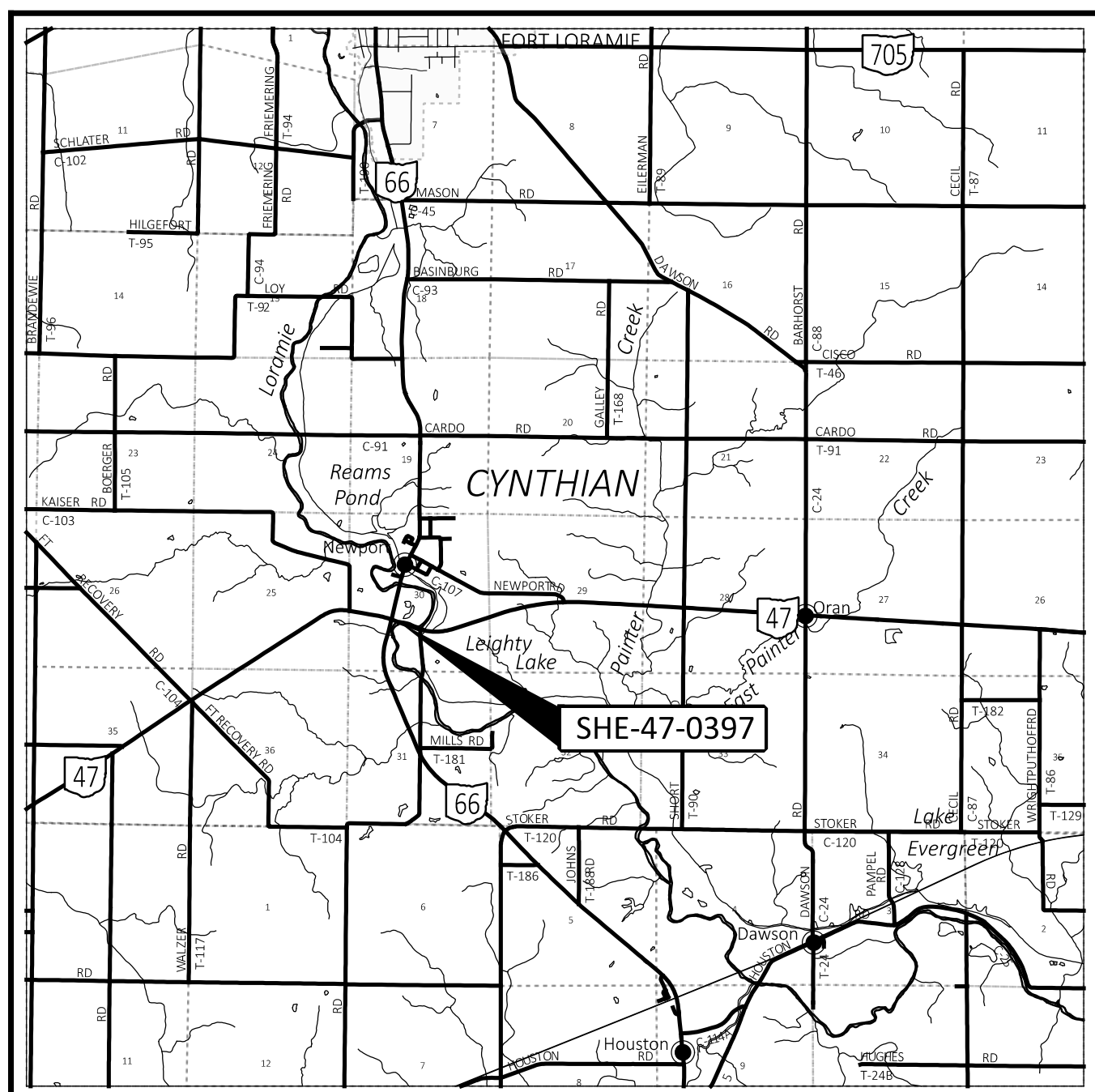


# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

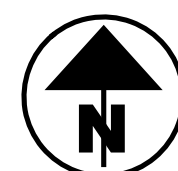
## SHE-47-03.97

### CYNTHIAN TOWNSHIP SHELBY COUNTY



**LOCATION MAP**

LATITUDE: 40 °17'23" LONGITUDE: 84 °22'16"



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

**DESIGN DESIGNATION**

CURRENT ADT (2024)	3700
DESIGN YEAR ADT (2044)	4100
DESIGN HOURLY VOLUME (2044)	400
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	11%
DESIGN SPEED	60 mph
LEGAL SPEED	55 mph
DESIGN FUNCTIONAL CLASSIFICATION:	
RURAL MAJOR COLLECTOR	
NHS PROJECT	NO

**DESIGN EXCEPTIONS**

NONE

**ADA DESIGN WAIVERS**

NONE

**UNDERGROUND UTILITIES**  
Contact Two Working Days  
Before You Dig

**OHIO811.org**  
Before You Dig

OHIO 811, 8-1-1, or 1-800-362-2764  
(Non members must be called directly)

PLAN PREPARED BY:  
ODOT DISTRICT 7 - ENGINEERING  
1001 ST. MARYS AVE.  
SIDNEY, OH

**INDEX OF SHEETS:**

TITLE SHEET	1
TYPICAL SECTIONS	2
GENERAL NOTES	3-4
MAINTENANCE OF TRAFFIC	5-7
GENERAL SUMMARY	8
PAVEMENT & TRAFFIC SUBSUMMARY	9
GENERAL PLAN & PROFILE	10
STRUCTURES OVER 20' SPAN	11-26
SHE-47-0397	

**FEDERAL PROJECT NUMBER**

E150(556)

**RAILROAD INVOLVEMENT**

NONE

**PROJECT DESCRIPTION**

REPLACEMENT OF THE BRIDGE DECK ON SR 47 OVER LORAMIE CREEK WITH MINIMAL ROADWAY WORK. THE REHABILITATION WILL INCLUDE SEMI-INTEGRAL ABUTMENT CONVERSION ALONG WITH REPLACEMENT OF THE BRIDGE BEARINGS, AND APPROACH SLABS. THE STEEL BEAMS WILL ALSO BE PAINTED.

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA:	0 ACRES*
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0 ACRES*
NOTICE OF INTENT EARTH DISTURBED AREA:	0 ACRES*

\* N/A (MAINTENANCE PROJECT)

**2023 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 6.

John W. O'Brien  
District 07 Deputy Director

Jack Marchbanks, PhD  
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-2.2	1/15/21	SICD-1-21	1/21/22	TC-65.10	1/17/14	800-2023	4/21/23	OEPA DEMO	1/15/16
BP-2.3	7/18/14	SICD-2-14	1/15/21	TC-65.11	7/15/22	832	7/15/22	WPC	8/24/22
BP-3.1	1/21/22	TST-2-21	7/16/21						
DM-1.1	7/17/20	HL-50.21	7/15/22						
DM-4.4	1/15/16								
		MT-97.10	4/19/19						
MGS-1.1	7/16/21	MT-101.60	1/17/20						
MGS-2.1	1/19/18	MT-105.10	1/17/20						
MGS-3.3	7/16/21								
MGS-4.3	1/18/13	TC-41.20	10/18/13						
MGS-6.1	1/19/18	TC-42.20	10/18/13						
		TC-52.10	10/18/13						
AS-1-15	1/20/23	TC-52.20	1/15/21						
AS-2-15	1/20/23	TC-61.30	7/19/19						
DS-1-92	7/15/22								

**ENGINEER'S SEAL**

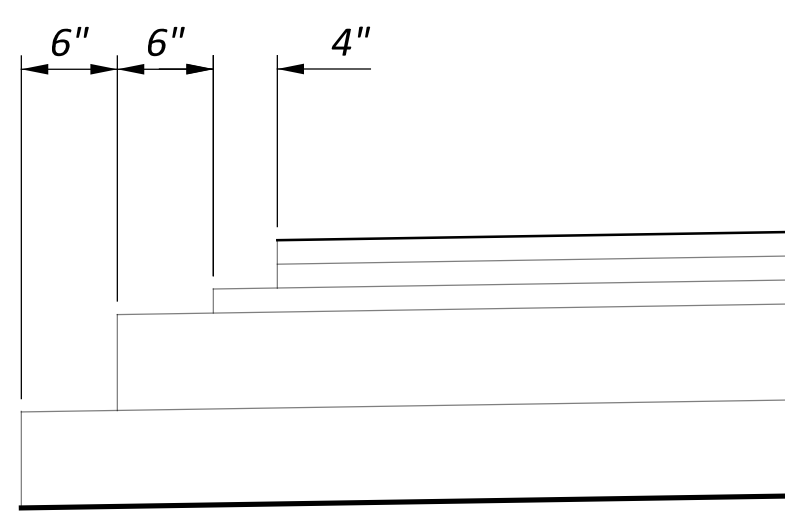
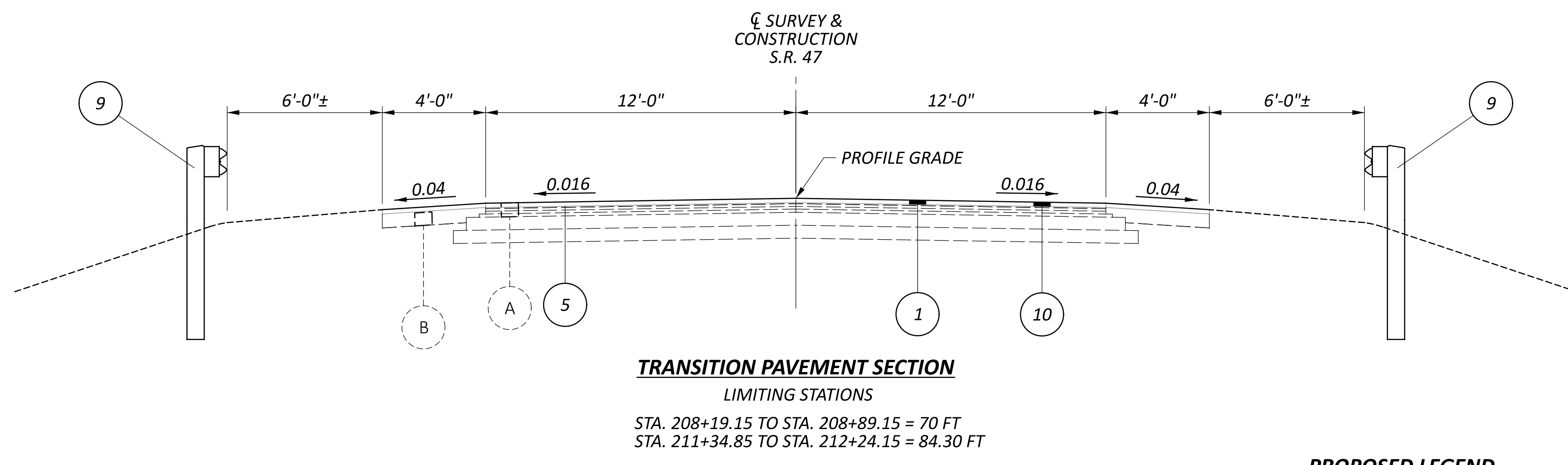
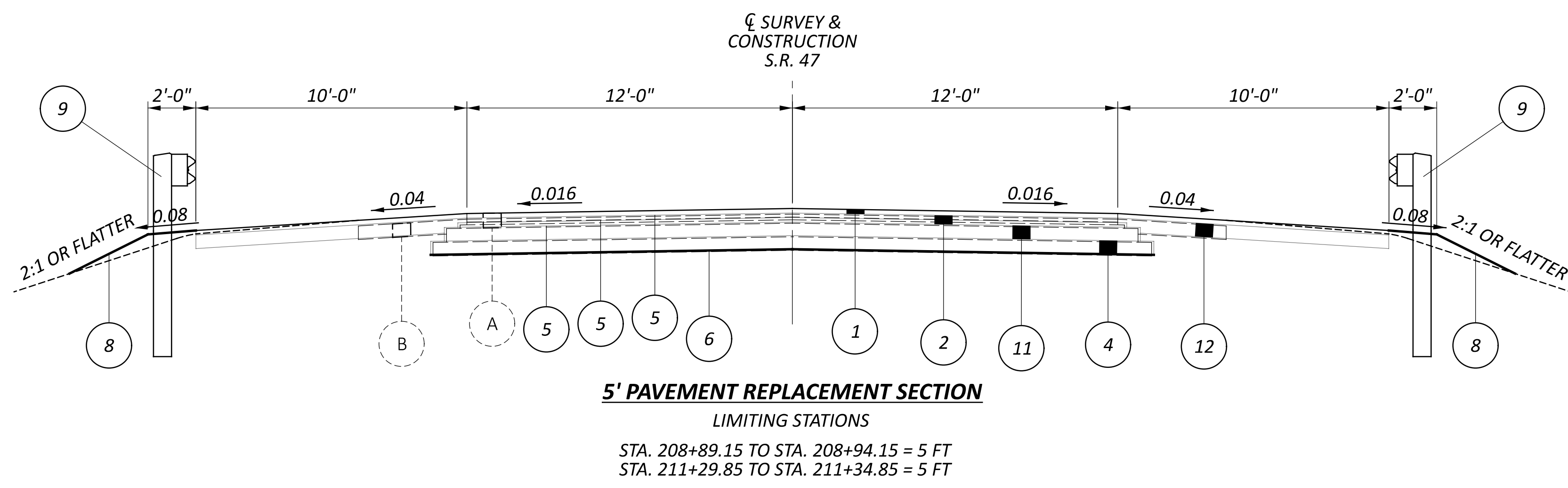
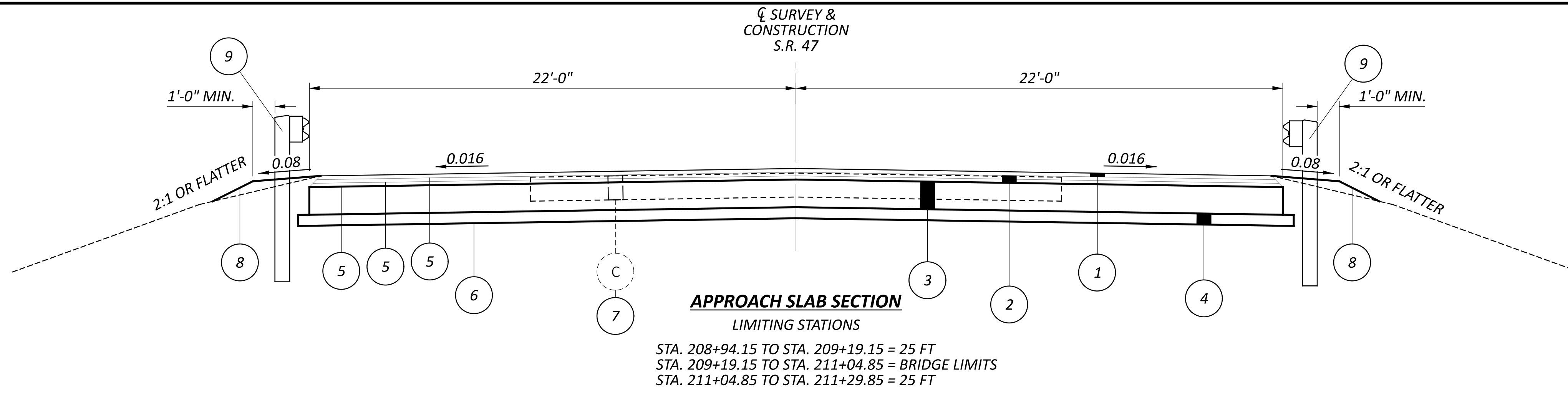
BRIDGE

SHE-47-0397

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SHE-47-03.97

DESIGN AGENCY	
DISTRICT 7 ENGINEERING	
DESIGNER	LCG
REVIEWER	DHG
PROJECT ID	05/09/23
	99862
SHEET	TOTAL
P.01	26



- EXISTING LEGEND**
- (A) EXISTING PAVEMENT - ± 6.5" ASPHALT CONCRETE
  - (B) EXISTING PAVED SHOULDER
  - (C) EXISTING APPROACH SLAB

- (1) ITEM 442 2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), PG88-22M
- (2) ITEM 441 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) PG64-22 (2 LIFTS)
- (3) ITEM 526 REINFORCED CONCRETE APPROACH SLAB, (T= 15")
- (4) ITEM 304 6" AGGREGATE BASE
- (5) ITEM 407 TACK COAT (0.085 GAL/SQ. YD.)
- (6) ITEM 204 SUBGRADE COMPACTION

**PROPOSED LEGEND**

- (7) ITEM 202 APPROACH SLAB REMOVED
- (8) ITEM 617 COMPACTED AGGREGATE
- (9) ITEM 606 MGS GUARDRAIL  
MGS GUARDRAIL (LONG POST)  
SEE SHEETS 9 & 10 FOR LOCATION & QUANTITY.
- (10) ITEM 254 PAVEMENT PLANING
- (11) ITEM 301 6" ASPHALT CONCRETE BASE, PG64-22
- (12) ITEM 304 6" AGGREGATE BASE

TYPICAL SECTIONS

SHE-47-0397

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DESIGN AGENCY  
DISTRICT 7 ENGINEERING  
DESIGNER  
LCG  
REVIEWER  
XXX MM-DD-YY  
PROJECT ID  
99862  
SHEET TOTAL  
P.02 26

**UTILITIES**

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

**AES OHIO**  
1900 DRYDEN RD.  
DAYTON, OH 45439  
BILL WARD  
OFFICE: (937)-554-9063  
William.ward@aes.com

**NEW KNOXVILLE TELEPHONE**  
301 WEST SOUTH ST.  
P.O. BOX 219  
NEW KNOXVILLE, OH 45871  
PRESTON MEYER  
OFFICE: (419)-753-2457  
CELL: (419)-753-5000  
pmeyer@nktelco.com

**PIONEER ELECTRIC**  
344 WEST U.S. ROUTE 36  
PIQUA, OH 45356  
DAN JOHNSON  
OFFICE: (800)-762-0997  
CELL: (937)-484-8121  
www.pioneerec.com

**LUMEN**  
(888)-862-8293  
relocations@lumen.com

**EXISTING PLANS**

EXISTING PLANS ENTITLED BELOW MAY BE INSPECTED IN THE ODOT DISTRICT 7 OFFICE IN SIDNEY, OHIO.

- (1966) SHE-47-3.94 (BUILT)
- (1999) SHE-47-3.97 (OVERLAY)
- (2014) D07-BRDG-DECK SEALING

**WORK LIMITS**

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

**CLEARING AND GRUBBING**

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

SIZES	NO. TREES	NO. STUMPS	TOTAL
10"	1	0	1
15"	1	0	1
18"	3	0	3

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 4 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

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

**PROJECT CONTROL**

POSITIONING METHOD: ODOT VRS  
MONUMENT TYPE: B

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD88  
GEOID: G18-OH

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD 1983 (2011)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE  
COMBINED SCALE FACTOR: 1.00003062  
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

**PROTECTION OF DRINKING WATER RESOURCES**

BEST CONSTRUCTION PRACTICES ARE TO BE IMPLEMENTED TO MINIMIZE WATER QUALITY IMPACTS. IDLE EQUIPMENT, PETROCHEMICALS, AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED NEAR DRAINAGE WAYS, DITCHES OR STREAMS. REFUELING SHALL NOT BE UNDERTAKEN NEAR DRAINAGE WAYS, DITCHES OR STREAMS. A SPILL CONTAINMENT KIT IS TO BE MAINTAINED ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. SPILLS OF FUELS, OILS, CHEMICALS, OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY. IF THE SPILL IS A REPORTABLE AMOUNT, THE LOCAL FIRE DEPARTMENT (911), LOCAL EMERGENCY COORDINATOR (937-498-1111) AND THE OEPA (1-800-282-9378) MUST BE CONTACTED WITHIN 30 MINUTES OF KNOWLEDGE OF THE RELEASE.

**PROTECTION OF BATS - CUTTING RESTRICTIONS**

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. THE CONTRACTOR SHALL NOT REMOVE TREES UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THE CONTRACTOR SHALL DEMARCATÉ CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. 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.

**PROTECTION OF BATS - BRIDGE INSPECTION**

THE CONTRACTOR MUST VISUALLY INSPECT WORK AREAS ON THE STRUCTURE FOR EVIDENCE OF ROOSTING BATS 60 DAYS PRIOR TO DEMOLITION. THE PERSON(S) CONDUCTING THE INSPECTION MUST BE CAPABLE OF IDENTIFYING BATS. INSPECTION USING BINOCULARS FROM THE GROUND IS ACCEPTABLE. THE CONTRACTOR MUST PROVIDE WRITTEN CONFIRMATION OF THE INSPECTION TO THE ENGINEER, INCLUDING A STATEMENT INDICATING WHETHER EVIDENCE OF ROOSTING BATS WAS FOUND.

IF NO EVIDENCE OF ROOSTING BATS WERE ENCOUNTERED, CONSTRUCTION ACTIVITIES CAN PROCEED ANY TIME OF THE YEAR.

IF ROOSTING BATS ARE ENCOUNTERED WITHIN THE PROPOSED WORK AREA, CONTACT THE ENGINEER AND ODOT DISTRICT ENVIRONMENTAL COORDINATOR, TRICIA BISHOP [TRICIA.BISHOP@DOT.OHIO.GOV (937) 497-6721] IMMEDIATELY. CONSTRUCTION ACTIVITIES CAN ONLY OCCUR BETWEEN OCTOBER 31 AND MARCH 31 UNLESS THE CONTRACTOR BLOCKS ACCESS TO PORTIONS OF THE BRIDGE THAT COULD BECOME ROOSTING LOCATIONS (SUCH AS THE UNDERSIDE OF BRIDGE EXPANSION JOINTS, ETC.) PRIOR TO APRIL 1ST. THE CONTRACTOR MUST PROVIDE WRITTEN CONFIRMATION TO THE ENGINEER INCLUDING A STATEMENT INDICATING MEASURES TAKEN TO BLOCK ACCESS TO ROOSTING LOCATIONS. WORK THAT WOULD RESULT IN HARM TO THE BATS SHALL NOT OCCUR.

**MIGRATORY BIRD PROTECTION**

NESTING MIGRATORY BIRDS HAVE BEEN IDENTIFIED ON THE BRIDGE. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST INSPECT THE BRIDGE FOR EVIDENCE OF ACTIVE BIRD NESTS. WRITTEN CONFIRMATION OF THE INSPECTION, INCLUDING A STATEMENT WHETHER ACTIVE NESTS WERE FOUND, MUST BE PROVIDED TO THE CONSTRUCTION ENGINEER. IF AN ACTIVE NEST CONTAINING AN EGG OR CHICK IS PRESENT, IMPACTS TO THE NEST MUST BE AVOIDED UNTIL ALL DEVELOPING BIRDS ARE ABLE TO INDEPENDENTLY FLY FROM THE NEST. NESTS THAT DO NOT CONTAIN AN EGG OR CHICK ARE CONSIDERED INACTIVE AND MAY BE REMOVED TO DISCOURAGE BIRDS FROM NESTING AND CONSTRUCTION ACTIVITIES MAY PROCEED. NESTING BIRDS MAY BE AVOIDED BY UNDERTAKING THE WORK FROM OCTOBER 1 TO MARCH 1. IF AN ACTIVE NEST CANNOT BE AVOIDED, THE CONTRACTOR MUST OBTAIN A DEPREDATION PERMIT FROM THE USFWS PRIOR TO DESTROYING ANY ACTIVE NEST. INFORMATION ON OBTAINING A DEPREDATION PERMIT MAY BE OBTAINED BY CONTACTING THE REGION 3 MIGRATORY BIRD REGIONAL PERMIT OFFICE AT 5600 AMERICAN BLVD. WEST, SUITE 990, BLOOMINGTON, MN 55437-1458; PHONE: 612-713-5436. IF OPERATING UNDER A PERMIT, DOCUMENTATION MUST BE PROVIDED TO THE CONSTRUCTION ENGINEER.

**PROTECTION OF MUSSELS**

NO INSTREAM WORK MAY OCCUR UNTIL THE REQUIRED MUSSEL SURVEY/RELOCATION HAS BEEN COMPLETED AND ODNR HAS ACCEPTED THE SURVEY/RELOCATION REPORT.

**MIAMI CONSERVANCY DISTRICT COORDINATION**

THE CONTRACTOR MUST CONTACT MCD (MIAMI CONSERVANCY DISTRICT) PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A STORAGE COMPENSATION AGREEMENT (SCA) TO THE MIAMI CONSERVANCY DISTRICT PRIOR TO PLACING FILL ON SITE.

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

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

**ITEM 202 - REMOVAL MISC.: REMOVAL OF BRIDGE ID SIGN AND REERECTION**

THIS ITEM IS FOR THE EX. BRIDGE ID SIGN CURRENTLY ATTACHED TO THE BRIDGE GUARDRAIL (SOUTHWEST QUADRANT) OF THE SHE-47-0397 BRIDGE. THE CURRENT SIGN, AS SHOWN BELOW, IS TO BE REERECTED ON THE GUARDRAIL AT APPROXIMATELY THE CURRENT LOCATION. THE SIGN IS TO BE ATTACHED BY USING TWO 5/16" DIAMETER BOLTS X 6" LONG AND TWO 5/16" NUTS.



PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO PERFORM THE ITEM OF WORK AS DESCRIBED ABOVE.

**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 G REFLECTIVE SHEETING, PER CMS 730.19.

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 621 - RAISED PAVEMENT MARKER REMOVED**

A QUANTITY OF 11 EACH HAS BEEN INCLUDED AND IS CARRIED TO THE GENERAL SUMMARY.

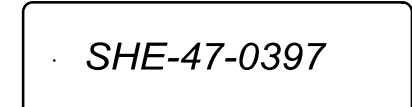
RAISED PAVEMENT MARKERS ARE NOT TO BE INSTALLED ON THE BRIDGE.

**ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN**

THIS ITEM SHALL BE USED TO INSTALL A NEW STRUCTURE IDENTIFICATION SIGN ON THE SIDE OF THE GUARDRAIL. SEE THIS SHEET AND SHEET 10 FOR LOCATION OF SIGN.

THE SIGN SIZE SHALL BE 24" X 4". THE SIGN SHALL BE ALUMINUM WITH NONREFLECTIVE WHITE SHEETING BACKGROUND AS PER CMS 730.20. LETTERS SHALL BE BLACK 2" HEIGHT, SERIES C STROKE WIDTH, AND SILK SCREENED AS PER CMS 730.22. SIGNS SHALL BE BOLTED TO THE GUARDRAIL BY USING TWO 5/16" DIAMETER BOLTS X 6" LONG AND TWO 5/16" NUTS.

PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO PERFORM THE ITEM OF WORK AS DESCRIBED ABOVE.



DESIGN AGENCY

DISTRICT 7 ENGINEERING

DESIGNER  
LCG

REVIEWER  
DHG 05/09/23

PROJECT ID  
99862

SHEET TOTAL  
P.03 26

**SEEDING AND MULCHING**

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

659, SEEDING AND MULCHING	680 SQ. YD.
659, REPAIR SEEDING AND MULCHING	34 SQ. YD.
659, INTER-SEEDING	34 SQ. YD.
659, COMMERCIAL FERTILIZER	0.10 TON
659, WATER	4 M. GAL.

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.

PRIMARY PROJECT CONTROL INFORMATION						
POINT NUMBER	GRID COORDINATES U.S. SURVEY FEET		SCALED COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
	NORTHING	EASTING	NORTHING	EASTING		
M2	232674.729	1446612.004	232667.604	1446567.708	930.216	PROJECT CONTROL - IRON PIN
M4	232432.523	1446457.469	232425.406	1446413.179	931.091	PROJECT CONTROL - IRON PIN

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GENERAL NOTES (2 OF 2)

DESIGN AGENCY



DISTRICT 7  
ENGINEERING

DESIGNER  
LCG

REVIEWER  
DHG 05/09/23

PROJECT ID  
99862

SHEET	TOTAL
P.04	26

**ITEM 614, MAINTAINING TRAFFIC**

S.R. 47

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 6. STATE ROUTE 47 MAY NOT BE CLOSED UNTIL MONDAY JULY 15TH, 2024. NO WORK CAN COMMENCE UNTIL AFTER COUNTRY CONCERT. (JULY 11-13) A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$3000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. CLEARING AND GRUBBING NEEDS TO BE COMPLETED PRIOR TO JULY 15TH TO COMPLY WITH ENVIRONMENTAL NOTES.

BRIDGE PAINTING MAY OCCUR OUTSIDE OF THE DETOUR, BUT MUST MAINTAIN ONE LANE EACH DIRECTION. PAINTING EQUIPMENT MAY OPTIONALLY BE STORED IN THE NORTHWEST QUADRANT BEHIND EXISTING GUARDRAIL.

S.R. 66

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT AND TEMPORARY SURFACES.

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

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

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HRS & < 2 WKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HRS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER. SEE BELOW FOR SIGN EXAMPLE.

WILL BE  
 CLOSED XXX/XX  
 FOR 90 DAYS  
 INFO: 1-888-200-9919

W20-H13-60

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

AT INTERSECTION OF SR 66 AND 47 (EAST OF INTERSECTION): PLACE SIGN SUCH THAT NO VEHICLES WILL TURN ONTO SR 47 DURING CLOSURE.

WEST OF INTERSECTION OF SR 47 AND RANGELINE ROAD: PLACE SIGN SUCH THAT NO VEHICLES WILL DRIVE ON SR 47 PAST RANGELINE ROAD.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS DETAILED ON SHEET 6 AND 7.

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

**DETOUR SIGNING**

THE CONTRACTOR SHALL PROVIDE THE DETOUR SIGNING AS SHOWN ON P.06. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT FOR ITEM 614 DETOUR SIGNING.

**DESIGNATED LOCAL DETOUR ROUTE**

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE". THIS ROUTE INCLUDES THE FOLLOWING CONNECTING ROAD:

RANGELINE ROAD

DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER AS DIRECTED BY THE ENGINEER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE WILL BE EVALUATED BY THE ENGINEER TO DETERMINE IF ADDITIONAL RESTORATION IS NECESSARY.

**COORDINATION OF WORK:**

PID 108099, D07-BH-FY23(A), SALE 6/22/23, COMPLETION DATE 9/1/24.  
 PID 110169, SHE-CULVERT-FY23, COMPLETION DATE 4/30/24  
 PID 114979, D07-BH-FY25 (D), SALE 10/01/24, COMPLETION DATE 9/30/25

THE CONTRACTOR IS ADVISED THAT ADJACENT CONSTRUCTION PROJECTS WITHIN OR NEAR THE WORK LIMITS OF THIS PLAN MAY IMPACT THE PROJECT SCHEDULE, SEQUENCE OF CONSTRUCTION AND/OR TRAFFIC CONTROL BETWEEN ADJACENT ZONES. THE CONTRACTOR IS REQUIRED TO COORDINATE ALL MAINTENANCE OF TRAFFIC OPERATIONS WITH ADJACENT CONSTRUCTION PROJECTS. COOPERATION WITH THE ENGINEER, INSPECTORS AND ALL OTHER CONTRACTORS ON OR ADJACENT TO THE PROJECT IS REQUIRED PER CMS 105.08.

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

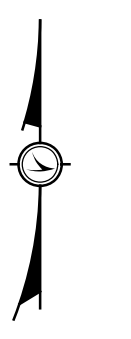
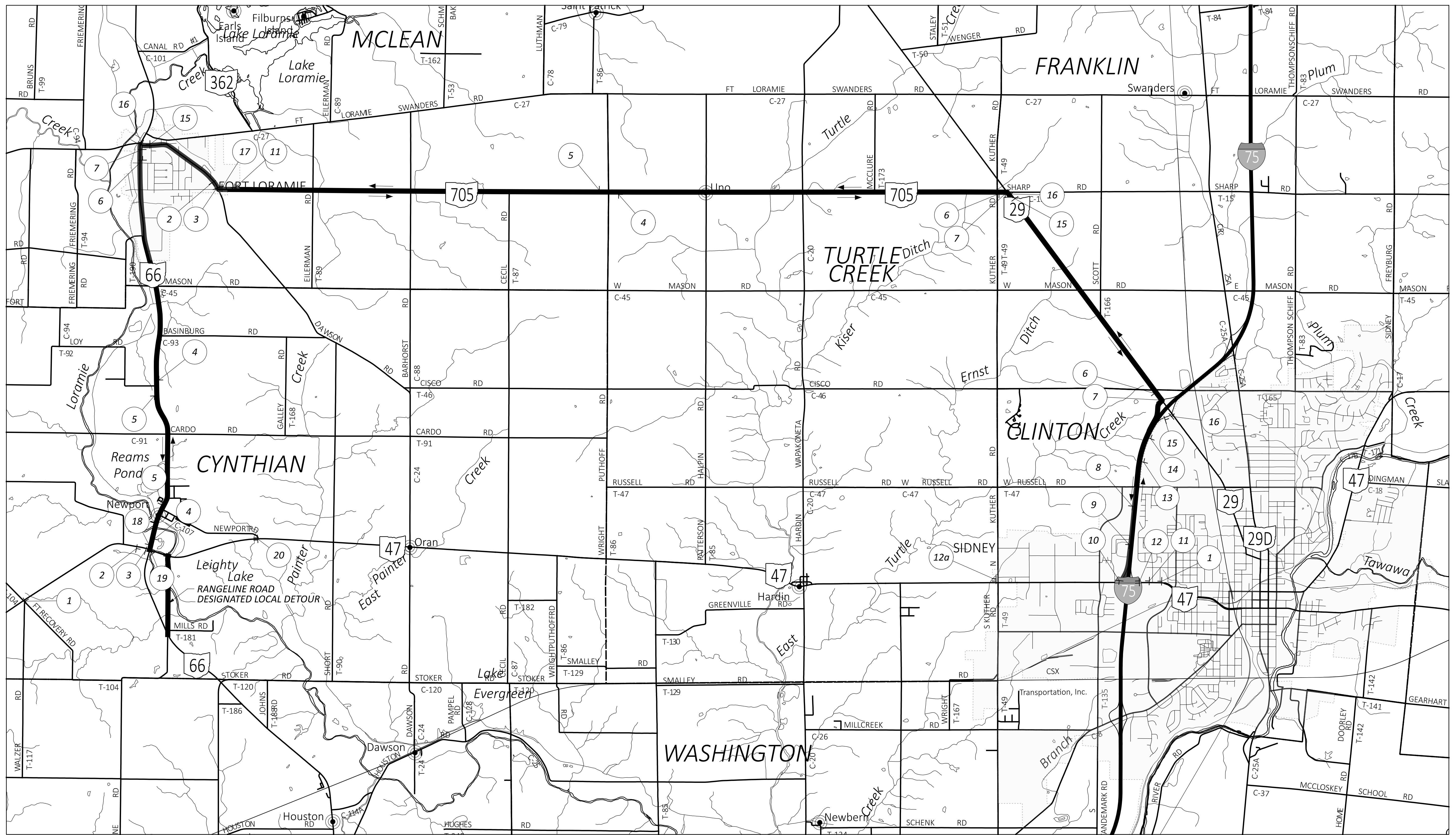
NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO D7 PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HRS & < 2 WKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HRS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES AND RESTRICTIONS	>= 2 WKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

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

**INTERIM COMPLETION DATE**


THE INTERIM COMPLETION DATE FOR DECK REPLACEMENT AND ROADWAY WORK AT SHE-47-0397 SHALL BE 10/18/24. BRIDGE PAINTING MAY OPTIONALLY OCCUR APRIL 1ST 2025 TO MAY 30TH 2025.

ALL EXISTING LANES SHALL BE OPEN AND AVAILABLE TO TRAFFIC BY THE INTERIM COMPLETION DATE. SHOULD THE CONTRACTOR FAIL TO MEET THE INTERIM COMPLETION DATE, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES OF \$3,000 PER EACH CALENDAR DAY.



SHE-47-0397 DETOUR MAP

**NOTES & LEGEND**  
 SEE SHEET P.07 FOR DETOUR SIGN  
 DESIGNATED LOCAL DETOUR: RANGELINE ROAD.

DESIGN AGENCY  
  
 DISTRICT 7  
 ENGINEERING  
 DESIGNER  
 LCG  
 REVIEWER  
 BAB 03/23/23  
 PROJECT ID  
 99862  
 SHEET TOTAL  
 P.06 26

1

DETOUR AHEAD  
W20-2-36

2

DETOUR M4-8-24  
24" X 12"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
← M5-1-21 L  
21" X 15"

3

DETOUR M4-8-24  
24" X 12"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
← M6-1-21  
21" X 15"

4

DETOUR M4-8-24  
24" X 12"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
↑ M6-3-21  
21" X 15"

5

DETOUR M4-8-24  
24" X 12"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
↑ M6-3-21  
21" X 15"

6

DETOUR M4-8-24  
24" X 12"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
→ M5-1-21 R  
21" X 15"

7

DETOUR M4-8-24  
24" X 12"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
→ M6-1-21  
21" X 15"

8

DETOUR M4-8-24  
24" X 12"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
↗ M5-2-21 R  
21" X 15"

9

DETOUR M4-8-24  
24" X 12"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
↗ M6-2-21 R  
21" X 15"

10

END DETOUR M4-8A-24  
24" X 18"  
EAST M3-2-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"

11

DETOUR M4-8-24  
24" X 12"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
→ M5-1-21 R  
21" X 15"

12

BRIDGE OUT  
10.1 MILES AHEAD  
LOCAL TRAFFIC ONLY R11-3b-60  
60" X 30"  
DETOUR → M4-10R-48  
48" X 18"  
ON TYPE III BARRICADE  
(12a- 8.7 MILES AHEAD. DO NOT INCLUDE  
M4-10R-48. ON TYPE III BARRICADE)

13

DETOUR M4-8-24  
24" X 12"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
↗ M5-2-21 R  
21" X 15"

14

DETOUR M4-8-24  
24" X 12"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
↗ M6-2-21 R  
21" X 15"

15

DETOUR M4-8-24  
24" X 12"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
← M5-1-21 L  
21" X 15"

16

DETOUR M4-8-24  
24" X 12"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
← M6-1-21  
21" X 15"

17

DETOUR M4-8-24  
24" X 12"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"  
→ M6-1-21  
21" X 15"

18

END DETOUR M4-8A-24  
24" X 18"  
WEST M3-4-24  
24" X 12"  
47 MI-5-24-2  
24" X 24"

19

BRIDGE OUT R11-3b-60  
60" X 30"  
DETOUR ← M4-10L-48  
48" X 18"  
ON TYPE III BARRICADE

20

BRIDGE OUT  
1.0 MILE AHEAD  
LOCAL TRAFFIC ONLY R11-3b-60  
60" X 30"  
ON TYPE III BARRICADE


NOTES  
SEE P.06 FOR DETOUR MAP

DESIGN AGENCY
DISTRICT 7 ENGINEERING
DESIGNER LCG
REVIEWER BAB 03/23/23
PROJECT ID 99862
SHEET TOTAL P.07 26

SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5		9							01/STR/10	EXT	TOTAL				
<b>ROADWAY</b>																	
LS											LS	201	11000	LS		CLEARING AND GRUBBING	
				166							166	202	23000	166	SY	PAVEMENT REMOVED	
				325							325	202	38000	325	FT	GUARDRAIL REMOVED	
				1							1	202	98100	1	EACH	REMOVAL MISC.: REMOVAL OF BRIDGE ID SIGN AND REERECTION	
				280							280	204	10000	280	SY	SUBGRADE COMPACTION	
				50							50	606	15050	50	FT	GUARDRAIL, TYPE MGS	
				100							100	606	15100	100	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
				2							2	606	26050	2	EACH	ANCHOR ASSEMBLY, MGS TYPE B	
				4							4	606	34600	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE TST-2	
<b>EROSION CONTROL</b>																	
	680										680	659	10000	680	SY	SEEDING AND MULCHING	
	34										34	659	14000	34	SY	REPAIR SEEDING AND MULCHING	
	34										34	659	15000	34	SY	INTER-SEEDING	
	0.1										0.1	659	20000	0.1	TON	COMMERCIAL FERTILIZER	
	4										4	659	35000	4	MGAL	WATER	
											7,200	832	30000	7,200	EACH	EROSION CONTROL	
<b>PAVEMENT</b>																	
				561							561	254	01000	561	SY	PAVEMENT PLANING, ASPHALT CONCRETE 2" DEPTH	
				8							8	302	56000	8	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
				50							50	304	20000	50	CY	AGGREGATE BASE	
				127							127	407	10000	127	GAL	TACK COAT	
				32							32	441	50300	32	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
				47							47	442	10000	47	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), PG88-22M	
				9							9	617	10100	9	CY	COMPACTED AGGREGATE	
<b>LIGHTING</b>																	
											2	625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM	
<b>TRAFFIC CONTROL</b>																	
11				9							9	621	00100	9	EACH	RPM	
				8							11	621	54000	11	EACH	RAISED PAVEMENT MARKER REMOVED	
				1							8	626	00110	8	EACH	BARRIER REFLECTOR, TYPE 2, (BI-DIRECTIONAL)	
				12							1	630	80101	1	SF	SIGN, FLAT SHEET, AS PER PLAN	
				0.18							12	644	00500	12	FT	STOP LINE	
				0.09							0.18	646	10010	0.18	MILE	EDGE LINE, 6"	
											0.09	646	10200	0.09	MILE	CENTER LINE	
<b>STRUCTURE REPAIRS</b>																	
																FOR SHE-47-0397 ESTIMATED QUANTITIES	
<b>MAINTENANCE OF TRAFFIC</b>																	
		LS									LS	614	12420	LS		DETOUR SIGNING	
<b>INCIDENTALS</b>																	
											LS	614	11000	LS		MAINTAINING TRAFFIC	
											4	619	16010	4	MNTH	FIELD OFFICE, TYPE B	
											LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY



DISTRICT 7  
ENGINEERING

DESIGNER  
LCG

REVIEWER  
DHG 05/09/23

PROJECT ID  
99862

SHEET TOTAL  
P.08 | 26



REF NO.	SHEET NO.	STATION TO STATION					202	202	202	204	254	302	304	407	441	442	606	606	606	606	617	621	626	630	644	646	646
							PAVEMENT REMOVED	GUARDRAIL REMOVED	REMOVAL MISC.: REMOVAL OF BRIDGE ID SIGN AND REERECTION	SUBGRADE COMPACTION	PAVEMENT PLANING, ASPHALT CONCRETE 2" DEPTH	ASPHALT CONCRETE BASE, PG64-22, (449)	AGGREGATE BASE	TACK COAT (0.085 GAL/SY)	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), PG88-22M	GUARDRAIL, TYPE MGS	GUARDRAIL, TYPE MGS WITH LONG POSTS	ANCHOR ASSEMBLY, MGS TYPE B	MGS BRIDGE TERMINAL ASSEMBLY, TYPE TST-2	COMPACTED AGGREGATE	RPM	BARRIER REFLECTOR, TYPE 2, (BI-DIRECTIONAL), WHITE	SIGN, FLAT SHEET, AS PER PLAN	STOP LINE	EDGE LINE, 6"	CENTER LINE, (SOLID-SOLID)
						SY	FT	EACH	SY	SY	CY	CY	GAL	CY	CY	FT	FT	EACH	EACH	CY	EACH	EACH	SF	FT	MILE	MILE	
GR-1	10	208+25.60	L	TO	209+30.32	L		100								37.5		1	1			2					
GR-2	10	208+25.10	R	TO	209+04.83	R		75								12.5		1	1			2					
GR-3	10	210+94.48	R	TO	211+43.98	R		75									50		1			2					
GR-4	10	211+19.64	L	TO	211+69.17	L		75									50		1			2					
EL-1	10	208+19.15	L	TO	212+19.15	L																			0.09		
EL-2	10	208+19.15	R	TO	212+19.15	R																			0.09		
CL-1	10	208+36.67		TO	212+19.15																					0.09	
PV-1	10	208+19.15		TO	209+19.15		83		140	260	4	25	57	16	22					4	5						
PV-2	10	211+04.85		TO	212+19.15		83		140	301	4	25	70	16	25					5	4						
SB-1	10	208+35.92	L																					12			
S-1	10	209+11.00	R																								
S-2	10	211+12.00	L																				1				
TOTALS CARRIED TO GENERAL SUMMARY							166	325	1	280	561	8	50	127	32	47	50	100	2	4	9	9	8	1	12	0.18	0.09

PAVEMENT AND TRAFFIC SUBSUMMARY

DESIGN AGENCY



DISTRICT 7 ENGINEERING

DESIGNER

LCG

REVIEWER

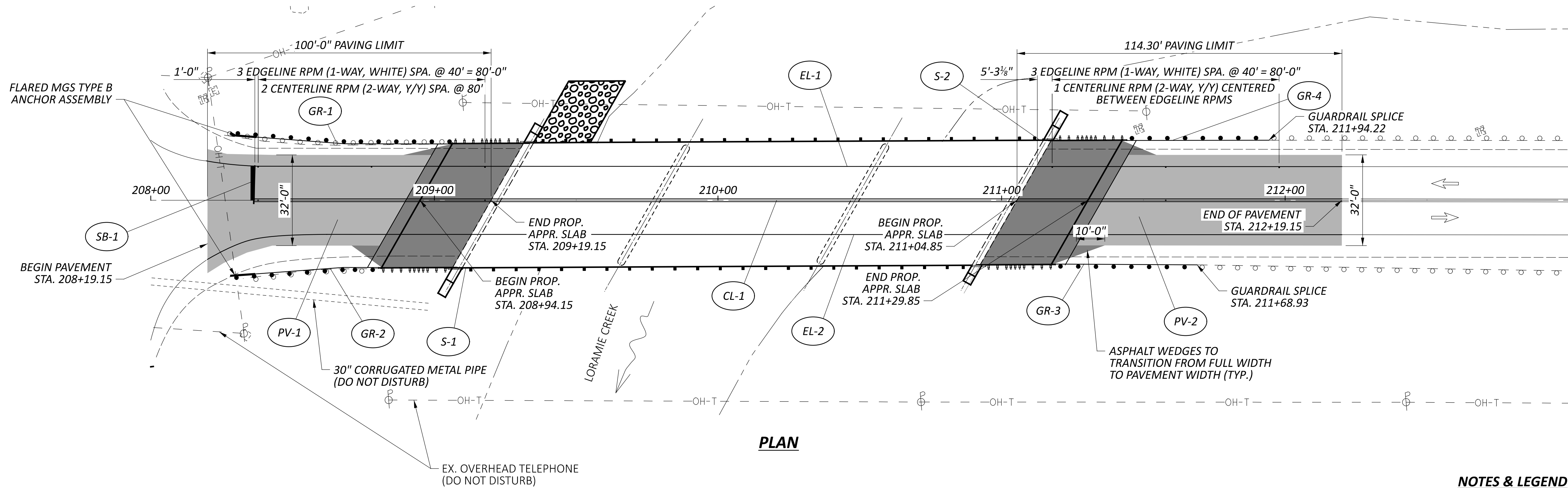
DHG 05/09/23

PROJECT ID

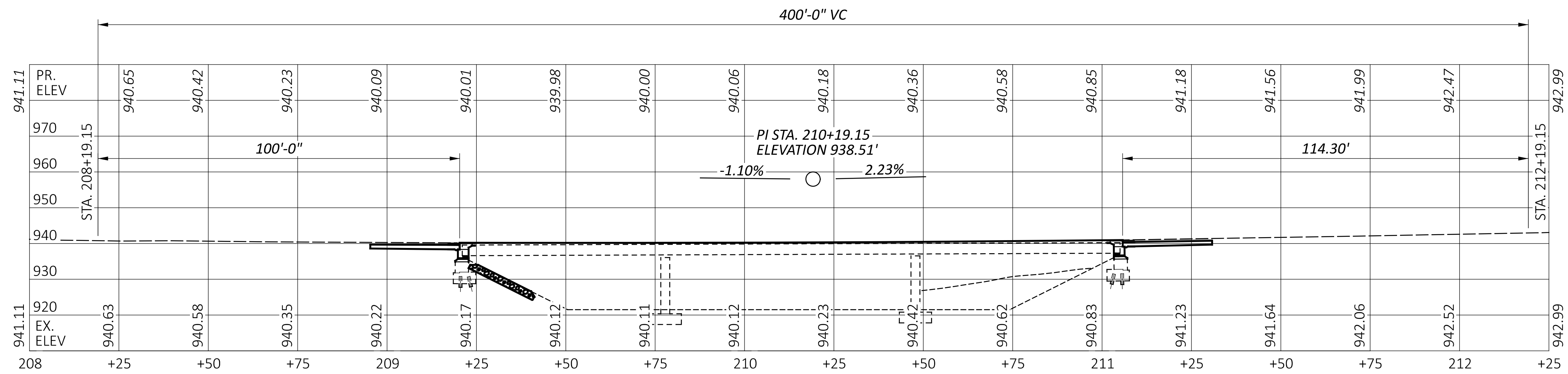
99862

SHEET TOTAL

P.09 | 26



PLAN

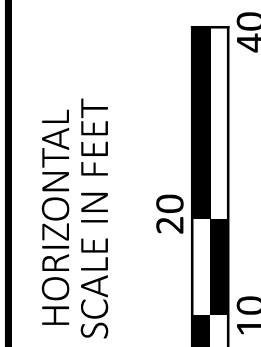


PROFILE

**NOTES & LEGEND**

1. NO RPMS ARE TO BE INSTALLED ON THE BRIDGE DECK
2. PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT PAST APPROACH SLAB AND 5' FULL DEPTH SECTION
3. ASPHALT WEDGES ARE TO HAVE SAME FULL DEPTH BUILD UP AS 5' REPLACEMENT SECTION

- ASPHALT PAVING OVER - APPROACH SLABS AND FULL DEPTH SECTION
- PAVEMENT PLANING AND RESURFACE



PAVEMENT AND TRAFFIC PLAN & PROFILE  
SHE-47-0397

DESIGN AGENCY



DISTRICT 7  
ENGINEERING

DESIGNER

LCG

REVIEWER

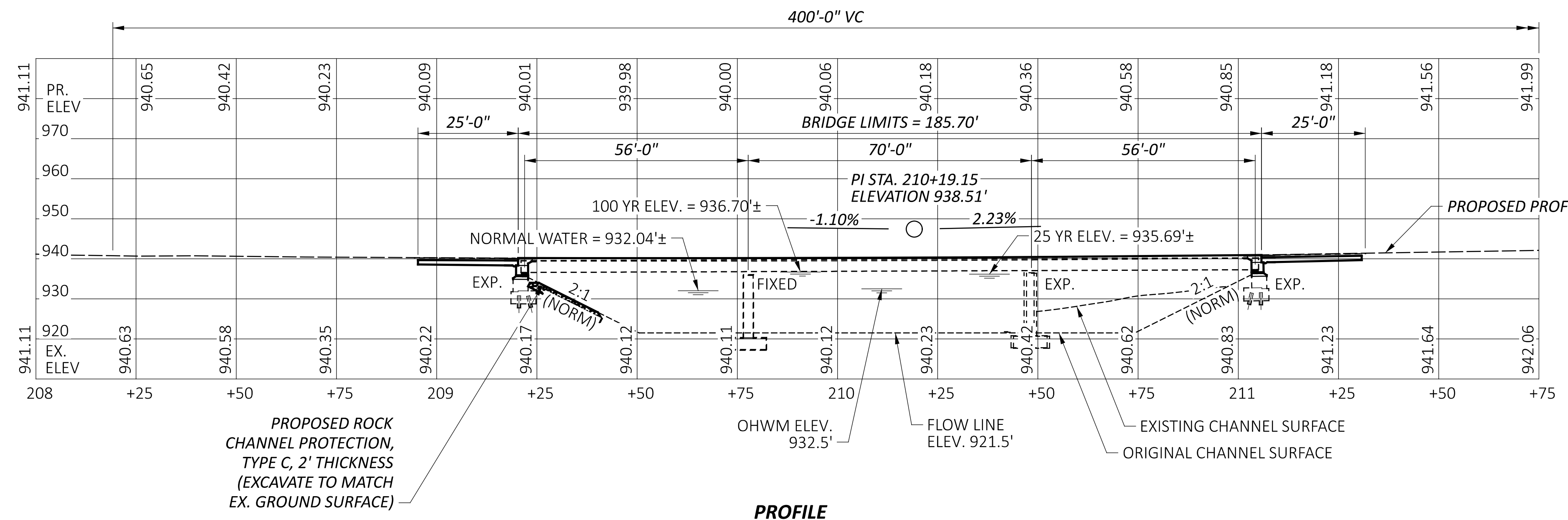
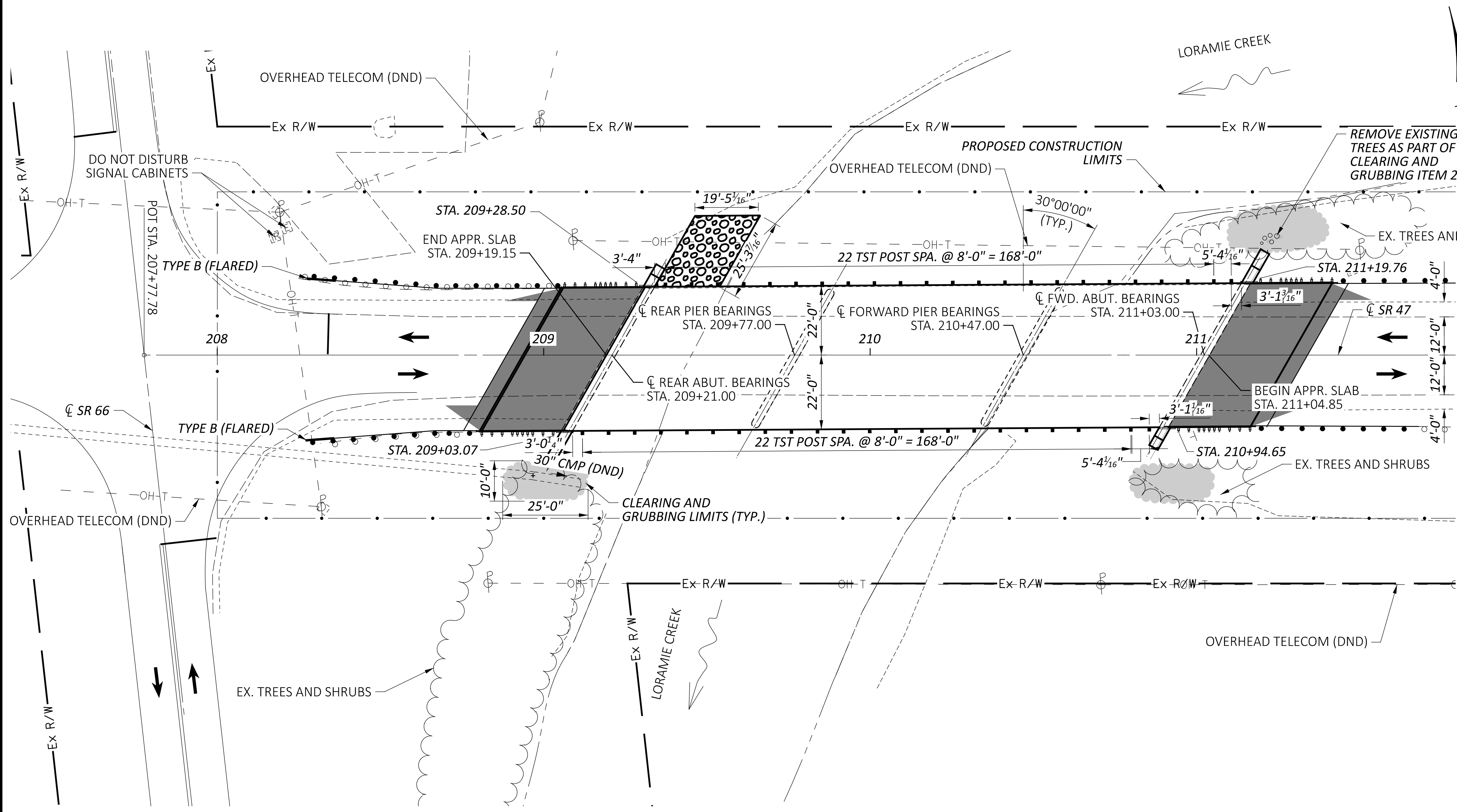
DHG 05/09/23

PROJECT ID

99862

SHEET TOTAL

P.10 26



**NOTES**  
 FOR PAVING LIMITS, ROADWAY, AND PAVEMENT MARKING DETAILS, SEE P.10

DESIGN TRAFFIC:  
 2024 ADT = 3700      2024 ADTT = 407  
 2044 ADT = 4100      2044 ADTT = 451  
 DIRECTIONAL DISTRIBUTION = 60%

**LEGEND**  
 [Symbol] - CHANNEL EXCAVATION (FOR RCP PLACEMENT)  
 [Symbol] - CLEARING AND GRUBBING LIMITS

**HYDRAULIC DATA**  
 DRAINAGE AREA = 157 SQ. MILES  
 Q (50) = 8940 CFS      V (50) = 6.82 FT/S  
 Q (100) = 10300 CFS      V (100) = 7.49 FT/S  
 STRUCTURE CLEARS THE 25 YEAR  
 DESIGN HW BY 0.44 FEET.

**EXISTING STRUCTURE**

TYPE: 3 SPAN CONTINUOUS STEEL BEAM BRIDGE WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 56'-0", 70'-0", 56'-0" C/C BEARING  
 ROADWAY: 44'-0" F/F GUARDRAIL  
 LOADING: CF = 130(57)  
 SKEW: 30° LEFT FORWARD  
 WEARING SURFACE: 3/4" MICROSILICA MODIFIED CONCRETE OVERLAY  
 APPROACH SLABS: AS-1-54 (25' LONG)  
 ALIGNMENT: TANGENT  
 CROWN: 3/16" PER LINEAR FT.  
 STRUCTURE FILE NUMBER: 7500424  
 DATE BUILT: 1966 REHABILITATED: 1999  
 DISPOSITION: TO BE REHABILITATED

**PROPOSED STRUCTURE**

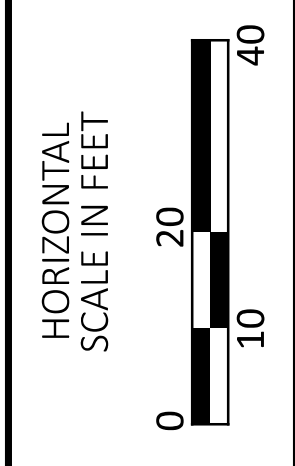
TYPE: EXISTING CONTINUOUS STEEL BEAM BRIDGE WITH COMPOSITE REINFORCED CONCRETE DECK ON CONVERTED REINFORCED CONCRETE SEMI-INTEGRAL ABUTMENTS AND EXISTING PIERS.

SPANS: 56'-0", 70'-0", 56'-0" C/C BEARING  
 ROADWAY: 44'-0" F/F GUARDRAIL  
 LOADING: HL93  
 SKEW: 30° LEFT FORWARD  
 WEARING SURFACE: 1" MONOLITHIC CONCRETE  
 FUTURE WEARING SURFACE: 0 KIP/SF  
 APPROACH SLABS: 25 FT LONG (AS-1-15, AS-2-15)  
 ALIGNMENT: TANGENT  
 CROWN: 0.016 FT/FT  
 DECK AREA: 8171 SF  
 COORDINATES: LATITUDE 40° 17' 23" LONGITUDE 84° 22' 16"

**PROPOSED WORK**

- REMOVE EXISTING BRIDGE DECK AND APPROACH SLABS.
- PLACE NEW CONCRETE DECK ON EXISTING BEAMS.
- POUR NEW APPROACH SLABS, PAVING WORK TO TIE INTO EXISTING ASPHALT.
- PLACE RCP ALONG REAR ABUTMENT SLOPE.
- PAINT EXISTING STRUCTURAL STEEL AND SEAL CONCRETE SURFACES.

WORK LISTED IS NOT INCLUSIVE. CONTRACTOR WILL SEQUENCE WORK AS NEEDED.



SITE PLAN  
 BRIDGE NO.: SHE-47-0397  
 S.R. 47 OVER LORAMIE CREEK

SFN		7500424
DESIGN AGENCY		
DISTRICT 7 ENGINEERING		
DESIGNER	CHECKER	
LCG	DHG	
REVIEWER		
MRB 05/04/23		
PROJECT ID		99862
SUBSET	TOTAL	
1	16	
SHEET	TOTAL	
P.11	26	

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

- AS-1-15 DATED 1/20/23
- AS-2-15 (REVISED) 1/20/23
- DS-1-92 (REVISED) 7/15/22
- SICD-1-21 (REVISED) 1/21/22
- SICD-2-14 (REVISED) 1/15/21
- TST-2-21 DATED 7/16/21

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION, INCLUDING THE INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**DESIGN LOADING**

DESIGN LOADING INCLUDES:  
VEHICULAR LIVE LOAD: HL-93

**OPERATIONAL IMPORTANCE**

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

**DESIGN DATA**

CONCRETE CLASS QC2  
-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1  
-COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT  
-UNCOATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60-KSI, APPROACH SLABS, ABUTMENT  
-GALVANIZED STEEL REINFORCEMENT – MINIMUM YIELD STRENGTH 60-KSI, BRIDGE DECK, DIAPHRAGMS

EXISTING STRUCTURAL STEEL - MIN. YIELD STRESS 36 KSI  
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

**DECK PROTECTION METHOD**

GALVANIZED REINFORCING STEEL  
2½" CONCRETE COVER  
STEEL DRIP STRIP

**MONOLITHIC WEARING SURFACE**

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

**EXISTING STRUCTURE VERIFICATION**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD. PLANS OF THE EXISTING STRUCTURES MAY BE EXAMINED AT THE DISTRICT SEVEN OFFICE IN SIDNEY, OHIO OR THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO.

**ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN**

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING METAL RAILINGS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSS-FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS:

BEFORE DECK SLAB CUTTING BEGINS, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF CONCRETE REINFORCEMENT IN THE DECK SLAB. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS:

THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (I-BEAM), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS:

REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL:

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-IN LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT:

THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

**PILES TO BEDROCK**

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

THE TOTAL FACTORED LOAD IS 62 KIPS PER PILE FOR THE ABUTMENT PILES.

ABUTMENT PILES:  
8 HP 10X42 PILES @ 25 FEET LONG, 200 FT ORDER LENGTH

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL H-PILES AT THE REAR AND FORWARD ABUTMENTS.

**PILE SPLICES**

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

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

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

**ITEM 514 – FIELD PAINTING, MISC. COATING OF BEAM ENDS**

PRIOR TO ENCASING THE BEAM ENDS, PREPARE THE ENDS PER SSPC SP10 OR SSPC SP11 TO BARE METAL ACHIEVING A 1.5 TO 3.5 MIL PROFILE. PAINT THE BEAM ENDS WITH ORGANIC ZINC PRIME COAT PER C&MS 514. PROVIDE THE PRIME COAT THICKNESS AS PER C&MS 514.20. EXTEND THE LIMITS OF THE BEAM PREPARATION AND PAINTING 1-FT BEYOND THE LIMITS OF THE END DIAPHRAGM CONCRETE.

AFTER THE DIAPHRAGM CONCRETE IS SET, SEAL THE INTERFACE BETWEEN THE BEAM AND CONCRETE WITH CAULK.

THE DEPARTMENT WILL PAY FOR ALL ABOVE LABOR AND AT THE CONTRACT BID PRICE FOR ITEM 514 – FIELD PAINTING, MISC. COATING OF BEAM ENDS.

**ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT**

PAINT COLOR SHALL BE GRAY, 16515

**ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN**

A 2" DEEP X 1" WIDE STRIP SHALL BE SAWCUT OUT OF THE ASPHALT ABUTTING CONCRETE AS DETAILED IN THE PLANS. IN LIEU OF SAWCUTTING AFTER CONSTRUCTION, THIS JOINT MAY BE FORMED DURING CONSTRUCTION. JOINT SEALER AS PER 705.04 SHALL BE USED TO SEAL THE JOINT CREATED.

**ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:**


THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS, AS WELL AS THE SUPPORT OF BEAMS WHILE THE ABUTMENT BEAM SEATS ARE REMOVED AND REPLACED. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH C&MS 501.05. IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH C&MS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T= 15"), AS PER PLAN**

ALL APPROACH SLAB CONCRETE SHALL BE PLACED SEPARATELY FROM THE SUPERSTRUCTURE CONCRETE.

ALL REINFORCING STEEL IS TO BE PAID SEPARATELY UNDER ITEM 509 - UNCOATED STEEL REINFORCEMENT.

STRUCTURE NOTES (1 OF 2)  
BRIDGE NO.: SHE-47-0397  
S.R. 47 OVER LORAMIE CREEK

SFN	7500424
DESIGN AGENCY	
	
DISTRICT 7 ENGINEERING	
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB	05/10/23
PROJECT ID	99862
SUBSET	TOTAL
2	16
SHEET	TOTAL
P.12	26

**INSPECTION OF EXISTING STRUCTURAL STEEL**

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO C&MS 511.07, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

**DECK PLACEMENT DESIGN ASSUMPTIONS**

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS. AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.5 KIPS. A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103". A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN. A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

**POST-CONSTRUCTION BRIDGE INSPECTION**

AT LEAST TWO WEEKS PRIOR TO OPENING THE BRIDGE TO TRAFFIC, THE CONTRACTOR SHALL NOTIFY THE ODOT DISTRICT 7 BRIDGE INSPECTION ENGINEER (937-497-6884) TO ALLOW FOR THE NATIONAL BRIDGE INSPECTION STANDARDS (NBIS) REQUIRED POST-CONSTRUCTION INITIAL INSPECTION OF THE BRIDGE.

STRUCTURE NOTES (2 OF 2)  
 BRIDGE NO.: SHE-47-0397  
 S.R. 47 OVER LORAMIE CREEK

SFN

7500424

DESIGN AGENCY



DISTRICT 7  
ENGINEERING

DESIGNER	CHECKER
LCG	DHG

REVIEWER

MRB 05/10/23


PROJECT ID  
99862

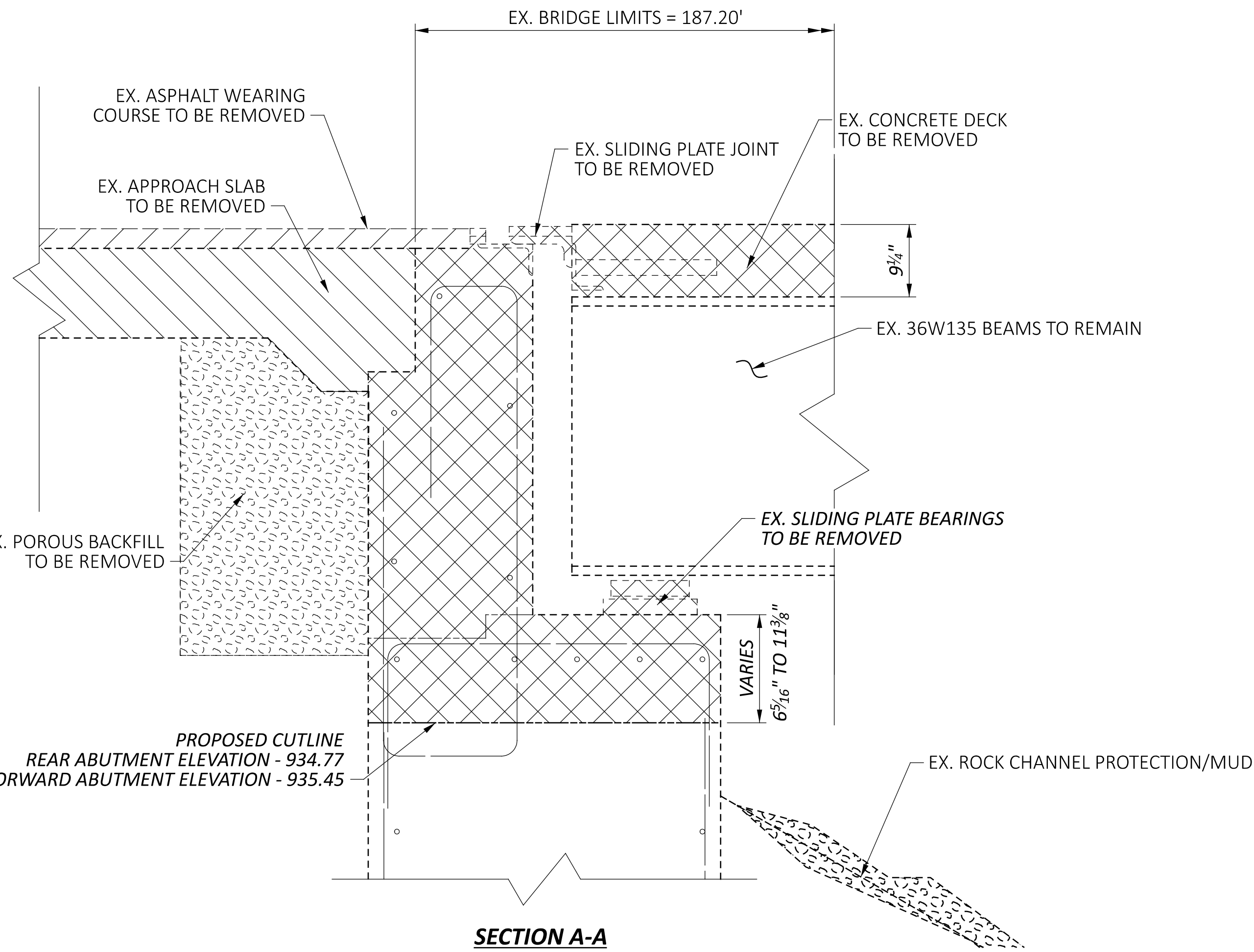
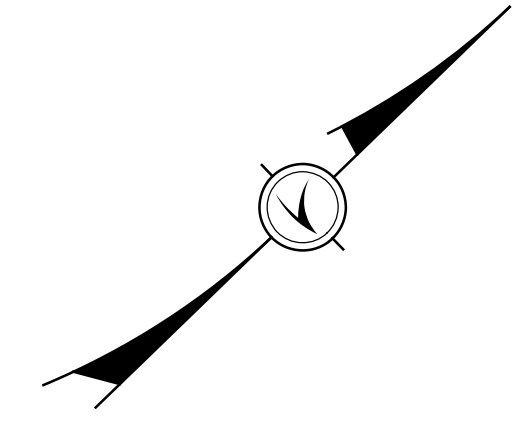
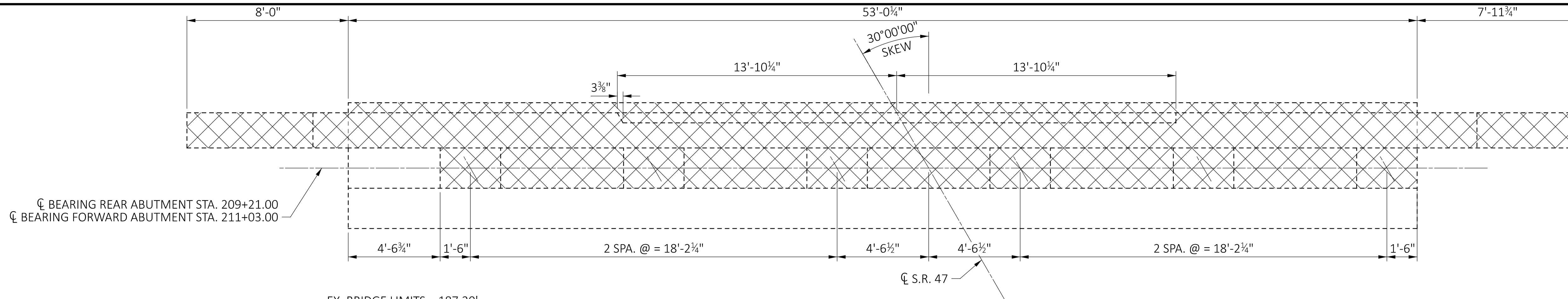
SUBSET	TOTAL
3	16

SHEET	TOTAL
P.13	26

ESTIMATED QUANTITIES (01/STR/10)										
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET	
202	11203	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					12	
202	22900	134	SY	APPROACH SLAB REMOVED				134		
202	23500	134	SY	WEARING COURSE REMOVED				134		
202	38500	375	FT	BRIDGE RAILING REMOVED			375			
503	21300	LS	LS	UNCLASSIFIED EXCAVATION						
505	11100	LS	LS	PILE DRIVING EQUIPMENT MOBILIZATION						
507	00100	200	FT	STEEL PILES HP10X42, FURNISHED	200					
507	00150	160	FT	STEEL PILES HP10X42, DRIVEN	160					
507	93300	8	EACH	STEEL POINTS OR SHOES	8					
509	25000	36638	LB	UNCOATED STEEL REINFORCEMENT	4868			31770		
509	26000	70680	LB	GALVANIZED STEEL REINFORCEMENT			64677	6003		
510	10000	288	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	288					
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				16	
511	33416	41	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE			41			
511	34446	247	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			247			
511	45710	36	CY	CLASS QC1 CONCRETE, ABUTMENT	36					
511	46510	23	CY	CLASS QC1 CONCRETE, FOOTING				23		
512	10050	205	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	74		131			
512	10600	21	FT	CONCRETE REPAIR BY EPOXY INJECTION		21				
513	21599	1480	LB	STRUCTURAL STEEL FOR REHABILITATION			1480			
513	20000	3168	EACH	WELDED STUD SHEAR CONNECTORS			3168			
514	00050	11070	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			11070			
514	00056	10782	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			10782			
514	00060	10898	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			10898			
514	00066	10898	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			10898			
514	00504	19	MNHR	GRINDING FINES, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			19			
514	10000	6	EACH	FINAL INSPECTION REPAIR			6			
514	27700	288	SF	FIELD PAINTING, MISC.: COATING OF BEAM ENDS			288			
516	13600	5	SF	1" PREFORMED EXPANSION JOINT FILLER			5			
516	13900	51	SF	2" PREFORMED EXPANSION JOINT FILLER	51					
516	14020	135	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	135					
516	31011	102	FT	2" DEEP JOINT SEALER, AS PER PLAN			102		12	
516	44001	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (BEARING: 10"X13"X2.52"; LOAD PLATE: 11"X14"X1.5")			12		25	
516	47001	LS	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LS		12	
517	70100	379	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)			379			
518	21200	48	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	48					
SPECIAL	51822300	429	FT	STEEL DRIP STRIP			429			
518	40000	146	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	146					
518	40010	44	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	44					
526	25011	245	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				245	12	
526	90020	57	SY	TYPE B INSTALLATION				57		
601	21050	7	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT				7		
601	32200	32	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER				32		

ESTIMATED QUANTITIES  
 BRIDGE NO.: SHE-47-0397  
 S.R. 47 OVER LORAMIE CREEK

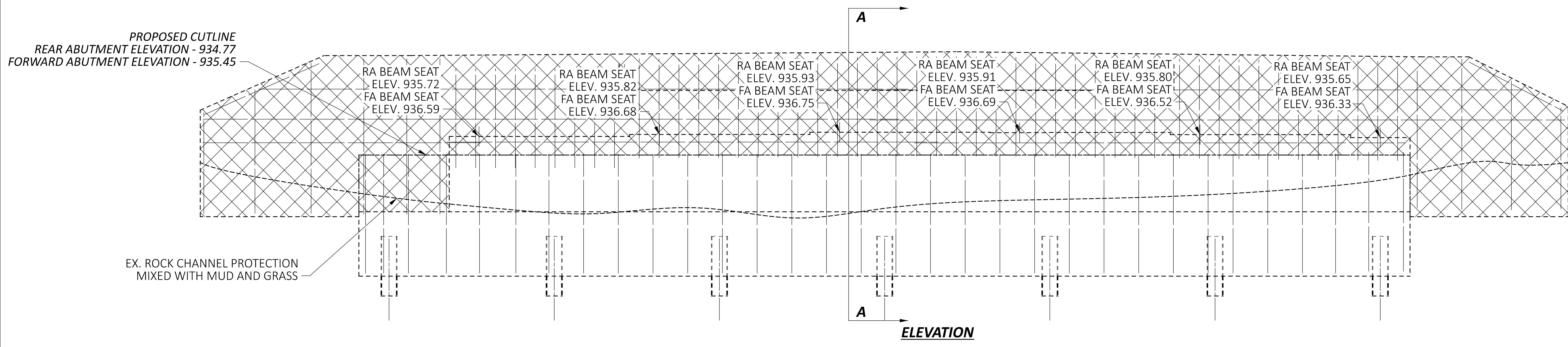
SFN  
 7500424  
 DESIGN AGENCY  
  
 DISTRICT 7  
 ENGINEERING  
 DESIGNER: LCG  
 CHECKER: DHG  
 REVIEWER: MRB 05/10/23  
 PROJECT ID: 99862  
 SUBSET TOTAL: 4 | 16  
 SHEET TOTAL: P.14 | 26



**NOTES & LEGEND**

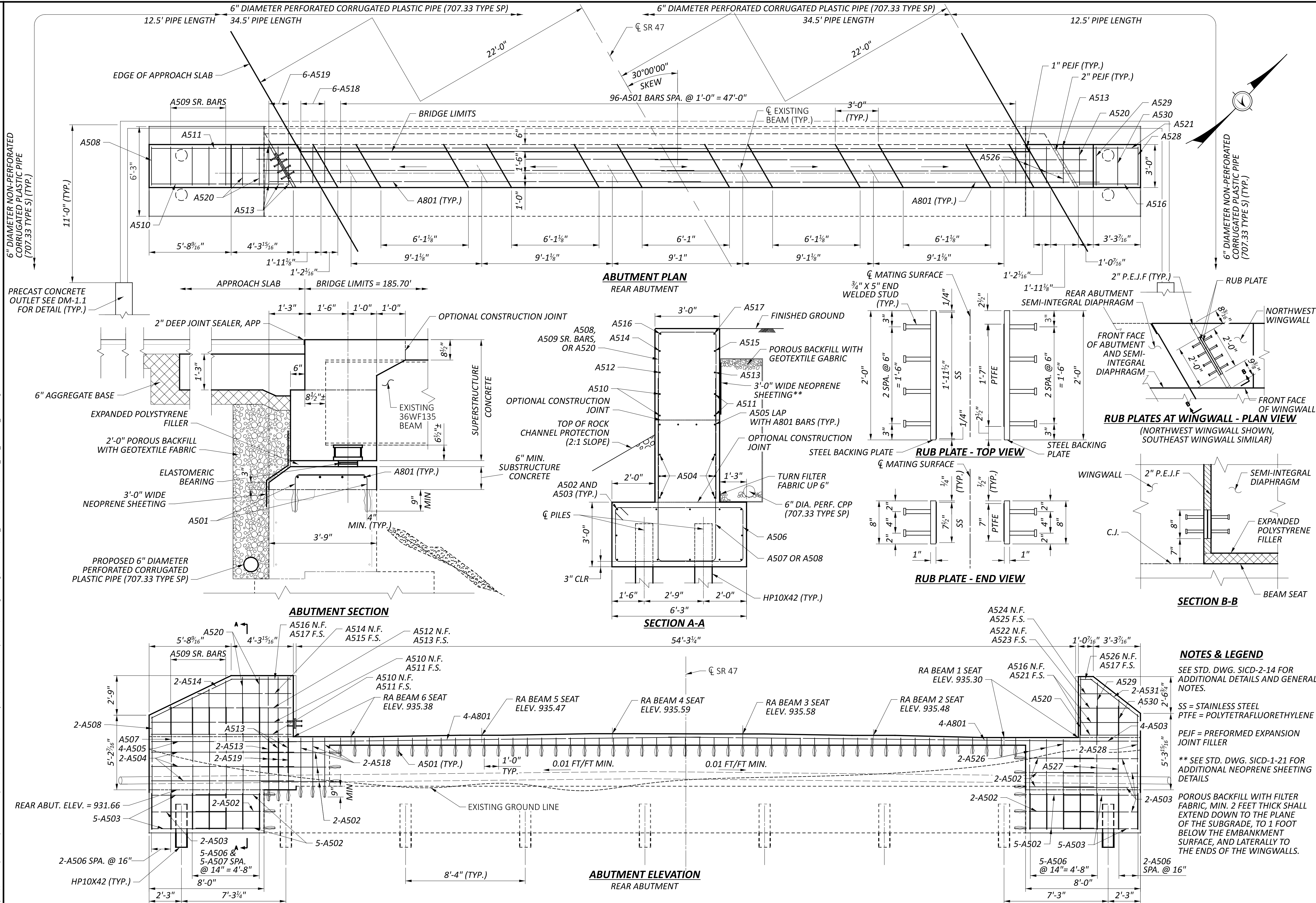
1. APPROACH SLAB WILL BE REMOVED AND REPLACED.
2. ALL VERTICAL REINFORCING STEEL IS TO BE REMOVED AT THE CUT LINE.
3. REAR ABUTMENT REMOVAL DETAILED. FORWARD ABUTMENT SIMILAR, OPPOSITE HAND.

- ITEM 202 PORTIONS OF STRUCTURES REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- ITEM 202 WEARING SURFACE COURSE REMOVED
- ITEM 202 APPROACH SLAB REMOVED



ABUTMENT REMOVAL  
 BRIDGE NO.: SHE-47-0397  
 S.R. 47 OVER LORAMIE CREEK

SFN 7500424	
DESIGN AGENCY	
DISTRICT 7 ENGINEERING	
DESIGNER LCG	CHECKER DHG
REVIEWER	
MRB 05/10/23	
PROJECT ID 99862	
SUBSET 5	TOTAL 16
SHEET P.15	TOTAL 26



**NOTES & LEGEND**

SEE STD. DWG. SICD-2-14 FOR ADDITIONAL DETAILS AND GENERAL NOTES.

SS = STAINLESS STEEL  
PTFE = POLYTETRAFLUORETHYLENE

PEJF = PREFORMED EXPANSION JOINT FILLER

\*\* SEE STD. DWG. SICD-1-21 FOR ADDITIONAL NEOPRENE SHEETING DETAILS

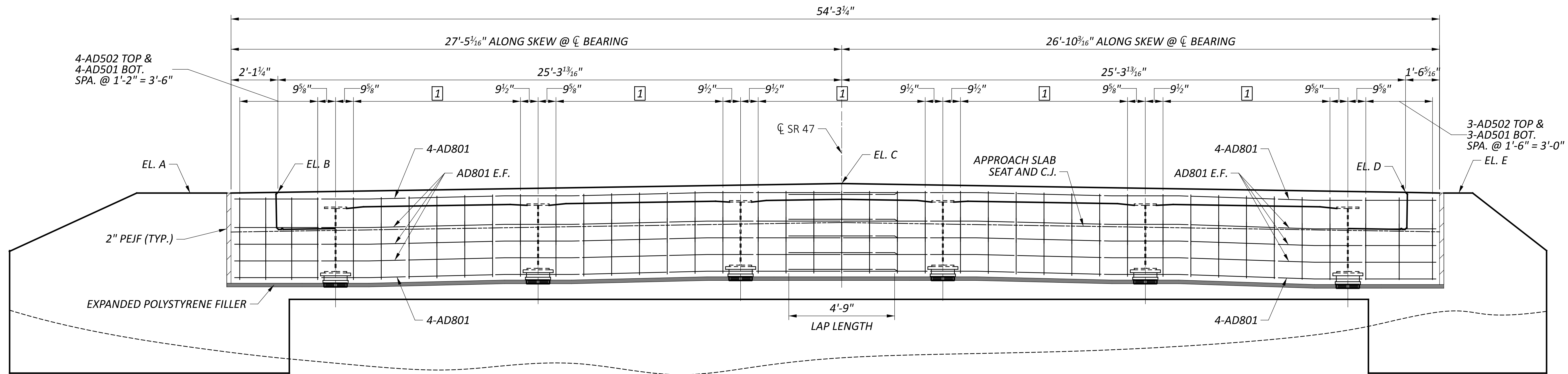
POROUS BACKFILL WITH FILTER FABRIC, MIN. 2 FEET THICK SHALL EXTEND DOWN TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS.

PROPOSED REAR ABUTMENT  
BRIDGE NO.: SHE-47-0397  
S.R. 47 OVER LORAMIE CREEK

SFN	7500424
DESIGN AGENCY	
DISTRICT 7 ENGINEERING	
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB	05/10/23
PROJECT ID	99862
SUBSET	TOTAL
6	16
SHEET	TOTAL
P.16	26







**ABUTMENT DIAPHRAGM ELEVATION**  
 (ELEVATION VIEW SHOWN ALONG CL BEARING)  
 REAR DIAPHRAGM SHOWN, FWD. DIAPHRAGM OPPOSITE HAND

**DIAPHRAGM REINFORCING:**

1 7-AD502 TOP AND 7-AD501 BOT. @ 1'-3" = 7'-6" \*

**NOTES AND LEGEND:**

1. **ABUTMENT DIAPHRAGM CONCRETE:**  
 PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.

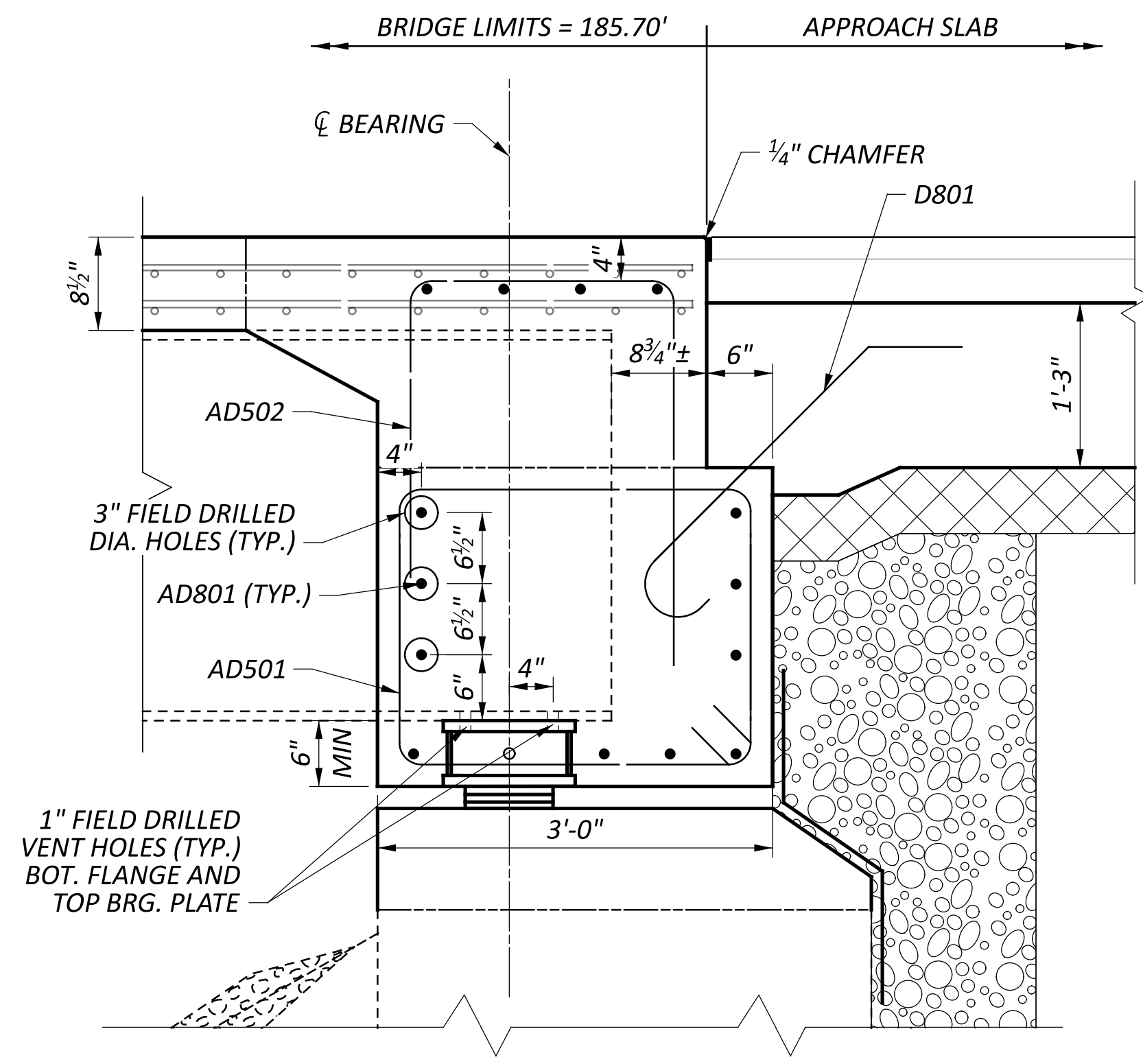
\* ORIENT BAR PARALLEL TO CL SR 47, SPACING OF VERTICAL REINFORCING SHOWN IS ALONG THE FACE OF THE ABUTMENT

C.J. CONSTRUCTION JOINT

- EXPANDED POLYSTYRENE FILLER
- 2" PEJF (TYP.)

LOCATION	EL. A	EL. B	EL. C	EL. D	EL. E
REAR ABUT.	939.93	939.96	940.28	939.92	939.89
FWD. ABUT.	940.52	940.55	941.07	940.83	940.80

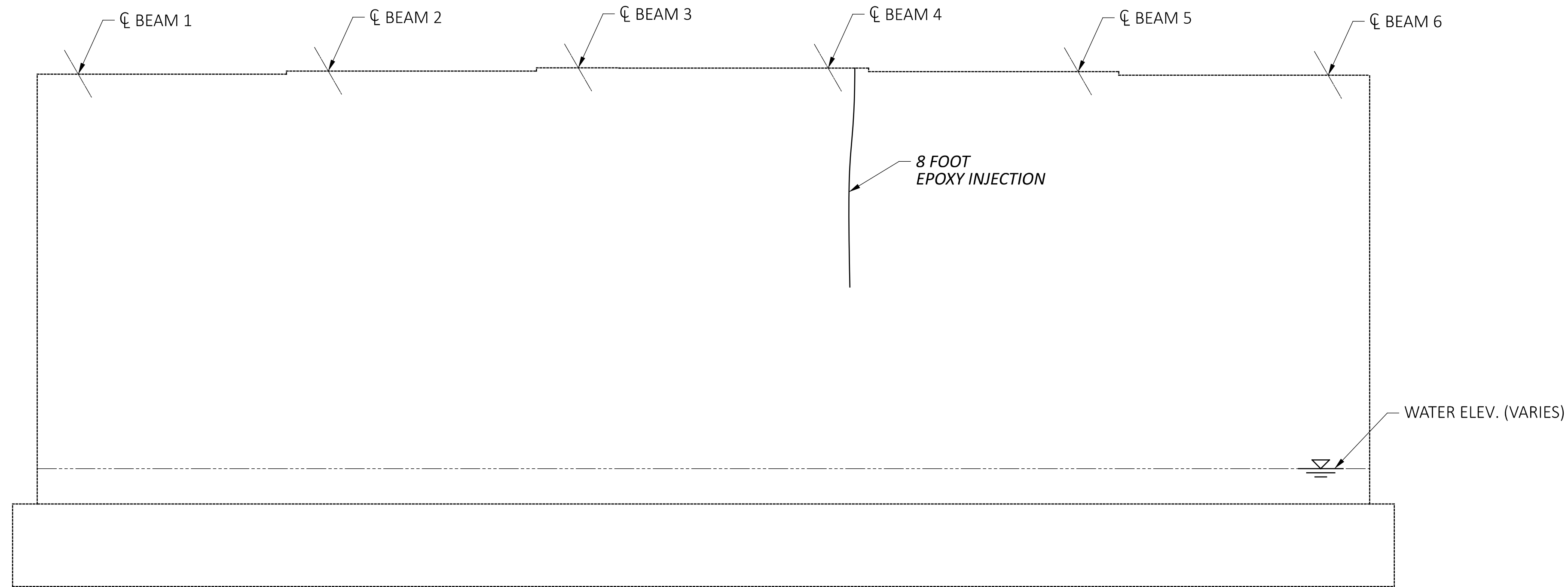
NOTE: ALL ELEVATIONS SHOWN ARE AT CL OF BEARING



**ABUTMENT DIAPHRAGM SECTION**  
 FORWARD ABUTMENT SHOWN

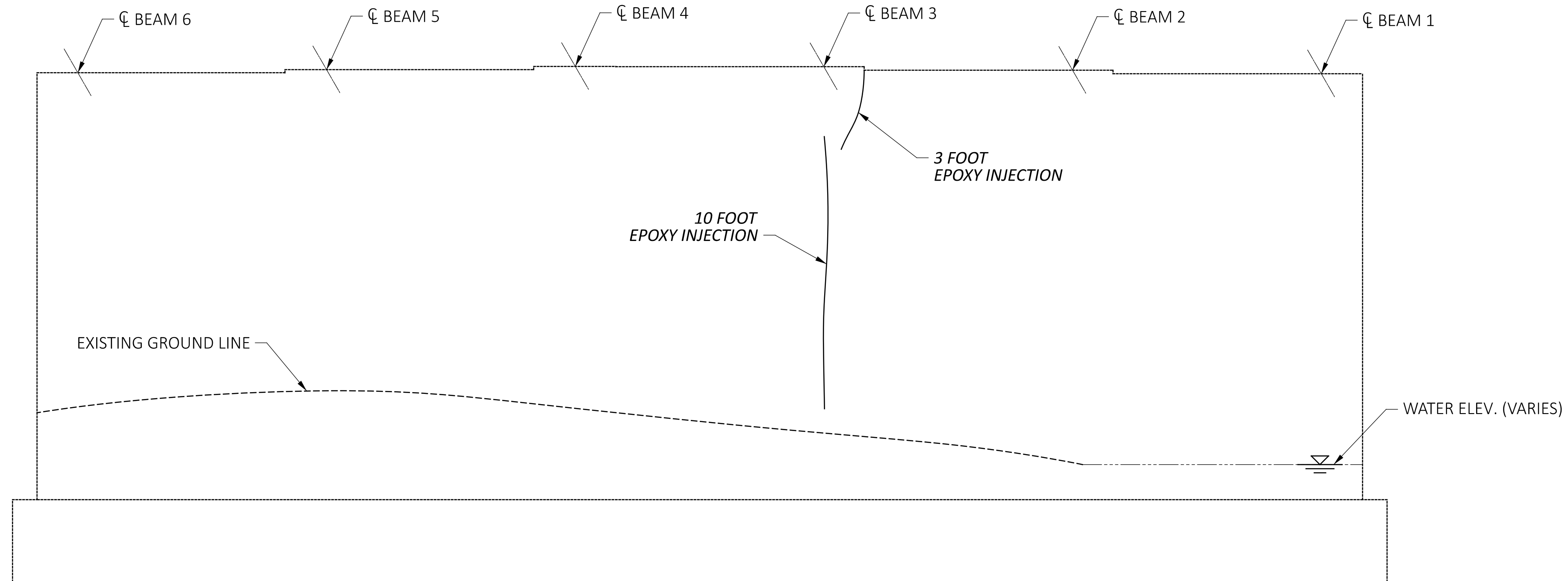
DIAPHRAGM DETAIL  
 BRIDGE NO.: SHE-47-0397  
 S.R. 47 OVER LORAMIE CREEK

SFN	
7500424	
DESIGN AGENCY	
DISTRICT 7 ENGINEERING	
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB 05/10/23	
PROJECT ID	
99862	
SUBSET	TOTAL
8	16
SHEET	TOTAL
P.18	26



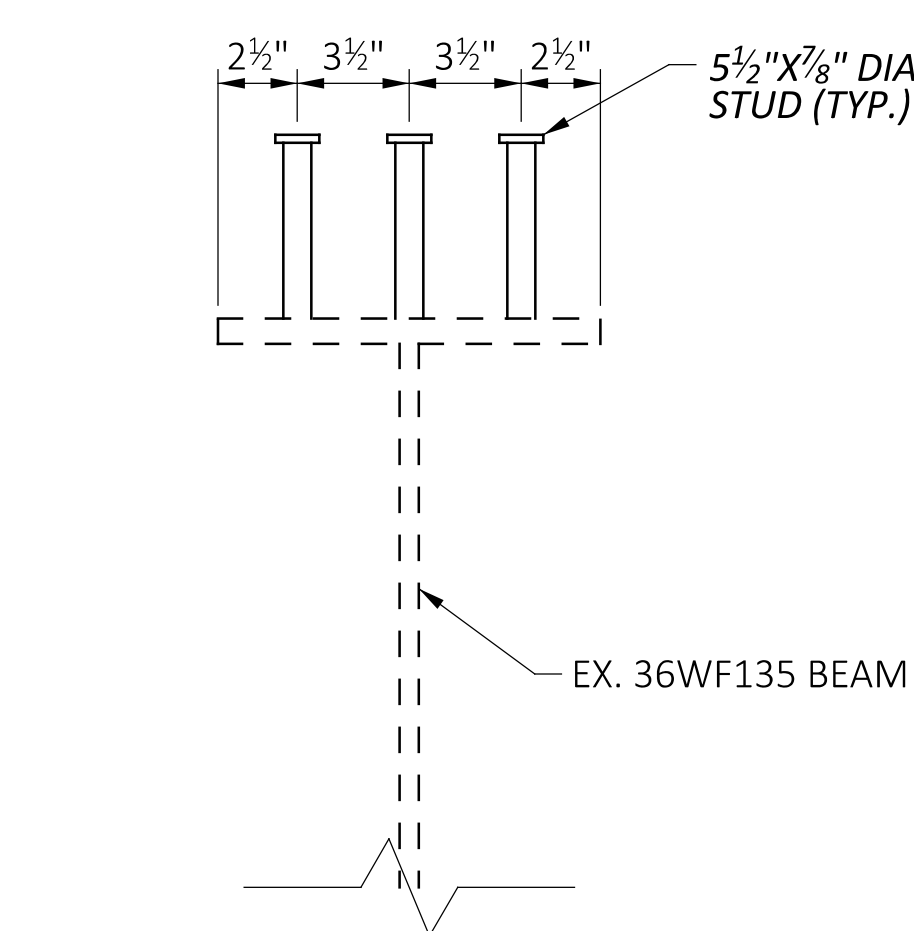
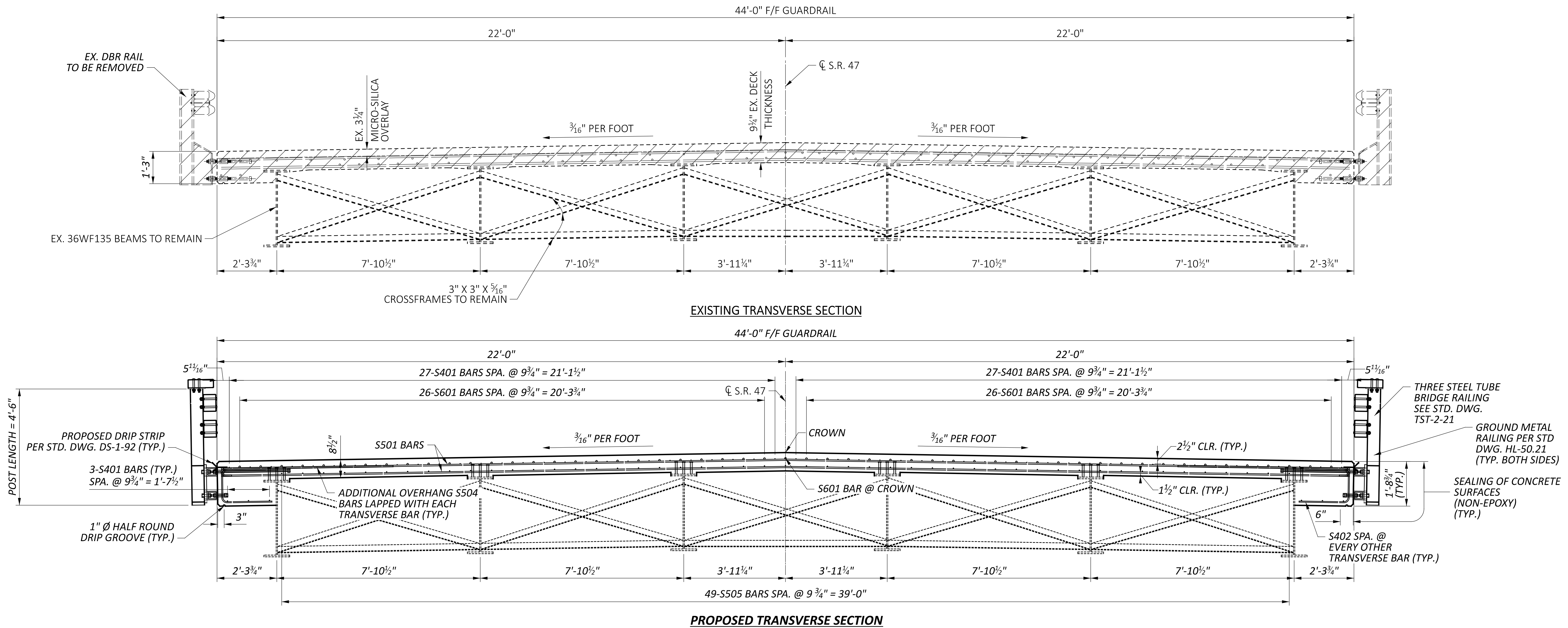
**SHE-47-0397, PIER 1**  
(WEST FACE)

	ITEM 512E10600 CONCRETE REPAIR BY EPOXY INJECTION
SHE-47-0397 PIER 1	8 FT.
SHE-47-0397 PIER 2	13 FT.
TOTAL =	21 FT.



**SHE-47-0397, PIER 2**  
(EAST FACE)





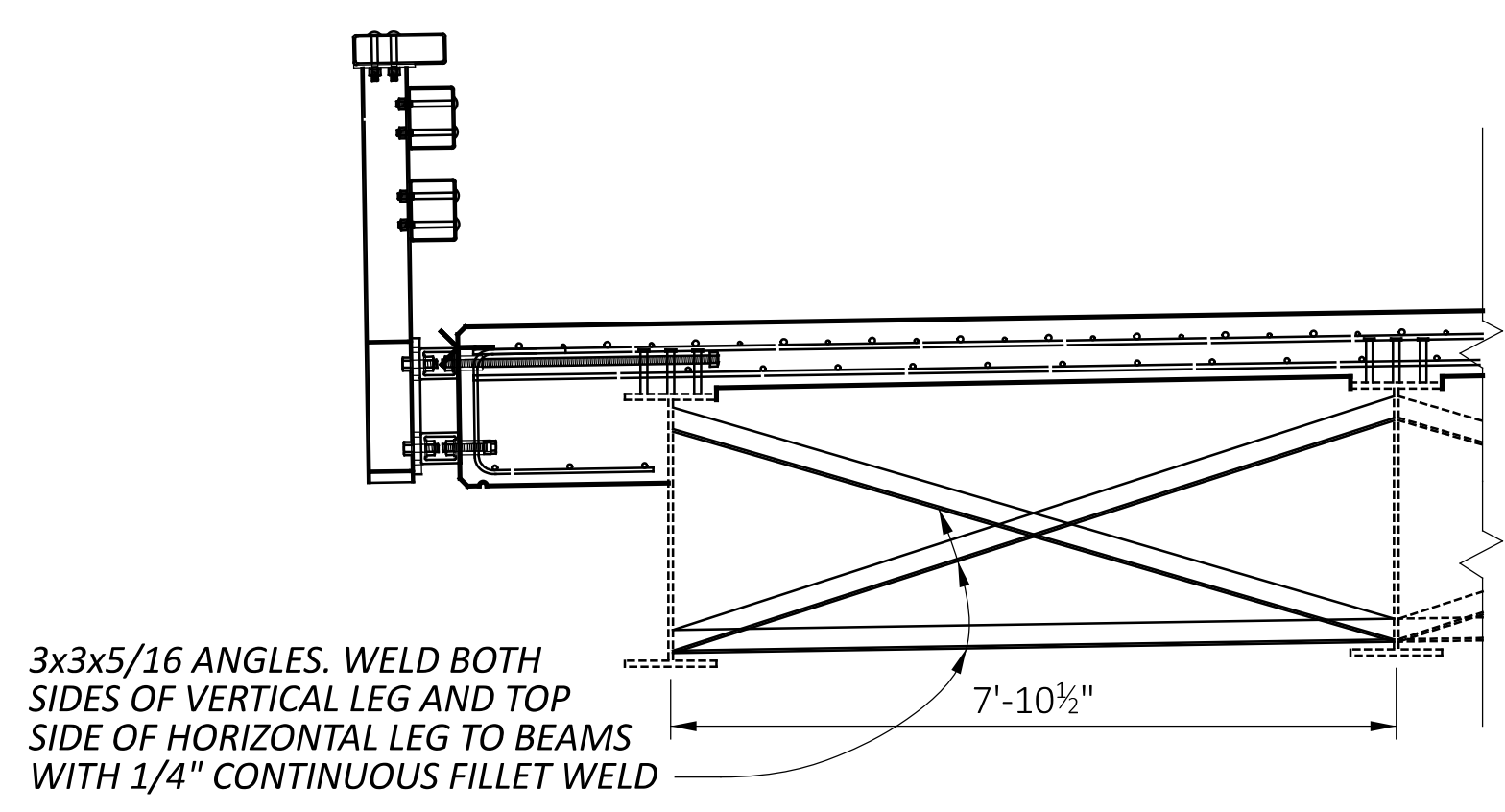
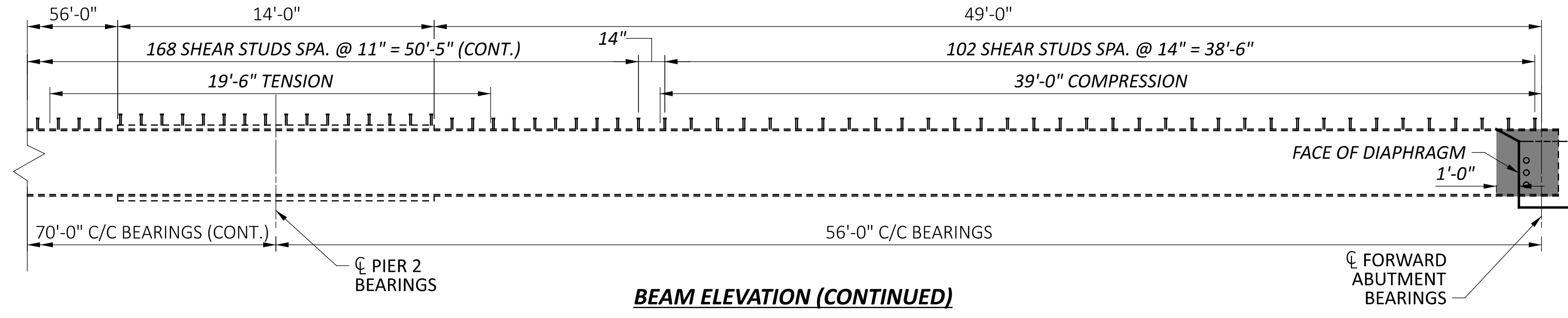
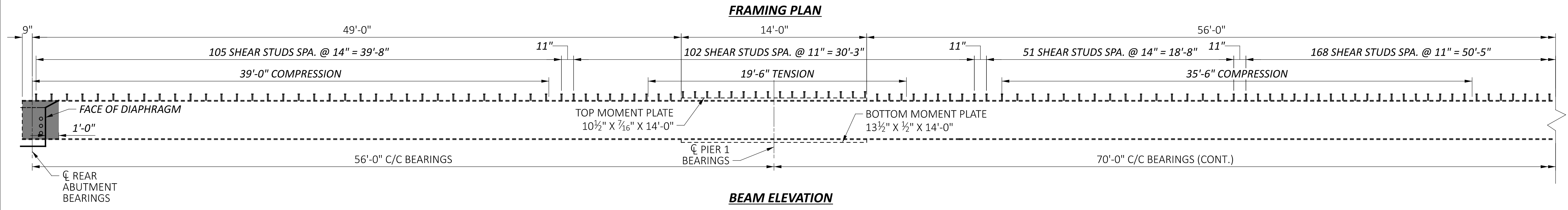
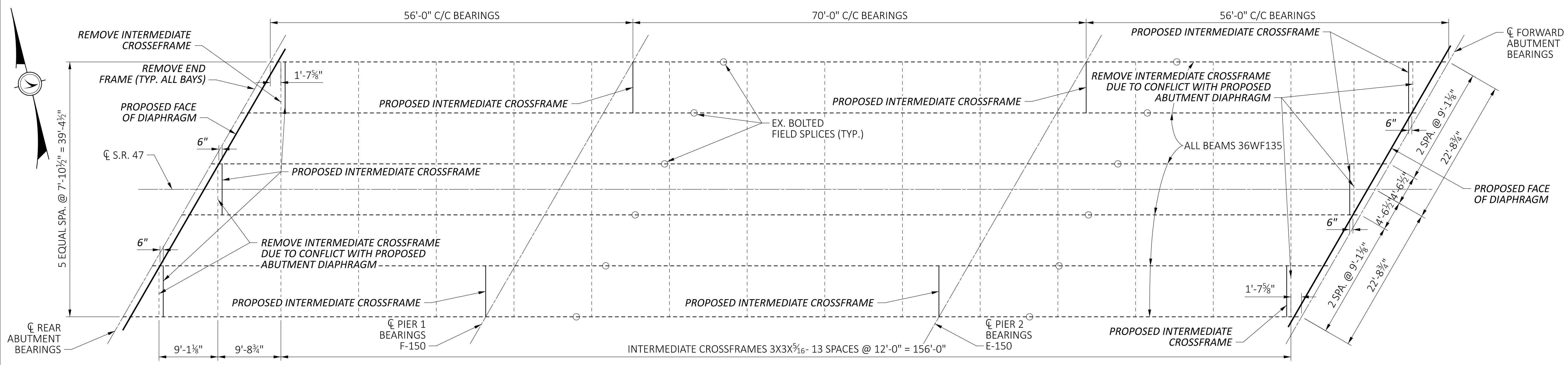
1. OFFSET TOP MAT AND BOTTOM MAT OF STEEL BY HALF SPACING (TYP.)
2. DECK SLAB CONCRETE QUANTITY:  
 THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 1 1/2 INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23

- TO BE REMOVED

TRANSVERSE SECTION  
 BRIDGE NO.: SHE-47-0397  
 S.R. 47 OVER LORAMIE CREEK

SFN 7500424	
DESIGN AGENCY	
DISTRICT 7 ENGINEERING	
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB 05/10/23	
PROJECT ID	
99862	
SUBSET	TOTAL
10	16
SHEET	TOTAL
P.20	26





**NOTES**

- SEE P.19 FOR BEAM END DETAILS
- PRIME BEAM ENDS 1 FOOT PAST DIAPHRAGM LIMITS (TYP.) TO BE PAID FOR UNDER ITEM 514 - FIELD PAINTING, MISC.COATING OF BEAM ENDS.
- WELDED ATTACHMENTS:  
 WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.

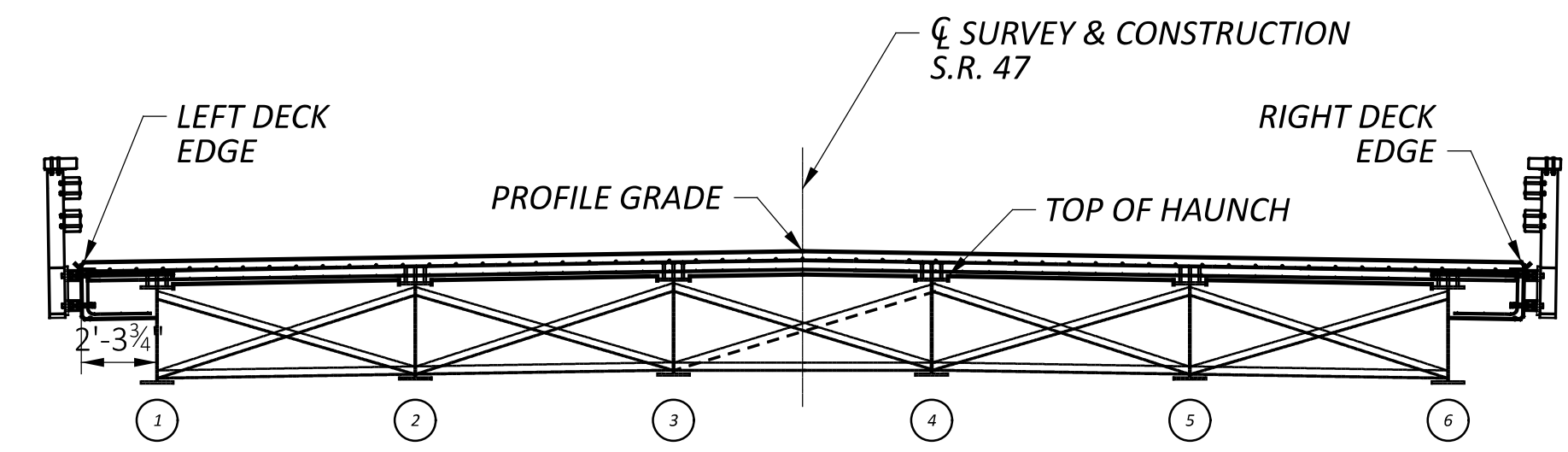
**LEGEND**



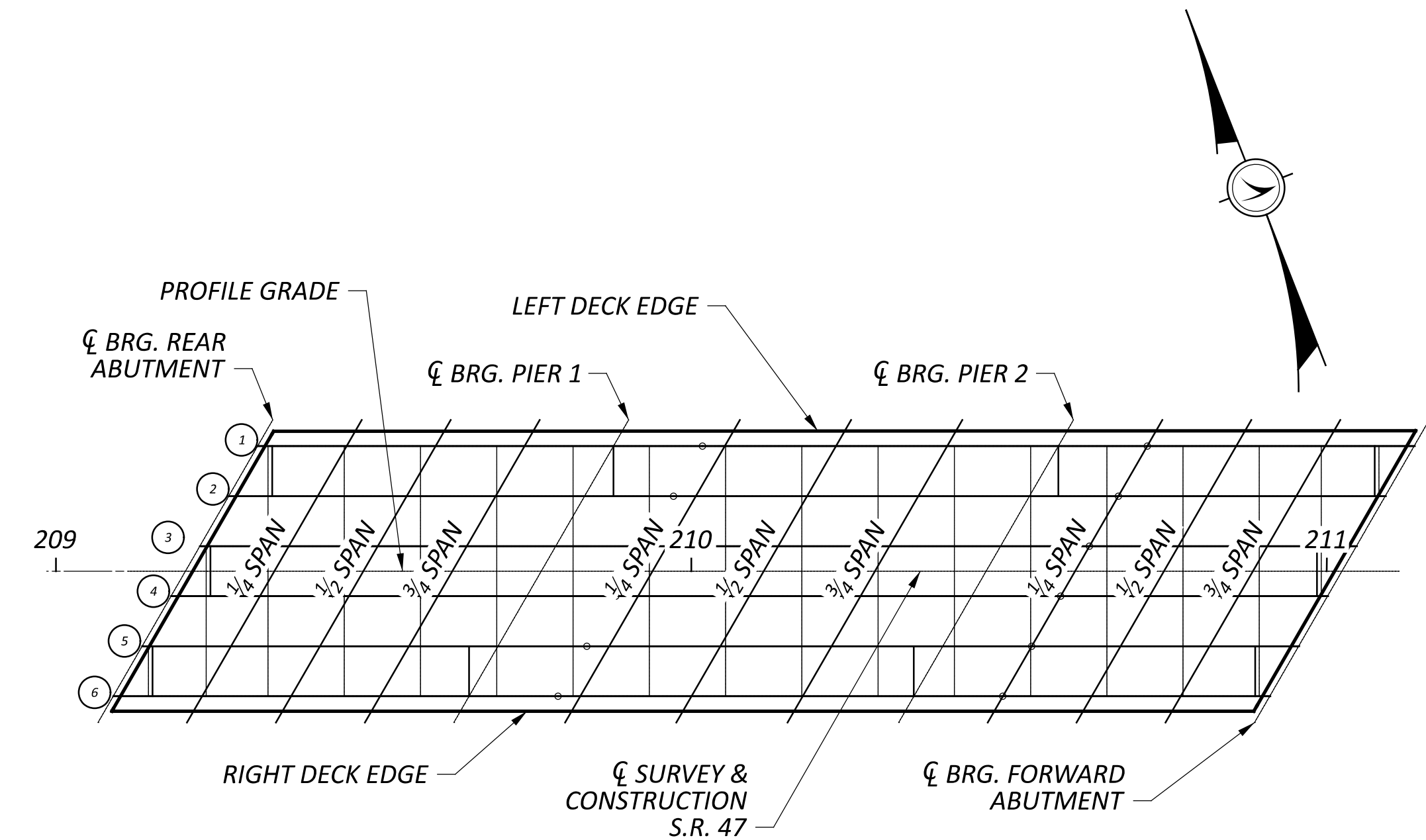
SUPERSTRUCTURE DETAIL (1 OF 2)  
 BRIDGE NO.: SHE-47-0397  
 S.R. 47 OVER LORAMIE CREEK

SFN 7500424	
DESIGN AGENCY	
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB 05/04/23	
PROJECT ID	
99862	
SUBSET	TOTAL
12	16
SHEET	TOTAL
P.22	26

	Location	CL BRG. REAR ABUTMENT	¼ SPAN	½ SPAN	¾ SPAN	CL BRG. PIER 1	¼ SPAN	½ SPAN	¾ SPAN	CL BRG. PIER 2	¼ SPAN	½ SPAN	¾ SPAN	CL BRG. FORWARD ABUTMENT
LEFT DECK EDGE	A FINAL DECK ELEVATION	939.92	939.91	939.91	939.92	939.95	940.01	940.08	940.18	940.30	940.41	940.54	940.67	940.83
	G DECK DEFLECTION	0.00	0.02	0.04	0.01	0.00	0.02	0.06	0.04	0.00	0.03	0.02	0.01	0.00
	H DECK THICKNESS	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
	J SCREED ELEVATION (J=A+G)	0.02	939.93	939.95	939.93	939.95	940.03	940.15	940.22	940.30	940.44	940.56	940.68	940.83
	K TOP OF HAUNCH ELEVATION (K=A+G-H)	939.21	939.22	939.24	939.22	939.24	939.32	939.44	939.51	939.59	939.73	939.85	939.97	940.12
BEAM 1	A FINAL DECK ELEVATION	939.96	939.95	939.95	939.96	939.99	940.04	940.12	940.21	940.33	940.44	940.57	940.70	940.86
	B BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)		939.07	939.07	939.09		939.11	939.13	939.24		939.51	939.65	939.82	
	C BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)		939.09	939.11	939.10		939.13	939.20	939.28		939.54	939.67	939.83	
	D REBOUND (D=C-B)	<b>0.00</b>	<b>0.02</b>	<b>0.04</b>	<b>0.01</b>	<b>0.00</b>	<b>0.02</b>	<b>0.07</b>	<b>0.04</b>	<b>0.00</b>	<b>0.03</b>	<b>0.02</b>	<b>0.01</b>	<b>0.00</b>
	E WEIGHT OF EXISTING DECK	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft
	F WEIGHT OF PROPOSED DECK	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft
	G DECK DEFLECTION (G=D x (F/E))	0.00	0.02	0.04	0.01	0.00	0.02	0.06	0.04	0.00	0.03	0.02	0.01	0.00
	H DECK THICKNESS	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
	J SCREED ELEVATION (J=A+G)	939.96	939.97	939.99	939.97	939.99	940.06	940.18	940.25	940.33	940.47	940.59	940.71	940.86
	K TOP OF HAUNCH ELEVATION (K=A+G-H)	939.25	939.26	939.28	939.26	939.28	939.35	939.48	939.54	939.62	939.76	939.88	940.00	940.15
	BEAM 2	A FINAL DECK ELEVATION	940.09	940.07	940.07	940.08	940.10	940.15	940.22	940.31	940.42	940.53	940.65	940.78
B BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)			939.18	939.18	939.17		939.19	939.26	939.37		939.61	939.76	939.90	
C BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)			939.21	939.18	939.18		939.20	939.30	939.40		939.68	939.78	939.94	
D REBOUND (D=C-B)		<b>0.00</b>	<b>0.03</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.01</b>	<b>0.04</b>	<b>0.03</b>	<b>0.00</b>	<b>0.07</b>	<b>0.02</b>	<b>0.04</b>	<b>0.00</b>
E WEIGHT OF EXISTING DECK		5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft
F WEIGHT OF PROPOSED DECK		4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft
G DECK DEFLECTION (G=D x (F/E))		0.00	0.03	0.00	0.01	0.00	0.01	0.04	0.03	0.00	0.06	0.02	0.04	0.00
H DECK THICKNESS		8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
J SCREED ELEVATION (J=A+G)		940.09	940.10	940.07	940.09	940.10	940.16	940.26	940.34	940.42	940.60	940.67	940.82	940.93
K TOP OF HAUNCH ELEVATION (K=A+G-H)		939.38	939.39	939.36	939.38	939.39	939.45	939.55	939.63	939.71	939.89	939.96	940.11	940.22
BEAM 3		A FINAL DECK ELEVATION	940.23	940.21	940.20	940.20	940.22	940.26	940.33	940.41	940.52	940.62	940.74	940.86
	B BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)		939.33	939.32	939.31		939.35	939.41	939.52		939.73	939.85	939.98	
	C BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)		939.33	939.34	939.33		939.39	939.45	939.52		939.74	939.86	940.01	
	D REBOUND (D=C-B)	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.02</b>	<b>0.00</b>	<b>0.04</b>	<b>0.04</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>0.03</b>	<b>0.00</b>
	E WEIGHT OF EXISTING DECK	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft
	F WEIGHT OF PROPOSED DECK	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft
	G DECK DEFLECTION (G=D x (F/E))	0.00	0.00	0.02	0.02	0.00	0.04	0.04	0.00	0.00	0.01	0.01	0.03	0.00
	H DECK THICKNESS	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
	J SCREED ELEVATION (J=A+G)	940.23	940.21	940.21	940.21	940.22	940.29	940.36	940.41	940.52	940.63	940.75	940.88	941.01
	K TOP OF HAUNCH ELEVATION (K=A+G-H)	939.52	939.50	939.51	939.51	939.51	939.58	939.65	939.70	939.81	939.92	940.04	940.18	940.30
	PROFILE GRADE LINE	A FINAL DECK ELEVATION	940.28	940.29	940.30	940.32	940.36	940.41	940.48	940.56	940.66	940.75	940.84	940.95
G DECK DEFLECTION		0.00	0.01	0.03	0.03	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.03	0.00
H DECK THICKNESS		8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
J SCREED ELEVATION (J=A+G)		940.28	940.30	940.33	940.35	940.36	940.43	940.52	940.56	940.66	940.75	940.84	940.98	941.07
K TOP OF HAUNCH ELEVATION (K=A+G-H)		939.57	939.60	939.62	939.64	939.65	939.72	939.81	939.86	939.95	940.05	940.14	940.27	940.36



BRIDGE DECK TYPICAL SECTION



SCREED ELEVATION LOCATIONS

NOTES

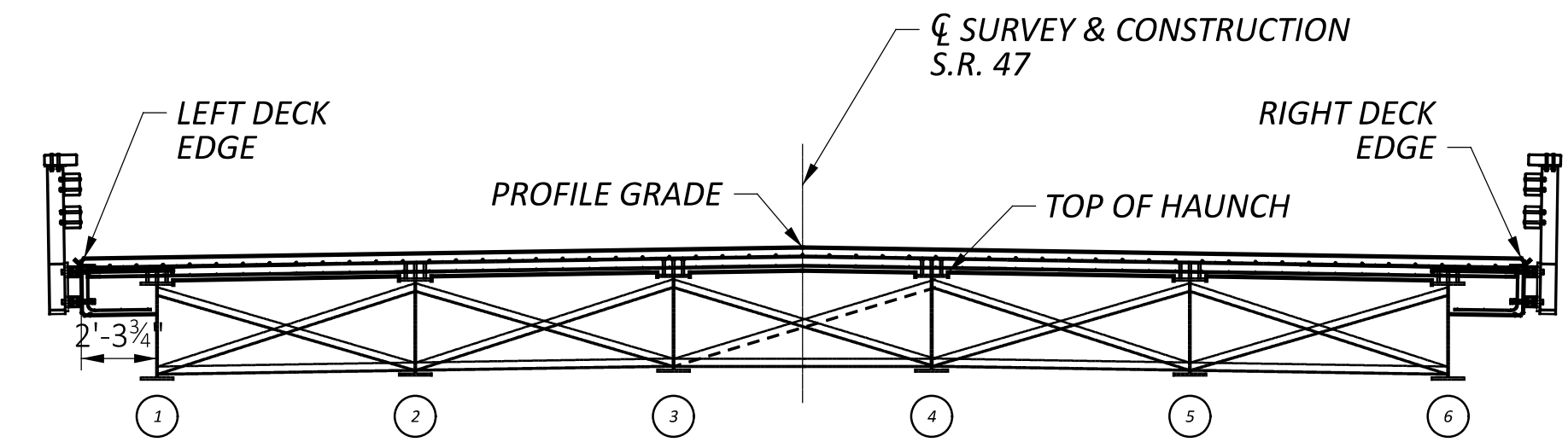
\* - TO BE COMPLETED BY CONTRACTOR AS FOLLOWS:

- D = C - B
- G = D x (F/E)
- J = A + G
- K = A + G - H

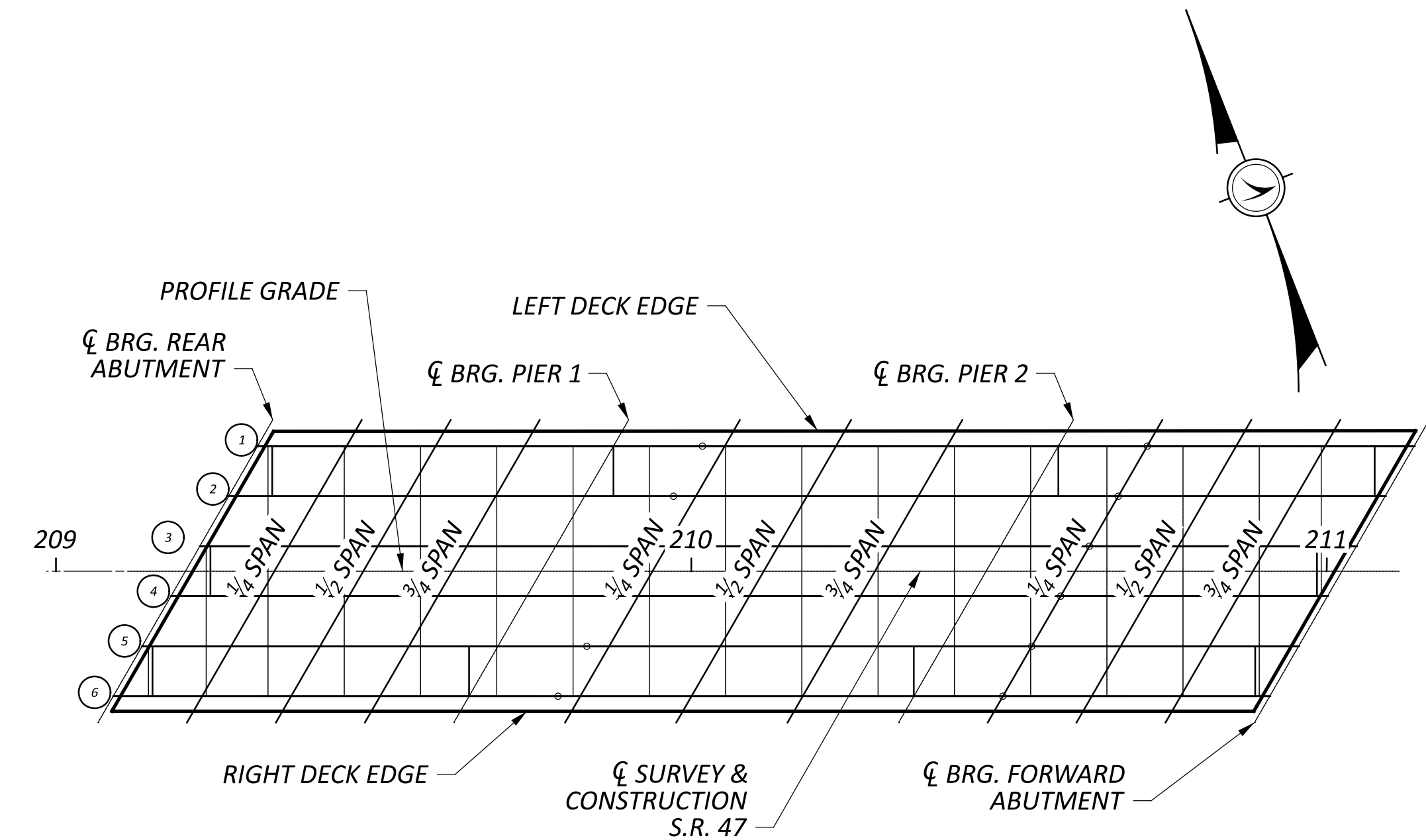
SFN	7500424
DESIGN AGENCY	
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB	5/10/23
PROJECT ID	99862
SUBSET	TOTAL
13	16
SHEET	TOTAL
P.23	26



	Location	CL BRG. REAR ABUTMENT	¼ SPAN	½ SPAN	¾ SPAN	CL BRG. PIER 1	¼ SPAN	½ SPAN	¾ SPAN	CL BRG. PIER 2	¼ SPAN	½ SPAN	¾ SPAN	CL BRG. FORWARD ABUTMENT	
BEAM 4	A	FINAL DECK ELEVATION	940.20	940.17	940.16	940.16	940.17	940.21	940.27	940.35	940.45	940.55	940.66	940.81	940.96
	B	BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)		939.32	939.31	939.28		939.32	939.35	939.47		939.70	939.82	939.95	
	C	BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)		939.35	939.35	939.32		939.32	939.40	939.48		939.70	939.82	939.98	
	D	REBOUND (D=C-B)	0.00	0.03	0.04	0.04	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.03	0.00
	E	WEIGHT OF EXISTING DECK	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft
	F	WEIGHT OF PROPOSED DECK	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft
	G	DECK DEFLECTION (G=D x (F/E))	0.00	0.03	0.04	0.04	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.03	0.00
	H	DECK THICKNESS	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
	J	SCREED ELEVATION (J=A+G)	940.20	940.20	940.20	940.20	940.17	940.21	940.32	940.36	940.45	940.55	940.66	940.84	940.96
	K	TOP OF HAUNCH ELEVATION (K=A+G-H)	939.49	939.49	939.49	939.49	939.46	939.50	939.61	939.65	939.74	939.84	939.95	940.13	940.25
	BEAM 5	A	FINAL DECK ELEVATION	940.09	940.06	940.04	940.04	940.05	940.08	940.13	940.21	940.30	940.39	940.50	940.62
B		BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)		939.25	939.20	939.20		939.18	939.22	939.33		939.53	939.63	939.77	
C		BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)		939.25	939.22	939.20		939.18	939.26	939.36		939.56	939.64	939.78	
D		REBOUND (D=C-B)	0.00	0.00	0.02	0.00	0.00	0.00	0.04	0.03	0.00	0.03	0.01	0.01	0.00
E		WEIGHT OF EXISTING DECK	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft
F		WEIGHT OF PROPOSED DECK	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft
G		DECK DEFLECTION (G=D x (F/E))	0.00	0.00	0.02	0.00	0.00	0.00	0.04	0.03	0.00	0.03	0.01	0.01	0.00
H		DECK THICKNESS	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
J		SCREED ELEVATION (J=A+G)	940.09	940.06	940.06	940.04	940.05	940.08	940.16	940.24	940.30	940.42	940.51	940.63	940.75
K		TOP OF HAUNCH ELEVATION (K=A+G-H)	939.38	939.35	939.35	939.33	939.34	939.37	939.46	939.53	939.59	939.71	939.80	939.92	940.04
BEAM 6		A	FINAL DECK ELEVATION	939.97	939.94	939.92	939.91	939.91	939.94	939.98	940.05	940.14	940.23	940.33	940.45
	B	BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)		939.15	939.09	939.09		939.03	939.06	939.17		939.39	939.49	939.61	
	C	BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)		939.15	939.10	939.09		939.05	939.10	939.17		939.42	939.50	939.64	
	D	REBOUND (D=C-B)	0.00	0.00	0.01	0.00	0.00	0.02	0.04	0.00	0.00	0.03	0.01	0.03	0.00
	E	WEIGHT OF EXISTING DECK	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft	5.09 kip/ft
	F	WEIGHT OF PROPOSED DECK	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft	4.68 kip/ft
	G	DECK DEFLECTION (G=D x (F/E))	0.00	0.00	0.01	0.00	0.00	0.02	0.04	0.00	0.00	0.03	0.01	0.03	0.00
	H	DECK THICKNESS	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
	J	SCREED ELEVATION (J=A+G)	939.97	939.94	939.93	939.91	939.91	939.96	940.02	940.05	940.14	940.26	940.34	940.48	940.58
	K	TOP OF HAUNCH ELEVATION (K=A+G-H)	939.27	939.24	939.23	939.21	939.21	939.25	939.31	939.35	939.44	939.55	939.64	939.77	939.88
	Right Deck Edge	A	FINAL DECK ELEVATION	939.96	939.92	939.90	939.89	939.89	939.92	939.96	940.03	940.12	940.20	940.30	940.42
G		DECK DEFLECTION	0.00	0.00	0.01	0.00	0.00	0.02	0.04	0.00	0.00	0.03	0.01	0.03	0.00
H		DECK THICKNESS	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in	8.5 in
J		SCREED ELEVATION (J=A+G)	0.02	939.92	939.90	939.89	939.89	939.93	939.99	940.03	940.12	940.22	940.30	940.44	940.55
K		TOP OF HAUNCH ELEVATION (K=A+G-H)	939.25	939.21	939.20	939.18	939.18	939.23	939.28	939.32	939.41	939.51	939.60	939.73	939.84



BRIDGE DECK TYPICAL SECTION



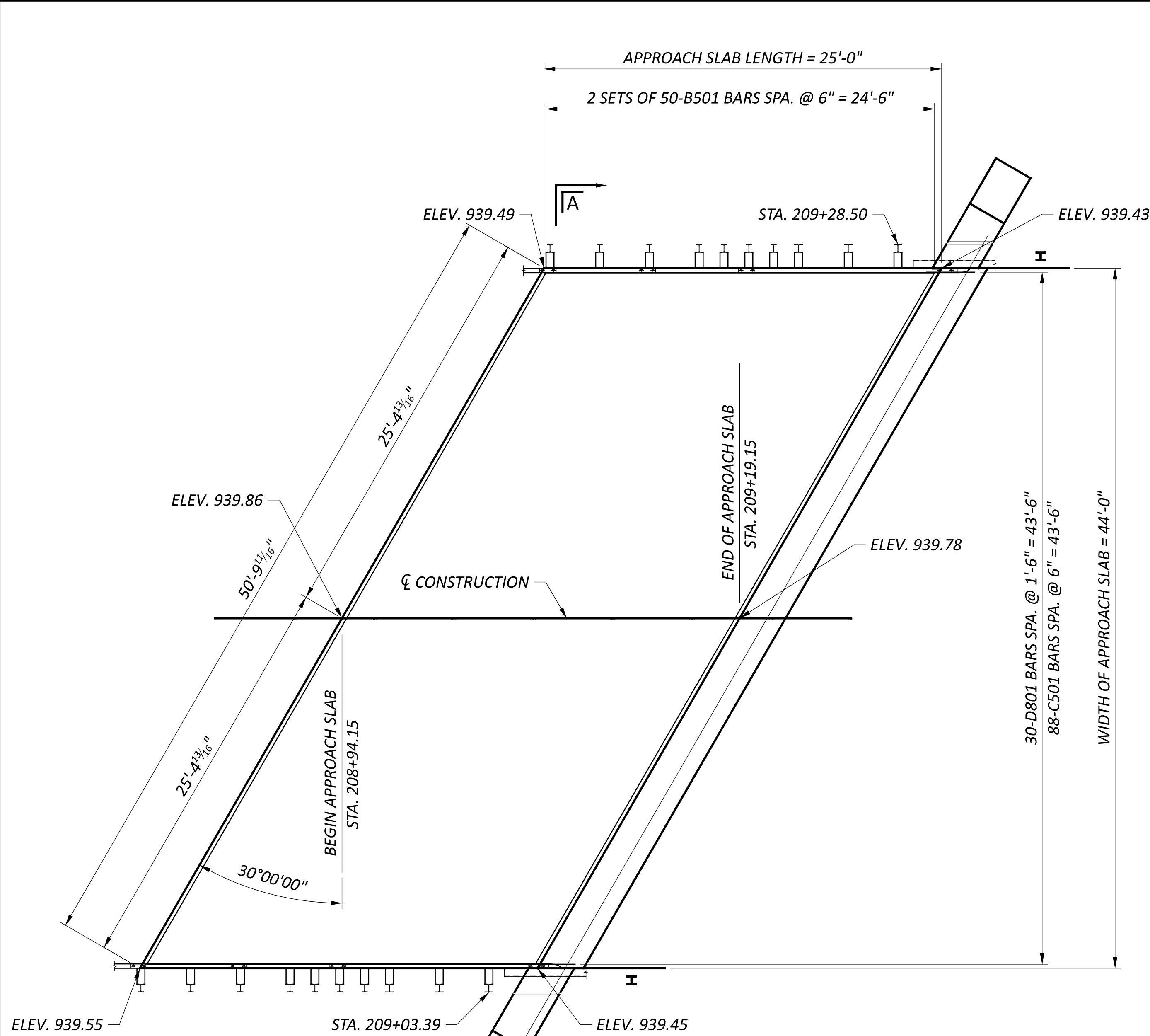
SCREED ELEVATION LOCATIONS

NOTES

- \* - TO BE COMPLETED BY CONTRACTOR AS FOLLOWS:
- D = C - B
- G = D x (F/E)
- J = A + G
- K = A + G - H

SFN	7500424
DESIGN AGENCY	
DISTRICT 7 ENGINEERING	
DESIGNER	CHECKER
LCG	XXX
REVIEWER	
XXX MM-DD-YY	
PROJECT ID	
99862	
SUBSET	TOTAL
13A	16
SHEET	TOTAL
P.23A	26

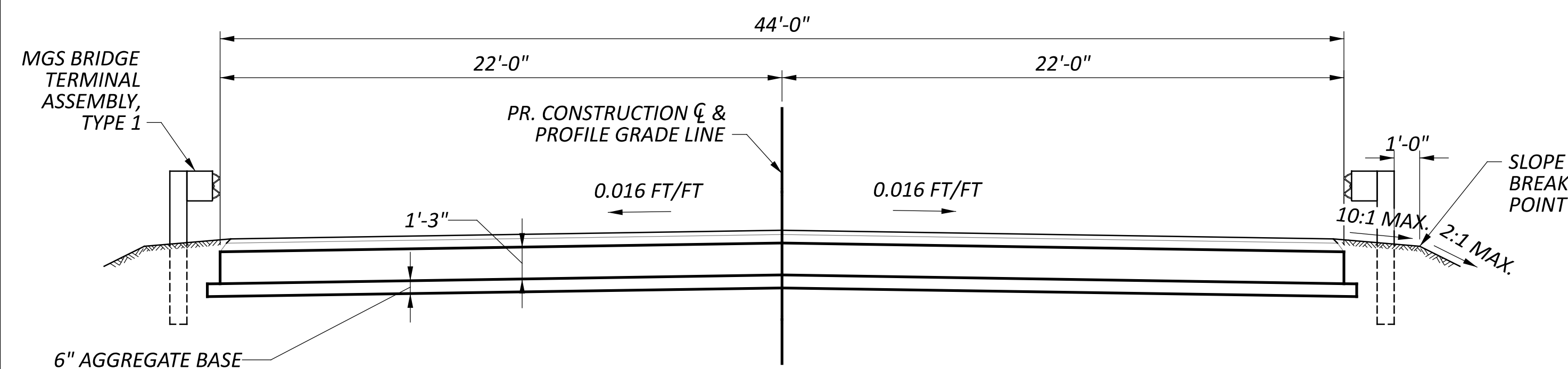




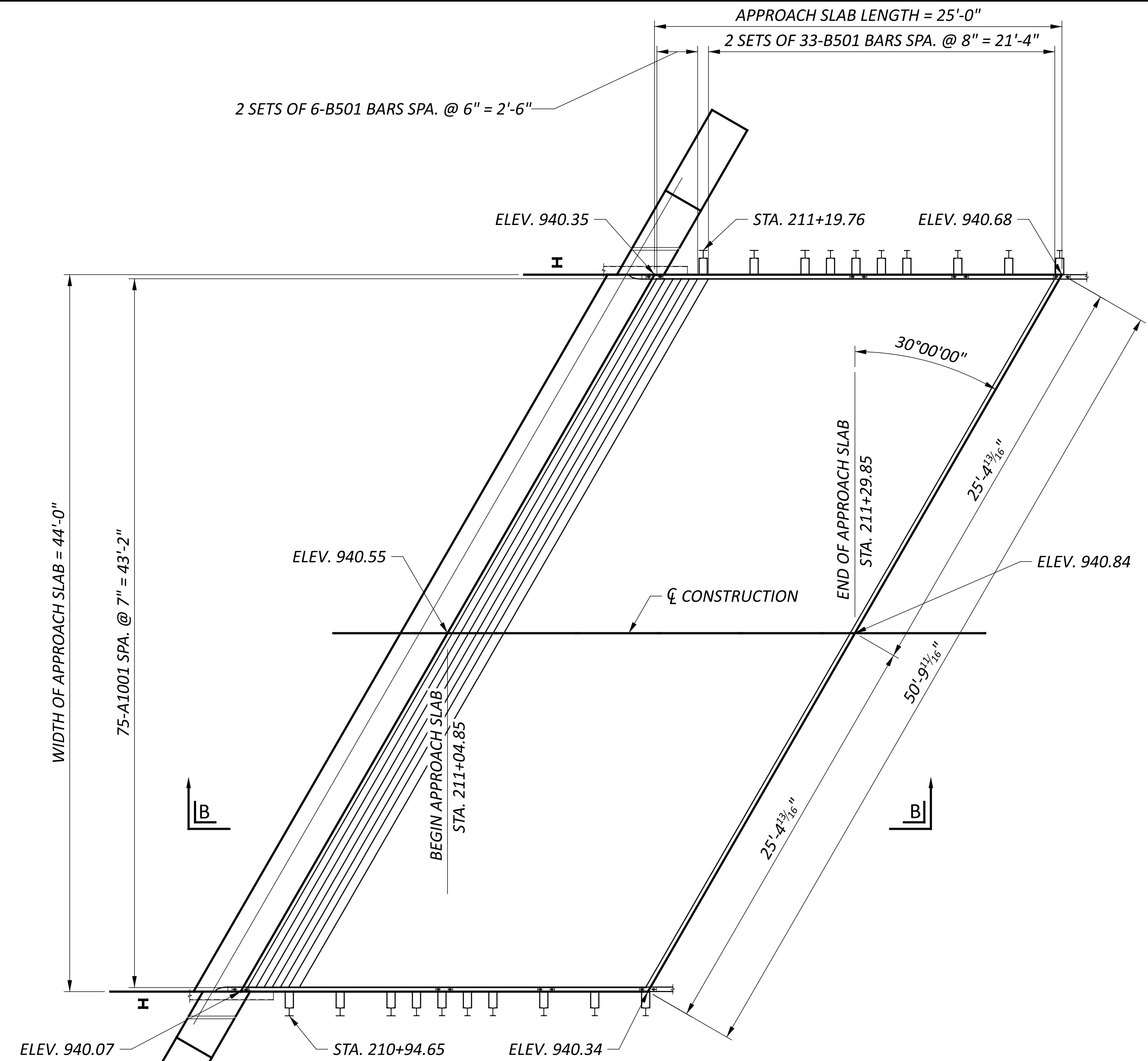
**REAR ABUTMENT**  
 (TOP MAT SHOWN AND D801 BAR  
 FORWARD ABUTMENT SIMILAR)

**NOTES**

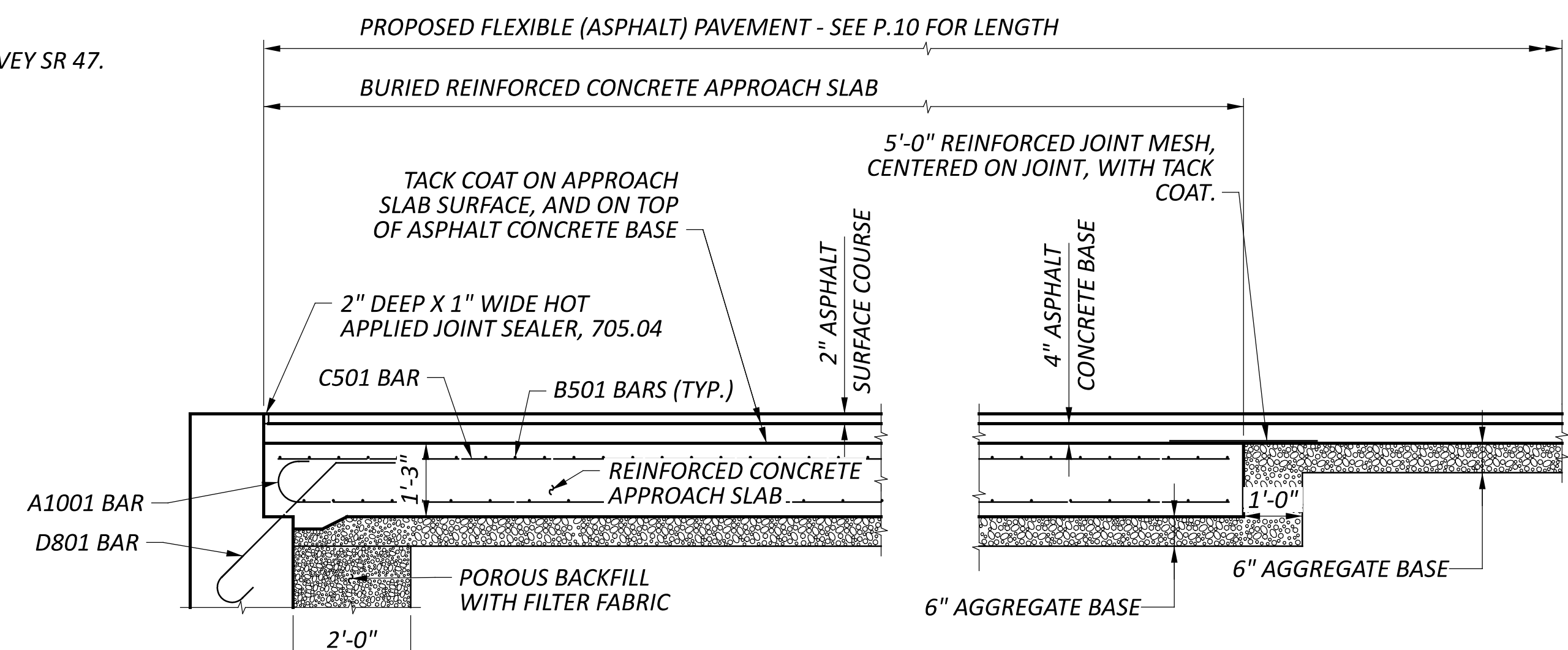
1. FOR ADDITIONAL APPROACH SLAB NOTES AND DETAILS, REFER TO STANDARD BRIDGE DRAWINGS AS-1-15 AND AS-2-15
2. STATIONS AND OFFSETS ARE TAKEN FROM THE CENTERLINE OF SURVEY SR 47.
3. SEE P.26 FOR REINFORCING STEEL LIST.



**SECTION A-A**  
 (PERPENDICULAR TO ROADWAY CENTERLINE)

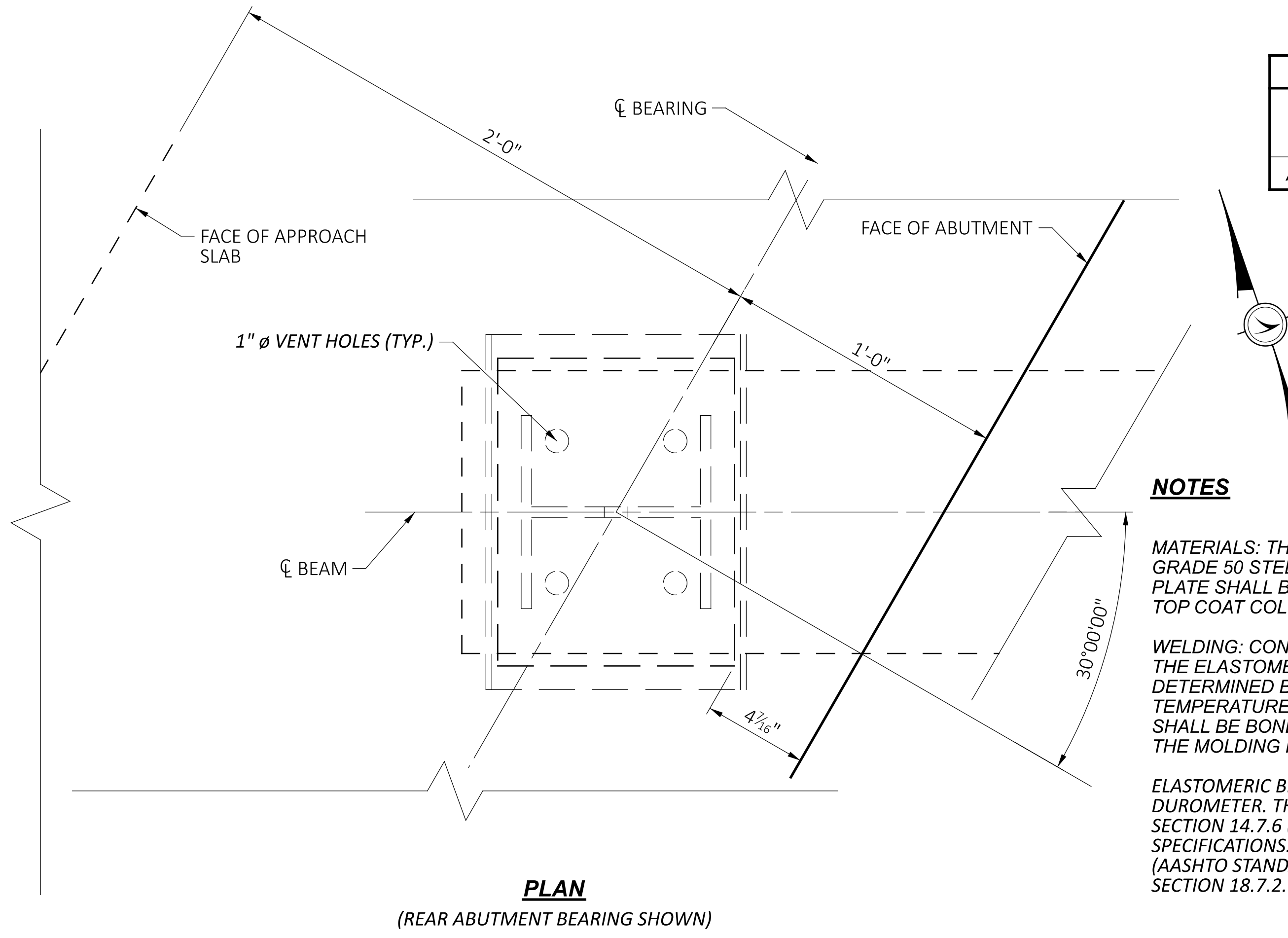


**FORWARD ABUTMENT**  
 (BOTTOM MAT SHOWN  
 REAR ABUTMENT SIMILAR)



**SECTION B-B**

SFN	7500424
DESIGN AGENCY	DISTRICT 7 ENGINEERING
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB	5-10-23
PROJECT ID	99862
SUBSET	TOTAL
14	16
SHEET	TOTAL
P.24	26



**PLAN**  
(REAR ABUTMENT BEARING SHOWN)

ELASTOMERIC BEARINGS													
LOCATION	BEARING DIMENSIONS					STEEL LOAD PLATE			REACTIONS		MAXIMUM TOTAL LOAD		
	L	W	t <sub>i</sub> (in.)	t <sub>e</sub> (in.)	T	N	N-1	A	B	THICKNESS		DL	LL
ALL BEAMS	10"	13"	0.375	0.25	2.52"	5	4	11"	14"	1 1/2"	51.11 k	59.25 k	110.36 kips

**LEGEND**

t<sub>i</sub> = THICKNESS OF INTERNAL LAYERS  
 t<sub>e</sub> = THICKNESS OF EXTERNAL LAYERS  
 T = TOTAL THICKNESS OF ELASTOMERIC BEARING  
 N = NUMBER OF STEEL LAMINATES  
 INTERNAL STEEL LAMINATE THICKNESS = 0.1046" (12 GAGE)  
 N-1 = NUMBER OF INTERNAL LAYERS  
 \* = CONTRACTOR TO FIELD VERIFY EXISTING OPENINGS PRIOR TO FABRICATION.

**NOTES**

**MATERIALS:** THE STEEL PLATES SHALL BE ASTM A709 GRADE 50 STEEL. THE HP SHAPE, STEEL PLATE AND LOAD PLATE SHALL BE PAINTED USING THE SAME PRIME COAT AND TOP COAT COLOR AS THE STRUCTURAL STEEL.

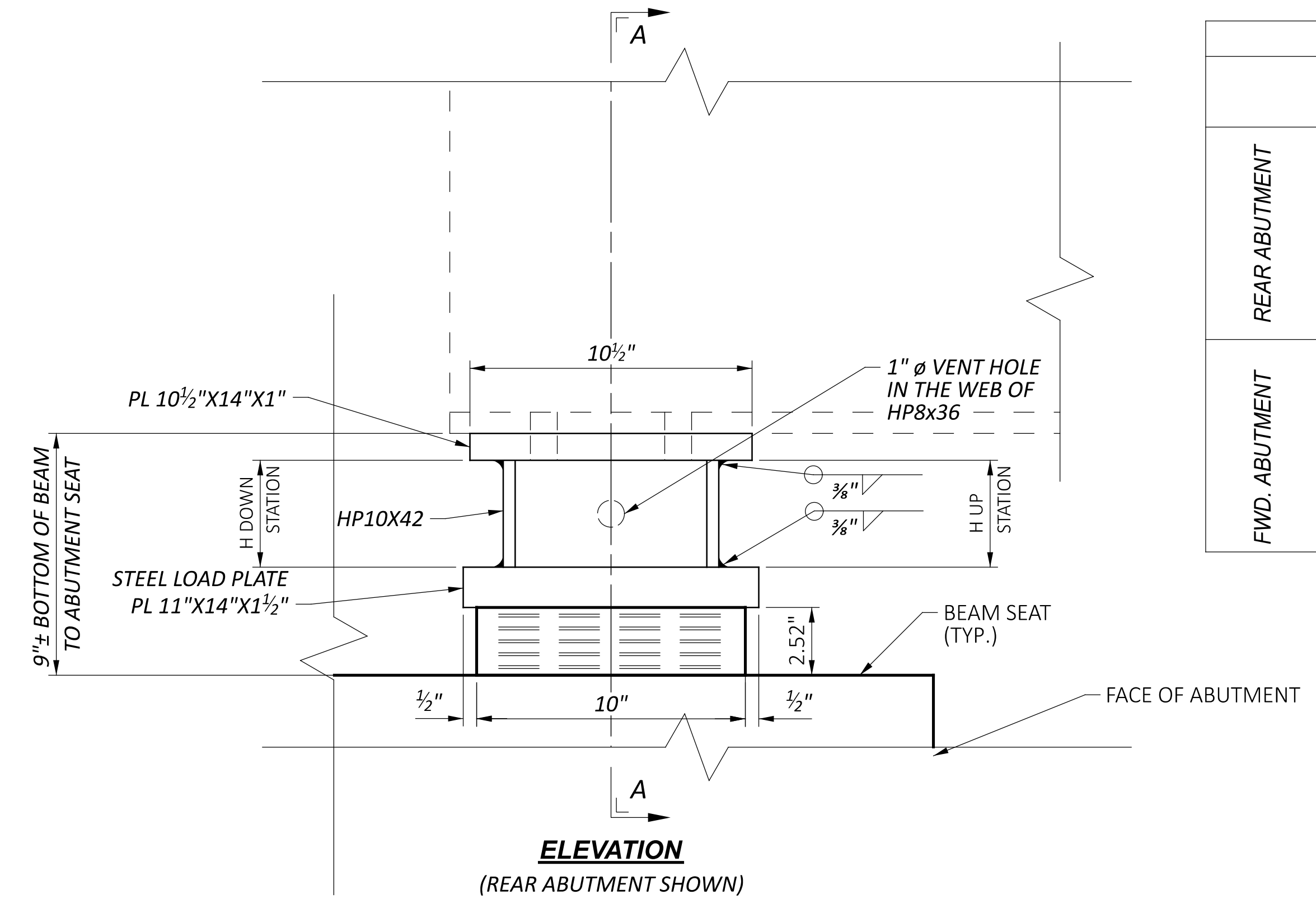
**WELDING:** CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

**ELASTOMERIC BEARINGS:** THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.

**BEARING REPOSITIONING:** IF THE STEEL BEAMS ARE ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE SIXTH OF THE BEARING HEIGHTS AT 60°F ± 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARING TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.

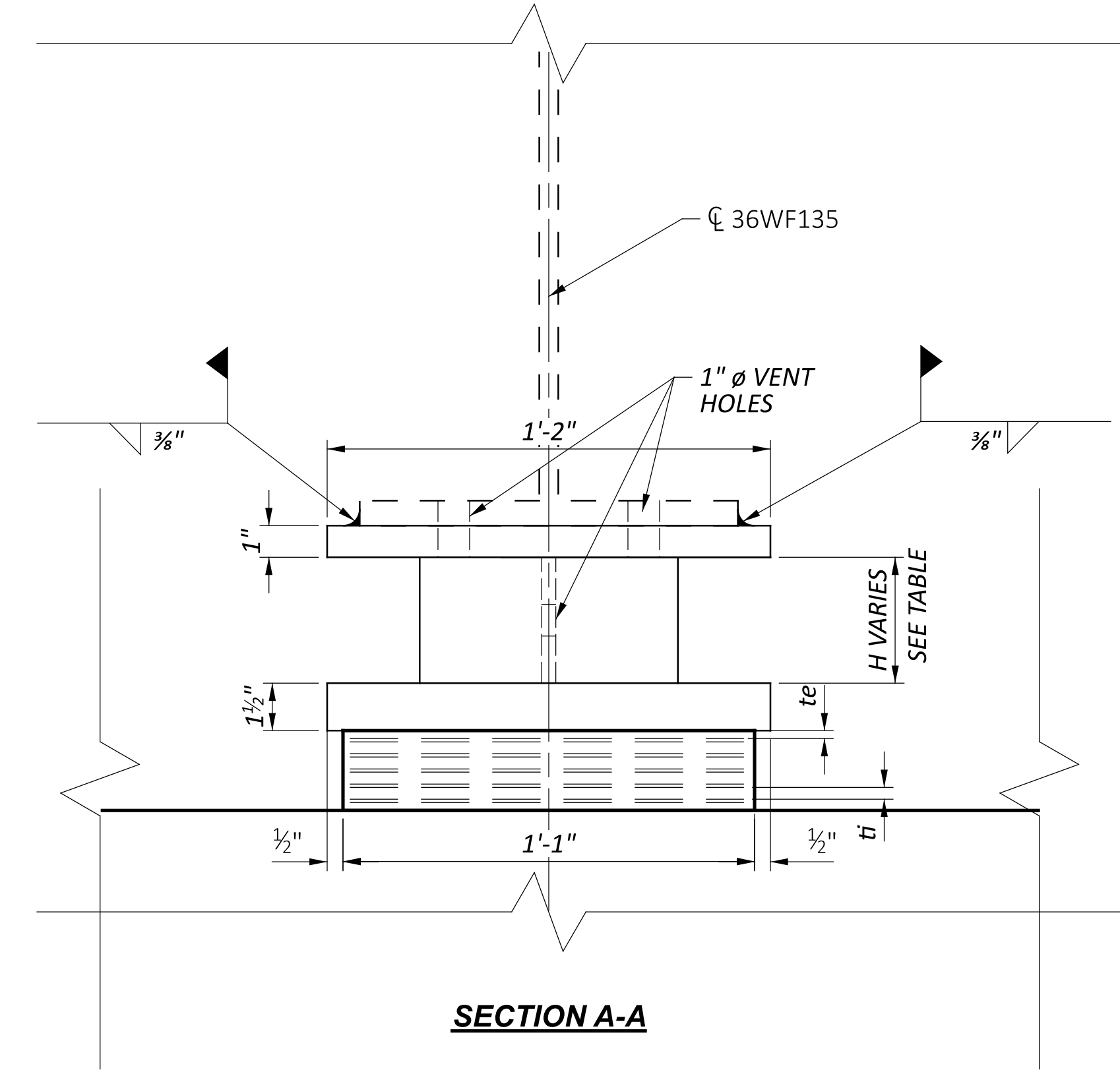
**BASIS OF PAYMENT:** THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, STEEL PLATES AND SHAPES, PAINTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (BEARING - 10"x13"x2.52", LOAD PLATE - 11"x14"x1.5", AS PER PLAN.

ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.



**ELEVATION**  
(REAR ABUTMENT SHOWN)

H DIMENSION (in.)			
	BEAM	UPSTATION	DOWNSTATION
REAR ABUTMENT	B1	4	4
	B2	4	4
	B3	4	4
	B4	4	4
	B5	4	4
	B6	4	4
FWD. ABUTMENT	B1	4	4 1/8
	B2	4	4 1/8
	B3	4	4 1/8
	B4	4	4 1/8
	B5	4	4 1/8
	B6	4	4 1/8



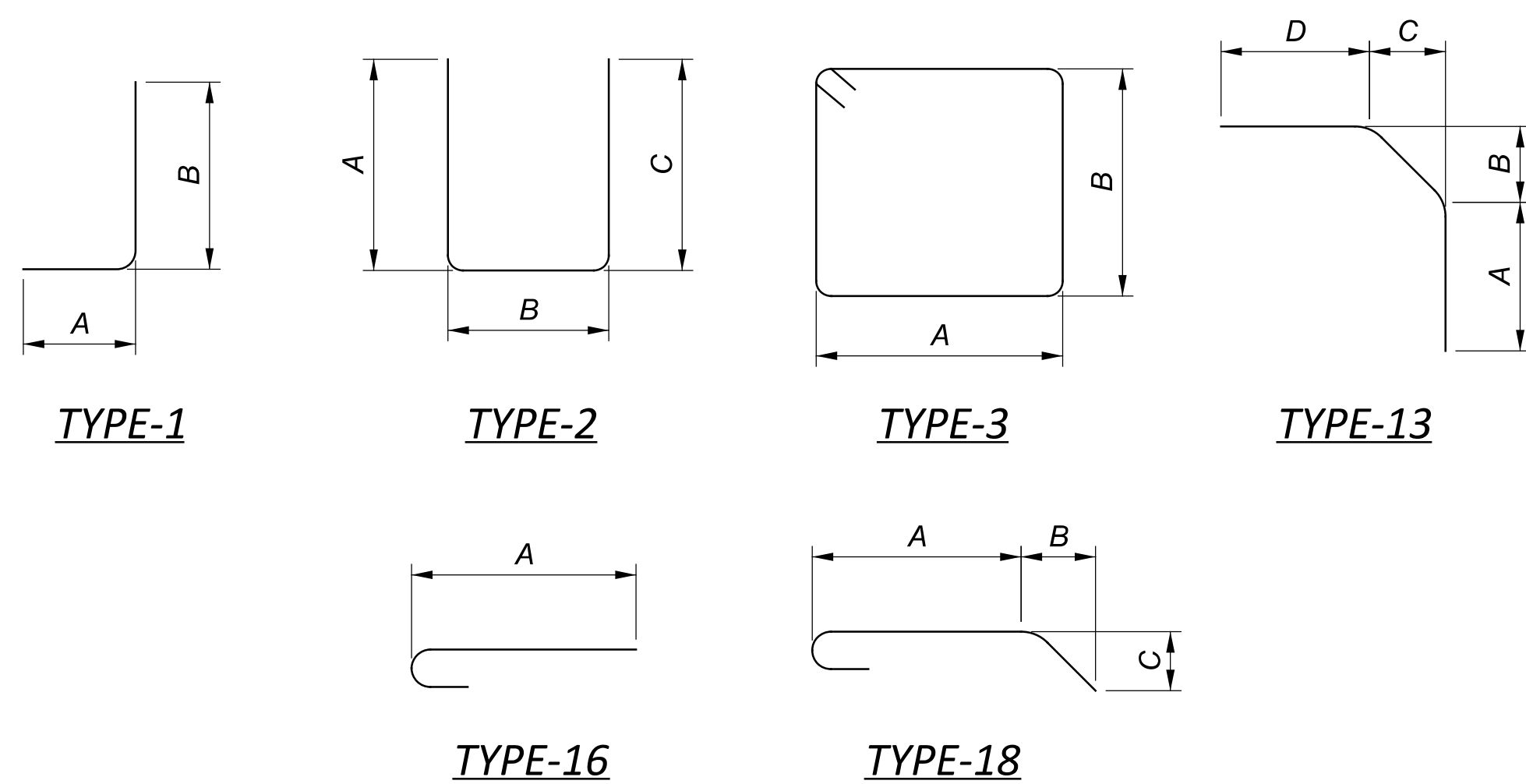
**SECTION A-A**

MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL					A	B	C	D	E	R	INC
<b>ABUTMENTS</b>												
A501	192		3'-7"	718	1	1'-3"	2'-6"					192
A502	72		5'-6"	413	STR							72
A503	68		5'-2"	367	STR							
A504	12		9'-11"	124	STR							
A505	8		10'-6"	88	STR							
A506	28		17'-6"	511	3	5'-11"	2'-6"					
A507	12		19'-5"	243	2	8'-6"	2'-8"	8'-6"				
A508	4		18'-1"	75	2	7'-10"	2'-8"	7'-10"				
	2 SR		6'-5"			2'-0"		2'-0"				
A509	OF	TO	68	2	TO	2'-8"	TO			0'-7"		
	4		9'-11"			3'-9"		3'-9"				
A510	4		9'-7"	40	STR							
A511	4		8'-0"	33	STR							
A512	2		8'-4"	17	STR							
A513	12		6'-9"	84	STR							
A514	6		6'-4"	40	STR							
A515	2		4'-9"	10	STR							
A516	6		4'-0"	24	STR							
A517	4		2'-5"	10	STR							
A518	12		6'-5"	80	1	4'-1"	2'-6"					12
A519	12		6'-8"	83	1	4'-4"	2'-6"					12
A520	6		10'-5"	65	2	4'-0"	2'-8"	4'-0"				
A521	4		5'-7"	23	STR							
A522	2		3'-5"	7	STR							
A523	2		5'-0"	10	STR							
A524	2		2'-2"	5	STR							
A525	2		3'-9"	8	STR							
A526	12		14'-11"	187	2	6'-3"	2'-8"	6'-3"				
A527	6		19'-7"	123	2	8'-7"	2'-8"	8'-7"				
A528	4		18'-5"	77	2	8'-0"	2'-8"	8'-0"				
A529	2		9'-9"	20	2	3'-8"	2'-8"	3'-8"				
A530	2		7'-5"	15	2	2'-6"	2'-8"	2'-6"				
A531	4		4'-3"	18	STR							
A801	16		30'-0"	1282	STR							
<b>SUB-TOTAL</b>			4868	<b>UNCOATED STEEL REINFORCEMENT</b>							<b>SUB-TOTAL</b>	288

MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL					A	B	C	D	E	R	INC
<b>SUPERSTRUCTURE DIAPHRAGMS</b>												
AD501	84		10'-2"	891	3	2'-8"	2'-1"					
AD502	84		7'-7"	664	2	2'-11"	2'-0"	2'-11"				
AD801	56		29'-9"	4448	STR							
<b>SUB-TOTAL</b>			6003	<b>GALVANIZED STEEL REINFORCEMENT</b>								

MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL					A	B	C	D	E	R	INC
<b>SUPERSTRUCTURE</b>												
S401	420		27'-11"	7833	STR							
S402	368		5'-3"	1291	2	1'-11"	1'-4"	2'-2"				
S501	1376		22'-10"	32769	STR							
	4 SR		1'-0"									
S502	OF	TO	1283	STR						0'-10 1/2"		
	26		22'-8"									
	4 SR		3'-8"									
S503	OF	TO	1262	STR						0'-10 1/4"		
	23		22'-8"									
S504	724		7'-3"	5475	16	6'-8"						
S505	343		27'-11"	9988	STR							
S601	106		30'-0"	4776	STR							
<b>SUB-TOTAL</b>			64677	<b>GALVANIZED STEEL REINFORCEMENT</b>								

MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL					A	B	C	D	E	R	INC
<b>APPROACH SLABS</b>												
A1001	150		25'-11"	16728	16	24'-6"						
B501	356		26'-2"	9717	STR							
C501	176		24'-6"	4497	STR							
D801	60		5'-2"	828	18	3'-0"	1'-0"	1'-0"				
<b>SUB-TOTAL</b>			31770	<b>UNCOATED STEEL REINFORCEMENT</b>								



**REINFORCING LIST**  
**BRIDGE NO.: SHE-47-0397**  
**S.R. 47 OVER LORAMIE CREEK**

SFN	7500424
DESIGN AGENCY	
DESIGNER	CHECKER
LCG	DHG
REVIEWER	
MRB 05/04/23	
PROJECT ID	
99862	
SUBSET	TOTAL
16	16
SHEET	TOTAL
P.26	26