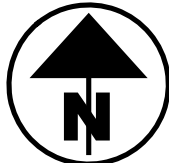


LOCATION MAP

LATITUDE: N41°24'33" LONGITUDE: W83°27'25"



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

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES

Contact Two Working Days
Before You Dig


Before You Dig

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

PLAN PREPARED BY:



TETRA TECH
420 Madison Ave., Suite 1001
Toledo, Ohio 43604
Phone: (419) 255-9500

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

WOO MR 746 0.05

PEMBERVILLE BRIDGE

FREEDOM TOWNSHIP

WOOD COUNTY

BEGIN PROJECT
STA. 57+14.65

END PROJECT
STA. 60+30.65

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTIONS	3 - 4
GENERAL NOTES	5 - 6
GENERAL SUMMARY	7
SUBSUMMARIES	8 - 10
PLAN AND PROFILE	11
CROSS SECTIONS	12 - 17
STRUCTURE OVER 20 FOOT SPAN (WOO-MR746-00.050)	18 - 35
GEOTECHNICAL PROFILES	36 - 45
RIGHT-OF-WAY	RW.1 - RW.6

FEDERAL PROJECT NUMBER

E240646

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

IMPROVEMENT OF 0.06 MILES OF M.R. 746 (BRIDGE STREET)
CONSISTING OF REPLACEMENT OF THE BRIDGE OVER THE
PORTAGE RIVER INCLUDING APPROACH RECONSTRUCTION
AND OTHER RELATED WORK.


EARTH DISTURBED AREAS


PROJECT EARTH DISTURBED AREA:	0.80 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.10 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES

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 DETOURS WILL NOT BE PROVIDED.


Pat McColley, P.E., S.I.
District 02 Deputy Director

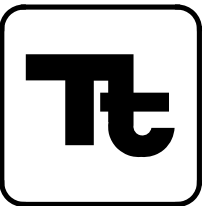

Pamela Boratyn
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/19/24	HW-2.1	7/15/22			800-2023 7/18/25	WATERWAY
BP-5.1	1/17/25	HW-2.2	7/20/18			832 7/19/24	PERMITS
		PSBD-2-07	7/20/18			902 7/19/19	CONDITIONS
CB-3A	7/19/24						4/2/25
		HL-50.21	7/15/22				
DM-1.2	1/17/25						ASBESTOS
DM-4.4	1/15/16	MT-101.60	1/17/25				REPORT
		MT-105.10	1/17/20				6/10/25
MH-3	7/19/24						
RM-5.2	7/19/24						
AS-1-15	1/20/23						
AS-2-15	7/21/23						
BD-1-11	7/20/18						
BR-2-15	7/19/24						

ENGINEER'S SEAL



DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/25

PROJECT ID

118539

SHEET

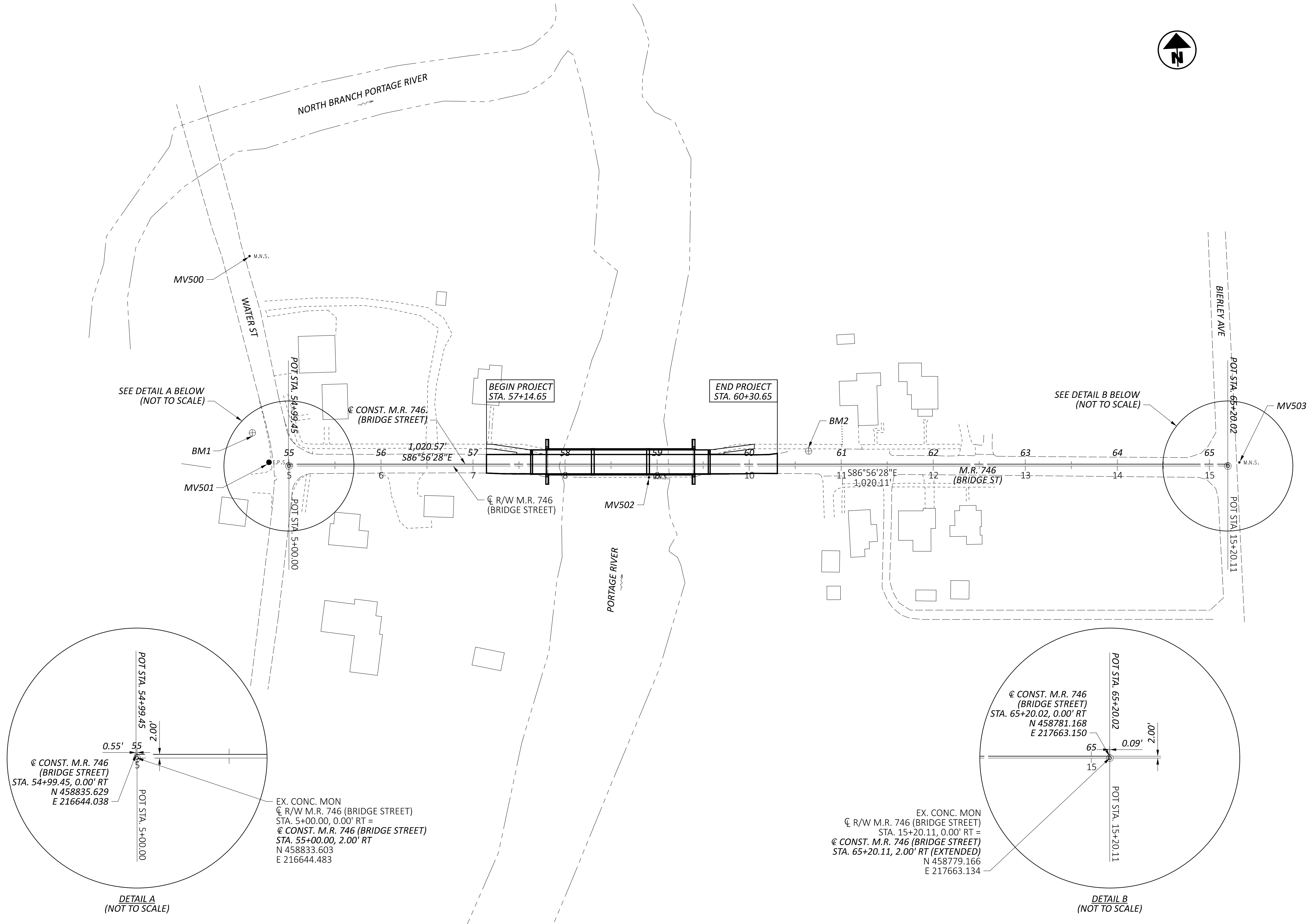
P.1

TOTAL

45

WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: Schematic Plan [Sheet] PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:31:51 PM USER: GARRETT BRENKE
pww\tritech-us-pw-bentley.com\tritech-us-pw-04\Documents\Village of Pemberville\200-622854-2400\118539\400-Engineering\Roadway\Sheets\118539_CB001.dgn



SCHEMATIC PLAN

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/25

PROJECT ID

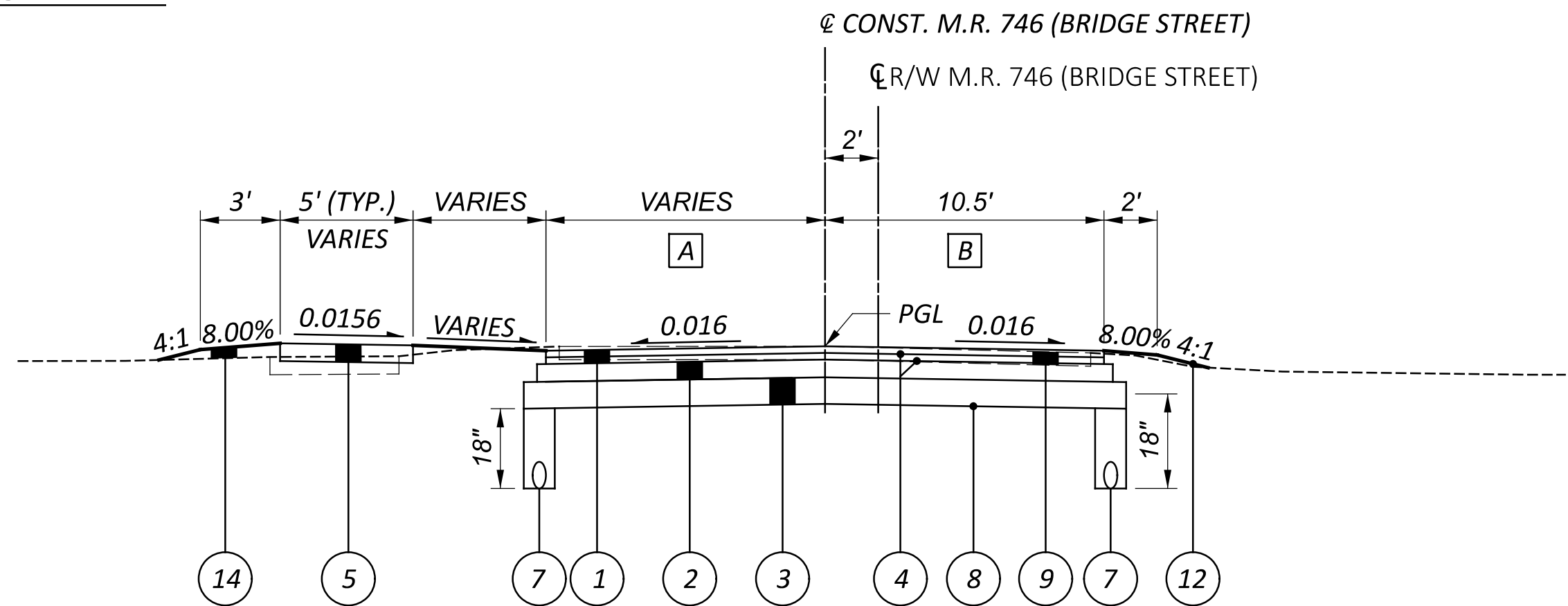
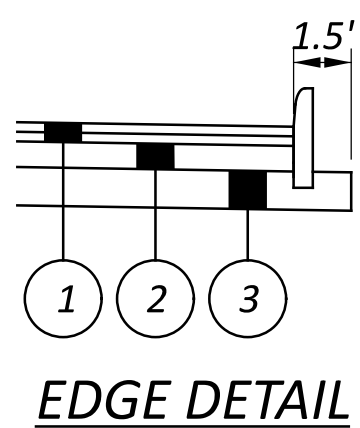
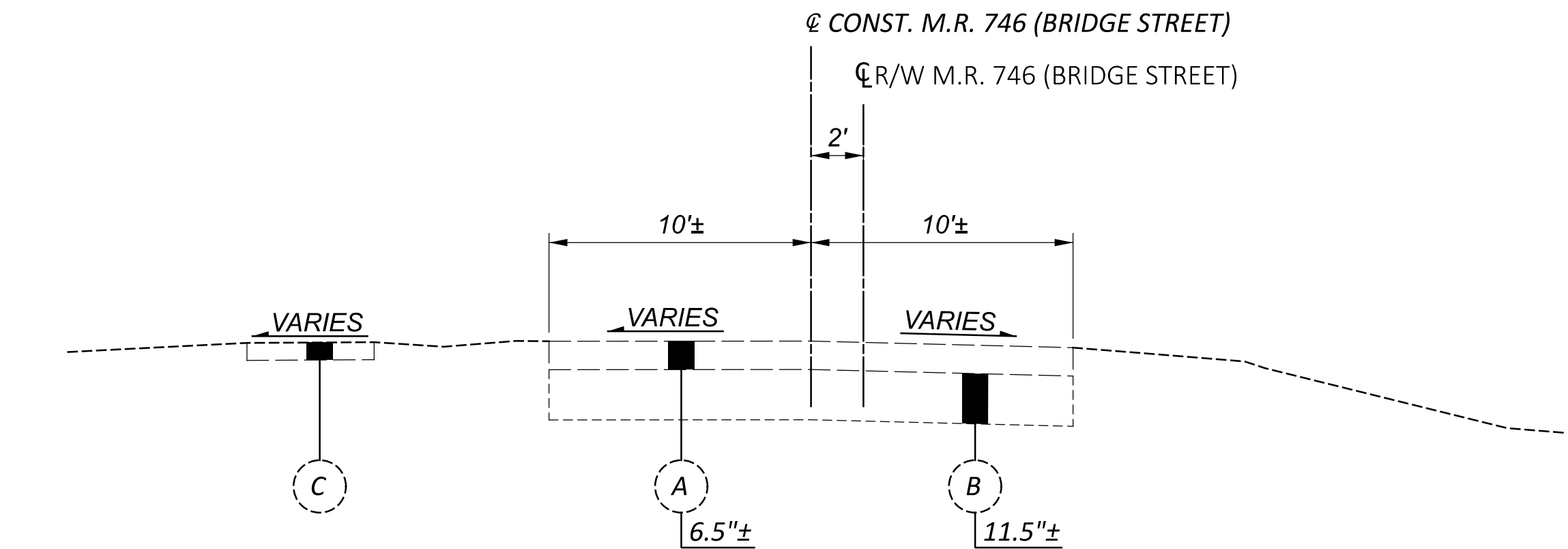
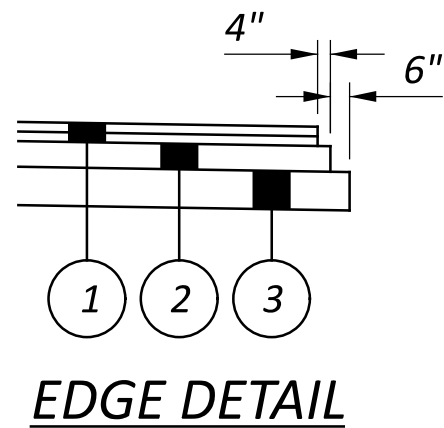
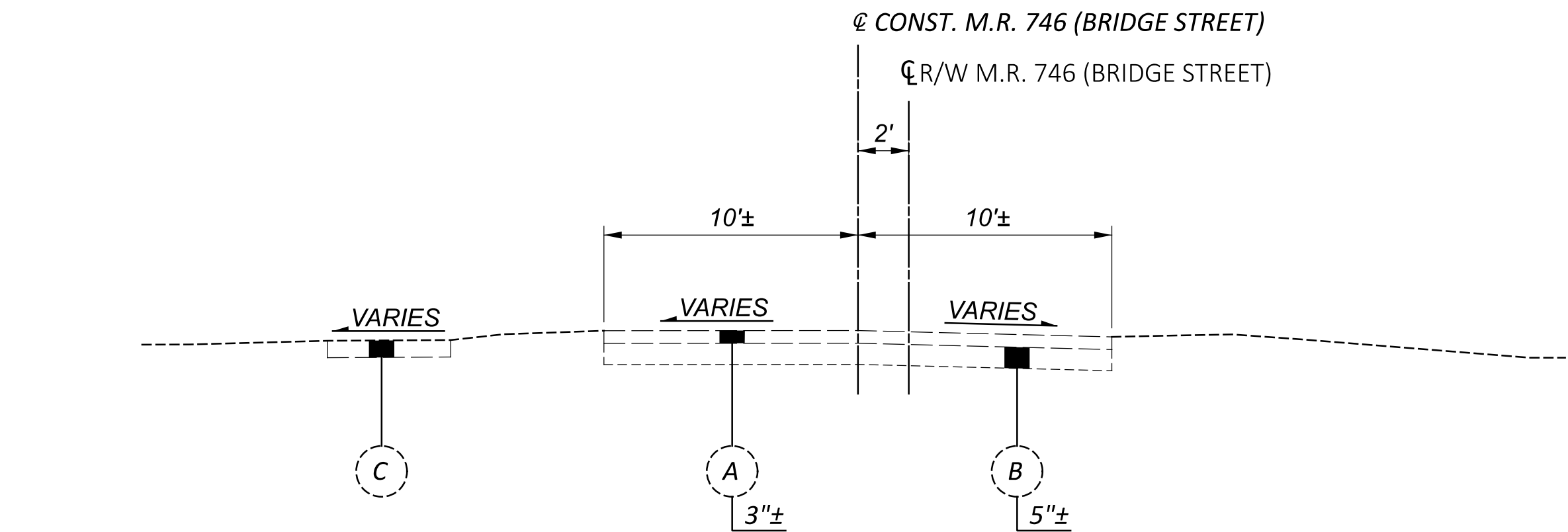
118539

SHEET

P.2

TOTAL

45

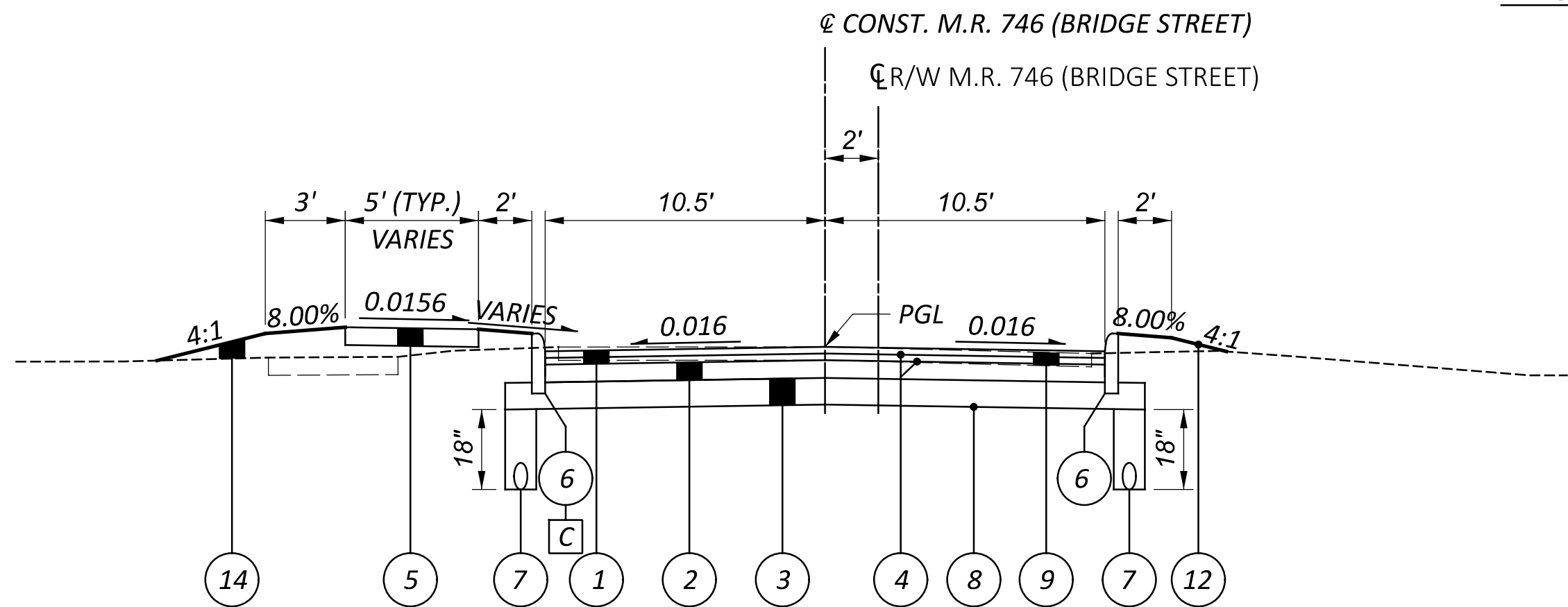


- A** VARIES FROM 10.55' AT STA. 54+14.65 TO 10.50' AT STA. 57+16.00. 10.50' FROM STA. 57+16.00 TO STA. 57+42.65 AND STA. 59+77.65 TO STA. 59+96.49. VARIES FROM 10.50' AT STA. 59+96.49 TO 10.13' AT STA. 60+05.65.
- B** VARIES FROM 9.73' AT STA. 54+14.65 TO 10.50' AT STA. 57+34.00. 10.50' FROM STA. 57+34.00 TO STA. 57+42.65 AND STA. 59+77.65 TO STA. 59+93.95. VARIES FROM 10.50' AT STA. 59+93.95 TO 10.03' AT STA. 60+05.65.

PROPOSED LEGEND

- 1 ITEM 441 - 3" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (449), PG64-22 (TWO 1½" LIFTS)
- 2 ITEM 301 - 4" ASPHALT CONCRETE BASE, (449), PG64-22
- 3 ITEM 304 - 6" AGGREGATE BASE
- 4 ITEM 407 - TACK COAT
- 5 ITEM 608 - 4" CONCRETE WALK
- 6 ITEM 609 - CURB, TYPE 4-C, AS PER PLAN
- 7 ITEM 611 - 6" UNCLASSIFIED PIPE UNDERDRAIN, WITH GEOTEXTILE FABRIC, 707.31

- 8 ITEM 204 - SUBGRADE COMPACTION
- 9 ITEM 202 - PAVEMENT REMOVED
- 10 ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, THICKNESS VARIES (3" TYP.)
- 11 ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN
- 12 ITEM 659 - SEEDING AND MULCHING
- 13 ITEM 203 - EXCAVATION
- 14 ITEM 203 - EMBANKMENT

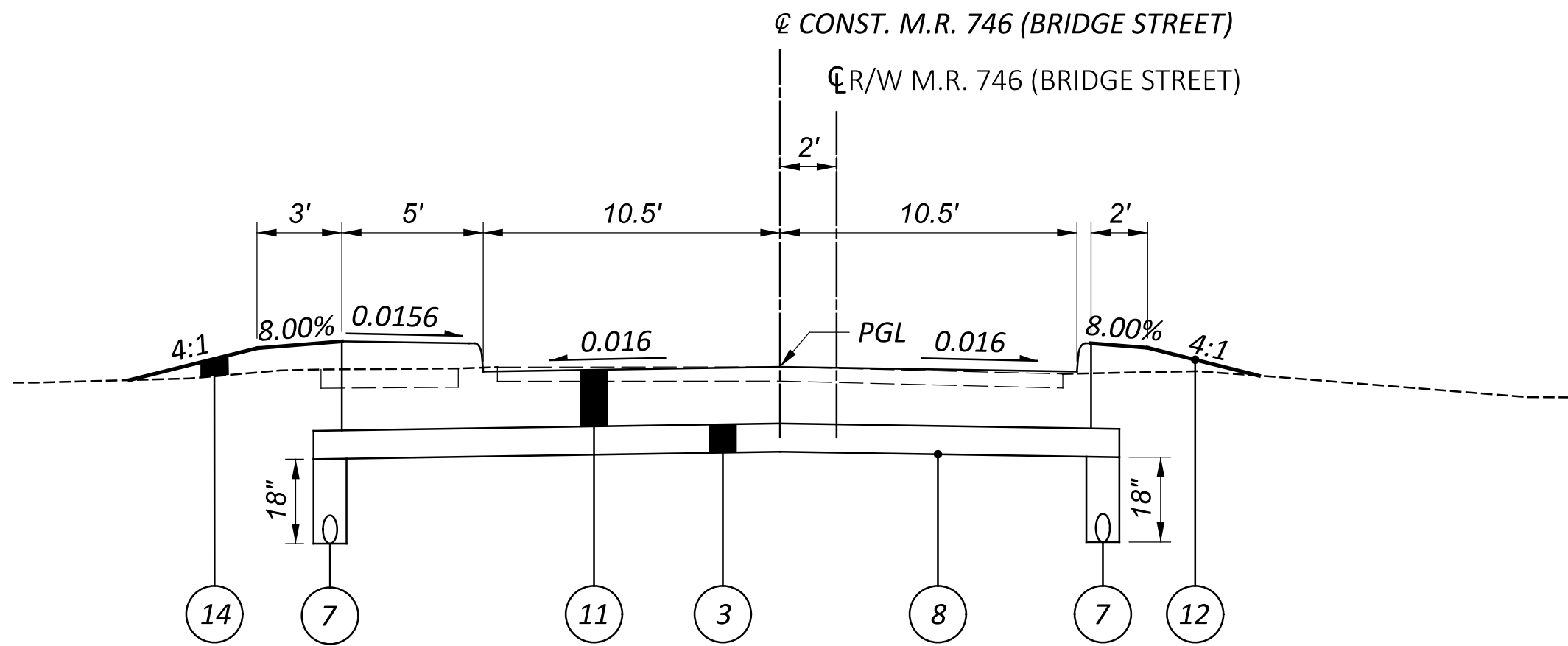


- STA. 57+42.65 TO STA. 57+64.65
STA. 59+55.65 TO STA. 59+77.65

- C** STA. 57+50.26 TO STA. 57+64.65 LT TRANSITION CURB HEIGHT FROM 4" TO 8"
STA. 59+55.65 TO STA. 59+65.12 LT TRANSITION CURB HEIGHT FROM 8" TO 4"

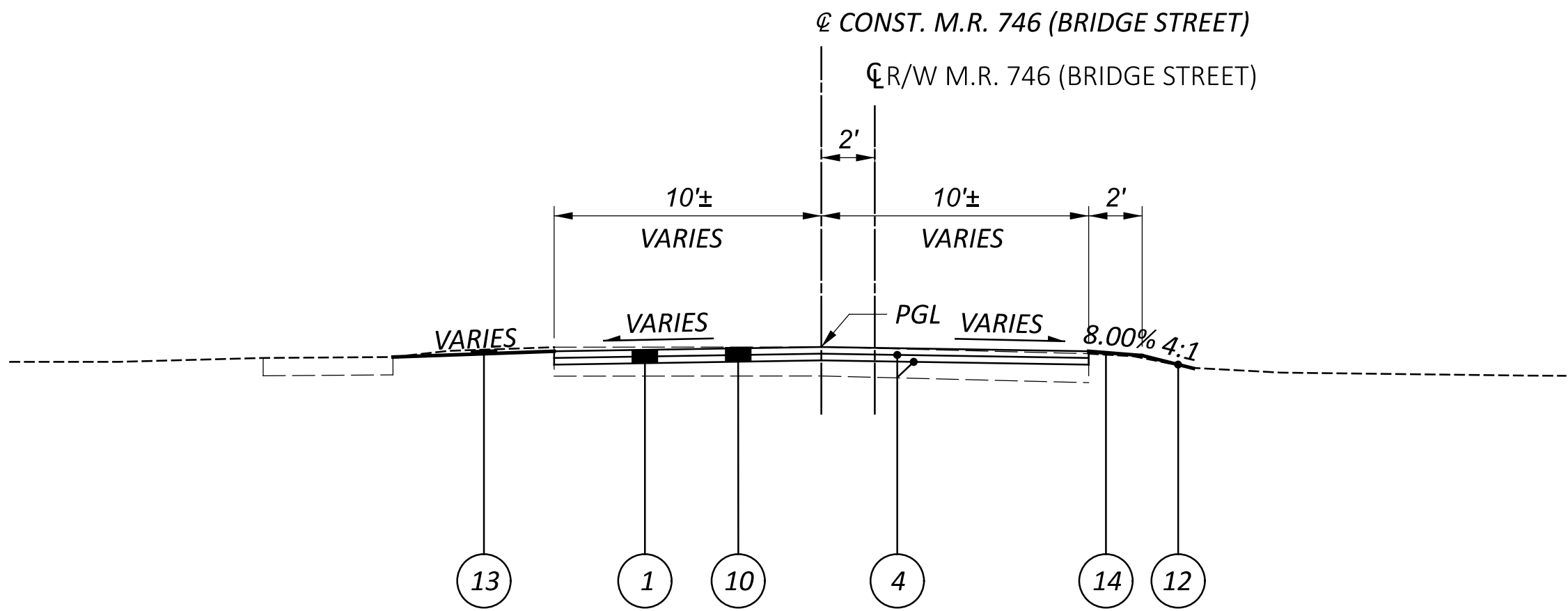
EXISTING LEGEND

- A EX. ASPHALT PAVEMENT
- B EX. AGGREGATE BASE
- C EX. CONCRETE WALK



APPROACH SLAB TYPICAL SECTION

STA. 57+64.65 TO STA. 57+79.65
STA. 59+40.65 TO STA. 59+55.65



RESURFACING TYPICAL SECTION

STA. 60+05.65 TO STA. 60+30.65

NOTE:
SEE P.3 FOR EXISTING AND PROPOSED LEGENDS

UTILITIES

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

AMPLEX INTERNET
22690 PEMBERVILLE ROAD
LUCKEY, OH 43443
419-837-5015

COLUMBIA GAS (FINDLAY)
1800 BROAD AVENUE
FINDLAY, OH 43840
419-427-3226

FRONTIER COMMUNICATIONS
300 WEST GYPSY LANE ROAD
BOWLING GREEN, OH 43402
419-631-2823

CHARTER / SPECTRUM
1135 SOUTH MAIN ST., STE 210
BOWLING GREEN, OH 43402
419-429-7424

VILLAGE OF PEMBERVILLE (ELECTRIC, SANITARY SEWER, AND WATER)
115 MAIN STREET, PO BOX 109
PEMBERVILLE, OH 43450
419-287-3832
830-214-4907 (ELECTRIC)
419-409-5102 (SANITARY)
567-395-1036 (WATER)

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

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.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE THIS SHEET 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 REAL TIME NETWORK (2011) & DIFFERENTIAL LEVELING

MONUMENT TYPE: MAG NAILS & 5/8" IRON PINS SET

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 18

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011 ADJ, 2010.0)
ELLIPSOID: GRS80
COORDINATE SYSTEM: ODOT WOOD OCCS
WOOD OCCS PROJECTION PARAMETERS:
PROJECTION: TRANSVERSE MERCATOR
CENTRAL LATITUDE: N 40°09'00"
CENTRAL LONGITUDE W 84°39'00"
FALSE NORTHING: 0 METERS
FALSE EASTING: 50,000 METERS
PROJECT SCALE FACTOR: 1.000025

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. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 US SURVEY FEET

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.

THE TREES ON THE SOUTH SIDE OF BRIDGE STREET WERE REMOVED BY THE VILLAGE OF PEMBERVILLE. REMOVE ANY REMAINING STUMPS.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	9	5	14
48"	0	1	1

SEEDING AND MULCHING

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

653, TOPSOIL FURNISHED AND PLACED	189 CU. YD.
659, SEEDING AND MULCHING	1699 SQ. YD.
659, REPAIR SEEDING AND MULCHING	85 SQ. YD.
659, INTER-SEEDING	85 SQ. YD.
659, COMMERCIAL FERTILIZER	0.25 TON
659, WATER	9 M. GAL.

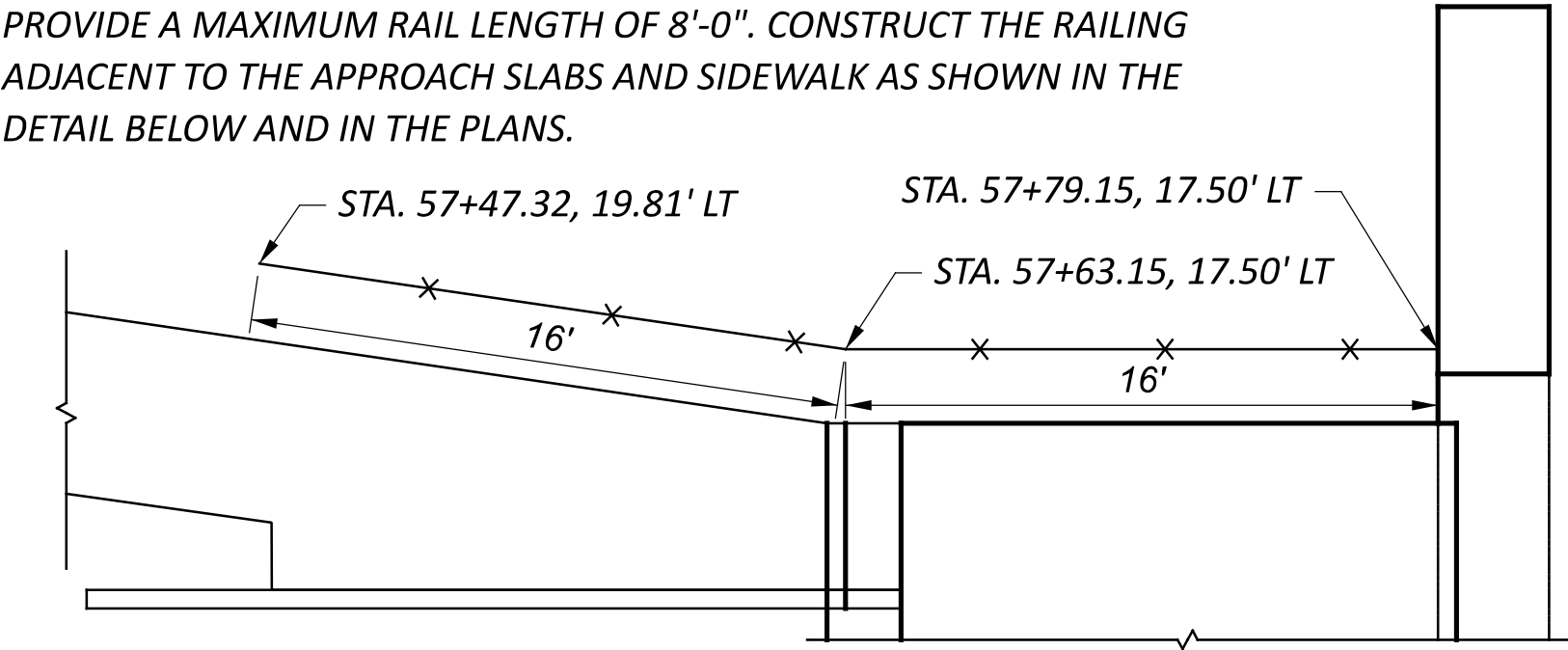
SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9PM, AND 7AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ITEM 607 - FENCE, MISC.: WOOD FENCE

CONSTRUCT A WOOD BIKEWAY RAILING PER SCD RM-5.2, EXCEPT PROVIDE A MAXIMUM RAIL LENGTH OF 8'-0". CONSTRUCT THE RAILING ADJACENT TO THE APPROACH SLABS AND SIDEWALK AS SHOWN IN THE DETAIL BELOW AND IN THE PLANS.



PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 607 - FENCE, MISC.: WOOD FENCE, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND OTHER INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM 202 - REMOVAL MISC.: METAL RAILING

THIS ITEM CONSISTS OF REMOVING THE EXISTING METAL RAILING ALONG THE NORTH SIDE OF THE EXISTING SIDEWALK AT THE LOCATIONS SHOWN IN THE PLANS. THE CONTRACTOR SHALL REMOVE ALL PORTIONS OF THE METAL RAILING INCLUDING BUT NOT LIMITED TO METAL CROSS RAILINGS, AND METAL POSTS, AND ALL PORTIONS OF THE METAL RAILING THAT ARE BELOW GRADE INCLUDING METAL POSTS AND FOUNDATIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 202 - REMOVAL, MISC.: METAL RAILING, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, DISPOSAL, AND OTHER INCIDENTALS NECESSARY TO REMOVE THE EXISTING METAL RAILING.

ITEM 202 - CONCRETE BARRIER REMOVED, AS PER PLAN

THIS ITEM CONSISTS OF REMOVING AND DISPOSING OF THE TWO (2) SECTIONS OF EXISTING CONCRETE BARRIER ON THE WEST END OF THE BRIDGE AND THE TWO (2) SECTIONS OF EXISTING CONCRETE BARRIER ON THE EAST SIDE OF THE BRIDGE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 202 - CONCRETE BARRIER REMOVED, AS PER PLAN, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, DISPOSAL, AND OTHER INCIDENTALS NECESSARY TO REMOVE THE EXISTING METAL RAILING.

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

ITEM 202 - CONCRETE BARRIER REMOVED, AS PER PLAN	40 FT
--	-------

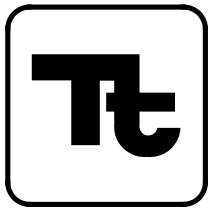
SIGN REMOVALS

REMOVE AND DISPOSE OF THE EXISTING UTILITY POLE MOUNTED "ROAD CLOSED BRIDGE OUT" SIGNS LOCATED ON BRIDGE ST. AT STA. 57+75, RT AND STA. 59+49, LT. REMOVE AND DISPOSE OF THE EXISTING POST MOUNTED "ROAD CLOSED AHEAD" (W20-3) SIGNS AND SIGN POSTS LOCATED ON BRIDGE ST. AT STA. 55+37, RT AND AT THE NORTHWEST CORNER OF THE BRIDGE ST./BIERLEY AVE INTERSECTION (APPROX. STA. 64+95, LT)

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

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	4 EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	2 EACH

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/25

PROJECT ID

118539

SHEET

P.5

TOTAL

45

PAVEMENT REPAIR

PAVEMENT SHALL BE PLANED BEFORE PAVEMENT REPAIRS ARE PERFORMED.

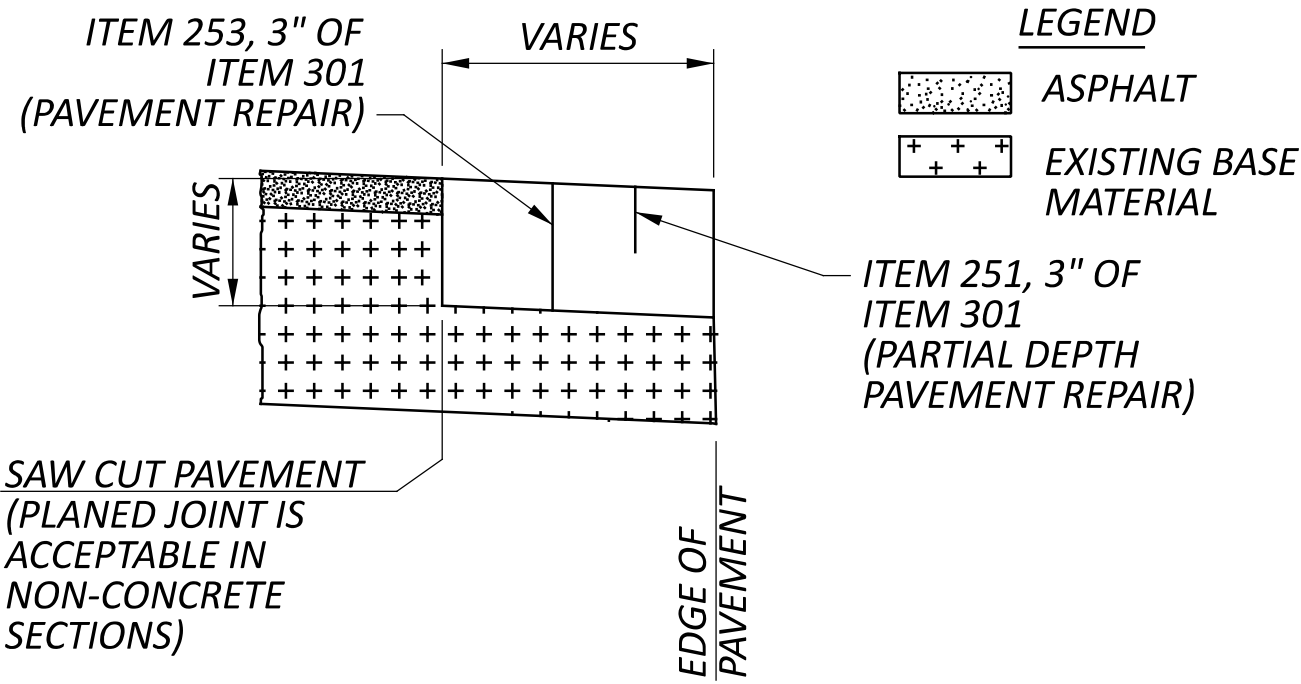
THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR 3" PAVEMENT REPAIR FOR M.R. 746 (BRIDGE STREET) FROM THE INTERSECTION WITH WATER STREET TO STA. 57+14.65 AS DIRECTED BY THE ENGINEER TO REPAIR PAVEMENT DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO MINIMIZE THE DAMAGES TO THE PAVEMENT. ESTIMATED QUANTITY BASED ON 10% OF THE PAVEMENT AREA.

ITEM 253, PAVEMENT REPAIR 6 CU. YD.

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR 3" PAVEMENT REPAIR FOR M.R. 746 (BRIDGE STREET) FROM STA. 60+30.65 TO THE INTERSECTION WITH BIERLEY AVE AS DIRECTED BY THE ENGINEER TO REPAIR PAVEMENT DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO MINIMIZE THE DAMAGES TO THE PAVEMENT. ESTIMATED QUANTITY BASED ON 10% OF THE PAVEMENT AREA.

ITEM 251, PARTIAL DEPTH PAVEMENT REPAIR (441) 13 CU. YD.

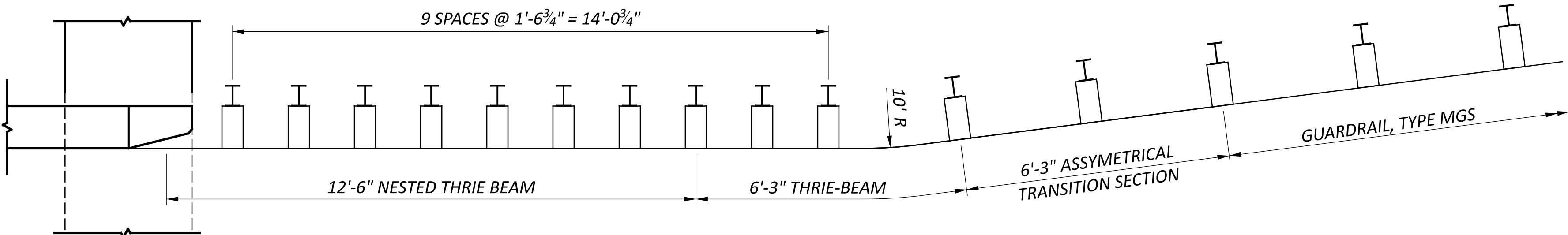
ESTIMATED QUANTITIES CARRIED TO THE GENERAL SUMMARY.



NOTE: THE ENGINEER SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO THE BEGINNING OF WORK. ANY ADJUSTMENTS NECESSARY SHALL BE AS DIRECTED BY THE ENGINEER.

ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN

CONSTRUCT THE BRIDGE TERMINAL ASSEMBLY IN ACCORDANCE WITH THE CMS AND STANDARD CONSTRUCTION DRAWINGS, EXCEPT CONSTRUCT A MODIFIED TERMINAL ASSEMBLY PER THE DETAIL BELOW.



MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, 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.

ITEM 609 - CURB, TYPE 4-C, AS PER PLAN

CONSTRUCT THE CURB IN ACCORDANCE WITH CMS 609 AND SCD BP-5.1, EXCEPT VARY THE CURB HEIGHT AS NOTED IN THE PLANS.

ENVIRONMENTAL COMMITMENTS

ODOT WILL OBTAIN ALL APPROPRIATE WATERWAY PERMITS PRIOR TO ANY WORK WITHIN THE JURISDICTIONAL BOUNDARY OF ANY WATERWAY, INCLUDING WETLANDS, AND ALL WATERWAY PERMIT SPECIAL PROVISIONS WILL BE INCLUDED IN THE PLANS AND ADHERED TO DURING CONSTRUCTION.

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. ENSURE IMPACTS TO THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT AND THE STATE LISTED AND PROTECTED LITTLE BROWN BAT AND TRICOLORED BAT ARE AVOIDED AND MINIMIZED. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. DEMARCATE CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. 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 (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

HIRE A STATE PERMITTED MALACOLOGIST TO COMPLETE A MUSSEL SALVAGE AND RELOCATION IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE OHIO MUSSEL SURVEY PROTOCOL PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES BELOW THE ORDINARY HIGH WATER MARK. THE MUSSEL SURVEY MUST OCCUR AFTER MAY 1 AND BEFORE OCTOBER 1 EITHER WITHIN THE SAME SEASON AS THE INSTREAM WORK OR THE SEASON PRIOR TO THE INSTREAM WORK. SUBMIT THE RESULTS OF THE MUSSEL SURVEY, SALVAGE WORK, OR BOTH TO THE ODOT DISTRICT ENVIRONMENTAL COORDINATOR, PHOENIX GOLNICK. OBTAIN APPROVAL FROM THE DEPARTMENT PRIOR TO PERFORMING WORK BELOW ORDINARY HIGH WATER MARK.

ITEM 607 - FENCE, MISC.: TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE

TEMPORARY ORANGE PLASTIC/NYLON CONSTRUCTION FENCE SHALL BE PLACED BETWEEN THE CONSTRUCTION AREA AND ALL RESIDENTIAL PROPERTIES AS DIRECTED BY THE ENGINEER TO PROTECT RESIDENTS FROM CONSTRUCTION OPERATIONS. THE FENCING MATERIAL SHALL BE SECURELY FASTENED TO EITHER WOOD, OR METAL POSTS WITH A MAXIMUM SPACING NOT TO EXCEED 6 FEET. THE FENCING MATERIAL SHALL HAVE A NOMINAL HEIGHT OF 42 INCHES, AND THE TOP EDGE OF THE FENCING SHALL NOT BE PERMITTED TO SAG BELOW 30 INCHES. THE CONTRACTOR SHALL ENSURE THE FENCE IS IN GOOD CONDITION PROPERLY PLACED, AND MAINTAINED AT ALL TIMES.

TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

119 BRIDGE STREET (NORTHWEST QUADRANT)	100 FT
200 WATER STREET (SOUTHWEST QUADRANT)	100 FT
214 BRIDGE STREET (SOUTHEAST QUADRANT)	140 FT
215 BRIDGE STREET (NORTHEAST QUADRANT)	160 FT

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 607 - FENCE, MISC.: TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND OTHER INCIDENTALS NECESSARY FOR THE INSTALLATION, MAINTENANCE, AND SUBSEQUENT REMOVAL OF THE TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE.

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

ITEM 607 - FENCE, MISC.: TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE 500 FT

ITEM 614 - MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS ALONG M.R. 746 (BRIDGE STREET) AT ALL TIMES.

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.

BRIDGE STREET - STA. 56+75 & STA. 60+60

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 36 X 36 INCH ROAD WORK AHEAD SIGNS AND SIGN SUPPORTS AT THE FOLLOWING LOCATIONS.

BRIDGE STREET - STA. 55+30 & STA. 64+90

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.

DUST CONTROL

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

ITEM 616 - WATER 1 M. GAL.

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/25

PROJECT ID

118539

SHEET

P.6

TOTAL

45

WOO MR 746 0.05 PEMBERTON BRIDGE

MODEL: Steel_SunFi PAPER SIZE: 34x22 (in) DATE: 6/17/2025 TIME: 9:53:29 AM USER: GARRETT.BRENKE
 www.letratech-us-pw.bentley.com:letratech-us-pw-04/Documents/Village of Pemberville/200-622854-24001/1185359/400-Engineering/Roadway/Sheets/118539_GG001.dgn

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	8	9	10								01/BRF							
													LS	201	11000	LS		ROADWAY	
			309										309	202	23000	309	SY	CLEARING AND GRUBBING	
		674											674	202	30000	674	SF	PAVEMENT REMOVED	
40													40	202	30701	40	FT	WALK REMOVED	
		47											47	202	98200	47	FT	CONCRETE BARRIER REMOVED, AS PER PLAN	5
																		REMOVAL MISC.:METAL RAILING	5
													51	203	10000	51	CY		
													22	203	20000	22	CY	EXCAVATION	
													25	606	15050	25	FT	EMBANKMENT	
													25	606	15050	25	FT	GUARDRAIL, TYPE MGS	
													2	606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
													1	606	35002	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
																		MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
													1	606	35003	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	6
	500												500	607	98000	500	FT	FENCE, MISC.:TEMPORARY ORANGE PLASTIC CONSTRUCTION FENCE	6
		32											32	607	98000	32	FT	FENCE, MISC.:WOOD FENCE	5
		510											510	608	10000	510	SF	4" CONCRETE WALK	
																		EROSION CONTROL	
				12									12	601	32204	12	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	
189													189	653	10000	189	CY	TOPSOIL FURNISHED AND PLACED	
1,699													1,699	659	10000	1,699	SY	SEEDING AND MULCHING	
85													85	659	14000	85	SY	REPAIR SEEDING AND MULCHING	
85													85	659	15000	85	SY	INTER-SEEDING	
0.25													0.25	659	20000	0.25	TON	COMMERCIAL FERTILIZER	
9													9	659	35000	9	MGAL	WATER	
													20,000	832	30000	20,000	EACH	EROSION CONTROL	
																		DRAINAGE	
				1									1	602	20000	1	CY	CONCRETE MASONRY	
				102									102	605	13410	102	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC, 707.31	
				40									40	611	00510	40	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
				42									42	611	04400	42	FT	12" CONDUIT, TYPE B	
				114									114	611	04600	114	FT	12" CONDUIT, TYPE C	
				4									4	611	98180	4	EACH	CATCH BASIN, NO. 3A	
				2									2	611	99574	2	EACH	MANHOLE, NO. 3	
																		PAVEMENT	
			257										257	204	10000	257	SY	SUBGRADE COMPACTION	
	13												13	251	01010	13	CY	PARTIAL DEPTH PAVEMENT REPAIR (441)	
	6												6	253	02000	6	CY	PAVEMENT REPAIR	
			57										57	254	01000	57	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3"	
			26										26	301	56000	26	CY	PAVEMENT PLANING, ASPHALT CONCRETE, 3"	
																		ASPHALT CONCRETE BASE, PG64-22, (449)	
				43									43	304	20000	43	CY	AGGREGATE BASE	
				33									33	407	10000	33	GAL	TACK COAT	
				24									24	441	70000	24	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
		88											88	609	24511	88	FT	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
																		CURB, TYPE 4-C, AS PER PLAN	6
																		TRAFFIC CONTROL	
4													4	630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
2													2	630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
																		STRUCTURE OVER 20 FOOT SPAN (WOO-MR746-00.050)	
																		FOR WOO-MR746-00.050 ESTIMATED QUANTITIES	20
																		MAINTENANCE OF TRAFFIC	
	1												1	616	10000	1	MGAL	WATER	
																		INCIDENTALS	
													LS	108	30000	LS		CPM PROGRESS SCHEDULE SHORT DURATION PROJECTS	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/

DTC 00/10/

PROJECT ID

118539

SHEET	TOTAL
-------	-------

D. 7 | 45

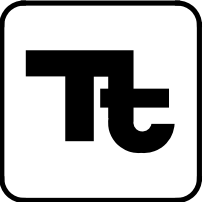
WOO MR 746 0.05 PEMBERTON BRIDGE

MODEL: Steel, SurF/ PAPER SIZE: 34x22 (in) DATE: 6/16/2025 TIME: 6:32:54 PM USER: GARRETT.BRENKE
 www://tetrat-tech-us-pw.bentley.com/tetrat-tech-us-pw/04/Documents/Village of Pemberville/200-622854-24001/118539/400-Engineering/Roadway/Sheets/118539_GS001.dgn

[illegible]

ROADWAY SUBSUMMARY

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16

PROJECT ID:

118E30

118559

SHEET	TOTAL
-------	-------

P.8 | 4

WOO MR 746 0.05 PEMBERTON BRIDGE

MODEL: Steel_SunFi PAPER SIZE: 34x22 (in) DATE: 6/16/2025 TIME: 6:33:02 PM USER: GARRETT.BRENKE
 www.letratech-us-pw.bentley.com:letratech-us-pw-04/Documents/Village of Pemberville/200-622854-24001/118539/400-Engineering/Roadway/Sheets/118539_GS002.dgn

[illegible]

PAVEMENT SUBSUMMARY

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/25

PROJECT ID

118539

SHEET	TOTAL
-------	-------

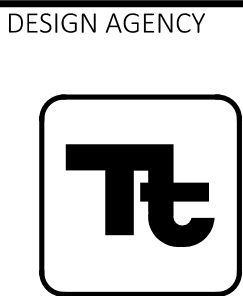
P.9 | 45

SHEET NO.	REF NO.	STATION TO STATION			SIDE	601	602	611	611	611	611														
						ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	CONCRETE MASONRY	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	CATCH BASIN, NO. 3A	MANHOLE, NO. 3														
						CY	CY	FT	FT	EACH	EACH														
		M.R. 746 (BRIDGE STREET)																							
11	D-1	57+48.51	TO	57+48.51	LT & RT			21		1															
11	D-2	57+48.51	TO	57+53.00	LT				12	1															
11	D-3	57+53.00	TO	57+93.22	LT	7	0.21		43		1														
11	D-4	59+27.60	TO	59+66.87	LT	5	0.21		40		1														
11	D-5	59+66.87	TO	59+66.87	LT				19	1															
11	D-6	59+66.87	TO	59+66.87	LT & RT			21		1															
TOTALS CARRIED TO GENERAL SUMMARY						12	1	42	114	4	2														

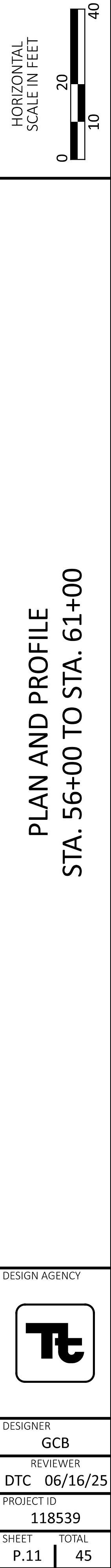
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SHEET NO.	REF NO.	STATION TO STATION				SIDE	605	611																		
							6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC, 707.31	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS															UNCLASSIFIED PIPE FLOWLINE ELEVATIONS (FOR INFORMATION ONLY)			
							FT	FT											FROM	FL ELEV.	TO	FL ELEV.				
		M.R. 746 (BRIDGE STREET)																								
11	UD-1	57+14.65	TO	57+48.51	LT	23	10												57+14.65	642.27	57+48.51	642.05				
11	UD-2	57+14.65	TO	57+48.51	RT	23	10												57+14.65	642.03	57+48.51	641.81				
11	UD-3	59+66.87	TO	60+05.65	LT	28	10												60+05.65	641.95	59+66.87	641.73				
11	UD-4	59+66.87	TO	60+05.65	RT	28	10												60+05.65	641.92	59+66.87	641.70				
TOTALS CARRIED TO GENERAL SUMMARY							102	40																		

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

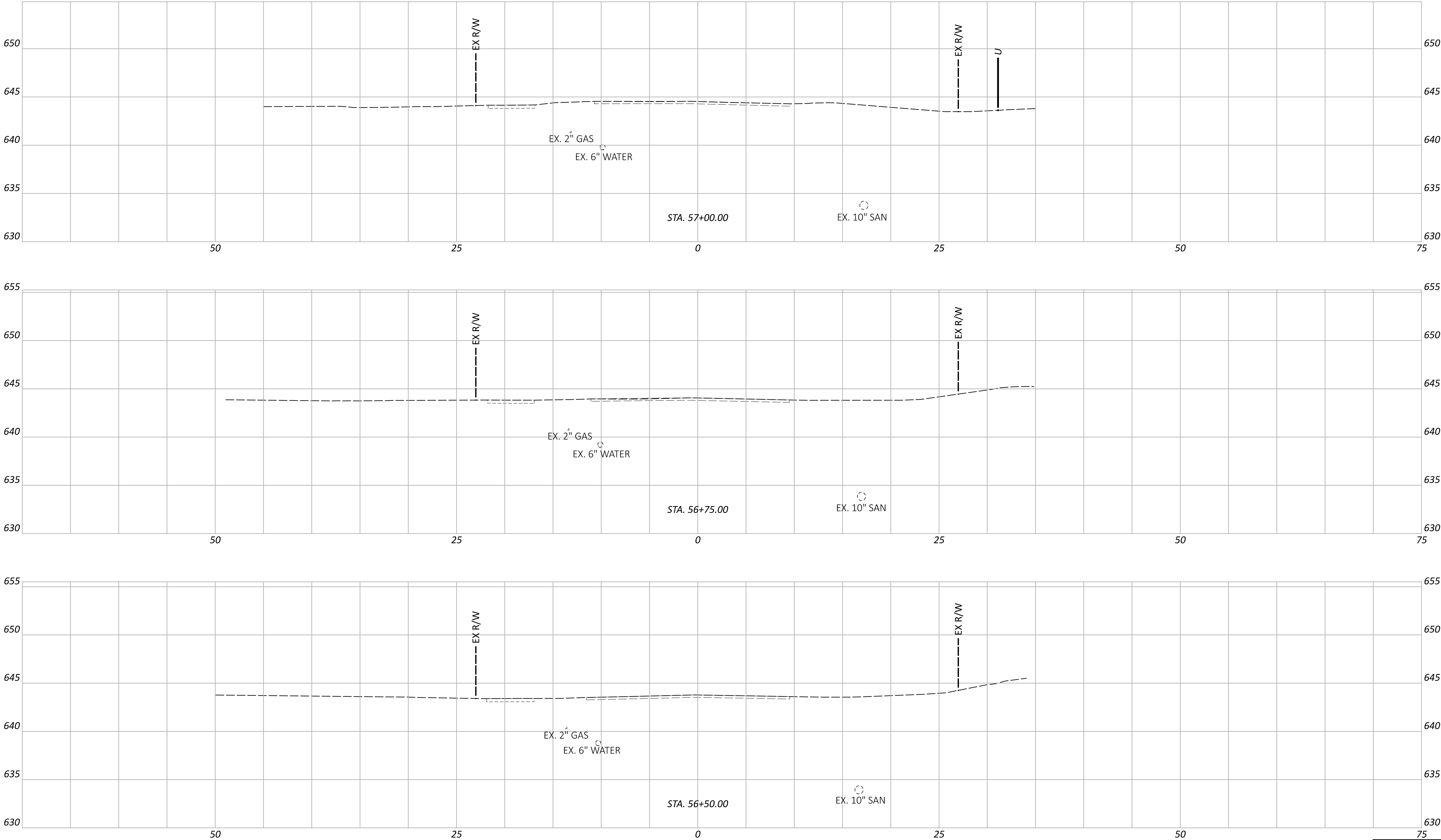


MODEL: Bridge St - Plan 1 [Sheet] PAPER SIZE: 34x42 (in.) DATE: 6/16/2025 TIME: 6:50:13 PM USER: GARRETT.BRENKE
 www.tetratech-us-pw.bentley.com:tetratech-us-pw-04/Documents/Village of Pemberville\200-622854-24001\118539\400-Engineering\Roadway\Sheets\118539_GP000.dgn



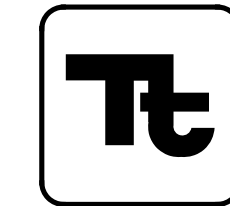
WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: CLP_Bridgest - 56+50.00 [Sheet] PAPER SIZE: 34x22 [in.] DATE: 6/16/2025 TIME: 6:33:45 PM USER: GARRETT.BRENKE
pw:\tetrattech-us-pw.bentley.com\tetrattech-us-pw-04\Documents\118539\400-Engineering\Roadway\Sheets\118539_XS000.dgn



CROSS SECTIONS
STA. 56+50.00 TO STA. 57+00.00

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/25

PROJECT ID

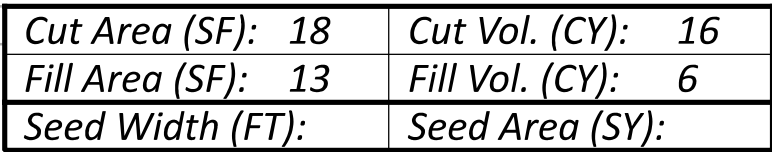
118539

Sheet Totals		
Seeding	Cut	Fill

SHEET	TOTAL
P.12	45

MODEL: CLP_BridgeSt - 57/14.65 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:33:49 PM USER: GARRETT.BRENKE
 pw:\tetratech-us-pw.bentley.com\tetratech-us-pw-04\Documents\Village of Pemberville\200-622854-240001\118539\400-Engineering\Roadway\Sheets\118539 XS000.dgn

MODEL: CLP_BridgeSt - 57+14.65 [Sheet] PAPER/SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:33:49 PM USER: GARRETT.BRENKE
 pw: \\tetratrch-us-pw.bentley.com:tetratrch-us-pw-04 Documents\Villages of Pemberville\200-622854-24001\119539\400-Engin



Cut Area (SF): 19	Cut Vol. (CY): 7
Fill Area (SF): 2	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

Cut Area (SF): 19	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

Sheet Totals		
Seeding	Cut	F
	23	6

SHEET	TOTAL
P.13	45

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

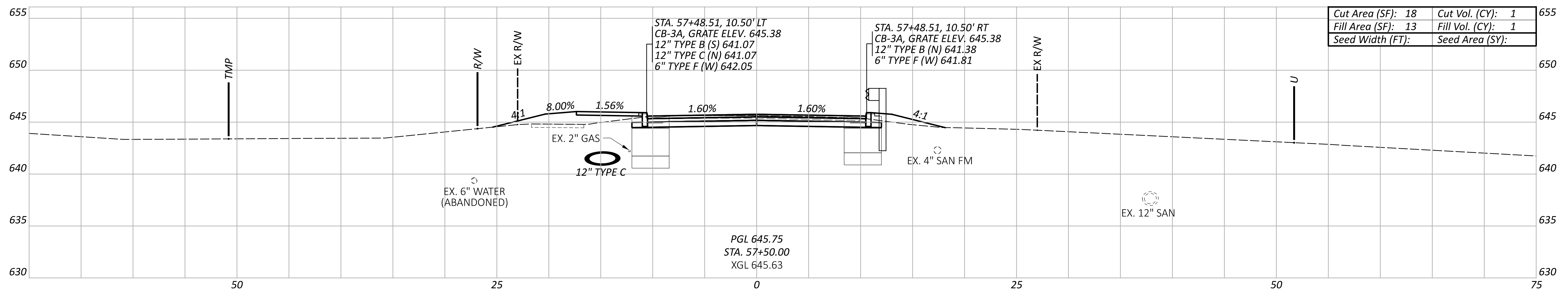
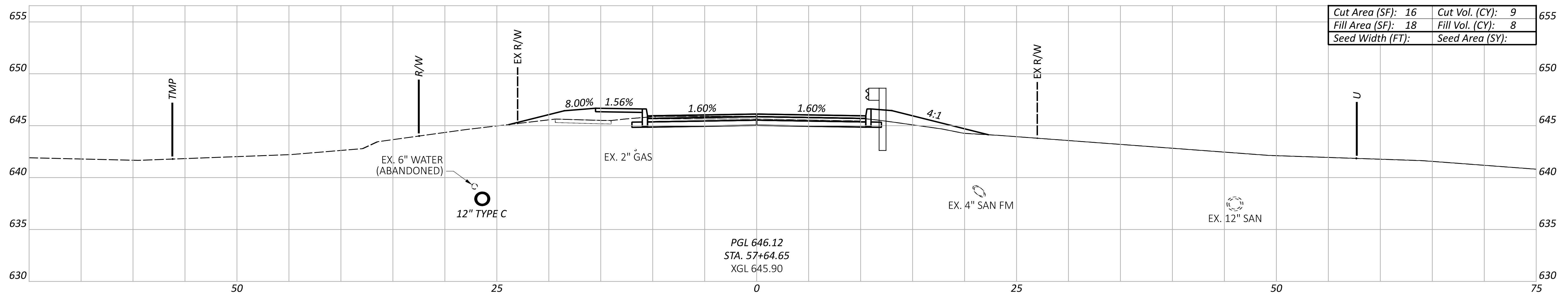
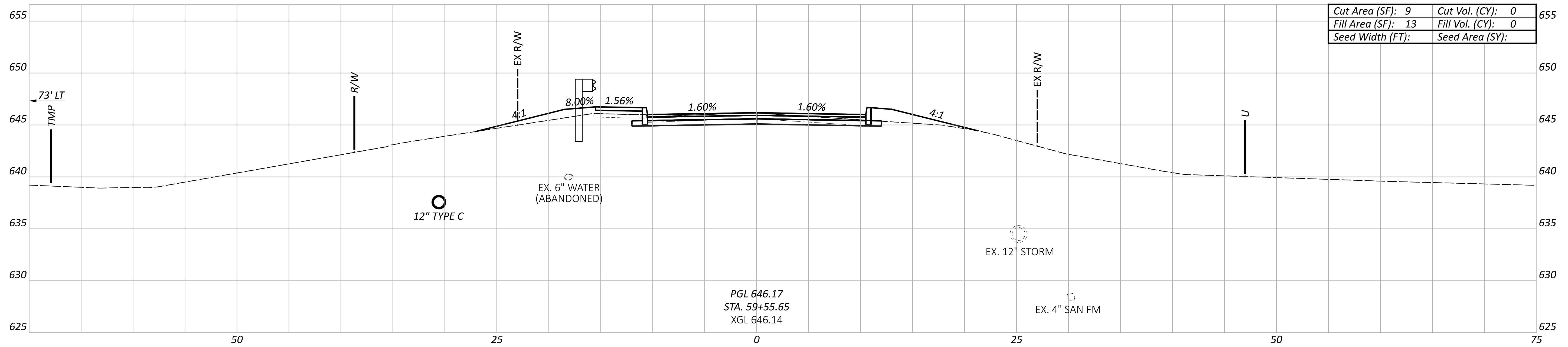
DTC 06/16/25

PROJECT ID

CROSS SECTIONS
STA. 57+14.65 TO STA. 57+48.51

WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: CLP_Bridge2 - 57+54.65 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:33:56 PM USER: GARRETT.BRENKE
 www.tetrattech-us-pw.bentley.com:tetrattech-us-pw-04\Documents\Village of Pemberville\200-622854-24001\118539 400-Engineering\Roadway\Sheets\118539_XS000.dgn



Cut Area (SF): 9	Cut Vol. (CY): 0
Fill Area (SF): 13	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

Cut Area (SF): 16	Cut Vol. (CY): 9
Fill Area (SF): 18	Fill Vol. (CY): 8
Seed Width (FT):	Seed Area (SY):

Cut Area (SF): 18	Cut Vol. (CY): 1
Fill Area (SF): 13	Fill Vol. (CY): 1
Seed Width (FT):	Seed Area (SY):

Sheet Totals		
Seeding	Cut	F
	10	9

SHEET	TOTAL
P.14	45

CROSS SECTIONS
STA. 57+50.00 TO STA. 59+55.65

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/

PROJECT ID

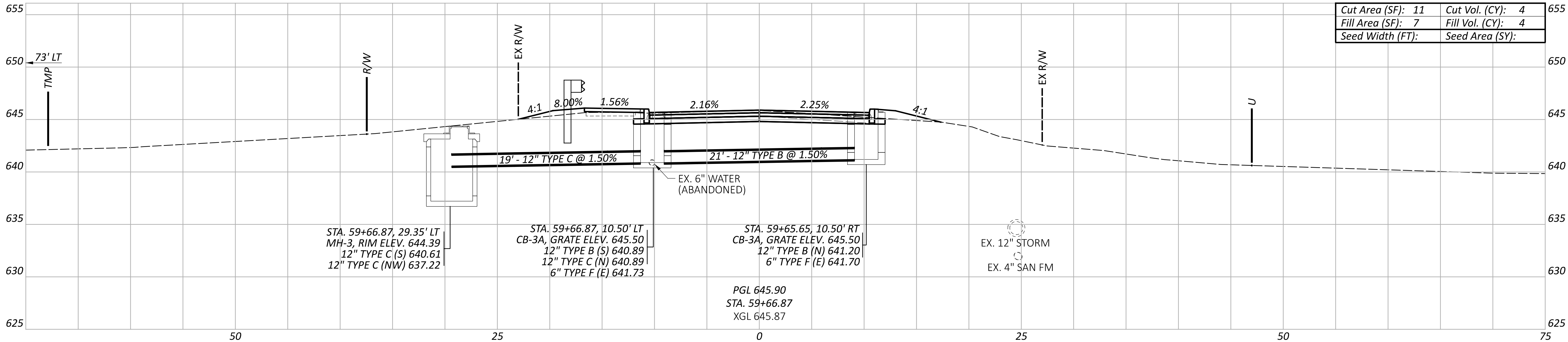
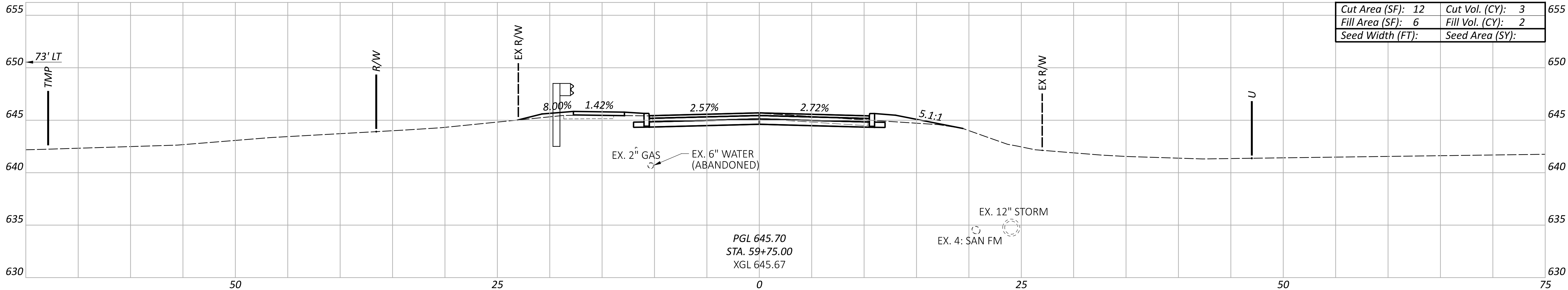
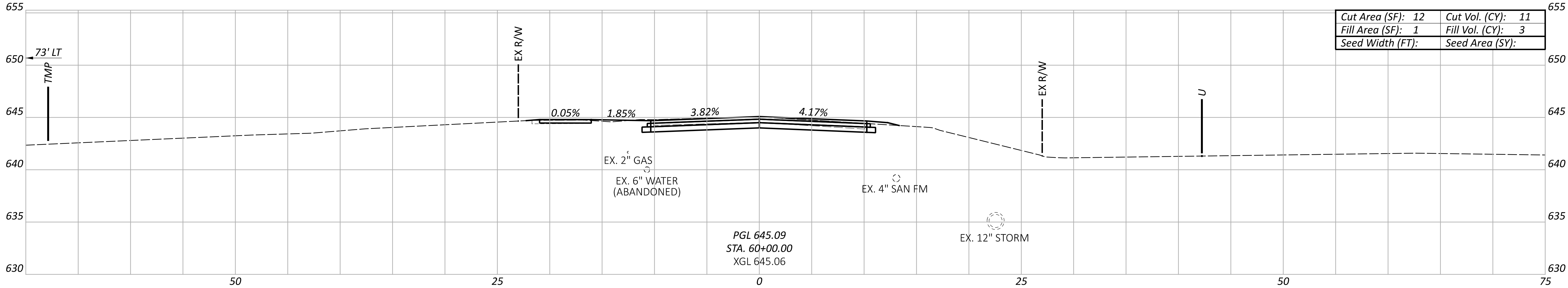
118539

110555	
CHEST	TOTAL

SHEET	TOTAL
D 14	45

WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: CLP_Bridges - 59+65.65 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:34:00 PM USER: GARRETT.BRENKE
pw:\tetrattech-us-pw.bentley.com\tetrattech-us-pw-04\Documents\118539\400-Engineering\Roadway\Sheets\118539_XS000.dgn



STA. 59+66.87, 29.35' LT
MH-3, RIM ELEV. 644.39
12" TYPE C (S) 640.61
12" TYPE C (NW) 637.22

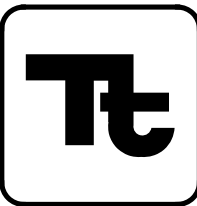
STA. 59+66.87, 10.50' LT
CB-3A, GRATE ELEV. 645.50
12" TYPE B (S) 640.89
12" TYPE C (N) 640.89
6" TYPE F (E) 641.73

STA. 59+65.65, 10.50' RT
CB-3A, GRATE ELEV. 645.50
12" TYPE B (N) 641.20
6" TYPE F (E) 641.70

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	P.15	45
18	9			

CROSS SECTIONS
STA. 59+66.87 TO STA. 60+00.00

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

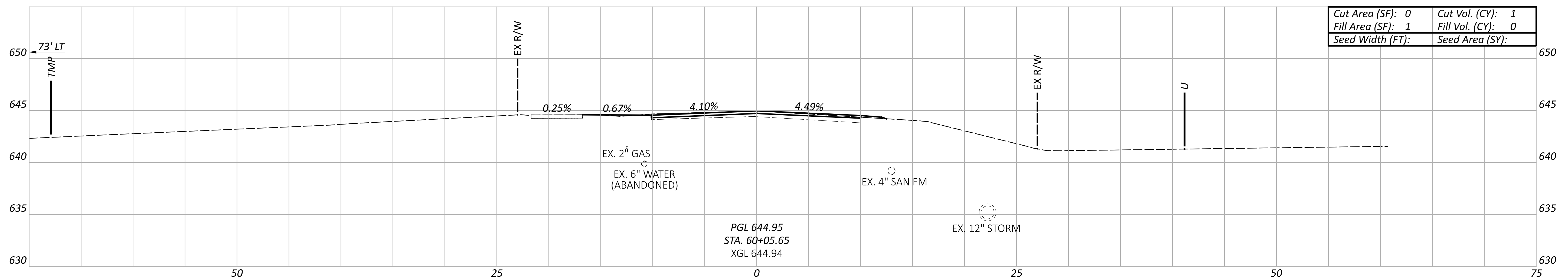
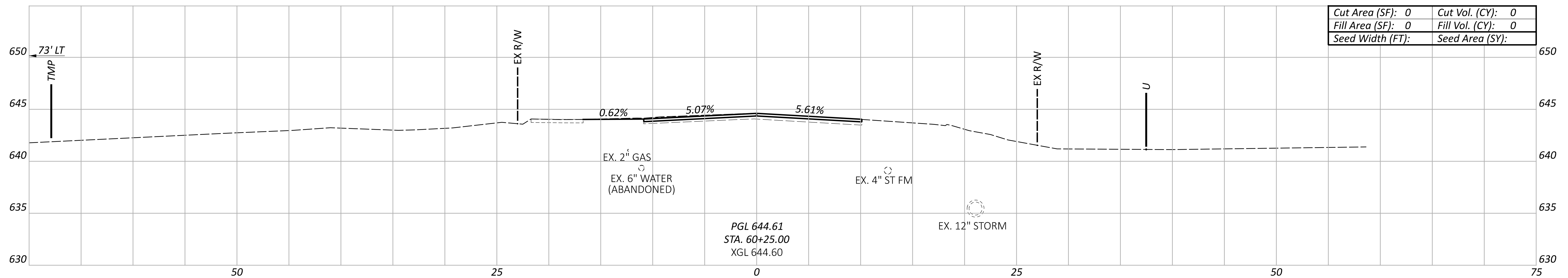
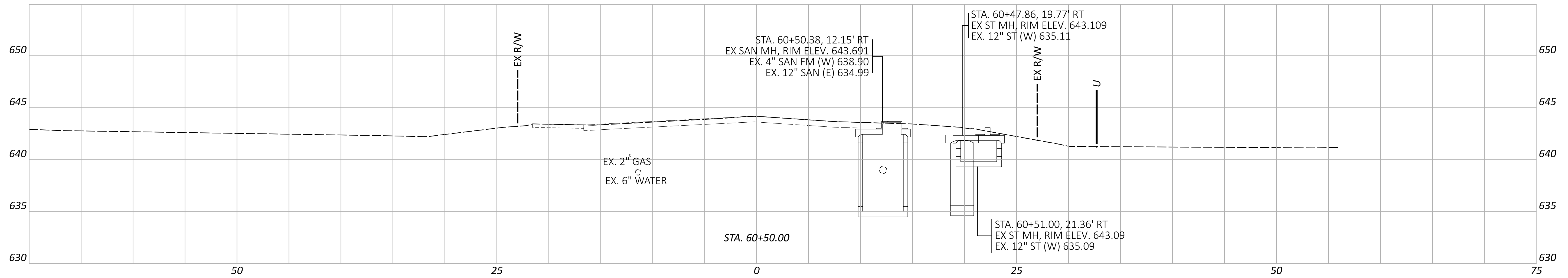
DTC 06/16/25

PROJECT ID

118539

WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: CLP Bridge2 - 60+05.65 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:34:04 PM USER: GARRETT.BRENKE
 www.tetrattech-us-pw.bentley.com:tetrattech-us-pw-04\Documents\Village of Pemberville\200-622854-24001\118539 400-Engineering\Roadway\Sheets\118539_XS000.dgn



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

Cut Area (SF): 0	Cut Vol. (CY): 1
Fill Area (SF): 1	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

Sheet Totals		
Seeding	Cut	F
	1	0

SHEET	TOTAL
P.16	45

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16A

DTC 06/16/

PROJECT ID
110500

118539

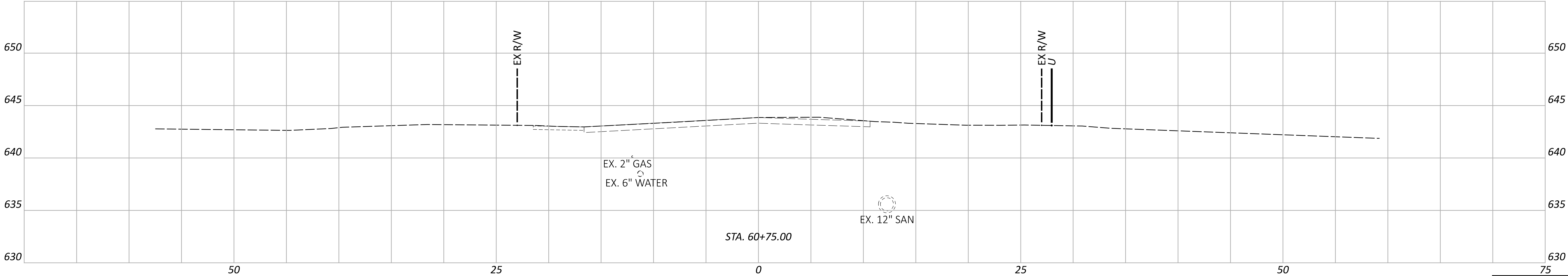
SHEET	TOTAL
-------	-------

P.16	45
------	----

--	--


WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: CLP_Bridges - 60+75.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:34:07 PM USER: GARRETT.BRENKE
pw:\tetratrch-us-pw\pentley.com\tetratrch-us-pw-04\Documents\Village of Pemberville\200-622854-24001\118539\400-Engineering\Roadway\Sheets\118539_XS000.dgn



Sheet Totals		
Seeding	Cut	Fill

DESIGN AGENCY



DESIGNER

GCB

REVIEWER

DTC 06/16/25

PROJECT ID

118539

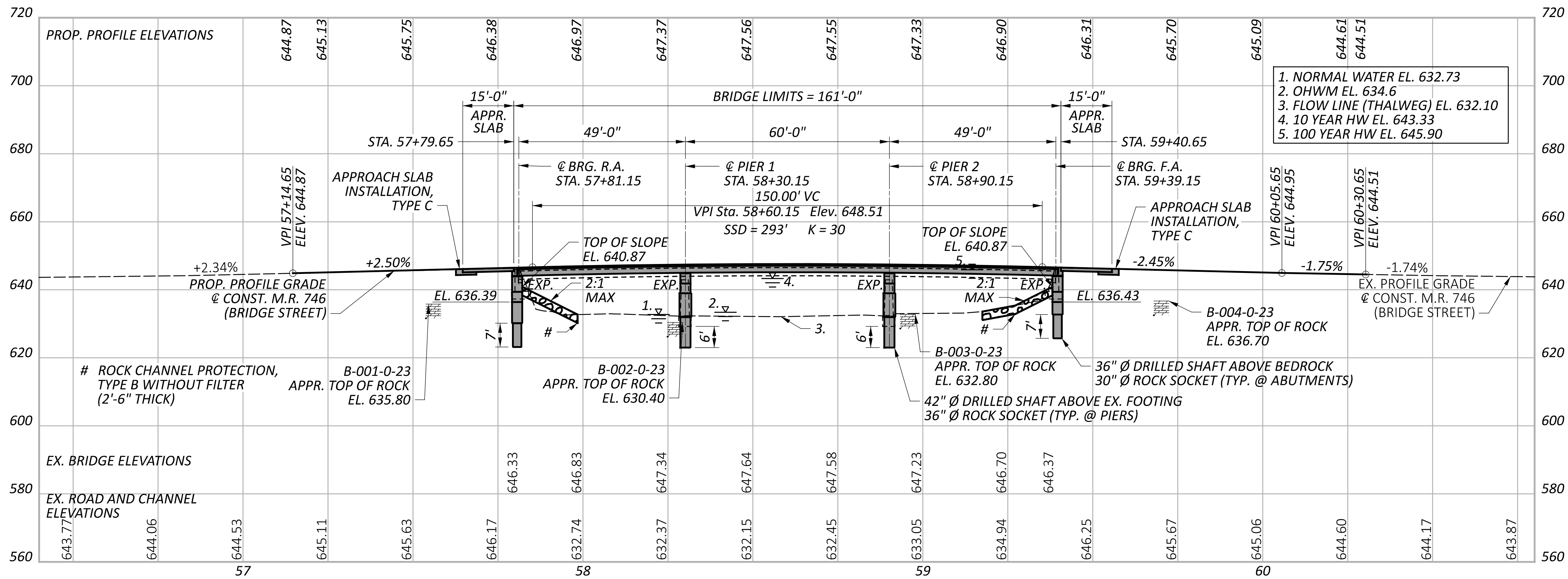
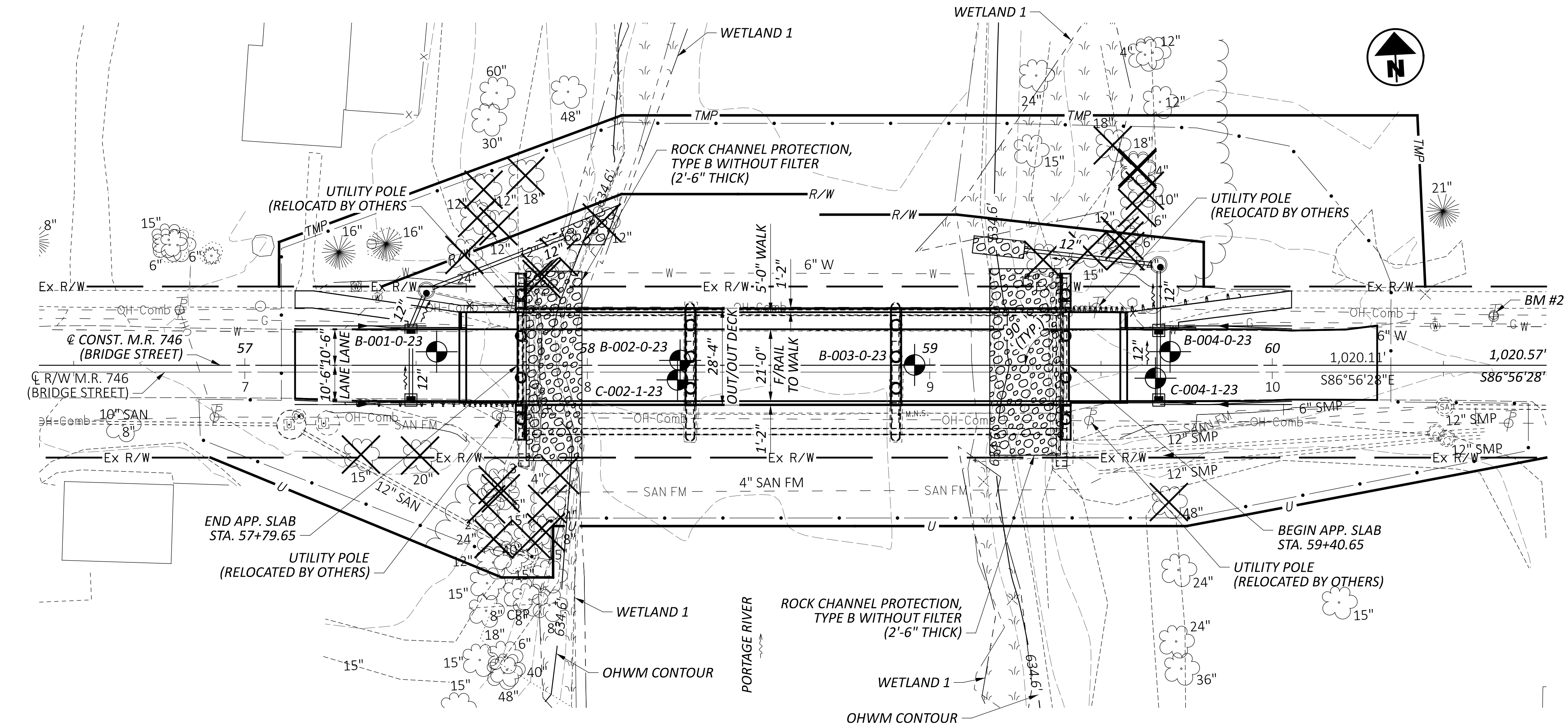
SHEET

P.17

TOTAL

45

CROSS SECTIONS
STA. 60+75.00



BENCHMARK DATA

BM #1 STA. 54+60.31, ELEV. 643.762, OFFSET 33.99', LEFT
DESCRIPTION: MAG NAIL IN UTILITY POLE
BM #2 STA. 60+64.67, ELEV. 644.770, OFFSET 14.20', LEFT
DESCRIPTION: MAG NAIL IN UTILITY POLE

FOR ADDITIONAL BENCHMARK INFORMATION, SEE P.5

NOTES

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

LEGEND

BORING LOCATION

EXISTING WETLAND

HYDRAULIC DATA

DRAINAGE AREA = 353 SQ. MILES
Q (10) = 8649 CFS V (10) = 6.12 FT/S
Q (100) = 12390 CFS V (100) = 5.80 FT/S
STRUCTURE CLEARS THE 10 YEAR
DESIGN HW BY 0.83 FEET.

EXISTING STRUCTURE

TYPE: THREE-SPAN CONTINUOUS STEEL BEAM ON SPREAD
FOOTING WALL PIERS AND SPREAD FOOTING SPILL
THROUGH ABUTMENTS

SPANS: 48'-0" - 60'-0" - 48'-0" C/C OF BEARINGS

ROADWAY: 24'-0" F/F TOE SIDEWALKS

LOADING: H15

SKEW: 00°00'00"

WEARING SURFACE: ¾" MONOLITHIC

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

CROWN: PARABOLIC

STRUCTURE FILE NUMBER: 8758948

DATE BUILT: 1948

DISPOSITION: TO BE REMOVED AND REPLACED

PROPOSED STRUCTURE

TYPE: THREE SPAN PRESTRESSED CONCRETE BOX BEAMS ON DRILLED
SHAFT SUPPORTED CAP AND COLUMN PIERS AND DRILLED
SHAFT SUPPORTED SPILL THROUGH ABUTMENTS

SPANS: 48'-3" - 58'-6" - 48'-3" C/C OF BEARINGS

ROADWAY: 21'-0" TOE SIDEWALK/TOE RAILING

LOADING: HL93 AND 0.060 KSF FUTURE WEARING SURFACE

SKEW: 00°00'00"

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: 15'-0" LONG 12" THICK (AS-1-15, AS-2-15)

ALIGNMENT: TANGENT

CROWN: 0.016 FT/FT

DECK AREA: 4,556 SF

COORDINATES: LATITUDE 41°24'32.89"
LONGITUDE -83°27'26.03"

SITE PLAN

BRIDGE NO. WOO-MR746-00.050
MR 746 (BRIDGE ST) OVER PORTAGE RIVER

SFN

8758949

DESIGN AGENCY



DESIGNER CHECKER

JSH DTC

REVIEWER

GCB 06/16/25

PROJECT ID

118539

SUBSET TOTAL

1 18

SHEET TOTAL

P.18 45

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 DATED (REVISED) 1-20-2023
AS-2-15 DATED (REVISED) 7-21-2023
BD-1-11 DATED (REVISED) 7-20-2018
BR-2-15 DATED (REVISED) 7-19-2024
PSBD-2-07 DATED (REVISED) 7-20-2018

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 7-18-2025

DESIGN SPECIFICATIONS

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

OPERATIONAL IMPORTANCE

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

DESIGN LOADING

DESIGN LOADING INCLUDES:
VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT

DESIGN DATA

CONCRETE CLASS:
COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS:
COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC5, WITH 1 IN OR 3⁄8 IN MAX AGGREGATE SIZE:
COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

CONCRETE REINFORCEMENT:

EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60-KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 6.0 KSI
COMPRESSIVE STRENGTH (RELEASE) - 5.0 KSI

PRESTRESSING STRAND:
AREA = 0.167 SQ.IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

MONOLITHIC WEARING SURFACE

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

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

REMOVE THE ENTIRE ABUTMENTS WITHIN THE LIMITS OF THE PROPOSED ABUTMENT FOOTINGS. OUTSIDE THOSE LIMITS, REMOVE ABUTMENTS TO AT LEAST 1 FOOT BELOW GROUND LINE AS SPECIFIED IN C&MS 202.

REMOVE PIERS TO THE TOP OF THE EXISTING SPREAD FOOTING FOUNDATIONS.

SCOUR ELEVATIONS

THE DESIGN FLOOD AND CHECK FLOOD SCOUR ELEVATIONS ARE PROVIDED BELOW:

	REAR ABUTMENT	PIER 1	PIER 2	FORWARD ABUTMENT
DESIGN FLOOD	636.0	629.0	631.5	637.0
CHECK FLOOD	636.0	629.0	631.5	637.0

ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH ITEM 503 EXCEPT THAT THE BACKFILL MATERIAL PLACED BEHIND THE ABUTMENTS SHALL BE 703.17 MATERIAL PLACED IN 6 INCH LIFTS AS PER 304.04.

ROCK-SOCKETED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS AS GIVEN IN THE FOLLOWING TABLE. THIS LOAD IS RESISTED BY SIDE RESISTANCE ALONG THE DRILLED SHAFT ESTIMATED LENGTH AND ALSO BY TIP RESISTANCE. THE FACTORED RESISTANCE DEVELOPED BY SIDE RESISTANCE AND THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS AS GIVEN IN THE FOLLOWING TABLE.

SUBSTRUCTURE UNIT	MAXIMUM FACTORED LOAD	FACTORED UNIT TIP RESISTANCE	FACTORED UNIT SIDE RESISTANCE
REAR ABUTMENT	247 KIPS	4,868 KIPS	0 KIPS
PIER 1	456 KIPS	9,542 KIPS	0 KIPS
PIER 2	456 KIPS	26,968 KIPS	0 KIPS
FORWARD ABUTMENT	247 KIPS	4,913 KIPS	0 KIPS

LATERALLY LOADED ABUTMENT DRILLED SHAFTS

THE MAXIMUM FACTORED INTERNAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH ABUTMENT DRILLED SHAFT ARE 47 KIPS, AND 192 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 5,161 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 365 KIPS, WITHIN THE ABUTMENT DRILLED SHAFT.

DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK, AS PER PLAN

CONSTRUCT THE DRILLED SHAFT WITH A PERMANENT CASING IN ACCORDANCE WITH CMS 524.

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 2.2 KIPS.

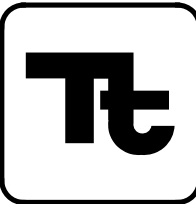
A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

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

GENERAL NOTES

BRIDGE NO. WOO-MR746-00.050
MR 746 (BRIDGE ST) OVER PORTAGE RIVER

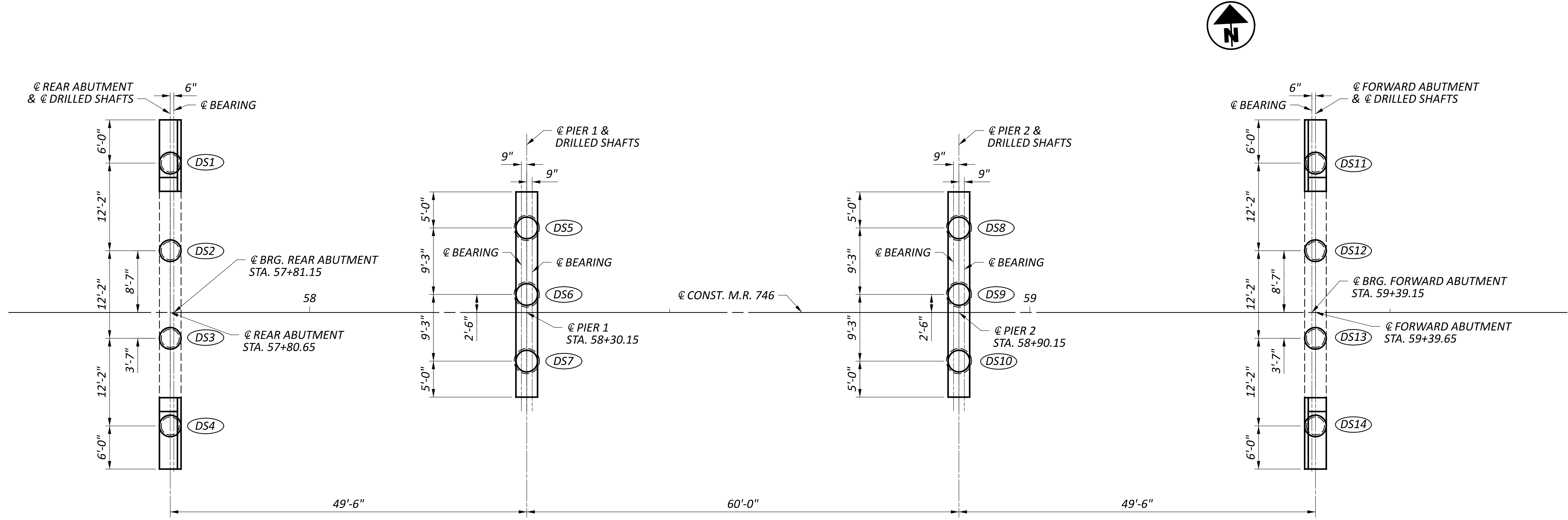
SFN 8758949	
DESIGN AGENCY	
	
DESIGNER JSH	CHECKER DTC
REVIEWER GCB 06/16/25	
PROJECT ID 118539	
SUBSET 2	TOTAL 18
SHEET P.19	TOTAL 45

ESTIMATED QUANTITIES (01/BRF)									
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					2 / 18
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING					
503	21101	200	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	200				2 / 18
509	10000	33561	LB	EPOXY COATED STEEL REINFORCEMENT	6969	3231	23361		
511	31610	98	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE			98		
511	41010	24	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS		24			
511	43510	81	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	81				
511	51510	26	CY	CLASS QC2 CONCRETE, SIDEWALK			26		
512	10100	556	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	56	81	397	22	
515	12051	14	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48, AS PER PLAN (49'-3" LONG)			14		10 / 18
515	12051	7	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48, AS PER PLAN (59'-6" LONG)			7		11 / 18
516	10010	53	FT	ARMORLESS PREFORMED JOINT SEAL				53	
516	13900	26	SF	2" PREFORMED EXPANSION JOINT FILLER	26				
516	14020	80	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	80				
516	44101	28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (12" X 7" X 2.043" WITH 13" X 8" X 1.625" LOAD PLATE)			28		12 / 18
516	44101	56	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" X 7" X 2.043" WITH 15" X 8" X 1.5" LOAD PLATE)			56		12 / 18
517	75120	162	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)			162		
517	75121	162	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING), AS PER PLAN			162		15 & 16 / 18
518	21200	60	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	60				
518	40000	97	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	97				
518	40010	48	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	48				
524	94604	56	FT	DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK	56				
524	94702	40	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK	40				
524	94803	60	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK, AS PER PLAN		60			2 / 18
524	94704	54	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK		54			
526	10001	89	SY	REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN				89	17 / 18
526	90030	53	FT	TYPE C INSTALLATION				53	
601	34100	217	CY	ROCK CHANNEL PROTECTION, TYPE B WITHOUT FILTER				217	
625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM				1	

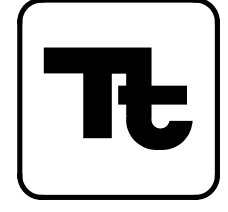
LEGEND

 - PROPOSED DRILLED SHAFT

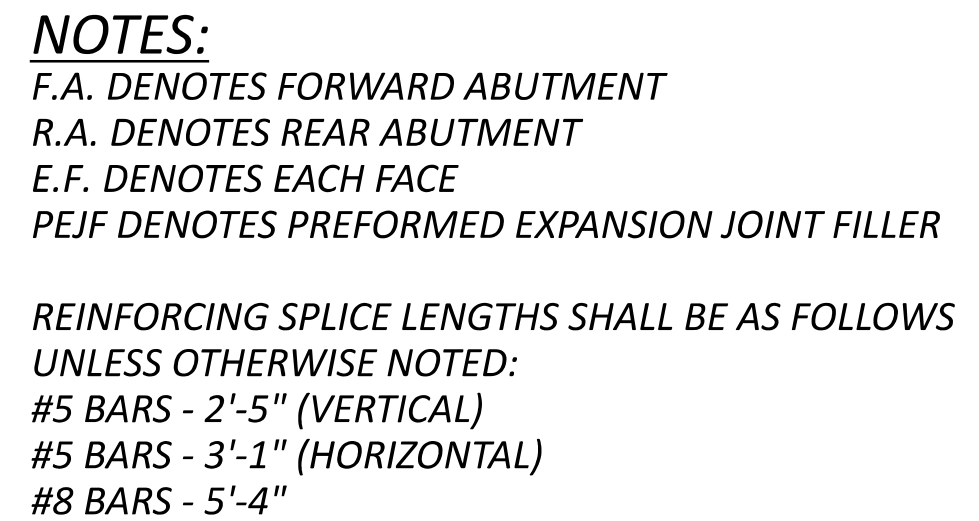
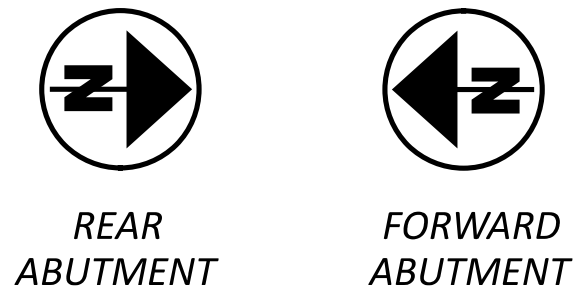
 - DRILLED SHAFT NUMBER




FOUNDATION PLAN

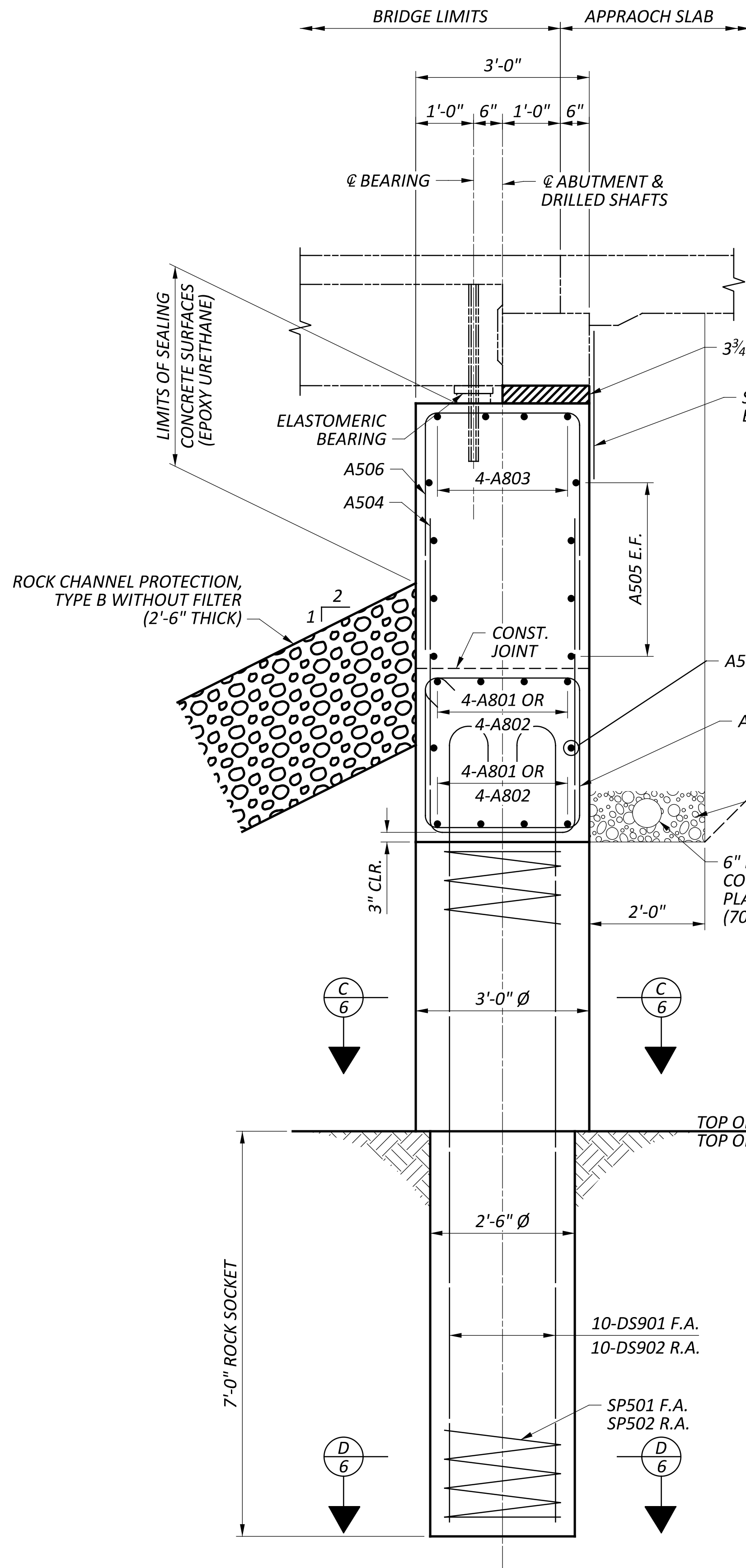
SFN 8758949	
DESIGN AGENCY	
	
DESIGNER JSH	CHECKER DTC
REVIEWER GCB 06/16/25	
PROJECT ID 118539	
SUBSET 4	TOTAL 18
SHEET P.21	TOTAL 45

MODEL: Sheet_SurvFit PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:34:56 PM USER: GARRETT.BRENKE
 www\tratedarch-us-pw.bentley.com\tratedarch-us-pw\04\Documents\Village of Pemberville\200-672854-24001\118539\400-Engineering\Structures\118539_SFN_8758949_SFO01.dgn



ABUTMENT DETAILS
BRIDGE NO. WOO-MR746-00.050
MR 746 (BRIDGE ST) OVER PORTAGE RIVER

SFN		8758949	
DESIGN AGENCY			
			
DESIGNER		CHECKER	
JSH		DTC	
REVIEWER			
GCB 06/16/25			
PROJECT ID			
118539			
SUBSET		TOTAL	
5		18	
SHEET		TOTAL	
P.22		45	

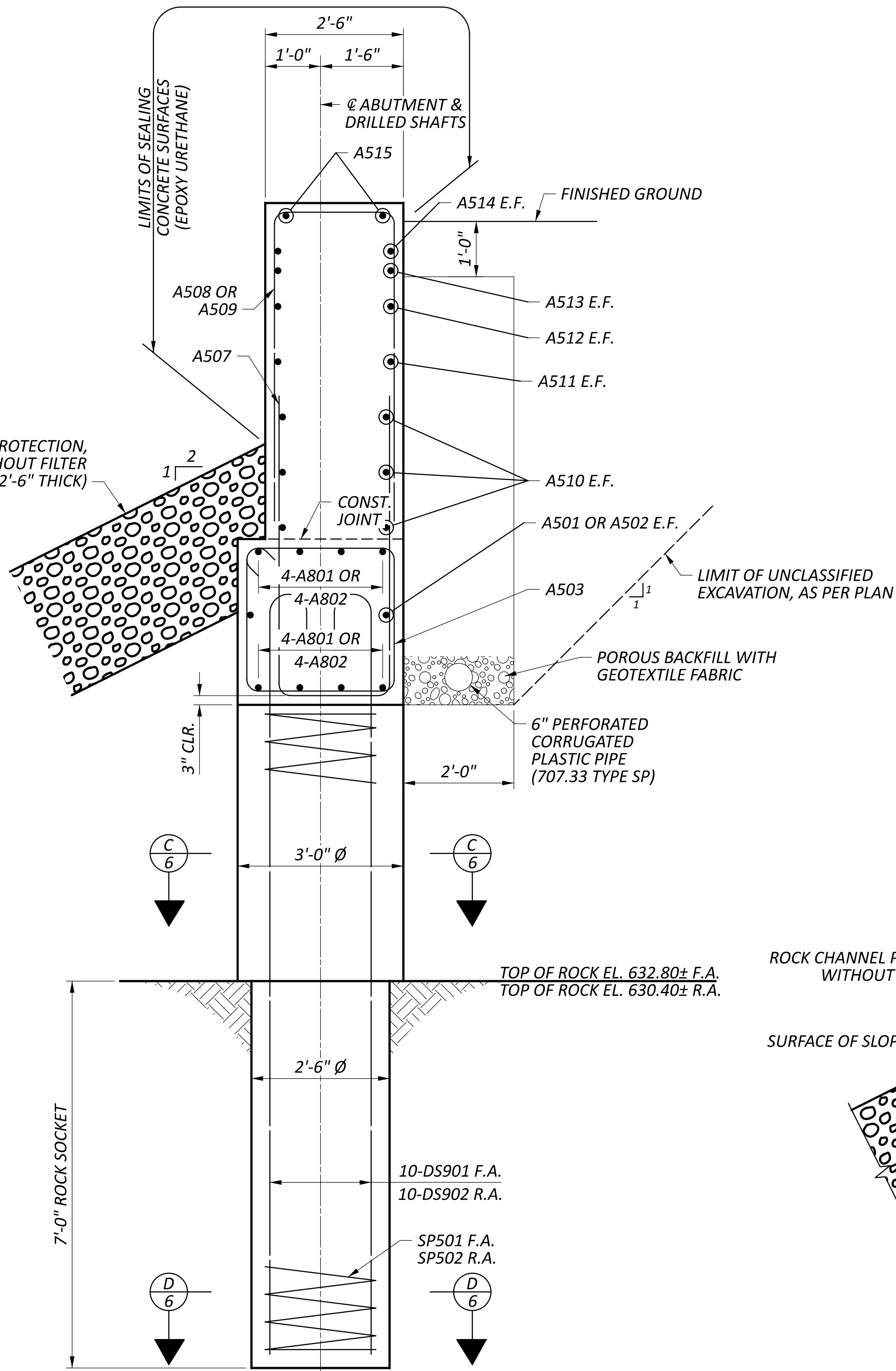


SECTION A-A

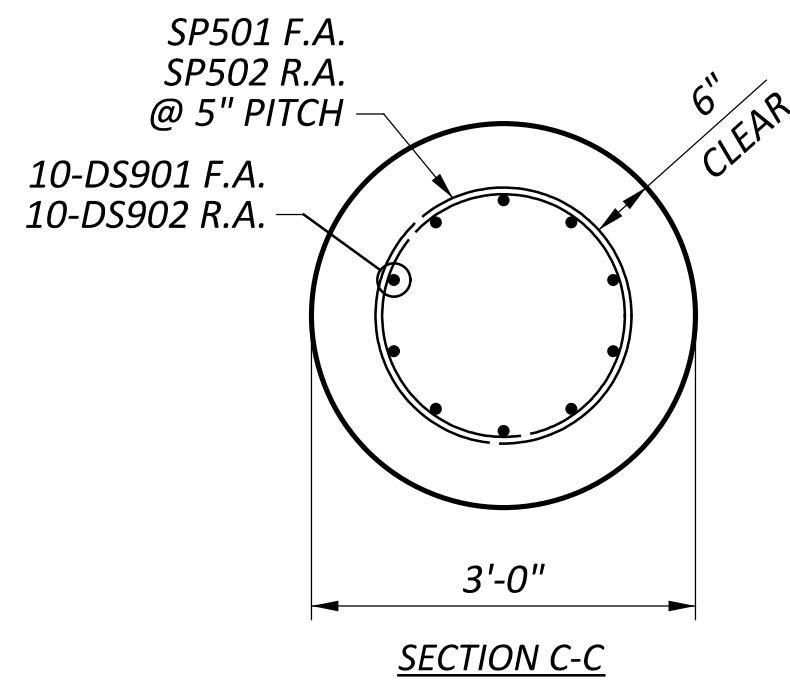
NOTES:
F.A. DENOTES FORWARD ABUTMENT
R.A. DENOTES REAR ABUTMENT
E.F. DENOTES EACH FACE

REINFORCING SPLICE LENGTHS SHALL BE AS
FOLLOWS UNLESS OTHERWISE NOTED:
#5 BARS - 2'-5" (VERTICAL)
#5 BARS - 3'-1" (HORIZONTAL)
#8 BARS - 5'-4"

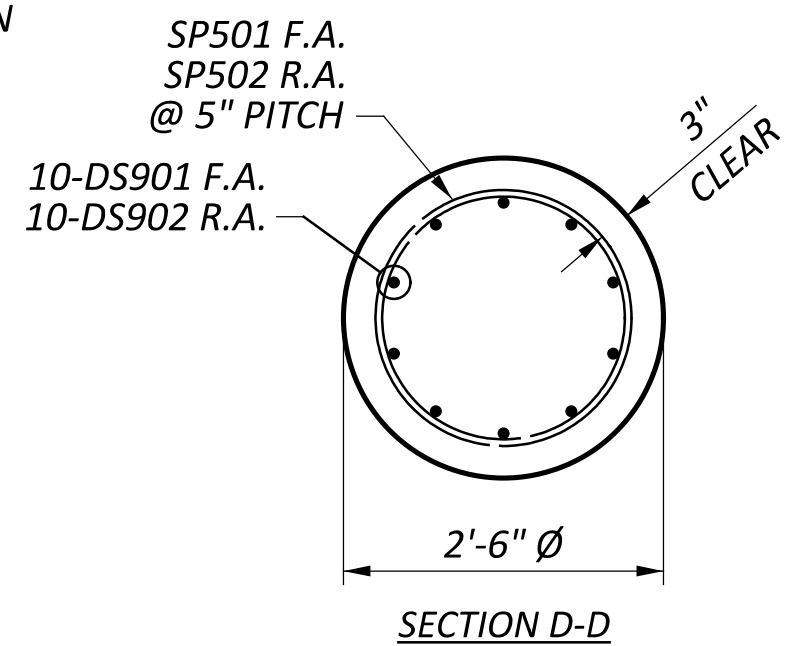
BRIDGE SEAT REINFORCING: REINFORCING STEEL
IN THE VICINITY OF THE BRIDGE SEAT SHALL BE
ACCURATELY PLACED TO AVOID INTERFERENCE
WITH THE DRILLING OF BEAM ANCHOR HOLES
OR THE PRE-SETTING OF BEAM ANCHORS.



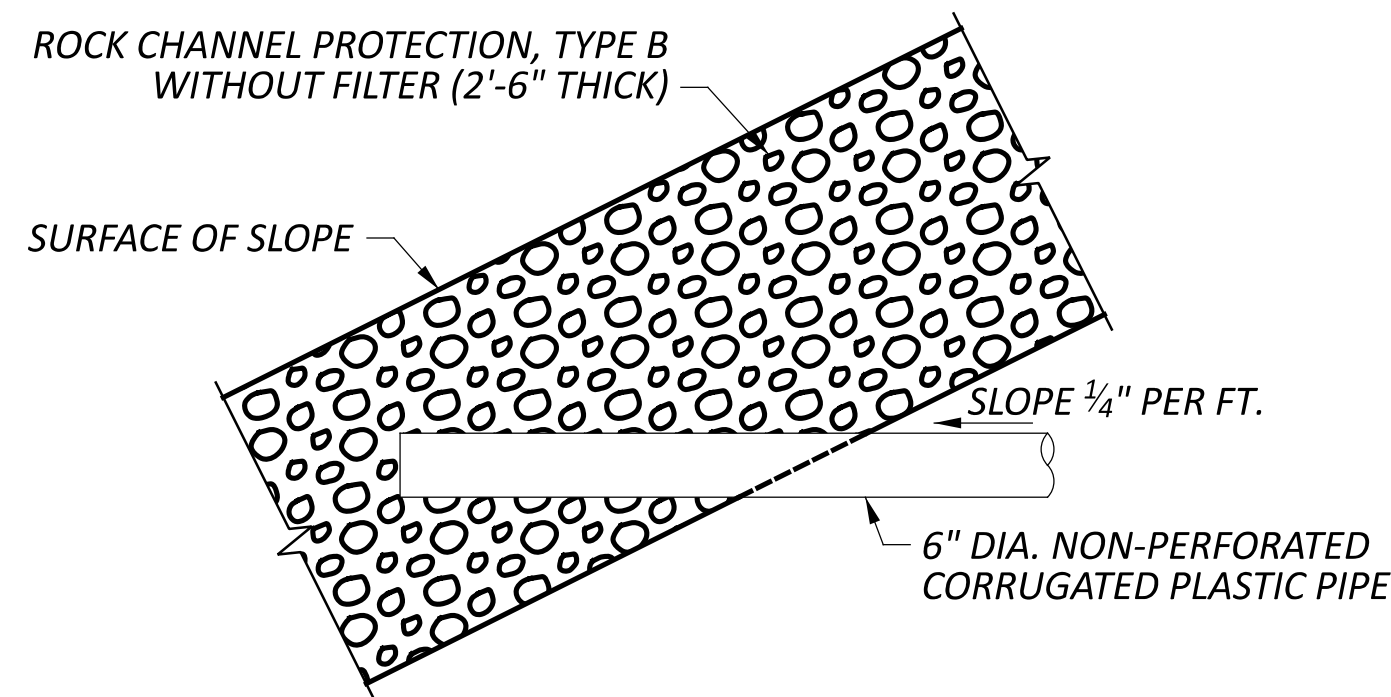
SECTION B-B



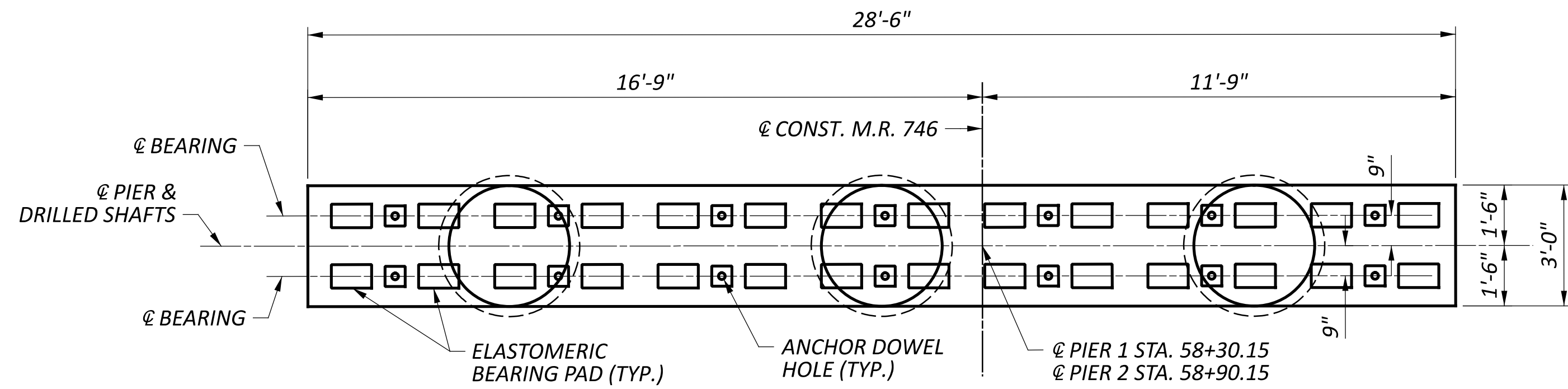
SECTION C-C



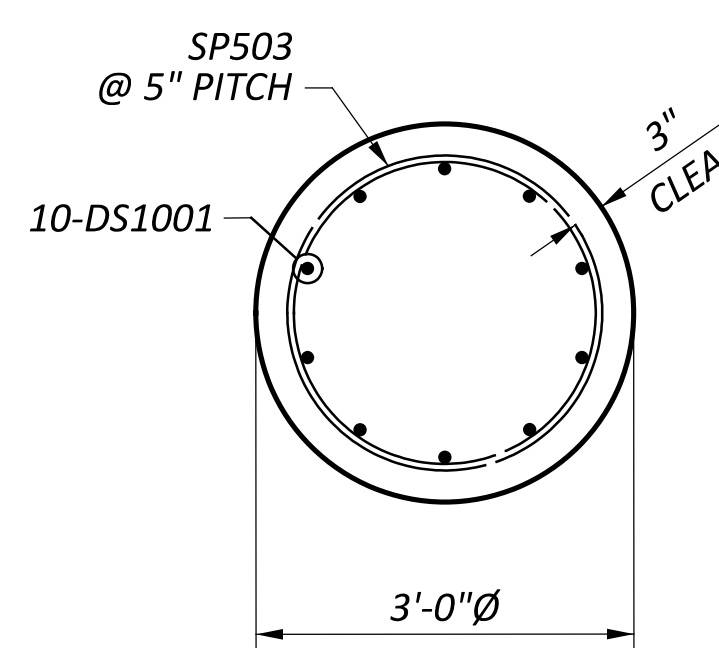
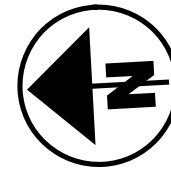
SECTION D-D



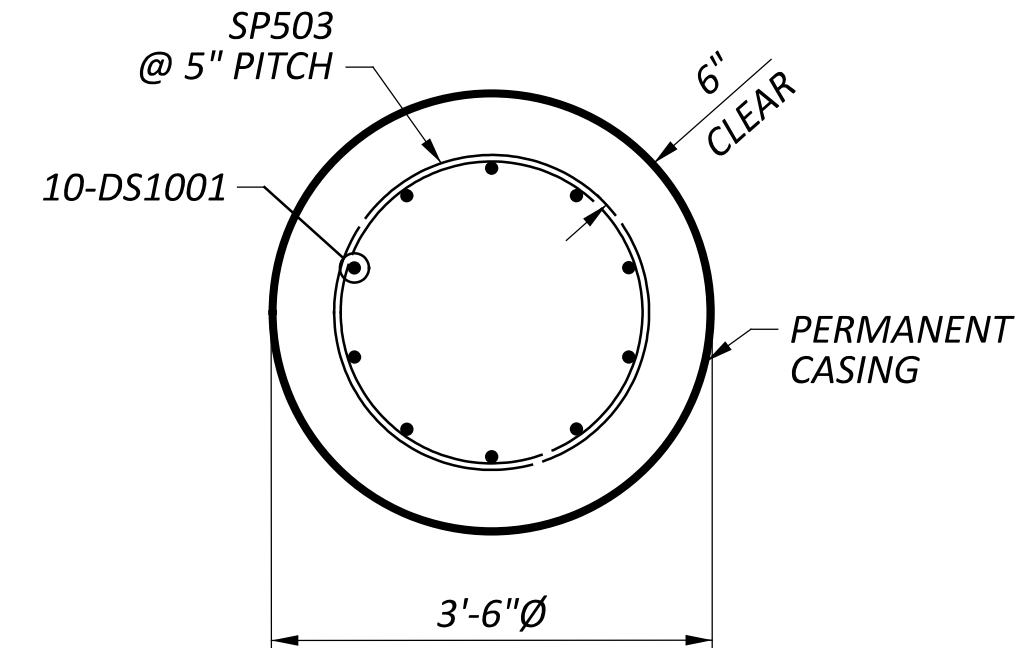
OUTLET DETAIL



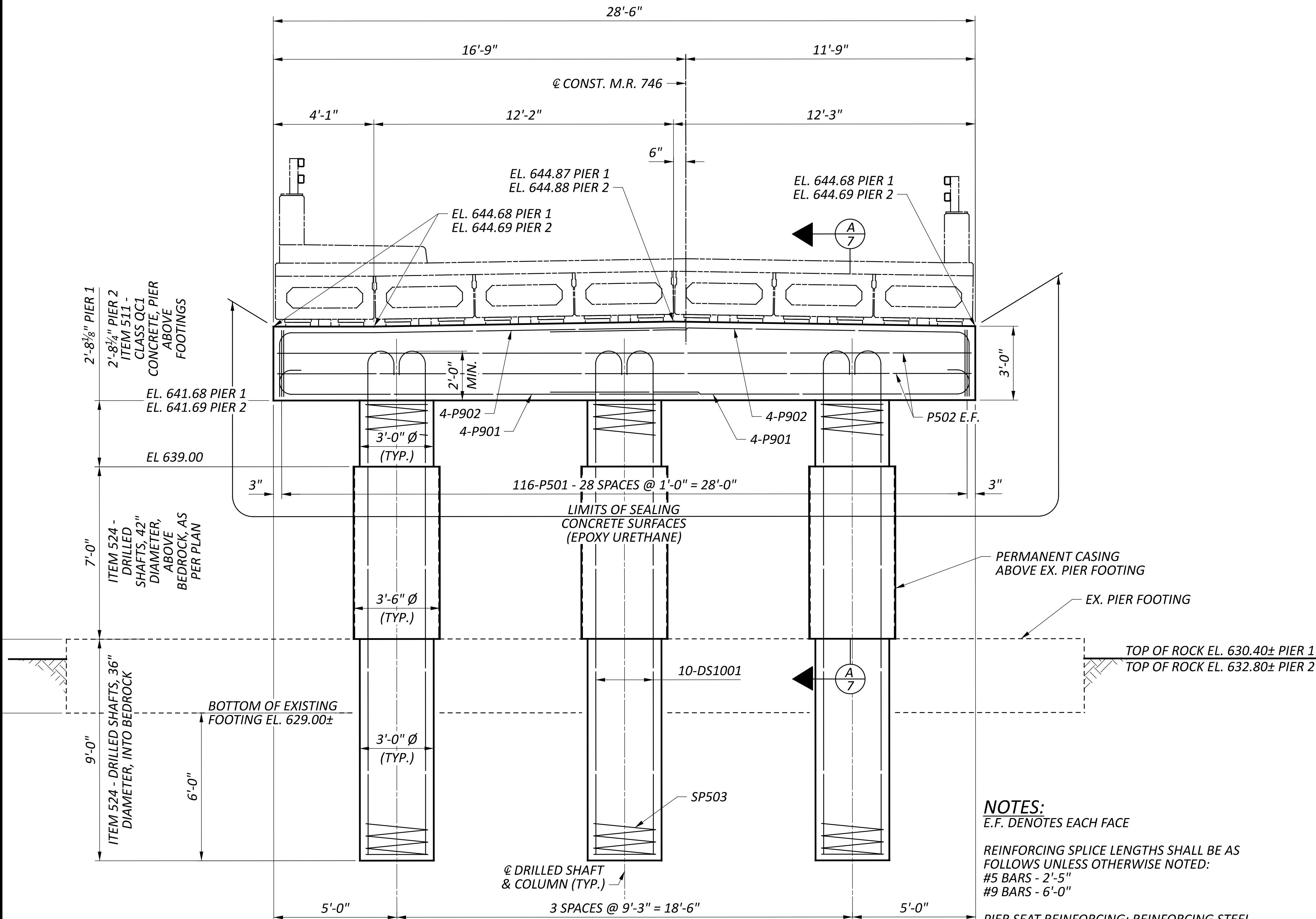
PIER PLAN



SECTION C-C



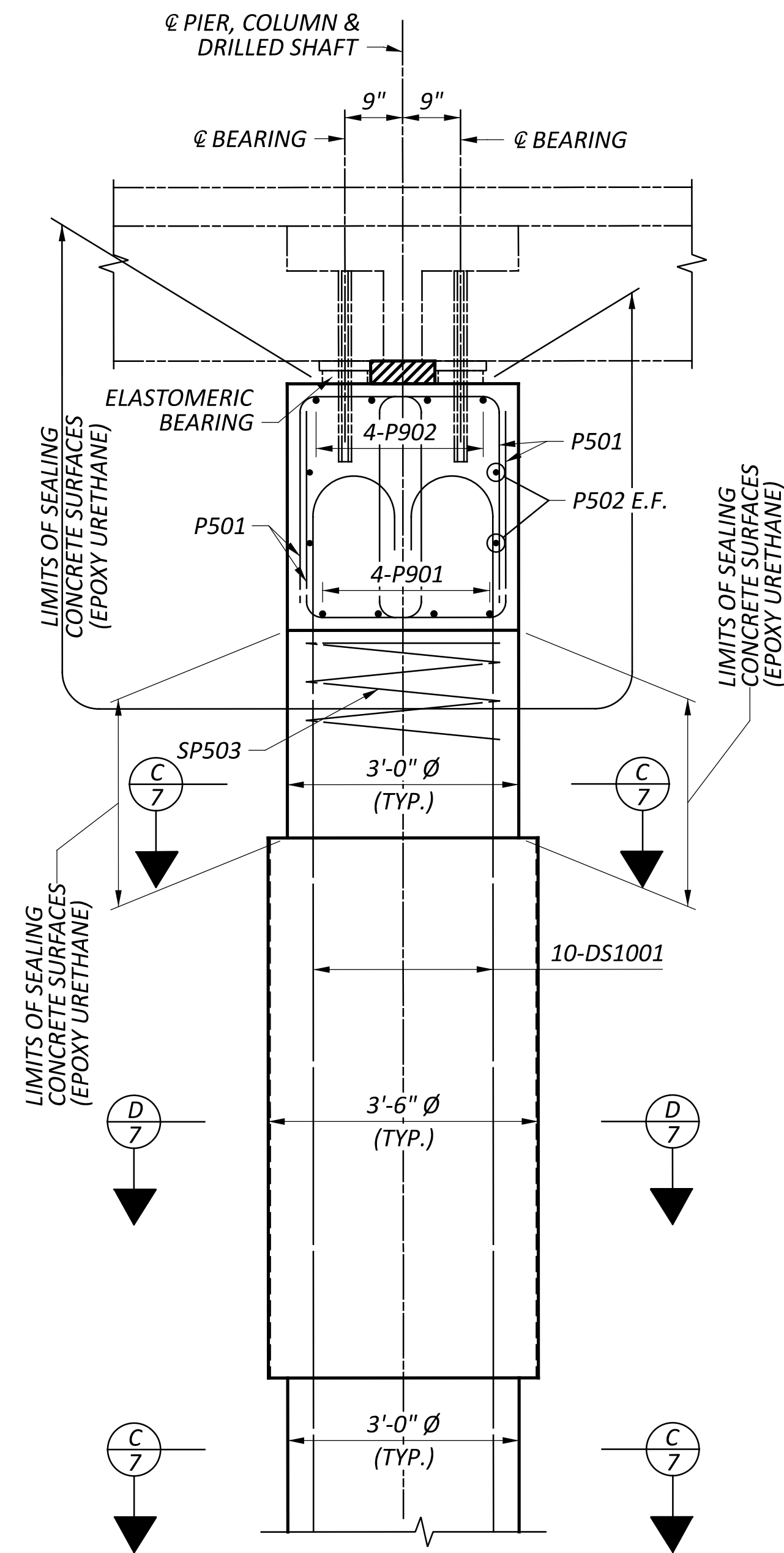
SECTION D-D



PIER ELEVATION

NOTES:

E.F. DENOTES EACH FACE

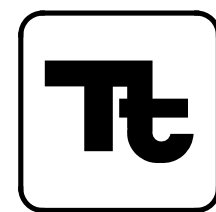
REINFORCING SPLICE LENGTHS SHALL BE AS
FOLLOWS UNLESS OTHERWISE NOTED:
#5 BARS - 2'-5"
#9 BARS - 6'-0"PIER SEAT REINFORCING: REINFORCING STEEL
IN THE VICINITY OF THE PIER SEAT SHALL BE
ACCURATELY PLACED TO AVOID
INTERFERENCE WITH THE DRILLING OF BEAM
ANCHOR HOLES OR THE PRE-SETTING OF
BEAM ANCHORS.

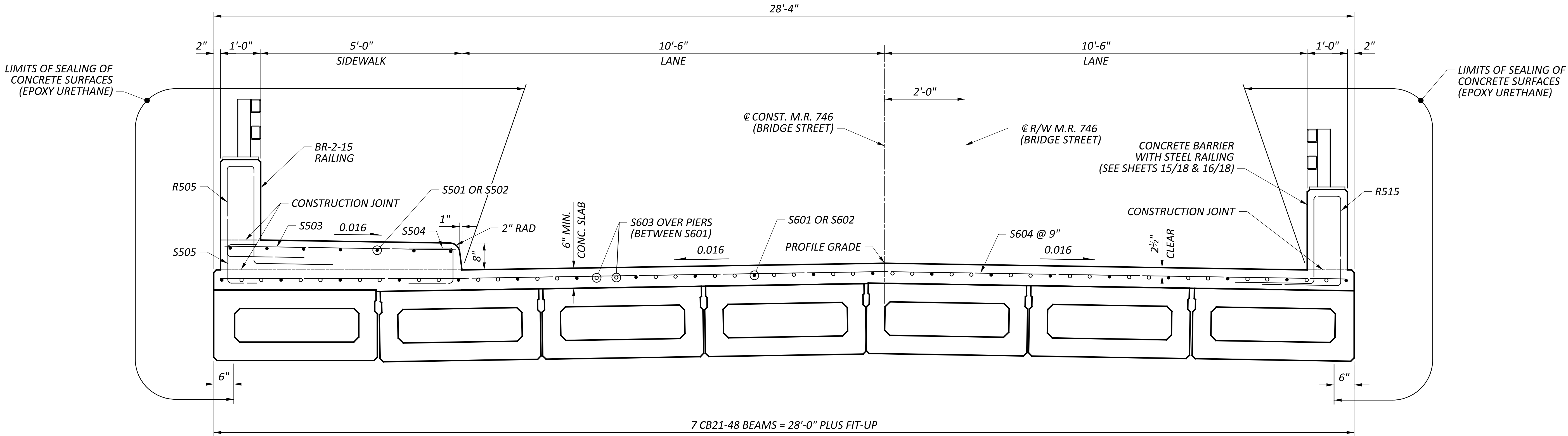
SECTION A-A

PIER DETAILS

BRIDGE NO. WOO-MR746-00.050
MR 746 (BRIDGE ST) OVER PORTAGE RIVERSFN
8758949


DESIGN AGENCY

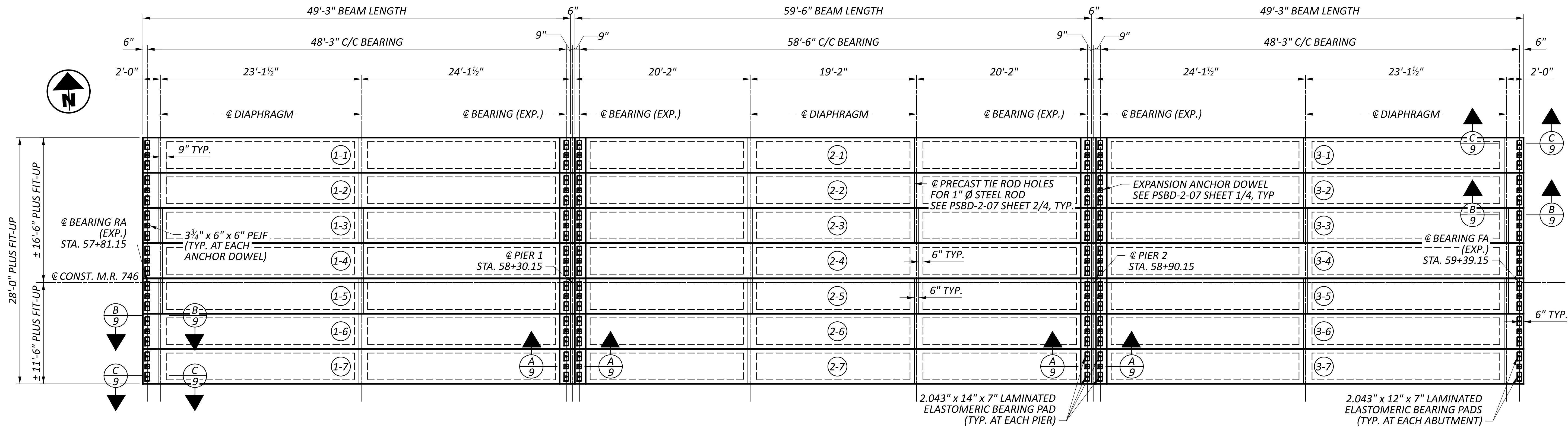
DESIGNER
JSHCHECKER
DTCREVIEWER
GCB 06/16/25PROJECT ID
118539SUBSET
7 TOTAL
18SHEET
P.24 TOTAL
45



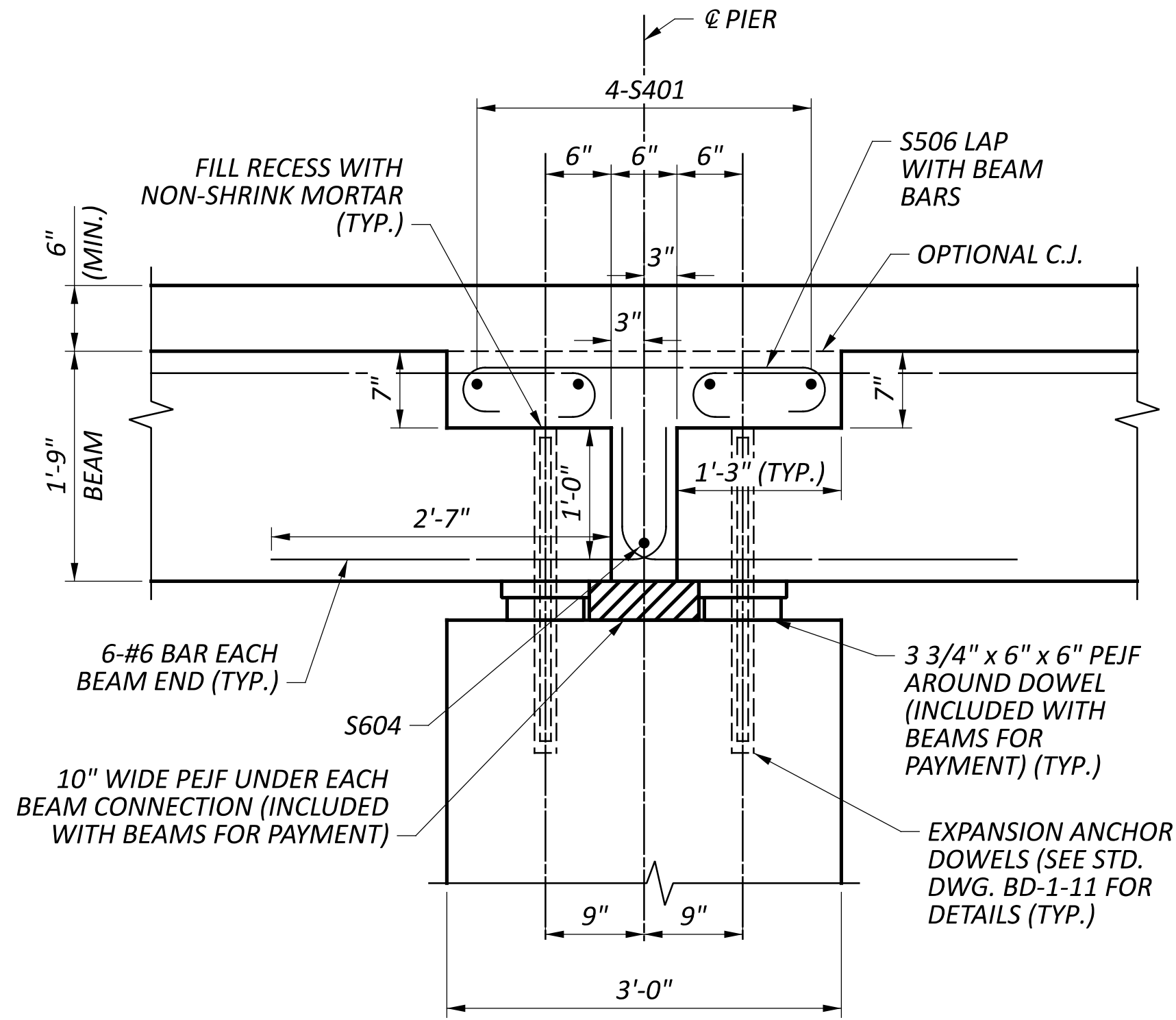
TRANSVERSE SECTION

TRANSVERSE SECTION
BRIDGE NO. WOO-MR746-00.050
MR 746 (BRIDGE ST) OVER PORTAGE RIVER

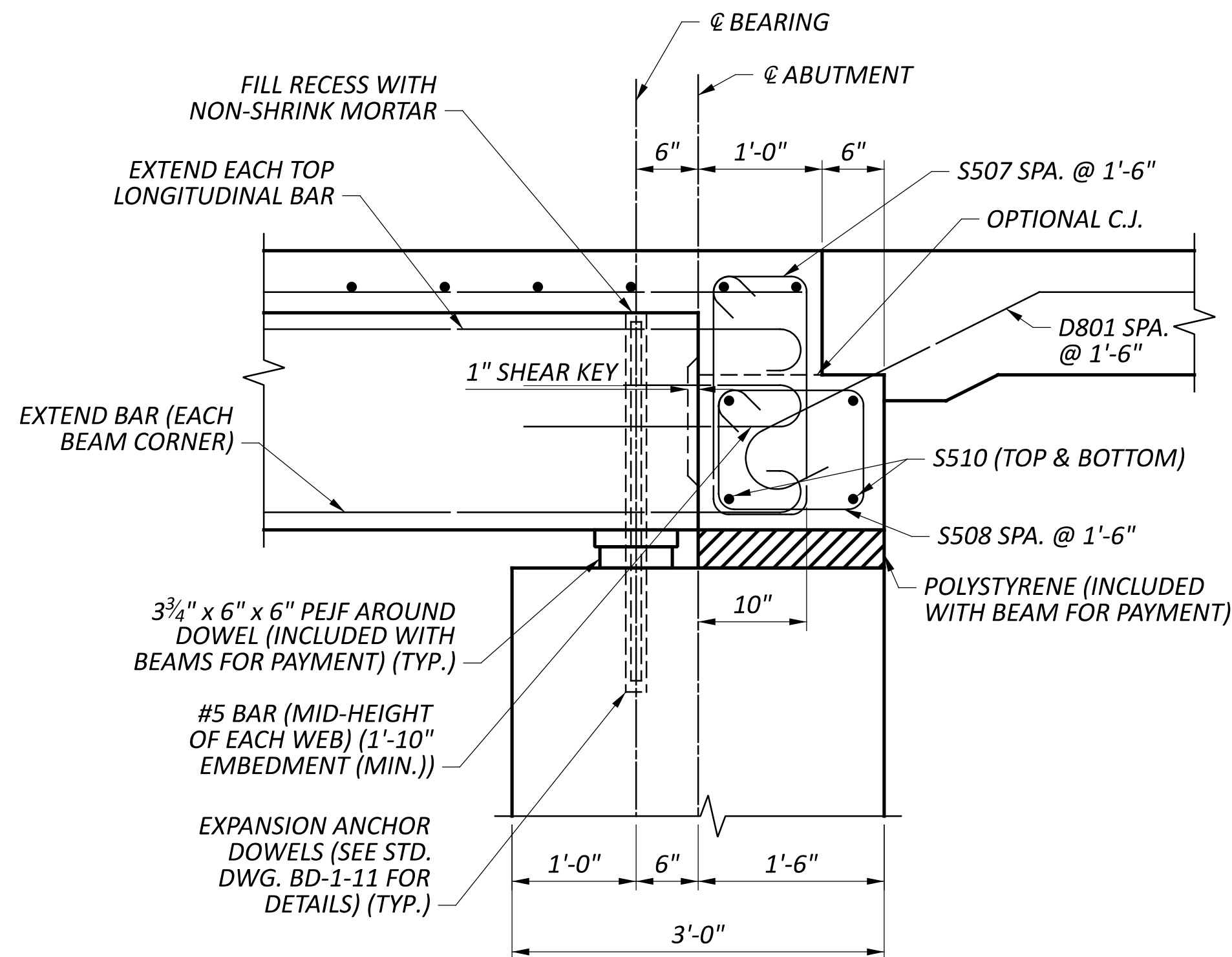
SFN	
8758949	
DESIGN AGENCY	
	
DESIGNER	CHECKER
JSH	DTC
REVIEWER	
GCB 06/16/25	
PROJECT ID	
118539	
SUBSET	TOTAL
8	18
SHEET	TOTAL
P.25	45



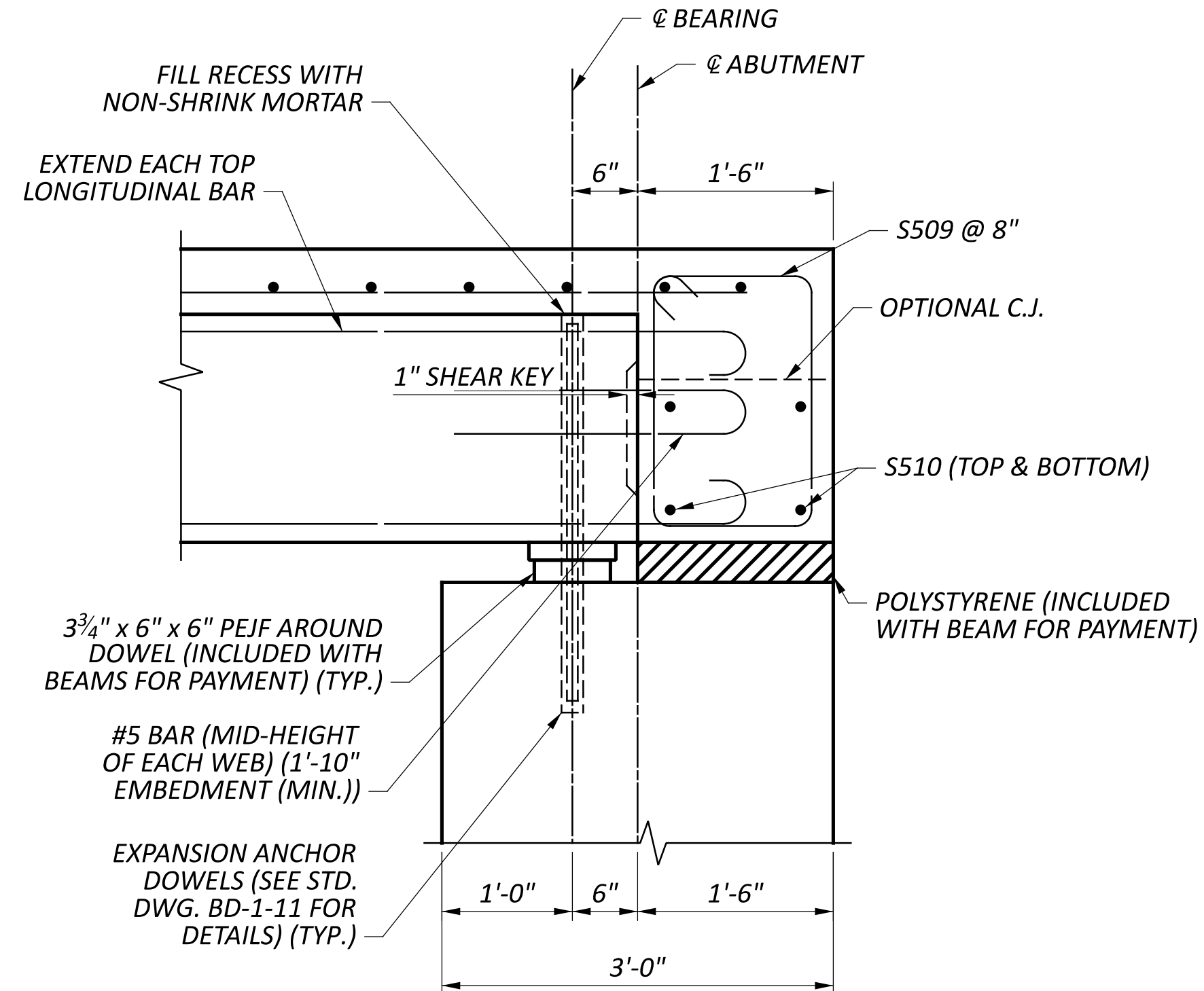
FRAMING PLAN



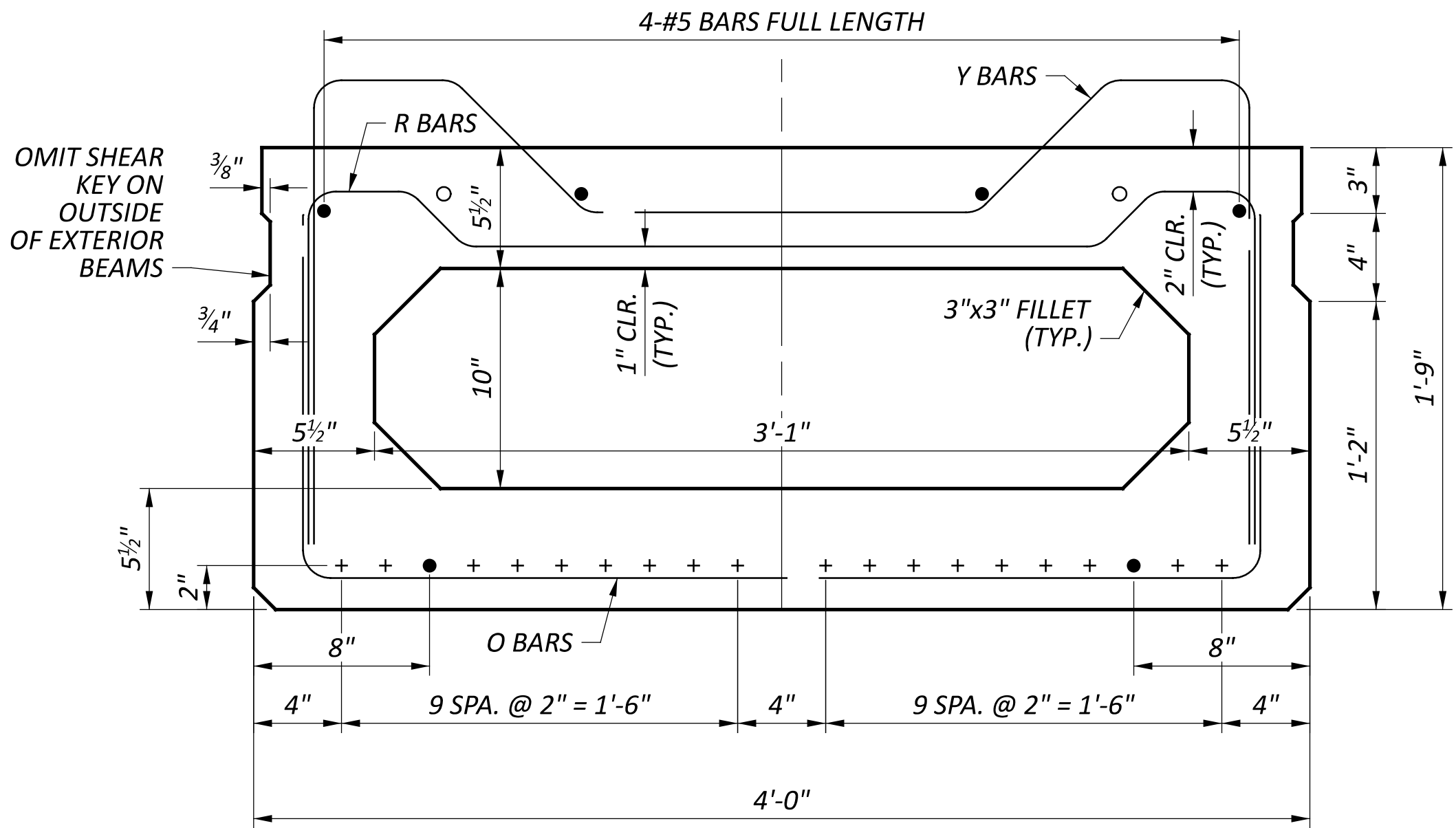
SECTION A-A



SECTION B-B



SECTION C-C



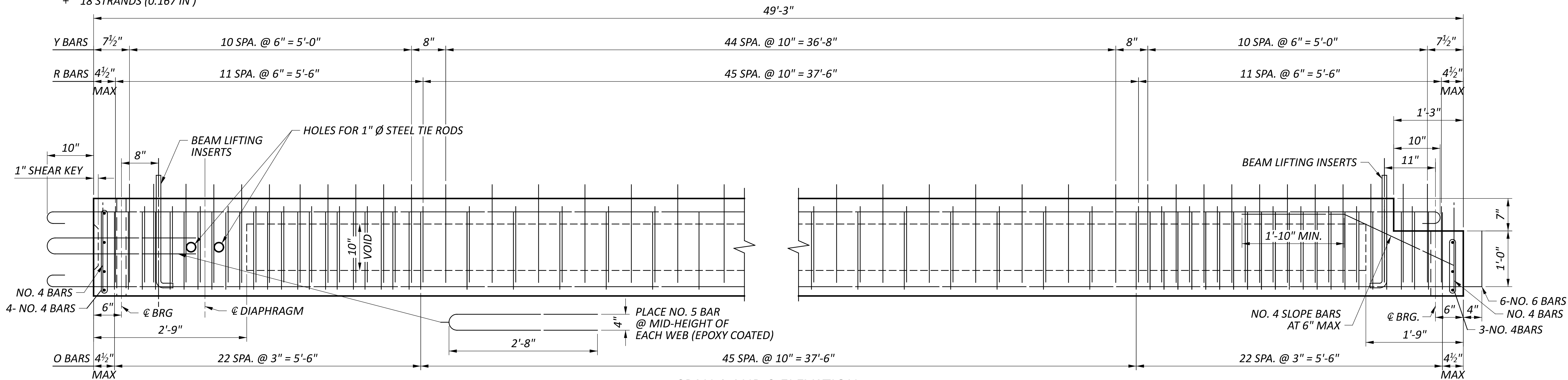
SPAN 1 AND 3 TYPICAL BEAM SECTION (CB21-48)

LEGEND:

- #5 BAR (4 REQUIRED FULL LENGTH IN TOP. 2 IN BOTTOM)
- #5 BAR (2 REQUIRED, 5'-0" LONG IN TOP, ABUTMENT END ONLY)
- + 18 STRANDS (0.167 IN²)

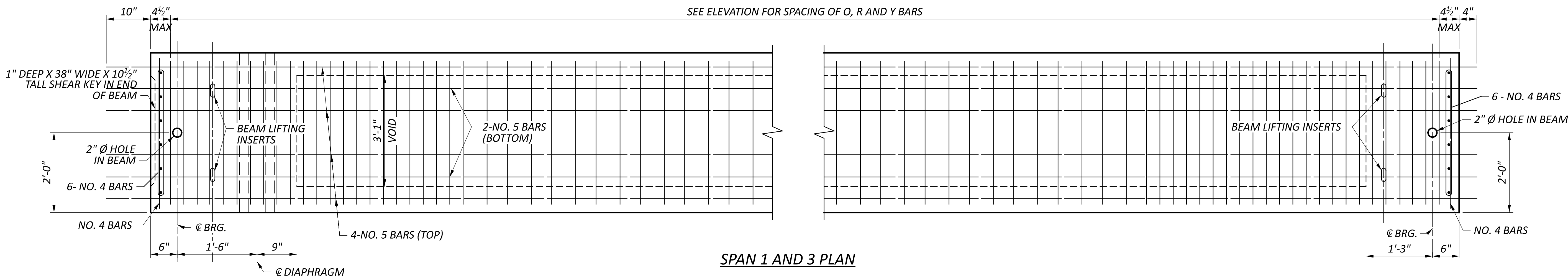
NOTES:

- FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. PSBD-2-07.
- ESTIMATED CAMBER AT DAY 0 (D0) IS $\frac{3}{4}$ INCHES.
- ESTIMATED CAMBER AT DAY 30 (D30) IS $1\frac{3}{8}$ INCHES.
- DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, CROSSFRAMES, DIAPHRAGMS, BARRIERS, UTILITIES, ETC.) IS $\frac{1}{2}$ INCHES.
- THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30.



SPAN 1 AND 3 ELEVATION

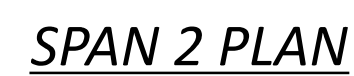
SEE ELEVATION FOR SPACING OF O, R AND Y BARS



SPAN 1 AND 3 PLAN



1. *FOR ADDITIONAL NOTES AND DETAILS, SEE STD. DWG. PSBD-2-07.*
2. *ESTIMATED CAMBER AT DAY 0 (D0) IS 1½ INCHES.*
3. *ESTIMATED CAMBER AT DAY 30 (D30) IS 2¾ INCHES.*
4. *DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE DECK, CROSSFRAMES, DIAPHRAGMS, BARRIERS, UTILITIES, ETC.) IS 1 INCHES.*
5. *THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30.*





1. 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.
2. STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. THE STEEL PLATES SHALL BE ASTM A709 GRADE 50 AND BE COATED WITH A SHOP APPLIED, INORGANIC ZINC PRIME COAT ACCORDING TO C&MS 514.17. REPAIR COATING DAMAGED BY WELDING ACCORDING TO C&MS 514.22. FIELD PAINTING OF INTERMEDIATE AND FINISH COATS IS REQUIRED. PAINTING AND REPAIRS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 514.
3. BASIS OF PAYMENT: PAYMENT FOR ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE ELASTOMERIC BEARINGS FOR THE BEAMS WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), EACH.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.



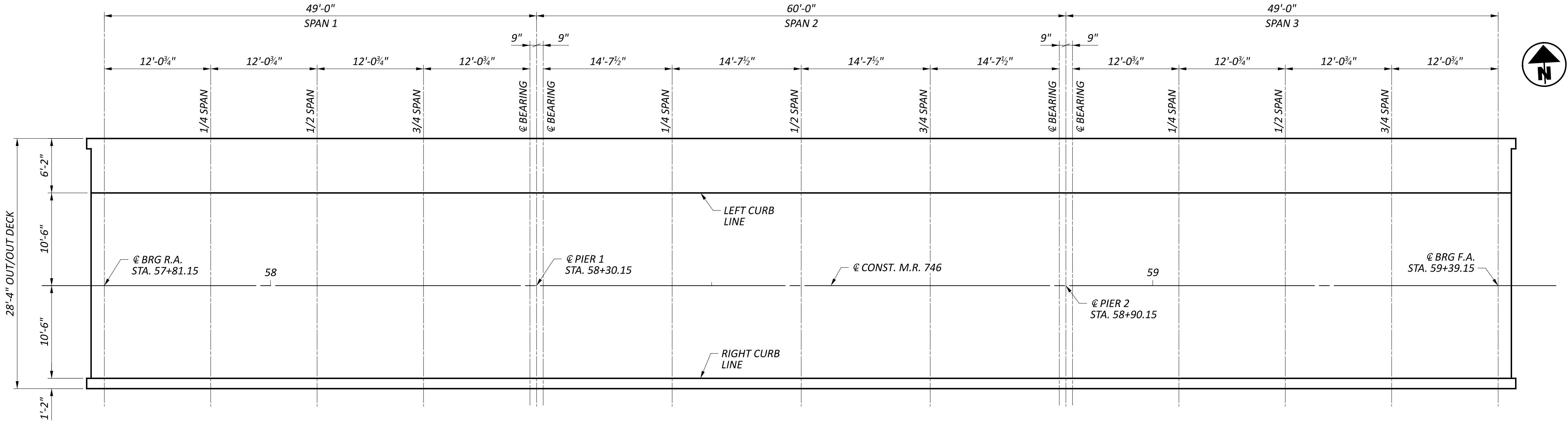
DECK SLAB THICKNESS FOR CONCRETE QUANTITY:
THE ESTIMATED QUANTITY FOR DECK CONCRETE IS MEASURED ACCORDING TO C&MS 511. IN ADDITION TO THE DESIGN SLAB THICKNESS, THE QUANTITY INCLUDES A VARIABLE HAUNCH THICKNESS THAT PROVIDES AN ALLOWANCE FOR VERTICAL GRADE ADJUSTMENT AND BEAM CAMBER.

MODEL: Sheet_SurvFt PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:36:07 PM USER: GARRETT.BRENKE
 pw: \\tetratech-us-pw-bentley.com:tetratech-us-pw-04\Documents\Village of Pemberville\200-622854-24001\118539\400-Engineering\Structures\SFN 8758949\Sheets\118539 SFN 8758949 SD001.dgn

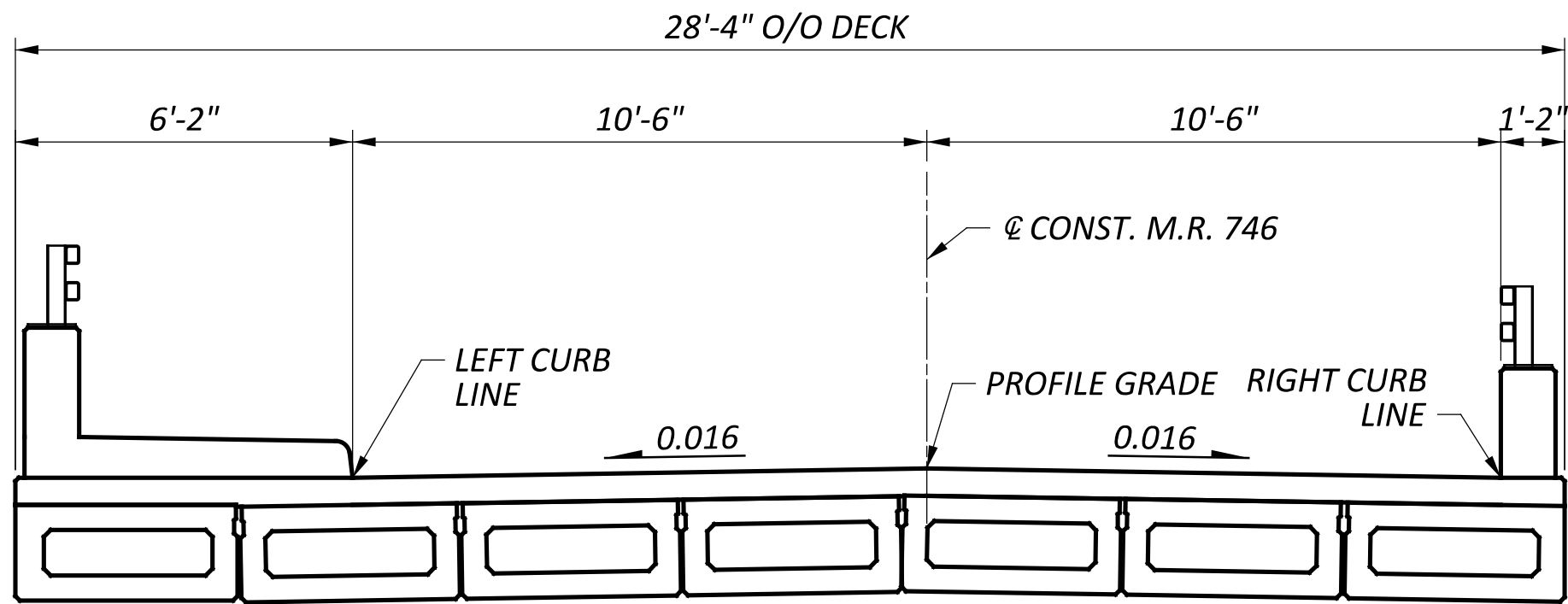


DESIGNER	CHECKER
JSH	DTC
REVIEWER	
GCB 06/16/25	
PROJECT ID	
118539	
SUBSET	TOTAL
13	18
SHEET	TOTAL
P.30	45

DECK PLAN
BRIDGE NO. WOO-MR746-00.050
MR 746 (BRIDGE ST) OVER PORTAGE RIVER



DECK ELEVATION KEY PLAN



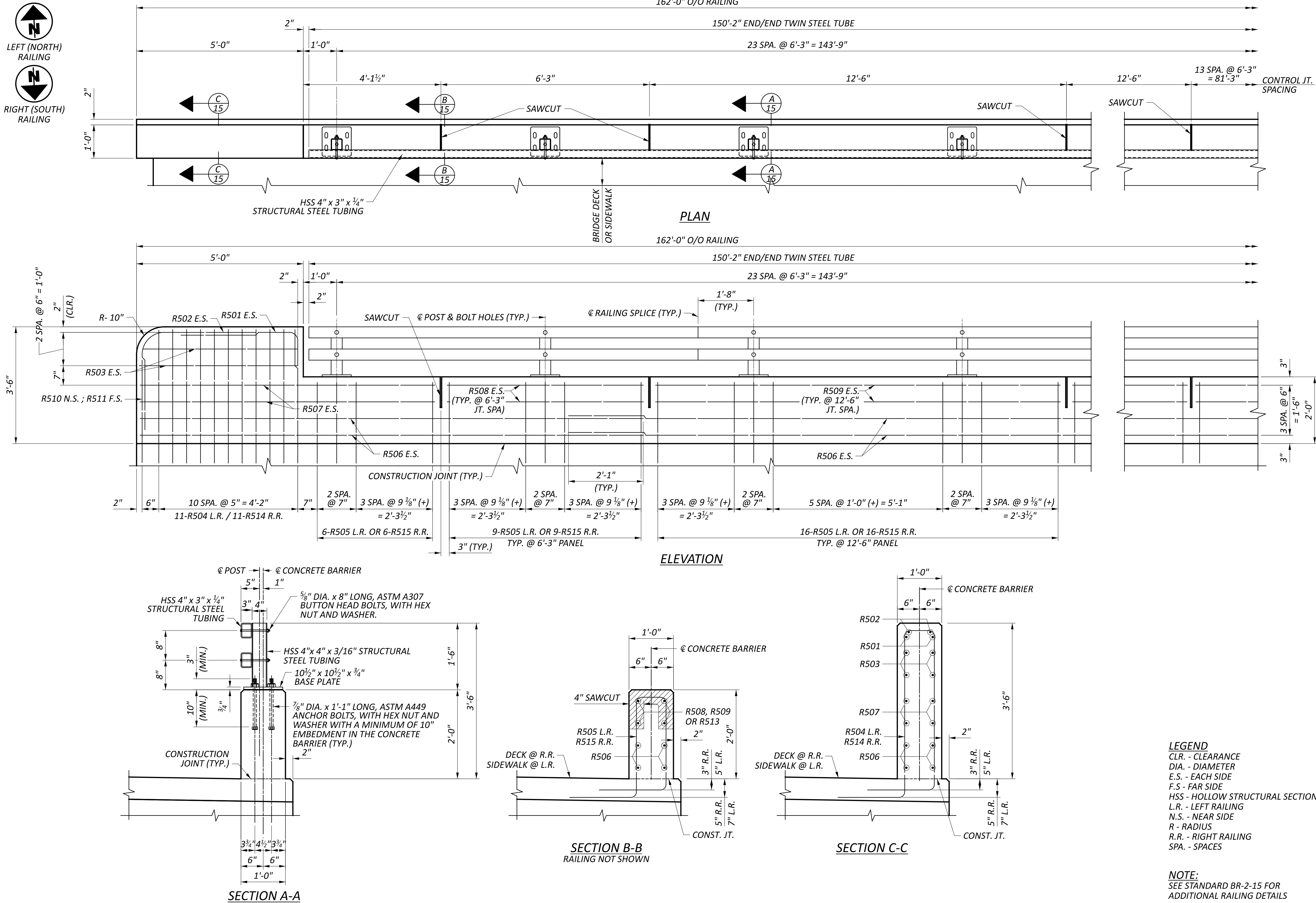
TRANSVERSE SECTION

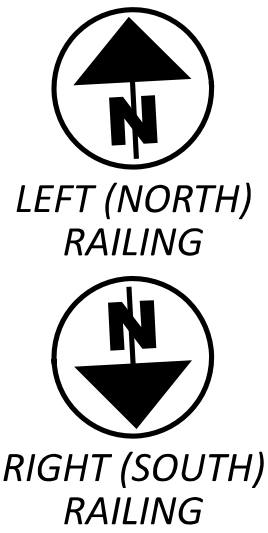
* DUE TO CONCRETE DECK, SIDEWALK AND RAILINGS (NO FUTURE WEARING SURFACE)

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

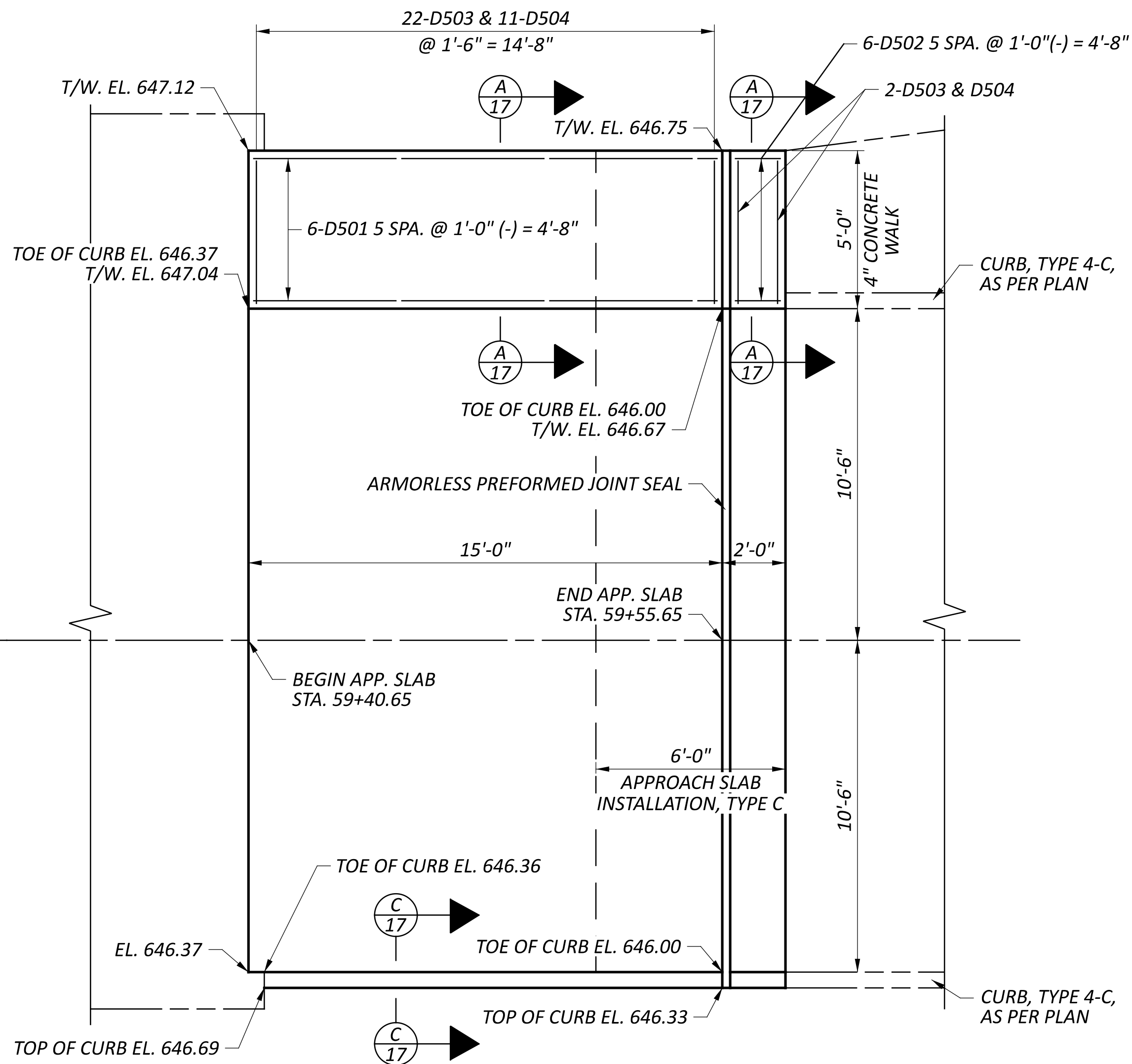
FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

SCREED AND FINAL DECK SURFACE ELEVATIONS																
LOCATION		SPAN 1					SPAN 2					SPAN 3				
		C.L. BRG.	¼ SPAN	½ SPAN	¾ SPAN	C.L. BRG	C.L. BRG	¼ SPAN	½ SPAN	¾ SPAN	C.L. BRG	C.L. BRG	¼ SPAN	½ SPAN	¾ SPAN	C.L. BRG
STATION		57+81.15	57+93.21	58+05.28	58+17.34	58+29.40	58+30.90	58+45.53	58+60.15	58+74.78	58+89.40	58+90.90	59+02.96	59+15.03	59+27.09	59+39.15
LEFT CURB	SCREED ELEVATION	646.37	646.69	646.94	647.13	647.25	647.27	647.44	647.50	647.45	647.28	647.27	647.15	646.97	646.72	646.41
	DEAD LOAD DEFLECTION*	0.000'	0.030'	0.040'	0.030'	0.000'	0.000'	0.066'	0.088'	0.066'	0.000'	0.000'	0.030'	0.040'	0.030'	0.000'
	FINAL DECK ELEVATION	646.37	646.66	646.90	647.10	647.25	647.27	647.37	647.41	647.38	647.28	647.27	647.12	646.93	646.69	646.41
C.L. CONST.	SCREED ELEVATION	646.53	646.85	647.11	647.30	647.42	647.43	647.61	647.67	647.62	647.45	647.43	647.32	647.14	646.89	646.58
	DEAD LOAD DEFLECTION*	0.000'	0.030'	0.040'	0.030'	0.000'	0.000'	0.066'	0.088'	0.066'	0.000'	0.000'	0.030'	0.040'	0.030'	0.000'
	FINAL DECK ELEVATION	646.53	646.82	647.07	647.27	647.42	647.43	647.54	647.58	647.55	647.45	647.43	647.29	647.10	646.86	646.58
RIGHT CURB	SCREED ELEVATION	646.37	646.69	646.94	647.13	647.25	647.27	647.44	647.50	647.45	647.28	647.27	647.15	646.97	646.72	646.41
	DEAD LOAD DEFLECTION*	0.000'	0.030'	0.040'	0.030'	0.000'	0.000'	0.066'	0.088'	0.066'	0.000'	0.000'	0.030'	0.040'	0.030'	0.000'
	FINAL DECK ELEVATION	646.37	646.66	646.90	647.10	647.25	647.27	647.37	647.41	647.38	647.28	647.27	647.12	646.93	646.69	646.41





NOTE:
SEE STANDARD BR-2-15 FOR
ADDITIONAL RAILING DETAILS



LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY URETHANE)

5'-0"

1"

2" RAD.

0.016

D504

0.016

12"

APP. SLAB

D503

6-D501

SECTION B-B

LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY URETHANE)

5'-0"

1"

0.016

D504

2" RAD.

0.016

8"

12"

APPROACH SLAB
INSTALLATION, TYPE C

9"

SLEEPER SLAB

D503

6-D502

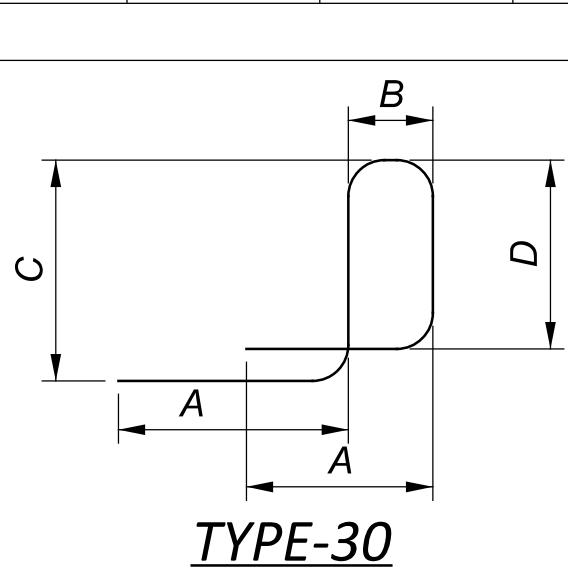
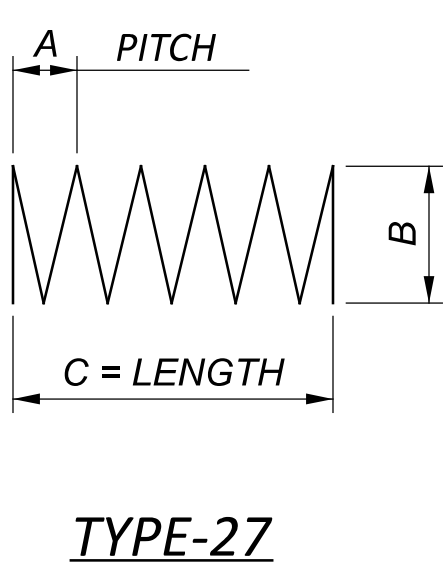
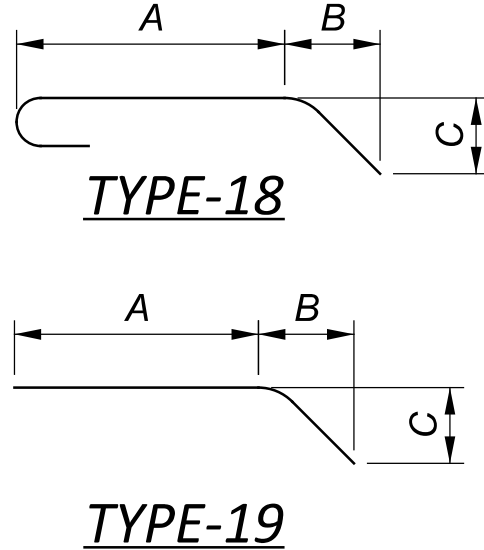
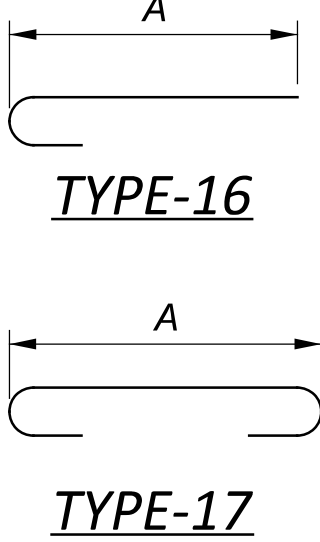
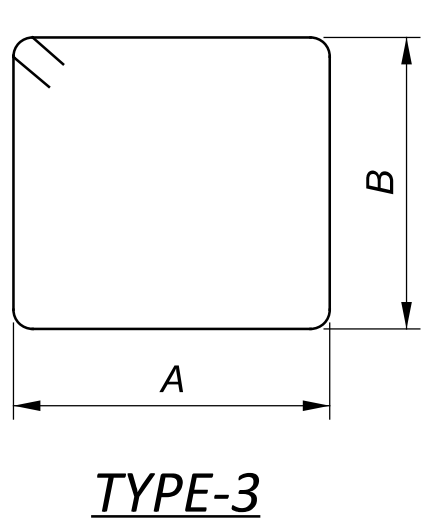
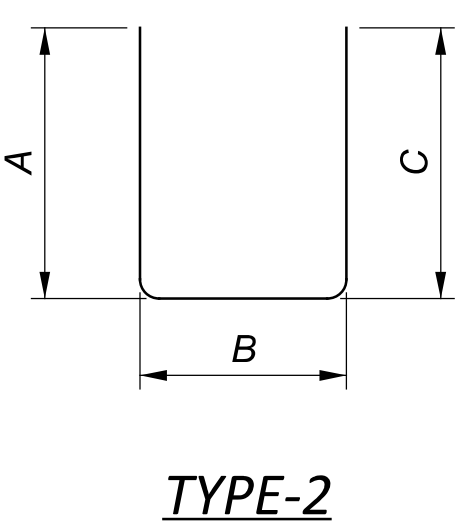
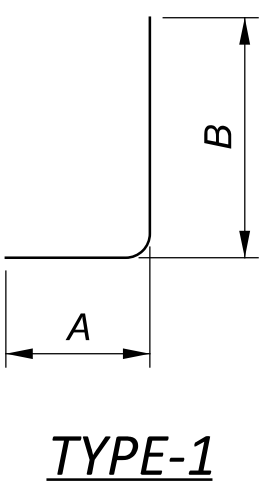
CURB, TYPE 4-C

4"

NOTES:
SEE STANDARDS AS-1-15 AND AS-2-15 FOR
ADDITIONAL DETAILS.

ADDITIONAL REINFORCING STEEL FOR WALK SHALL
BE INCLUDED FOR PAYMENT IN THE APPROACH SLAB
AND TYPE C INSTALLATION ITEMS.

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
ABUTMENT (EPOXY COATED STEEL REINFORCEMENT)													
A501	2	2	4	30' - 0"	125	ST							
A502	2	2	4	21' - 3"	89	ST							
A503	37	37	74	11' - 1"	855	3	2'-8"	2'-7"					
A504	21	21	42	13' - 7"	595	2	5'-7"	2'-8"	5'-7"				
A505	8	8	16	28' - 4"	473	ST							
A506	21	21	42	10' - 7"	464	2	4'-1"	2'-8"	4'-1"				
A507	16	16	32	12' - 7"	420	2	5'-4"	2'-2"	5'-4"				
	2	2	4	7' - 5"			2'-9"		2'-9"				
A508	SER	SER	SER	T O	280	2	TO	2'-2"	TO				1'-6"
	6	6	6	14' - 11"			6'-6"		6'-6"				
A509	4	4	8	15' - 3"	127	2	6'-8"	2'-2"	6'-8"				
A510	12	12	24	12' - 5"	311	ST							
A511	4	4	8	11' - 6"	96	ST							
A512	4	4	8	10' - 1"	84	ST							
A513	4	4	8	5' - 3"	44	ST							
A514	4	4	8	3' - 3"	27	ST							
A515	4	4	8	10' - 6"	88	19	8'-10"	1'-6"	9"				
A801	8	8	16	30' - 0"	1,282	ST							
A802	8	8	16	23' - 6"	1,004	ST							
A803	4	4	8	28' - 4"	605	ST							
SUBTOTAL =					6,969								
DRILLED SHAFTS (EPOXY COATED STEEL REINFORCEMENT) (FOR INFORMATION ONLY)													
DS901	40		40	12' - 0"	1,632	16	10'-9"						
DS902		40	40	14' - 0"	1,904	16	12'-9"						
SP501	4		4	144' - 9"	604	27	5"	2'-0"	8'-7"				
SP502		4	4	174' - 2"	727	27	5"	2'-0"	10'-7"				
SUBTOTAL =					4,867								
PIER (EPOXY COATED STEEL REINFORCEMENT)													
P501	58	58	116	7' - 9"	938	2	2'-8"	2'-8"	2'-8"				
P502	4	4	8	28' - 2"	235	ST							
P901	8	8	16	18' - 4"	997	16	17'-1"						
P902	8	8	16	19' - 6"	1,061	1	17'-1"	2'-8"					
SUBTOTAL =					3,231								
DRILLED SHAFTS (EPOXY COATED STEEL REINFORCEMENT) (FOR INFORMATION ONLY)													
DS1001	30	30	60	21' - 11"	5,658	16	20'-6"						
SP503	3	3	6	362' - 0"	2,265	27	5"	2'-6"	18'-4"				
SUBTOTAL =					7,923								



NOTES:
BAR SIZE IS INDICATED IN THE BAR MARK.
THE FIRST LETTER IDENTIFIES BAR LOCATION, THE NEXT DIGIT INDICATES THE BAR DESIGNATION, THE REMAINING DIGITS STATE THE SEQUENCE NUMBER.

EXAMPLE: A511
A - LOCATION OF THE BAR IN STRUCTURE (ABUTMENT)
5 - BAR SIZE DESIGNATION
11 - SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE SPECIFIED.

REINFORCING STEEL MAY REQUIRE FIELD CUTTING OR BENDING TO BE PROPERLY FITTED. PAYMENT SHALL BE INCLUDED WITH THE ASSOCIATED CONCRETE ITEM.

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE (EPOXY COATED STEEL REINFORCEMENT)													
S401			8	28' - 0"	150	ST							
S501			35	30' - 0"	1,095	ST							
S502			7	23' - 9"	173	ST							
S503			216	5' - 9"	1,295	ST							
S504			218	2' - 5"	549	2	10"	1'-0"	10"				
S505			216	3' - 8"	826	2	1'-0"	11"	1'-0"				
S506			56	3' - 10"	224	17	2'-8"						
S507	18	18	36	5' - 9"	216	3	8"	1'-11"					
S508	18	18	36	4' - 9"	178	3	1'-2"	11"					
S509	4	4	8	6' - 9"	56	3	1'-2"	1'-11"					
S510	4	4	8	28' - 0"	234	ST							
S601			100	30' - 0"	4,506	ST							
S602			20	25' - 10"	776	ST							
S603			76	30' - 6"	3,482	ST							
S604			218	28' - 0"	9,168	ST							
D801	18	18	36	4' - 6"	433	18	2'-2 ½"	1'-0"	1'-0"				
SUBTOTAL =					23,361								
APPROACH SLAB SIDEWALK (EPOXY COATED STEEL REINFORCEMENT) (FOR INFORMATION ONLY)													
D501	6	6	12	14' - 8"	184	ST							
D502	6	6	12	1' - 6"	19	ST							
D503	26	26	52	2' - 8"	145	2	1'-0"	11"	1'-0"				
D504	13	13	26	4' - 7"	124	ST							
SUBTOTAL =					472								
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	NORTH	SOUTH	TOTAL				A	B	C	D	E	R	INC
RAILING (EPOXY COATED STEEL REINFORCEMENT) (FOR INFORMATION ONLY)													
R501	4	4	8	4' - 2"	35	1	10"	3'-5"					
R502	4	4	8	6' - 1"	51	1	2'-11"	3'-5"				7 ¾"	
R503	6	6	12	4' - 7"	57	ST							
R504	22		22	10' - 10"	249	30	1'-6"	8"	3'-11"	3'-9"			
R505	209		209	7' - 10"	1,708	30	1'-6"	8"	2'-5"	2'-3"			
R506	24	24	48	27' - 6"	1,377	ST							
R507	4	4	8	8' - 9"	73	ST							
R508	56	56	112	5' - 11"	691	ST							
R509	16	16	32	12' - 2"	406	ST							
R510	6		6	4' - 6"	28	1	1'-6"	3'-1"					
R511	6	6	12	4' - 4"	54	1	1'-6"	2'-11"					
R512		6	6	4' - 2"	26	1	1'-6"	2'-9"					
R513	4	4	8	5' - 2"	43	ST							
R514		22	22	10' - 6"	241	30	1'-6"	8"	3'-9"	3'-7"			
R515		209	209	7' - 6"	1,635	30	1'-6"	8"	2'-3"	2'-1"			
R516	4	4	8	9' - 6"	79	19	8'-2"	1'-4"	5"				
R517	4	4	8	9' - 6"	79	ST							
R518	1	1	2	6' - 2"	13	19	4'-10"	1'-4"	5"				
R519	1	1	2	6' - 2"	13	ST							
SUBTOTAL =					6,858								

PROJECT DESCRIPTION

THIS SOIL PROFILE HAS BEEN PREPARED FOR THE PROPOSED BRIDGE REPLACEMENT LOCATED AT THE BRIDGE STREET OVERPASS OF THE MIDDLE BRANCH PORTAGE RIVER, LOCATED VILLAGE OF PEMBERVILLE, OHIO , GEAUGA COUNTY, OHIO. THIS PROJECT HAS BEEN DESIGNATED AS WOO-MR-746 0.05, PID 118539.

GEOLOGY

PUBLISHED GEOLOGIC MAPS FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) INDICATE THAT THE PROJECT SITE IS LOCATED IN THE WOODVILLE LAKE-PLAIN REEFS PHYSIOGRAPHIC DISTRICT OF THE MAUMEE LAKE PLAINS REGION OF OHIO. WITHIN THIS DISTRICT, THE GEOLOGIC DEPOSITS CONSIST OF WISCONSINAN-AGE, WAVE-PLANED CLAYEY GLACIAL TILL, LACUSTRINE (LAKE-BED) DEPOSITS, AND SAND.

AT THE PROJECT SITE, THE SANDY SOILS, AS WELL AS LACUSTRINE DEPOSITS MAY HAVE BEEN ERODED BY THE PORTAGE RIVER OR REMOVED AND REPLACED WITH FILL AS PART OF THE PREVIOUS BRIDGE CONSTRUCTION. ALLUVIAL DEPOSITS ASSOCIATED WITH THE PORTAGE RIVER MAY ALSO BE ENCOUNTERED AT THE SITE.

THE GLACIAL TILL, ALSO REFERRED TO AS MORaine, WAS DEPOSITED BY THE ADVANCE AND RETREAT OF GLACIAL ICE. DUE TO THE WEIGHT OF THE ICE MASS, THE TILL DEPOSITS ARE MODERATELY TO HIGHLY OVER-CONSOLIDATED, THAT IS, THE EXISTING SOIL DEPOSITS HAVE EXPERIENCED A PREVIOUS VERTICAL STRESS SIGNIFICANTLY HIGHER THAN THE EFFECTIVE VERTICAL STRESS PRESENTLY CAUSED BY THE REMAINING OVERLYING SOIL STRATA IN THE PROFILE. ADDITIONALLY, WITHIN THE GLACIAL TILL, IT IS NOT UNCOMMON TO ENCOUNTER COBBLES, BOULDERS, AND SEAMS OF GRANULAR SOILS, WHICH MAY OR MAY NOT BE WATER BEARING.

UNDERLYING THE SOILS, BEDROCK IN THE PROJECT AREA IS BROADLY MAPPED ON THE “GEOLOGIC MAP OF OHIO” AS SILURIAN-AGE MONROE LIMESTONE. BORINGS PERFORMED FOR THIS INVESTIGATION ENCOUNTERED BEDROCK AT ELEVATIONS VARYING FROM APPROXIMATE ELEV. 637 TO 630.

THE USDA NATURAL RESOURCE CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY INDICATES THAT SOILS IN THE PROJECT AREA ARE PREDOMINANTLY MAPPED AS EEL SILT LOAM (EMA) AND HANEY LOAM (HDA). THE EEL SILT LOAM SOILS CONSIST OF LOAMY ALLUVIUM FORMED ON RISES ON FLOOD PLAINS, NATURAL LEVEES ON FLOOD PLAINS, AS WELL AS FLATS ON FLOOD PLAINS , AND ARE CHARACTERIZED AS MODERATELY WELL DRAINED. THE HANEY LOAM SOILS CONSIST OF LOAMY GLACIOLACUSTRINE DEPOSITS FORMED ALONG BEACH RIDGES ON LAKE PLAINS, FLATS ON LAKE PLAINS, AS WELL AS RISES ON LAKE PLAINS , AND ARE CHARACTERIZED AS MODERATELY WELL DRAINED.

REVIEW OF THE ODNR “OHIO KARST AREAS” MAP INDICATED THAT THE SITE IS NOT LOCATED IN AN INDICATED AREA OF PROBABLE KARST.

A REVIEW OF THE ODNR MAP OF MINES INDICATED NO HISTORIC MINING ACTIVITY WITHIN THE IMMEDIATE SITE AREA.

RECONNAISSANCE

BASED ON THE ORIGINAL PLANS FOR THE EXISTING BRIDGE STRUCTURE PREPARED BY THE WOOD COUNTY ENGINEER’S OFFICE, THE EXISTING BRIDGE CONSISTS OF A THREE-SPAN STRUCTURE 160 FEET IN LENGTH, BEARING ON SHALLOW SPREAD FOUNDATIONS. THE TEN-YEAR HIGH WATER LEVEL IS INDICATED AT ELEV. 644.5, AND THE CHANNEL BOTTOM IS INDICATED AT ELEV. 633.

CURRENTLY THE BRIDGE INCLUDES A BARRICADED CLOSURE IN AN ABUNDANCE OF CAUTION FOR THE EXTERIOR BRIDGE BEAMS BENEATH THE SIDEWALKS WHICH SHOWED SECTION LOSS. THE CENTRAL, INTERIOR BRIDGE BEAMS WERE SUITABLE FOR SUPPORT OF CT’S DRILLING RIG.

CT PERFORMED A SITE RECONNAISSANCE ON DECEMBER 8, 2023. CRACKS WERE OBSERVED ALONG EACH OF THE ABUTMENTS, WITH ONE ABUTMENT WINGWALL OBSERVED TO HAVE TRANSLATED AWAY FROM THE SUPERSTRUCTURE. SPILL THROUGH SECTIONS WERE OBSERVED TO CONTAIN RIP RAP, SEDIMENT, AND DEBRIS. GRAVEL APPEARED BELOW THE WEST AND EAST SPANS TO HAVE ACCUMULATED TO A LEVEL ABOVE THE EXISTING STREAM AT THE TIME OF OUR RECONNAISSANCE. THE OBSERVABLE PORTIONS OF THE EXISTING BRIDGE PIERS APPEARED IN GENERALLY GOOD CONDITION.








THE EXISTING ASPHALT PAVEMENTS APPEARED IN FAIR CONDITION, WITH LONGITUDINAL AND TRANSVERSE CRACKS WHICH HAD BEEN SEALED. THE EXISTING BRIDGE DECK APPEARED IN FAIR CONDITION, WITH OCCASIONAL TRANSVERSE CRACKING.

SURROUNDING LAND USAGE CONSISTED OF RESIDENTIAL DEVELOPMENTS.

SUBSURFACE EXPLORATION

TWO TEST BORING, DESIGNATED AS BORING B-001-0-23 AND B-002-0-23 WERE DRILLED BY CT WERE DRILLED DURING THE PERIOD FROM NOVEMBER 30 THROUGH DECEMBER 12, 2023. THESE BORINGS ARE FULLY DESIGNATED AS BORINGS B-001-0-23 AND B-002-0-23 IN ACCORDANCE WITH ODOT PROTOCOL, BUT THE -0-23 PORTION OF THE NOMENCLATURE IS GENERALLY OMITTED IN THE DISCUSSIONS WITHIN THIS REPORT.

THE BORING PERFORMED DURING THIS EXPLORATION WERE DRILLED WITH A CME 75 TRUCK-MOUNTED DRILL RIG UTILIZING 3¼-INCH INSIDE DIAMETER HOLLOW-STEM AUGERS. DURING AUGER ADVANCEMENT, SPLIT-SPOON DRIVE SAMPLES WERE SAMPLED CONTINUOUSLY FOR 12 FEET THEN, GENERALLY TAKEN AT 2½-FOOT THEREAFTER. THE SAMPLES WERE SEALED IN JARS AND TRANSPORTED TO OUR LABORATORY FOR FURTHER CLASSIFICATION AND TESTING.

LEGEND				
DESCRIPTION		ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGMENTS	A-1-A	1	0
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-B	1	3
	SANDY SILT	A-4A	84	65
		TOTAL	155	197
	DOLOMITE			
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	BORING LOCATION - PLAN VIEW.			
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.			
N ₆₀	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
X/Y/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X = NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED) Y/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL			
W—	INDICATES FREE WATER ELEVATION.			
—▼	INDICATES STATIC WATER ELEVATION.			
—TR	TOP OF ROCK			
●	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			
QU	UNCONFINED COMPRESSIVE STRENGTH (ASTM D 2166 FOR SOIL, ASTM D 7012 METHOD C FOR ROCK)			

EXPLORATION FINDINGS

THE SURFACE MATERIALS ENCOUNTERED IN BORINGS B-001 AND B-002 CONSISTED OF APPROXIMATELY 8 TO 9 INCHES OF TOPSOIL UNDERLAIN BY 9 TO 12 INCHES OF AGGREGATE BASE, RESPECTIVELY.

THE SUBSOILS ENCOUNTERED UNDERLYING THE SURFACE MATERIALS CONSISTED COHESIVE EMBANKMENT FILL MATERIALS TO A DEPTH OF 15½ FEET IN BORING B-001 AND IN BORING B-002 TO A DEPTH OF 10½ FEET. UNDERLYING THE FILL MATERIAL CONSISTED OF PREDOMINANTLY STIFF TO VERY STIFF NATIVE COHESIVE SOILS. THESE SOILS WERE ENCOUNTERED IN BORING B-001 UNDERLYING THE TOPSOIL TO A DEPTH OF 15½ FEET AND IN BORING B-002 UNDERLYING THE TOPSOIL TO A DEPTH OF 13 FEET. THESE SOILS CONSISTED OF SANDY SILT (A-4A). SHALE WAS ENCOUNTERED UNDERLAYING THE COHESIVE SOILS TO DEPTHS OF 18 FEET IN BORING B-001 AND TO 24 FEET IN BORING B-002.

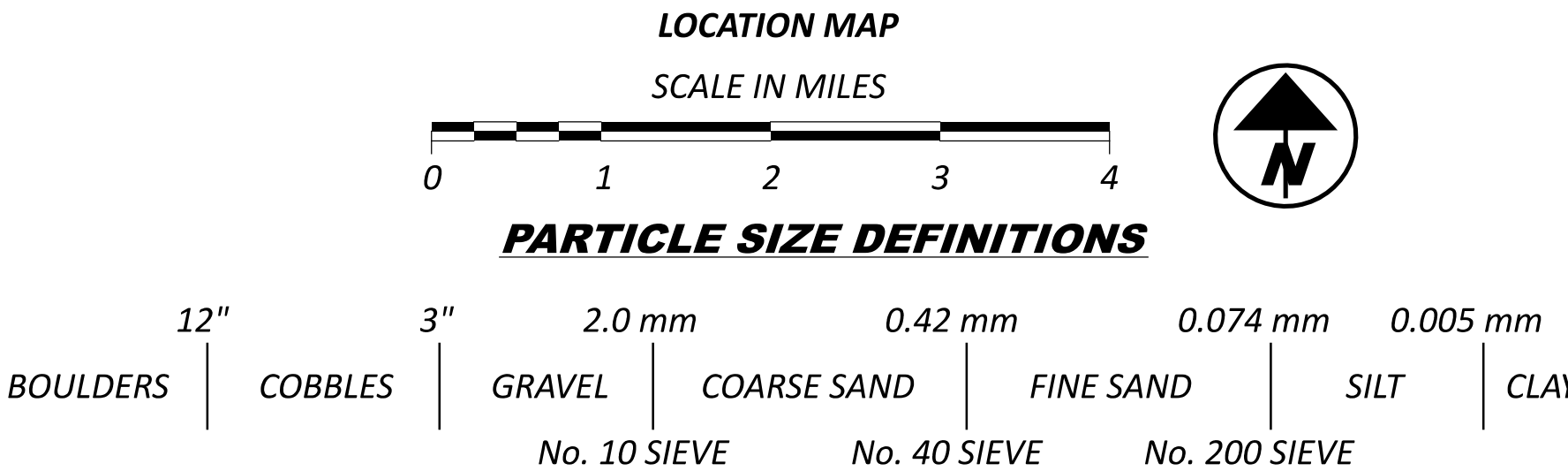
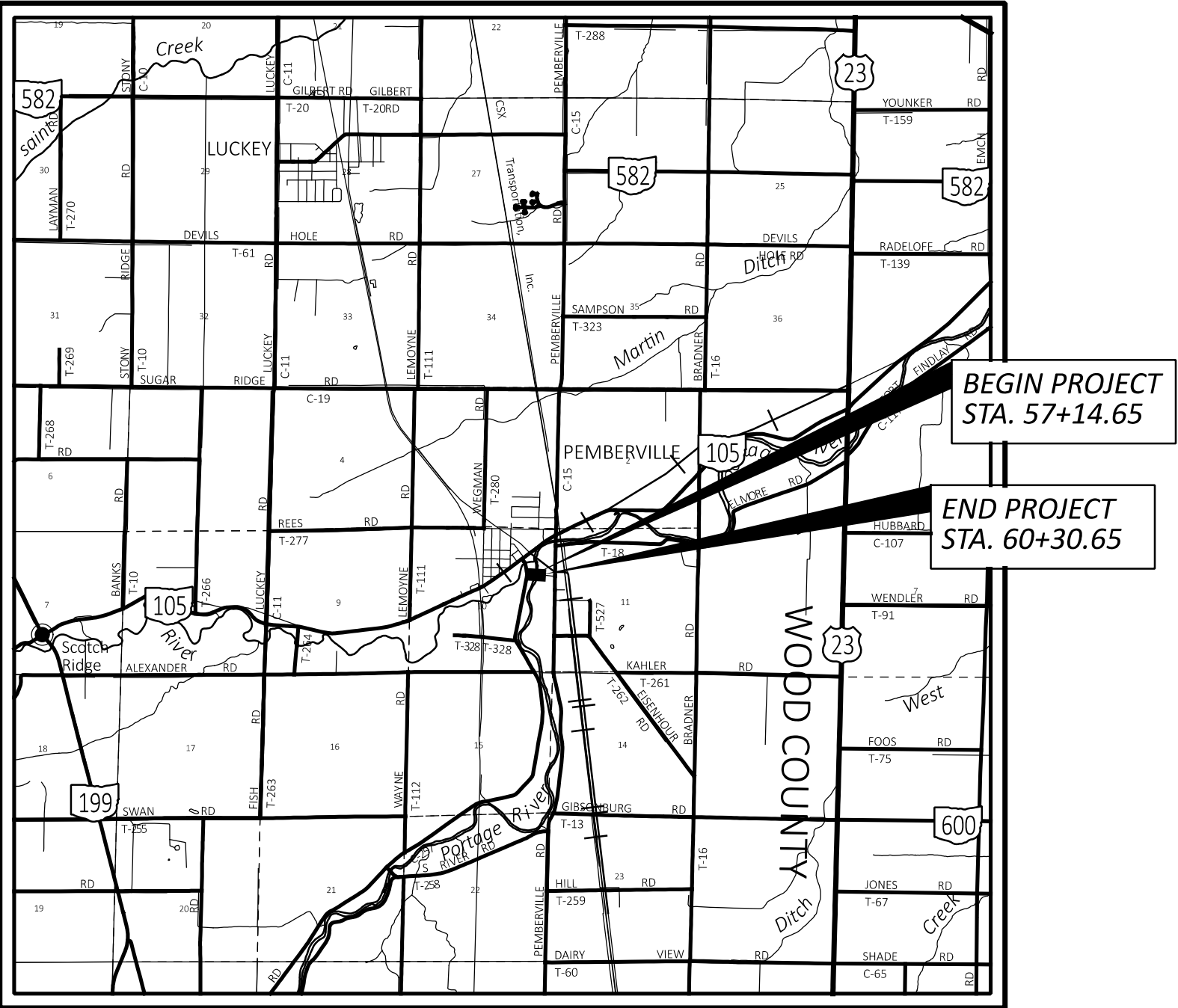
GROUNDWATER WAS INITIALLY ENCOUNTERED DURING DRILLING AT 15½ FEET AND 1½ FEET (ELEV. 1038± AND 1049±) IN BORINGS B-001 AND B-002, RESPECTIVELY. GROUNDWATER WAS NOT OBSERVED UPON COMPLETION OF DRILLING OPERATIONS IN EITHER BORING. WATER WAS INTRODUCED FOR ROCK CORING UPON ENCOUNTERING AUGER REFUSAL. IT SHOULD BE NOTED THAT THE BOREHOLES WERE DRILLED AND SEALED WITHIN ONE TO TWO DAYS, AND STABILIZED WATER LEVELS MAY HAVE NOT OCCURRED OVER THIS LIMITED TIME PERIOD.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS (SGE), DATED JULY 2022.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.



RECON. - BS 12/08/23

DRILLING - TB 12/13/23 TO 01/04/24

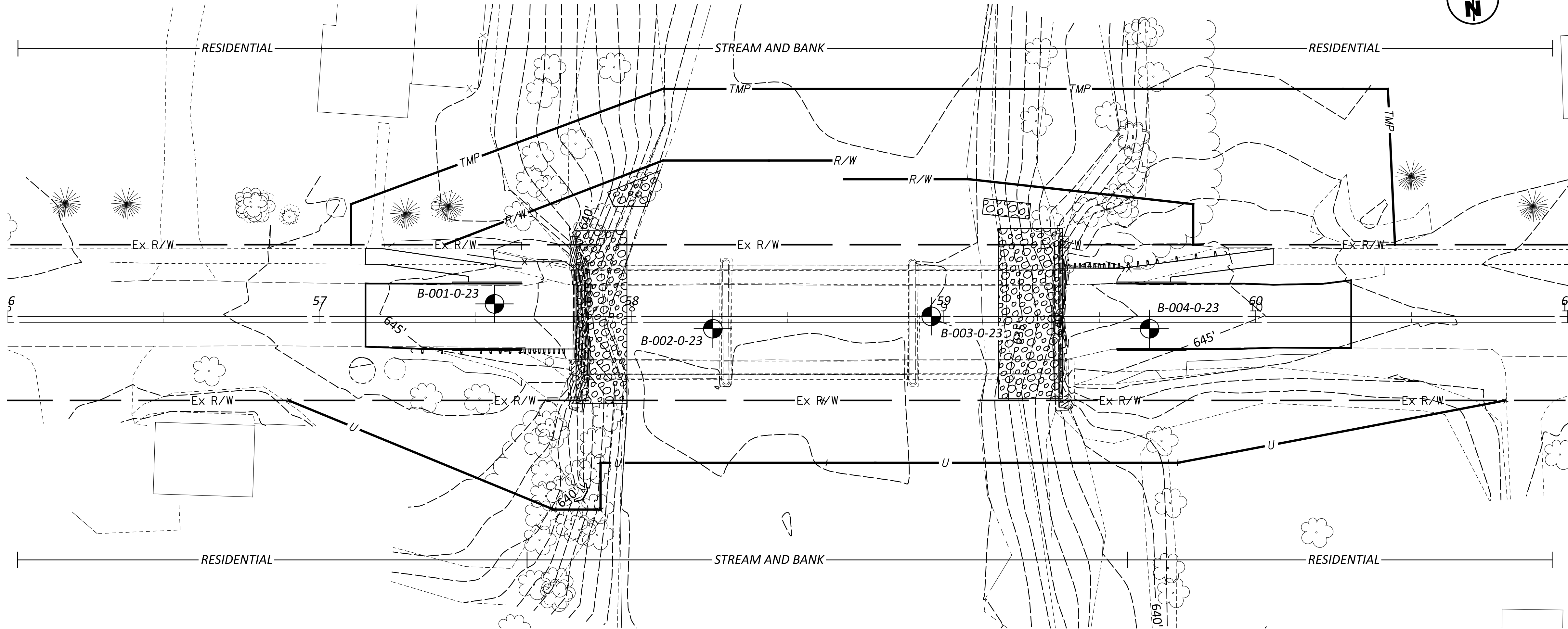
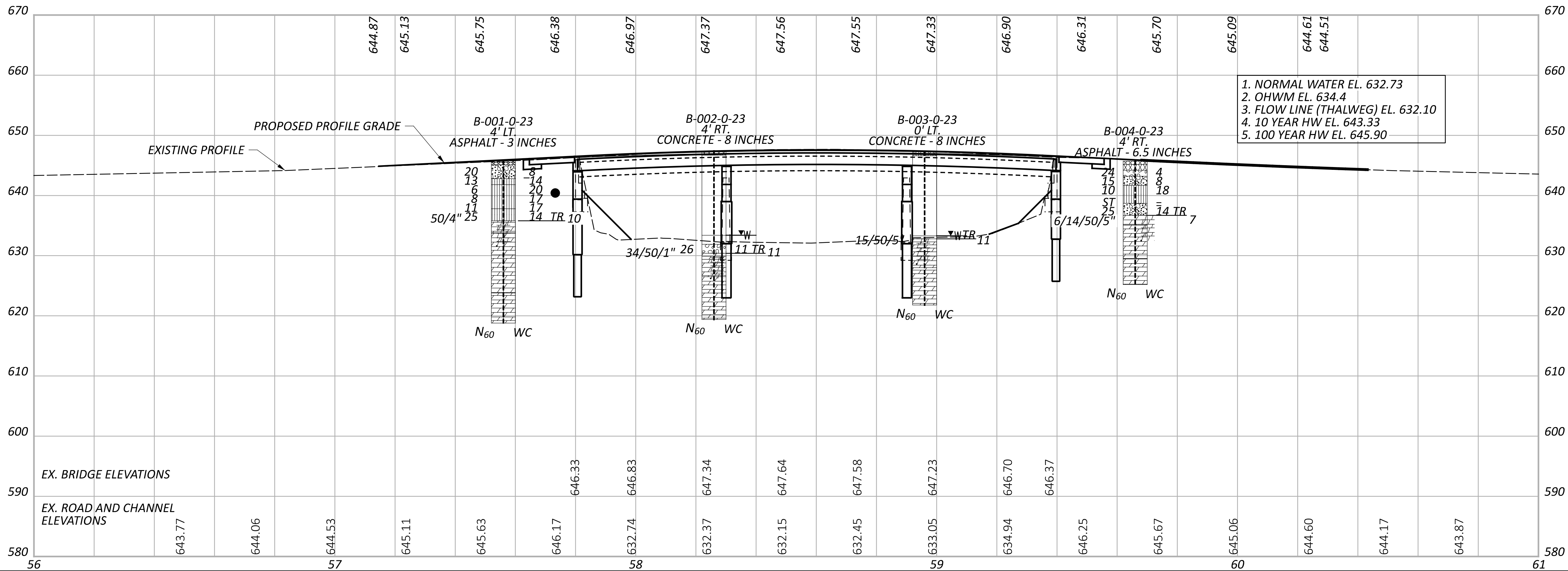
DRAWN - TLS 09/24

REVIEWED - JJH 09/24

DESIGN AGENCY	
	
DESIGNER	
TLS	
REVIEWER	
JJH 09/13/24	
PROJECT ID	
118539	
SUBSET	TOTAL
1	10
SHEET	TOTAL
P.36	45

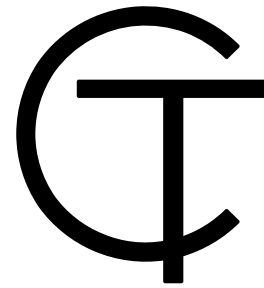
WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: Geotechnical - Plan 1 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:37:17 PM USER: GARRETT.BRENKE
pw:\tetrat-tech-us-pw\pww\Documents\118539\400-Engineering\Geotechnical\Sheets\118539_ZP001.dgn



GEOTECHNICAL PROFILE - BRIDGE
STA. 56+00 TO STA. 61+00

DESIGN AGENCY



DESIGNER

TLS

REVIEWER

IJH 09/13/24

PROJECT ID

118539

SUBSET TOTAL

2 10



SHEET TOTAL

P.37 45



HORIZONTAL
SCALE IN FEET





Compressive Strength of Rock ASTM D 7012, Method C

PROJECT		Proposed Bridge Replacement - Bridge Street		CT PROJECT NUMBER		231797	
LOCATION		Village of Pemberville, Ohio					
CLIENT		Tetra Tech					
BORING NUMBER		B-001-0-23		SAMPLE NUMBER		NQ2-2	
SAMPLE DEPTH (FEET)		22.0 TO 27.0		SPECIMEN DEPTH (FEET)		24.5 TO 24.9	
ROCK DESCRIPTION		DOLOMITE, GRAY, HIGHLY WEATHERED, STRONG, JOINTED - FRACTURED TO MODERATELY FRACTURED, TIGHT, ROUGH					
LENGTH (INCHES)		3.47		MASS (GRAMS)		460.80	
DIAMETER (INCHES)		1.99		UNIT WEIGHT (LBS/CU. FT.)		162.7	
LENGTH / DIAMETER		1.74					
CORRECTION FACTOR		1.0		MAXIMUM LOAD (LBS)		34,870	
AREA (SQ. IN.)		3.11		COMPRESSIVE STRENGTH (PSI)		10,990	
							
TEST SPECIMEN PHOTO				TEST SPECIMEN PHOTO			



Compressive Strength of Rock ASTM D 7012, Method C

PROJECT		Proposed Bridge Replacement - Bridge Street		CT PROJECT NUMBER		231797	
LOCATION		Village of Pemberville, Ohio					
CLIENT		Tetra Tech					
BORING NUMBER		B-002-0-23		SAMPLE NUMBER		NQ2-1	
SAMPLE DEPTH (FEET)		18.0 TO 23.0		SPECIMEN DEPTH (FEET)		21.2 TO 21.8	
Rock DESCRIPTION		DOLOMITE, GRAY, MODERATELY WEATHERED, MODERATELY STRONG, SANDY LAMINAE, JOINTED - FRACTURED TO MODERATELY FRACTURED, TIGHT, ROUGH					
LENGTH (INCHES)		3.99		MASS (GRAMS)		474.20	
DIAMETER (INCHES)		1.95		UNIT WEIGHT (LBS/CU. FT.)		151.6	
LENGTH / DIAMETER		2.05					
CORRECTION FACTOR		1.0		MAXIMUM LOAD (LBS)		16,450	
AREA (SQ. IN.)		2.99		COMPRESSIVE STRENGTH (PSI)		5,510	
							
TEST SPECIMEN PHOTO				TEST SPECIMEN PHOTO			

Compressive Strength of Rock ASTM D 7012, Method C

PROJECT	Proposed Bridge Replacement - Bridge Street		CT PROJECT NUMBER	231797
LOCATION	Village of Pemberville, Ohio			
CLIENT	Tetra Tech			
BORING NUMBER	B-003-0-23	SAMPLE NUMBER	NQ2-1	
SAMPLE DEPTH (FEET)	15.5 TO 20.5	SPECIMEN DEPTH (FEET)	20.1 TO 20.5	
ROCK DESCRIPTION	DOLOMITE, GRAY, SLIGHTLY WEATHERED, VERY STRONG, SANDY LAMINAE, JOINTED, MODERATELY FRACTURED TO SLIGHTLY FRACTURED, TIGHT, ROUGH;			
LENGTH (INCHES)	3.74	MASS (GRAMS)	474.60	
DIAMETER (INCHES)	1.97	UNIT WEIGHT (LBS/CU. FT.)	158.6	
LENGTH / DIAMETER	1.90			
CORRECTION FACTOR	1.0	MAXIMUM LOAD (LBS)	47,950	
AREA (SQ. IN.)	3.05	COMPRESSIVE STRENGTH (PSI)	15,570	
				
TEST SPECIMEN PHOTO		TEST SPECIMEN PHOTO		

Compressive Strength of Rock ASTM D 7012, Method C

PROJECT		Proposed Bridge Replacement - Bridge Street		CT PROJECT NUMBER		231797	
LOCATION		Village of Pemberville, Ohio					
CLIENT		Tetra Tech					
BORING NUMBER		B-004-0-23		SAMPLE NUMBER		NQ2-2	
SAMPLE DEPTH (FEET)		15.5 TO 20.5		SPECIMEN DEPTH (FEET)		16.2 TO 17.0	
ROCK DESCRIPTION		DOLOMITE, GRAY, SLIGHTLY WEATHERED, MODERATELY STRONG, JOINTED - SLIGHTLY FRACTURED, TIGHT, ROUGH					
LENGTH (INCHES)		4.00		MASS (GRAMS)		493.20	
DIAMETER (INCHES)		1.97		UNIT WEIGHT (LBS/CU. FT.)		154.1	
LENGTH / DIAMETER		2.03					
CORRECTION FACTOR		1.0		MAXIMUM LOAD (LBS)		16,960	
AREA (SQ. IN.)		3.05		COMPRESSIVE STRENGTH (PSI)		5,560	
							
TEST SPECIMEN PHOTO				TEST SPECIMEN PHOTO			

WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: Sheet PAPER SIZE: 34x22 (in.) DATE: 6/16/2025 TIME: 6:39:05 PM USER: GARRETT.BRENKE
pw: \\tetratech-us-pw.bentley.com:tetratech-us-pw-04\Documents\Village of Pemberville\200-62285

[illegible]

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/11/24 13:16 - X:\PROJECTS\231797.GPJ

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.25 BAG ASPHALT PATCH; AUGER CUTTINGS MIXED WITH 1.5 BAGS BENTONITE CHIPS

[illegible]

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/11/24 13:16 - X:\PROJECTS\231797.GPJ

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 0.5 BAG BENTONITE CHIPS; PLACED 0.25 BAG QUICKCRETE

DESIGN AGENCY	
	
DESIGNER	
TLS	
REVIEWER	
IJH 09/13/24	
PROJECT ID	
118539	
SUBSET	TOTAL
5	10
SHEET	TOTAL
P.40	45

GEOTECHNICAL PROFILE - BRIDGE
BORING LOGS B-001-0-23 & B-002-0-23

WOO MR 746 0.05 PEMBERVILLE BRIDGE

MODEL: Sheet PAPER: 34x22 (in.) DATE: 6/16/2025 TIME: 6:40:00 PM USER: GARRETT.BRENKE
pw:\tetrattech-us-pw\benley.com\tetrattech-us-pw-04\Documents\Village of Pemberville\200-622854-24001\118539\400-Engineering\Geotechnical\Sheets\118539_ZL002.dgn

PROJECT: PEMBERVILLE BRDG. REPL. TYPE: BRIDGE				DRILLING FIRM / OPERATOR: CT / CW				DRILL RIG: CME 550X ATV				STATION / OFFSET: 58+96, 0' LT.				EXPLORATION ID B-003-0-23						
PID: 118539 SFN: 8758948				SAMPLING FIRM / LOGGER: CT / KKC				HAMMER: CME AUTOMATIC				ALIGNMENT: BRIDGE STREET										
START: 1/4/24 END: 1/4/24				DRILLING METHOD: 3.25" HSA / NQ2				CALIBRATION DATE: 2/20/23				ELEVATION 647.3 (NAVD88) EOB: 25.5 ft.				PAGE 1 OF 1						
				SAMPLING METHOD: SPT / NQ2				ENERGY RATIO (%): 75.2				LAT / LONG: 41.409127, -83.456794										
MATERIAL DESCRIPTION AND NOTES				ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP ID	GRADATION (%)				ATTERBERG				ODOT CLASS (GI)	BACK FILL			
CONCRETE BRIDGE DECK - 8 INCHES BOTTOM OF BRIDGE DECK TO TOP OF WATER				647.3	1																	
				646.6	2																	
					3																	
					4																	
					5																	
					6																	
					7																	
					8																	
					9																	
					10																	
					11																	
					12																	
					13																	
					14																	
					15																	
					16																	
					17																	
					18																	
					19																	
					20																	
					21																	
					22																	
					23																	
					24																	
					25																	
WATER				633.3	633.3	15 50/5"	-	91	SS-1	-	65	16	8	10	1	NP	NP	NP	NP	A-1-a (0)		
GRAY, WEATHERED DOLOMITE, SOME SAND, LITTLE SILT, TRACE CLAY				632.8	TR																	
DOLOMITE, GRAY, SLIGHTLY WEATHERED, STRONG JOINTED, FRACTURED TO MODERATELY FRACTURED, TIGHT; ROUGH, NEAR-VERTICAL FRACTURING; RQD 59%, REC 100%.				631.8																		
DOLOMITE, GRAY, SLIGHTLY WEATHERED, VERY STRONG, SANDY LAMINAE, JOINTED, MODERATELY FRACTURED TO SLIGHTLY FRACTURED, TIGHT; ROUGH; RQD 86%, REC 100%. @20.1' TO 20.5': Qu=15,570 PSI, γ _{DRY} =158.6 PCF				628.0		57	100	NQ2-1												CORE		
						95	100	NQ2-2											CORE			

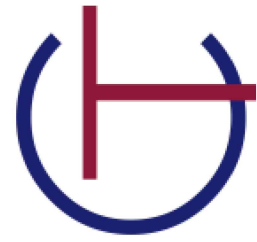


Office of Geotechnical Engineering

B-001-0-23



Core Date: December 12 and 13, 2023		Ground Surface Elevation: 646.0'			
Run #:	Depth	Elevation		Recovery	RQD
NQ2-1	12.0'	634.0'	624.0'	48/120	0/120
NQ2-2	22.0'	624.0'	619.0'	60/60	24/60
PROPOSED BRIDGE REPLACEMENT - BRIDGE STREET BRIDGE					



Prepared by

CT Project No.: 231707

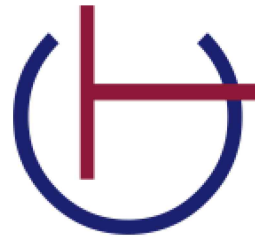


Office of Geotechnical Engineering

B-002-0-23



Core Date: January 4, 2024		Ground Surface Elevation: 646.0'			
Run #:	Depth	Elevation		Recovery	RQD
NQ2-1	18.0'	628.0'	623.0'	60/60	18/60
PROPOSED BRIDGE REPLACEMENT - BRIDGE STREET BRIDGE					



Prepared by

CT Project No.: 231797

DESIGN AGENCY	
DESIGNER	TLS
REVIEWER	IJH 09/13/24
PROJECT ID	
118539	
SUBSET	TOTAL
7	10
SHEET	TOTAL
P.42	45

GEOTECHNICAL PROFILE - BRIDGE
ROCK CORE PHOTO LOGS B-001-0-23 & B-002-0-23

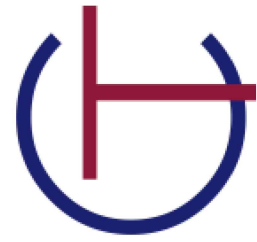


Office of Geotechnical Engineering

B-002-0-23



Core Date: January 4, 2024				Ground Surface Elevation: 628.2'				
Run #:	Depth		Elevation		Recovery		RQD	
NQ2-2	23.0'	28.0'	623.0'	618.0'	57/60	95%	45/60	75%
PROPOSED BRIDGE REPLACEMENT - BRIDGE STREET BRIDGE								



Prepared by

CT Project No.: 231797

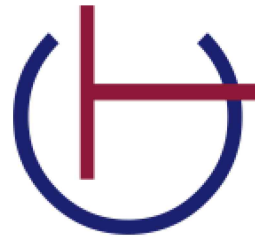


Office of Geotechnical Engineering

B-003-0-23



Core Date: January 4, 2024				Ground Surface Elevation: 646.0'			
Run #:	Depth		Elevation		Recovery		RQD
NQ2-1	15.5'	20.5'	630.5'	625.5'	60/60	100%	34/60
PROPOSED BRIDGE REPLACEMENT - BRIDGE STREET BRIDGE							



Prepared by

CT Project No.: 231797

DESIGN AGENCY	
DESIGNER	
REVIEWER	
PROJECT ID	
SUBSET	
SHEET	

GEOTECHNICAL PROFILE - BRIDGE

ROCK CORE PHOTO LOGS B-002-0-23 (CONT.) & B-003-0-23

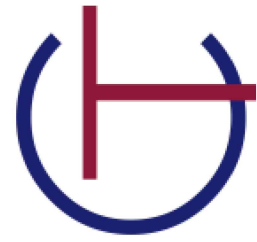


Office of Geotechnical Engineering

B-003-0-23



Core Date: January 4, 2024		Ground Surface Elevation: 646.0'			
Run #:	Depth		Elevation		Recovery
NQ2-2	20.5'	25.5'	625.5'	620.5'	60/60
100%					
57/60					
95%					
RQD					
PROPOSED BRIDGE REPLACEMENT - BRIDGE STREET BRIDGE					



Prepared by

CT Project No.: 231797

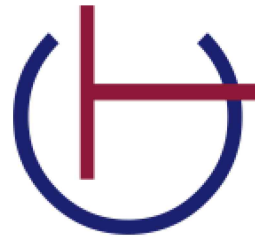


Office of Geotechnical Engineering

B-004-0-23



Core Date: January 3, 2024		Ground Surface Elevation: 646.0'			
Run #:	Depth		Elevation		Recovery
NQ2-1	10.5'	15.5'	635.5'	630.5'	60/60
100%					
10/60					
17%					
RQD					
PROPOSED BRIDGE REPLACEMENT - BRIDGE STREET BRIDGE					



Prepared by

CT Project No.: 231797

DESIGN AGENCY	
DESIGNER	
REVIEWER	
PROJECT ID	
SUBSET	
TOTAL	
SHEET	
TOTAL	

GEOTECHNICAL PROFILE - BRIDGE
ROCK CORE PHOTO LOGS B-003-0-23 (CONT.) & B-004-0-23

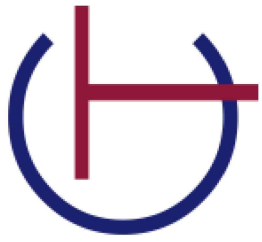


Office of Geotechnical Engineering

B-004-0-23



Core Date: January 3, 2024			Ground Surface Elevation: 646.0'		
Run #:	Depth		Elevation		Recovery
NQ2-2	15.5'	20.5'	630.5'	625.5'	48/60 80% 39/60 65%
PROPOSED BRIDGE REPLACEMENT - BRIDGE STREET BRIDGE					



Prepared by

CT Project No.: 231797