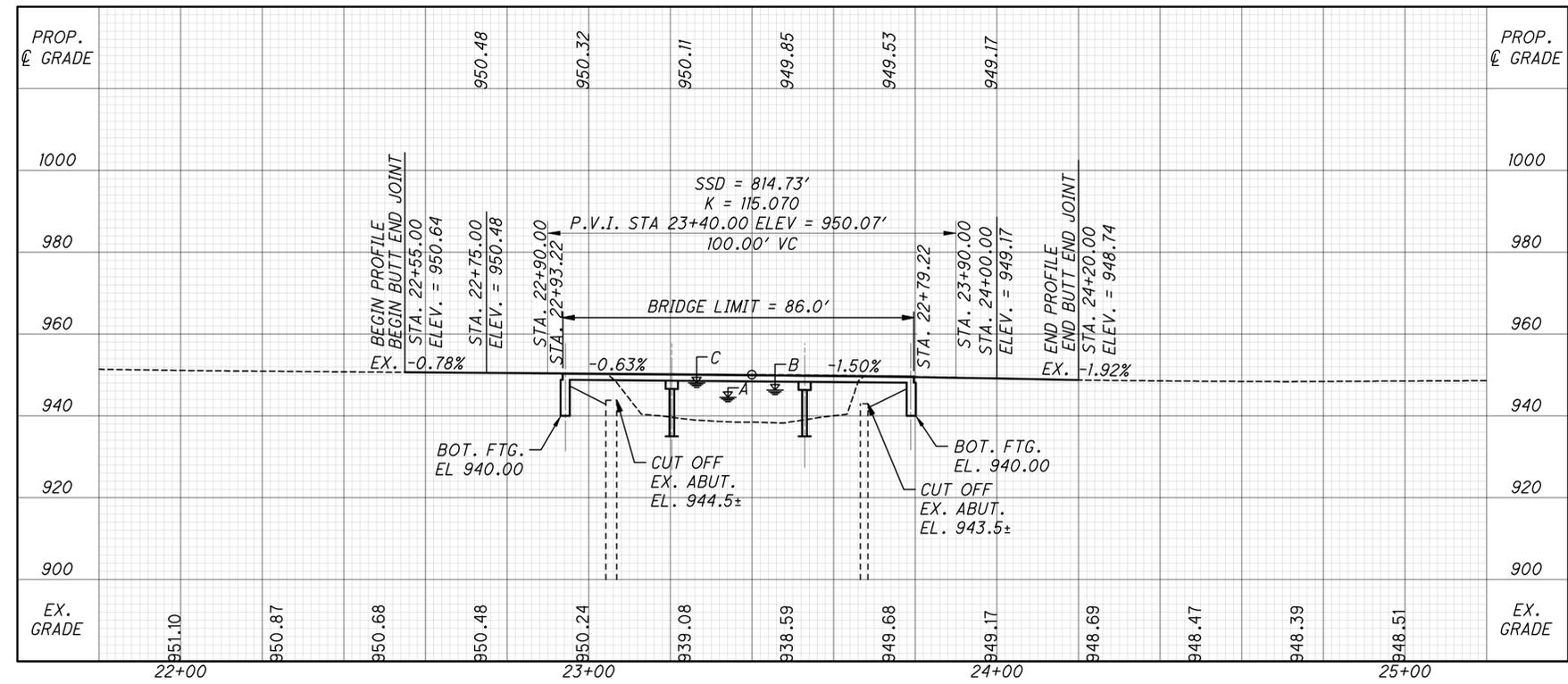
TYPE: TWO SPAN PRESTRESSED CONCRETE BOX BEAM ON CAP COLUMN CENTER PIER AND REINFORCED CONCRETE ABUTMENTS ON SPREAD FOOTINGS.

SPANS: (2) 65'-0", MAX SPAN = 31'-0"
 ROADWAY: 28.3 FT.
 LOADING: HS20-44 AND ALTERNATE MILITARY LOADING
 SKEW: NONE
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 CROWN: 0.016 FT/FT (NORMAL CROWN)
 STRUCTURAL FILE NUMBER: 8034338
 DATE BUILT: 1971
 DISPOSITION: BRIDGE REPLACEMENT

PROPOSED STRUCTURE

TYPE: THREE SPAN REINFORCED CONCRETE SLAB ON CAP AND COLUMN PIER AND ABUTMENTS. THE NEW ABUTMENTS ARE PLACED BEHIND THE EXISTING ABUTMENTS. MIN. BOTTOM CHORD EL. 947.85.

SPANS: 26'-0", 32'-6", 26'-0"
 ROADWAY: 28'-0" F/F RAILING
 LOADING: HL-93 (FUTURE WEARING SURFACE = 0.060 KSF)
 SKEW: 0° 00' 00"
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 CROWN: 0.0156 FT/FT (NORMAL CROWN)
 COORDINATES: LATITUDE 40° 17' 04"
 LONGITUDE 83° 17' 45"



PROFILE ALONG C CONSTRUCTION - LEEPER-PERKINS ROAD (C.R. 194)

DESIGN AGENCY
 E.P. FERRIS & ASSOC., INC.
 CONSULT. ENG. & SURVEYORS

DATE
 2/2022

REVIEWED
 MLS
 STRUCTURE FILE NUMBER
 8034339

DRAWN
 RJB
 REVISION

DESIGNED
 RJB
 CHECKED
 MLS

UNION COUNTY
 STA. 22+93.65
 STA. 23+79.65

BRIDGE SITE PLAN
 BRIDGE NO. UNI-CR194-0230
 OVER BLUES CREEK

UNI-CR194-02-30

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