

INDEX OF SHEETS**SEE SHEET 2 FOR "INDEX OF SHEETS"****HIGHWAY STANDARDS****SEE SHEET 2 FOR "HIGHWAY STANDARDS"**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

D-98-010-07

PROPOSED HIGHWAY PLANS

**FAU ROUTE 8625 (OLD US 51)
SECTION 29-2BR
PROJECT BR-PV32(504)
BRIDGE REPLACEMENT OVER CROOKED CREEK
MARION COUNTY**

C-98-009-07

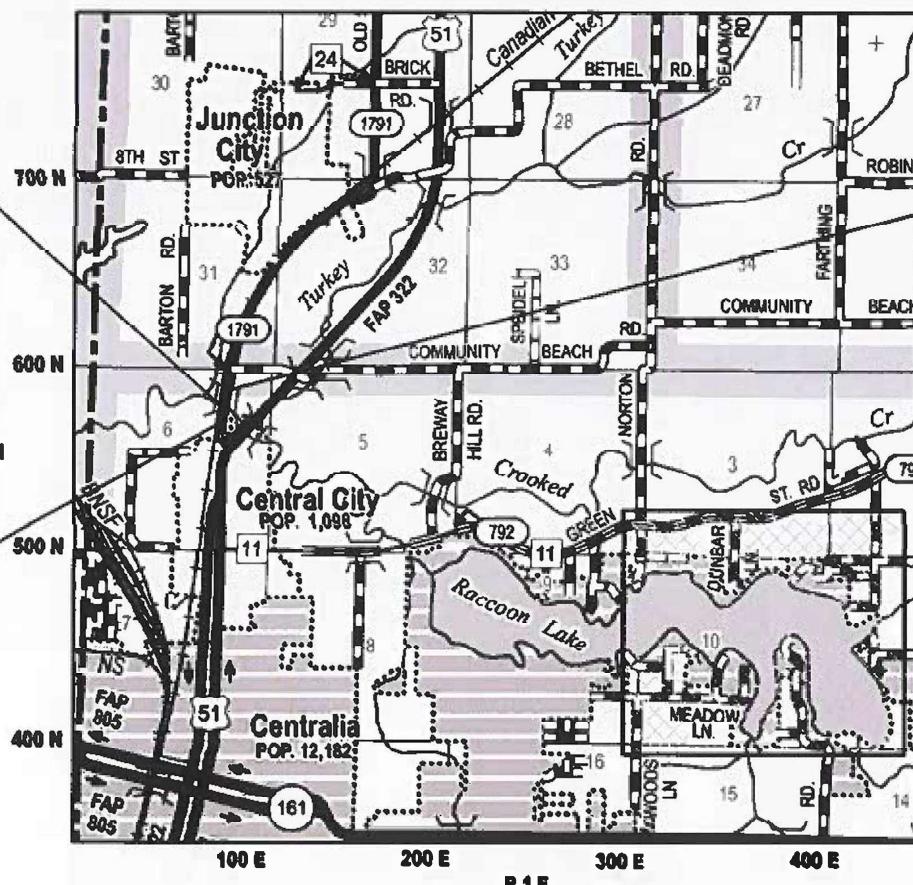


FRANCIS B. NELSON III, P.E.
DATE
ILLINOIS REGISTERED ENGINEER NO. 062-059187
REGISTRATION EXPIRES NOV. 30, 2025

DESIGN DESIGNATION:

OLD US ROUTE 51 (MAJOR COLLECTOR)
NOT CLASSIFIED AS A TRUCK ROUTE
SPEED LIMIT: 40 MPH & 55 MPH
ADT (CURRENT) = 1450 (2022)
P.V. = 1555 (96.2%)
S.U. = 44 (2.7%)
M.U. = 18 (1.1%)
ADT (FUTURE) = 1700 (2043)
HAD ILLINOIS WEST

**EX SN 061-0007
PR SN 061-0092**



**BEGIN IMPROVEMENT
STA 1543+93.99
N: 38° 33' 37"
W: 89° 07' 43"**



LOCATION OF SECTION INDICATED THUS: - - -

QEI
QUIGG ENGINEERING INC
2351 SOUTH DIRKSEN PARKWAY
SPRINGFIELD, ILLINOIS 62703
PROJECT MANAGER: MICHAEL CIMA
www.quiggingengineering.com



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GENERAL NOTES

- UTILITIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA:

UTILITY	TYPE
AMEREN	GAS/ELECTRIC
AT&T	COMMUNICATIONS
CHARTER COMMUNICATIONS	COMMUNICATIONS
VILLAGE OF CENTRAL CITY	WATER
CITY OF CENTRALIA	WATER
WINDSTREAM	COMMUNICATIONS
METRO COMMUNICATIONS	COMMUNICATIONS
VILLAGE OF SANDOVAL	WATER
- THE FOLLOWING FACILITIES ARE NOT MEMBERS OF J.U.L.I.E.:
 - IDOT
- IF THE CONTRACTOR, FOR HIS CONSTRUCTION ACTIVITY, REMOVES TREES WITHIN THE RIGHT-OF-WAY LIMITS WHICH ARE NOT DESIGNATED ON THE PLANS FOR REMOVAL, I.E. IN ORDER TO GAIN ACCESS TO THE PROJECT SITE; IT WILL BE HIS RESPONSIBILITY TO REPLACE THE TREES AT A 1:1 RATIO. THE TREES WILL BE REPLACED WITH A 1 GALLON NATIVE ILLINOIS TREE SPECIES AND SHALL BE APPROVED BY THE ENGINEER. THE TREE REMOVAL AND TREE REPLACEMENT WILL BE AT THE CONTRACTOR'S EXPENSE, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE RESIDENT ENGINEER SHALL VERIFY THE EXISTENCE OF HIGHWAY LIGHTING, INTELLIGENT TRANSPORTATION SYSTEMS (I.T.S.) UTILITIES, AND/OR ELECTRICAL CABLES ASSOCIATED WITH TRAFFIC SIGNALS WITHIN THE PROJECT LIMITS. IF ANY OF THESE EXIST WITHIN THE PROJECT LIMITS, AND IF THESE ITEMS REQUIRE LOCATING, THE CONTRACTOR SHALL BE DIRECTED TO DO SO ACCORDING TO SECTION 803 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE POSITIVE AND ADEQUATE DRAINAGE AT ALL TIMES.
- ALL ELEVATIONS REFER TO THE USGS MEAN SEA LEVEL DATUM.
- FACTORS FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

AGGREGATE (SURFACE, BASE, & BACKFILL)	2.0 TON/CU YD
BITUMINOUS MATERIALS:	
PRIME COAT FOR BITUMINOUS CONCRETE:	
-ON PAVEMENT	0.0002 TON/SQ YD
-ON AGGREGATE	0.002 TON/SQ YD
-ON COLD MILLED SURFACE	0.004 TON/SQ YD
-FOG COAT ON NEW BINDER	0.00012 TON/SQ
AGGREGATE (PRIME COAT)	
-ON EXISTING PAVEMENT	0.002 TON/SQ YD
-ON COLD MILLED SURFACE	0.002 TON/SQ YD
-FOG COAT ON NEW BINDER	0.001 TON/SQ YD
RIPRAP	1.5 TON/CU YD
CRACK ROUTING	0.4 LBS/FT
- ALL REMOVED GUARDRAIL COMPONENTS ARE THE PROPERTY OF THE CONTRACTOR AND THE SALVAGE VALUE OF SAID COMPONENTS SHALL BE REFLECTED IN THE CONTRACTOR'S BID.

HIGHWAY STANDARDS

STD NO.	DESCRIPTION
000001-09	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCHAND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420401-13	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001-04	NAME PLATE FOR BRIDGES
630001-13	STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1(SPECIAL) GUARDRAIL TERMINALS
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
701901-11	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
720006-04	SIGN PANEL ERECTION DETAILS
728001-01	TELESCOPING STEEL SIGN SUPPORT
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-ROAD OPERATIONS, 2L, 2W, DAY ONLY

PAVEMENT MIX DETAILS

MIXTURE USE	SHOULDER ≤ 8 FEET WIDE			
	SURFACE	BINDER	SHOULDER (LOWER)	SHOULDER (SURFACE)
AC/PG	PG 64-22	PG 64-22	PG 64-22	PG 64-22
DESIGN AIR Voids	4.0% @ NDES=70	4.0% @ NDES=70	4.0% @ NDES=30	4.0% @ NDES=30
MIXTURE COMPOSITION (GRADATION)	IL 9.5	IL 19.0	IL 19.0L	IL 9.5L
FRiction AGG	MIXTURE "C"	MIXTURE "B"		
QUALITY MGMT PROGRAM	QC/QA	QC/QA	QC/QA	QC/QA
MTD REQUIRED?	NO	NO	NO	NO

COMMITMENTS

- TREES THREE INCHES OR GREATER IN DIAMETER AT BREAST HEIGHT SHALL NOT BE CLEARED FROM APRIL 1 THROUGH SEPTEMBER 30 OF ANY GIVEN YEAR TO ASSURE BAT SPECIES ARE NOT ADVERSELY AFFECTED.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES & COMMITMENTS

SCALE: NONE	SHEET 1	OF 1	SHEETS STA.	TO STA.	ILLINOIS	FED. AID PROJECT
1791	29-2B	R	MARION	65	2	CONTRACT NO. 76A37

REV - MS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	80% FED 20% STATE	CONSTRUCTION TYPE CODE
				BRIDGE	
				0010	
	20100500 TREE REMOVAL, ACRES	ACRE	0.25	0.25	
	20200100 EARTH EXCAVATION	CU YD	409	409	
	20300100 CHANNEL EXCAVATION	CU YD	1,635	1,635	
	25000210 SEEDING, CLASS 2A	ACRE	0.25	0.25	
	25000400 NITROGEN FERTILIZER NUTRIENT	POUND	9	9	
	25000500 PHOSPHORUS FERTILIZER NUTRIENT	POUND	9	9	
	25000600 POTASSIUM FERTILIZER NUTRIENT	POUND	9	9	
	25100115 MULCH, METHOD 2	ACRE	0.25	0.25	
	28000250 TEMPORARY EROSION CONTROL SEEDING	POUND	9	9	
	28000305 TEMPORARY DITCH CHECKS	FOOT	10	10	
	28000400 PERIMETER EROSION BARRIER	FOOT	1,183	1,183	
	28100109 STONE RIPRAP, CLASS A5	SQ YD	2,546	2,546	
	28200200 FILTER FABRIC	SQ YD	2,546	2,546	
	30300112 AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	338	338	

* SPECIALTY ITEM

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	80% FED 20% STATE	CONSTRUCTION TYPE CODE
				BRIDGE	
				0010	
	31102000 SUBBASE GRANULAR MATERIAL, TYPE C	CU YD	7	7	RURAL
	40600275 BITUMINOUS MATERIALS (PRIME COAT)	POUND	1,396	1,396	
	40600290 BITUMINOUS MATERIALS (TACK COAT)	POUND	335	335	
	40701901 HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 11"	SQ YD	255	255	
	42000080 PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	107	107	
	44000100 PAVEMENT REMOVAL	SQ YD	782	782	
	48100500 AGGREGATE SHOULDERS, TYPE A 6"	SQ YD	449	449	
	48203029 HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	406	406	
	50100100 REMOVAL OF EXISTING STRUCTURES	EACH	1	1	
	50200100 STRUCTURE EXCAVATION	CU YD	369	369	
	50200300 COFFERDAM EXCAVATION	CU YD	97	97	
	50200400 ROCK EXCAVATION FOR STRUCTURES	CU YD	50	50	
	50201121 COFFERDAM (TYPE 2) (LOCATION - 1)	EACH	1	1	
	50201122 COFFERDAM (TYPE 2) (LOCATION - 2)	EACH	1	1	

* SPECIALTY ITEM

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	80% FED 20% STATE	CONSTRUCTION TYPE CODE
				BRIDGE	
				0010	RURAL
50300100	FLOOR DRAINS	EACH	12	12	
50300225	CONCRETE STRUCTURES	CU YD	221.5	221.5	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	326.6	326.6	
50300260	BRIDGE DECK GROOVING	SQ YD	1,010	1,010	
50300300	PROTECTIVE COAT	SQ YD	1,427	1,427	
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	94.8	94.8	
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1	
50500505	STUD SHEAR CONNECTORS	EACH	6,732	6,732	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	137,340	137,340	
51201900	FURNISHING STEEL PILES HP14X89	FOOT	280	280	
51202100	FURNISHING STEEL PILES HP14X117	FOOT	408	408	
51202305	DRIVING PILES	FOOT	280	280	
51203900	TEST PILE STEEL HP14X89	EACH	2	2	
51265001	DRILLING AND SETTING PILES (IN SOIL)	CU FT	78	78	

* SPECIALTY ITC



QEI
QUIGG ENGINEERING INC.

USER NAME	= FNelson	DESIGN
		DRAWN
PLOT SCALE	= 0.16666633' / in.	CHECKED
PLOT DATE	= 10/13/2025	DATE

ED	-	TO	REVISED	-
	-	TO	REVISED	-
ED	-	FBN	REVISED	-
	-	7/25/2025	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

OLD US 51

SUMMARY OF QUANTITIES OLD US 51						F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHET. NO.
SCALE: NONE						1791	29-2BR	MARION	65	5
									CONTRACT NO. 76A37	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	80% FED 20% STATE	CONSTRUCTION TYPE CODE
				BRIDGE	
51265002	DRILLING AND SETTING PILES (IN ROCK)	CU FT	552	552	0010
51500100	NAME PLATES	EACH	1	1	RURAL
52100510	ANCHOR BOLTS, 3/4"	EACH	24	24	
52100520	ANCHOR BOLTS, 1"	EACH	24	24	
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	234	234	
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	136	136	
*	63000001 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	575	575	
*	63100085 TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	
*	63100167 TRAFFIC BARRIER TERMINAL, TYPE 1(SPECIAL) TANGENT	EACH	4	4	
63200310	GUARDRAIL REMOVAL	FOOT	929	929	
*	66900200 NON-SPECIAL WASTE DISPOSAL	CU YD	104	104	
*	66900530 SOIL DISPOSAL ANALYSIS	EACH	1	1	
*	66901001 REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	L SUM	1	1	
*	66901003 REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	L SUM	1	1	

* SPECIALTY ITEM

REV - MS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	80% FED 20% STATE	CONSTRUCTION TYPE CODE
				BRIDGE	0010
*	66901006 REGULATED SUBSTANCES MONITORING	CAL DA	10	10	RURAL
*	67000400 ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	8	
*	67100100 MOBILIZATION	L SUM	1	1	
*	70107025 CHANGEABLE MESSAGE SIGN	CAL DA	260	260	
*	72501000 TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
*	78009006 MODIFIED URETHANE PAVEMENT MARKING - LINE 6"	FOOT	957	957	
*	78100100 RAISED REFLECTIVE PAVEMENT MARKER	EACH	2	2	
*	78200005 GUARDRAIL REFLECTORS, TYPE A	EACH	18	18	
*	78200011 BARRIER WALL REFLECTORS, TYPE C	EACH	16	16	
	X5080530 BAR TERMINATORS	EACH	422	422	
	X5230174 DRAINAGE SCUPPERS, DS-11	EACH	6	6	
	X7010216 TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1	
*	X7200075 REMOVE AND REINSTALL SIGN PANEL	SQ FT	57	57	
	X7200203 DETOUR SIGNING	L SUM	1	1	

* SPECIALTY ITEM

REV - MS

				80% FED 20% STATE	CONSTRUCTION TYPE CODE
Ø	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE
	Z0076600	TRAIINEES	HOUR	2500	0010
	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	RURAL
	Z0076604	TRAIINEES TRAINING PROGRAM GRADUATE	HOUR	2500	2500

* SPECIALTY ITEM

Ø 0042

REV - MS



USER NAME = FNelson	DESIGNED - TO	REVISED -
	DRAWN - TO	REVISED -
PLOT SCALE = 0.1666633' / in.	CHECKED - FBN	REVISED -
PLOT DATE = 10/13/2025	DATE - 7/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
OLD US 51

SCALE: NONE SHEET 6 OF 6 SHEETS STA. TO STA.

F.A.S RTE. 1791	SECTION 29-2BR	COUNTY MARION	TOTAL SHEETS 65	SHEET NO. 8
				CONTRACT NO. 76A37

ILLINOIS FED. AID PROJECT

EARTHWORK SCHEDULE							
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	COFFERDAM EXCAVATION	EXCAVATION ADJUSTED FOR SHRINKAGE (15%)	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)
NORTH OF BRIDGE							
STA 1543+93.94 TO STA 1548+24.00	223				190	56	134
SOUTH OF BRIDGE							
STA 1551+27.00 TO STA 1553+57.90	186				158	6	152
BRIDGE							
STA 1548+24.00 TO STA 1551+27.00		1,635	369	97	0		0
TOTALS	409	1,635	369	97	348	62	286

REMOVAL SCHEDULE				
LOCATION			GUARDRAIL REMOVAL	PAVEMENT REMOVAL
ROADWAY	STATION	REMARKS	FOOT	SQ YD
OLD US 51	1544+27.57 TO 1548+39.50	RT	282.17	
OLD US 51	1547+52.63 TO 1548+39.50	LT	206.65	
OLD US 51	1547+50.00 TO 1548+14.50	LT / RT		440.03
OLD US 51	1551+35.50 TO 1551+75.00	LT / RT		341.39
OLD US 51	1551+48.90 TO 1553+23.90	RT	207.18	
OLD US 51	1551+48.90 TO 1553+23.90	LT	232.55	
SUBTOTALS			928.55	781.42
USE			929	782

PAVEMENT SCHEDULE											
LOCATION				AGGREGATE SUBGRADE IMPROVEMENT 12"	SUBBASE GRANULAR MATERIAL, TYPE C	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 11"	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	AGGREGATE SHOULDER, TYPE A 6"	HOT-MIX ASPHALT SHOULDER, 8"
ROADWAY	STATION	LT / RT	REMARKS	SQ YD	CU YD	POUND	POUND	SQ YD	SQ YD	SQ YD	SQ YD
OLD US 51	1543+93.99 TO 1548+09.00	RT	SHOULDERS			370.51	74.10			192.34	180.95
OLD US 51	1547+18.63 TO 1548+09.00	LT	SHOULDERS			86.45	17.29			48.44	39.57
OLD US 51	1547+50.00 TO 1548+09.00	LT / RT	MAINLINE	216.33	4.14	354.00	106.20	163.36			
OLD US 51	1548+09.00 TO 1548+24.00	LT / RT	CONNECTOR							53.33	
OLD US 51	1551+20.50 TO 1551+42.00	LT / RT	CONNECTOR							53.33	
OLD US 51	1551+42.00 TO 1553+57.90	RT	SHOULDERS			193.04	38.61			103.95	92.51
OLD US 51	1551+42.00 TO 1553+57.90	LT	SHOULDERS			193.04	38.61			103.95	92.51
OLD US 51	1551+42.00 TO 1551+75.00	LT / RT	MAINLINE	121.00	2.32	198.00	59.40	91.37			
SUBTOTALS				337.33	6.46	1,395.04	334.21	254.73	106.66	448.68	405.54
USE				338	7	1,396	335	255	107	449	406

TREE REMOVAL SCHEDULE			
LOCATION		TREE REMOVAL, ACRES	
ROADWAY	STATION	REMARKS	ACRE
OLD US 51	1548+27.99 TO 1549+06.50		0.024
OLD US 51	1548+39.74 TO 1549+31.23		0.009
OLD US 51	1550+25.87 TO 1550+65.79		0.019
OLD US 51	1550+33.24 TO 1551+13.53		0.017
SUBTOTALS			0.069
USE			0.25

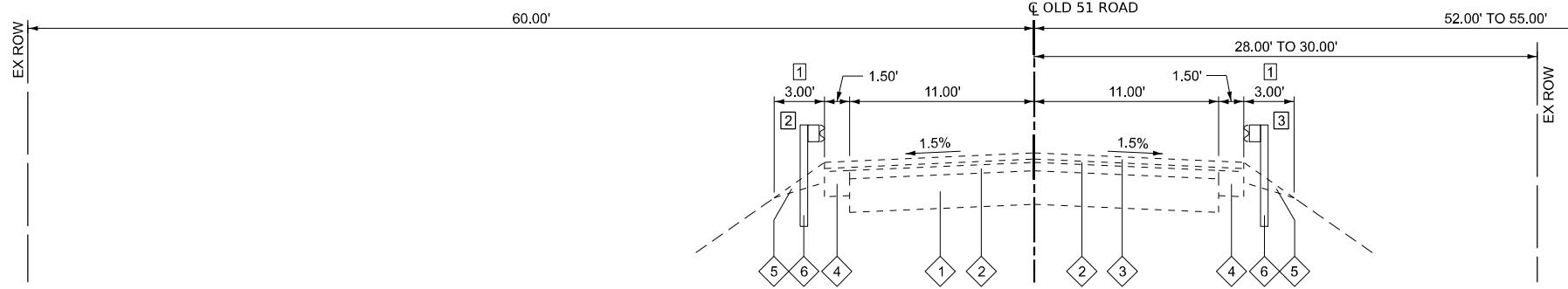
SEEDING SCHEDULE							
LOCATION			SEEDING, CLASS 2A	NITROGEN FERTILIZER NUTRIENT		PHOSPHOROUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT
ROADWAY	STATION	REMARKS	ACRE	POUND	POUND	POUND	MULCH, METHOD 2
OLD US 51	1543+93.94 TO 1548+43.00	RT	0.056	8.10	8.10	8.10	0.056
OLD US 51	1547+18.63 TO 1548+43.00	LT	0.007				0.007
OLD US 51	1551+08.00 TO 1553+57.90	RT	0.010				0.010
OLD US 51	1551+08.00 TO 1553+57.90	LT	0.017				0.017
SUBTOTALS			0.090	8.10	8.10	8.10	0.090
USE			0.25	9	9	9	0.25

EROSION CONTROL SCHEDULE					
LOCATION		TEMPORARY EROSION CONTROL SEEDING	TEMPORARY DITCH CHECKS	PERIMETER EROSION BARRIER	
ROADWAY	STATION	REMARKS	POUND	FOOT	FOOT
OLD US 51	1543+93.94 TO 1548+43.00	RT	5.6		
OLD US 51	1543+93.99 TO 1547+80.00	RT			400.5
OLD US 51	1547+12.00 TO 1549+40.00	LT			258.7
OLD US 51	1547+18.63 TO 1548+43.00	LT	0.7		
OLD US 51	1550+95.10 TO 1551+25.10	LT		10.0	
OLD US 51	1551+13.00 TO 1553+57.90	RT	1.0		269.5
OLD US 51	1551+20.00 TO 1553+57.90	LT	1.7		253.9
SUBTOTALS			9.0	10.0	1,182.6
USE			9	10	1,183

PAVEMENT MARKING SCHEDULE				
LOCATION			MODIFIED URETHANE PAVEMENT MARKING - LINE 6"	RAISED REFLECTIVE PAVEMENT MARKER
ROADWAY	STATION	REMARKS	FOOT	EACH
OLD US 51	1547+50.00 TO 1551+75.00	LT	425.00	
OLD US 51	1547+50.00 TO 1551+75.00	CENTERLINE	106.25	2
OLD US 51	1547+50.00 TO 1551+75.00	RT	425.00	
SUBTOTALS			956.25	2.00
USE			957	2

GUARDRAIL SCHEDULE								
LOCATION			STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 6	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	TERMINAL MARKER - DIRECT APPLIED	GUARDRAIL REFLECTORS, TYPE A	BARRIER WALL REFLECTORS, TYPE C
ROADWAY	STATION	REMARKS	FOOT	EACH	EACH	EACH	EACH	EACH
OLD US 51	1544+27.57 TO 1548+39.50	RT	325.00	1	1	1	6	
OLD US 51	1547+52.63 TO 1548+39.50	LT		1	1	1	4	
OLD US 51	1548+44.50 TO 1551+05.50	LT					8	
OLD US 51	1548+44.50 TO 1551+05.50	RT					8	
OLD US 51	1551+12.00 TO 1553+23.90	RT	125.00	1	1	1	4	
OLD US 51	1551+12.00 TO 1553+23.90	LT	125.00	1	1	1	4	
SUBTOTALS			575.00	4	4	4	18	16
USE			575	4	4	4	18	16

SIGNING SCHEDULE										
LOCATION	SIGN CODE	STATION	LT/RT	DESCRIPTION	MOUNTING TYPE	SIGN PANEL WIDTH	SIGN PANEL HEIGHT	SIGN PANEL AREA	REMOVE AND REINSTALL SIGN PANEL	
(ROAD)	(MUTCD or IDOT)	(STA)				(INCH)	(INCH)	(SQ FT)	(SQFT)	
OLD US 51	W3-1	1546+95	RT	STOP AHEAD	TELESCOPING STEEL	36.00	36.00	9.00	9.00	
OLD US 51	I-3	1548+55	RT	CROOKED CREEK		30.00	24.00	5.00	5.00	
OLD US 51	I-3	1551+02	LT	CROOKED CREEK		30.00	24.00	5.00	5.00	
OLD US 51	I1-I100	1552+08	RT	CENTRAL CITY POPULATION		48.00	42.00	14.00	14.00	
OLD US 51	R2-1			SPEED LIMIT 40		36.00	48.00	12.00	12.00	
OLD US 51	R2-1	1552+12	LT	SPEED LIMIT 55		36.00	48.00	12.00	12.00	
SUBTOTALS								57.0		
USE								57		

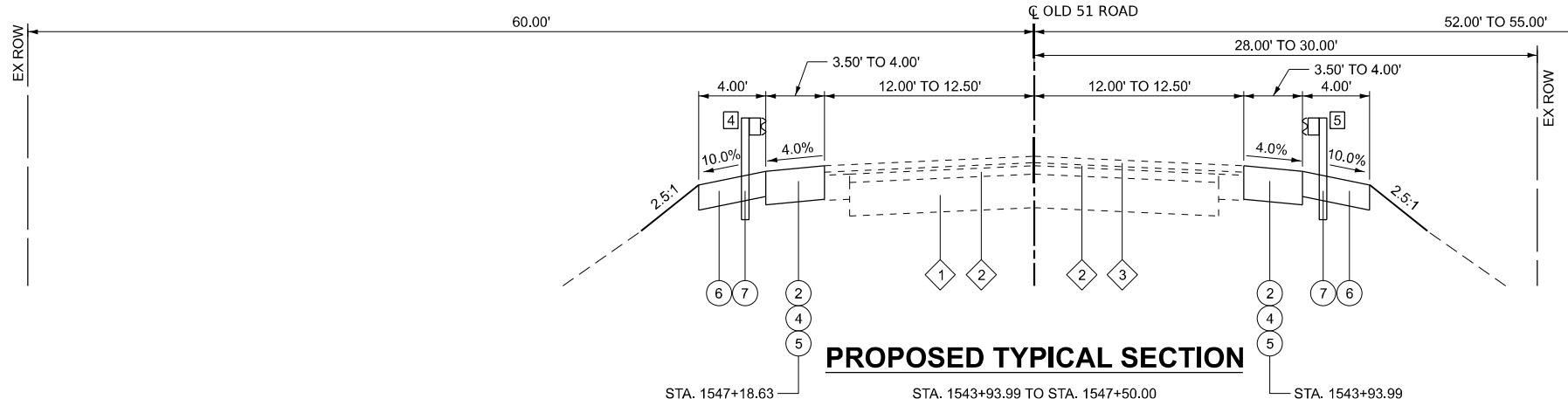


TYPICAL SECTION LEGEND

- 1 EXISTING PCC BASE COURSE (UNKNOWN THICKNESS)
- 2 EXISTING HMA BINDER COURSE (UNKNOWN THICKNESS)
- 3 EXISTING HMA SURFACE COURSE 1 1/2"
- 4 EXISTING HMA SHOULDER (UNKNOWN THICKNESS)
- 5 EXISTING AGGREGATE WEDGE SHOULDER
- 6 EXISTING GUARDRAIL

EXISTING TYPICAL SECTION

STA. 1543+98.33 TO STA. 1548+14.50
STA. 1551+75.00 TO STA. 1553+52.00



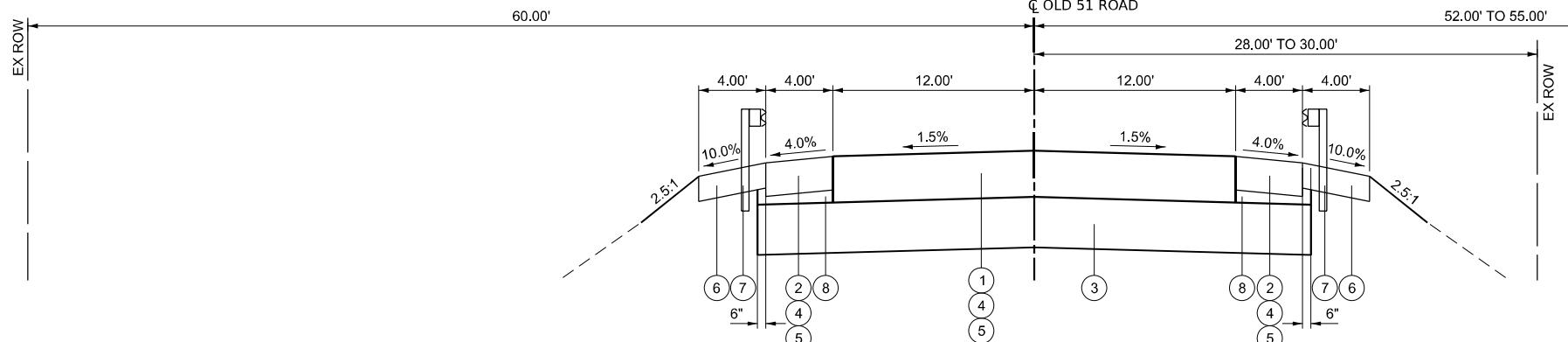
- 1 HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 11"
- 2 HOT-MIX ASPHALT SHOULDERs, 8"
- 3 AGGREGATE SUBGRADE IMPROVEMENT 12"
- 4 BITUMINOUS MATERIALS (PRIME COAT)
- 5 BITUMINOUS MATERIALS (TACK COAT)
- 6 AGGREGATE SHOULDERs, TYPE A, 6"
- 7 STEEL PLATE BEAM GUARDRAIL
- 8 SUBBASE GRANULAR MATERIAL, TYPE C

COMPOSED TYPICAL SECTION

STA. 1543+93.99 TO STA. 1547+50.00
STA. 1551+75.00 TO STA. 1553+57.90

BRIDGE OMISSION

STA. 1548+09.00 TO STA. 1551+42.00



TYPICAL SECTION NOTES

- ☐ AGGREGATE SHOULDER VARIES AT GUARDRAIL LOCATIONS
- ☐ EXISTING GUARDRAIL BEGINS AT STA. 1546+57.65 LT AND ENDS AT STA. 1553+28.68 LT
- ☐ EXISTING GUARDRAIL BEGINS AT STA. 1545+82.16 RT AND ENDS AT STA. 1553+03.38 RT
- ☐ PROPOSED GUARDRAIL BEGINS AT STA. 1547+52.63 LT AND ENDS AT STA. 1553+23.90 LT
- ☐ PROPOSED GUARDRAIL BEGINS AT STA. 1544+27.57 RT AND ENDS AT STA. 1553+23.90 RT

PROPOSED TYPICAL SECTION

STA. 1547+50.00 TO STA. 1548+09.00
STA. 1551+42.00 TO STA. 1551+75.00

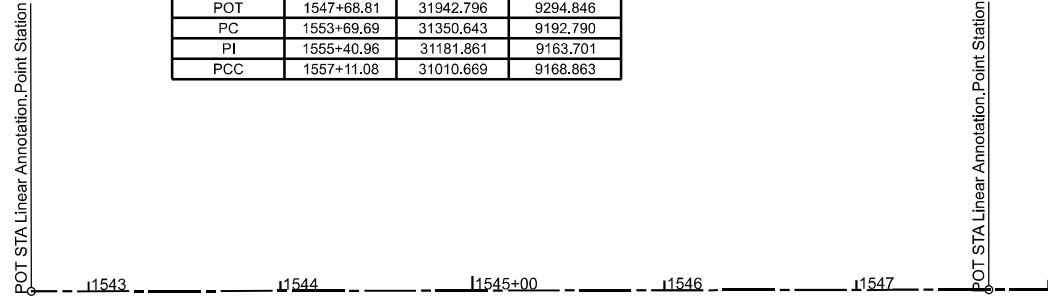
LOW DISTORTION PROJECTION - MARION COUNTY

SITE CONTROL

CONTROL POINTS				
POINT #	STATION	NORTHING	EASTING	DESCRIPTION
CP 11	1548+28.39	31880.4999	9305.4858	IP + ALUMINUM CAP
CP 12	1551+26.33	31594.0826	9213.1398	IP + PLASTIC CAP
CP 13	1555+83.61	31137.3043	9187.7318	IP + PLASTIC CAP
CP 14		30726.6517	9211.6613	IP + ALUMINUM CAP
CP 15		33218.1903	9511.6585	IP + ALUMINUM CAP
CP 16		32711.7346	9409.1566	IP + PLASTIC CAP

PERIMETER CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
cazm	21499.6361	2617.2731	DISK IN CONCRETE
fm39	34513.2536	10054.7846	STAINLESS STEEL ROD IN SLEEVE
fm40	30605.1588	9236.6274	STAINLESS STEEL ROD IN SLEEVE
fm42	24980.7886	8662.2592	STAINLESS STEEL ROD IN SLEEVE
MR02	21059.6965	14599.2683	IP + ALUMINUM CAP
MR09	43416.0410	15171.2236	IP + ALUMINUM CAP
MR10	43624.8512	3088.4569	IP + ALUMINUM CAP

COORDINATE DATA			
POINT TYPE	STATION	NORTHING	EASTING
POT	1542+70.10	32434.402	9378.703
POT	1547+68.81	31942.796	9294.846
PC	1553+69.69	31350.643	9192.790
PI	1555+40.96	31181.861	9163.701
PCC	1557+11.08	31010.669	9168.863



BASIS OF BEARING/COORDINATES

LOW DISTORTION PROJECTION - MARION COUNTY
PROJECTION: LAMBERT CONFORMAL CONIC (SINGLE PARALLEL)
LATITUDE OF ORIGIN: 38°39'00"N
CENTRAL MERIDIAN: 88°55'00"W
FALSE NORTHING: 65,000 SFT
FALSE EASTING: 70,000 SFT
CM SCALE FACTOR: 1.00001913

BM 1100

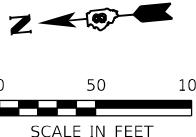
SET RR SPIKE IN THE E. SIDE OF POWER POLE ON THE W. SIDE OF OLD US 51 AT THE "T" INTERSECTION OF OLD US 51 & COMMUNITY BEACH RD.
ELEV. = 464.64'

BM 1101

FOUND CHISELED " " ON THE SE CORNER OF THE SW PARAPET WALL.
ELEV. = 470.786'

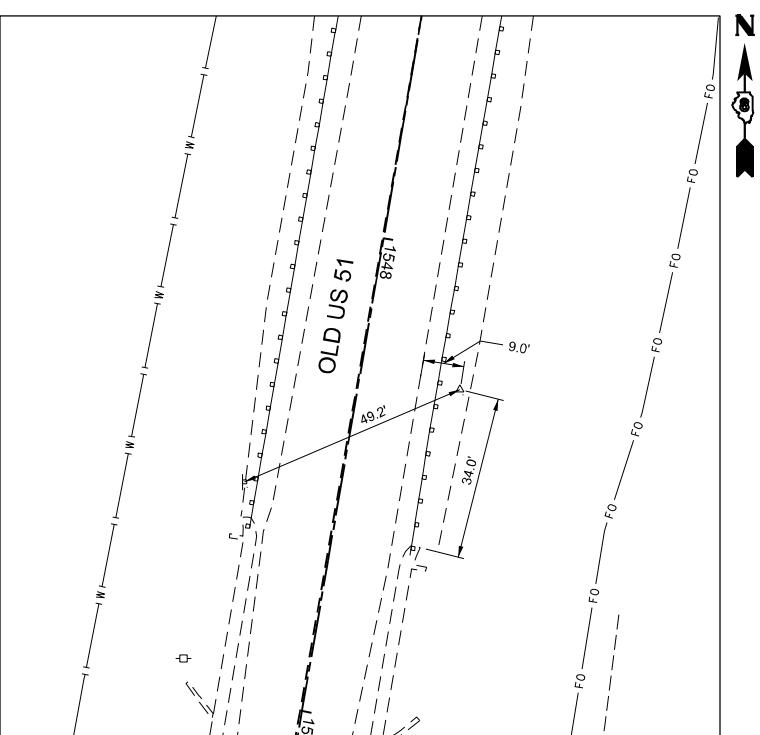
BM 1102

FOUND RR SPIKE IN E. SIDE OF POWER POLE ON THE W. SIDE OF OLD US 51 +/- 211' S. OF THE CENTER OF SN 061-0007 OVER CROOKED CREEK
ELEV. = 467.389'

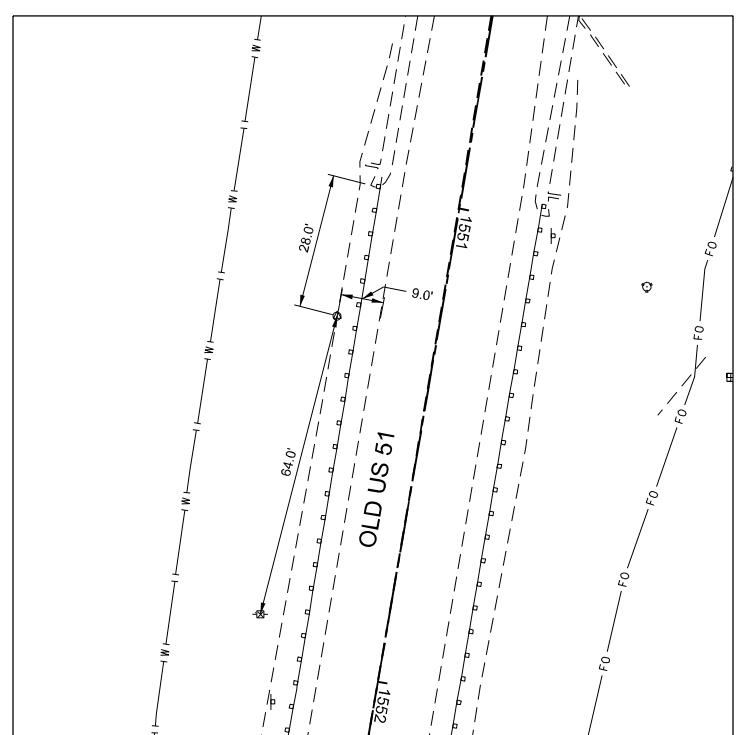


PR CURVE
PI STA = 1555+40.96
Δ = 11°30'21" (LT)
D = 03°22'13"
R = 1,700.00'
T = 171.27'
L = 341.39'
E = 8.61'
e =
TR =
SE RUN =
PC STA = 1553+69.69
PT STA = 1557+11.08

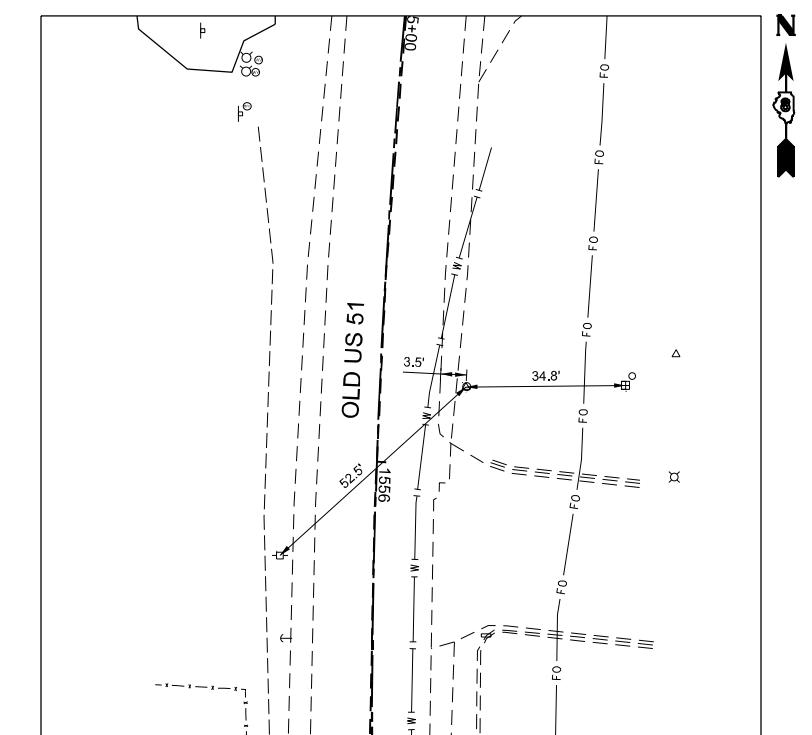
CP 11



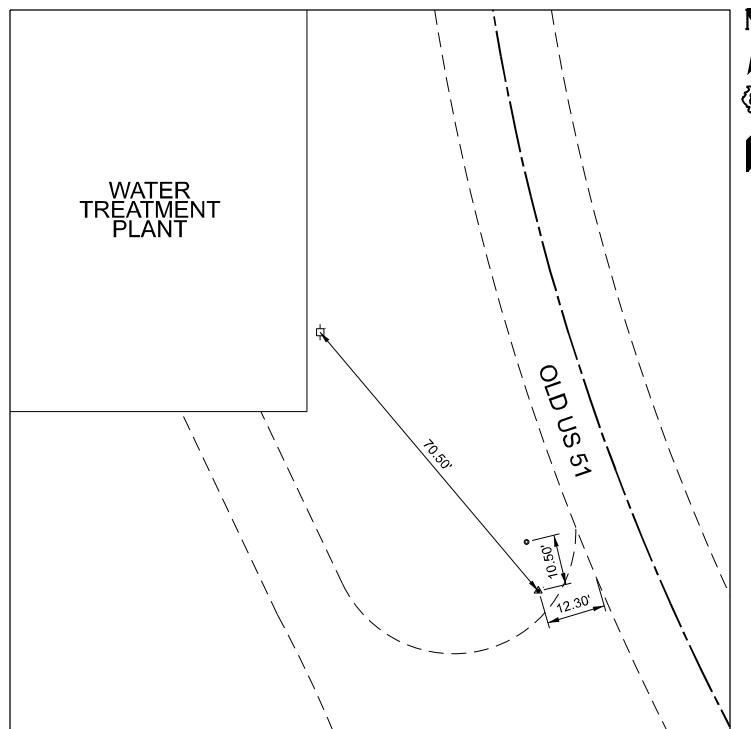
CP 12



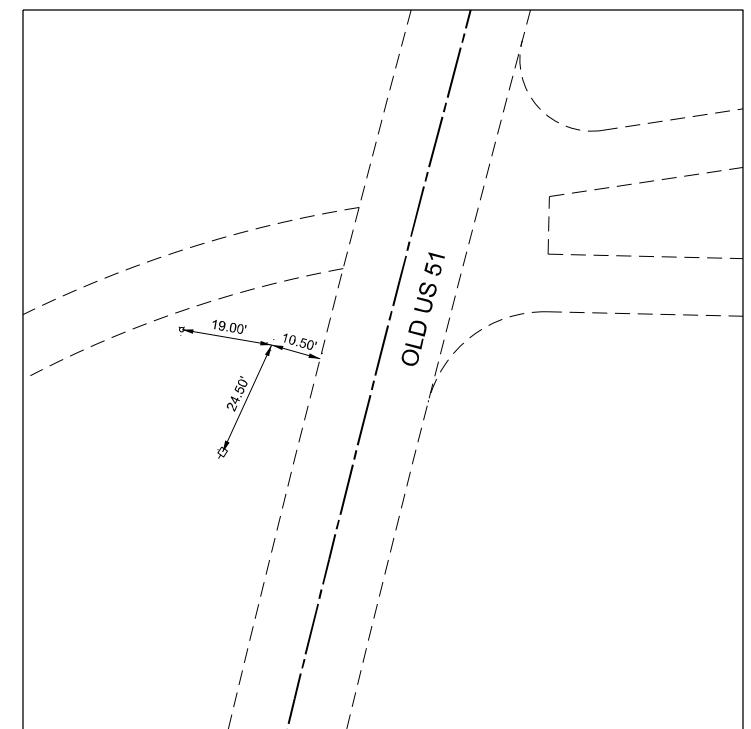
CP 13



CP 14



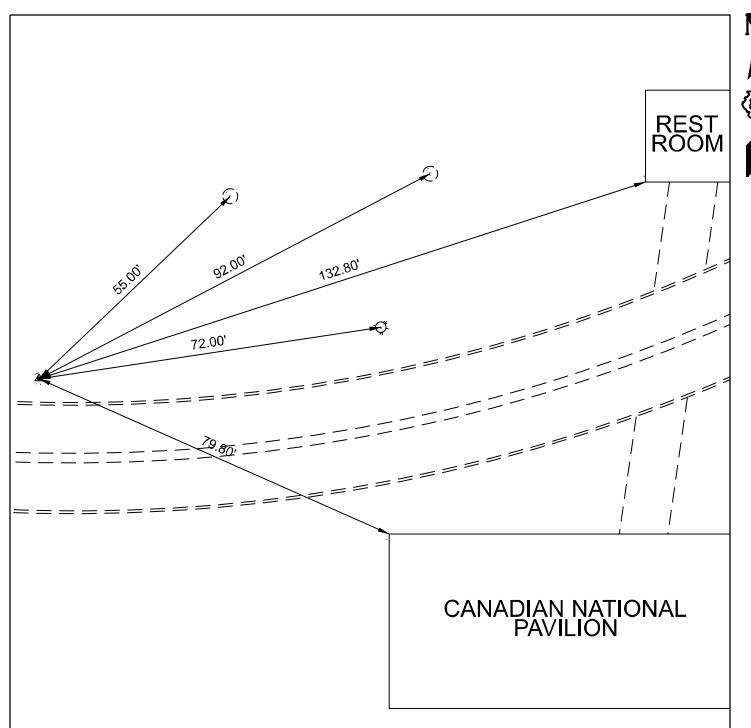
CP 15



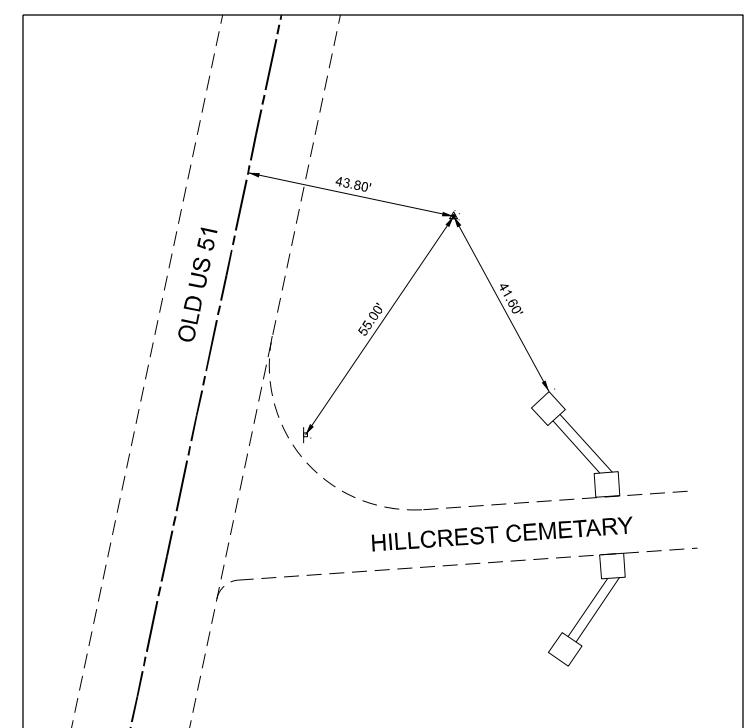
CP 16



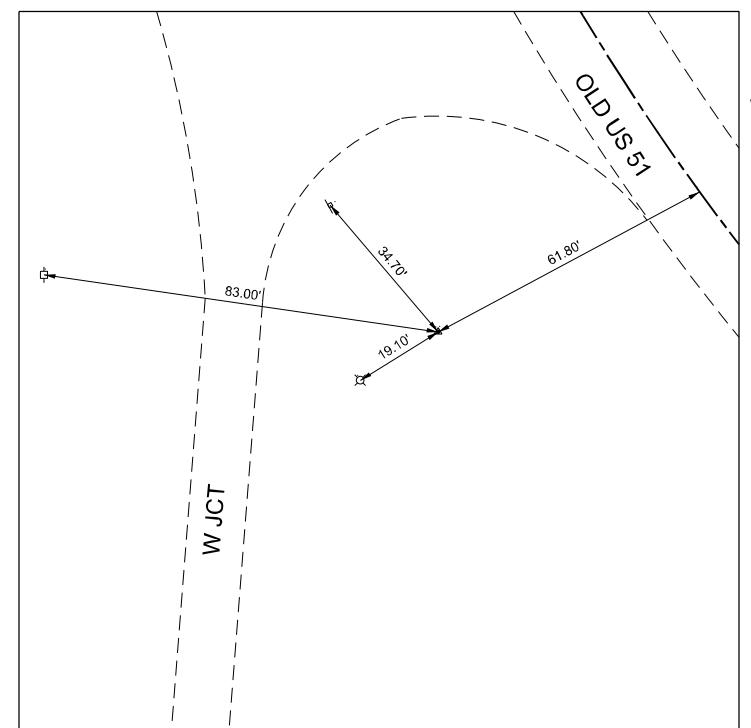
CAZM



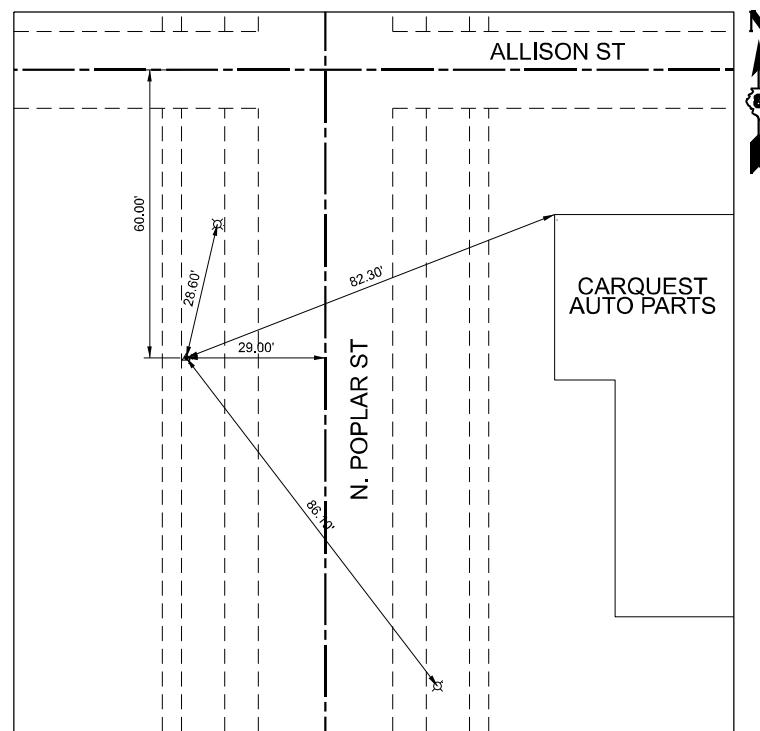
FM39



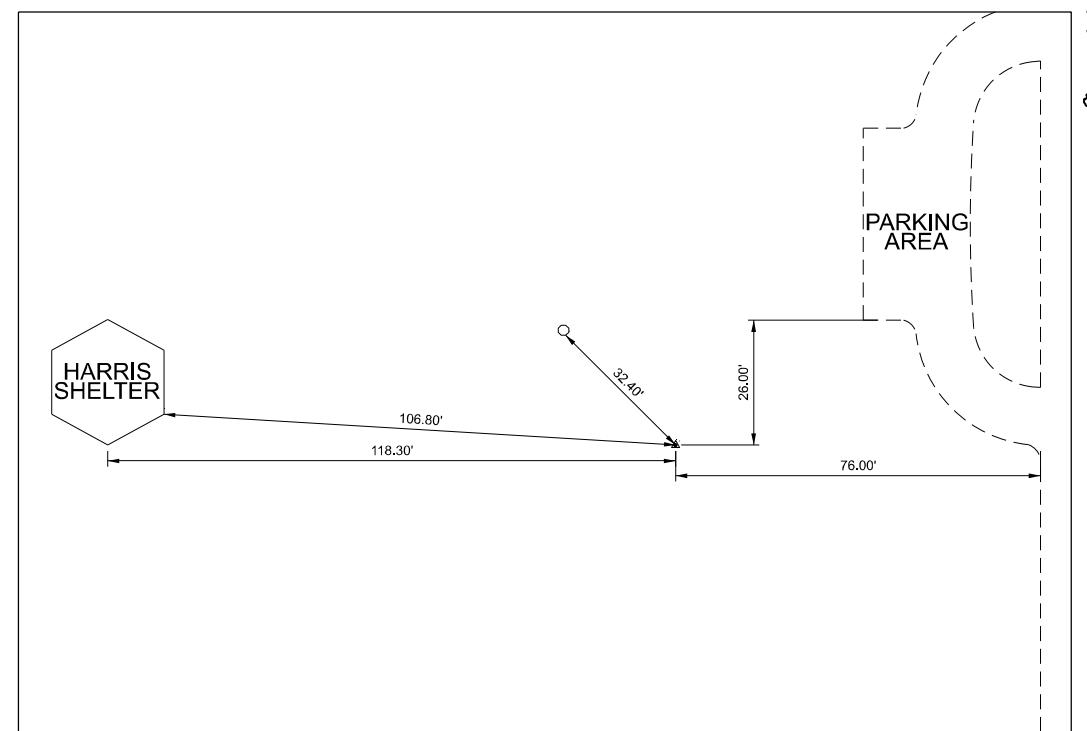
FM40



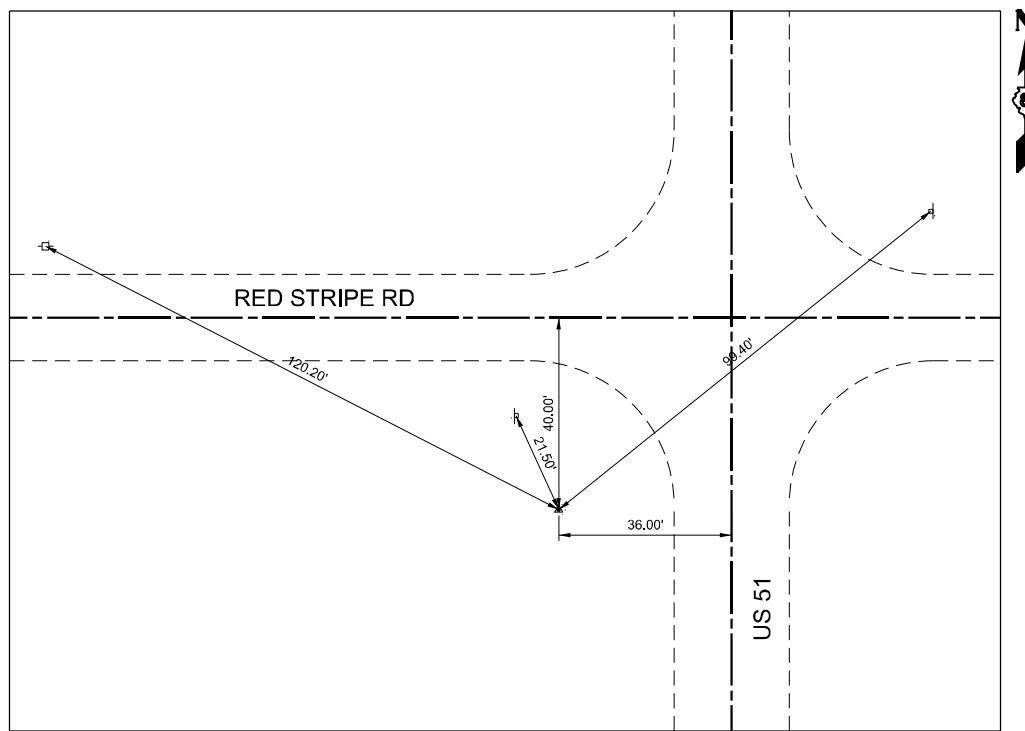
FM 42



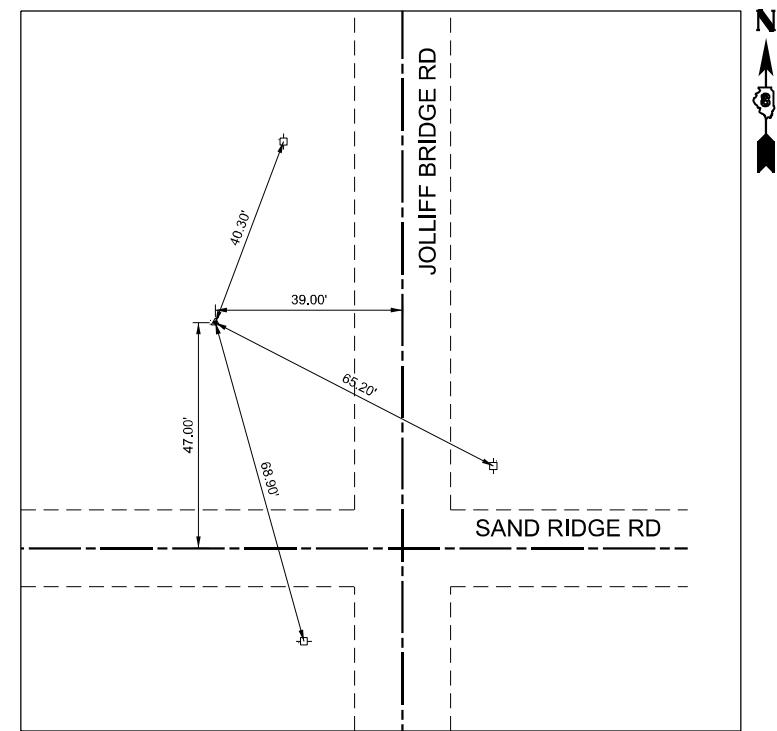
MR2



MR9



MR10





USER NAME = TNeffSmith
DESIGNED - MAW
DRAWN - MAW
PLOT SCALE = 0.1666633' / in.
PLOT DATE = 8/20/2025

REVISED -
REVISED -
REVISED -
REVISED -

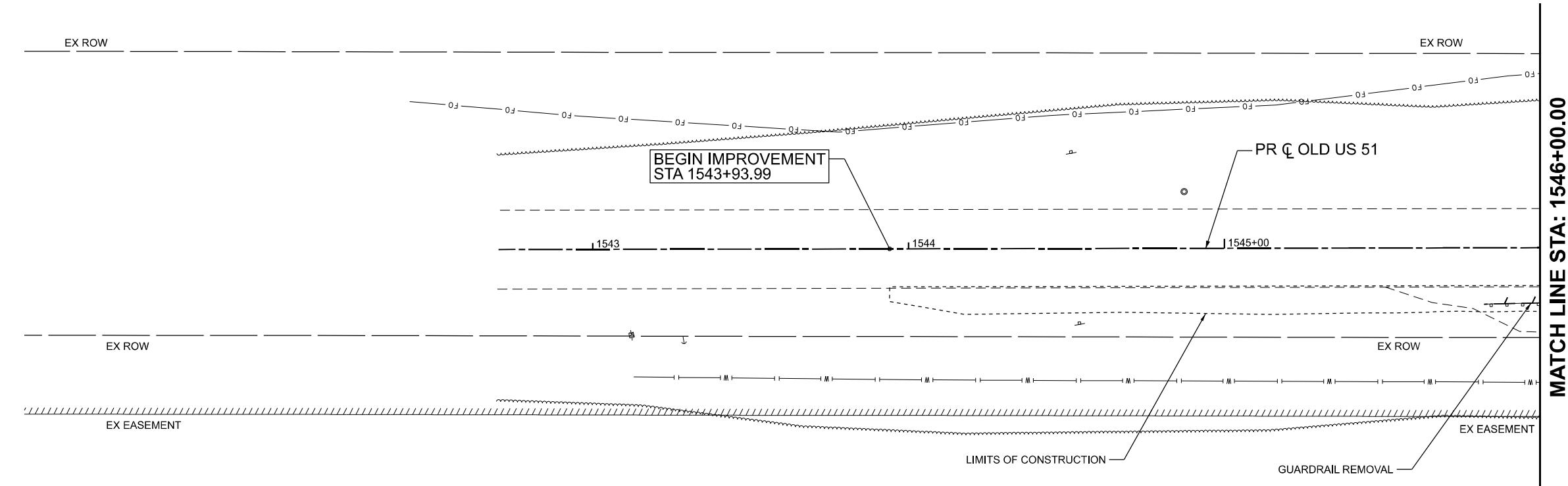
DATE - 7/25/2025

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REMOVAL PLAN
OLD US 51

SCALE: 1"=20' SHEET 1 OF 3 SHEETS STA. BEGIN STATION TO STA. 1546+00.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2BR	MARION	65	16
				CONTRACT NO. 76A37
				ILLINOIS FED. AID PROJECT



LEGEND

- TREE REMOVAL ACRES
- PAVEMENT REMOVAL
- LINEAR ITEM REMOVAL



USER NAME = TNeffSmith
DESIGNED - MAW
DRAWN - MAW
PLOT SCALE = 0.1666633' / in.
PLOT DATE = 8/20/2025

REVISED -
REVISED -
REVISED -
REVISED -
DATE - 7/25/2025

REVISED -
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REMOVAL PLAN
OLD US 51

SCALE: 1"=20' SHEET 2 OF 3 SHEETS STA. 1546+00.00 TO STA. 1552+00.00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	HEET NO.
1791	29-2BR	MARION	65	17

LEGEND

TREE REMOVAL ACRES

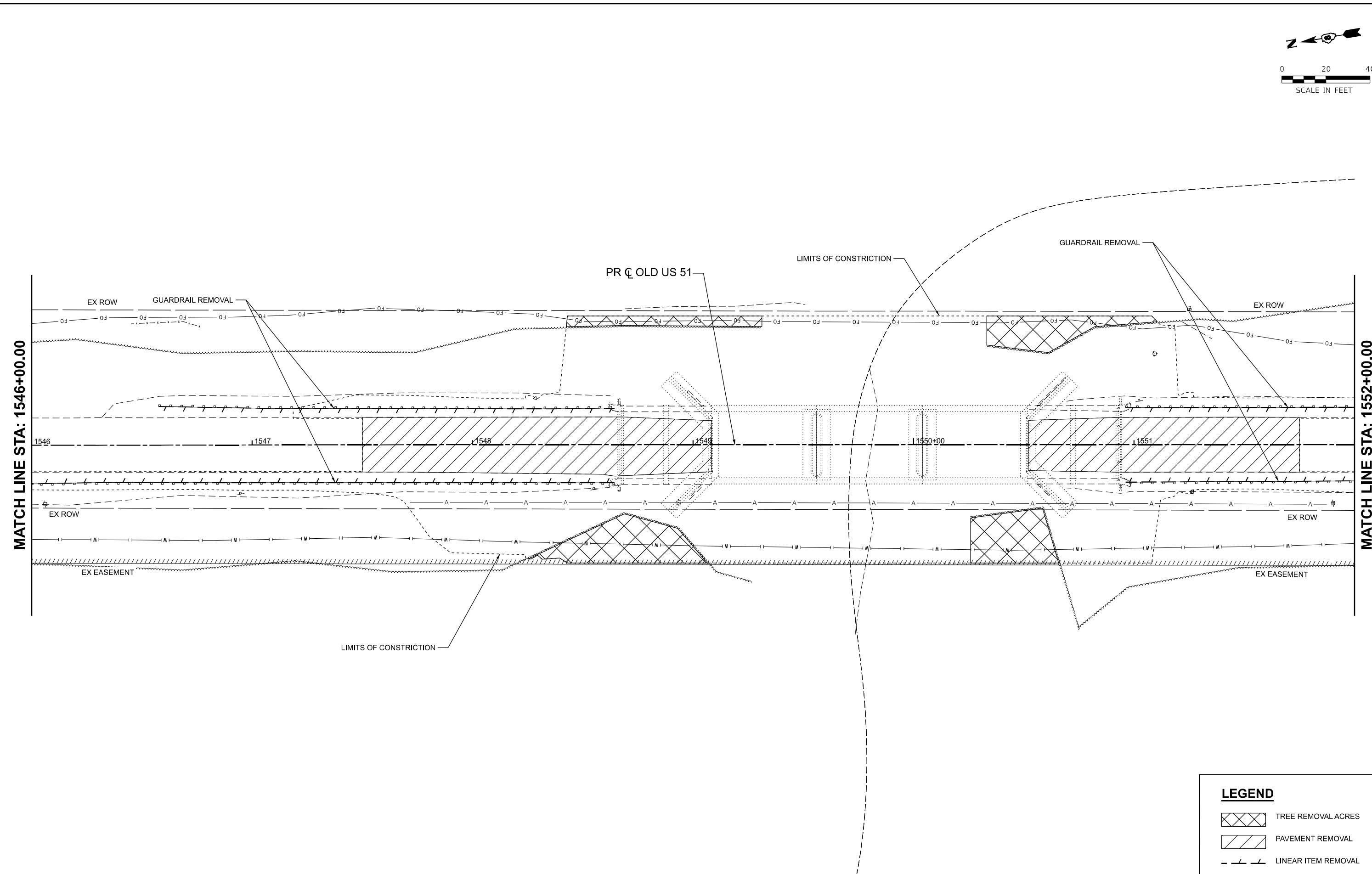
PAVEMENT REMOVAL

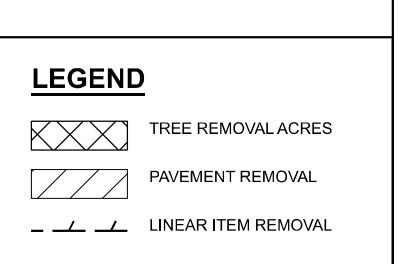
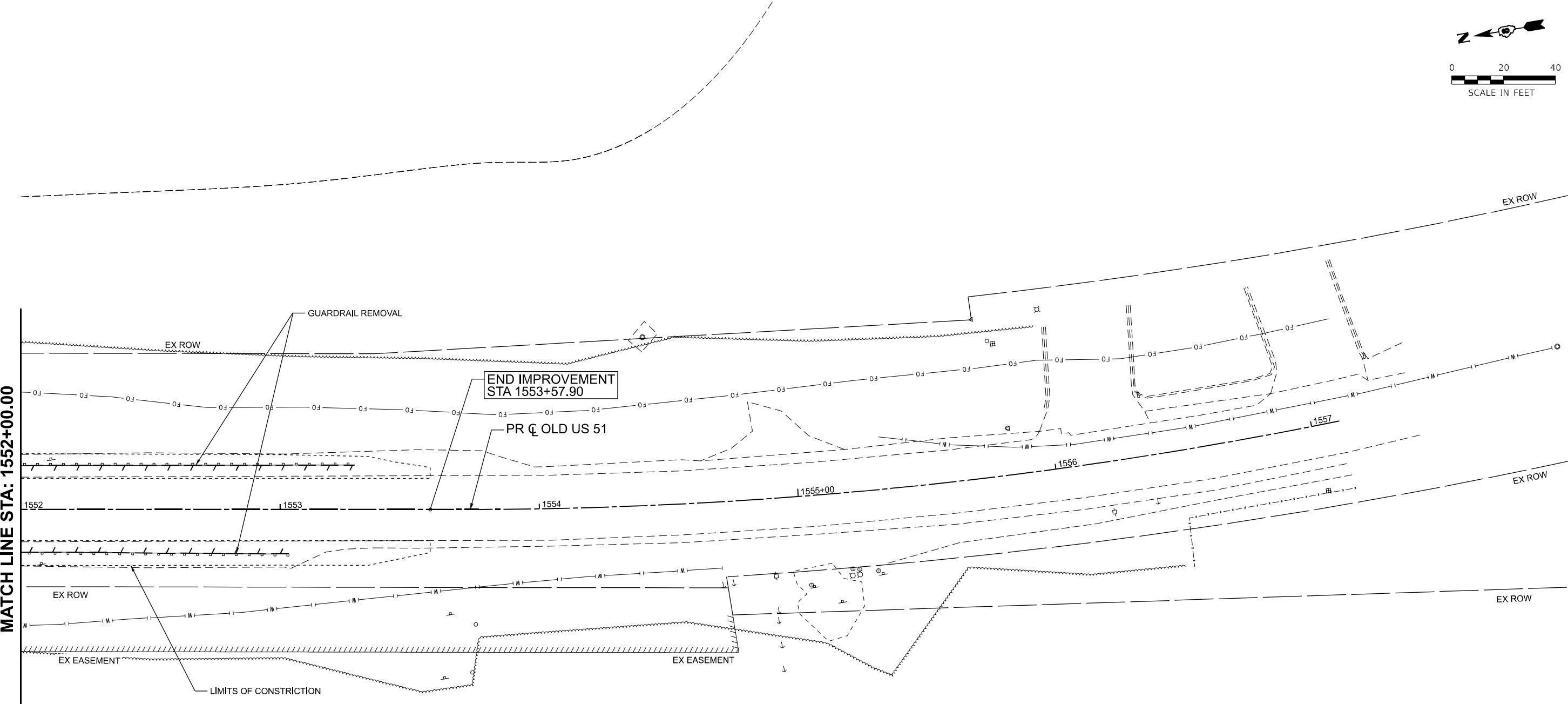
LINEAR ITEM REMOVAL

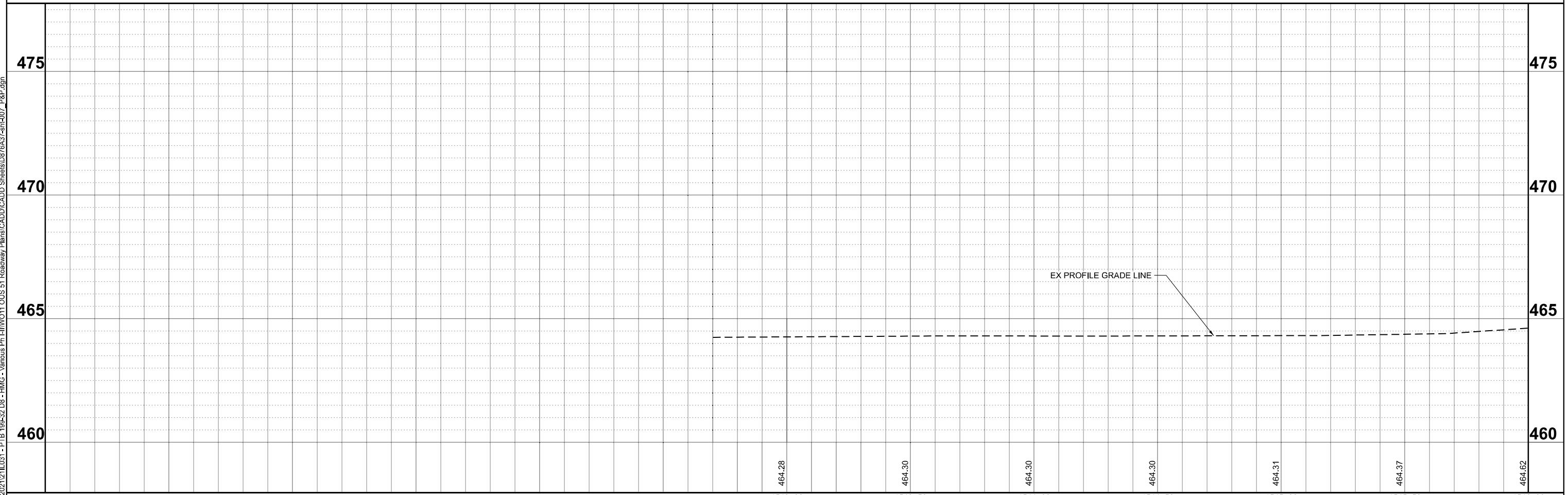
MATCH LINE STA: 1546+00.00

MATCH LINE STA: 1552+00.00

0 20 40
SCALE IN FEET



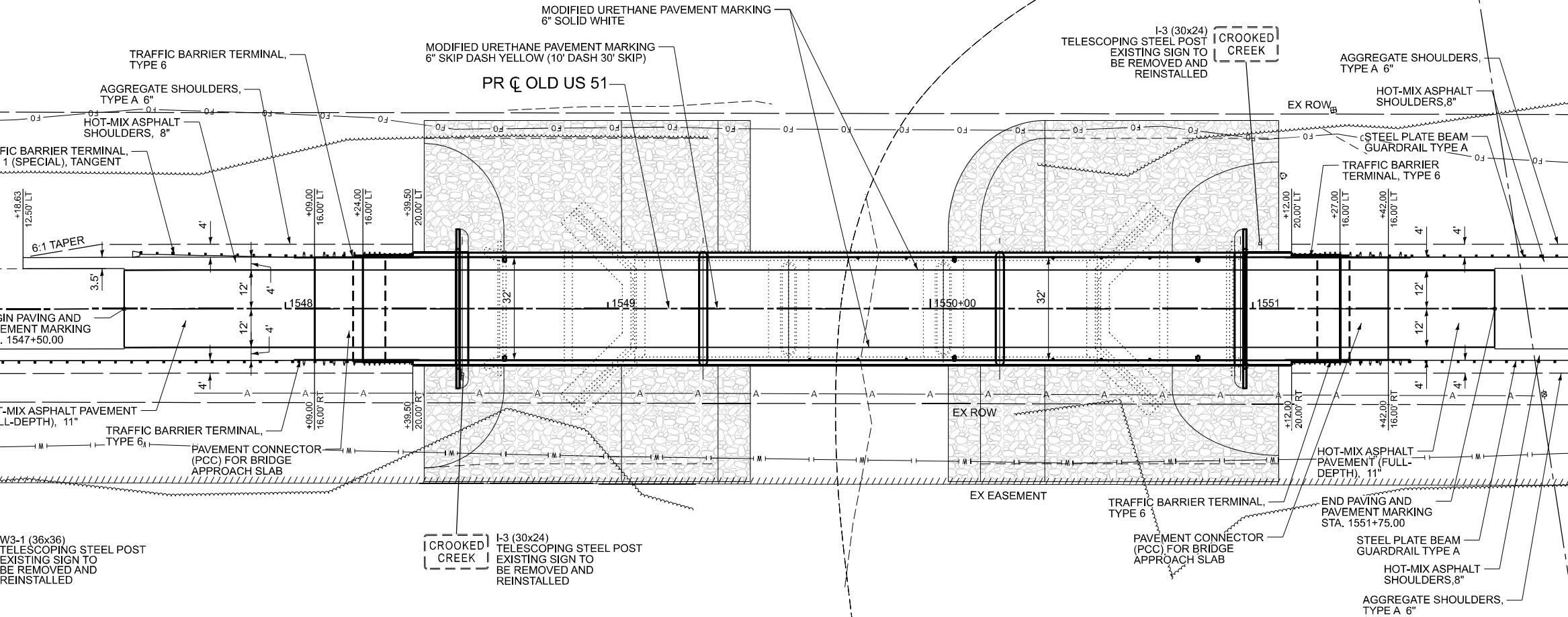


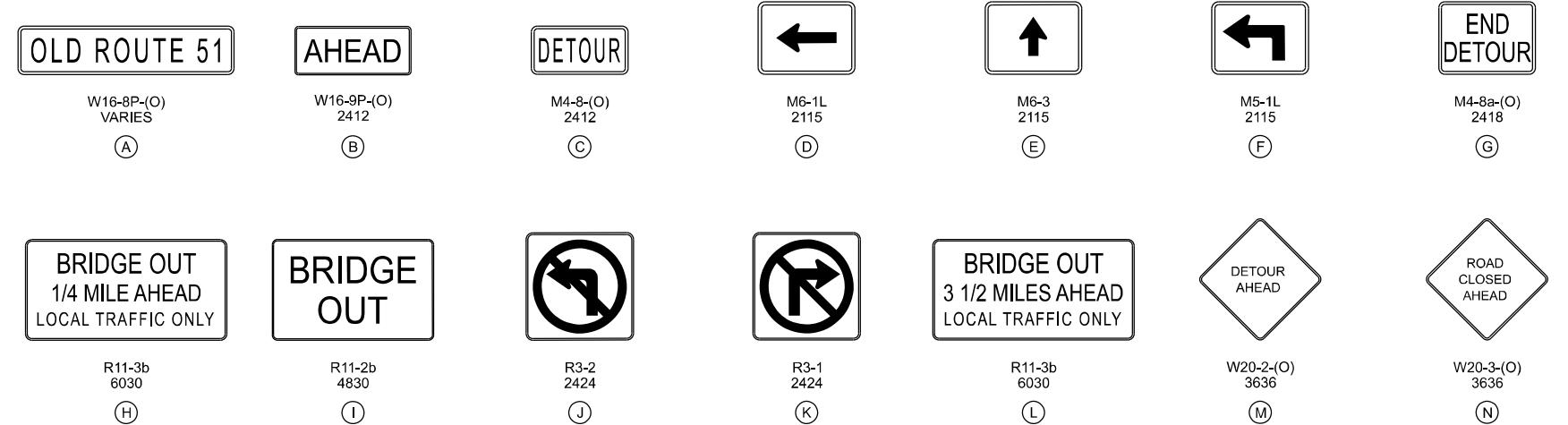


MATCH LINE STA: 1546+00.00



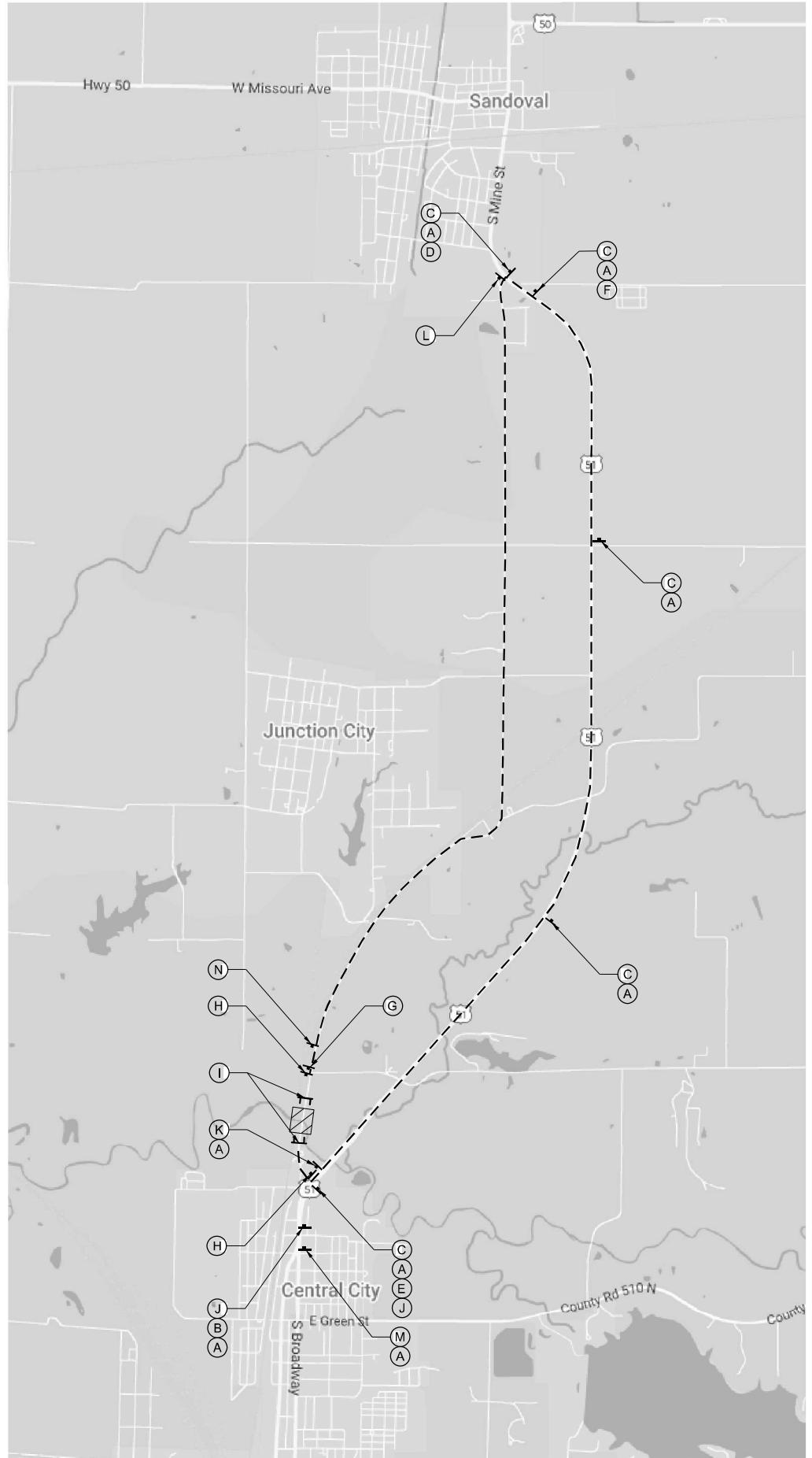
0 20 40
SCALE IN FEET

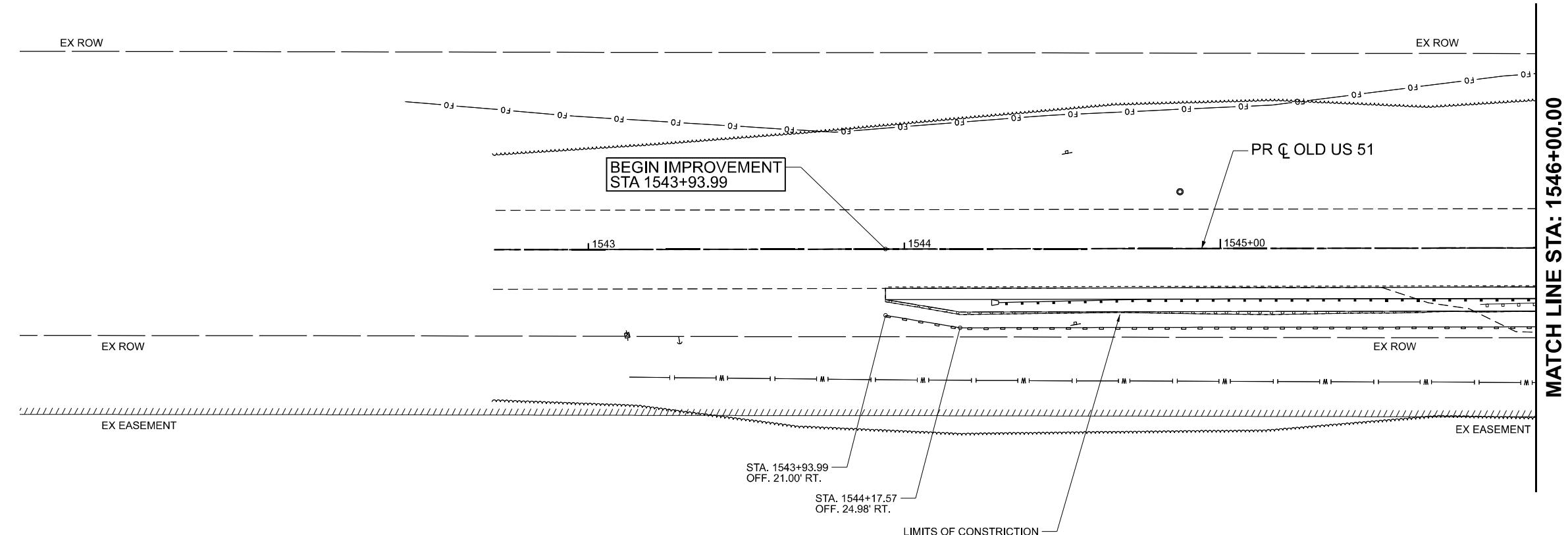




LEGEND

- WORK ZONE
- DETOUR ROUTE
- ↑ DETOUR SIGNAGE
- TYPE 3 BARRICADE

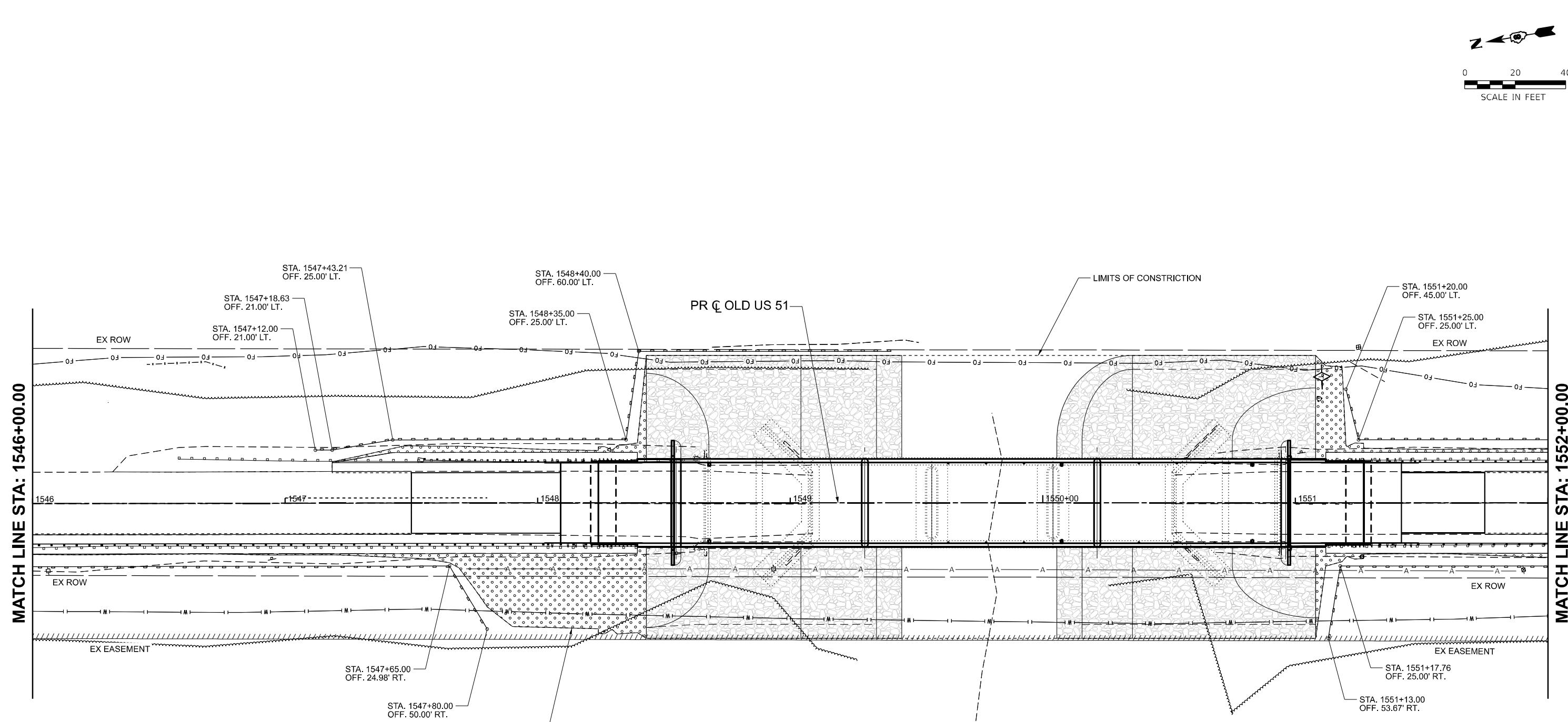




LEGEND

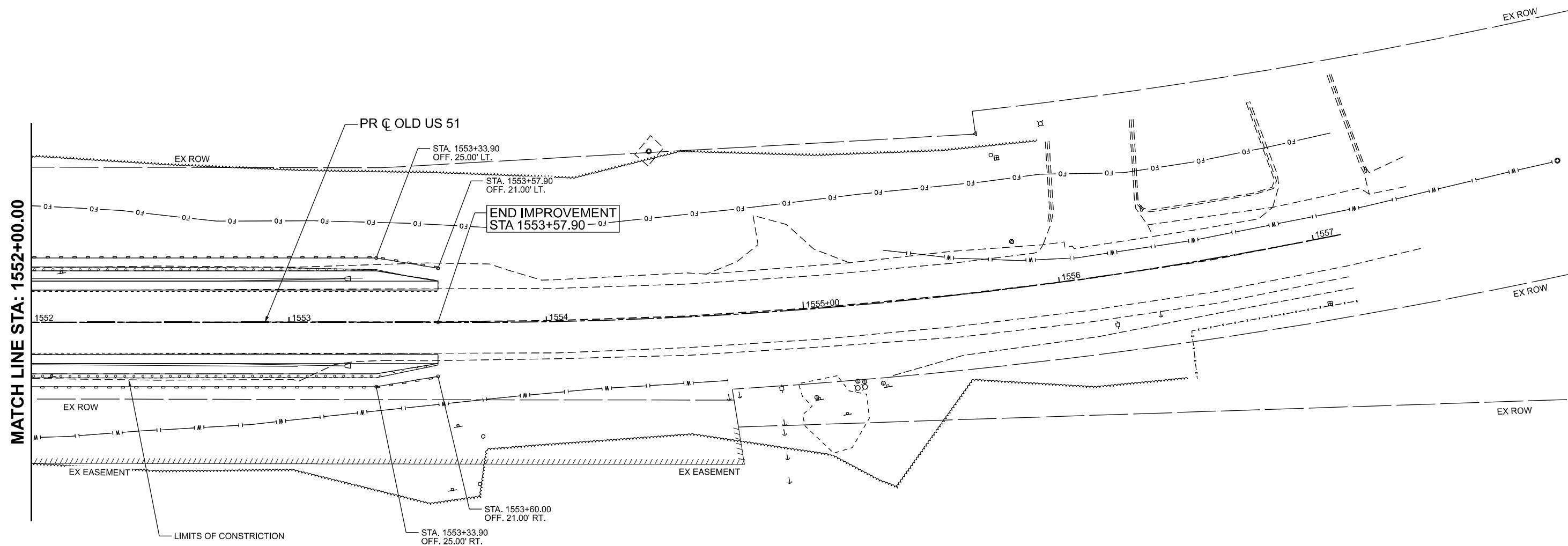
	TEMPORARY EROSION CONTROL SEEDING AND MULCH, METHOD 2
	PERIMETER EROSION BARRIER
	TEMPORARY DITCH CHECK

MATCH LINE STA: 1546+00.00



LEGEND

- TEMPORARY EROSION CONTROL SEEDING AND MULCH, METHOD 2
- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECK



MODEL: Erosion_3 (Sheet1)

LEGEND



USER NAME	= TNeffSmith	DESIGNED	-	MAW
		DRAWN	-	MAW
PLOT SCALE	= 0.16666633' /in.	CHECKED	-	FBN
PLOT DATE	= 8/20/2025	DATE	-	7/25/2025

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

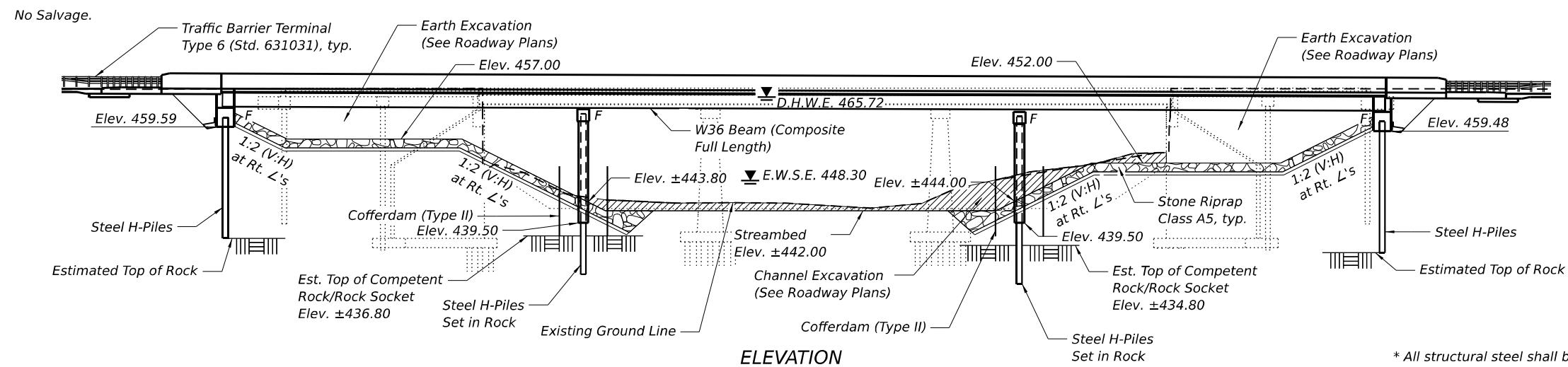
EROSION CONTROL PLAN

OLD US 51

EROSION CONTROL PLAN OLD US 51						F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	HEET NO.
						1791	29-2BR	MARION	65	25
SCALE: 1"=20'	SHEET 3	OF 3	SHEETS	STA. 1552+00.00	TO STA.	END STATION		ILLINOIS	FED. AID PROJECT	CONTRACT NO. 76A37

Benchmark: RR spike in power pole. Sta. 1551+90.49, Offset 26.57' Rt., Elev. 467.01.

Existing Structure: SN 061-0007 was originally built in 1954 as SBI Route 2, Section 29-2B. The bridge is 145'-8" bk.-to-bk. abutments and 35'-8" out-to-out of deck. The superstructure consists of 3 spans of wide flange beams on closed abutments and solid wall piers. The bridge has a bituminous overlay in place. The structure will be replaced using road closure and a detour to maintain traffic.



SEISMIC DATA

2023 AASHTO Seismic Hazard
Seismic Design Category (SDC) = B
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.23g
Soil Site Class = CD

Performance Level = Operational
Latitude = 38.56° N
Longitude = 89.13° W

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

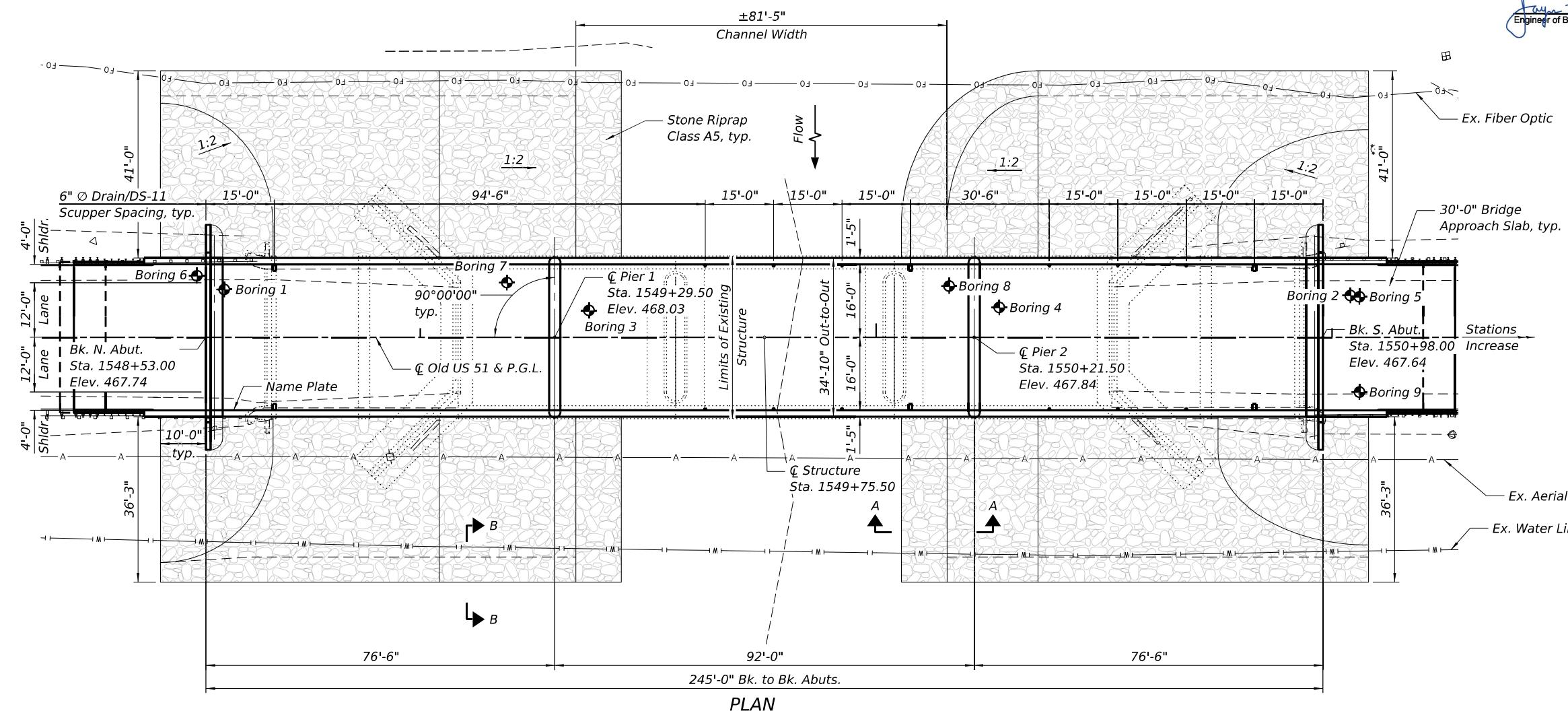
2020 AASHTO LRFD Bridge Design
Specifications, 9th Edition

DESIGN STRESSES

FIELD UNITS

f'_c = 4,000 psi (Superstructure)
 f'_c = 3,500 psi (Substructure)
 f_y = 60,000 psi (Reinforcement)
 f_y = 50,000 psi (M270 Grade 50)*

MODEL: Default
FILE NAME: S:\2020\2010\0111 - PTB 194-59 D8 - HMG - Various Phase I\WVO-18 OUS-51 BR Plans\CAD\CADD Sheets\0610092-76A37-001-GPE.dgn



GENERAL NOTES

All new structural steel shall be galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel."

Calculated weight of Structural Steel = 21,590 lbs (M270 Grade 36)
252,910 lbs (M270 Grade 50)

No field welding is permitted except as specified in the contract documents.

Fasteners shall be ASTM F 3125 Grade A325 Type 1, hot-dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel." Bolts $\frac{7}{8}$ in. diameter, holes $1\frac{5}{16}$ in. diameter, unless otherwise noted.

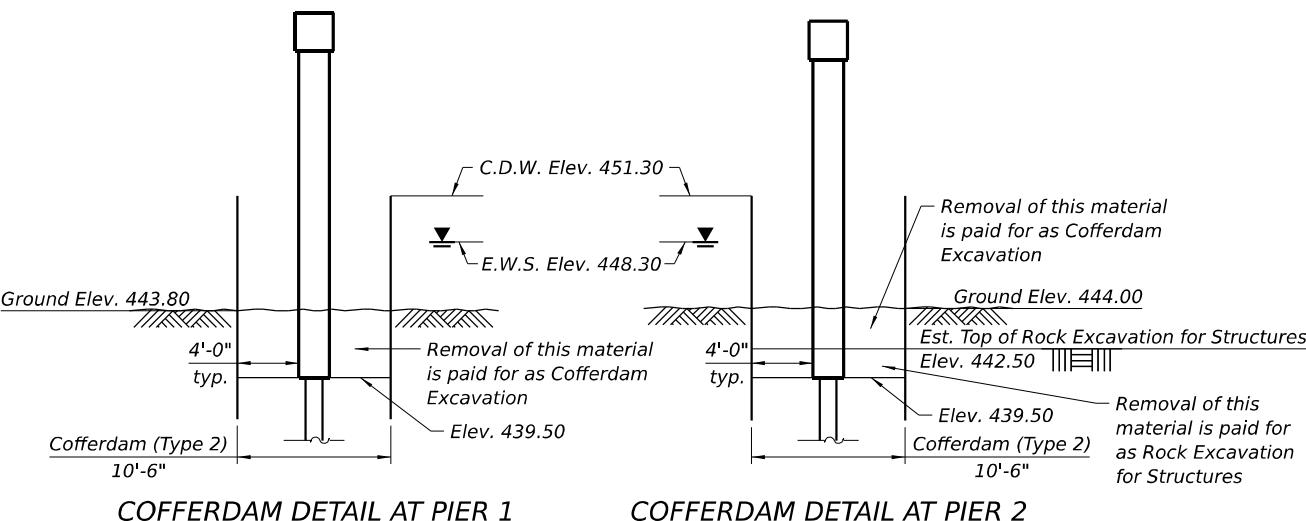
Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.

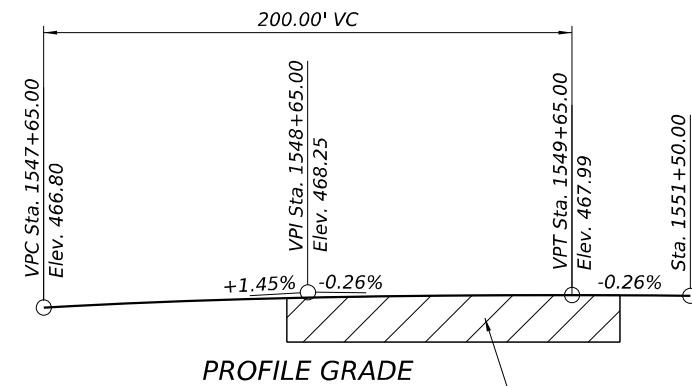
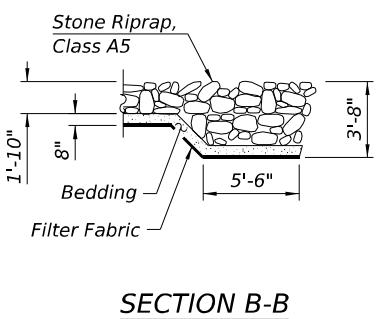
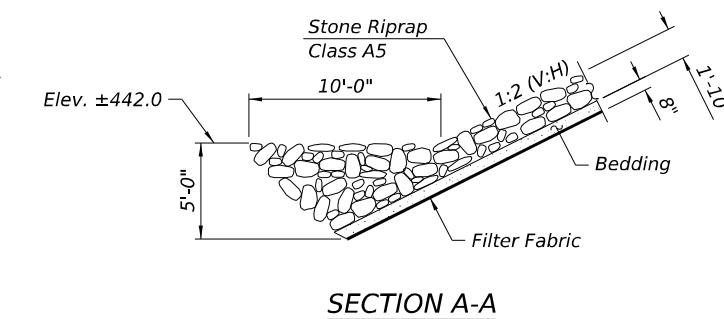
Final cofferdam design and details shall be submitted to the Engineer for approval.



ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A5	Sq. Yd.	2,546	2,546	
Filter Fabric	Sq. Yd.	2,546	2,546	
Removal of Existing Structures	Each		1	
Structure Excavation	Cu. Yd.	369	369	
Cofferdam Excavation	Cu. Yd.	97	97	
Rock Excavation for Structures	Cu. Yd.	50	50	
Cofferdam (Type 2) (Location - 1)	Each	1	1	
Cofferdam (Type 2) (Location - 2)	Each	1	1	
Floor Drains	Each	12	12	
Concrete Structures	Cu. Yd.	221.5	221.5	
Concrete Superstructure	Cu. Yd.	326.6	326.6	
Bridge Deck Grooving	Sq. Yd.	1,010	1,010	
Protective Coat	Sq. Yd.	1,427	1,427	
Concrete Superstructure (Approach Slab)	Cu. Yd.	94.8	94.8	
Furnishing & Erecting Structural Steel	L. Sum	1	1	
Stud Shear Connectors	Each	6,732	6,732	
Reinforcement Bars, Epoxy Coated	Pound	114,030	23,310	137,340
Furnishing Steel Piles HP14x89	Foot	280	280	
Furnishing Steel Piles HP14x117	Foot	408	408	
Driving Piles	Foot	280	280	
Test Pile Steel HP14x89	Each	2	2	
Drilling and Setting Piles (In Soil)	Cu. Ft.	78	78	
Drilling and Setting Piles (In Rock)	Cu. Ft.	552	552	
Name Plates	Each	1	1	
Anchor Bolts, $\frac{3}{4}$ "	Each	24	24	
Anchor Bolts, 1"	Each	24	24	
Granular Backfill for Structures	Cu. Yd.	234	234	
Pipe Underdrains for Structures 4"	Foot	136	136	
Bar Terminators	Each	70	352	422
Drainage Scuppers, DS-11	Each	6	6	

INDEX OF SHEETS

- General Plan and Elevation
- General Data
- 6. Top of Slab Elevations
- 8. Top of Approach Slab Elevations
9. Superstructure
- 10-11. Superstructure Details
12. Diaphragm Details
13. Drainage Scuppers, DS-11
- 14-15. Bridge Approach Slab Details
16. Framing Plan
17. Beam Details
18. Design Data Tables
19. Bearing Details
20. North Abutment
21. South Abutment
22. Pier 1
23. Pier 2
24. HP Pile Details
25. Concrete Parapet Slipforming Option
- 26-33. Boring Logs



STA. 1549+75.50
BUILT BY
STATE OF ILLINOIS
F.A.S. RT. 1791 SEC. 29-2BR
LOADING HL-93
STR. NO. 061-0092

NAME PLATE
See Std. 515001

DESIGN SCOUR ELEVATION TABLE

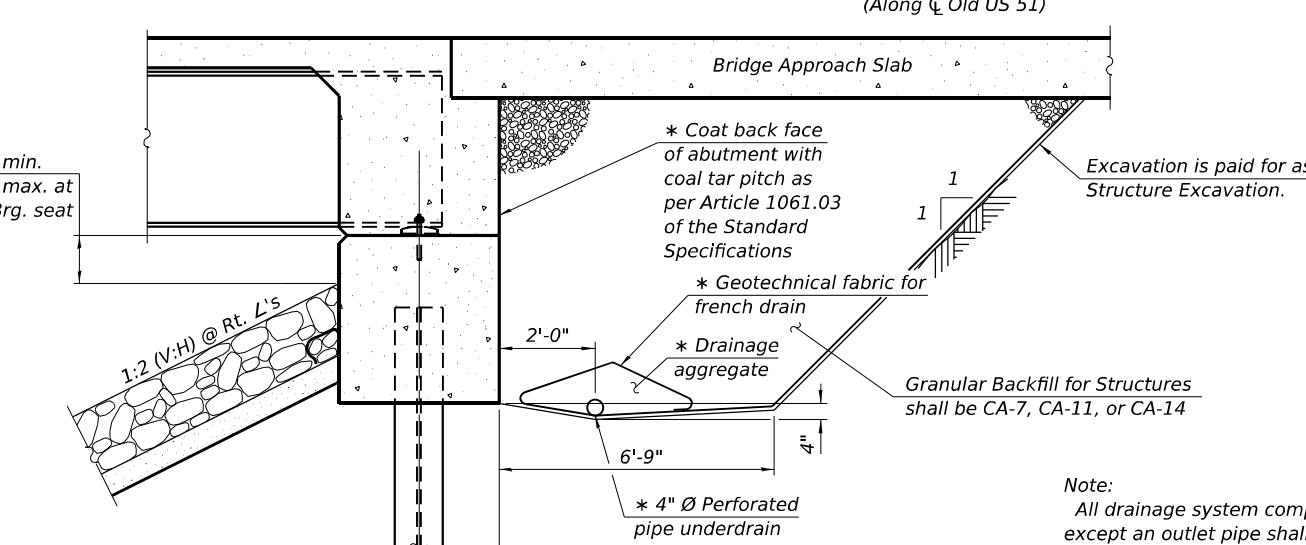
Event / Limit State	Design Scour Elevations (ft.)				Item
	N. Abut.	Pier 1	Pier 2	S. Abut.	
Q100	459.59	433.3	433.1	459.48	
Q200	459.59	433.5	433.3	459.48	
Design	459.59	433.3	433.1	459.48	
Check	459.59	433.5	433.3	459.48	5

WATERWAY INFORMATION

Drainage Area = 146.4 sq. mi.		Existing Overtopping Elev. = 463.97 @ Sta. 146.4		Proposed Overtopping Elev. = 463.97 @ Sta. 146.4	
Flood	Freq. Yr.	Q C.F.S.	Opening Ft ²	Nat. H.W.E.	Head - Ft.
Ten-Year	10	13,975	1,875	2,154	461.06 0.35 0.21 461.41 461.27
Design	50	22,316	2,356	2,772	465.72 1.23 0.91 466.95 466.63
Base	100	26,195	2,356	2,772	467.40 1.80 0.70 469.20 468.10
Scour Check	200	28,784	2,356	2,772	468.57 0.97 0.97 469.54 469.54
Max. Calc.	500	35,909	2,356	2,772	470.95 1.21 1.22 472.16 472.17

10-Year Velocity through Existing Structure = 7.5 fps

10-Year Velocity through Proposed Structure = 6.5 fps

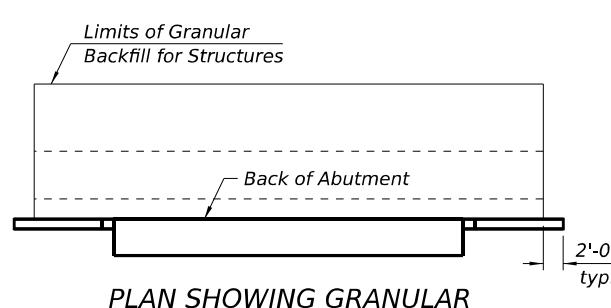


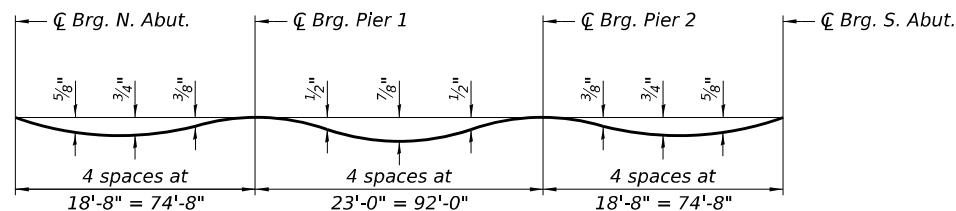
* Included in the cost of Pipe Underdrains for Structures.

Note:

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.



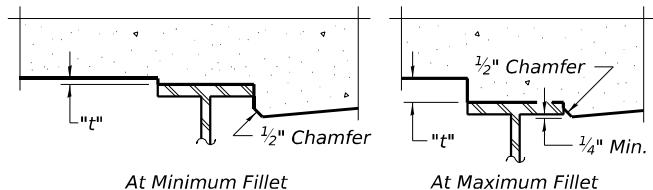


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

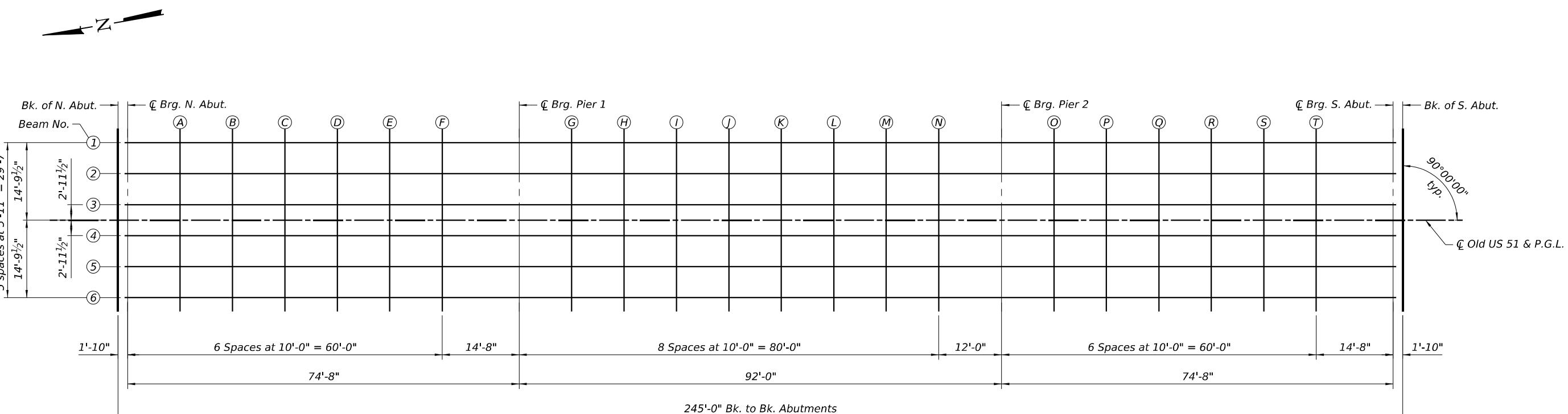
Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 4 thru 6 of 33.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4 thru 6 of 33, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

USER NAME =	DESIGNED - ZLD	REVISED -
CHECKED - RPW	REVISED -	
PLOT SCALE =	DRAWN - JDC	REVISED -
PLOT DATE =	CHECKED - MDC	REVISED -

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2BR	MARION	65	28

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Bk. N. Abut.	1548+53.00	-14.79	467.51	467.51
Brg. N. Abut.	1548+54.83	-14.79	467.52	467.52
A	1548+64.83	-14.79	467.59	467.62
B	1548+74.83	-14.79	467.64	467.69
C	1548+84.83	-14.79	467.69	467.75
D	1548+94.83	-14.79	467.73	467.78
E	1549+04.83	-14.79	467.76	467.79
F	1549+14.83	-14.79	467.78	467.80
Brg. Pier 1	1549+29.50	-14.79	467.79	467.79
G	1549+39.50	-14.79	467.79	467.80
H	1549+49.50	-14.79	467.78	467.81
I	1549+59.50	-14.79	467.77	467.82
J	1549+69.50	-14.79	467.74	467.81
K	1549+79.50	-14.79	467.72	467.78
L	1549+89.50	-14.79	467.69	467.74
M	1549+99.50	-14.79	467.66	467.70
N	1550+09.50	-14.79	467.64	467.65
Brg. Pier 2	1550+21.50	-14.79	467.61	467.61
O	1550+31.50	-14.79	467.58	467.59
P	1550+41.50	-14.79	467.56	467.58
Q	1550+51.50	-14.79	467.53	467.58
R	1550+61.50	-14.79	467.50	467.56
S	1550+71.50	-14.79	467.48	467.53
T	1550+81.50	-14.79	467.45	467.49
Brg. S. Abut.	1550+96.17	-14.79	467.41	467.41
Bk. S. Abut.	1550+98.00	-14.79	467.41	467.41

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Bk. N. Abut.	1548+53.00	-8.88	467.61	467.61
Brg. N. Abut.	1548+54.83	-8.88	467.62	467.62
A	1548+64.83	-8.88	467.69	467.72
B	1548+74.83	-8.88	467.74	467.80
C	1548+84.83	-8.88	467.79	467.85
D	1548+94.83	-8.88	467.83	467.89
E	1549+04.83	-8.88	467.86	467.90
F	1549+14.83	-8.88	467.88	467.90
Brg. Pier 1	1549+29.50	-8.88	467.90	467.90
G	1549+39.50	-8.88	467.90	467.91
H	1549+49.50	-8.88	467.89	467.92
I	1549+59.50	-8.88	467.87	467.92
J	1549+69.50	-8.88	467.85	467.91
K	1549+79.50	-8.88	467.82	467.89
L	1549+89.50	-8.88	467.79	467.85
M	1549+99.50	-8.88	467.77	467.80
N	1550+09.50	-8.88	467.74	467.76
Brg. Pier 2	1550+21.50	-8.88	467.71	467.71
O	1550+31.50	-8.88	467.68	467.69
P	1550+41.50	-8.88	467.66	467.69
Q	1550+51.50	-8.88	467.63	467.68
R	1550+61.50	-8.88	467.61	467.67
S	1550+71.50	-8.88	467.58	467.64
T	1550+81.50	-8.88	467.55	467.60
Brg. S. Abut.	1550+96.17	-8.88	467.52	467.52
Bk. S. Abut.	1550+98.00	-8.88	467.51	467.51

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Bk. N. Abut.	1548+53.00	-2.96	467.70	467.70
Brg. N. Abut.	1548+54.83	-2.96	467.71	467.71
A	1548+64.83	-2.96	467.78	467.81
B	1548+74.83	-2.96	467.83	467.89
C	1548+84.83	-2.96	467.88	467.94
D	1548+94.83	-2.96	467.92	467.97
E	1549+04.83	-2.96	467.95	467.99
F	1549+14.83	-2.96	467.97	467.99
Brg. Pier 1	1549+29.50	-2.96	467.98	467.98
G	1549+39.50	-2.96	467.98	467.99
H	1549+49.50	-2.96	467.98	468.01
I	1549+59.50	-2.96	467.96	468.01
J	1549+69.50	-2.96	467.93	468.00
K	1549+79.50	-2.96	467.91	467.98
L	1549+89.50	-2.96	467.88	467.94
M	1549+99.50	-2.96	467.86	467.89
N	1550+09.50	-2.96	467.83	467.84
Brg. Pier 2	1550+21.50	-2.96	467.80	467.80
O	1550+31.50	-2.96	467.77	467.78
P	1550+41.50	-2.96	467.75	467.78
Q	1550+51.50	-2.96	467.72	467.77
R	1550+61.50	-2.96	467.69	467.76
S	1550+71.50	-2.96	467.67	467.73
T	1550+81.50	-2.96	467.64	467.69
Brg. S. Abut.	1550+96.17	-2.96	467.60	467.60
Bk. S. Abut.	1550+98.00	-2.96	467.60	467.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (2 OF 4)
STRUCTURE NO. 061-0092

SHEET 4 OF 33 SHEETS

F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2BR	MARION	65	29
		CONTRACT NO. 76A37		



C OLD US 51 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Bk. N. Abut.	1548+53.00	0.00	467.74	467.74
Brg. N. Abut.	1548+54.83	0.00	467.76	467.76
A	1548+64.83	0.00	467.82	467.85
B	1548+74.83	0.00	467.88	467.93
C	1548+84.83	0.00	467.92	467.99
D	1548+94.83	0.00	467.96	468.02
E	1549+04.83	0.00	467.99	468.03
F	1549+14.83	0.00	468.01	468.03
Brg. Pier 1	1549+29.50	0.00	468.03	468.03
G	1549+39.50	0.00	468.03	468.04
H	1549+49.50	0.00	468.02	468.05
I	1549+59.50	0.00	468.00	468.06
J	1549+69.50	0.00	467.98	468.04
K	1549+79.50	0.00	467.95	468.02
L	1549+89.50	0.00	467.93	467.98
M	1549+99.50	0.00	467.90	467.94
N	1550+09.50	0.00	467.87	467.89
Brg. Pier 2	1550+21.50	0.00	467.84	467.84
O	1550+31.50	0.00	467.82	467.83
P	1550+41.50	0.00	467.79	467.82
Q	1550+51.50	0.00	467.77	467.82
R	1550+61.50	0.00	467.74	467.80
S	1550+71.50	0.00	467.71	467.77
T	1550+81.50	0.00	467.69	467.73
Brg. S. Abut.	1550+96.17	0.00	467.65	467.65
Bk. S. Abut.	1550+98.00	0.00	467.64	467.64

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Bk. N. Abut.	1548+53.00	2.96	467.70	467.70
Brg. N. Abut.	1548+54.83	2.96	467.71	467.71
A	1548+64.83	2.96	467.78	467.81
B	1548+74.83	2.96	467.83	467.89
C	1548+84.83	2.96	467.88	467.94
D	1548+94.83	2.96	467.92	467.97
E	1549+04.83	2.96	467.95	467.99
F	1549+14.83	2.96	467.97	467.99
Brg. Pier 1	1549+29.50	2.96	467.98	467.98
G	1549+39.50	2.96	467.98	467.99
H	1549+49.50	2.96	467.98	468.01
I	1549+59.50	2.96	467.96	468.01
J	1549+69.50	2.96	467.93	468.00
K	1549+79.50	2.96	467.91	467.98
L	1549+89.50	2.96	467.88	467.94
M	1549+99.50	2.96	467.86	467.89
N	1550+09.50	2.96	467.83	467.84
Brg. Pier 2	1550+21.50	2.96	467.80	467.80
O	1550+31.50	2.96	467.77	467.78
P	1550+41.50	2.96	467.75	467.78
Q	1550+51.50	2.96	467.72	467.77
R	1550+61.50	2.96	467.69	467.76
S	1550+71.50	2.96	467.67	467.73
T	1550+81.50	2.96	467.64	467.69
Brg. S. Abut.	1550+96.17	2.96	467.60	467.60
Bk. S. Abut.	1550+98.00	2.96	467.60	467.60

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Bk. N. Abut.	1548+53.00	8.88	467.61	467.61
Brg. N. Abut.	1548+54.83	8.88	467.62	467.62
A	1548+64.83	8.88	467.69	467.72
B	1548+74.83	8.88	467.74	467.80
C	1548+84.83	8.88	467.79	467.85
D	1548+94.83	8.88	467.83	467.89
E	1549+04.83	8.88	467.86	467.90
F	1549+14.83	8.88	467.88	467.90
Brg. Pier 1	1549+29.50	8.88	467.90	467.90
G	1549+39.50	8.88	467.90	467.91
H	1549+49.50	8.88	467.89	467.92
I	1549+59.50	8.88	467.87	467.92
J	1549+69.50	8.88	467.85	467.91
K	1549+79.50	8.88	467.82	467.89
L	1549+89.50	8.88	467.79	467.85
M	1549+99.50	8.88	467.77	467.80
N	1550+09.50	8.88	467.74	467.76
Brg. Pier 2	1550+21.50	8.88	467.71	467.71
O	1550+31.50	8.88	467.68	467.69
P	1550+41.50	8.88	467.66	467.69
Q	1550+51.50	8.88	467.63	467.68
R	1550+61.50	8.88	467.61	467.67
S	1550+71.50	8.88	467.58	467.64
T	1550+81.50	8.88	467.55	467.60
Brg. S. Abut.	1550+96.17	8.88	467.52	467.52
Bk. S. Abut.	1550+98.00	8.88	467.51	467.51

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (3 OF 4)
STRUCTURE NO. 061-0092

SHEET 5 OF 33 SHEETS

F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2BR	MARION	65	30
		CONTRACT NO. 76A37		

ILLINOIS FED. AID PROJECT



BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflections
Bk. N. Abut.	1548+53.00	14.79	467.51	467.51
Brg. N. Abut.	1548+54.83	14.79	467.52	467.52
A	1548+64.83	14.79	467.59	467.62
B	1548+74.83	14.79	467.64	467.69
C	1548+84.83	14.79	467.69	467.75
D	1548+94.83	14.79	467.73	467.78
E	1549+04.83	14.79	467.76	467.79
F	1549+14.83	14.79	467.78	467.80
Brg. Pier 1	1549+29.50	14.79	467.79	467.79
G	1549+39.50	14.79	467.79	467.80
H	1549+49.50	14.79	467.78	467.81
I	1549+59.50	14.79	467.77	467.82
J	1549+69.50	14.79	467.74	467.81
K	1549+79.50	14.79	467.72	467.78
L	1549+89.50	14.79	467.69	467.74
M	1549+99.50	14.79	467.66	467.70
N	1550+09.50	14.79	467.64	467.65
Brg. Pier 2	1550+21.50	14.79	467.61	467.61
O	1550+31.50	14.79	467.58	467.59
P	1550+41.50	14.79	467.56	467.58
Q	1550+51.50	14.79	467.53	467.58
R	1550+61.50	14.79	467.50	467.56
S	1550+71.50	14.79	467.48	467.53
T	1550+81.50	14.79	467.45	467.49
Brg. S. Abut.	1550+96.17	14.79	467.41	467.41
Bk. S. Abut.	1550+98.00	14.79	467.41	467.41

EAST SHOULDER LINE

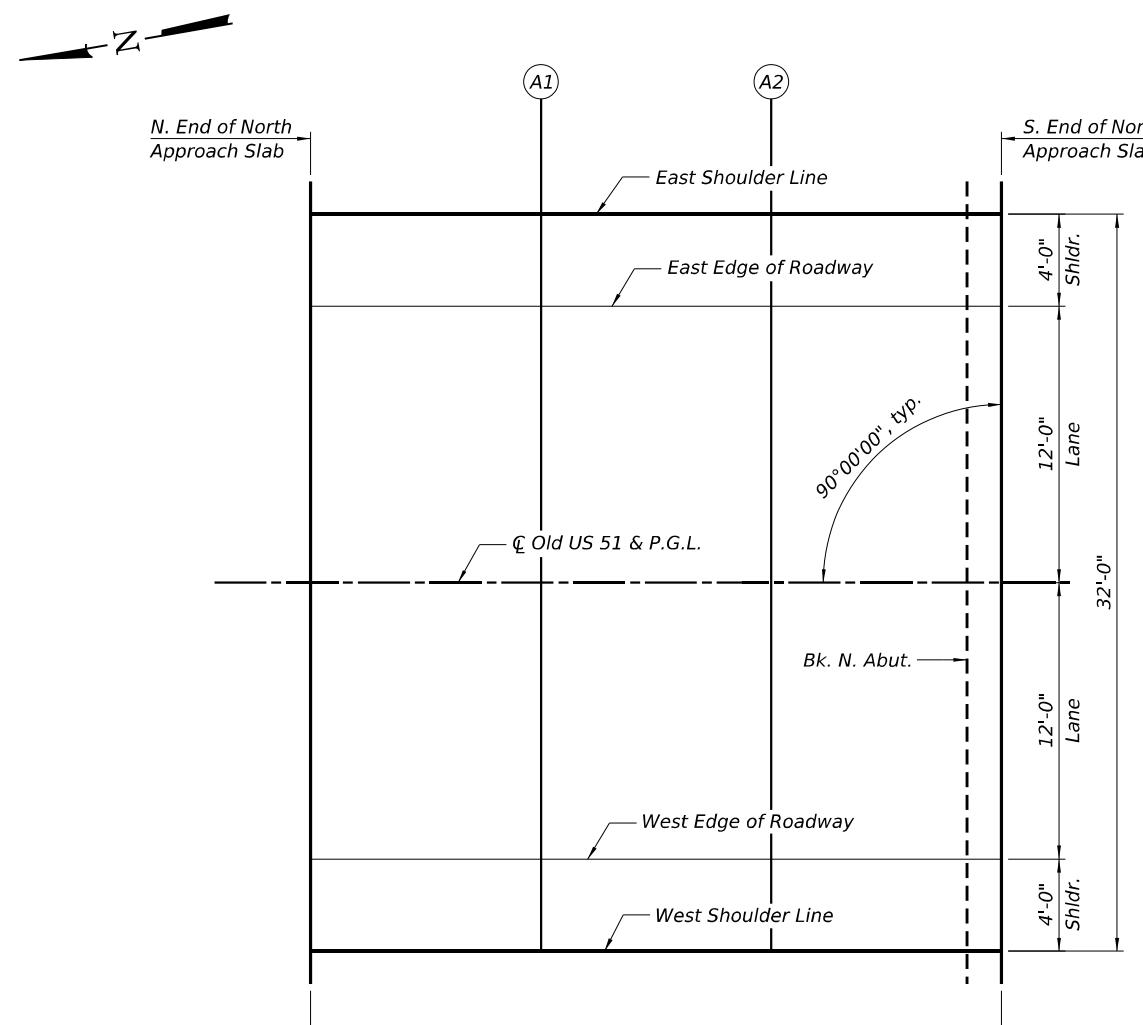
Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	1548+24.00	-16.00	467.25
A1	1548+34.00	-16.00	467.34
A2	1548+44.00	-16.00	467.42
S. End of N. Appr. Slab	1548+54.00	-16.00	467.49

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	1548+24.00	-12.00	467.33
A1	1548+34.00	-12.00	467.42
A2	1548+44.00	-12.00	467.50
S. End of N. Appr. Slab	1548+54.00	-12.00	467.57

C OLD US 51 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	1548+24.00	0.00	467.51
A1	1548+34.00	0.00	467.60
A2	1548+44.00	0.00	467.68
S. End of N. Appr. Slab	1548+54.00	0.00	467.75



PLAN

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	1548+24.00	12.00	467.33
A1	1548+34.00	12.00	467.42
A2	1548+44.00	12.00	467.50
S. End of N. Appr. Slab	1548+54.00	12.00	467.57

WEST SHOULDER LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	1548+24.00	16.00	467.25
A1	1548+34.00	16.00	467.34
A2	1548+44.00	16.00	467.42
S. End of N. Appr. Slab	1548+54.00	16.00	467.49

EAST SHOULDER LINE

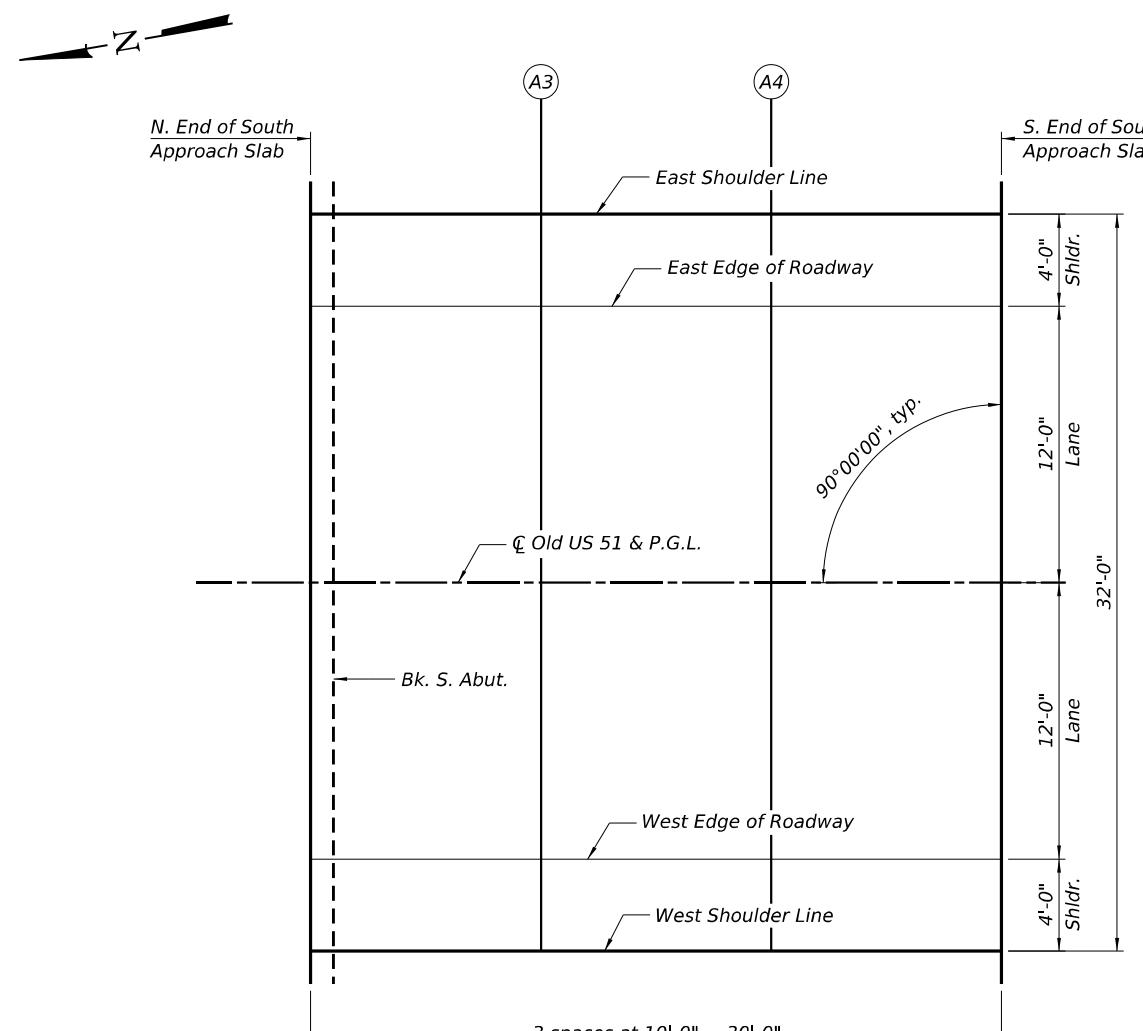
Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	1550+97.00	-16.00	467.39
A3	1551+07.00	-16.00	467.36
A4	1551+17.00	-16.00	467.33
S. End of S. Appr. Slab	1551+27.00	-16.00	467.31

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	1550+97.00	-12.00	467.47
A3	1551+07.00	-12.00	467.44
A4	1551+17.00	-12.00	467.41
S. End of S. Appr. Slab	1551+27.00	-12.00	467.39

C OLD US 51 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	1550+97.00	0.00	467.65
A3	1551+07.00	0.00	467.62
A4	1551+17.00	0.00	467.59
S. End of S. Appr. Slab	1551+27.00	0.00	467.57



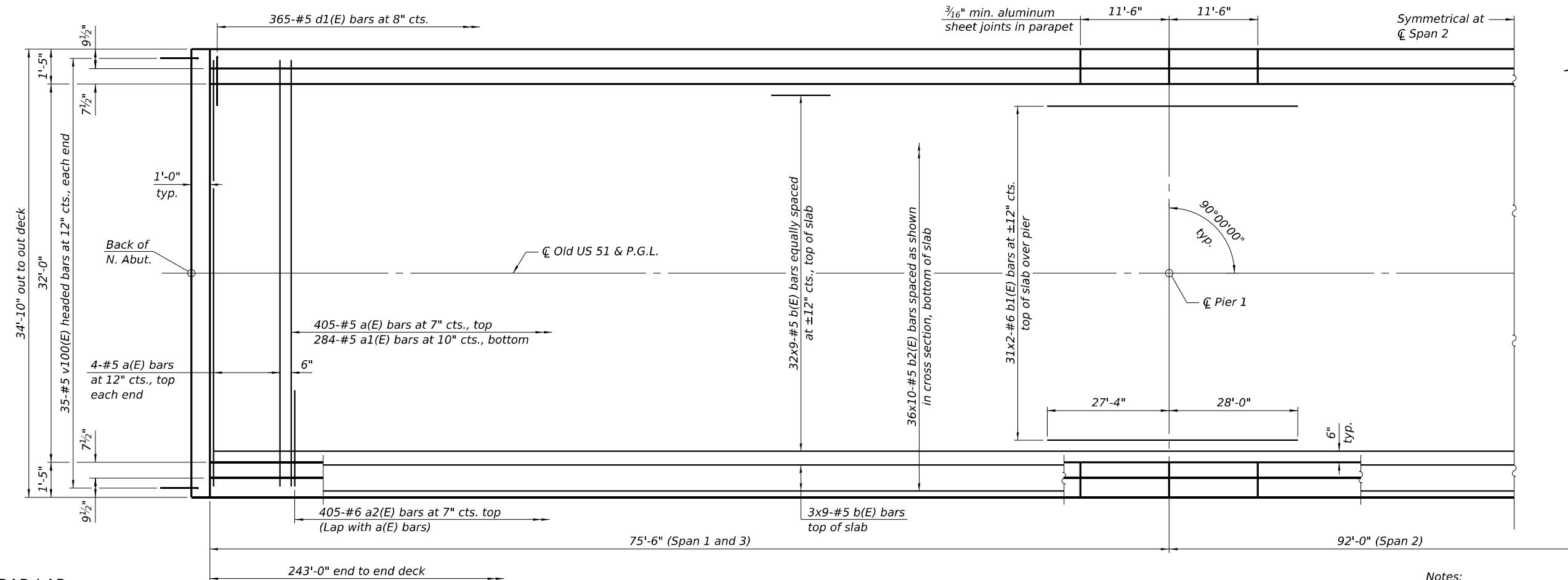
PLAN

WEST EDGE OF ROADWAY

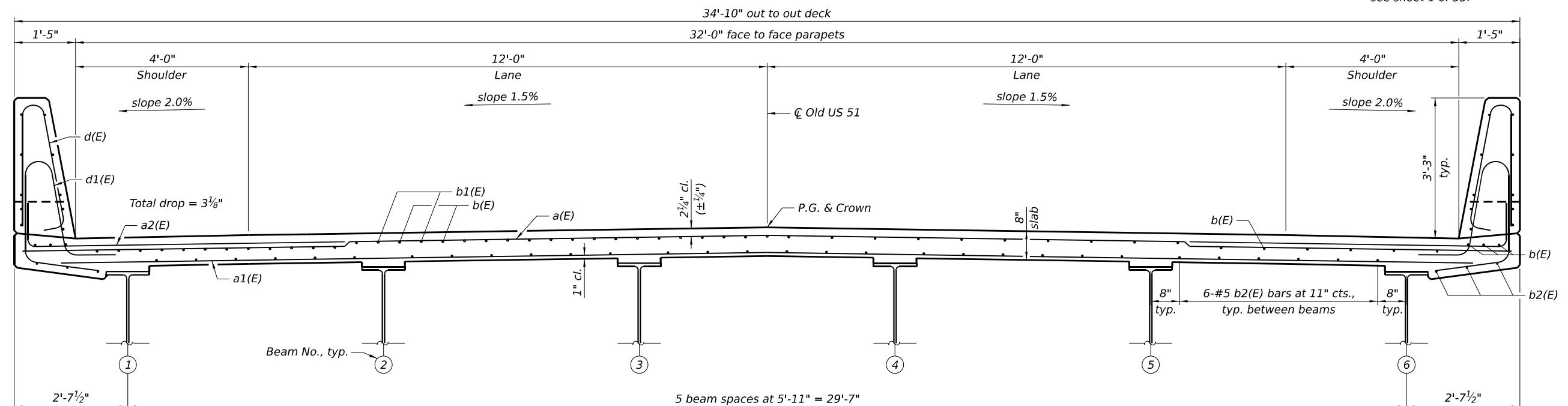
Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	1550+97.00	12.00	467.47
A3	1551+07.00	12.00	467.44
A4	1551+17.00	12.00	467.41
S. End of S. Appr. Slab	1551+27.00	12.00	467.39

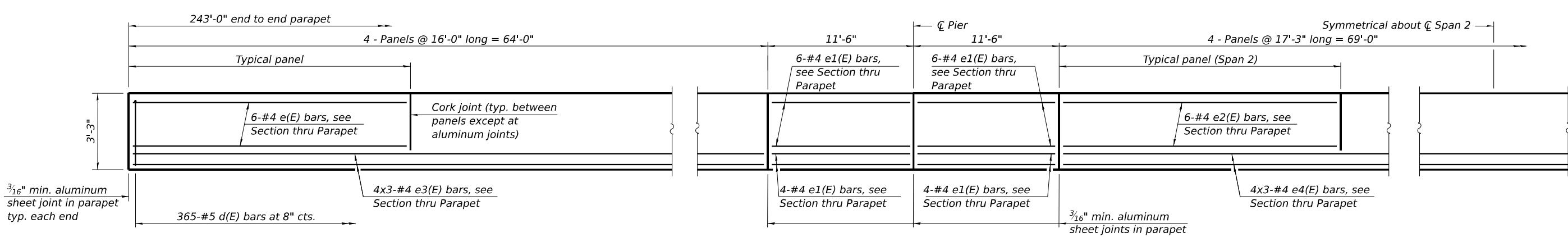
WEST SHOULDER LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	1550+97.00	16.00	467.39
A3	1551+07.00	16.00	467.36
A4	1551+17.00	16.00	467.33
S. End of S. Appr. Slab	1551+27.00	16.00	467.31

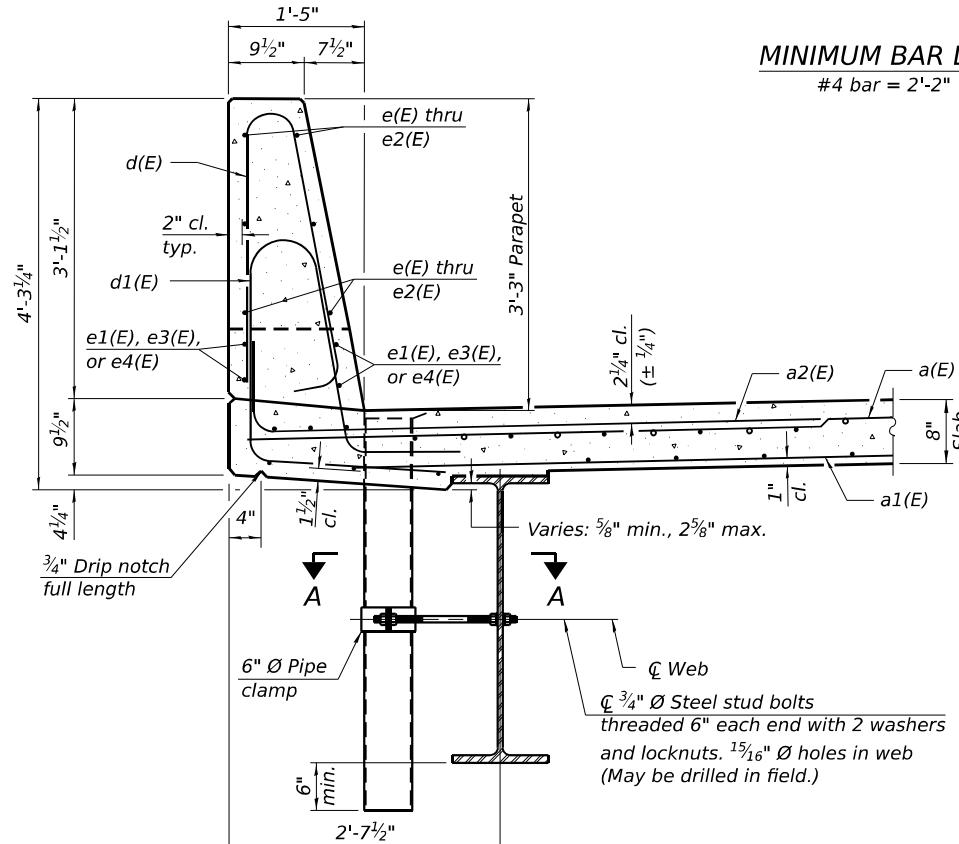


Notes:
 See sheet 10 and 11 of 33 for superstructure details and Bill of Material.
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
 For location of floor drains and scuppers, see sheet 1 of 33.

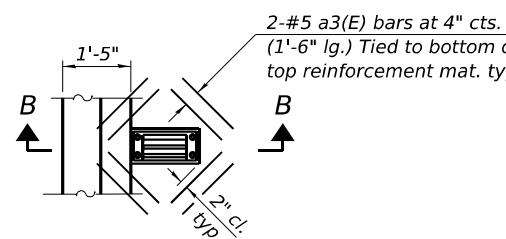
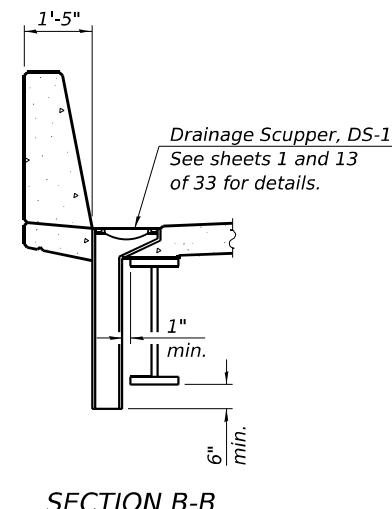




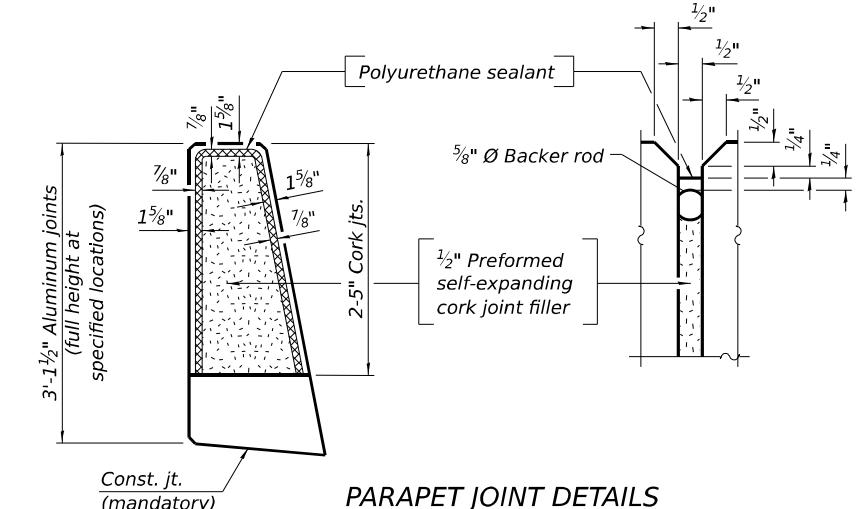
INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

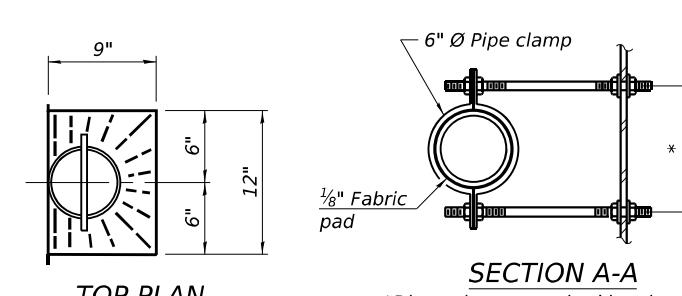
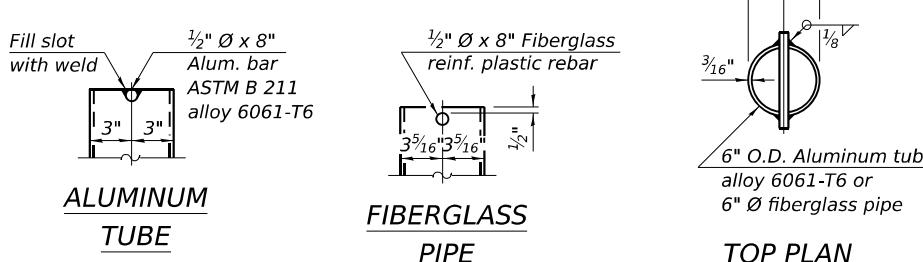


PLAN AT DS-11 SCUPPER



Notes:

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Floor drains need not be painted.
The top portion of aluminum floor drains shall be coated with 5 mils of either bitumen paint or epoxy paint to minimize reaction with wet concrete.
The clamping device shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.
The 3/16" min. aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated with 5 mils of either bitumen paint or epoxy paint to minimize reaction with wet concrete. Cost included with Concrete Superstructure.
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.
Bar terminators, paid for separately. See Total Bill of Material.



USER NAME =	DESIGNED - ZLD	REVISED -
CHECKED - RPW	REVISED -	
PLOT SCALE =	DRAWN - JDC	REVISED -
PLOT DATE =	CHECKED - MDC	REVISED -

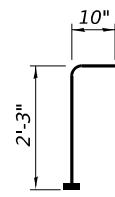
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 061-0092

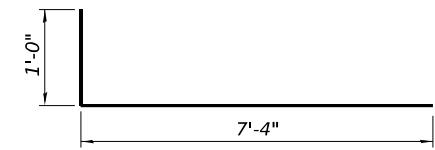
SHEET 11 OF 33 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2BR	MARION	65	36
				CONTRACT NO. 76A37

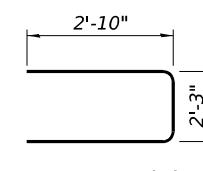
ILLINOIS FED. AID PROJECT



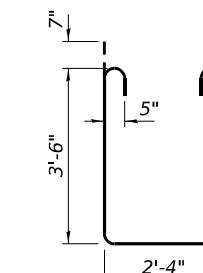
BAR v100(E)
(Headed. 70-#5 Bar terminators)



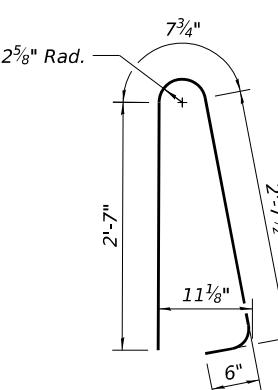
BAR a2(E)



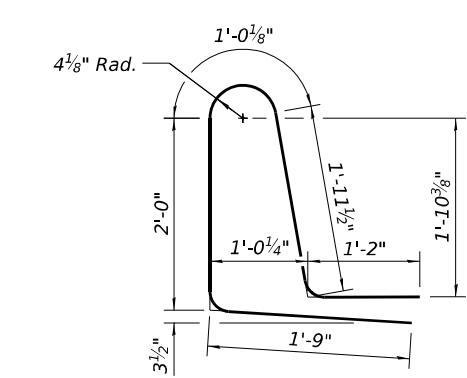
BAR s10(E)



BAR s11(E)



BAR d(E)

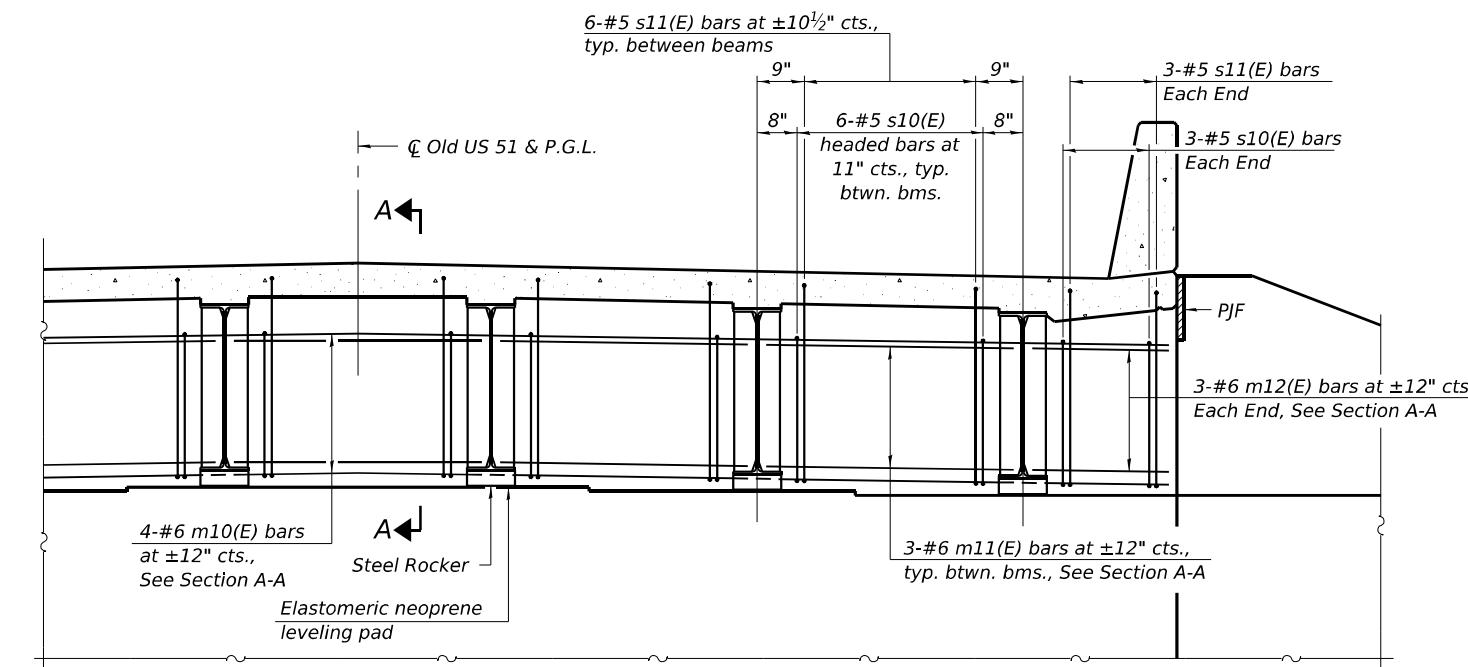


BAR d1(E)

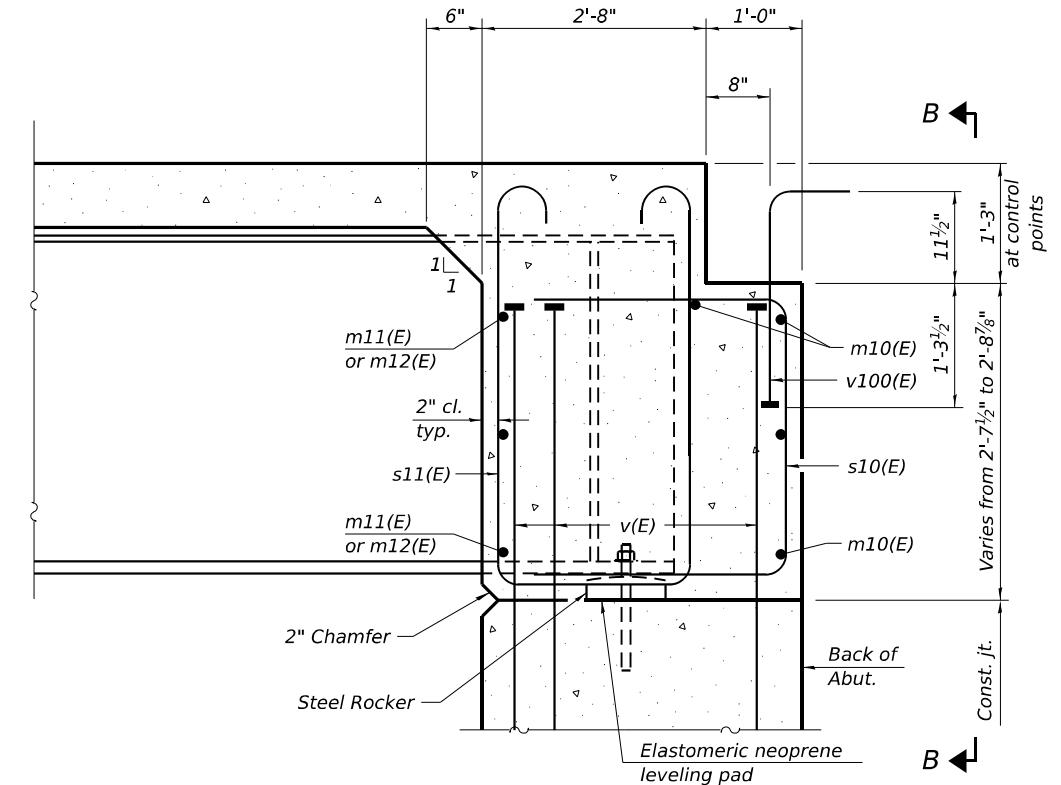
**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	413	#5	34'-6"	—
a1(E)	284	#5	33'-6"	—
a2(E)	810	#6	8'-4"	—
a3(E)	48	#5	1'-6"	—
b(E)	342	#5	30'-7"	—
b1(E)	124	#6	30'-3"	—
b2(E)	360	#5	27'-11"	—
d(E)	730	#5	6'-5"	—
d1(E)	730	#5	7'-11"	—
e(E)	96	#4	15'-8"	—
e1(E)	80	#4	11'-2"	—
e2(E)	48	#4	16'-11"	—
e3(E)	48	#4	22'-11"	—
e4(E)	24	#4	24'-7"	—
m10(E)	8	#6	34'-6"	—
m11(E)	30	#6	5'-6"	—
m12(E)	12	#6	2'-3"	—
s10(E)	72	#5	7'-11"	—
s11(E)	72	#5	10'-6"	—
v100(E)	70	#5	3'-1"	—
Reinforcement Bars, Epoxy Coated Concrete Superstructure		Lbs.	78,530	
		Cu. Yds.	318.8	

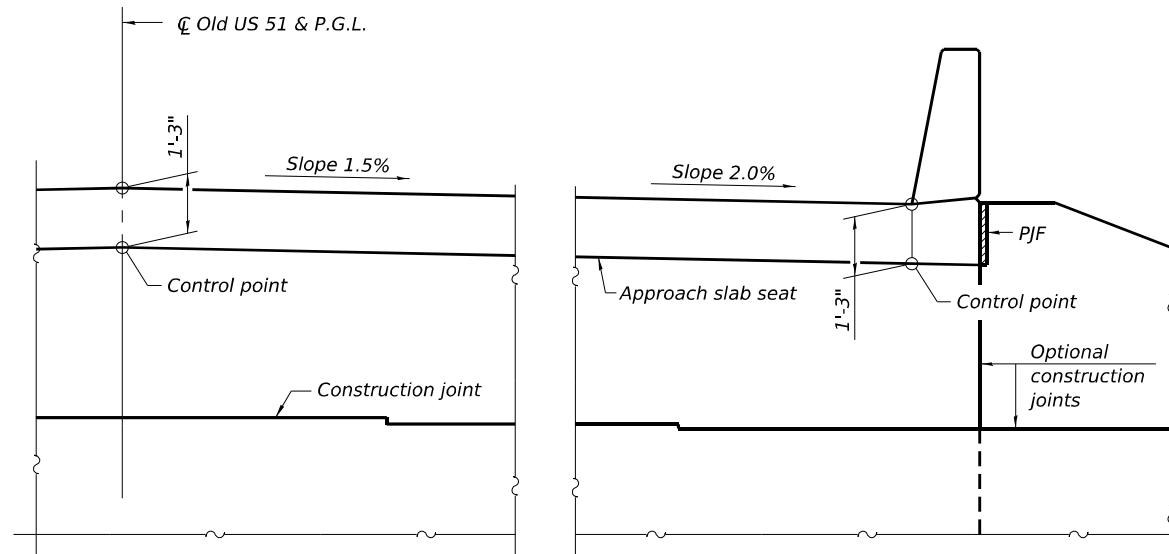
Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.



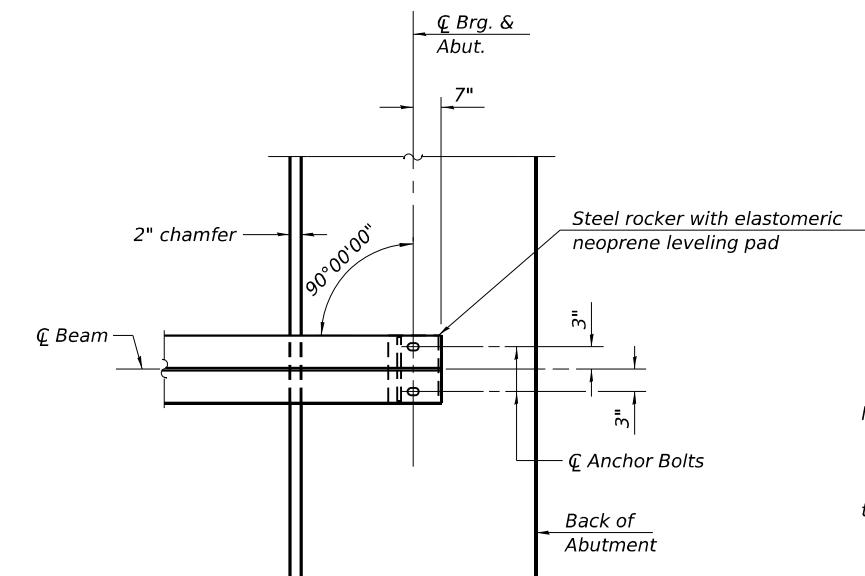
DIAPHRAGM AT ABUTMENT



SECTION A-A



VIEW B-B



PLAN AT ABUTMENT
(Showing bottom flange of beam)

Notes:
See sheet 10 and 11 of 33 for superstructure details and Bill of Material.
See sheet 14 of 33 for PJF details.
The approach slab seat shall have a constant slope determined from the control points shown.

DIA-SB-0

4-4-2025

QUIGG ENGINEERING INC
DESIGN FIRM REG. NO. 184.004721-0014

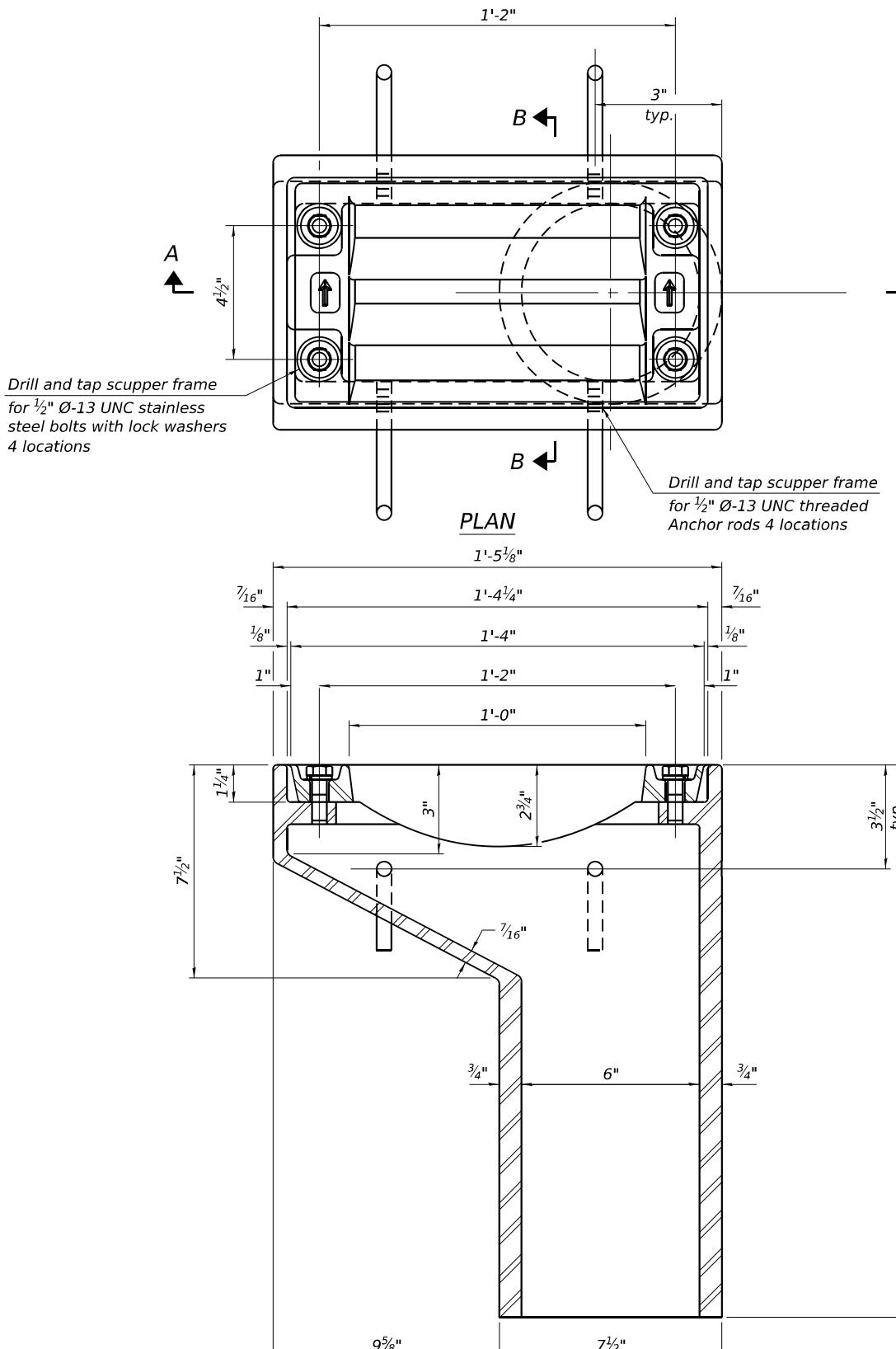
USER NAME =	DESIGNED - ZLD	REVISED -
CHECKED - RPW	REVISED -	
PLOT SCALE =	DRAWN - JDC	REVISED -
PLOT DATE =	CHECKED - MDC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 061-0092

SHEET 12 OF 33 SHEETS

F.A.S. R.T.E. 1791	SECTION 29-2BR	COUNTY MARION	TOTAL SHEETS 65	SHEET NO. 37
CONTRACT NO. 76A37				ILLINOIS FED. AID PROJECT

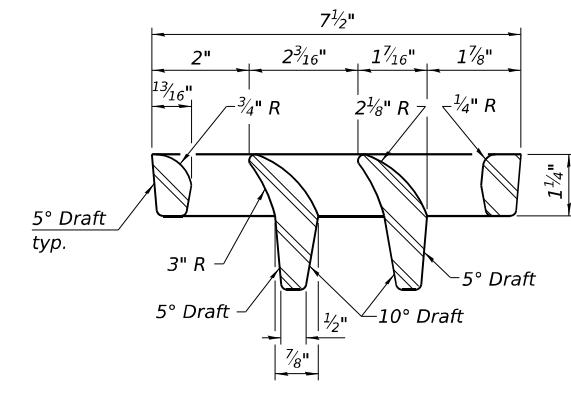


SECTION A-A
See sheet 10 of 33 for scupper
location relative to parapet.

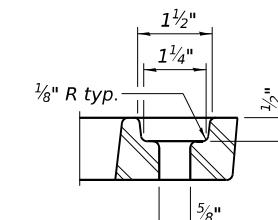
DS-11

4-4-2025

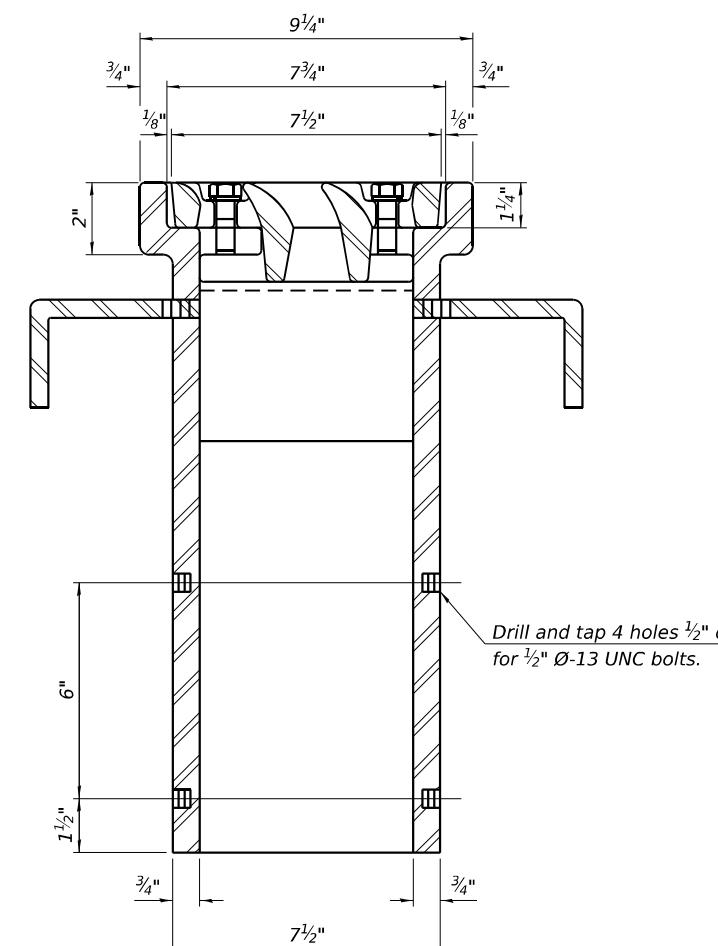
Item	Unit	Quantity
Drainage Scuppers, DS-11	Each	6



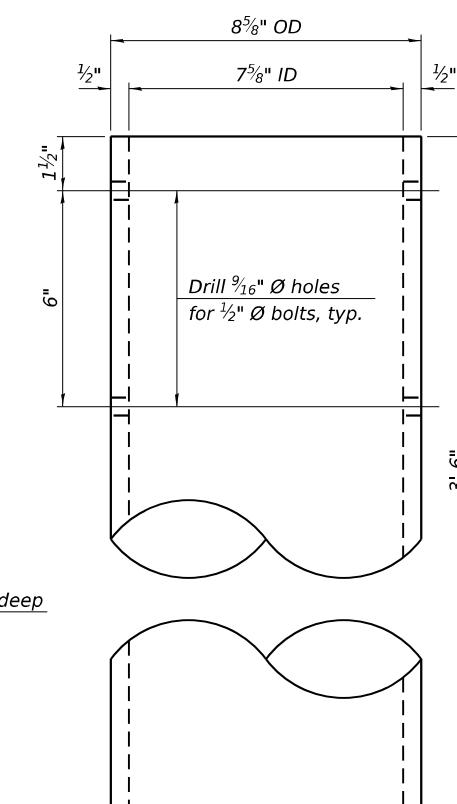
VANE GRATE DETAIL



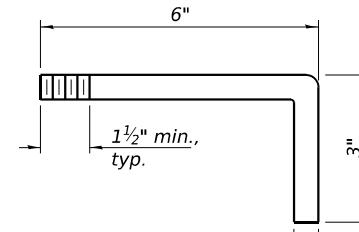
GRATE BOLT HOLE DETAIL



SECTION B-B



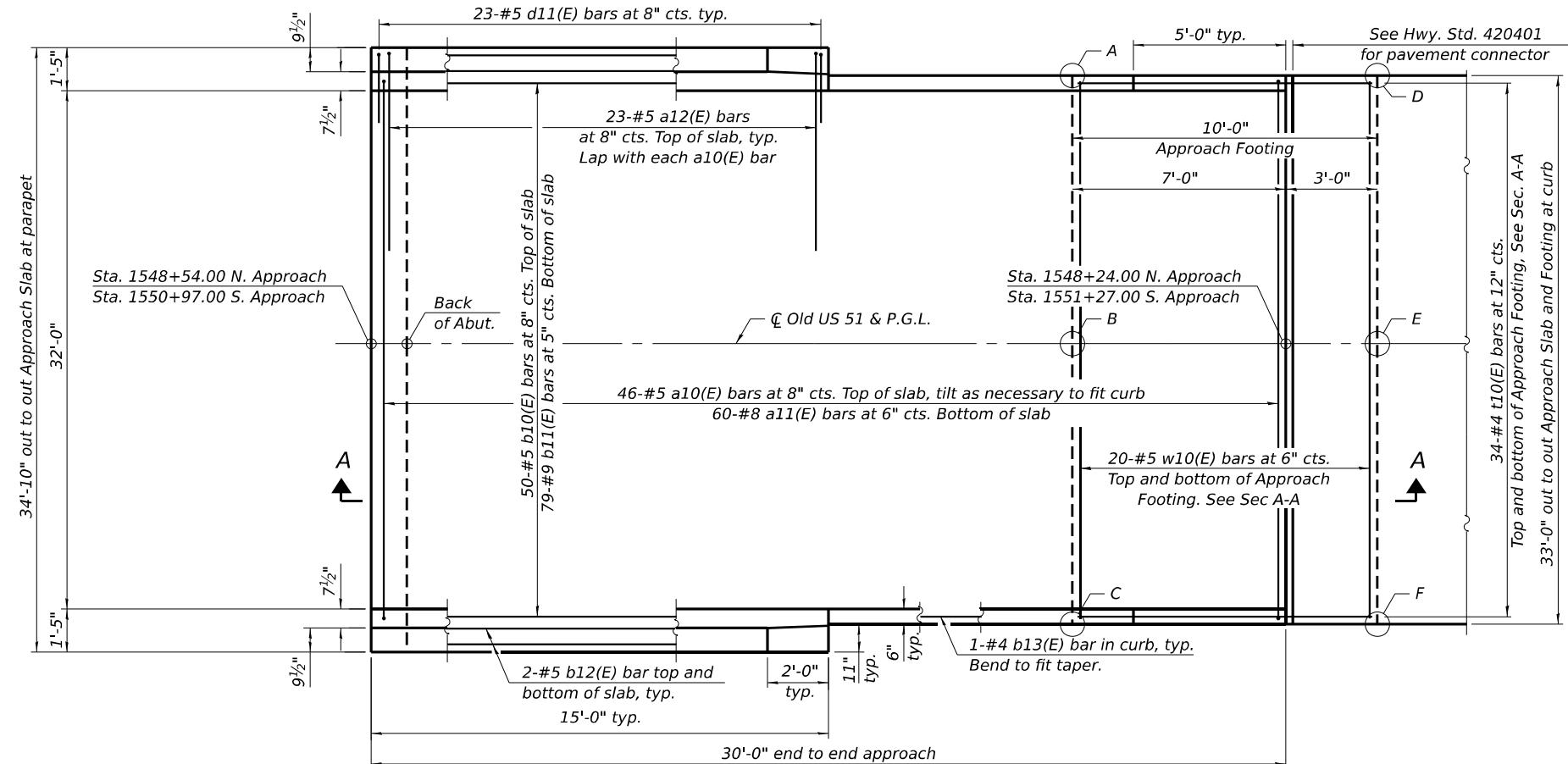
DOWNSPOUT



ANCHOR ROD DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 35B and AASHTO M306. Bolts, anchor rods, nuts and washers shall be according to ASTM A307 and shall be galvanized according to AASHTO M232. As an alternate stainless steel may be used. Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications. Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frames and downspouts; however, the scupper grates shall remain cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel scupper frames and downspouts, when utilized, shall be galvanized according to AASHTO M11. As an alternate, fiberglass may be used for downspouts according to ASTM D2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. in lieu of the cast iron or structural steel. Exterior surfaces of downspouts and exterior exposed surfaces of the scupper frame below deck shall be pigmented or painted to match the color of the adjacent beam. The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper. Cost of the grate, frame, downspout, anchor rods, nuts and washers including complete installation of the scupper shall be paid for at the contract unit price for Drainage Scuppers, DS-11.

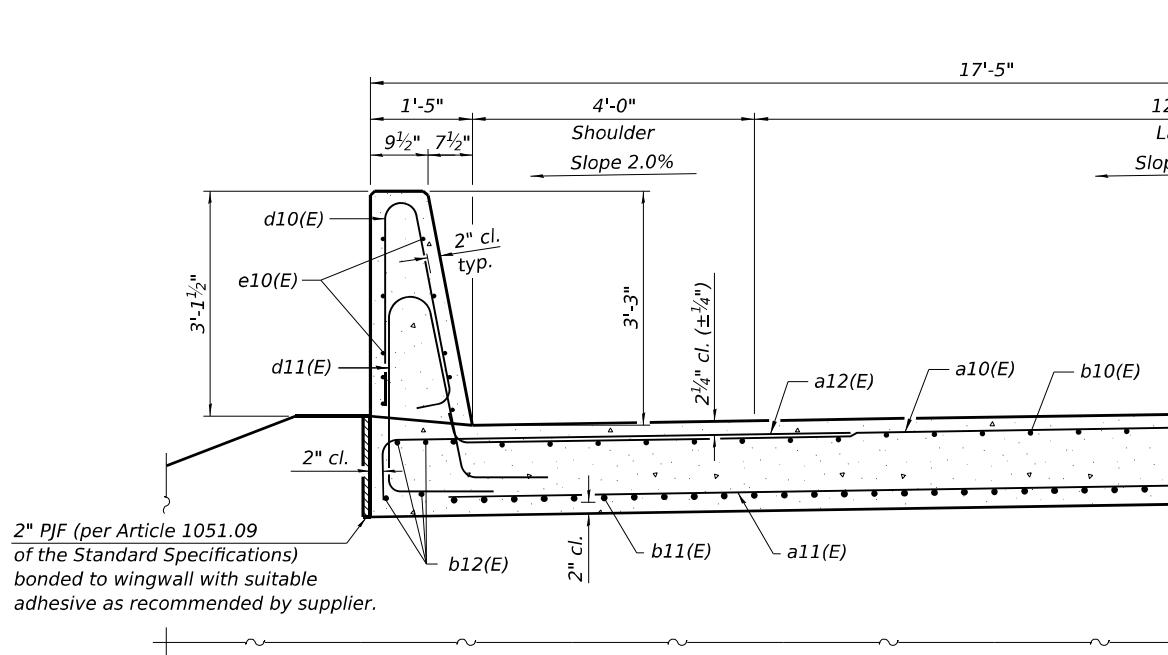


TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING

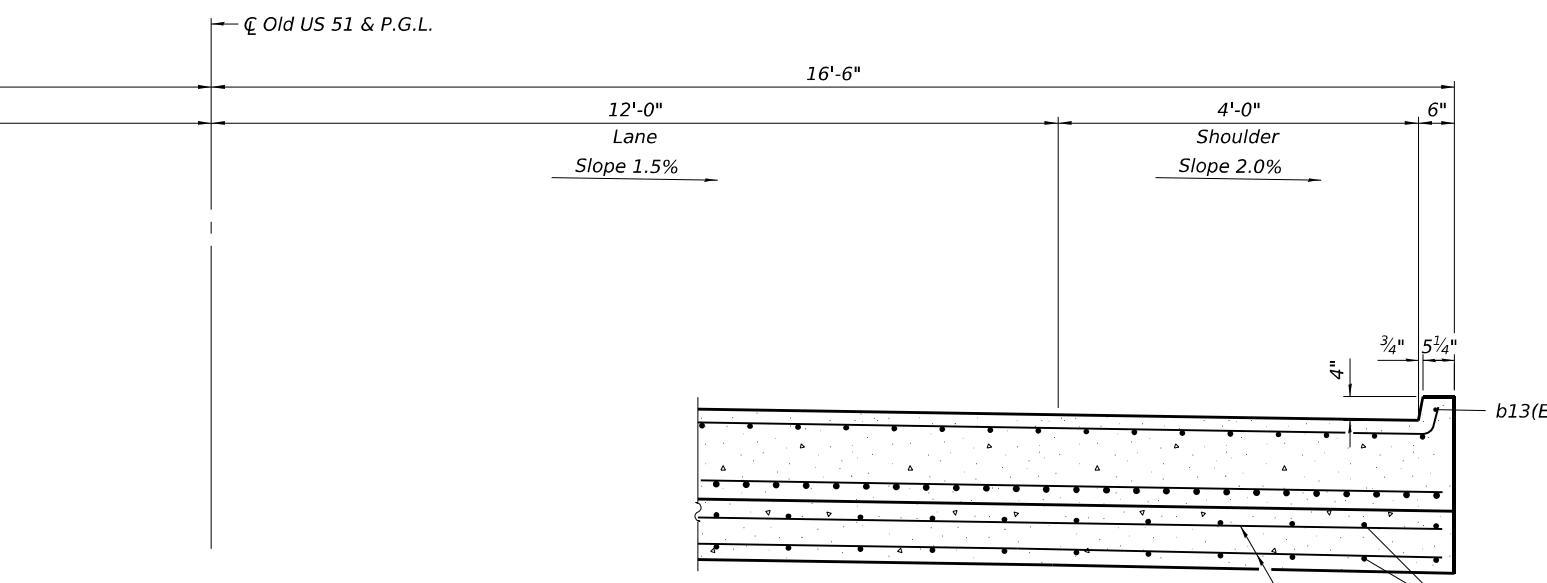
Point/ Location	North Approach		South Approach		
	Top	Bottom	Point/ Location	Top	Bottom
A - SE	466.05	465.22	A - NE	466.07	465.23
B - S	466.32	465.49	B - N	466.34	465.50
C - SW	466.05	465.22	C - NW	466.07	465.23
D - NE	465.96	465.12	D - SE	466.04	465.21
E - N	466.23	465.39	E - S	466.31	465.48
F - NW	465.96	465.12	F - SW	466.04	465.21

PLAN

(South approach slab shown; North approach slab similar by 180° rotation)



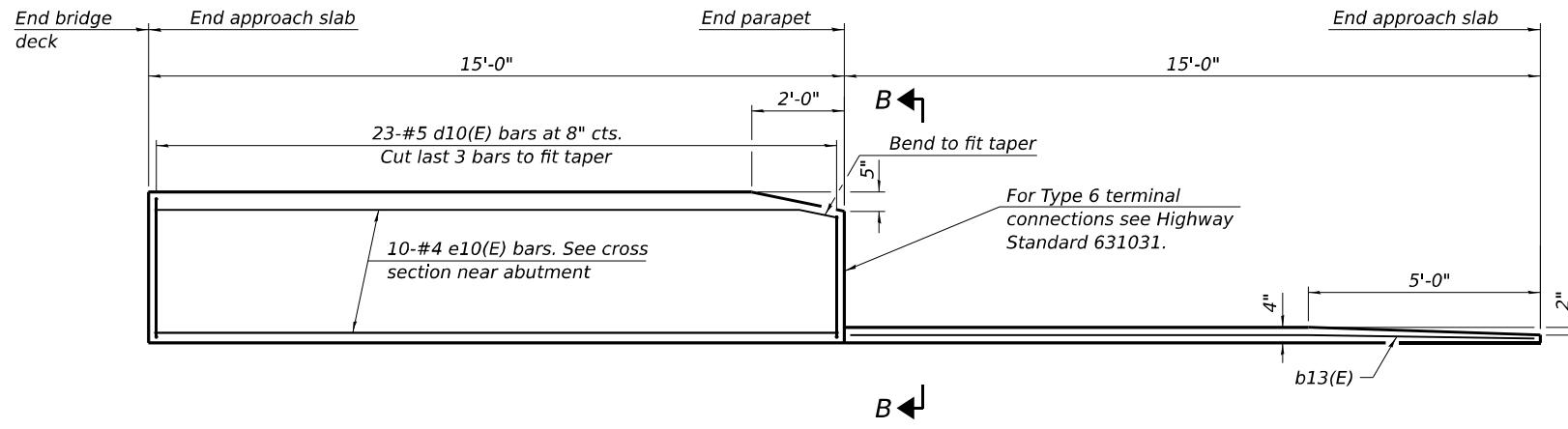
NEAR ABUTMENT



CROSS SECTION

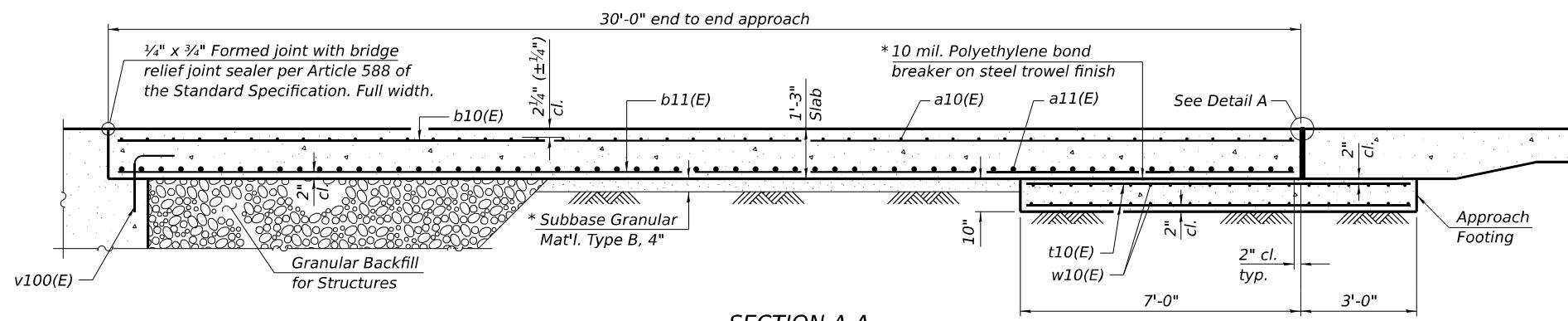
(Looking South)

AT APPROACH FOOTING

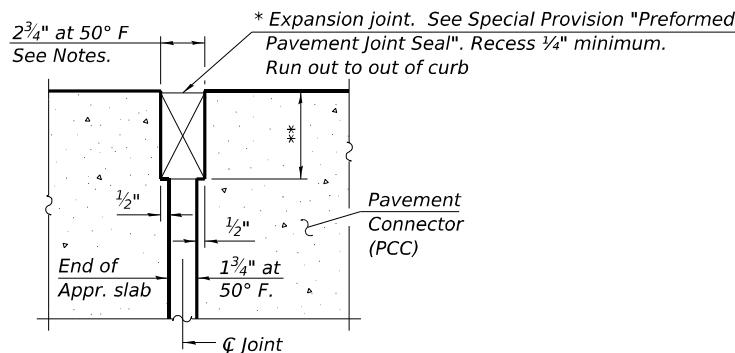


Notes:
 The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.
 Parapet concrete shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 33.

INSIDE ELEVATION OF PARAPET AND CURB



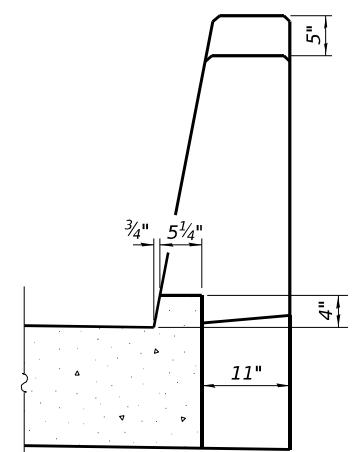
SECTION A-A



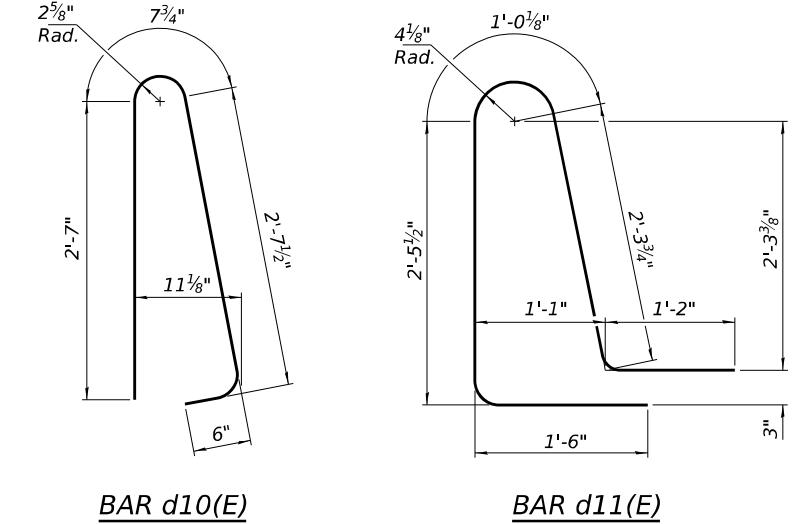
DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

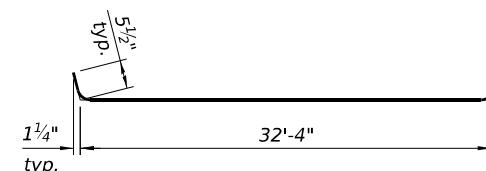


VIEW B-B

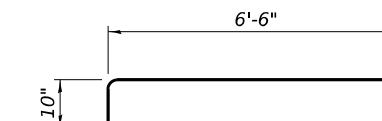


BAR d10(E)

BAR d11(E)



BAR a10(E)

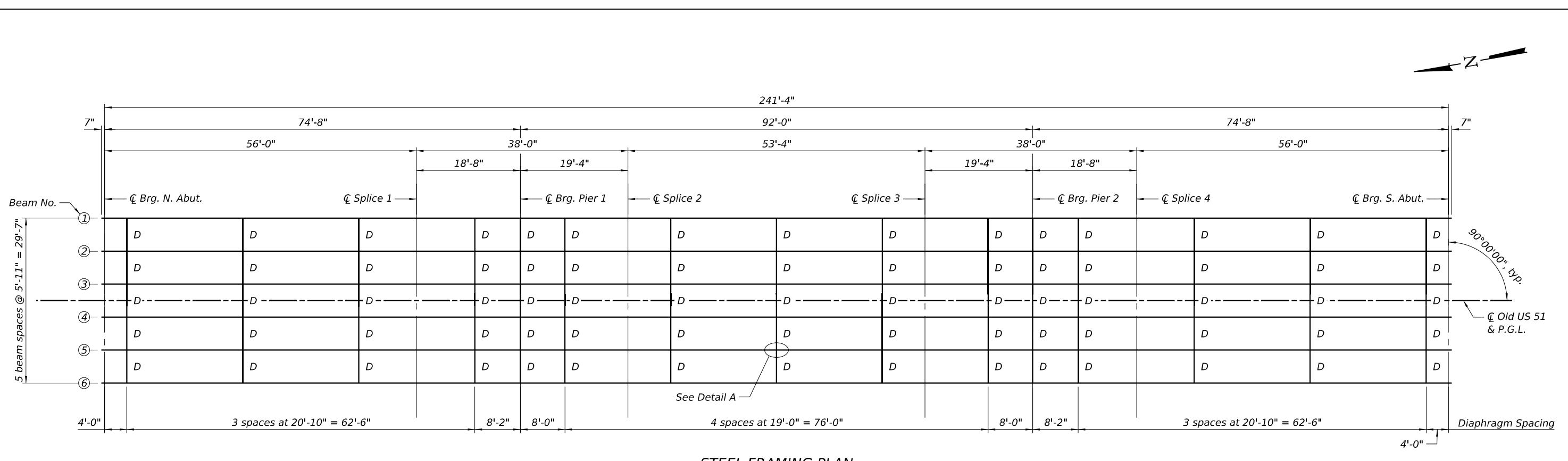


BAR a12(E)

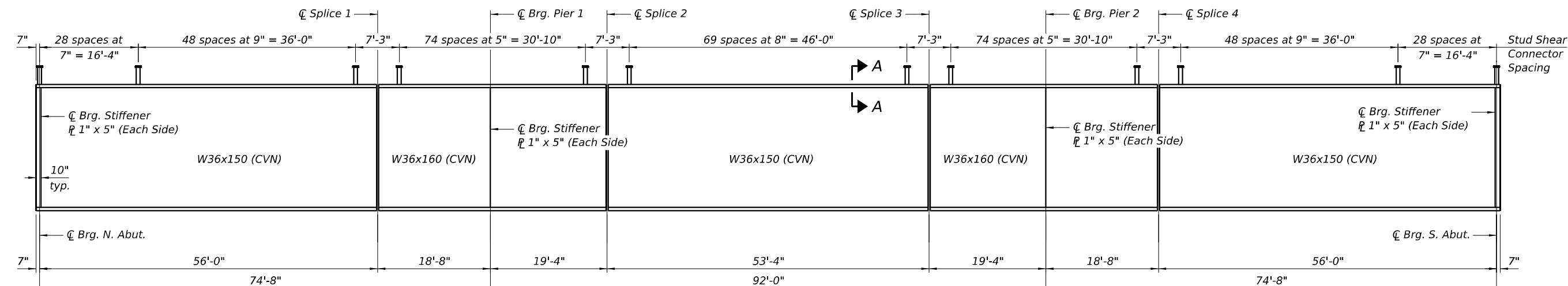
TWO APPROACHES

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	33'-3"	—
a11(E)	120	#8	32'-8"	—
a12(E)	92	#5	7'-4"	—
b10(E)	100	#5	29'-8"	—
b11(E)	158	#9	29'-8"	—
b12(E)	16	#5	14'-8"	—
b13(E)	4	#4	14'-8"	—
d10(E)	92	#5	6'-5"	—
d11(E)	92	#5	8'-6"	—
e10(E)	40	#4	14'-8"	—
t10(E)	136	#4	9'-8"	—
w10(E)	80	#5	32'-8"	—
Concrete Superstructure			Cu. Yd.	7.8
Concrete Superstructure (Approach Slab)			Cu. Yd.	94.8
Concrete Structures			Cu. Yd.	20.4
Reinforcement Bars, Epoxy Coated			Pound	39,110



STEEL FRAMING PLAN

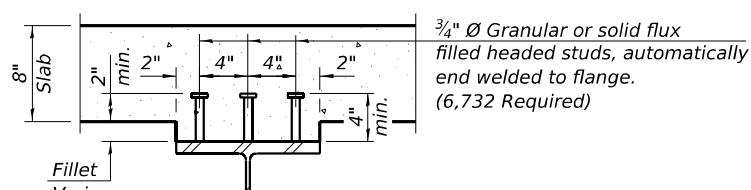


BEAM ELEVATION

TOP OF BEAM ELEVATION

(For Fabrication Only)

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
Q Brdg. N. Abut.	466.77	466.87	466.96	466.96	466.87	466.77
Field Splice 1	466.95	467.05	467.14	467.14	467.05	466.95
Q Brdg. Pier 1	466.95	467.05	467.14	467.14	467.05	466.95
Field Splice 2	466.96	467.06	467.15	467.15	467.06	466.96
Field Splice 3	466.83	466.93	467.02	467.02	466.93	466.83
Q Brdg. Pier 2	466.78	466.88	466.97	466.97	466.88	466.78
Field Splice 4	466.73	466.83	466.92	466.92	466.83	466.73
Q Brdg. S. Abut.	466.66	466.76	466.85	466.85	466.76	466.66



SECTION A-A

Notes:

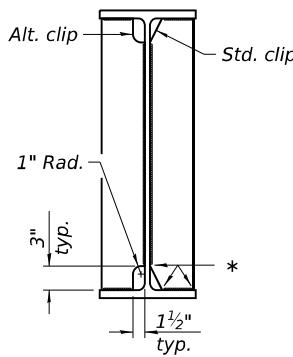
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor bolts.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

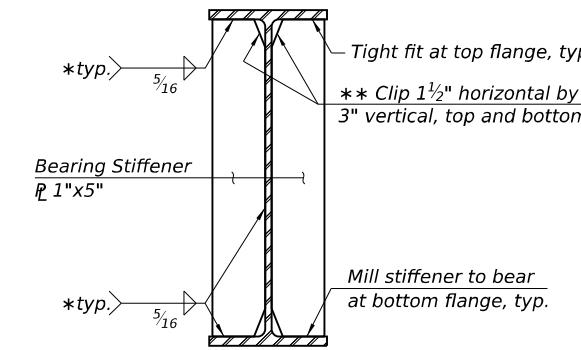
See sheet 17 of 33 for Detail A and additional details.

All beams, bearing stiffeners and splice plates, including filler plates, shall be AASHTO M270 Grade 50.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.



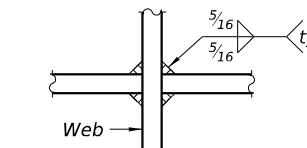
WELD LIMITS AND CLIP DETAILS



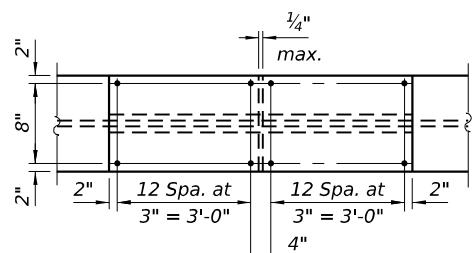
BEARING STIFFENER DETAIL

(24 Required)

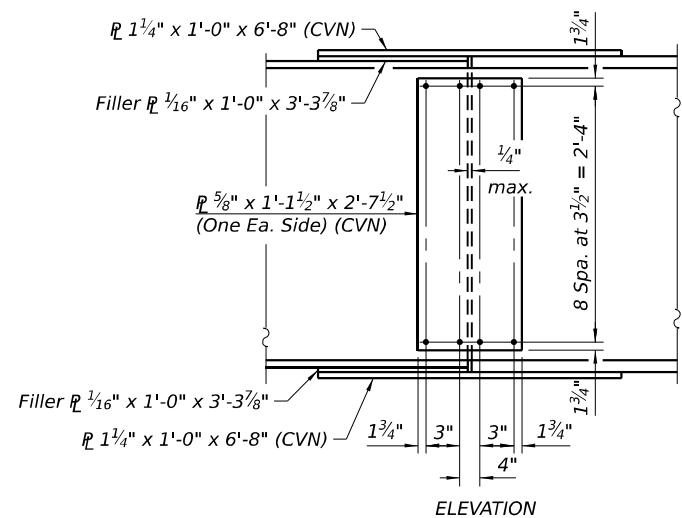
- * Stop welds $\frac{1}{4}$ " ($\pm \frac{1}{8}$ ") from edges as shown. Typical.
- ** Clip may be rounded for ease of shop painting.
- *** 3 sides of each stiffener and/or connection $\frac{1}{4}$ ".



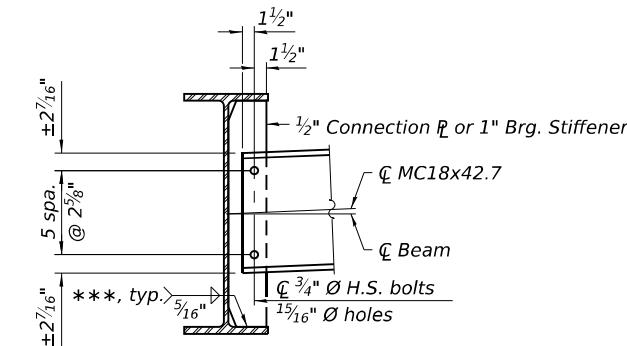
WEB WELD DETAIL



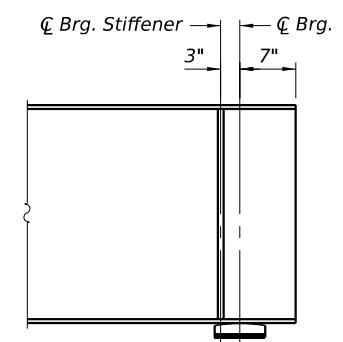
PLAN - TOP AND BOTTOM FLANGE



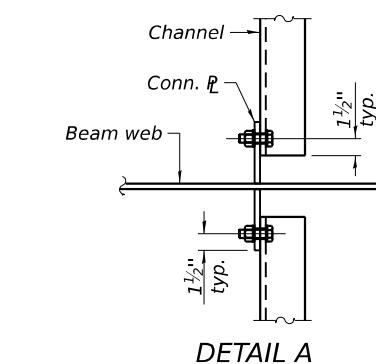
FIELD SPLICING DETAIL



INTERIOR DIAPHRAGM



END OF BEAM DETAIL
(Showing bearing stiffener location)



Notes:

- Detail $15/16$ " \odot holes for all $7/8$ " \odot H.S. bolts for Field Splices.
- Detail $15/16$ " \odot holes for all $3/4$ " \odot H.S. bolts for Interior Diaphragms.
- Two hardened washers required for each set of oversized holes.
- See sheet 16 of 33 for Detail A location and additional details.
- All beams, bearing stiffeners and splice plates, including filler plates, shall be AASHTO M270 Grade 50.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.

INTERIOR BEAM MOMENT TABLE			
	0.4 Sp. 1 or 0.6 Sp. 2	Piers	0.5 Sp. 2
I_s (in ⁴)	9,040	9,760	9,040
$I_c(n)$ (in ⁴)	24,325	25,701	24,325
$I_c(3n)$ (in ⁴)	17,810	-	17,810
$I_c(cr)$ (in ⁴)	-	12,699	-
S_s (in ³)	504	542	504
$S_c(n)$ (in ³)	746	-	746
$S_c(3n)$ (in ³)	673	-	673
$S_c(cr)$ (in ³)	-	613	-
S_x (in ³)	695	591	699
$DC1$ (kip)	0.805	0.814	0.805
M_{DC1} (kip)	310	571	283
$DC2$ (kip)	0.175	0.175	0.175
M_{DC2} (kip)	67	124	61
DW (kip)	0.296	0.296	0.296
M_{DW} (kip)	114	210	103
$LLDF$	0.499	0.487	0.473
M_{L+IM} (kip)	754	808	723
f_t (Strength I) (ksi)	0.0	0.0	0.0
$M_u + \frac{f_t}{3} S_x$ (kip)	1,962	2,598	1,850
$\Phi_f M_n$ (kip)	3,763	3,139	3,779
$f_s DC1$ (ksi)	7.4	12.6	6.7
$f_s DC2$ (ksi)	1.2	2.4	1.1
$f_s DW$ (ksi)	2.0	4.1	1.8
$f_s (L+IM)$ (ksi)	12.1	15.8	11.6
f_t (Service II) (ksi)	0.0	0.0	0.0
$f_s + f_t/2$ (Service II) (ksi)	26.4	39.7	24.8
Service II Resistance (ksi)	47.5	47.5	47.5
$f_s + f_t/3$ (Strength I) (ksi)	-	-	-
$\Phi_f F_n$ (ksi)	-	-	-
V_f (k)	31.3	-	31.3

BEAM REACTION TABLE		
	Abut.	Piers
LLDF	0.665	0.665
OCF	-	-
R_{DC1} (k)	23.1	75.1
R_{DC2} (k)	4.9	16.3
R_{DW} (k)	8.2	27.5
R_L (k)	55.0	95.4
R_{Im} (k)	13.4	19.0
$R_{Total}(Strength I)(Impact)$ (k)	167.0	355.7
$R_{Total}(Strength I)(No Impact)$ (k)	143.6	322.5

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).

S_x : Section modulus about the major axis of a section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in.³).

$DC1$: Un-factored non-composite dead load (kips/ft.).

M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).

$DC2$: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$LLDF$: Live Load Distribution Factor for moment and shear computed according to Article 4.6.2.2 and further IDOT provisions.

M_{L+IM} : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u : Strength I load combination of factored design moments (kip-ft.).
1.25 ($M_{DC1} + M_{DC2}$) + 1.5 M_{DW} + 1.75 M_{L+IM}

f_t : Factored calculated flange lateral bending stress as calculated using Article 6.10.1.6 and as further simplified by IDOT provisions (ksi).

$\Phi_f M_n$: Factored nominal flexural resistance of the section determined as specified in Article 6.10.7.1 or A6 as applicable (kip-ft.).

$f_s DC1$: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

M_{DC1} / S_s : Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).

$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

$f_s DW$: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).

$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

$f_s (L+IM)$: Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).

$M_L + IM / S_c(n)$ or $M_L + IM / S_c(cr)$ as applicable.

$f_s + f_t / 2$ (Service II): Sum of stresses as computed below (ksi).

$f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (L+IM) + f_t / 2$ Composite (0.95R_fF_{yf}) or noncomposite (0.80R_fF_{yf}) stress capacity according to Article 6.10.4.2 (ksi).

$f_s + f_t / 3$ (Strength I): Sum of stresses as computed below on non-compact sections (ksi).
1.25 ($f_s DC1 + f_s DC2$) + 1.5 $f_s DW$ + 1.75 $f_s (L+IM)$ + $f_t / 3$

$\Phi_f F_n$: Factored nominal flexural resistance of the section as specified in Article 6.10.7.2 or 6.10.8 as applicable (ksi).

V_f : Maximum factored shear range in span computed according to Article 6.10.10.

OCF : Obtuse Correction Factor according to Article 4.6.2.2.3c or as further simplified by IDOT provisions.

R_{DC1} : Un-factored reaction due to non-composite dead load (kip).

R_{DC2} : Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).

R_{DW} : Un-factored reaction due to long-term composite (superimposed future wearing surface only) dead load (kip).

R_L : Un-factored live load reaction (kip).

R_{IM} : Un-factored dynamic load allowance (impact) (kip).

$R_{Total}(Strength I)(Impact)$: Strength I load combination of factored design reactions (kip).
1.25 ($R_{DC1} + R_{DC2}$) + 1.5 R_{DW} + 1.75 ($R_L + R_{IM}$)

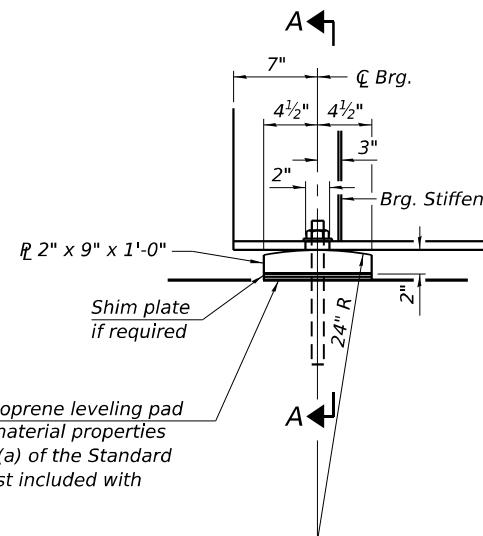
$R_{Total}(Strength I)(No Impact)$: Strength I load combination of factored design reactions, not including dynamic load allowance (Impact) (kip).
1.25 ($R_{DC1} + R_{DC2}$) + 1.5 R_{DW} + 1.75 (R_L)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

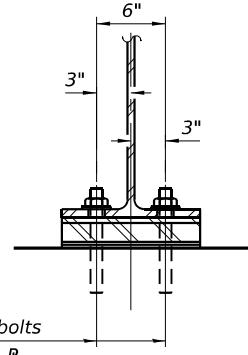
DESIGN DATA TABLES
STRUCTURE NO. 061-0092



F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2BR	MARION	65	43
				CONTRACT NO. 76A37

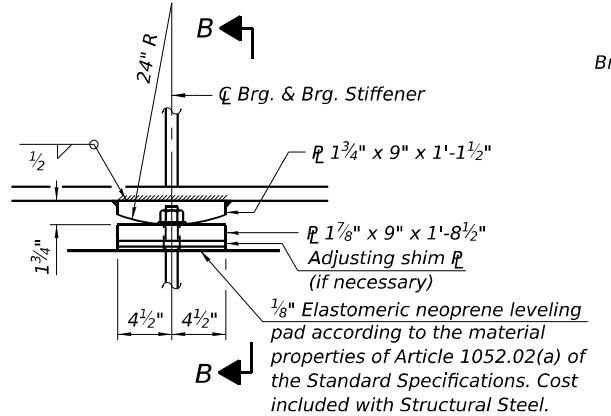


ELEVATION AT ABUTMENT

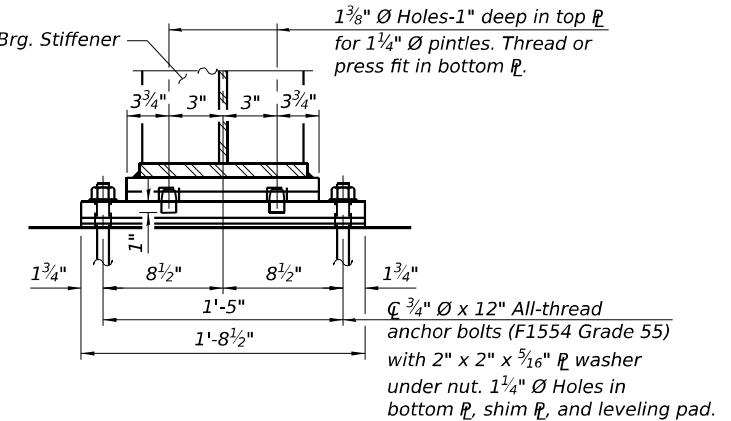


Q 1" Ø x 12" All-thread anchor bolts
(Grade 55) with $2\frac{1}{4}''$ x $2\frac{1}{4}''$ x $\frac{5}{16}''$ P
washer under nuts. $1\frac{3}{8}''$ x 2" slotted
holes in flange. $1\frac{1}{2}''$ Ø Holes in bearing plate,
shim P, and leveling pad.

SECTION A-A



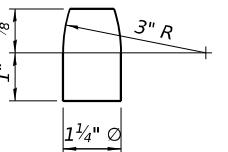
ELEVATION AT PIER



SECTION B-B



(12 Required)



PINTLE

Notes:
Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

The structural steel plates and pintles of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.

Two $\frac{1}{8}$ in. adjusting shims shall be provided for each

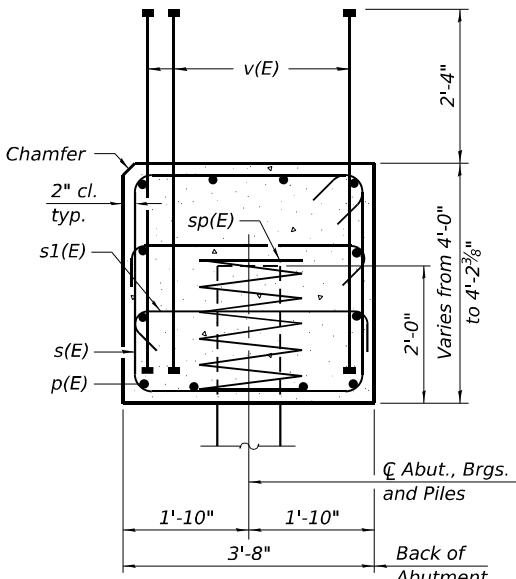
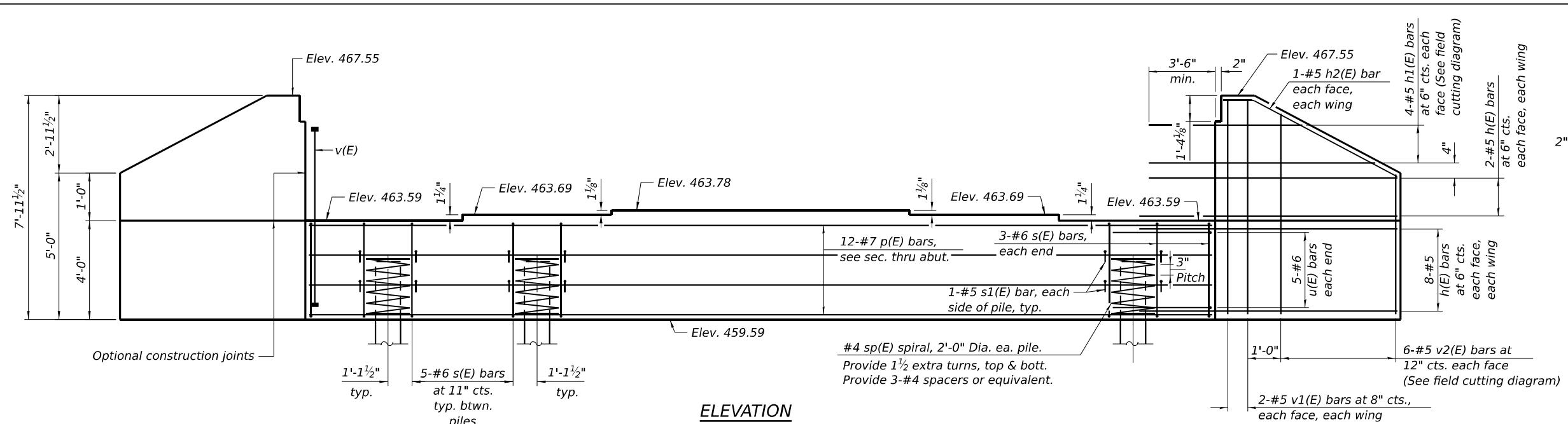
bearing in addition to all other plates or shims and placed as shown on bearing details.

All bearing plates, anchor bolts, nuts, washers, and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

BILL OF MATERIAL

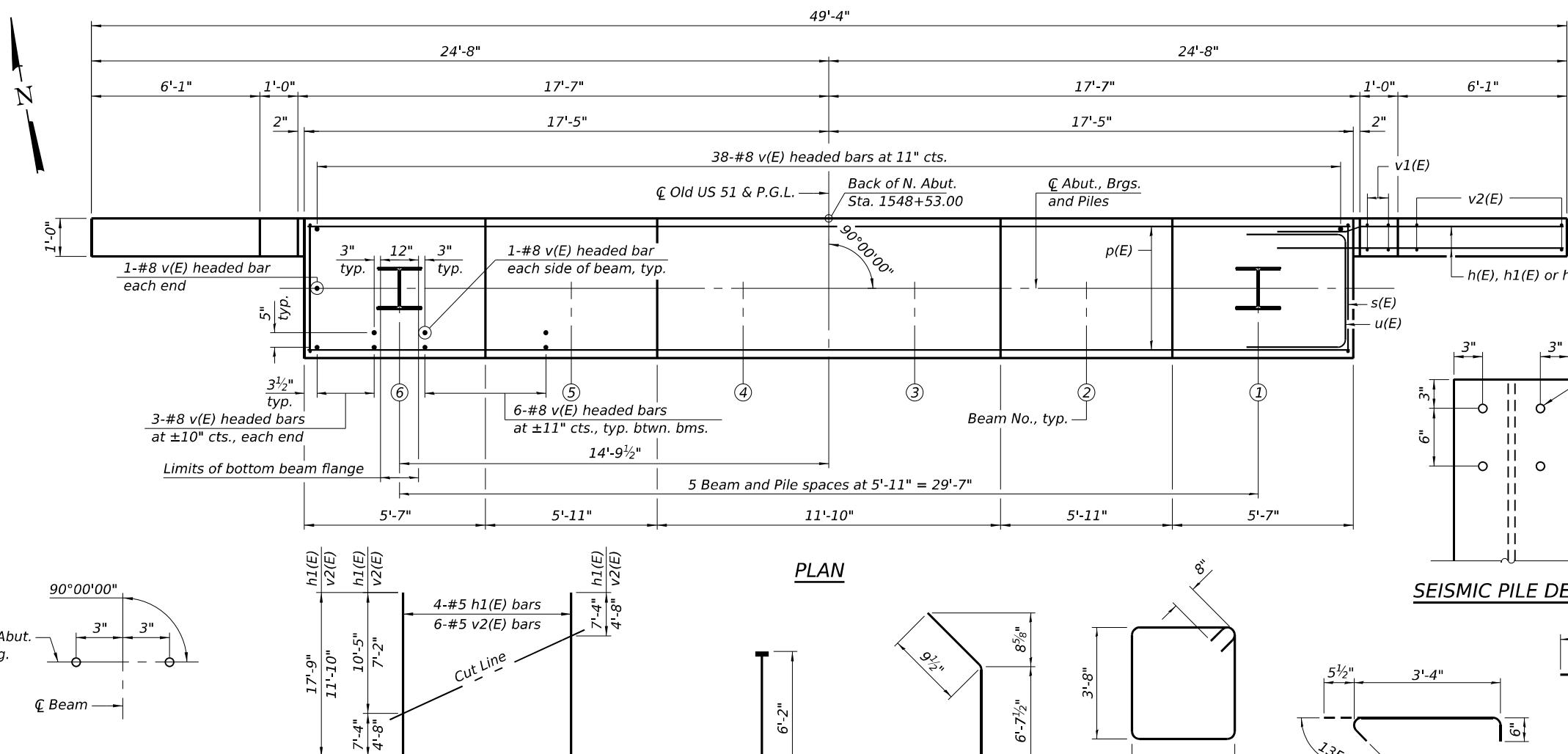
Item	Unit	Total
Anchor Bolts, $\frac{3}{4}$ "	Each	24
Anchor Bolts, 1"	Each	24



SEC. THRU ABUT.

PILE DATA

Type: HP14x89
Nominal Required Bearing: 691 kips
Factored Resistance Available: 380 kips
Est. Length: 27 ft.
No. Production Piles: 5
No. Test Piles: 1



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$n(E)$	40	#5	10'-7"	—
$n1(E)$	8	#5	17'-9"	—
$n2(E)$	4	#5	7'-5"	—
$p(E)$	12	#7	34'-6"	—
$s(E)$	31	#6	15'-4"	□
$s1(E)$	24	#5	4'-4"	□
$sp(E)$	6	#4	2'-0"	WWWW
$u(E)$	10	#6	9'-8"	—
$v(E)$	88	#8	6'-2"	—
$v1(E)$	8	#5	7'-7"	—
$v2(E)$	12	#5	11'-10"	—
Structure Excavation				
Concrete Structures				
enforcement Bars,				
poxy Coated				
furnishing Steel Piles,				
HP14x89				
Driving Piles				
est Pile, HP14x89				

Notes:
Pour steps monolithically with cap.
For details of piles see sheet 24 of 33.
Bar terminators, paid for separately.
See Total Bill of Material.

FIELD CUTTING DIAGRAM

Order $h1(E)$ and $v2(E)$ full length. Cut as shown and use remainder of bars in opposite wing.

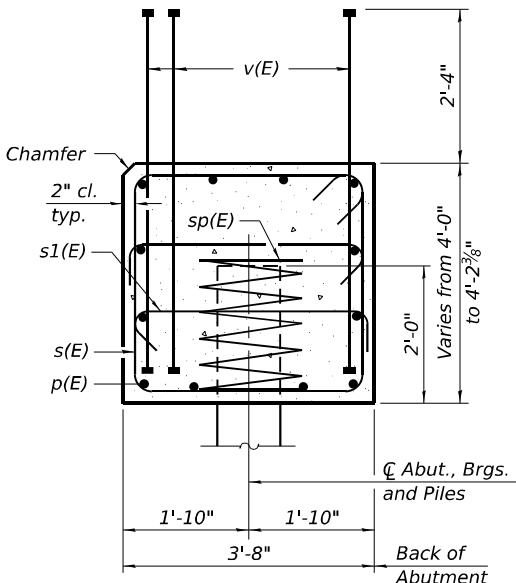
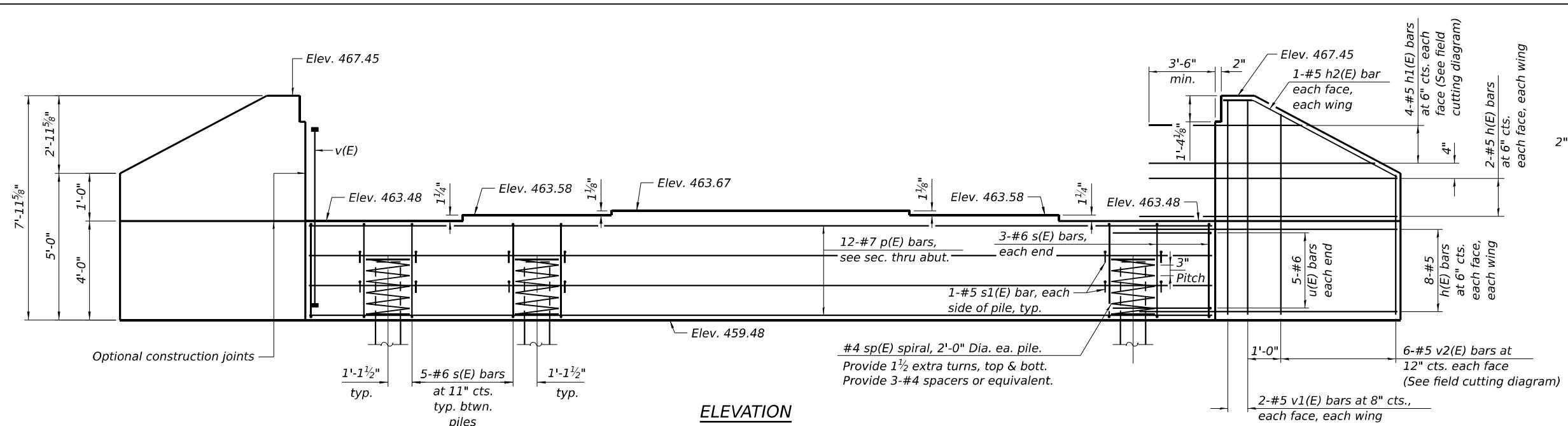
BAR $v($

BAR $h2(E)$

BAR $s(E)$

BAR $s1(E)$

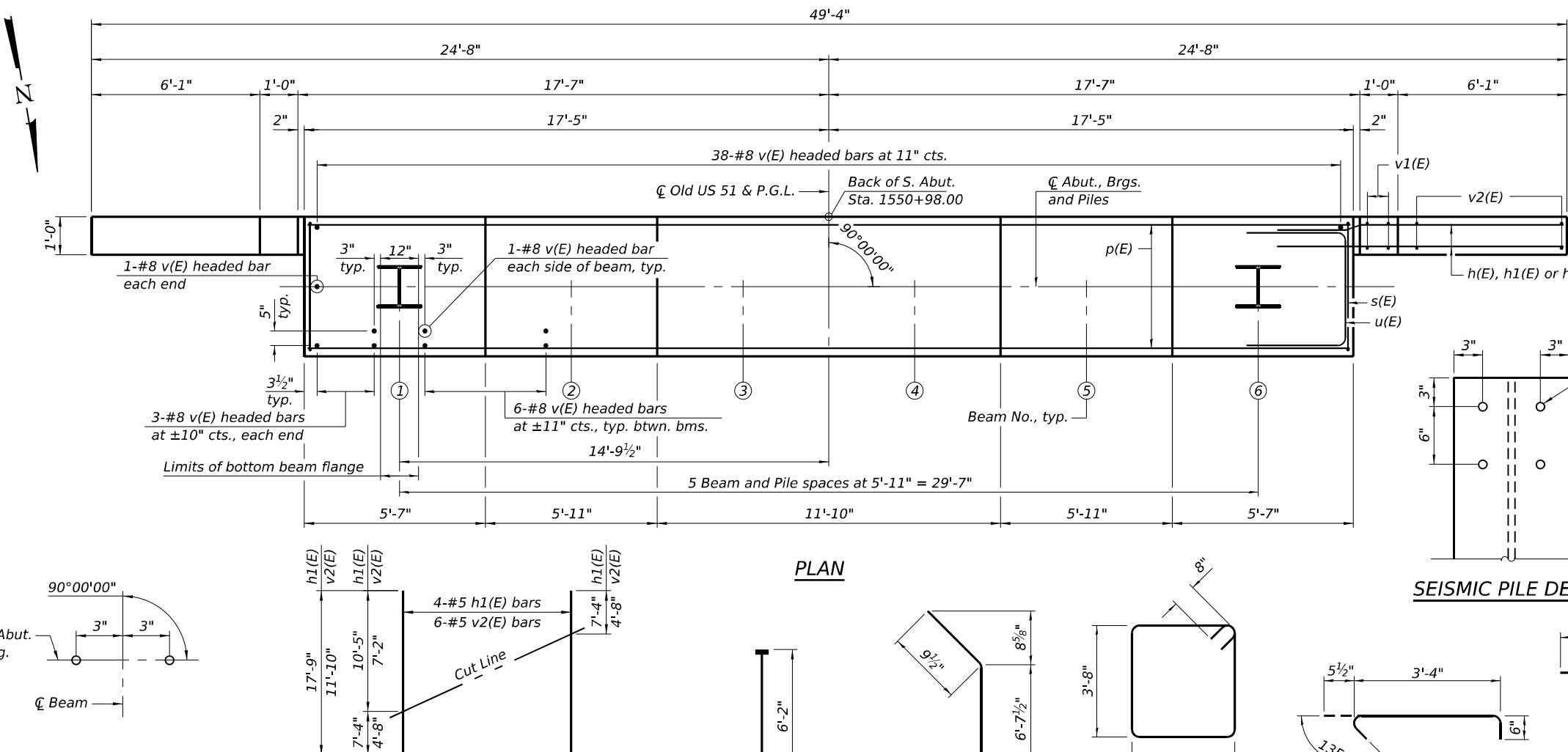
BAR $u(E)$



SEC. THRU ABUT.

PILE DATA

Type: HP14x89
Nominal Required Bearing: 703 kips
Factored Resistance Available: 386 kips
Est. Length: 29 ft.
No. Production Piles: 5
No. Test Piles: 1



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
(E)	40	#5	10'-7"	—
(E)	8	#5	17'-9"	—
(E)	4	#5	7'-5"	—
(E)	12	#7	34'-6"	—
(E)	31	#6	15'-4"	□
(E)	24	#5	4'-4"	└
(E)	6	#4	2'-0"	WWW
(E)	10	#6	9'-8"	—
(E)	88	#8	6'-2"	—
(E)	8	#5	7'-7"	—
(E)	12	#5	11'-10"	—
Structure Excavation		Cu. Yd.	184	
Concrete Structures		Cu. Yd.	23.0	
Reinforcement Bars,		Pound	4,380	
Galvanized Coated				
Furnishing Steel Piles,		Foot	145	
HP14x89				
Driving Piles		Foot	145	
Last Pile, HP14x89		Each	1	

Notes:
Pour steps monolithically with cap.
For details of piles see sheet 24 of 33.
Bar terminators, paid for separately.
See Total Bill of Material.

FIELD CUTTING DIAGRAM

Order $h1(E)$ and $v2(E)$ full length. Cut as shown and use remainder of bars in opposite wing.

BAR $v($

BAR $h2(E)$

BAR $s(E)$

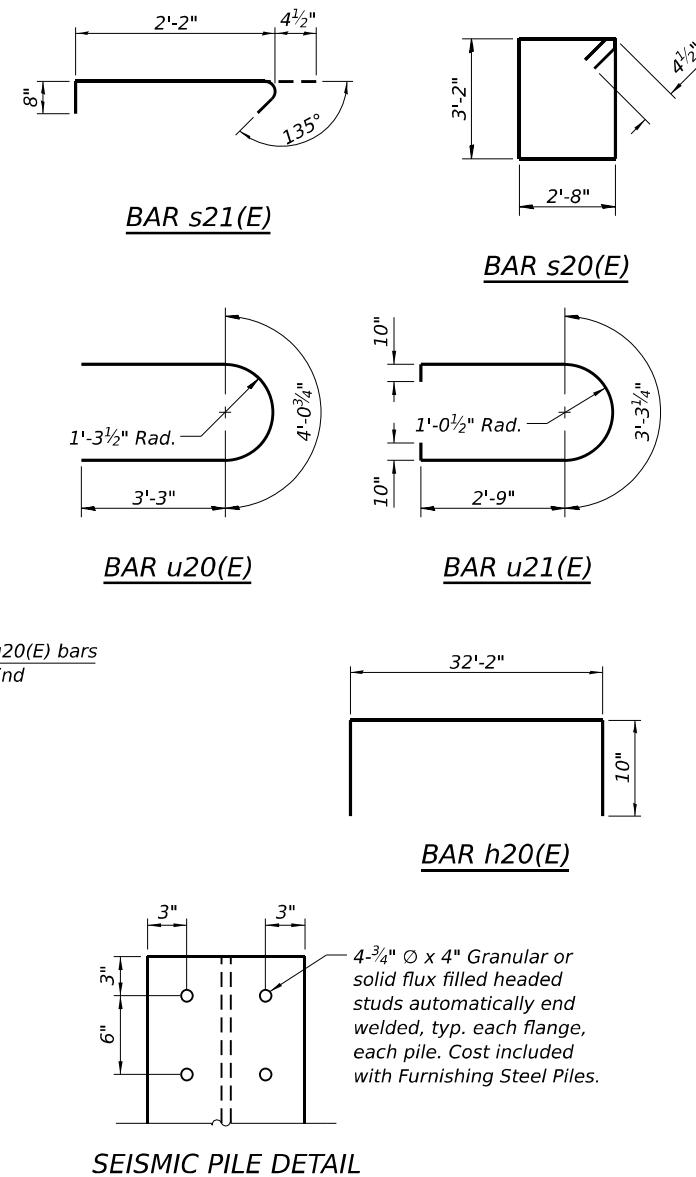
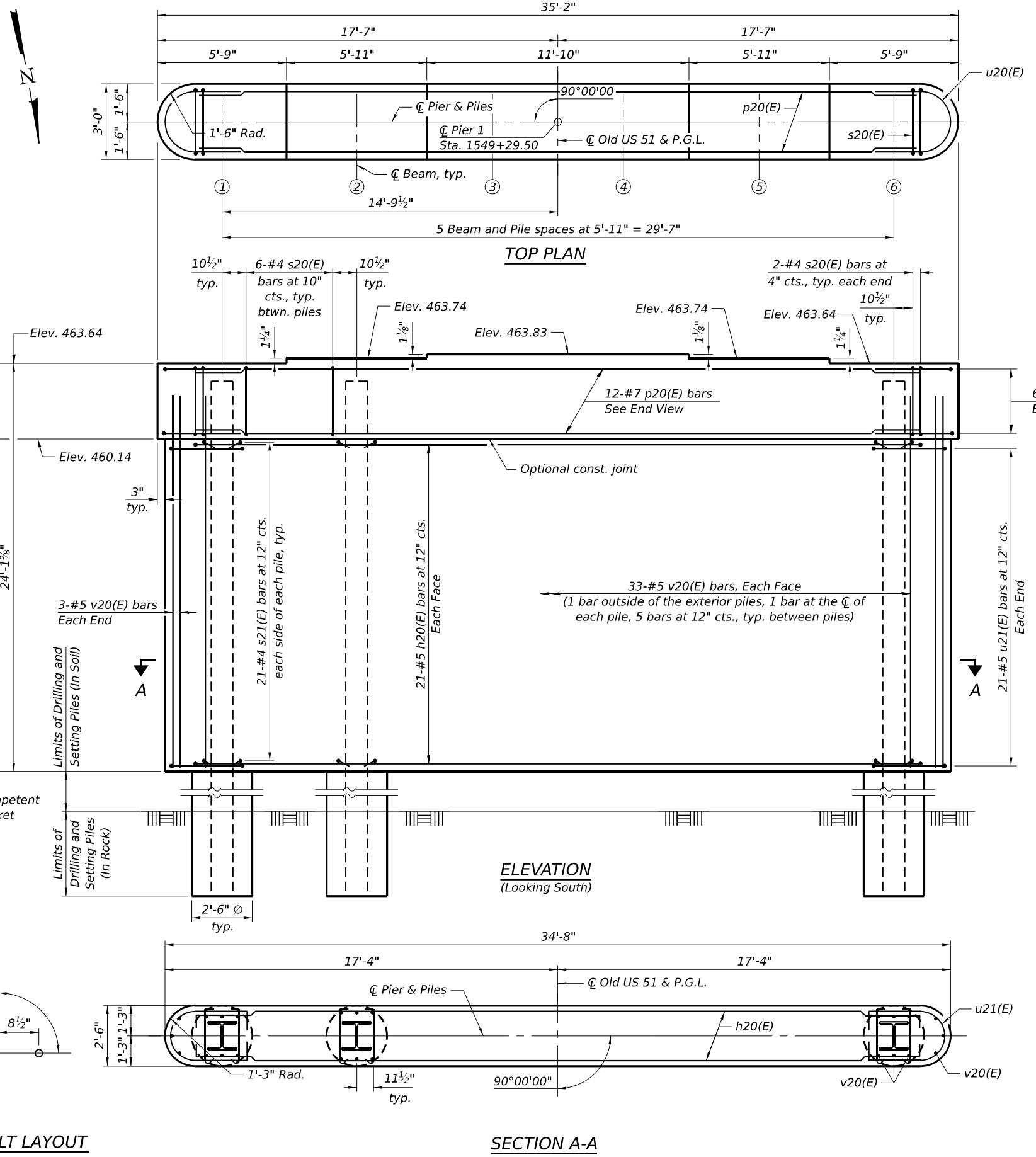
BAR *s1*(*E*)

BAR $u(E)$

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 24 of 33.

PILE DATA

Type: HP14x117
Nominal Required Bearing: Set in Rock
Factored Resistance Available: 1,204 kips
Est. Length: 33 ft.
No. Production Piles: 6
No. Test Piles: 0



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	42	#5	33'-10"	—
p20(E)	12	#7	32'-2"	—
s20(E)	34	#4	12'-5"	□
s21(E)	252	#4	3'-3"	□
u20(E)	12	#6	10'-7"	U
u21(E)	42	#5	10'-6"	U
v20(E)	72	#5	22'-10"	—
Concrete Structures				
Reinforcement Bars, Epoxy Coated				
Furnishing Steel Piles, HP14x117				
Cofferdam Excavation				
Drilling and Setting Piles (In Soil)				
Drilling and Setting Piles (In Rock)				
Cu. Yd.				
Pound				
Foot				
Cu. Yd.				
Cu. Ft.				
Cu. Ft.				

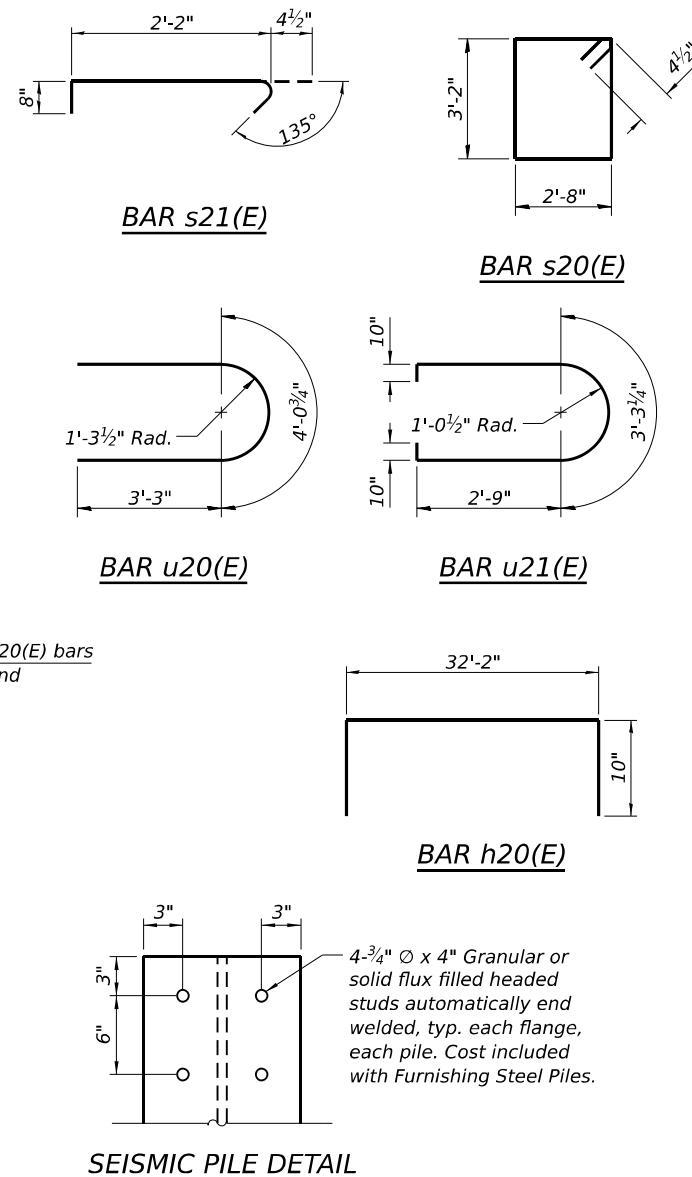
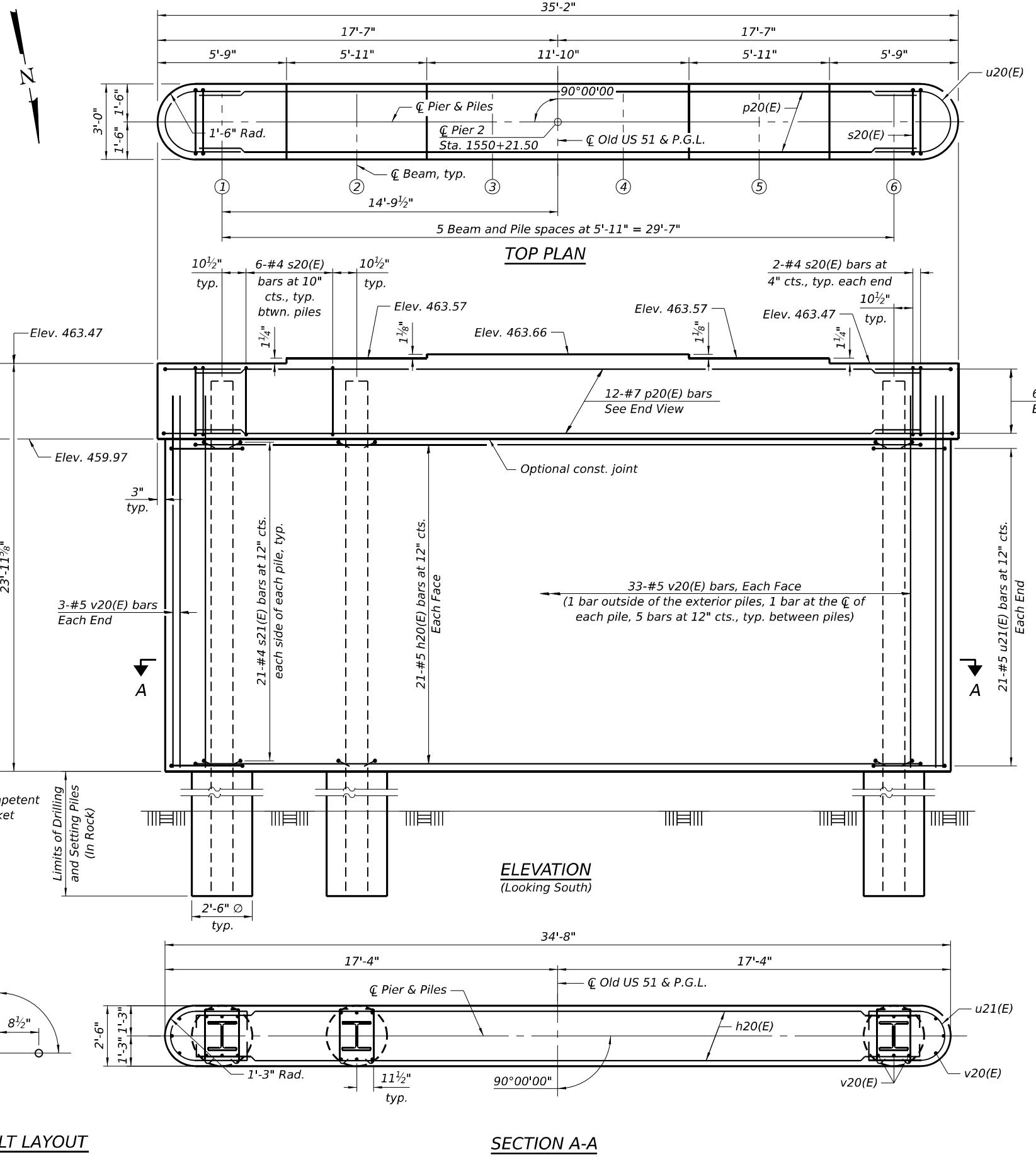
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1
STRUCTURE NO. 061-0092

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 24 of 33.

PILE DATA

Type: HP14x117
Nominal Required Bearing: Set in Rock
Factored Resistance Available: 1,204 kips
Est. Length: 35 ft.
No. Production Piles: 6
No. Test Piles: 0

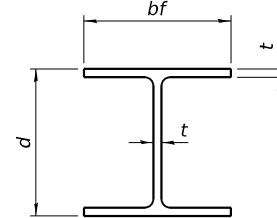


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	42	#5	33'-10"	—
p20(E)	12	#7	32'-2"	—
s20(E)	34	#4	12'-5"	□
s21(E)	252	#4	3'-3"	□
u20(E)	12	#6	10'-7"	U
u21(E)	42	#5	10'-6"	U
v20(E)	72	#5	22'-10"	—
Concrete Structures		Cu. Yd.	77.3	
Reinforcement Bars, Epoxy Coated		Pound	5,470	
Furnishing Steel Piles, HP14x117		Foot	210	
Cofferdam Excavation		Cu. Yd.	25	
Rock Excavation for Structures		Cu. Yd.	50	
Drilling and Setting Piles (In Rock)		Cu. Ft.	345	

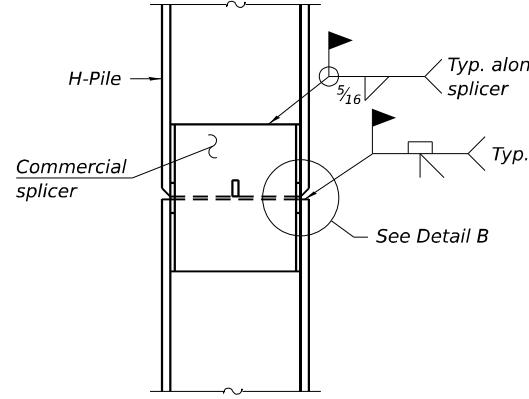
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2
STRUCTURE NO. 061-0092

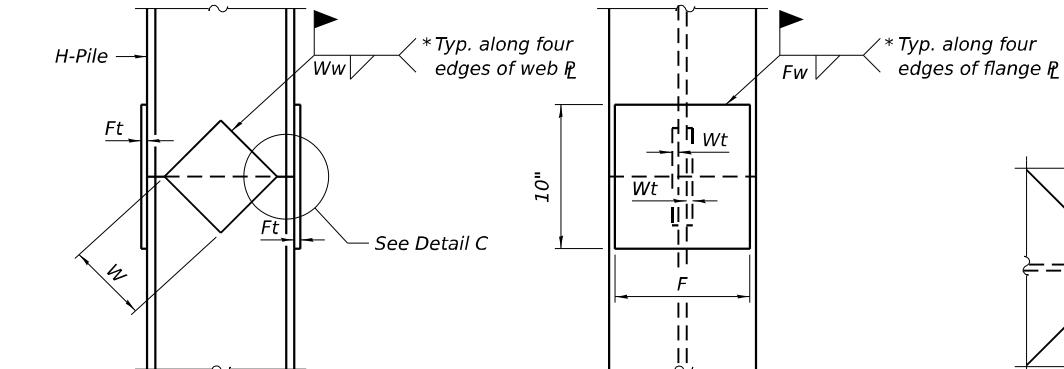


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 18x181	18	18	1	36"
x157	17 $\frac{3}{4}$ "	17 $\frac{7}{8}$ "	$\frac{7}{8}$ "	36"
x135	17 $\frac{1}{2}$ "	17 $\frac{3}{4}$ "	$\frac{3}{4}$ "	36"
HP 16x183	16 $\frac{1}{2}$ "	16 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	36"
x162	16 $\frac{1}{4}$ "	16 $\frac{1}{8}$ "	1"	36"
x141	16	16	$\frac{7}{8}$ "	36"
x121	15 $\frac{3}{4}$ "	15 $\frac{7}{8}$ "	$\frac{3}{4}$ "	36"
HP 14x117	14 $\frac{1}{4}$ "	14 $\frac{3}{8}$ "	$\frac{13}{16}$ "	30"
x102	14"	14 $\frac{3}{4}$ "	1 $\frac{11}{16}$ "	30"
x89	13 $\frac{7}{8}$ "	14 $\frac{3}{4}$ "	$\frac{5}{8}$ "	30"
x73	13 $\frac{5}{8}$ "	14 $\frac{5}{8}$ "	$\frac{1}{2}$ "	30"
HP 12x84	12 $\frac{1}{4}$ "	12 $\frac{1}{4}$ "	1 $\frac{11}{16}$ "	24"
x74	12 $\frac{1}{8}$ "	12 $\frac{1}{4}$ "	$\frac{5}{8}$ "	24"
x63	12"	12 $\frac{1}{8}$ "	$\frac{1}{2}$ "	24"
x53	11 $\frac{3}{4}$ "	12"	$\frac{7}{16}$ "	24"
HP 10x57	10"	10 $\frac{1}{4}$ "	$\frac{9}{16}$ "	24"
x42	9 $\frac{3}{4}$ "	10 $\frac{1}{8}$ "	$\frac{7}{16}$ "	24"
HP 8x36	8"	8 $\frac{1}{8}$ "	$\frac{7}{16}$ "	18"

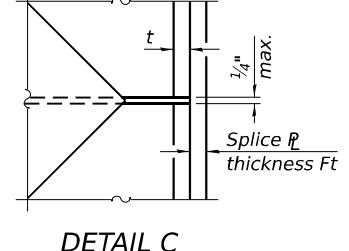


ELEVATION

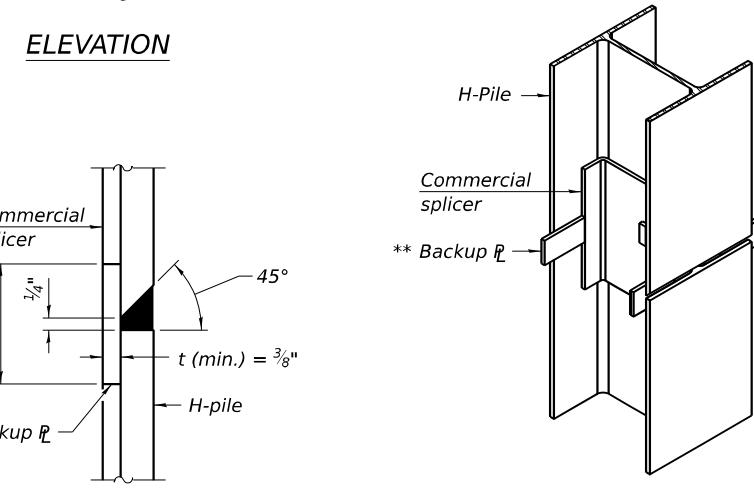


ELEVATION

END VIEW



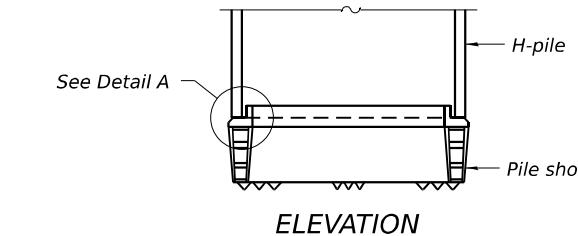
DETAIL C



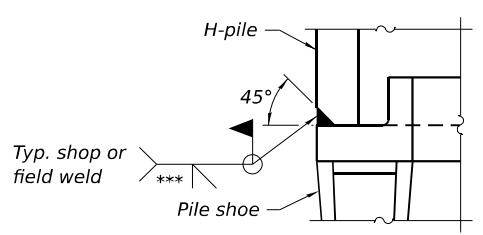
DETAIL B

ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

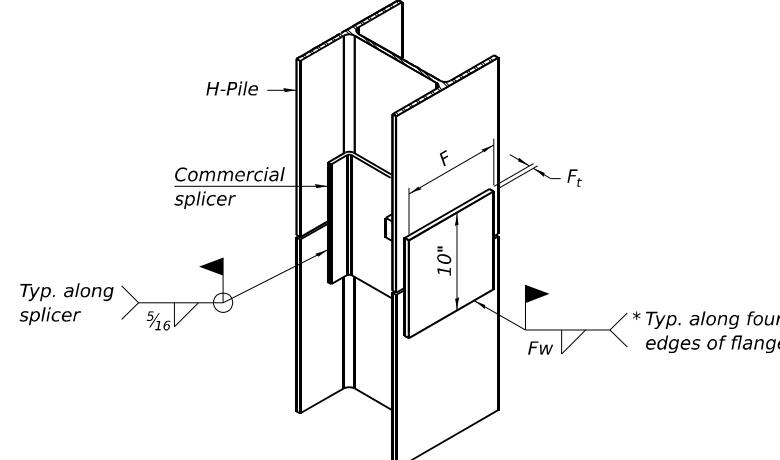


ELEVATION



DETAIL A

SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

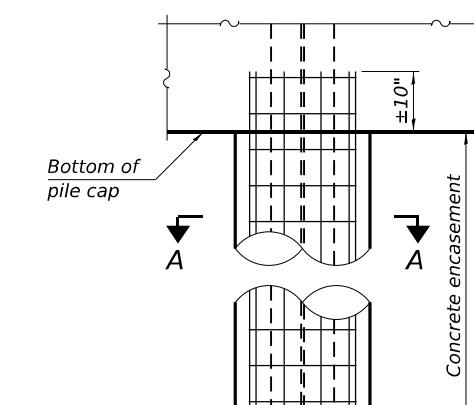
* Interrupt welds $\frac{1}{4}$ " from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer ($\frac{5}{16}$ " min.).

Designation	F	Ft	Fw	W	Wt	Ww
HP 18x181	15 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	1"	9 $\frac{1}{2}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "
x157	15 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	1"	9 $\frac{1}{2}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "
x135	15 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	1"	9 $\frac{1}{2}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "
HP 16x183	13 $\frac{3}{4}$ "	1 $\frac{1}{2}$ "	1"	8 $\frac{1}{4}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "
x162	13 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	1"	8 $\frac{1}{4}$ "	$\frac{3}{4}$ "	$\frac{5}{8}$ "
x141	13 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	$\frac{7}{8}$ "	8 $\frac{1}{4}$ "	$\frac{3}{4}$ "	$\frac{5}{8}$ "
x121	13 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	$\frac{7}{8}$ "	8 $\frac{1}{4}$ "	$\frac{3}{4}$ "	$\frac{5}{8}$ "
HP 14x117	12 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	$\frac{7}{8}$ "	7 $\frac{3}{4}$ "	$\frac{5}{8}$ "	$\frac{1}{2}$ "
x102	12 $\frac{1}{2}$ "	1"	$\frac{3}{4}$ "	7 $\frac{3}{4}$ "	$\frac{5}{8}$ "	$\frac{1}{2}$ "
x89	12 $\frac{1}{2}$ "	$\frac{7}{8}$ "	$\frac{11}{16}$ "	7 $\frac{3}{4}$ "	$\frac{5}{8}$ "	$\frac{1}{2}$ "
x73	12 $\frac{1}{2}$ "	$\frac{7}{8}$ "	$\frac{9}{16}$ "	7 $\frac{3}{4}$ "	$\frac{5}{8}$ "	$\frac{1}{2}$ "
HP 12x84	10"	1 $\frac{1}{16}$ "	$\frac{11}{16}$ "	6 $\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{1}{2}$ "
x74	10"	$\frac{7}{8}$ "	$\frac{11}{16}$ "	6 $\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{1}{2}$ "
x63	10"	$\frac{3}{4}$ "	$\frac{1}{2}$ "	6 $\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{3}{8}$ "
x53	10"	$\frac{3}{4}$ "	$\frac{1}{2}$ "	6 $\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{3}{8}$ "
HP 10x57	8"	$\frac{7}{8}$ "	$\frac{9}{16}$ "	5 $\frac{1}{4}$ "	$\frac{1}{2}$ "	$\frac{3}{8}$ "
x42	8"	$\frac{3}{4}$ "	$\frac{9}{16}$ "	5 $\frac{1}{4}$ "	$\frac{1}{2}$ "	$\frac{3}{8}$ "
HP 8x36	6 $\frac{3}{4}$ "	$\frac{5}{8}$ "	$\frac{7}{16}$ "	4"	$\frac{1}{2}$ "	$\frac{3}{8}$ "

WELDED PLATE FIELD SPLICE



ELEVATION

SECTION A-A

INDIVIDUAL PILE

CONCRETE ENCASEMENT

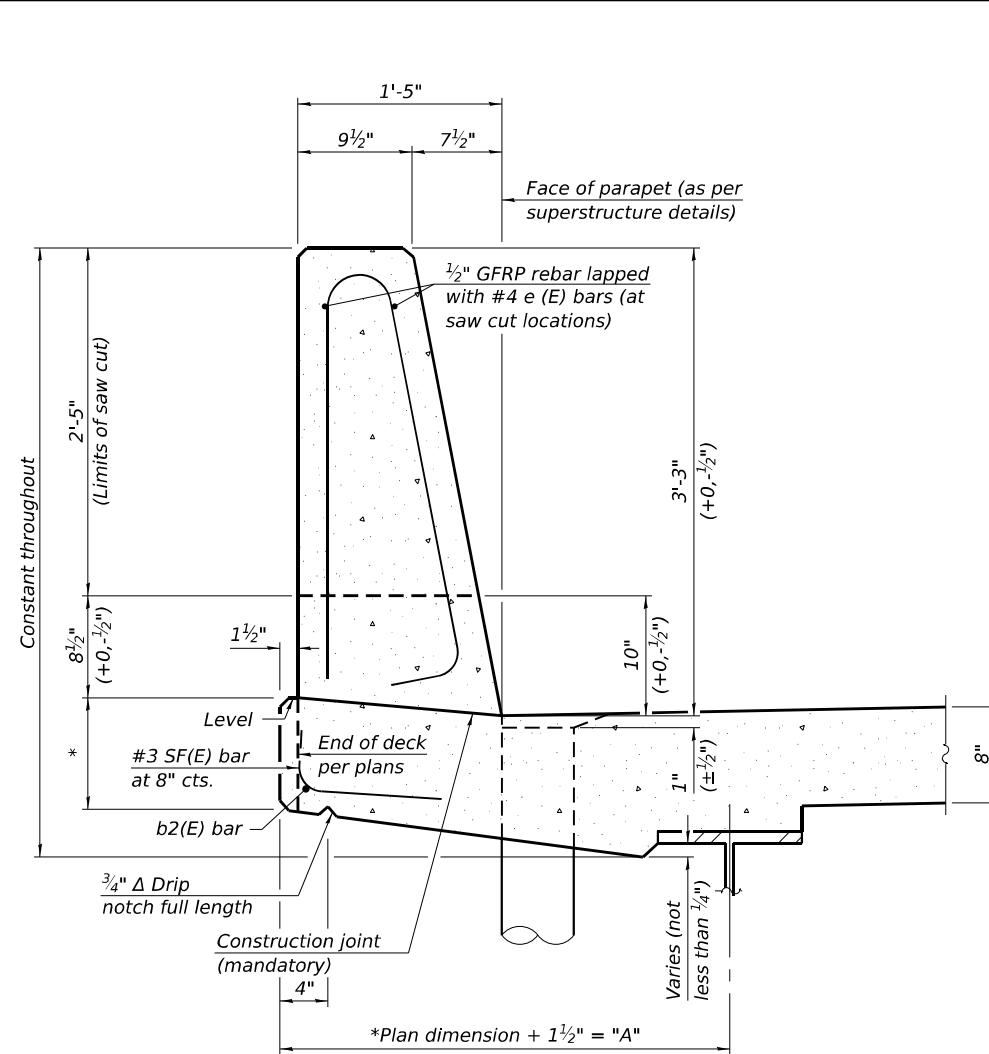
(when specified)

Welded wire fabric 6 x 6- W4.0 x W4.0 weighing 58#/100 sq. ft. Bend as required to fit into wall. Reinforcement for encasements at abutments is included with Concrete Encasement according to Article 503.13 of the Standard Specifications.

Forms for encasement may be omitted when soil conditions permit.

F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2B	MARION	65	49
				CONTRACT NO. 76A37

ILLINOIS FED. AID PROJECT

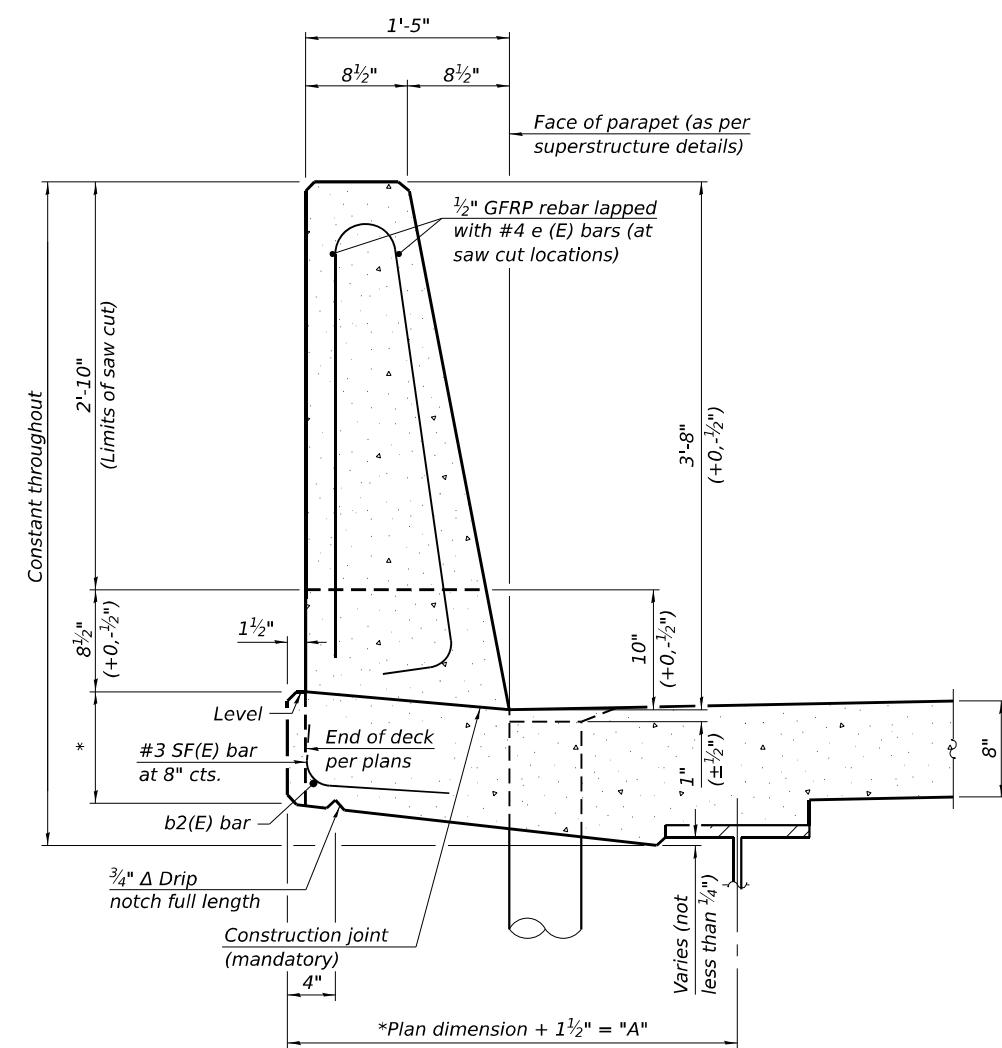


STEEL SUPERSTRUCTURES

**39" CONSTANT-SLOPE
PARAPET SECTION**

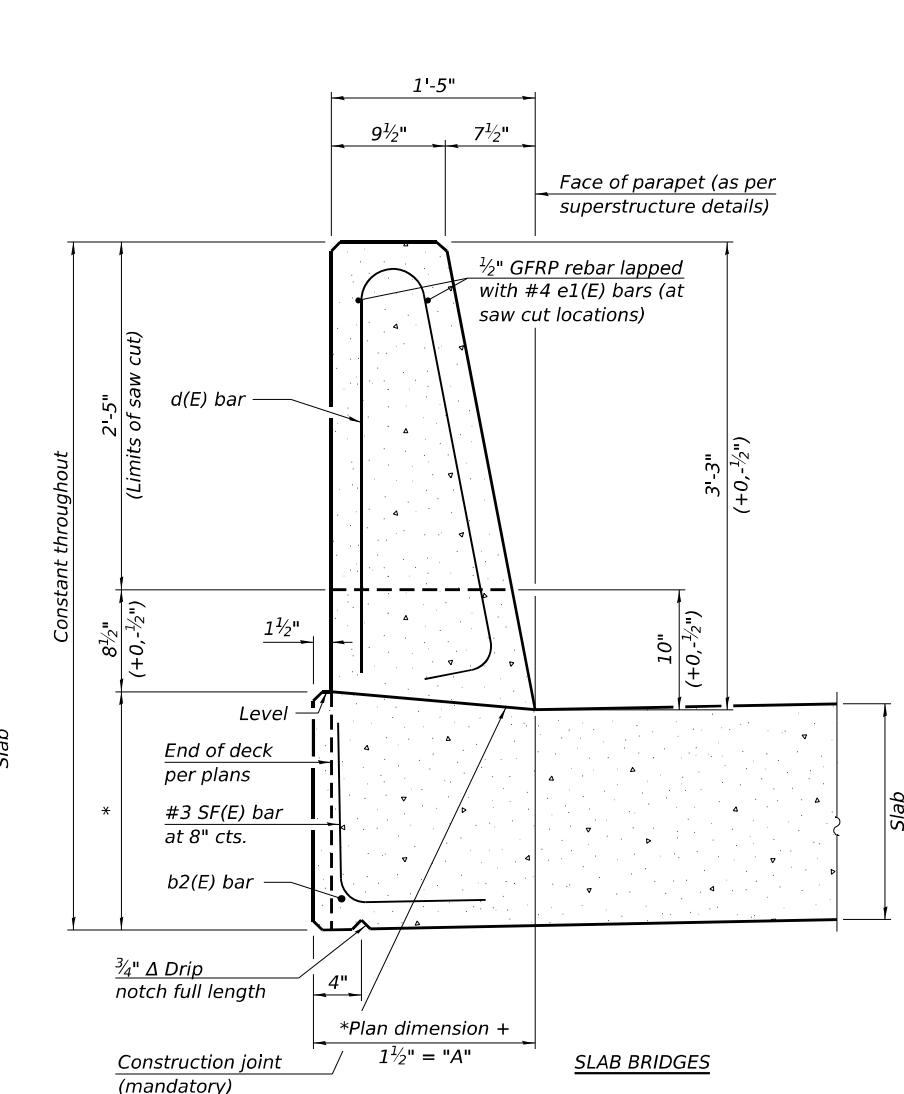
(Showing dimensions, $d(E)$, and $\frac{1}{2}$ " Ø GFRP rebar)

*See Superstructure Details.



**44" CONSTANT-SLOPE
PARAPET SECTION**

(Showing dimensions, $d(E)$, and $\frac{1}{2}$ " Ø GFRP rebar)

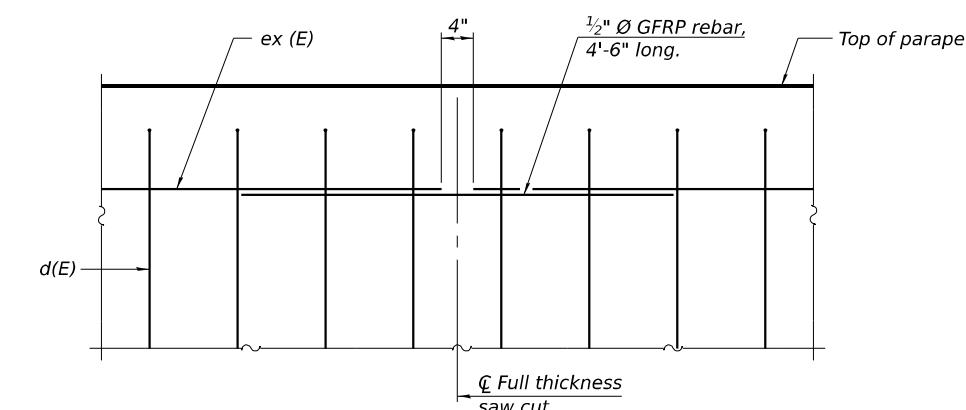


**39" CONSTANT-SLOPE
PARAPET SECTION**

(Showing dimensions, $d(E)$, and $\frac{1}{2}$ " Ø GFRP rebar)



SF(E) BAR



DETAIL - GFRP REBAR STIFFENING ELEVATION

(Place as shown in parapet section
at each parapet joint location.)

Notes:

All dimensions shall remain the same as shown on superstructure details, except dimension "A" which is to be revised as shown. Additional concrete needed to revise dimension "A" (39" and 44" parapets): Steel Superstructures: 0.00348 cu. yds./ft. Slab Bridge Superstructures: cu. yds./ft. Place full depth aluminum sheets as shown on superstructure details. Replace all cork joint filler locations with a full thickness saw cut. Steel and slab superstructures shown. Other superstructure types similar.

SFP 39-44

10/27/2023



USER NAME =	DESIGNED - ZLD	REVISED -
CHECKED - RPW	REVISED -	
PLOT SCALE =	DRAWN - JDC	REVISED -
PLOT DATE =	CHECKED - MDC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 061-0092

F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1791	29-2BR	MARION	65	50
				CONTRACT NO. 76A37

SHEET 25 OF 33 SHEETS

ILLINOIS FED. AID PROJECT



Illinois Department
of Transportation

Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2

Date 11/28/94

ROUTE FAS 1791 DESCRIPTION Old US 51 over Crooked Creek LOGGED BY D. Lux

SECTION 29-2BR LOCATION NE 1/4, SEC. 6, TWP. 1N, RNG. 1E, 3 PM

COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0007 (E) /
061-0092 (P)
Station 1549+80

D B U M
E L C O
P O S I
T W S T
H S Qu
(ft) (ft) (/6") (tsf) (%)

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 438.4 ft
Upon Completion ft
After Hrs. ft

D B U M
E L C O
P O S I
T W S T
H S Qu
(ft) (ft) (/6") (tsf) (%)

ft
ft
ft
ft
ft

BORING NO. 2 S. Abut
Station 1551+04
Offset 9.19ft LT
Ground Surface Elev. 467.27 ft

(ft) (ft) (/6") (tsf) (%)

Existing Bituminous and PCC
Pavement, Aggregate Base Course

465.27

Gray Marbled Brown CLAY

6 0.21 24
B
-5
18 17
459.27

0 0.00 24
B

-25

3 0.63 28
S

440.27

Gray Silty LOAM

3 0.31 22
S

-10

456.77

Gray Silty LOAM

8 0.73 22
S

455.27

Gray Silty LOAM

3 0.31 25
S

450.27

Gray Silty LOAM

0 0.10 24
B

-20

Gray Silty LOAM (continued)

0 0.00 24
B

-25

3 0.63 28
S

440.27

Dark Gray Silty LOAM

438.77

11 18

Gray Mix of Very Badly Weathered
Clay-SHALE, Sandy LOAM to
SAND

436.27

-30

9.5'/100 11

Very Badly Weathered Gray
Clay-SHALE

430.27

8.25'/100 2.5 5
S

-35

0.5'/100 1

430.27

END OF BORING

NOTE: Value is "N" Column is the
TOTAL Blow Count for the
Sample

-40

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)



Illinois Department
of Transportation

Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 2

Date 11/28/94

ROUTE FAS 1791 DESCRIPTION Old US 51 over Crooked Creek LOGGED BY D. Lux

SECTION 29-2BR LOCATION NE 1/4, SEC. 6, TWP. 1N, RNG. 1E, 3 PM

COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0007 (E) /
061-0092 (P)
Station 1549+80

D B U M
E L C O
P O S I
T W S T
H S Qu
(ft) (ft) (/6") (tsf) (%)

Surface Water Elev. ft
Stream Bed Elev. ft

BORING NO. 2 S. Abut
Station 1551+04
Offset 9.19ft LT
Ground Surface Elev. 467.27 ft

(ft) (ft) (/6") (tsf) (%)

Assumed Elevation at Center of
Existing Bridge = 100.0 ft

-45

-50

-55

-60

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)



USER NAME =	DESIGNED - ZLD	REVISED -
CHECKED - RPW	REVISED -	
PLOT SCALE =	DRAWN - JDC	REVISED -
PLOT DATE =	CHECKED - MDC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 061-0092

SHEET 27 OF 33 SHEETS

F.A.S. R.T.E. 1791	SECTION 29-2BR	COUNTY MARION	TOTAL SHEETS 65	SHEET NO. 52
CONTRACT NO. 76A37				ILLINOIS FED. AID PROJECT



Illinois Department
of Transportation

Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2

Date 10/31/07

ROUTE FAS 1791 DESCRIPTION Old US 51 over Crooked Creek LOGGED BY E. Stewart

SECTION 29-2BR LOCATION NE 1/4, SEC. 6, TWP. 1N, RNG. 1E, 3 PM

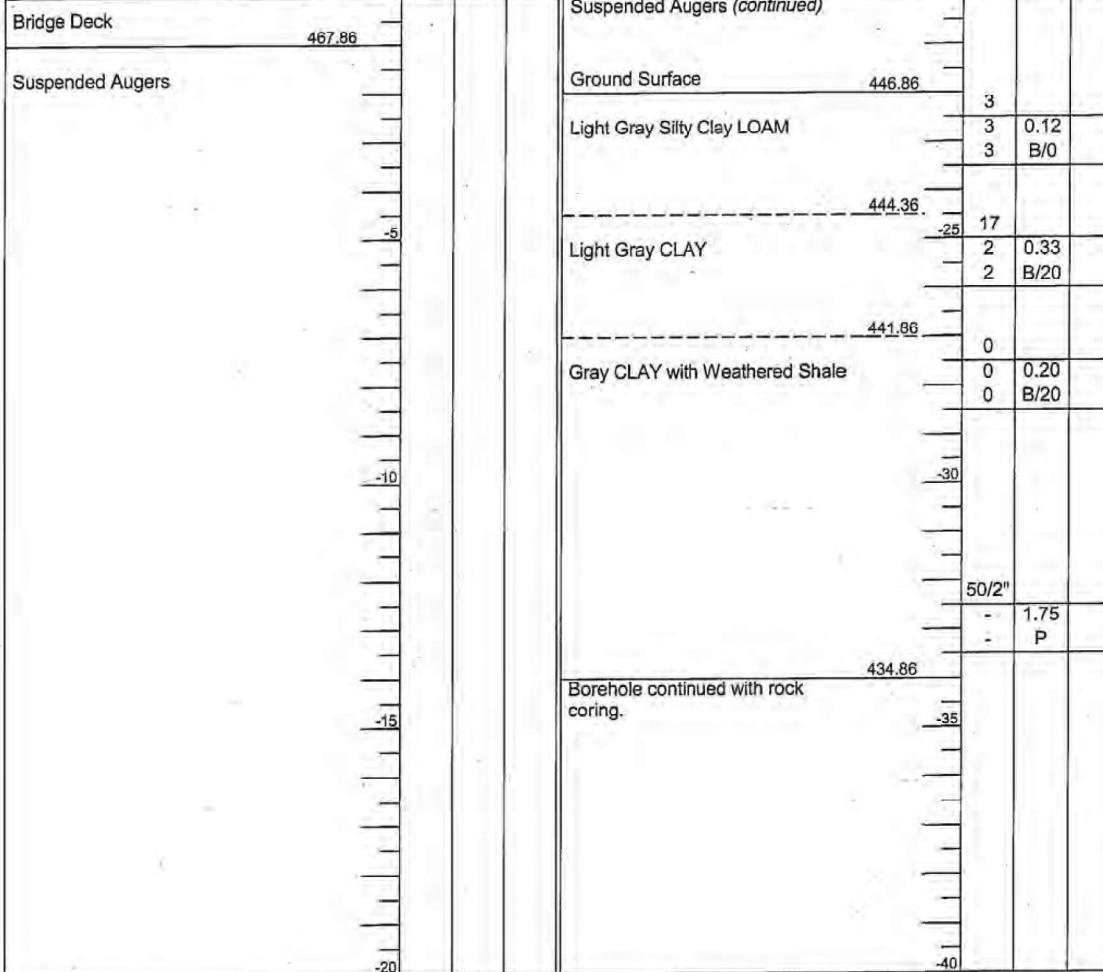
COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0007 (E) /
061-0092 (P)
Station 1549+80

D	B	U	M	D	B	U	M
E	L	C	O	E	L	C	O
P	O	S	I	P	O	S	I
T	W	Qu	S	T	W	Qu	S
H	S		T	H	S		T

BORING NO. 8 Pier 2
Station 1550+16
Offset 11.25ft LT
Ground Surface Elev. 468.86 ft

(ft) (ft) (/6") (tsf) (%)



The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation

Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Page 2 of 2

Date 10/31/07

ROUTE FAS 1791 DESCRIPTION Old US 51 over Crooked Creek LOGGED BY E. Stewart

SECTION 29-2BR LOCATION NE 1/4, SEC. 6, TWP. 1N, RNG. 1E, 3 PM

COUNTY Marion CORING METHOD

STRUCT. NO. 061-0007 (E) /
061-0092 (P)
Station 1549+80

CORING BARREL TYPE & SIZE NX

BORING NO. 8 Pier 2
Station 1550+16
Offset 11.25ft LT
Ground Surface Elev. 468.86 ft

Core Diameter 2 in
Top of Rock Elev. 434.86 ft
Begin Core Elev. 434.86 ft

R	R	CORE	ST
E	C	T	R
E	O	I	E
P	D	M	G
T	R	E	T
H	(#)	(%)	(min/ft)

434.86	Gray Thinly Bedded Calcareous SANDSTONE (Closed Joints < 2")	100	49	4
434.86	Gray Thinly Bedded LIMESTONE (Closed Joints < 2", Open Joints > 2")	100	49	3.77
434.86	Greenish Gray Calcareous SANDSTONE	100	49	2.77
434.86	Dark Gray Thinly Bedded SHALE	100	49	2.87
434.86	Light Gray Thinly Bedded Calcareous SANDSTONE	100	49	393.4
434.86	Gray Thinly Bedded LIMESTONE (Closed Joints > 2", < 2")	100	49	387.9
434.86	Greenish Gray Thinly Bedded SHALE w/ Thin Sandstone Lenses (Closed Joints < 2")	100	49	4.17
434.86	Gray Thinly Bedded LIMESTONE (Closed Joints < 2")	100	49	375.2
434.86	Light Gray Sandy SHALE (Open Joints < 2")	100	49	4.03
434.86	Gray Thinly Bedded LIMESTONE (Closed Joints > 2", < 2")	100	49	333.4
434.86	Dark Gray SHALE with Sandstone Lenses (Close Joints < 2")	100	49	4.43
434.86	Gray Calcareous SANDSTONE (Open Joints > 2", < 2")	100	49	2.9
434.86	Dark Gray Calcareous SHALE (Open Joints < 2")	100	49	3.62
434.86	Light Gray SANDSTONE (Open Joints < 2")	100	49	3.9
434.86	Gray Calcareous SHALE (Open Joints < 2")	100	49	2.75
434.86	Gray SANDSTONE with Gray Shale Lenses (Open Joints > 2", < 2")	100	49	338.2
434.86	Light Gray Very Thinly Bedded SHALE (Open Joints < 2")	100	49	4.12
434.86	Light Gray Thinly Bedded SANDSTONE (Closed Joints > 2", < 2")	100	49	3.58
434.86	Gray Calcareous SHALE (Open Joints < 2")	100	49	882.5
418.78	END OF BORING AND ROCK CORE			

Color pictures of the cores Yes

Cores will be stored for examination until

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 2

Date 10/18/07

ROUTE FAS 1791 DESCRIPTION Old US 51 over Crooked Creek LOGGED BY E. Stewart

SECTION 29-2BR LOCATION NE 1/4, SEC. 6, TWP. 1N, RNG. 1E, 3 PM

COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0007 (E) /
061-0092 (P)
Station 1549+80

D	B	U	M	D	B	U	M
E	L	C	O	E	L	C	O
P	O	S	I	P	O	S	I
T	W	Qu	S	T	W	Qu	S
H	S			H	S		
(ft)	(ft)	(tsf)	(%)	(ft)	(ft)	(tsf)	(%)

BORING NO. 9 S. Abut
Station 1551+06
Offset 12.00ft RT
Ground Surface Elev. 468.80 ft

ASPHALT 468.30 2 0 0.13
1 1.11
1 B/20

Medium Brown Silty CLAY
4
4 1.96
4 B/20

464.30
-5 1
1 0.20
1 S/0

Light Brown with Red Speckly
Sandy LOAM
461.80 0 0 0.65
0 B/20

Light Gray LOAM
-10 1
1 0.43
1 B/20
3 0 0.33
1 B/20
-15 0 0 0.20
0 B/20
0 0 0.10
0 B/20
-20 0 0 0

STRUCT. NO. 061-0007 (E) /
061-0092 (P)
Station 1549+80

BORING NO. 9 S. Abut
Station 1551+06
Offset 12.00ft RT
Ground Surface Elev. 468.80 ft

ASPHALT 468.30 2 0 0.13
1 1.11
1 B/20

Medium Brown Silty CLAY
4
4 1.96
4 B/20

464.30
-5 1
1 0.20
1 S/0

Light Brown with Red Speckly
Sandy LOAM
461.80 0 0 0.65
0 B/20

Light Gray LOAM
-10 1
1 0.43
1 B/20
3 0 0.33
1 B/20
-15 0 0 0.20
0 B/20
0 0 0.10
0 B/20
-20 0 0 0

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Page 2 of 2

Date 10/18/07

ROUTE FAS 1791 DESCRIPTION Old US 51 over Crooked Creek LOGGED BY E. Stewart

SECTION 29-2BR LOCATION NE 1/4, SEC. 6, TWP. 1N, RNG. 1E, 3 PM

COUNTY Marion CORING METHOD

STRUCT. NO. 061-0007 (E) /
061-0092 (P)
Station 1549+80

BORING NO. 9 S. Abut
Station 1551+06
Offset 12.00ft RT
Ground Surface Elev. 468.80 ft

ASPHALT 468.30 2 0 0.13
1 1.11
1 B/20

Medium Brown Silty CLAY
4
4 1.96
4 B/20

464.30
-5 1
1 0.20
1 S/0

Light Brown with Red Speckly
Sandy LOAM
461.80 0 0 0.65
0 B/20

Light Gray LOAM
-10 1
1 0.43
1 B/20
3 0 0.33
1 B/20
-15 0 0 0.20
0 B/20
0 0 0.10
0 B/20
-20 0 0 0

Soft Gray Medium SHALE with Minor Rock
433.30 96 65 5.98

433.30 96 65 3.7

433.30 96 65 3.77

433.30 96 65 2.42

433.30 96 65 3.05

433.30 96 65 5.95

433.30 96 65 4.37

433.30 96 65 4.5

425.30

END OF BORING AND ROCK CORE
45

-50

-55

Color pictures of the cores Yes

Cores will be stored for examination until

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)



USER NAME =	DESIGNED - ZLD	REVISED -
CHECKED - RPW	REVISED -	
PLOT SCALE =	DRAWN - JDC	REVISED -
PLOT DATE =	CHECKED - MDC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 061-0092

SHEET 33 OF 33 SHEETS

F.A.S. R.T.E. 1791	SECTION 29-2BR	COUNTY MARION	TOTAL SHEETS 65	SHEET NO. 58
CONTRACT NO. 76A37				ILLINOIS FED. AID PROJECT

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		

MODE: Old US 51 - 1544+00.00 (Sheet)	DESIGNED - MAW	REVISED -
FILE NAME: 5-202121103 - PTB 159-32 D8 - HMG - Various th-HWY01 Old US 51 Roadway Plans CAD/CADD Sheets076A37-shxS.dgn	DRAWN - MAW	REVISED -
	CHECKED - FBN	REVISED -
PLOT DATE: 8/20/2025	DATE - 7/25/2025	REVISED -

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		

AREAS CHECKED

NO.

ANSWER CHECKED



QUIGG ENGINEERING INC

USER NAME = TNeffSmith	DESIGNED - MAW	REVISED -
DRAWN - MAW	REVISED -	
CHECKED - FBN	REVISED -	

PLOT SCALE = 0.1666633' / in.

PLOT DATE

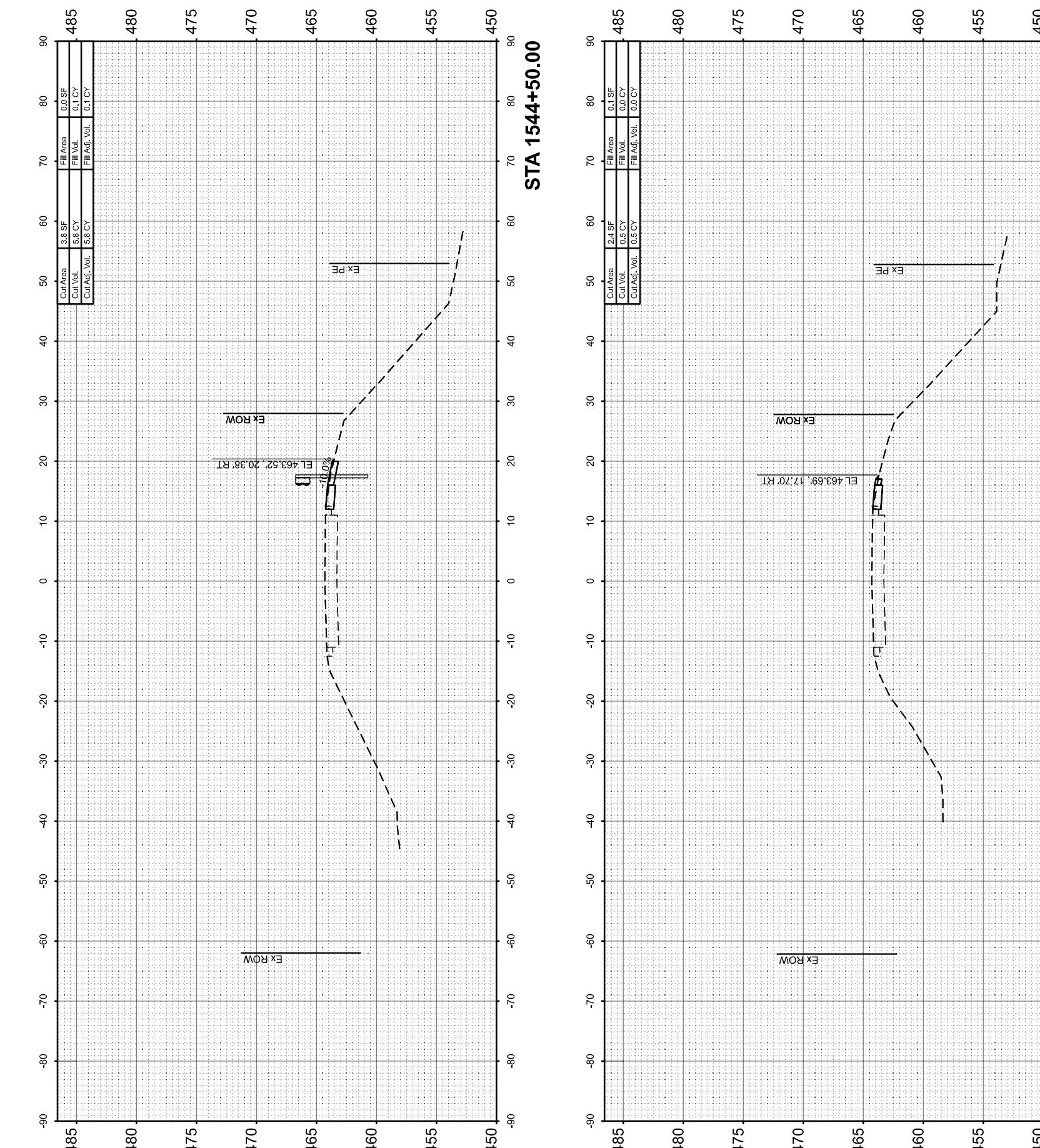
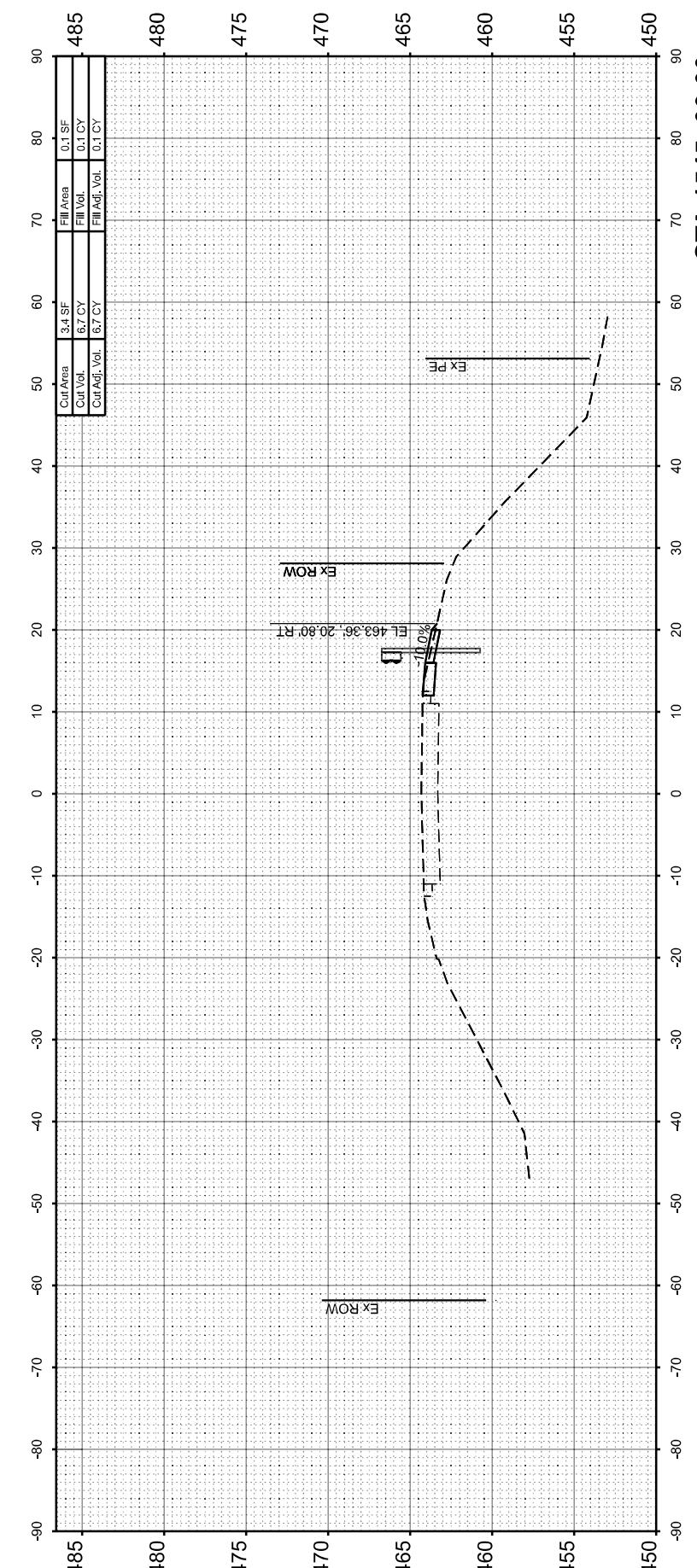
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
OLD US 51

SCALE: 1"=10' SHEET 1 OF 7 SHEETS STA. 1544+00.00 TO STA. 1545+00.00

F.A.S. RTE. 1791	SECTION 29-2BR	COUNTY MARION	TOTAL SHEETS 65	SHEET NO. 59
			CONTRACT NO. 76A37	

ILLINOIS FED.AID PROJECT



ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK NO.	TEMP PLATE AREAS CHECKED	ANAL CHECKED

MODEL: Old US 1 - 1545.50.00 [Sheet] FILE NAME: 5-202121103 - PTB 159-32 D8 - HMG - Various th HIW01 Old US 51 Roadway Plans CAD/CADD Streetsis076A37-shxS.dgn

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK NO.	TEMP PLATE AREAS CHECKED	ANAL CHECKED

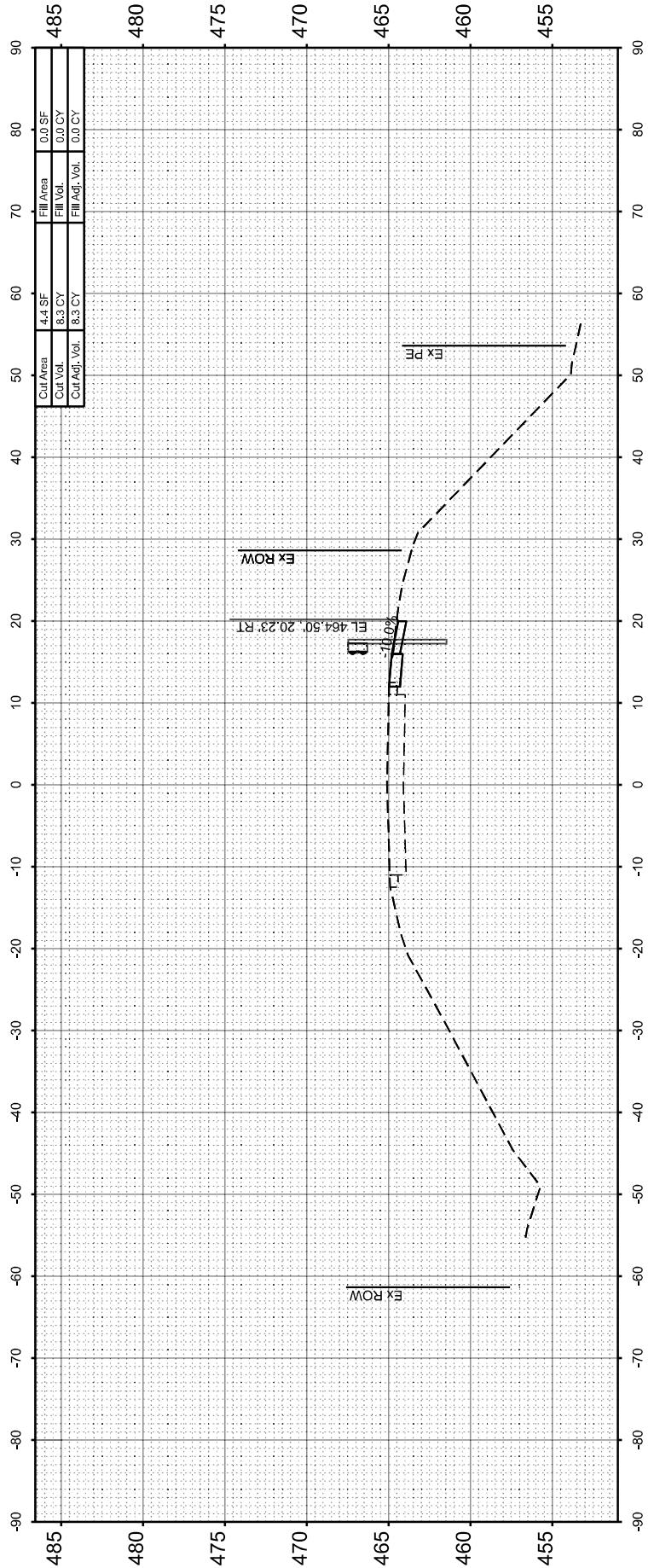


QUIGG ENGINEERING INC

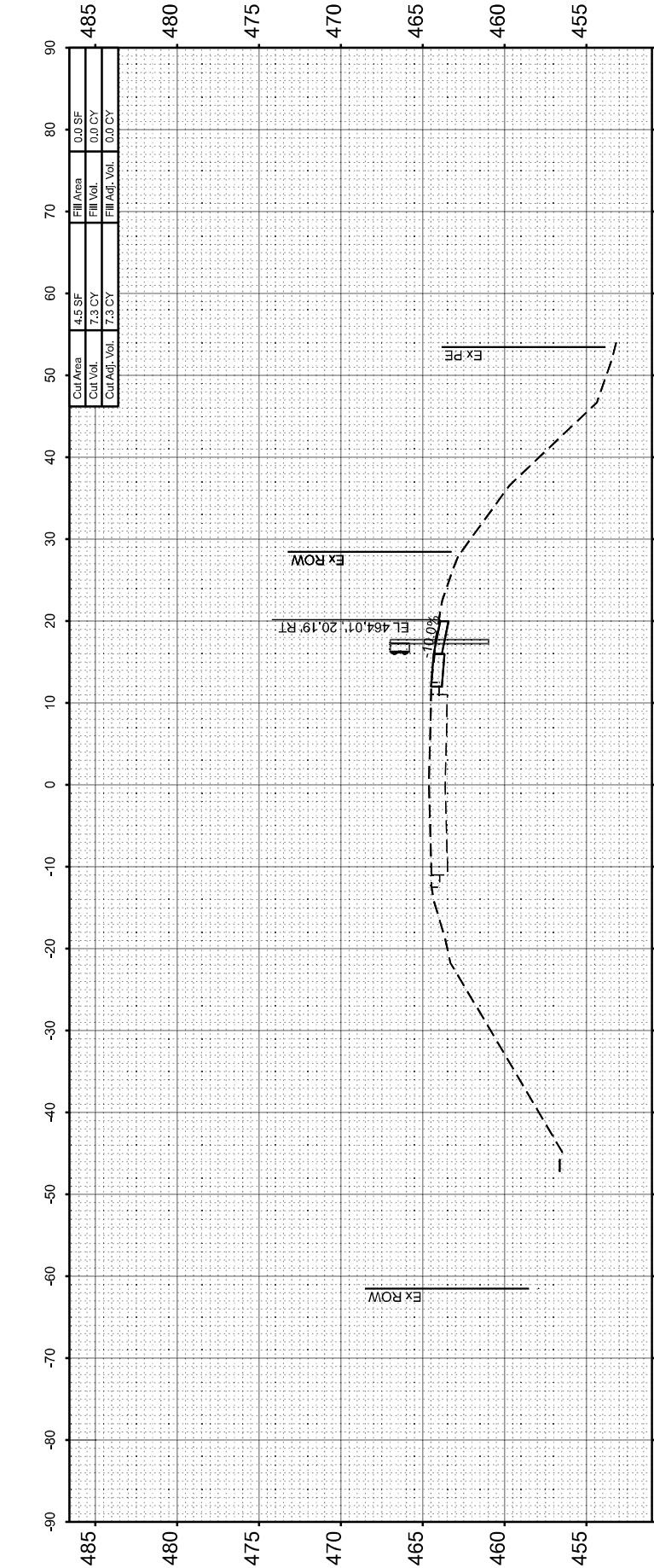
USER NAME = TNeffSmith	DESIGNED - MAW	REVISED -
DRAWN - MAW	REVISED -	
CHECKED - FBN	REVISED -	

PLOT SCALE = 0.1666633' / in.

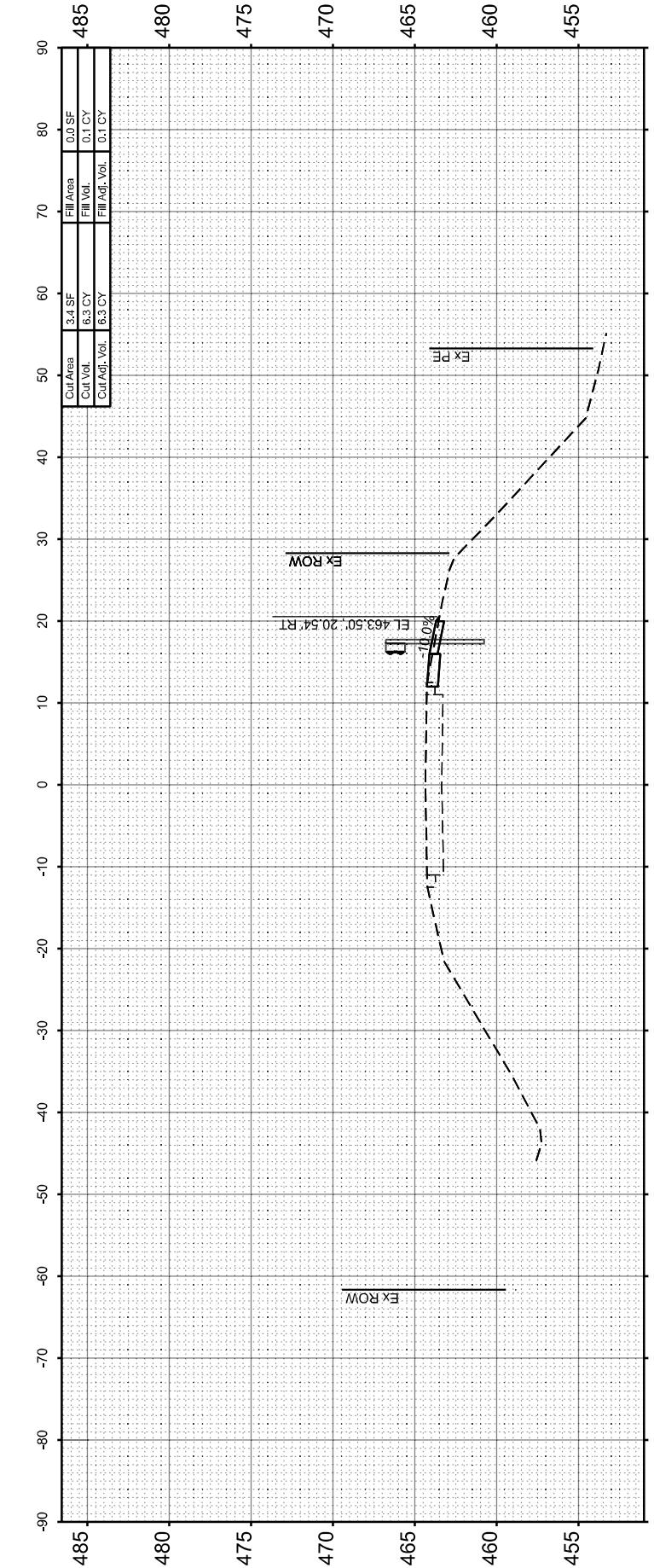
PLOT DATE = 8/20/2025



STA 1546+50.00



STA 1546+00.00



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

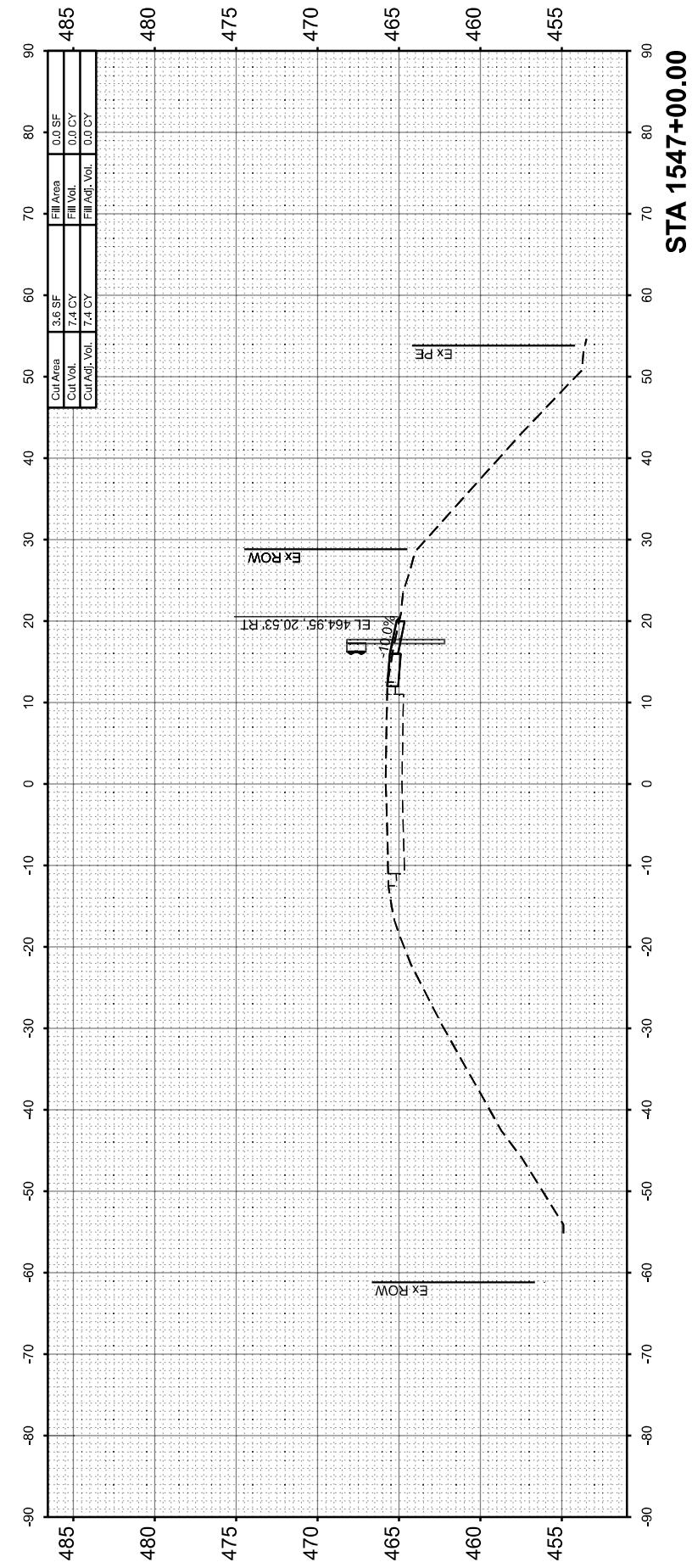
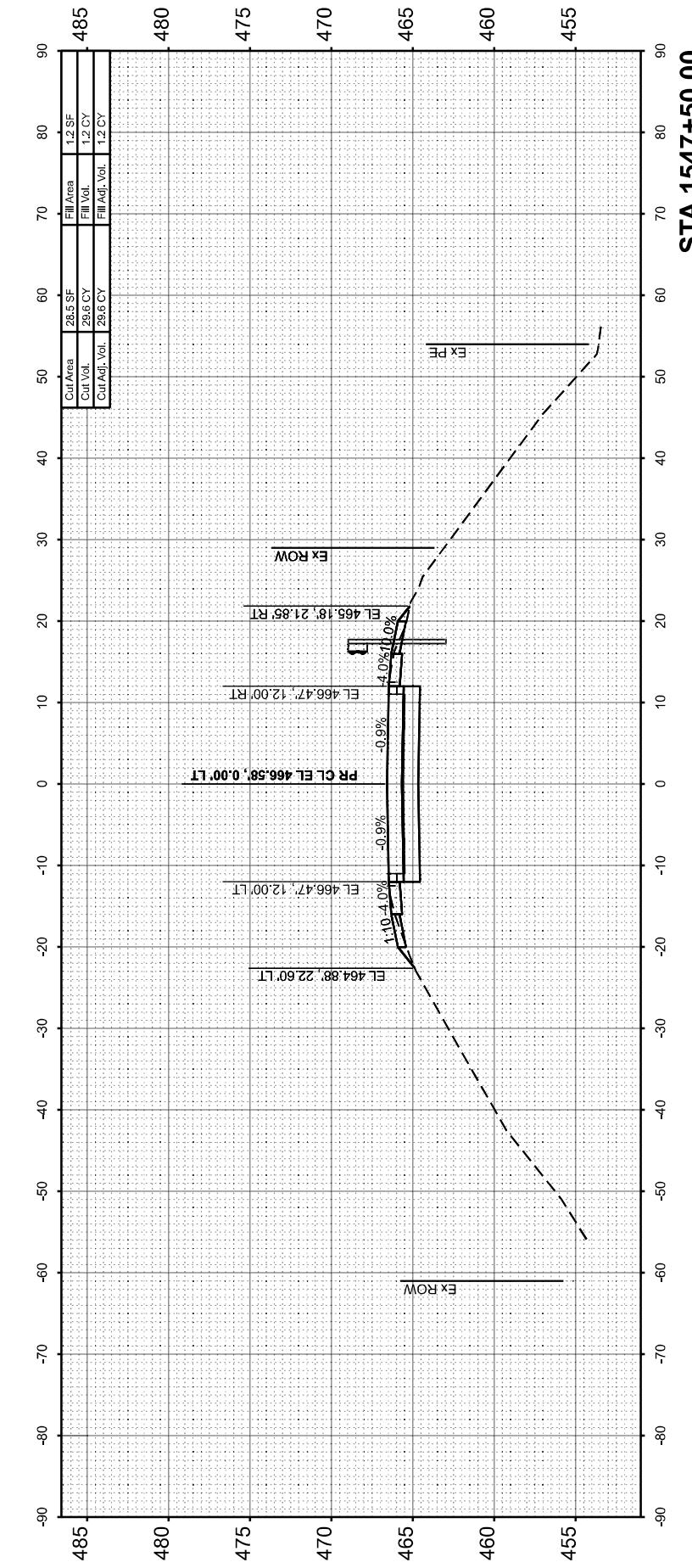
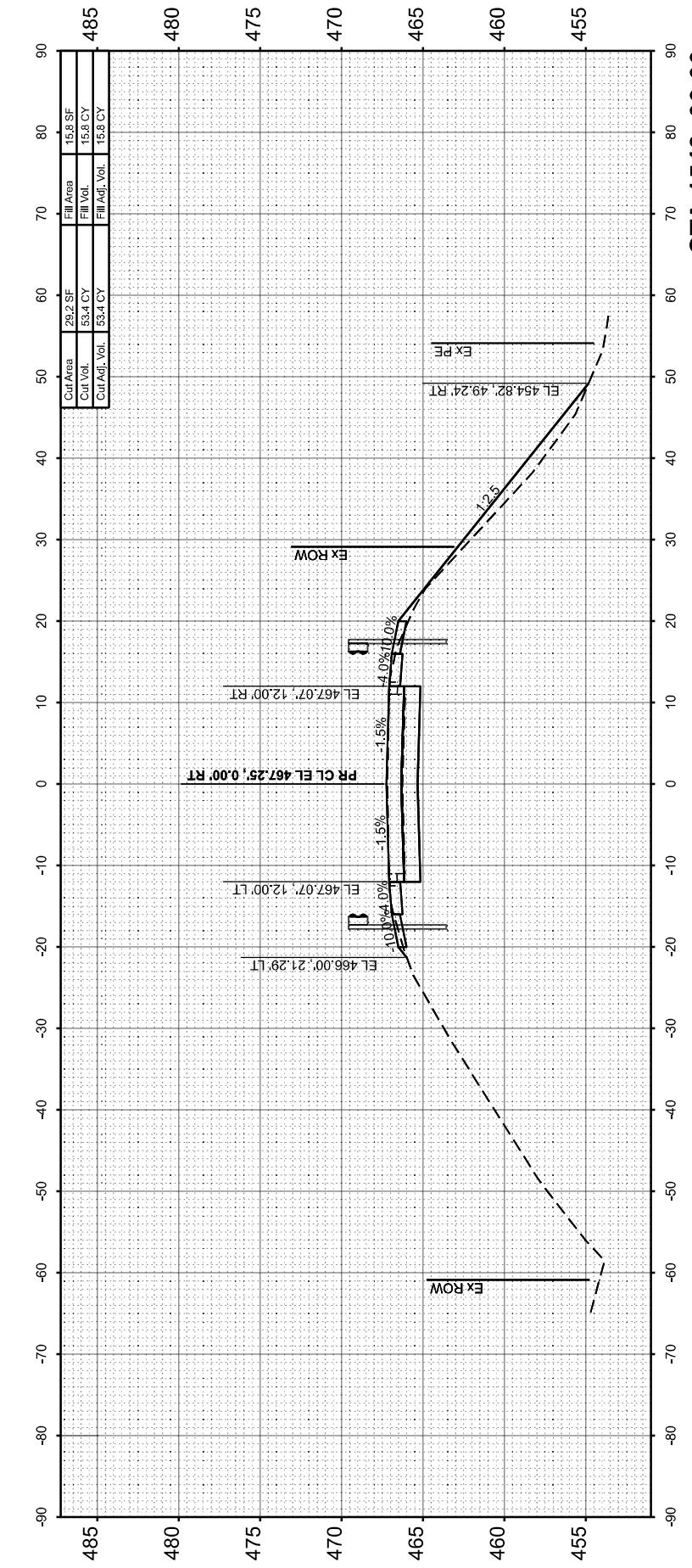
CROSS SECTIONS
OLD US 51

SCALE: 1"=10' SHEET 2 OF 7 SHEETS STA. 1545+50.00 TO STA. 1546+50.00

F.A.S. RTE. 1791	SECTION 29-2BR	COUNTY MARION	TOTAL SHEETS 65	SHEET NO. 60
			CONTRACT NO. 76A37	

ILLINOIS FED.AID PROJECT

FINAL SURVEY	SURVEYED TOPOGRAPHIC MAP	BY	DATE
NOTE BOOK	TEMPLATE AREAS		
NO.	CHECKED AREAS		



QUIGG ENGINEERING INC

USER NAME	= TNeffSmith	DESIGNED	-	MAW	REVISED	-
		DRAWN	-	MAW	REVISED	-
PLOT SCALE	= 0.16666633' / in.	CHECKED	-	FBN	REVISED	-
PLOT DATE	= 8/20/2025	DATE	-	7/25/2025	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

OLD US 51

CROSS SECTIONS
OLD US 51

SECTION	COUNTY	TOTAL SHEETS	HEET NO.
29-2BR	MARION	65	61
CONTRACT NO. 76A37			
ILLINOIS		FED. AID PROJECT	

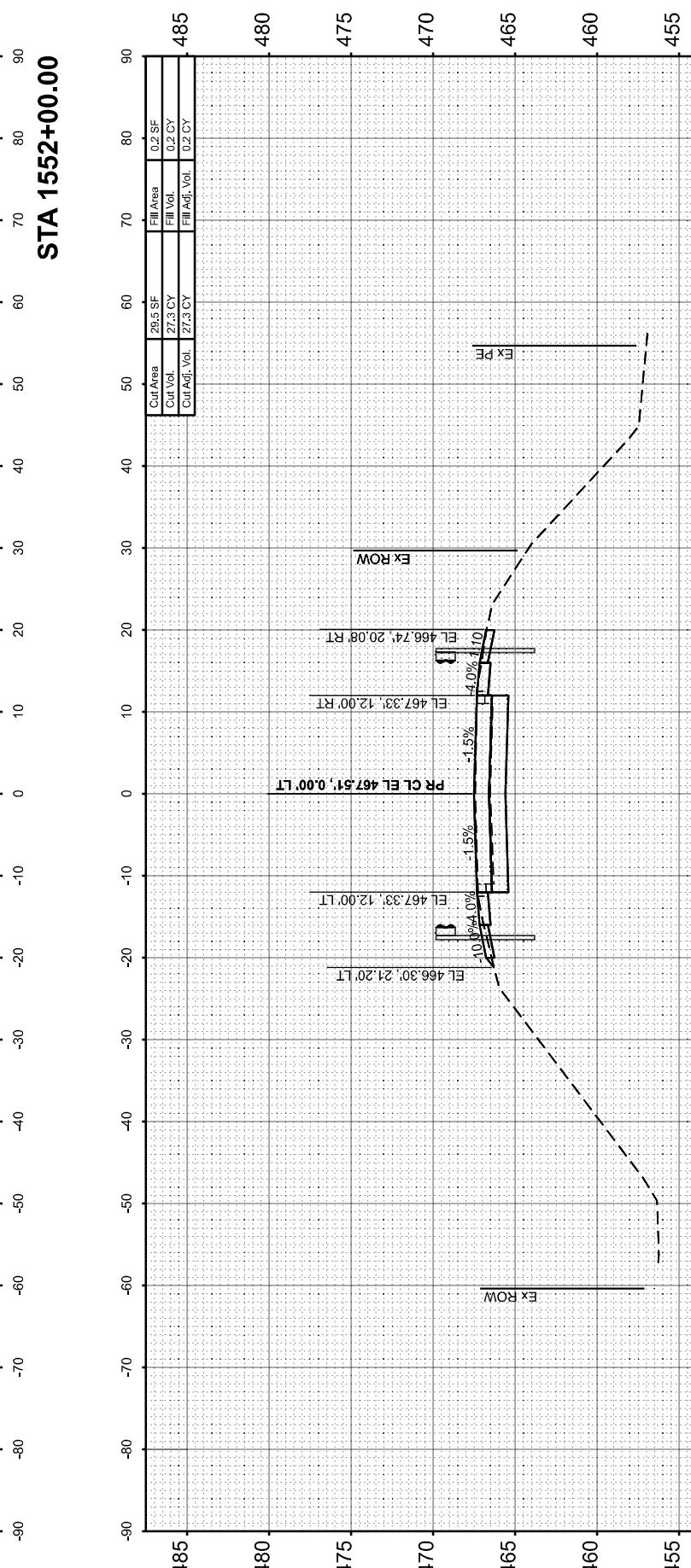
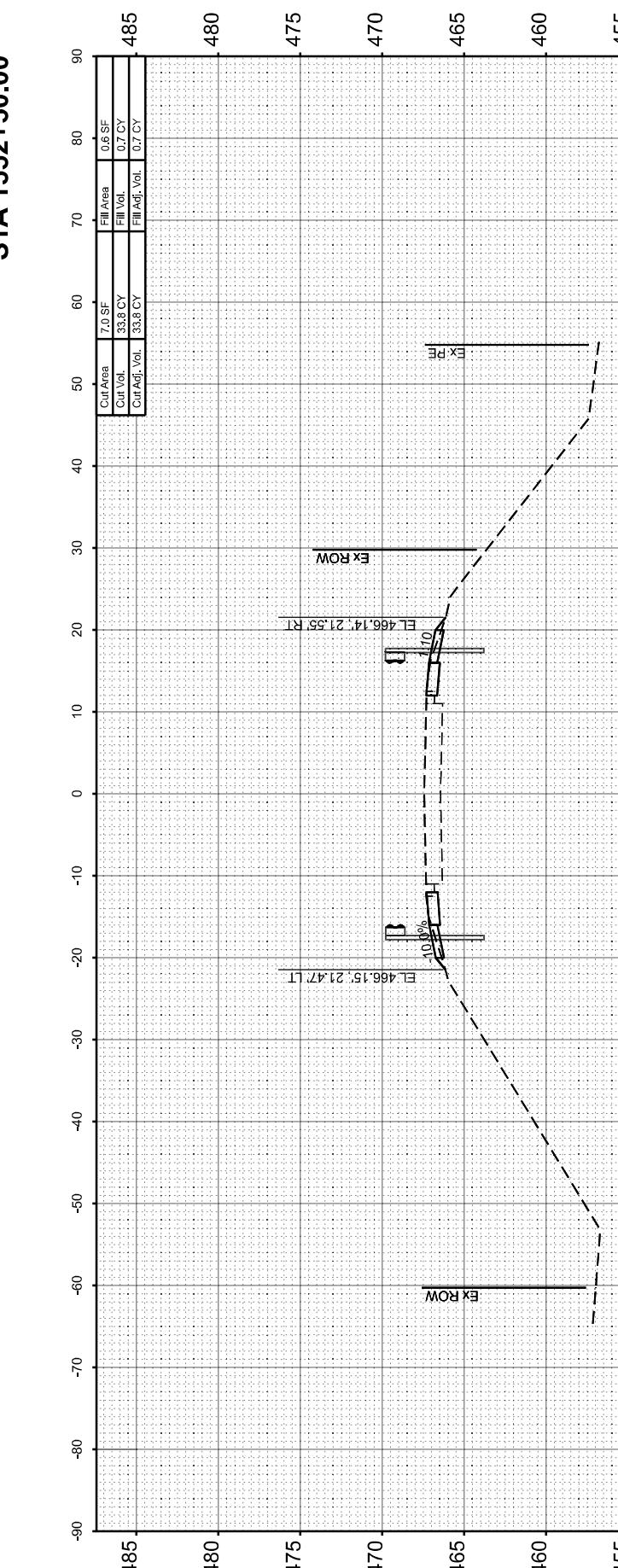
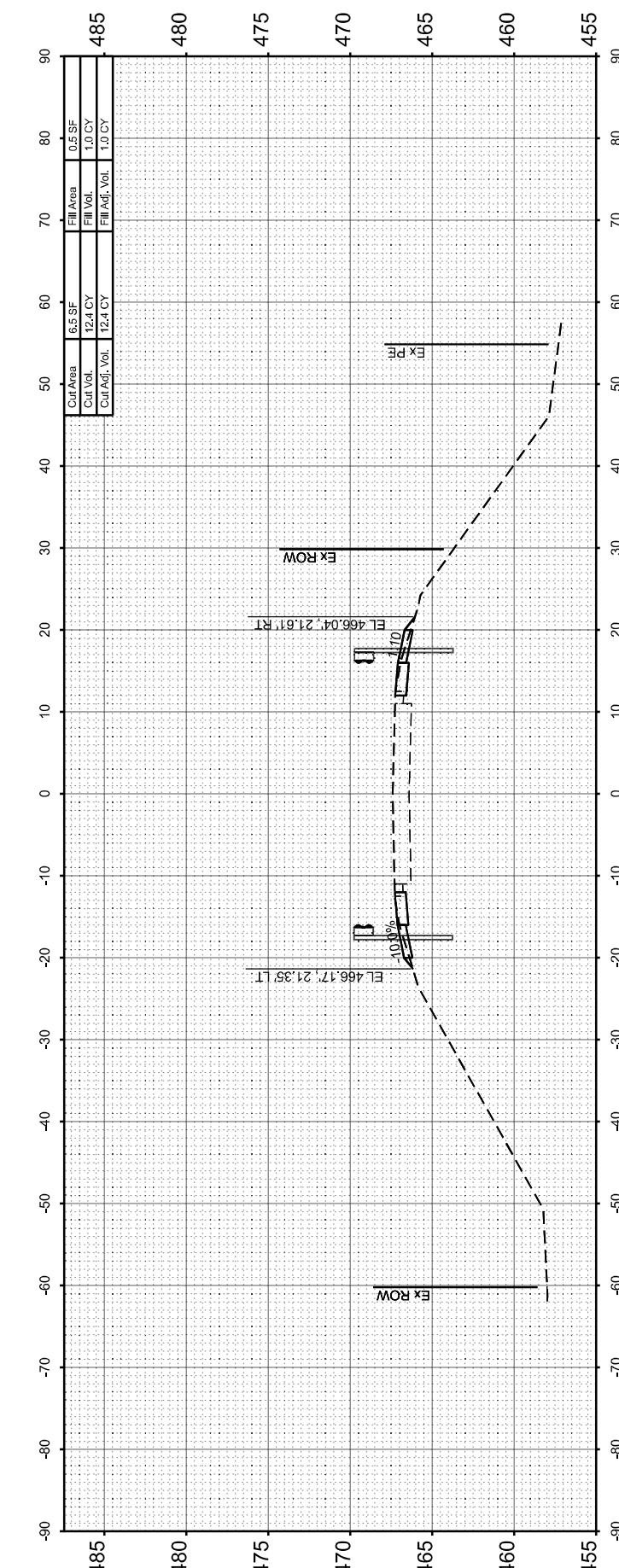
ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK		
TEMPATE		
AREAS		
NO.	Areas Checked	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: 1"=10' SHEET 6 OF 7 SHEETS STA. 1551+50.00 TO STA. 1552+50.00

CROSS SECTIONS
OLD US 51

F.A.S RTE. 1791	SECTION 29-2BR	COUNTY MARION	TOTAL SHEETS 65	SHEET NO. 64
		ILLINOIS	FED. AID PROJECT	CONTRACT NO. 76A37



MODEL: Old US 51 - 1553+00.00 (Sheet)
FILE NAME: 5-2021-12-IL03 - PTB 159-32 D8 - HMG - Various th HIW01 Old US 51 Roadway Plans CAD/CADD Sheets\076A37-sh\S.dgn

ORIGINAL		FINAL	
SURVEY	SURVEYED	BY	BY
NOTE BOOK	PLOTTED	DATE	DATE
NO.	AREAS CHECKED		

MODE: Old US 51 - 1553+00.00 (Sheet)
FILE NAME: 5-2021-12-IL03 - PTB 159-32 D8 - HMG - Various th HIW01 Old US 51 Roadway Plans CAD/CADD Sheets\076A37-sh\S.dgn



USER NAME = TNeffSmith	DESIGNED - MAW	REVISED -
DRAWN - MAW	REVISED -	
PLOT SCALE = 0.1666633' / in.	CHECKED - FBN	REVISED -
PLOT DATE = 8/20/2025	DATE - 7/25/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS OLD US 51			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: 1"=10'	SHEET 7	OF 7 SHEETS	STA. 1553+00.00	TO STA. 1553+50.00	1791	29-2BR	MARION 65 65

