MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY 102

MISSISSIPPI COUNTY

T23N, R16E

DESIGN DESIGNATION

A.A.D.T. - 2021 = 498
A.A.D.T. - 2041 = 697
T = 45%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

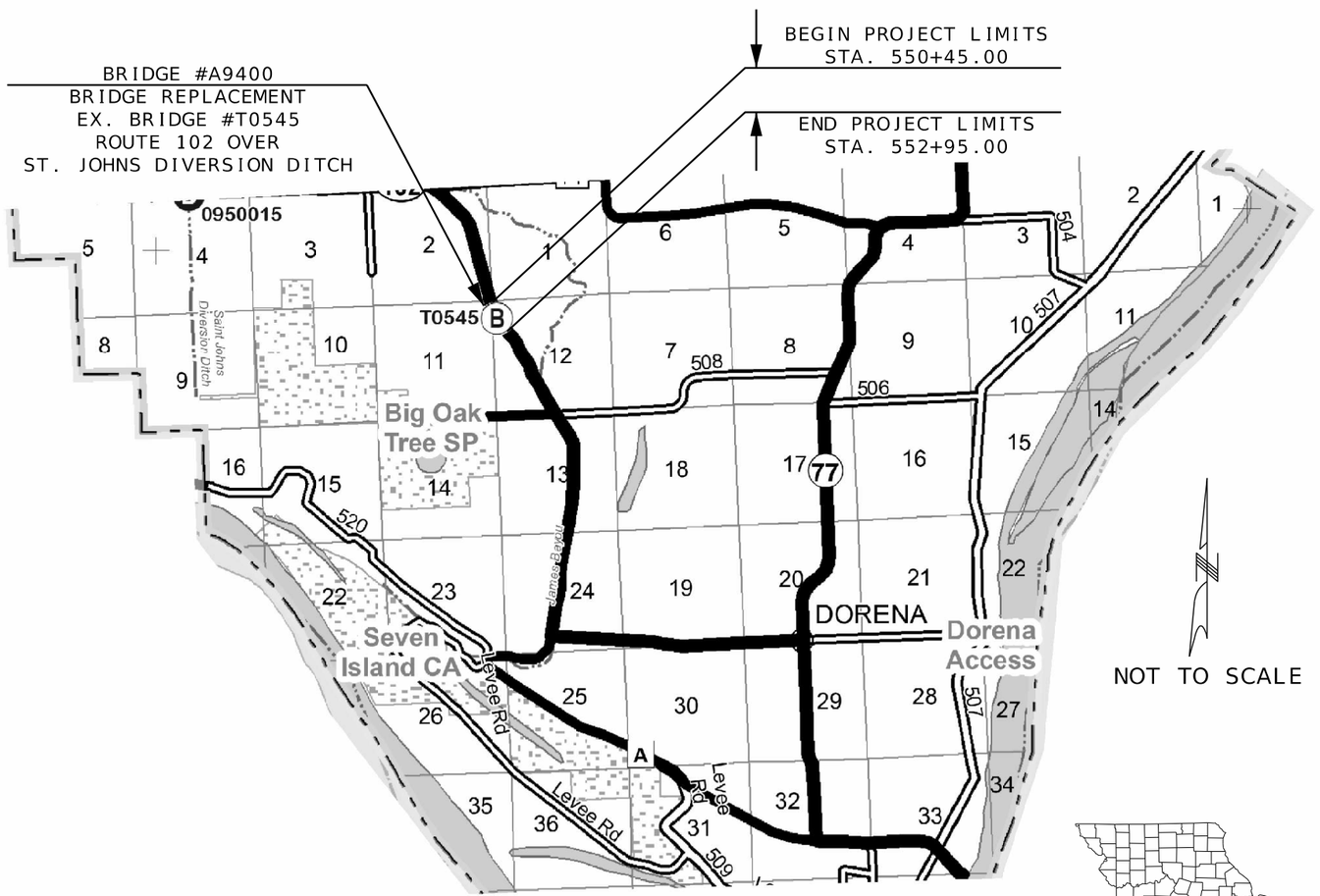
NORMAL RIGHT OF WAY WILL BE ACQUIRED WITH THIS PROJECT.

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

CONVENTIONAL SYMBOLS
(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	FO
OVERHEAD CABLE TV	-OTV-	OTV
UNDERGROUND CABLE TV	-UTV-	UTV
OVERHEAD TELEPHONE	-OT-	OT
UNDERGROUND TELEPHONE	-UT-	UT
OVERHEAD POWER	-OE-	OE
UNDERGROUND POWER	-UE-	UE
SANITARY SEWER	-S-	S
STORM SEWER	-SS-	SS
GAS	-G-	G
WATER	-W-	W
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET	DI	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	-V-	
WOVEN WIRE	-X-	
GATE POST		
BENCHMARK	BM	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES



NOT TO SCALE

KEY MAP
LOCATION OF MISSISSIPPI COUNTY

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	550 + 45.00
END OF PROJECT	STA.	552 + 95.00
APPARENT LENGTH		250.00 FEET
EQUATIONS AND EXCEPTIONS: NONE		
TOTAL CORRECTIONS		0.0 FEET
NET LENGTH OF PROJECT		250.00 FEET
STATE LENGTH		0.047 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		0.30 ACRES

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 8/30/2024
ROUTE: 102 | STATE: MO
DISTRICT: SE | SHEET NO.: 1
COUNTY: MISSISSIPPI
JOB NO.: J9S3680
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

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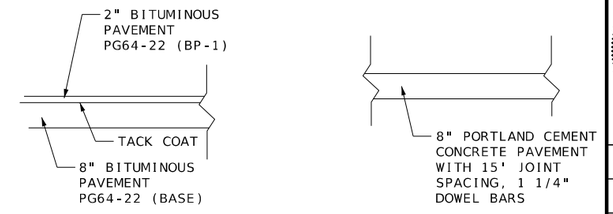
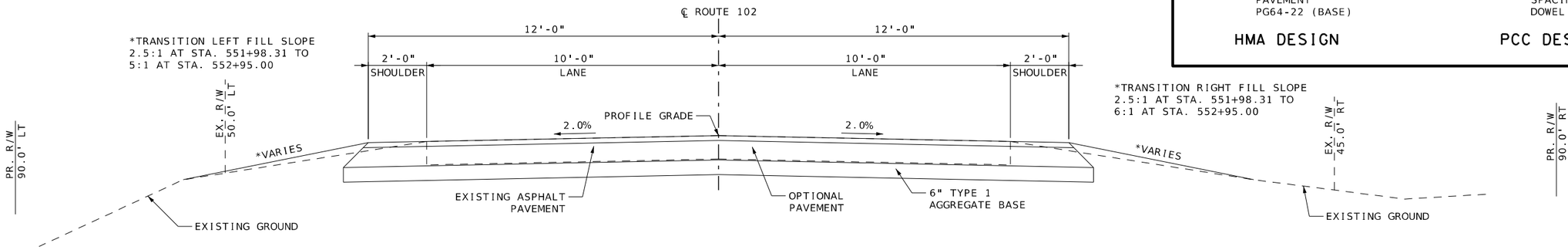
OPTIONAL PAVEMENT

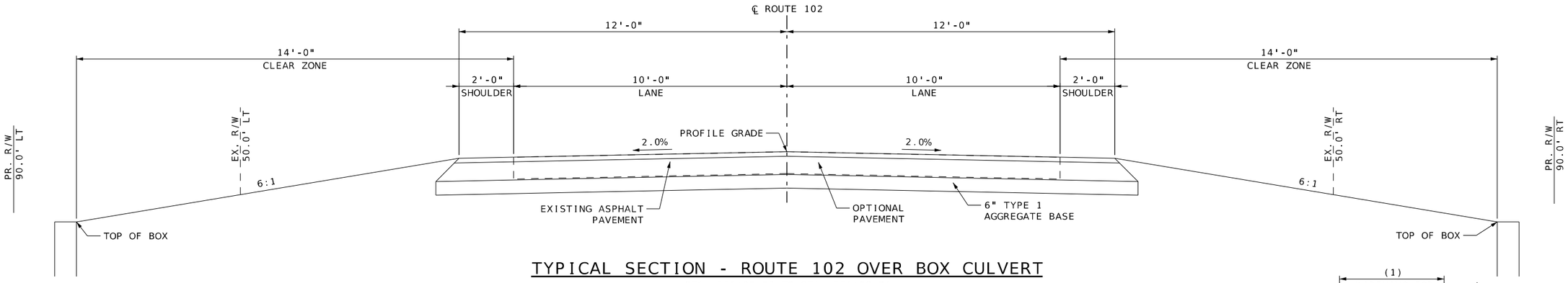


HMA DESIGN | PCC DESIGN



TYPICAL SECTION - ROUTE 102

STA. 551+98.31 TO STA. 552+95.00



TYPICAL SECTION - ROUTE 102 OVER BOX CULVERT

STA. 551+23.23 TO STA. 551+98.31

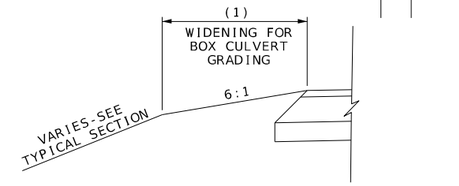
APPLICATION RATES:

PLANT MIX BITUMINOUS BASE COURSE:
PG64-22 (BASE): 1.943 TONS/CY

PLANT MIX BITUMINOUS ASPHALT:
PG64-22 (BP-1): 1.948 TONS/CY

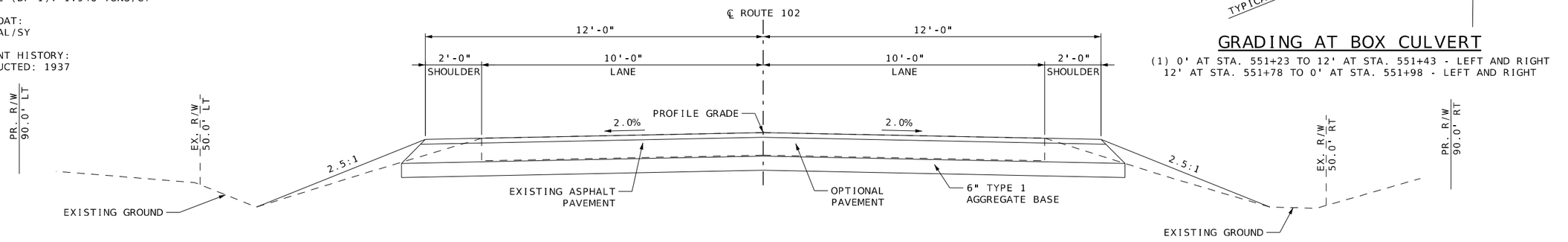
TACK COAT:
0.08 GAL/SY

PAVEMENT HISTORY:
CONSTRUCTED: 1937



GRADING AT BOX CULVERT

(1) 0' AT STA. 551+23 TO 12' AT STA. 551+43 - LEFT AND RIGHT
12' AT STA. 551+78 TO 0' AT STA. 551+98 - LEFT AND RIGHT



TYPICAL SECTION - ROUTE 102

STA. 550+45.00 TO STA. 551+23.23

TYPICAL SECTIONS AND DETAILS
SHEET 1 OF 1

ANDREA S. DAVIS
PE-2018021250
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED: 8/29/2024
ROUTE: 102 | STATE: MO
DISTRICT: SE | SHEET NO.: 2
COUNTY: MISSISSIPPI
JOB NO.: J9S3680
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

\\hrgreen.com\hrg\Data\2023\2302274\CAD\Roadway\J9S3680_Route102_Mississippi\Plan_Sheets\002_TS_J9S3680_I1.dgn 3:53:05 PM 8/29/2024

REMOVAL OF IMPROVEMENTS	1 LUMP SUM
MOBILIZATION	1 LUMP SUM
CONTRACTOR FURNISHED SURVEYING AND STAKING	1 LUMP SUM

SIGN REMOVAL – FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	ROUTE	LOCATION	ITEM TO BE REMOVED
10	550+62	ROUTE 102	LT	OBJECT MARKER
10	550+83	ROUTE 102	LT	OBJECT MARKER
10	552+52	ROUTE 102	LT	OBJECT MARKER
10	552+70	ROUTE 102	LT	OBJECT MARKER
10	550+61	ROUTE 102	RT	OBJECT MARKER
10	550+82	ROUTE 102	RT	OBJECT MARKER
10	552+51	ROUTE 102	RT	OBJECT MARKER
10	552+71	ROUTE 102	RT	OBJECT MARKER

NOTE: NO DIRECT PAY WILL BE MADE FOR SIGN REMOVAL. SIGN REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

SAWCUT – FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	ROUTE	SIDE	SAWCUT (LF)
4	549+46	ROUTE 102	TRANSVERSE	20
4	552+95	ROUTE 102	TRANSVERSE	20
			SUBTOTAL =	40

NOTE: NO DIRECT PAY WILL BE MADE FOR SAWCUT. SAWCUT IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

PAVEMENT REMOVAL – FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	STATION	ROUTE	PAVEMENT REMOVAL (SY)
4	550+45	552+95	ROUTE 102	666.7
			SUBTOTAL =	666.7

NOTE: NO DIRECT PAY WILL BE MADE FOR PAVEMENT REMOVAL. PAVEMENT REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

CLEARING AND GRUBBING

STATION	STATION	ROUTE	LOCATION	CLEARING AND GRUBBING (AC)
550+45	552+95	ROUTE 102	LT / RT	0.1
			SUBTOTAL =	0.1
			PAY TOTAL =	1.0

EARTHWORK

STATION	STATION	ROUTE	CLASS A EXCAVATION (CY)	REQUIRED FILL (FOR INFO ONLY) (CY)	COMPACTING EMBANKMENT (CY)	EMBANKMENT IN PLACE (CY)
550+45	552+95	ROUTE 102	139	1,515	139	1,376
		SUBTOTAL =	139	1,515	139	1,376
		PAY TOTAL =	139	0	139	1,376

NOTES: NO SHRINK OR SWELL FACTORS APPLIED TO EARTHWORK QUANTITY.
INCLUDES REMOVAL AND DISPOSAL OF EXISTING ASPHALT.

PAVEMENT

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	TYPE 1 AGGREGATE FOR BASE (6 IN. THICK) (SY)	OPTIONAL PAVEMENT (SY)
4	550+45	552+95	ROUTE 102	LT / RT	722.3	666.7
				PAY TOTAL =	722.3	666.7

ROCK

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	FURNISHING TYPE 1 ROCK BLANKET (CY)	PLACING TYPE 1 ROCK BLANET	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANET (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (SY)
9	551+38	551+83	ROUTE 102	LT / RT	12	12	115	115	1555
				PAY TOTAL =	12	12	115	115	1555

PERMANENT PAVEMENT MARKINGS – LINEAR

PLAN SHEET NO.	STATION	STATION	ROUTE	4 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS (LF)	4 IN. YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS (LF)	REMARKS
10	550+45	552+95	ROUTE 102	250		SOLID EDGE LINE LEFT
10	550+45	552+95	ROUTE 102	250		SOLID EDGE LINE RIGHT
10	550+45	552+95	ROUTE 102		500	DOUBLE YELLOW CENTER LANE
			PAY TOTAL =	500	500	

BITUMINOUS RUMBLE STRIPS

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	SHOULDER RUMBLE STRIPS (STA)	CENTERLINE RUMBLE STRIPS (STA)	REMARKS
10	550+45	552+95	ROUTE 102	CENTER		2.5	CENTERLINE
10	550+45	552+95	ROUTE 102	LT	2.5		LEFT SHOULDER
10	550+45	552+95	ROUTE 102	RT	2.5		RIGHT SHOULDER
				SUBTOTAL =	5.0	2.5	
				PAY TOTAL =	5.0	2.5	

NOTE: SEE PAVEMENT MARKING SHEET FOR DETAILS

ROADSIDE DEVELOPMENT

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	SEEDING – COOL SEASON MIXTURES (AC)	MULCHING
4	550+45	552+95	ROUTE 102	LT / RT	0.12	0.12
				SUBTOTAL =	0.12	0.12
				PAY TOTAL =	1.0	1.0

NOTE: NO FINAL MEASUREMENT WILL BE PERFORMED.

EROSION CONTROL – TEMPORARY

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	SEDIMENT TRAP (CY)	SILT FENCE (LF)	ALTERNATE DITCH CHECK (LF)	SEDIMENT REMOVAL (CY)
9	550+35	551+30	ROUTE 102	LT		104		1
9	551+96	553+05	ROUTE 102	LT		127		2
9	550+35	551+25	ROUTE 102	RT		99		1
9	551+99	578+55	ROUTE 102	RT		125		2
9	550+52	551+41	ROUTE 102	LT			60	
9	551+41		ROUTE 102	LT	1			10
				SUBTOTAL =	1	455	60	16
				PAY TOTAL =	1	546	60	16

NOTE: 20% CONTINGENCY ADDED TO SILT FENCE

SUMMARY OF QUANTITIES
SHEET 1 OF 2

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 1/22/2025
ROUTE: 102 | STATE: MO
DISTRICT: SE | SHEET NO.: 3
COUNTY: MISSISSIPPI
JOB NO.: J9S3680
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

EFFECTIVE: 04-01-2023

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (ARROW SYMBOL)
WO4-1aR	48X48	16.00						MERGE (ARROW SYMBOL)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING (WITH FLAGS)
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17	48X48	16.00						SHOULDER DROP-OFF (SYMBOL)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
W012-2X	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	2	32			18	DETOUR AHEAD
WO20-3	48X48	16.00	2	32			20	ROAD CLOSED AHEAD
WO20-3a	48X48	16.00	2	32			20A	ROAD CLOSED 500 FT AHEAD
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL, WITH FLAGS)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	2	6			52	END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT ARROW)
MO4-9R	48X36	12.00						DETOUR (RIGHT ARROW)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR (ARROW LEFT)
MO4-10R	48X18	6.00						DETOUR (ARROW RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20			29	ROAD CLOSED
R11-3a	60X30	12.50	2	25			55A	ROAD CLOSED 2 MILES AHEAD LTO
R11-3a	60X30	12.50	2	25			55B	ROAD CLOSED 2.5 MILES AHEAD LTO
R11-4	60X30	12.50	2	25			55	ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	60X8	3.33	2	6.66			61	COMPLETED AS PROMISED
CONST-5	96X48	32.00	2	64			61	POINT OF PRESENCE
CONST-7	48X24	8.00						RATE OUR WORK ZONE
CONST-7	72X36	18.00						RATE OUR WORK ZONE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE
SPECIAL	36X78	19.5	11	214.5			50A	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	1	19.5			50B	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	1	19.5			50C	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	3	58.5			50D	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	3	58.5			50E	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	9	175.5			50F	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	3	58.5			50G	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	3	58.5			50H	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	1	19.5			50I	DETOUR ASSEMBLY
SPECIAL	36X78	19.5	1	19.5			50J	DETOUR ASSEMBLY

616-10.05 CONSTRUCTION SIGNS	TOTAL
	970

616-10.10 RELOCATED SIGNS	TOTAL
	0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161008		ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025		CHANNELIZER (TRIM LINE)
6161030	8	TYPE III MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	3**	CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

NOTE: SIGN AND DEVICE LOCATIONS WILL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.

CMS LOCATIONS TO BE DETERMINED BY THE ENGINEER.

ALL TRAFFIC CONTROL ITEMS ARE INCLUDED IN PAY ITEM 616-99.01, LUMP SUM TEMPORARY TRAFFIC CONTROL UNLESS NOTED OTHERWISE IN THE PLANS. THESE QUANTITIES ARE ONLY AN ESTIMATE AND ARE SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS.

**NOT INCLUDED IN TEMPORARY TRAFFIC CONTROL - LUMP SUM QUANTITY.

TEMPORARY TRAFFIC CONTROL	
PAY TOTAL =	1 LUMP SUM

SUMMARY OF QUANTITIES

SHEET 2 OF 2

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 1/20/2025
ROUTE: 102
STATE: MO
DISTRICT: SE
SHEET NO.: 3
COUNTY: MISSISSIPPI
JOB NO.: J9S3680
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

FOUND ALUMINUM MONUMENT AT THE EAST QUARTER CORNER OF S2, T23N, R16E, DOC #600-42788
SAID CORNER LIES N04°35'48"W, 3413.39' FROM EXISTING ROUTE 102 CENTERLINE STA. 550+45.00 BEGIN PROJECT LIMIT

SECTION 12 T 23N R16E

(1) PROPERTY N/F BIG OAK FARMS, INC. DB. 347 PG. 853 ADDRESS ROUTE 102 61.20 ACRES

(2) PROPERTY N/F BIG OAK FARMS, INC. DB. 249 PG. 427 ADDRESS ROUTE 102 417.18 ACRES

550

+00.00 90.00'
+65.41 90.00'
+20.00 90.00'
PROPOSED R/W
CONST. LIMITS
ST. JOHNS DIVERSION DITCH
+62.44 50.00'
+45.00 50.00'
+46.00 50.00'
EX. R/W
BEGIN PROJECT LIMIT/ CONSTRUCTION STA. 550+45.00
+75.00 50.00'
+80.50 50.00'
END PROJECT LIMIT/ CONSTRUCTION STA. 552+95.00
PC STA 553+80.50
EX END 24"STEEL FL=293.39
GRAVEL ENTRANCE
℄ ROUTE 102
ASPHALT PAVEMENT
FULL DEPTH SAWCUT
EX. BRIDGE #T0545 (TBR)
BRIDGE #A9400
℄ AT STA. 551+60.77
MISSOURI ROUTE 102
S28°11'35"E
10'
PT STA 549+46.00
CLEARING AND GRUBBING WITHIN LIMITS OF CONSTRUCTION
+39.15 30.00'
+50.00 45.00'
+77.01 46.93'
+80.19 66.79'
+00.00 45.00'
+00.00 50.00'
+41.82 50.00'
+80.50 45.00'
+36.08 64.66'
+34.48 84.80'
APPROX. LOCATION OF EXISTING WATER LINE
+61.85 50.00'
+64.32 90.00'
FOUND ALUMINUM MONUMENT AT THE COMMON CORNER OF SECTIONS 11, 12, 13 AND 14, T23N, R16E, DOC #600-91838
SAID CORNER LIES S03°22'23"W, 4304.16' FROM EXISTING ROUTE 102 CENTERLINE STA. 522+95.00 END PROJECT LIMIT

APPROX. LOCATION OF 20' WIDE WATER LINE EASEMENT (499-218) PER WATER MAP FROM PWSD #1 OF MISSISSIPPI COUNTY, NOTE DEED STATES THE EASEMENT IS 20' WIDE CENTERED ON THE WATER LINE AS INSTALLED

(1) PROPERTY N/F BIG OAK FARMS, INC. DB. 347 PG. 853 ADDRESS ROUTE 102 1.62 ACRES

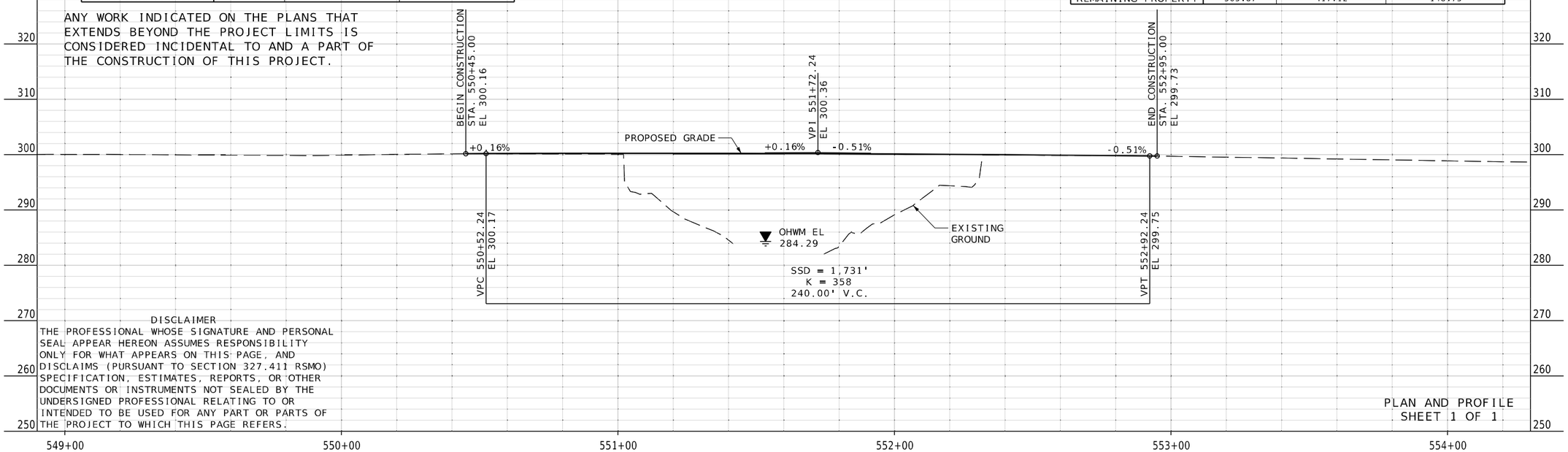
(2) PROPERTY N/F BIG OAK FARMS, INC. DB. 249 PG. 427 ADDRESS ROUTE 102 148.82 ACRES

SCALE 0 20 40 60

TRACT 1 ACQUISITIONS			
	TOTAL (AC)	LEFT OF CL (AC)	RIGHT OF CL (AC)
EXISTING PROPERTY	62.82	61.20	1.62
NEW R/W	0.14	0.07	0.07
REMAINING PROPERTY	62.68	61.13	1.55

TRACT 2 ACQUISITIONS			
	TOTAL (AC)	LEFT OF CL (AC)	RIGHT OF CL (AC)
EXISTING PROPERTY	566.00	417.18	148.82
NEW R/W	0.13	0.06	0.07
REMAINING PROPERTY	565.87	417.12	148.75

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.



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PLAN AND PROFILE
SHEET 1 OF 1

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED 8/30/2024
ROUTE 102 | STATE MO
DISTRICT SE | SHEET NO. 4
COUNTY MISSISSIPPI
JOB NO. J9S3680
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

SURVEY NOTES:

1. HORIZONTAL CONTROL STATEMENT: STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUSLY OPERATING REFERENCE STATIONS DURING AUGUST, 2023 AND ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF 1983, EAST ZONE. THE AVERAGE COMBINED PROJECT GRID FACTOR IS 1.0000693057 CALCULATED BY TRIMBLE GEOMATICS OFFICE.

2. PROJECT COORDINATES ARE MODIFIED MISSOURI STATE PLANE COORDINATES AND WERE ESTABLISHED BY APPLYING THE INVERSE OF THE PROJECT GRID FACTOR (0.9999306991) ABOUT THE ORIGIN (0,0). AS CALCULATED BY EFK MOEN, LLC.

3. VERTICAL DATUM IS NAVD 88. AN ELEVATION WAS ESTABLISHED ON CONTROL POINT #20-21, USING THE TRIMBLE R10 ROVER AND BASED ON THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS. FIELD WORK WAS PERFORMED DURING AUGUST, 2023.

PROJECT BENCHMARK:
STODDARD COUNTY BENCHMARK "K 13" (PID:HB1009) ELEVATION=360.80(NAVD88)
AT ADVANCE, STODDARD COUNTY, ON THE ST. LOUIS-SAN FRANCISCO RAILWAY, 76.5 FEET NORTHWEST OF POLE 157/20, 98 FEET NORTHWEST OF THE CENTER OF A STREET CROSSING, AT THE DISTRICT SCHOOL, IN THE SOUTHEAST CORNER OF THE SCHOOL GROUNDS, AND 10 FEET NORTH OF THE STREET. A STANDARD DISK, STAMPED 361.029 K 13 1932 AND SET IN THE TOP OF CONCRETE POST PROJECTING 6 INCHES ABOVE THE GROUND.

SITE BENCHMARKS:
TBM "1" ELEVATION=300.77: CUT SQUARE ON THE SOUTH END, WEST BRIDGE CURB.
TBM "2" ELEVATION=300.67: CUT SQUARE ON THE NORTH END, EAST BRIDGE CURB.
TBM "3" ELEVATION=295.29: 80D SPIKE IN A UTILITY POLE AT THE NORTHEAST QUADRANT OF ROUTE 102 AND THE DITCH; 60 FEET EAST OF THE CENTERLINE OF ROUTE 102.

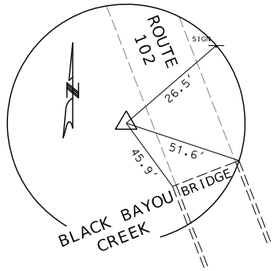
4. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE FOR THE TICKET NUMBER: 232122362, (08/02/23);
UTILITY COMPANIES THAT HAVE SUBSCRIBED ARE AS FOLLOWS:

ATT DISTRIBUTION	-FO,TEL,TV-	MARKED PER TICKET CHECK
MISSISSIPPI COUNTY PWSD 1	-W-	CLEAR/NO CONFLICT WATER LINE RUNS IN FIELD BEHIND TREES WITH DITCH CROSSING. DID MARK IN THE FIELD PER TICKET CHECK.

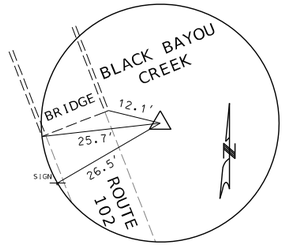
THE MISSOURI ONE CALL TICKET CHECK RESPONSES TO THE UTILITY MARKING FOR THE ABOVE TICKETS CAN BE PROVIDED AS SEPARATE SUPPORTING DOCUMENTS UPON REQUEST.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

NOTE: UTILITY LINES DESIGNATED AS (MAP) ARE SHOWN PER MAP RECORDS PROVIDED TO EFK, MOEN AND THE LOCATION SHOULD BE CONSIDERED APPROXIMATE.



CONTROL POINT NO. 20
SET IRON ROD W/CAP
N: 302204.940
E: 1177407.031
ELEV: 299.24



CONTROL POINT NO. 21
SET IRON ROD W/CAP
N: 302051.477
E: 1177517.634
ELEV: 299.56

ALIGNMENT INFORMATION FOR ROUTE 102

ELEMENT	POINT TYPE	STATION	COORDINATES		OFFSET			
			NORTHING	EASTING	DELTA	RADIUS	TANGENT	LENGTH
ARC	POB	546+55.54	302575.9626	1177256.0932				
ARC	PI	548+01.27	302436.2921	1177297.6684	11°37'00" (LT)	1432.5831	145.7270	290.4549
ARC	CC		302984.6713	1178629.1378				
ARC	PT	549+46.00	302307.8541	1177366.5164				
TANGENT	PT	549+46.00	302307.8541	1177366.5164				
TANGENT	PC	553+80.50	301924.9032	1177571.7939				
ARC	PC	553+80.50	301924.9032	1177571.7939				
ARC	PI	554+73.80	301842.6723	1177615.8730	14°50'00" (LT)	716.7378	93.3000	185.5566
ARC	CC		302263.5226	1178203.4979				
ARC	PT	555+66.05	301774.4664	1177679.5350				
TANGENT	PT	555+66.05	301774.4664	1177679.5350				
TANGENT	POE	557+00.15	301676.4342	1177771.0363				

REFERENCE TIES AND
CONTROL POINTS
SHEET 1 OF 1

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STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 8/30/2024
ROUTE: 102 | STATE: MO
DISTRICT: SE | SHEET NO.: 5
COUNTY: MISSISSIPPI
JOB NO.: J9S3680
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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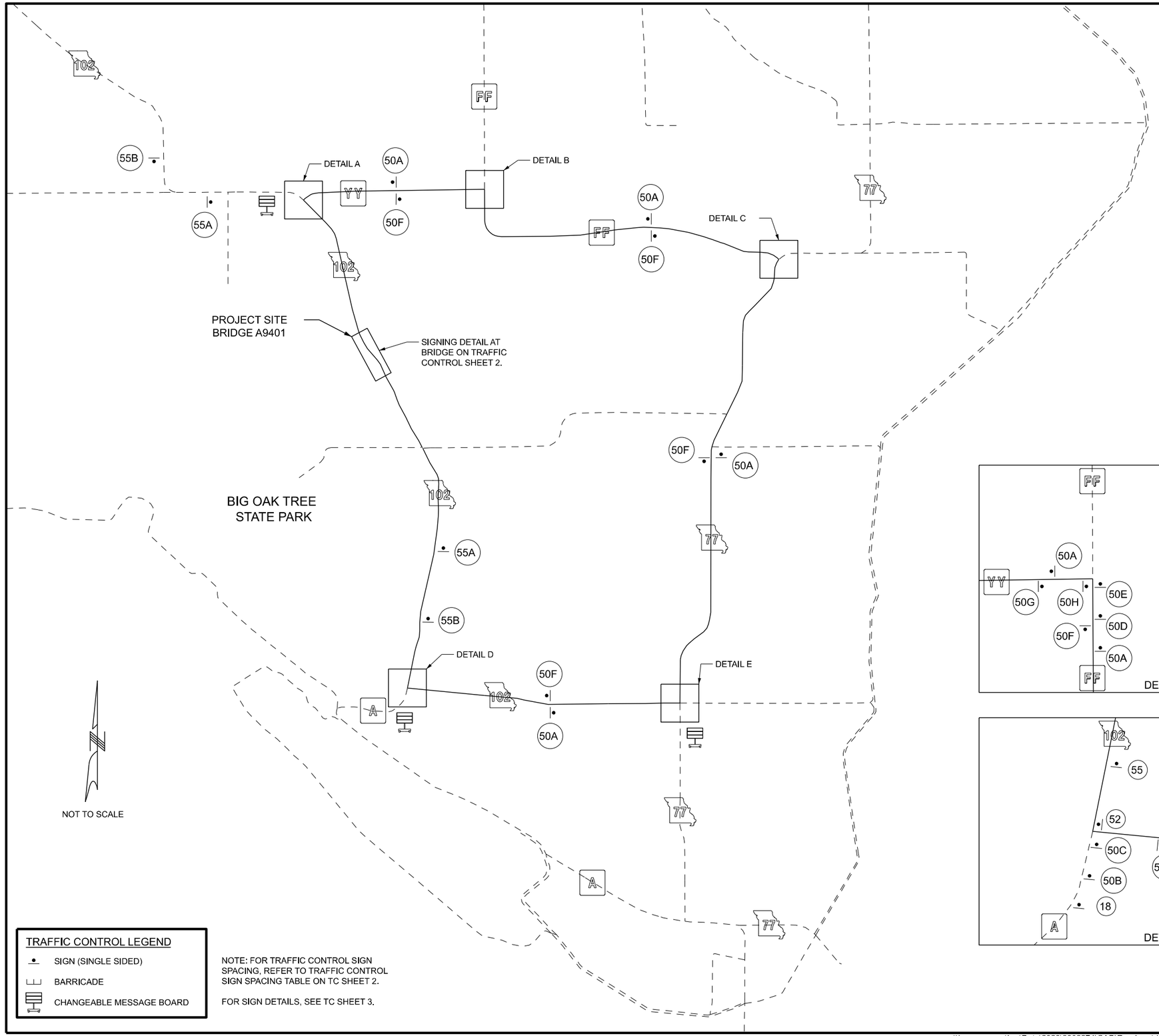
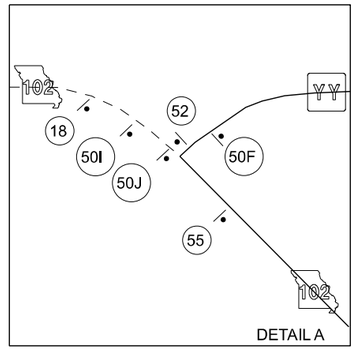
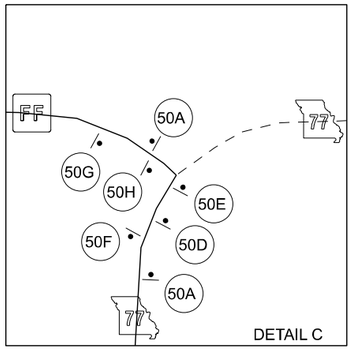
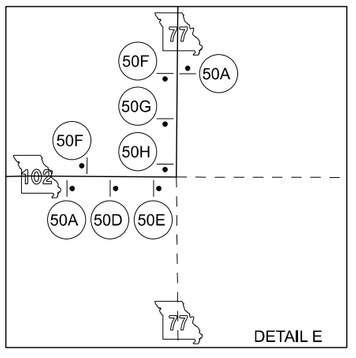








TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- BARRICADE
- CHANGEABLE MESSAGE BOARD

NOTE: FOR TRAFFIC CONTROL SIGN SPACING, REFER TO TRAFFIC CONTROL SIGN SPACING TABLE ON TC SHEET 2.

FOR SIGN DETAILS, SEE TC SHEET 3.

TRAFFIC CONTROL
SHEET 1 OF 3

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250

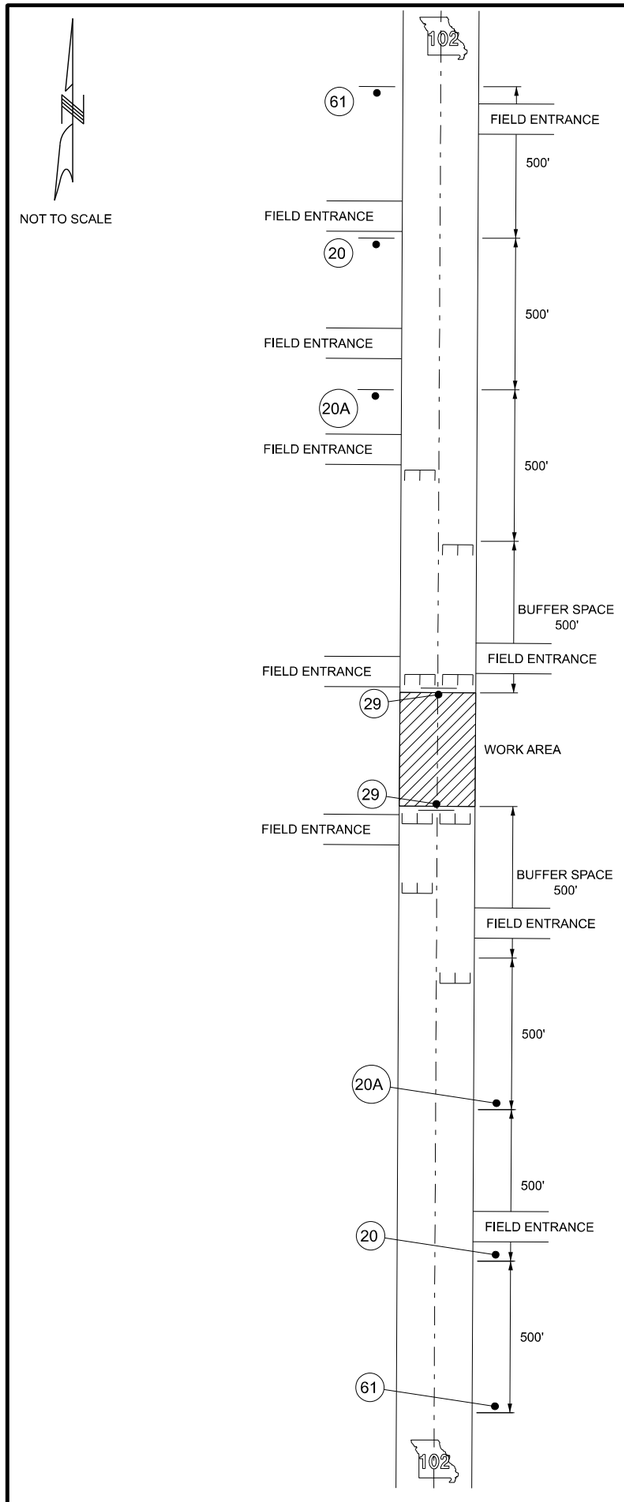
DATE PREPARED	8/28/2024
ROUTE	STATE
102	MO
DISTRICT	SHEET NO.
SE	6
COUNTY	MISSISSIPPI
JOB NO.	J9S3680
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen



RTE. 102 SIGNING DETAIL AT
BRIDGE A9400

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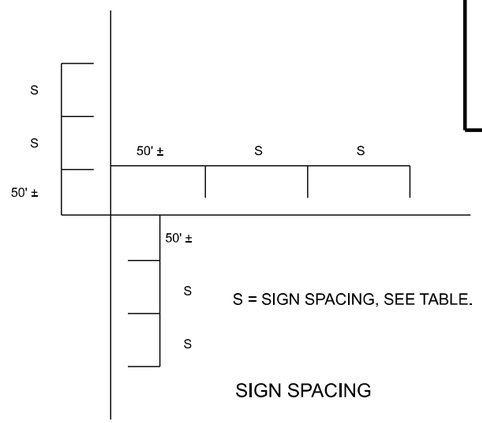
LONGITUDINAL BUFFER SPACE	
POSTED SPEED PRIOR TO CONSTRUCTION	LENGTH
ð 35 MPH	280 FT
40-45 MPH	400 FT
50-55 MPH	560 FT
60-70 MPH	840 FT

CHANNELIZER SPACING	
POSTED SPEED PRIOR TO CONSTRUCTION	BUFFER/ WORK AREAS
ð 35 MPH	40 FT
40-45 MPH	80 FT
50-55 MPH	80 FT
60-70 MPH	120 FT

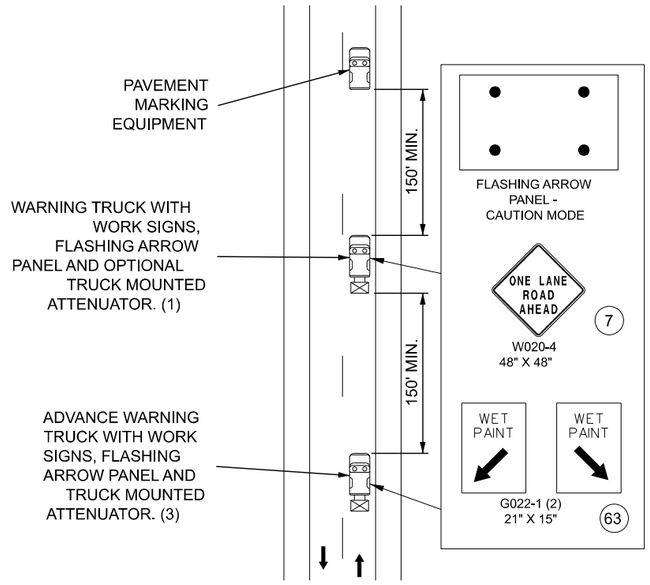
SIGN SPACING FOR ADVANCE SIGN SERIES	
POSTED SPEED PRIOR TO CONSTRUCTION	NON-DIVIDED HIGHWAYS (S)
ð 35 MPH	200 FT
40-45 MPH	350 FT
50-55 MPH	500 FT
60-70 MPH	1000 FT



S = SIGN SPACING, SEE TABLE.

SIGN SPACING

MOVING OPERATION ON HIGHWAY OPEN TO TRAFFIC
STRIPING



TWO LANE UNDIVIDED HIGHWAY

NOTES:

UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCK AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

(1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD IS MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.

(2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.

(3) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICHEVER IS GREATER.

(4) TRUCKS, FLASHING ARROW PANELS, AND SIGNS ARE INCIDENTAL TO PAVEMENT MARKINGS.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZERS
- FLAGGER
- BARRICADE

TRAFFIC CONTROL
SHEET 2 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 8/28/2024
ROUTE: 102
STATE: MO
DISTRICT: SE
SHEET NO.: 7
COUNTY: MISSISSIPPI
JOB NO.: J9S3680
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

GENERAL NOTES:

ANY EXISTING WARNING OR REGULATORY SIGNS (NOT SHOWN) THAT INTERFERE WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

ALL TRAFFIC CONTROL SIGNS ARE TO BE NON-PORTABLE UNLESS OTHERWISE NOTED

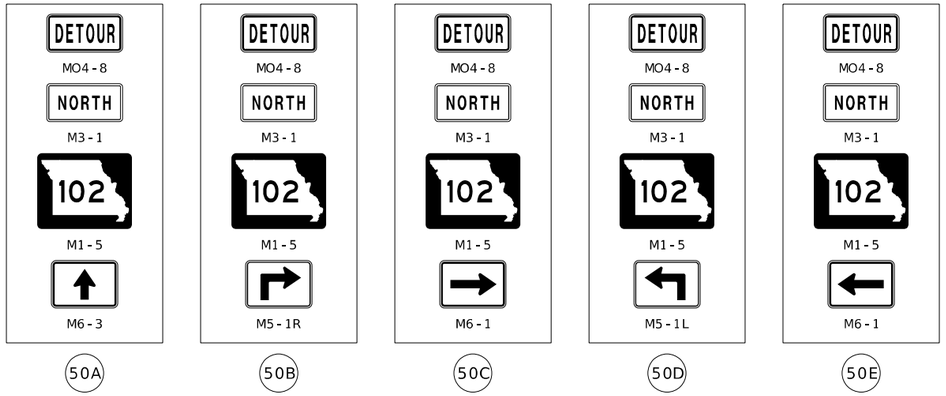
SEE STANDARD PLANS 616.10, 903.01 AND 903.03 FOR ADDITIONAL DETAILS REGARDING TRAFFIC CONTROL HIGHWAY SIGNING.

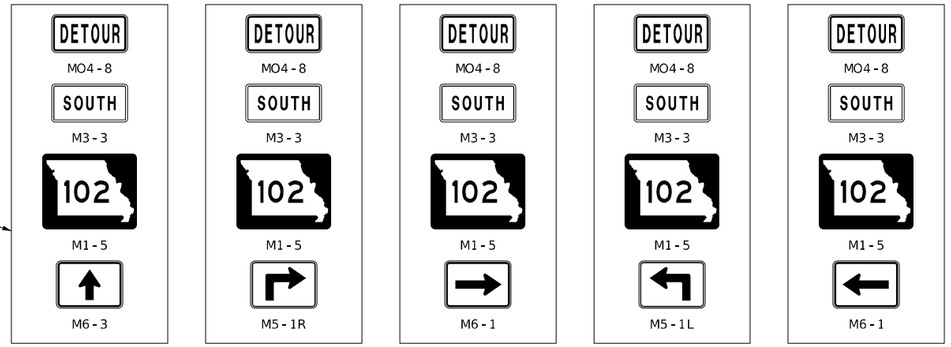
TEMPORARY TRAFFIC CONTROL SIGN AND DEVICE LOCATIONS MAY BE ADJUSTED UPON APPROVAL OF THE ENGINEER.

ANY RELOCATION OF SIGNS AND DEVICES FOR TRAFFIC CONTROL DEVICES OR SIGNS SHALL BE CONSIDERED INCIDENTAL, NO DIRECT PAY.

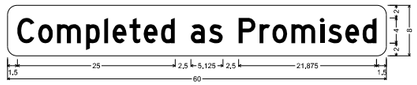
CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES. CONTRACTOR SHALL COORDINATE ACCESS TO FIELD ENTRANCES WITH PROPERTY OWNERS.

R11-2 SIGN ASSOCIATED WITH THE TYPE 3 MOVEABLE BARRICADES SHALL BE MOUNTED ON POST 7-10 FEET BEHIND THE BARRICADE.



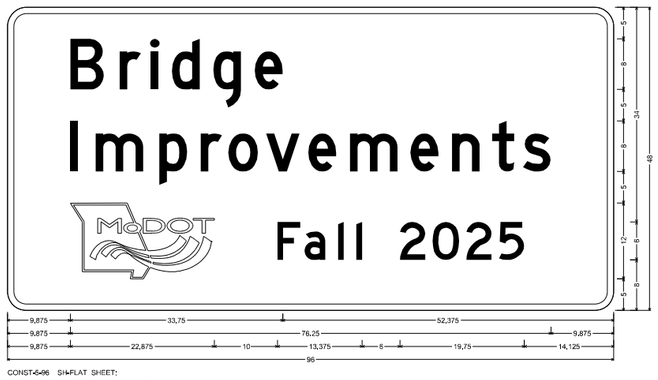


BLANK DETOUR SIGN (36" X 78"), TYP.



CONST-5P-60 SHP-FLAT SHEET FLUORESCENT:
1,500" Radius, No border, Yellow:
"Completed as Promised" Black, D 65% spacing:
Table of letter and object lefts

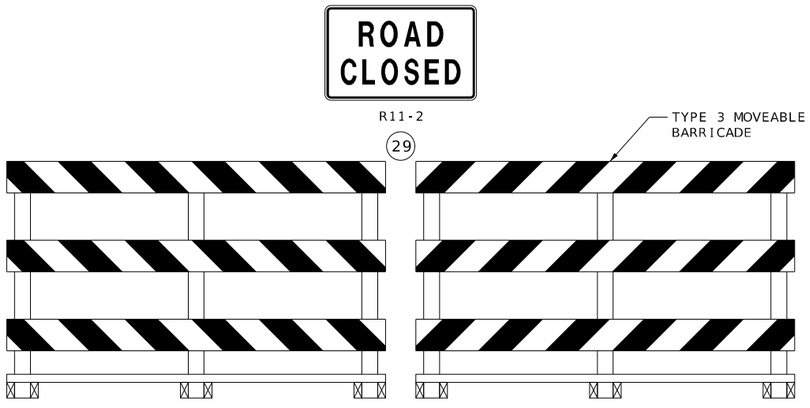
C	o	m	p	l	e	t	e	d	a	s	
1,500	4,875	7,875	12,375	15,375	16,625	19,375	21,500	24,250	29,000	31,875	
P	r	o	m	i	s	e	d				
36,625	39,875	41,875	44,875	49,500	50,750	53,500	56,250				



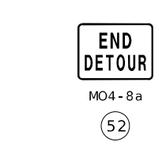
CONST-5-96 SHP-FLAT SHEET:
3,000" Radius, 1,000" Border, White on, Blue:
"Bridge", D: "Improvements", D: "Fall 2023", D:
Table of letter and object lefts

B	r	i	d	g	e						
9,875	17,750	22,750	26,000	32,625	39,125						
I	m	p	r	o	v	e	m	e	n	t	s
9,875	14,000	24,000	30,625	35,000	41,000	47,625	54,250	63,750	70,375	76,750	81,625
fw	F	a	2	2	2	0	2	3			
9,875	42,750	47,000	52,375	55,250	62,125	67,375	72,625	77,875			

CONST-5
61



DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.



TRAFFIC CONTROL
SHEET 3 OF 3

ANDREA S. DAVIS
PE-2018021250
MISSOURI STATE OF MISSOURI PROFESSIONAL ENGINEER

DATE PREPARED	8/30/2024
ROUTE	102
STATE	MO
DISTRICT	SE
SHEET NO.	8
COUNTY	MISSISSIPPI
JOB NO.	J9S3680
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

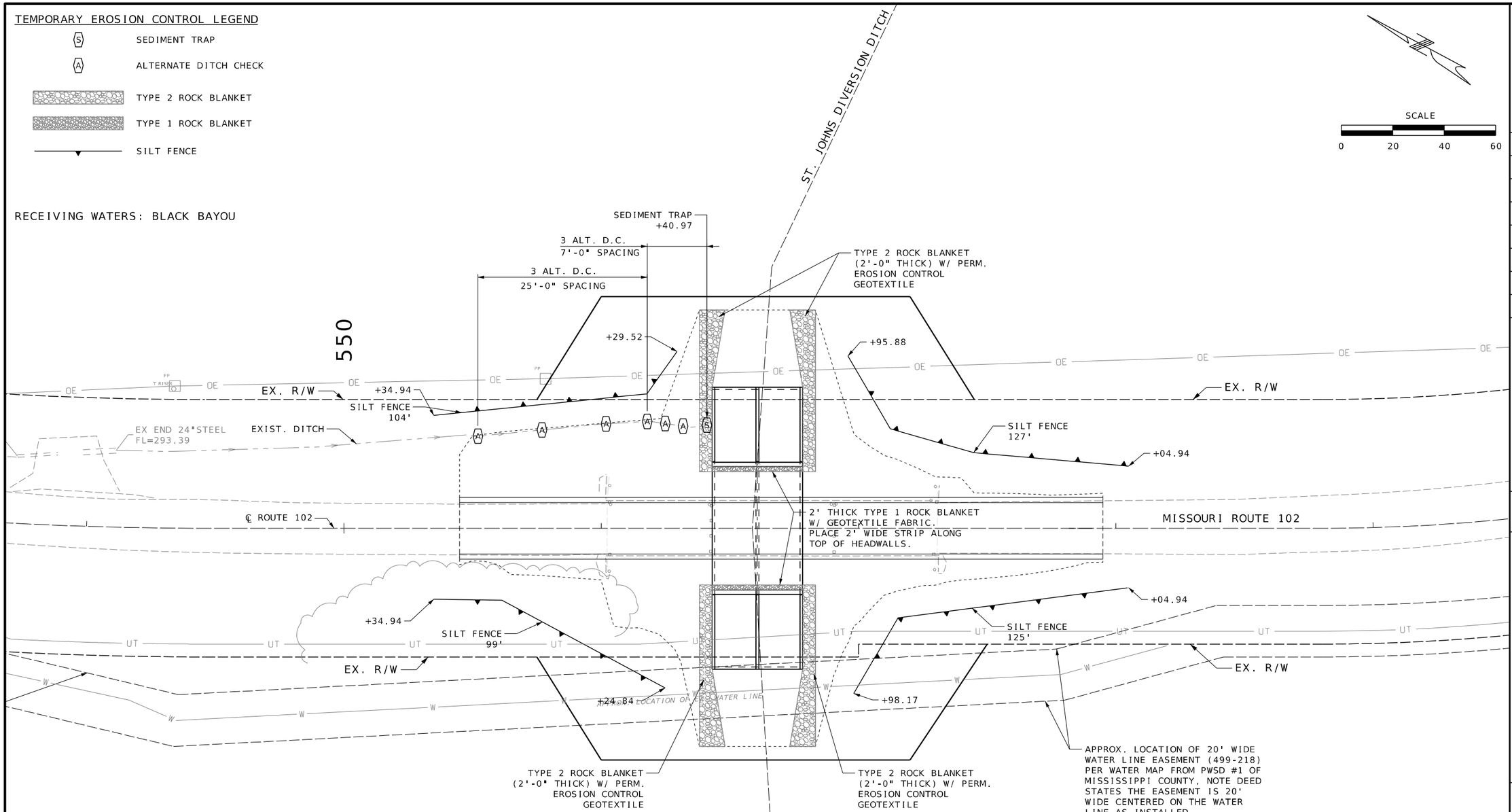
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- TYPE 2 ROCK BLANKET
- TYPE 1 ROCK BLANKET
- SILT FENCE

RECEIVING WATERS: BLACK BAYOU



SCALE
0 20 40 60

DISCLAIMER
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ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

ERROSION CONTROL
SHEET 1 OF 1

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED 8/30/2024
ROUTE 102 | STATE MO
DISTRICT SE | SHEET NO. 9
COUNTY MISSISSIPPI
JOB NO. J9S3680
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

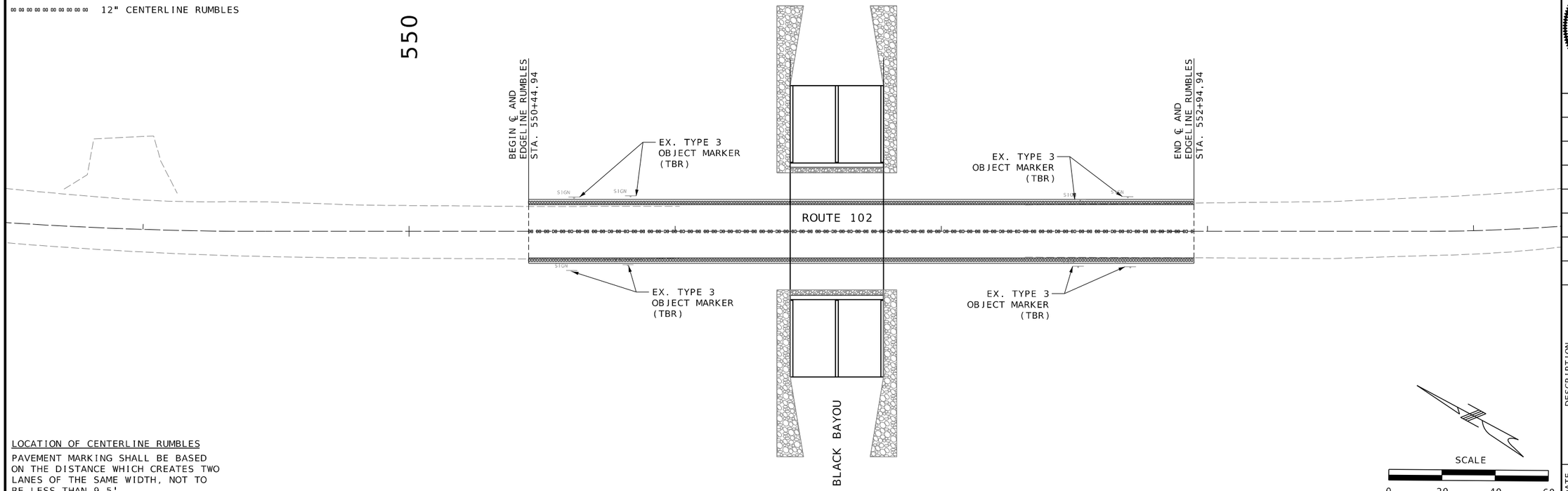
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

RUMBLE STRIP LEGEND

6" EDGELINE RUMBLES

12" CENTERLINE RUMBLES



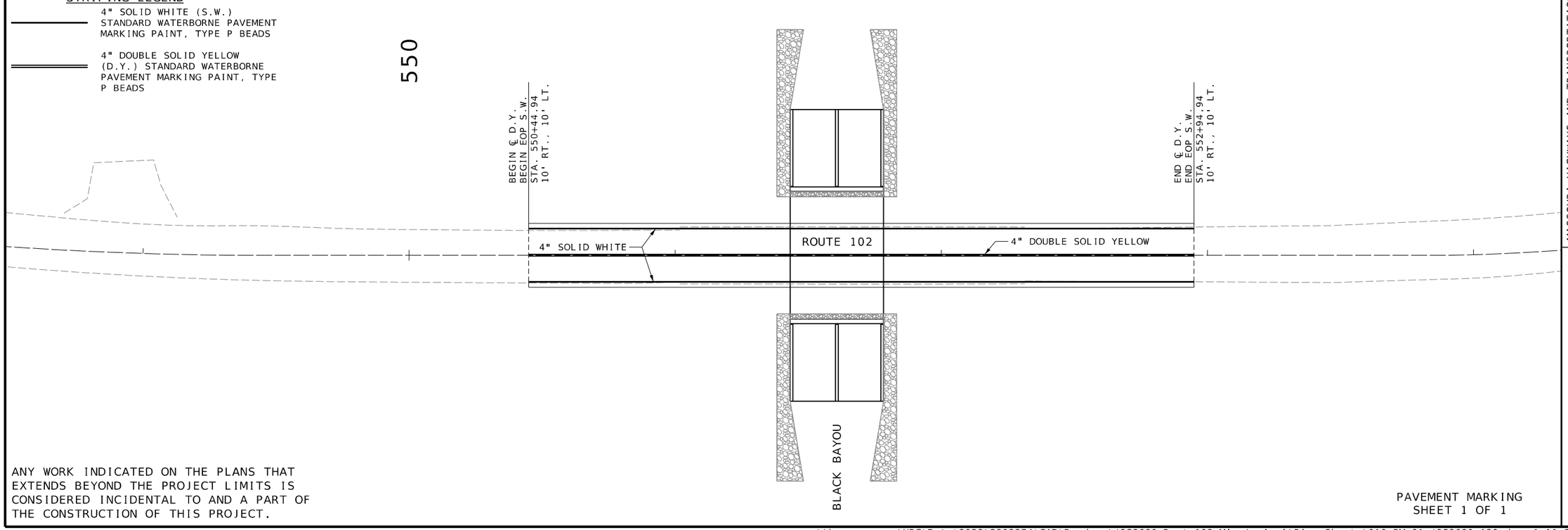
LOCATION OF CENTERLINE RUMBLES

PAVEMENT MARKING SHALL BE BASED ON THE DISTANCE WHICH CREATES TWO LANES OF THE SAME WIDTH, NOT TO BE LESS THAN 9.5'.

STRIPING LEGEND

4" SOLID WHITE (S.W.) STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS

4" DOUBLE SOLID YELLOW (D.Y.) STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS



ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

PAVEMENT MARKING
SHEET 1 OF 1

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 1/22/2025

ROUTE	STATE
102	MO
DISTRICT	SHEET NO.
SE	10

COUNTY: MISSISSIPPI

JOB NO.: J9S3680

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

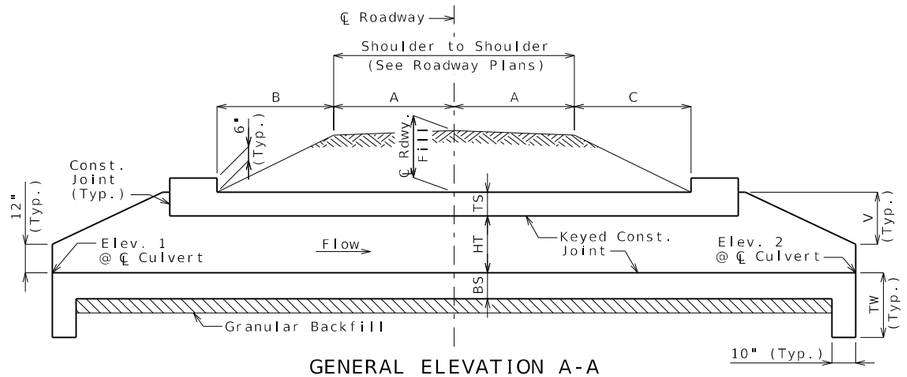
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

2(16'x 14') CONCRETE BOX CULVERT

SEC/SUR 12 TWP 23N RGE 16E



GENERAL ELEVATION A-A

Construction joint key not shown for clarity, see standard plans for details.

If any part of the barrel is exposed, the roadway fill shall be warped to provide 12 inches minimum cover. (Roadway Item)

If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

Layout Dimensions

Var.	Equation	Dim.	Var.	Equation	Dim.	Var.	Equation	Dim.
S	- - -	16'-0"	TI	- - -	13"	F	2S + 2TX + TI	35'-1"
HT	- - -	14'-0"	A	- - -	12'-0"	G	2V	28'-10"
TS	- - -	17"	B	- - -	12'-0"	V	HT + TS - 12"	14'-5"
BS	- - -	14"	C	- - -	12'-0"	W	2A + B + C + 2E	109'-6"
TX	- - -	12"	E	G + 23"	30'-9"	TW	Max{3'-4" or (BS + 12")}	3'-4"

Hydrologic Data

Drainage Area = 2.7 mi^2
Design Flood Frequency = 50 years
Design Flood Discharge = 280 cfs
Design Flood (D.F.) Elevation = 284.8
Base Flood (100-year)
Base Flood Elevation = 284.9
Base Flood Discharge = 290 cfs
Estimated Backwater = 0.0 ft
Outlet Velocity = 2.4 ft/s
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency > 500 years
500-Year Flood Elevation = 285.1

Elevations

Upstream (Elev. 1) = 281.11
Downstream (Elev. 2) = 281.10
Pr. Gr. at Tie Sta. = 300.18

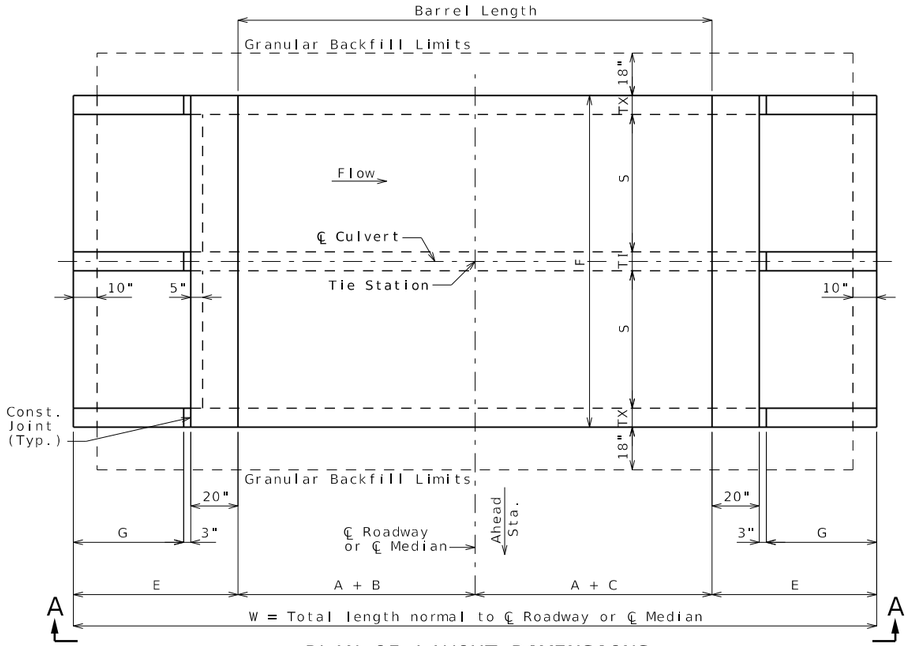
Fill Heights

℄ Rdwy at ℄ Culvert = 3.66 ft
Design (All units) = 2-4 ft

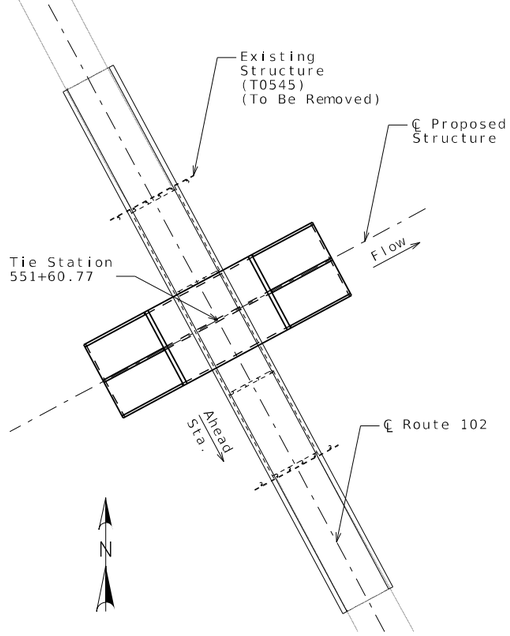
Dimensions are based on end units.
Fill heights are measured from the top of top slab to the top of earth fill or roadway.

Estimated Quantities

			Final
Class 4 Excavation	cu. yard	265	
Dewatering	lump sum	1	
Removal of Bridges (T0545)	lump sum	1	
Class B-1 Concrete (Culverts-Bridge)	cu. yard	404.3	
Reinforcing Steel (Culverts-Bridge)	pound	55,140	



PLAN OF LAYOUT DIMENSIONS



LOCATION SKETCH

General Notes:

Design Specifications:
2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions

Design Loading:
Vehicular = HL-93 minus lane load, Earth = 120 lb/cf
Equivalent Fluid Pressure = 30 lb/cf (min.), 60 lb/cf (max.)

Design Unit Stresses:
Class B-1 Concrete (Box Culvert) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Standard Plans:
703.37, 703.40, 703.46, 703.47

Miscellaneous:
MoDOT Construction personnel will indicate the type of box culvert constructed:
☐ Precast Concrete Box used
☐ Cast-in-Place Concrete Box used

When alternate precast concrete box sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

Channel bottom shall be graded within the right of way for transition of channel bed to culvert openings. Channel banks shall be tapered to match culvert openings. (Roadway Item)

Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

B.M. 3 ELEV. 295.29 80D SPIKE IN A UTILITY POLE AT THE NORTHEAST QUADRANT OF ROUTE 102 AND THE DITCH; 60 FEET EAST OF THE CENTERLINE OF ROUTE 102.

CULVERT-BRIDGE: ROUTE 102 OVER ST. JOHNS DIVERSION DITCH

ROUTE 102 FROM ROUTE YY TO ROUTE A
ABOUT 1.2 MILES SOUTH OF ROUTE YY
TIE STA. 551+60.77

Designed Jan. 2024
Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 12/13/2024
ROUTE 102 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY MISSISSIPPI
JOB NO. J9S3680
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9400

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

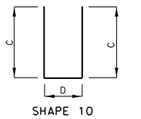
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

BILL OF REINFORCING STEEL

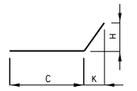
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	SHAPE NO.	STIRRUP (S)	EPOXY (E)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	C FT.	D or F FT.	E FT.	H FT.	K FT.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
88	6	A1	TOP SLAB	20					34 9.000						34	9	34	9	4593
164	6	A2	BOTTOM SLAB	20					34 9.000						34	9	34	9	8560
112	5	B1	INTERIOR WALL	10						12.000	16 2.000				18	2	17	11	2093
176	5	B2	EXTERIOR WALLS	10						12.000	16 2.000				18	2	17	11	3289
4	8	D1	HEADWALL	20					34 9.000						34	9	34	9	371
4	9	D2	HEADWALL	20					9 0.000						9	0	9	0	122
24	5	E1	TOE	20					4 0.000						4	0	4	0	100
124	4	F1	BARREL	20					50 9.000						50	9	50	9	4204
74	4	F2	BOTTOM SLAB	20					31 2.000						31	2	31	2	1541
88	4	F3	WING WALLS	20			V	8	6 8.000						6	8	6	8	
			INCREMENT =						30 0.000						30	0	30	0	1078
			28.000 INCH																
124	5	G1	INTERIOR WALL	20			V	4	2 3.000						2	3	2	3	
			INCREMENT =						16 0.000						16	0	16	0	1180
			5.500 INCH																
192	5	G2	EXTERIOR WALLS	20			V	4	2 3.000						2	3	2	3	
			INCREMENT =						15 11.500						16	0	16	0	1827
			3.500 INCH																
39	7	H1	TOP SLAB	20					26 9.000						26	9	26	9	2132
38	7	H2	TOP SLAB	20					8 4.000						8	4	8	4	647
218	7	H3	BOTTOM SLAB	20					12 2.000						12	2	12	2	5421
24	7	J1	WING WALLS	20			FB		35 4.000						35	4	35	4	1733
176	6	J3	TOP SLAB CORNER	19					3 1.000	8 3.750					11	5	11	3	2974
206	6	J4	BOTTOM SLAB CORNER	19					14 10.000	7 11.125					22	9	22	7	6988
228	6	J5	WING WALLS	19			V	4	2 2.000	7 11.125					10	1	9	11	
			INCREMENT =						16 2.000	7 11.125					24	1	24	1	5822
			3.000 INCH																
35	5	R1	HEADWALL	27	S				17.000	15.750		2 2.500	4.250	4.250	5	5	5	3	192
35	5	R2	HEADWALL	10	S					10.500	20.000				3	5	3	3	119
35	5	R3	HEADWALL	10	S					17.000	20.000				4	6	4	4	158
			TOTALS																
	4																		6823
	5																		8958
	6																		28937
	7																		9933
	8																		371
	9																		122
			TOTAL																55144

BILL OF REINFORCING STEEL

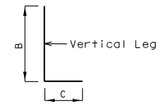
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	SHAPE NO.	STIRRUP (S)	EPOXY (E)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	C FT.	D or F FT.	E FT.	H FT.	K FT.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.



SHAPE 10

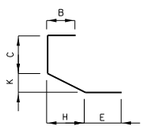


SHAPE 15



SHAPE 19

SHAPE 20

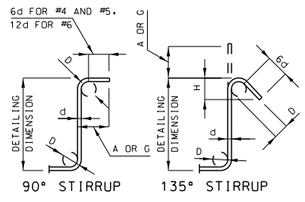


SHAPE 27

SPLICE LENGTH	
BAR SIZE	NON-EPOXY
#4	21 IN.
#5	26 IN.
#6	31 IN.
#7	39 IN.
#8	51 IN.
#9	65 IN.
#10	82 IN.
#11	101 IN.

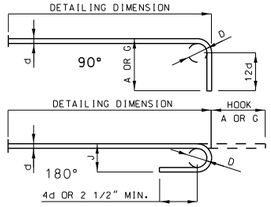
MAX BAR LENGTH	
BAR SIZE	NON-EPOXY
#4	60 FT.
#5	60 FT.
#6	60 FT.
#7	60 FT.
#8	60 FT.
#9	60 FT.
#10	60 FT.
#11	60 FT.

NOTE:
THE BAR LIST IS BASED ON THE MISSOURI STANDARD PLANS.
THIS BAR LIST IS FOR QUANTITY ESTIMATION PURPOSE ONLY AND SHALL BE VERIFIED OR MODIFIED BY THE CONTRACTOR.



STIRRUP HOOK DIMENSIONS				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	GRADE 60		
		180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	24"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
FB = BARS MAY BE BENT IN FIELD TO FIT.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE. A BLANK IN THE SECOND LINE REPRESENTS THE SAME BAR DIMENSION AS THAT IN THE FIRST LINE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADD A SPLICE LENGTH TO A BAR LENGTH WHICH EXCEEDS ITS MAXIMUM ALLOWABLE LENGTH.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
REINFORCING STEEL (GRADE 60) FY = 60.000 PSI.

Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED
12/13/2024

ROUTE	STATE
102	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
MISSISSIPPI

JOB NO.
J9S3680

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9400

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

DESIGN DESIGNATION

A.A.D.T. - 2021 = 1148

A.A.D.T. - 2041 = 1607

V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

NO RIGHT OF WAY WILL BE ACQUIRED WITH THIS PROJECT.

DISCLAIMER

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

CONVENTIONAL SYMBOLS

(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	FO
OVERHEAD CABLE TV	-OTV-	OTV
UNDERGROUND CABLE TV	-UTV-	UTV
OVERHEAD TELEPHONE	-OT-	OT
UNDERGROUND TELEPHONE	-UT-	UT
OVERHEAD POWER	-OE-	OE
UNDERGROUND POWER	-UE-	UE
SANITARY SEWER	-S-	S
STORM SEWER	-SS-	SS
GAS	-G-	G
WATER	-W-	W
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET	DI	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	-V-	
WOVEN WIRE	-X-	
GATE POST		
BENCHMARK	BM	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

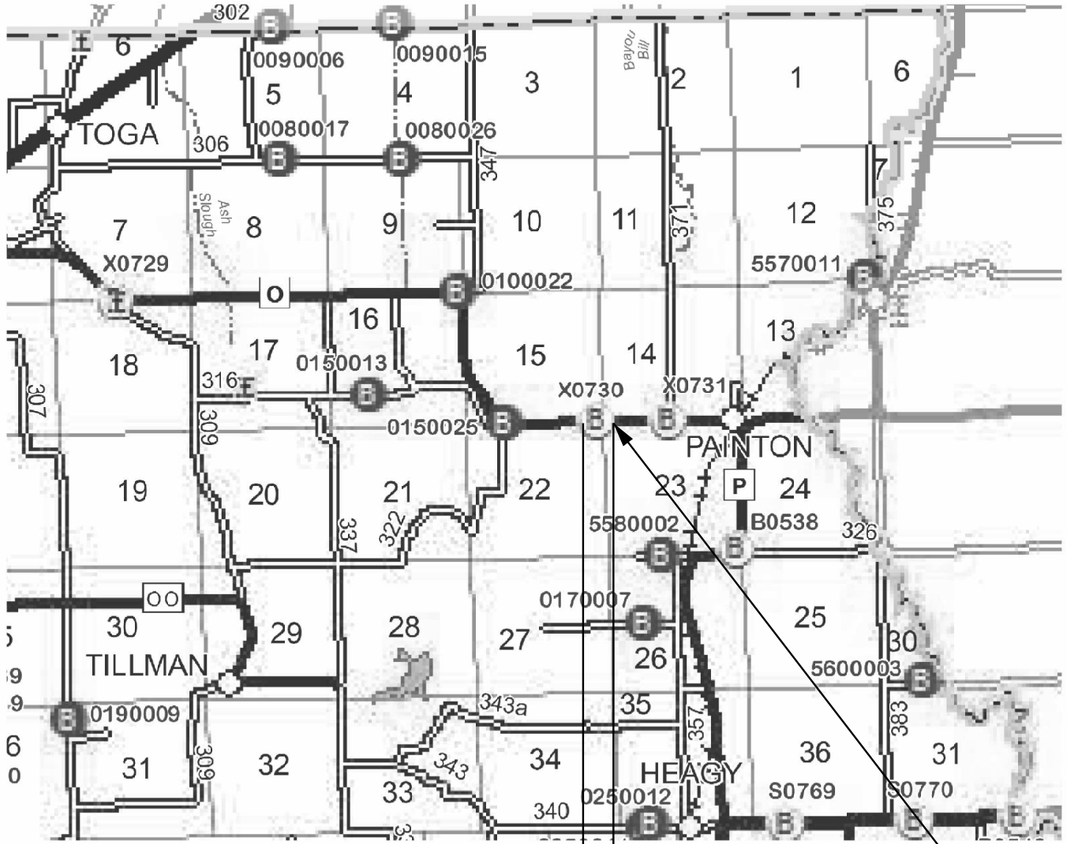
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED

STATE HIGHWAY O

STODDARD COUNTY

T28N, R11E



BEGIN PROJECT LIMITS
STA. 310+00.00

END PROJECT LIMITS
STA. 320+00.00

BRIDGE #A9401
BRIDGE REPLACEMENT
EX. BRIDGE #X0730
ROUTE O OVER
DRAINAGE DITCH 287

NOT TO SCALE

KEY MAP
LOCATION OF STODDARD COUNTY

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	310 + 00.00
END OF PROJECT	STA.	320 + 00.00
APPARENT LENGTH		1000.00 FEET
EQUATIONS AND EXCEPTIONS:		
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		1000.00 FEET
STATE LENGTH		0.189 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		0.25 ACRES

ANDREA S. DAVIS
PE-2018021250
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	1

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

DISCLAIMER
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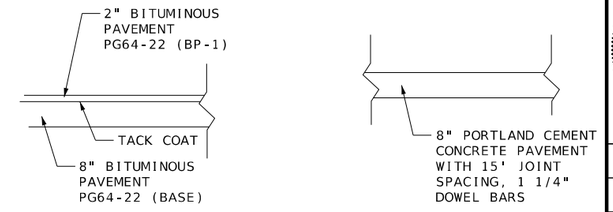
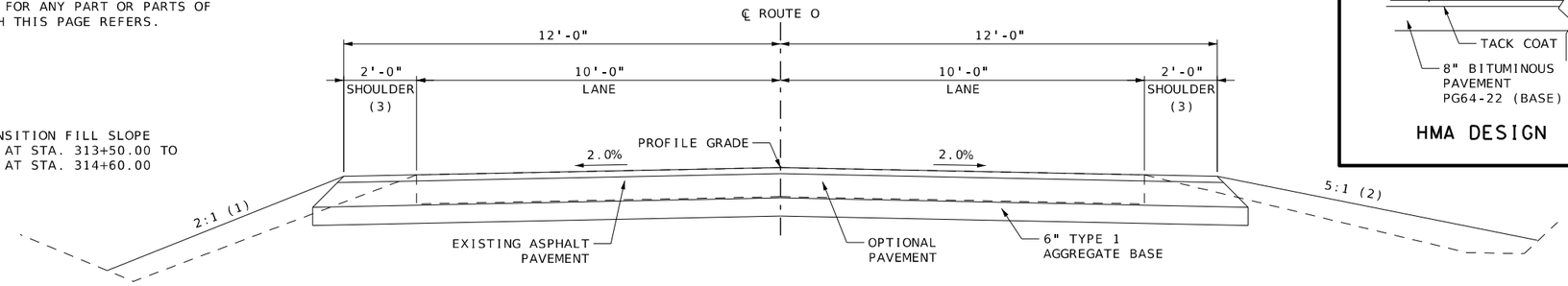
OPTIONAL PAVEMENT



HMA DESIGN | PCC DESIGN



(1) TRANSITION FILL SLOPE
2:1 AT STA. 313+50.00 TO
5:1 AT STA. 314+60.00

(2) TRANSITION FILL SLOPE
5:1 AT STA. 313+70.00 TO
3:1 AT STA. 313+82.00

APPLICATION RATES:

PLANT MIX BITUMINOUS BASE COURSE:
PG64-22 (BASE): 1.943 TONS/CY

PLANT MIX BITUMINOUS ASPHALT:
PG64-22 (BP-1): 1.948 TONS/CY

TACK COAT:
0.08 GAL/SY

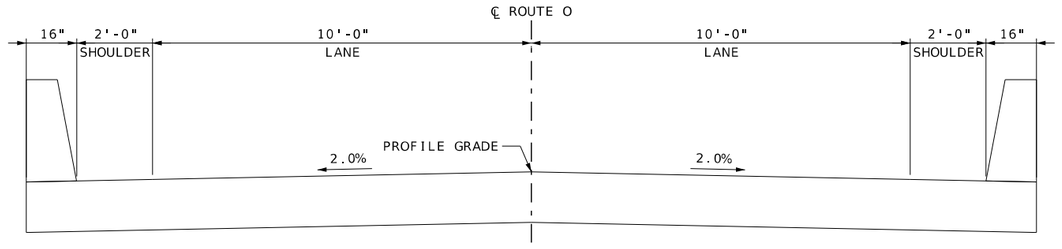
PAVEMENT HISTORY:
CONSTRUCTED: 1930

TYPICAL SECTION - ROUTE O

STA. 313+00.00 TO STA. 313+69.28

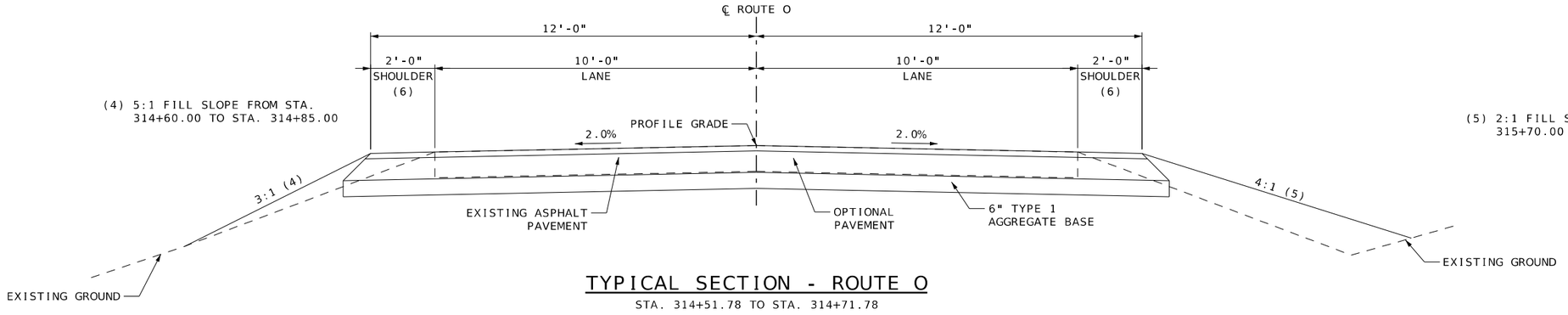
BRIDGE APPROACH SLAB (MINOR ROAD) ROUTE O:
STA. 313+69.28 TO STA. 313+89.28

(3) WIDEN SHOULDER TO 4'-6" FOR TYPE C CRASH CUSHION CONCRETE PAD



TYPICAL SECTION - ROUTE O BRIDGE #A9401

STA. 313+89.28 TO STA. 314+51.78



(4) 5:1 FILL SLOPE FROM STA.
314+60.00 TO STA. 314+85.00

(5) 2:1 FILL SLOPE FROM STA.
315+70.00 TO STA. 316+20.00

TYPICAL SECTION - ROUTE O

STA. 314+51.78 TO STA. 314+71.78

BRIDGE APPROACH SLAB (MINOR ROAD) ROUTE O:
STA. 314+71.78 TO STA. 316+20.00

(6) WIDEN SHOULDER TO 4'-6" FOR TYPE C CRASH CUSHION CONCRETE PAD

TYPICAL SECTIONS
AND DETAILS
SHEET 1 OF 1

ANDREA S. DAVIS
PE-2018021250
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025
ROUTE: O | STATE: MO
DISTRICT: SE | SHEET NO.: 2
COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

REMOVAL OF IMPROVEMENTS	1 LUMP SUM
MOBILIZATION	1 LUMP SUM
CONTRACTOR FURNISHED SURVEYING AND STAKING	1 LUMP SUM

SIGN REMOVAL - FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	ROUTE	LOCATION	ITEM TO BE REMOVED
10	313+51	ROUTE O	LT	OBJECT MARKER
10	313+72	ROUTE O	LT	OBJECT MARKER
10	313+92	ROUTE O	LT	OBJECT MARKER
10	314+59	ROUTE O	LT	OBJECT MARKER
10	314+69	ROUTE O	LT	OBJECT MARKER
10	316+74	ROUTE O	LT	YIELD
10	311+70	ROUTE O	RT	YIELD
10	313+52	ROUTE O	RT	OBJECT MARKER
10	313+71	ROUTE O	RT	OBJECT MARKER
10	313+92	ROUTE O	RT	OBJECT MARKER
10	313+95	ROUTE O	RT	STRUCTURE NUMBER
10	314+60	ROUTE O	RT	OBJECT MARKER

NOTE: NO DIRECT PAY WILL BE MADE FOR SIGN REMOVAL. SIGN REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

PAVEMENT REMOVAL - FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	STATION	ROUTE	PAVEMENT REMOVAL SY
4	313+00	313+69	ROUTE O	184.0
4	314+72	316+20	ROUTE O	394.7
			SUBTOTAL =	578.7

NOTE: NO DIRECT PAY WILL BE MADE FOR PAVEMENT REMOVAL. PAVEMENT REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

SAWCUT - FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	ROUTE	LOCATION	SAWCUT LF
4	313+00	ROUTE O	TRANSVERSE	20
4	316+20	ROUTE O	TRANSVERSE	20
			SUBTOTAL =	40

NOTE: NO DIRECT PAY WILL BE MADE FOR SAWCUT. SAWCUT IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF

PAVEMENT

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	TYPE 1 AGGREGATE FOR BASE (6 IN. THICK) SY	GRAVEL (A) SY	OPTIONAL PAVEMENT SY
4	313+00.00	313+69.28	ROUTE O	LT / RT	184.7		184.7
4	314+71.78	316+20.00	ROUTE O	LT / RT	395.2		395.2
4	314+81.78	315+18.42	ROUTE O	LT		52.7	
4	315+28.58	315+80.77	ROUTE O	RT		46.9	
				SUBTOTAL =	579.9	99.6	579.9
				PAY TOTAL =	580	100	579.9

ROCK

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	FURNISHING TYPE 2 ROCK BLANKET CY	PLACING TYPE 2 ROCK BLANKET CY	PERMANENT EROSION CONTROL GEOTEXTILE SY
6	313+82	314+04	ROUTE O	LT / RT	258	258	129
6	314+42	314+59	ROUTE O	LT / RT	183	183	91
				SUBTOTAL =	441	441	220
				PAY TOTAL =	441	441	220

EARTHWORK

STATION	STATION	ROUTE	CLASS A EXCAVATION CY	COMPACTING EMBANKMENT CY
313+00.00	316+20.00	ROUTE O	345	223
		SUBTOTAL =	345	223
		PAY TOTAL =	345	223

NOTES: NO SHRINK OR SWELL FACTORS APPLIED TO EARTHWORK QUANTITY.
INCLUDES REMOVAL AND DISPOSAL OF EXISTING ASPHALT.

CLEARING AND GRUBBING

STATION	STATION	ROUTE	LOCATION	CLEARING AND GRUBBING AC
313+00	316+20	ROUTE O	LT / RT	0.1
			SUBTOTAL =	0.1
			PAY TOTAL =	1.0

SUMMARY OF QUANTITIES
SHEET 1 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT SE | SHEET NO. 3
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

DRAINAGE STRUCTURES

PLAN SHEET NO.	FROM STRUCTURE	FROM STATION	TO STRUCTURE	TO STATION	ROUTE	LOCATION	PIPE COLLAR, TYPE C (EACH)	18 IN. PIPE GROUP C (LF)	18 IN. GROUP C FLARED END SECTIONS (EACH)	18 IN. FLAP GATES (EACH)	CLASS 3 EXCAVATION (CY)
13	1-1 FES	313+02	1-2 F	313+98	ROUTE O	RT		94	1	1	11
13	2-1 FES	313+54	2-2 F	313+98	ROUTE O	LT		43	1	1	3
13	3-1 FES	315+25	3-2 F	314+43	ROUTE O	LT		80	1	1	40
13	PIPE COLLAR	315+31	PIPE COLLAR	314+94	ROUTE O	RT	1	37			20
14	PIPE COLLAR	314+94	4-1 F	314+45	ROUTE O	RT	1	50		1	36
						SUBTOTAL =	2	304	3	4	110
						PAY TOTAL =	2	304	3	4	110

EROSION CONTROL - TEMPORARY

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	SEDIMENT TRAP (CY)	SILT FENCE (LF)	SEDIMENT REMOVAL (CY)	REMARKS
9	312+90	314+05	ROUTE O	RT		118	2	
9	314+42	315+39	ROUTE O	RT		98	1	
9	315+69	316+30	ROUTE O	RT		62	1	
9	312+90	314+14	ROUTE O	LT		133	2	
9	314+32	314+84	ROUTE O	LT		53	1	
9	315+04	316+30	ROUTE O	LT		127	2	
9	313+02		ROUTE O	RT	1		10	FES 1-1
9	313+54		ROUTE O	LT	1		10	FES 2-1
9	314+77		ROUTE O	LT	1		10	EXISTING 18" CMP
9	315+25		ROUTE O	LT	1		10	FES 3-1
9	315+29		ROUTE O	RT	1		10	EXISTING 18" CMP
9	315+75		ROUTE O	RT	1		10	EXISTING 18" CMP
				SUBTOTAL =	6	591	69	
				PAY TOTAL =	6	709	69	20% CONTINGENCY ADDED TO SILT FENCE

BITUMINOUS RUMBLE STRIPS

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	CENTERLINE RUMBLE STRIPS (STA)	REMARKS
12	310+00	313+69	ROUTE O	CENTER	3.7	CENTERLINE
12	314+72	320+00	ROUTE O	CENTER	5.3	CENTERLINE
				SUBTOTAL =	9.0	
				PAY TOTAL =	9.0	

PERMANENT PAVEMENT MARKINGS - LINEAR

PLAN SHEET NO.	STATION	STATION	ROUTE	4 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS (LF)	4 IN. YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS (LF)	REMARKS
10	308+00	320+00	ROUTE O	1200		SOLID EDGE LINE LEFT
10	308+00	320+00	ROUTE O	1200		SOLID EDGE LINE RIGHT
10	308+00	320+00	ROUTE O		2400	DOUBLE YELLOW CENTER LANE
				SUBTOTAL =	2400	2400	
				PAY TOTAL =	2400	2400	

ROADSIDE DEVELOPMENT

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	SEEDING - COOL SEASON MIXTURES (AC)	MULCHING (AC)
4	313+00	314+04	ROUTE O	LT / RT	0.08	0.08
4	314+42	316+20	ROUTE O	LT / RT	0.08	0.08
				SUBTOTAL =	0.16	0.16
				PAY TOTAL =	1.0	1.0

NOTE: NO FINAL MEASUREMENT WILL BE PERFORMED.

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250

DATE PREPARED
2/4/2025

ROUTE O | STATE MO
DISTRICT SE | SHEET NO. 3
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

EFFECTIVE: 04-01-2023

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (ARROW SYMBOL)
WO4-1aR	48X48	16.00						MERGE (ARROW SYMBOL)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING (WITH FLAGS)
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17	48X48	16.00						SHOULDER DROP-OFF (SYMBOL)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
W012-2X	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	3	48			18	DETOUR AHEAD
WO20-3	48X48	16.00	2	32			20	ROAD CLOSED AHEAD
WO20-3a	48X48	16.00	2	32			20A	ROAD CLOSED 500 FT AHEAD
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL, WITH FLAGS)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	2	6			52	END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT ARROW)
MO4-9R	48X36	12.00						DETOUR (RIGHT ARROW)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR (ARROW LEFT)
MO4-10R	48X18	6.00						DETOUR (ARROW RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20			29	ROAD CLOSED
R11-3a	60X30	12.50	1	12.5			55A	ROAD CLOSED 2 MILES AHEAD LTO
R11-3a	60X30	12.50	1	12.5			55B	ROAD CLOSED 2.5 MILES AHEAD LTO
R11-4	60X30	12.50	2	25			55	ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	60X8	3.33	2	6.66			61	COMPLETED AS PROMISED
CONST-5	96X48	32.00	2	64			61	POINT OF PRESENCE
CONST-7	48X24	8.00						RATE OUR WORK ZONE
CONST-7	72X36	18.00						RATE OUR WORK ZONE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE
SPECIAL	36X60	15	18	270			50A	DETOUR ASSEMBLY
SPECIAL	36X60	15	3	45			50B	DETOUR ASSEMBLY
SPECIAL	36X60	15	3	45			50C	DETOUR ASSEMBLY
SPECIAL	36X60	15	2	30			50D	DETOUR ASSEMBLY
SPECIAL	36X60	15	2	30			50E	DETOUR ASSEMBLY

616-10.05 CONSTRUCTION SIGNS	TOTAL
	679

616-10.10 RELOCATED SIGNS	TOTAL
	0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161008		ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025		CHANNELIZER (TRIM LINE)
6161030	8	TYPE III MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	4**	CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

NOTE: SIGN AND DEVICE LOCATIONS WILL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.

CMS LOCATIONS TO BE DETERMINED BY THE ENGINEER.

ALL TRAFFIC CONTROL ITEMS ARE INCLUDED IN PAY ITEM 616-99.01, LUMP SUM TEMPORARY TRAFFIC CONTROL UNLESS NOTED OTHERWISE IN THE PLANS. THESE QUANTITIES ARE ONLY AN ESTIMATE AND ARE SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS.

**NOT INCLUDED IN TEMPORARY TRAFFIC CONTROL - LUMP SUM QUANTITY.

TEMPORARY TRAFFIC CONTROL	
PAY TOTAL =	1 LUMP SUM

SUMMARY OF QUANTITIES
SHEET 3 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025
ROUTE: O | STATE: MO
DISTRICT: SE | SHEET NO.: 3
COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

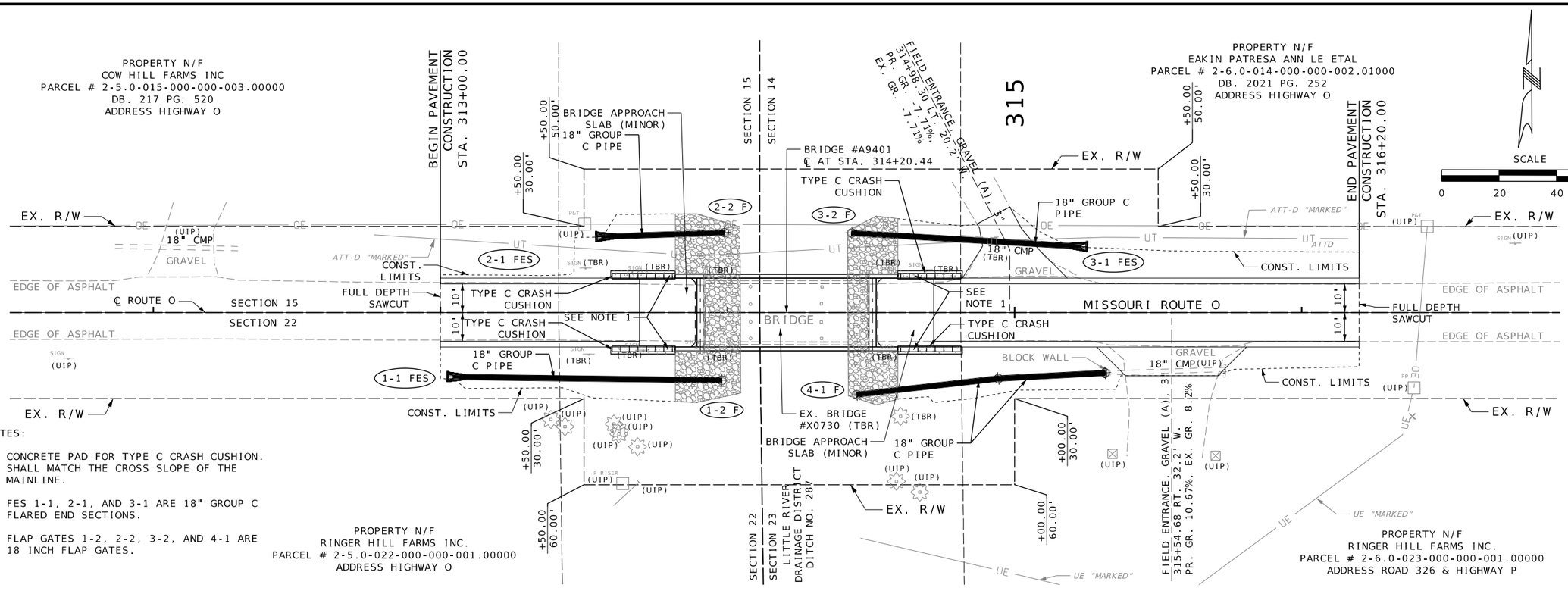
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

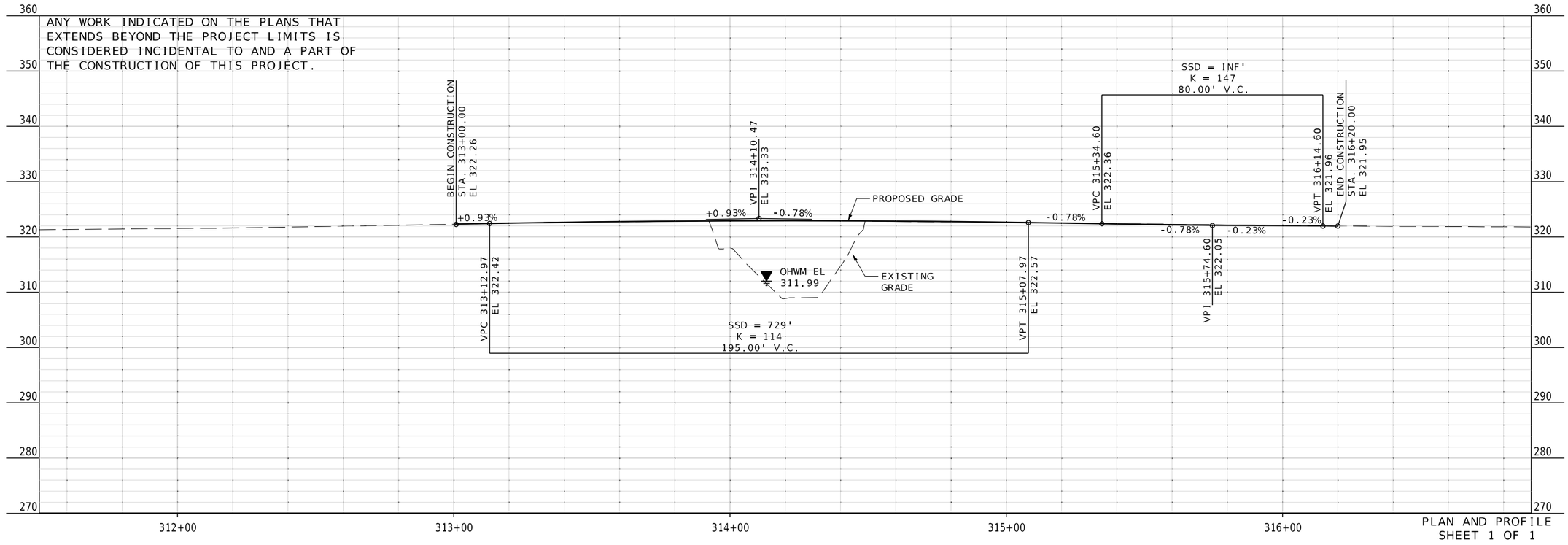
HRGreen



NOTES:

1. CONCRETE PAD FOR TYPE C CRASH CUSHION. SHALL MATCH THE CROSS SLOPE OF THE MAINLINE.
2. FES 1-1, 2-1, AND 3-1 ARE 18" GROUP C FLARED END SECTIONS.
3. FLAP GATES 1-2, 2-2, 3-2, AND 4-1 ARE 18 INCH FLAP GATES.

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.



PLAN AND PROFILE
SHEET 1 OF 1

ANDREA S. DAVIS PE-2018021250 PROFESSIONAL ENGINEER STATE OF MISSOURI

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT SE | SHEET NO. 4
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

\\hrgreen.com\hrg\Data\2023\2302274\CAD\Roadway\SE0116_RouteO_Stoddard\Plan_Sheets\004_PP_01_SE0116_120.dgn 10:19:04 AM 2/4/2025

DISCLAIMER

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

SURVEY NOTES:

1. HORIZONTAL CONTROL STATEMENT: STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUSLY OPERATING REFERENCE STATIONS DURING AUGUST, 2023 AND ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF 1983, EAST ZONE. THE AVERAGE COMBINED PROJECT GRID FACTOR IS 0.9999687609 CALCULATED BY TRIMBLE GEOMATICS OFFICE.

2. PROJECT COORDINATES ARE MODIFIED MISSOURI STATE PLANE COORDINATES AND WERE ESTABLISHED BY APPLYING THE INVERSE OF THE PROJECT GRID FACTOR (1.0000318249) ABOUT THE ORIGIN (0,0). AS CALCULATED BY EFK MOEN, LLC.

3. VERTICAL DATUM IS NAVD 88. AN ELEVATION WAS ESTABLISHED ON CONTROL POINTS 1 AND 2, USING THE TRIMBLE R10 ROVER AND BASED ON THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS. FIELD WORK WAS PERFORMED DURING AUGUST, 2023.

PROJECT BENCHMARK:
STODDARD COUNTY BENCHMARK "K 13" (PID:HB1009) ELEVATION=360.80(NAVD88)
AT ADVANCE, STODDARD COUNTY, ON THE ST. LOUIS-SAN FRANCISCO RAILWAY, 76.5 FEET NORTHWEST OF POLE 157/20, 98 FEET NORTHWEST OF THE CENTER OF A STREET CROSSING, AT THE DISTRICT SCHOOL, IN THE SOUTHEAST CORNER OF THE SCHOOL GROUNDS, AND 10 FEET NORTH OF THE STREET. A STANDARD DISK, STAMPED 361.029 K 13 1932 AND SET IN THE TOP OF CONCRETE POST PROJECTING 6 INCHES ABOVE THE GROUND.

SITE BENCHMARKS:
TBM "1" ELEVATION=323.40: CUT SQUARE ON THE NORTHWEST END OF THE CONCRETE BRIDGE CURB.
TBM "2" ELEVATION=323.43: CUT SQUARE ON THE SOUTHEAST END OF CONCRETE BRIDGE CURB.
TBM "3" ELEVATION=320.80: 80-D SPIKE IN NORTH SIDE OF POWER POLE NORTHWEST QUADRANT 50'+/- WEST OF BRIDGE AND 30'+/- NORTH OF THE CENTERLINE OF ROUTE O.

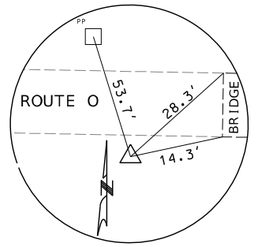
4. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE FOR THE TICKET NUMBER: 232122397, (08/02/23);
UTILITY COMPANIES THAT HAVE SUBSCRIBED ARE AS FOLLOWS:

ATT DISTRIBUTION	-FO,TEL,TV- MARKED PER TICKET CHECK
CHARTER COMMUNICATIONS	-FO,TV- CLEAR/NO CONFLICT PER TICKET CHECK
SEMO ELECTRIC COOPERATIVE	-E,FO,TEL,TV- MARKED SO 907793520 PER TICKET CHECK

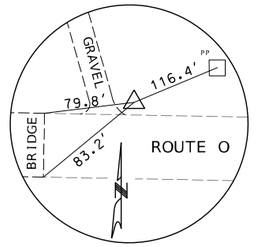
THE MISSOURI ONE CALL TICKET CHECK RESPONSES TO THE UTILITY MARKING FOR THE ABOVE TICKETS ARE PROVIDED AS SEPARATE SUPPORTING DOCUMENTS.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

NOTE: UTILITY LINES DESIGNATED AS (MAP) ARE SHOWN PER MAP RECORDS PROVIDED TO EFK, MOEN AND THE LOCATION SHOULD BE CONSIDERED APPROXIMATE.



CONTROL POINT NO. 1
SET IRON ROD W/CAP
N: 455465.467
E: 1020686.004
ELEV: 322.43



CONTROL POINT NO. 2
SET IRON ROD W/CAP
N: 455490.969
E: 1020836.698
ELEV: 321.56

ALIGNMENT INFORMATION FOR ROUTE O

ELEMENT	POINT TYPE	STATION	COORDINATES		OFFSET			
			NORTHING	EASTING	DELTA	RADIUS	TANGENT	LENGTH
TANGENT	POB	310+00.00	455480.6706	1020308.0578				
TANGENT	POE	324+81.51	455473.2608	1021789.5496				

REFERENCE TIES AND
CONTROL POINTS
SHEET 1 OF 1

ANDREA S. DAVIS
PE-2018021250
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	5

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

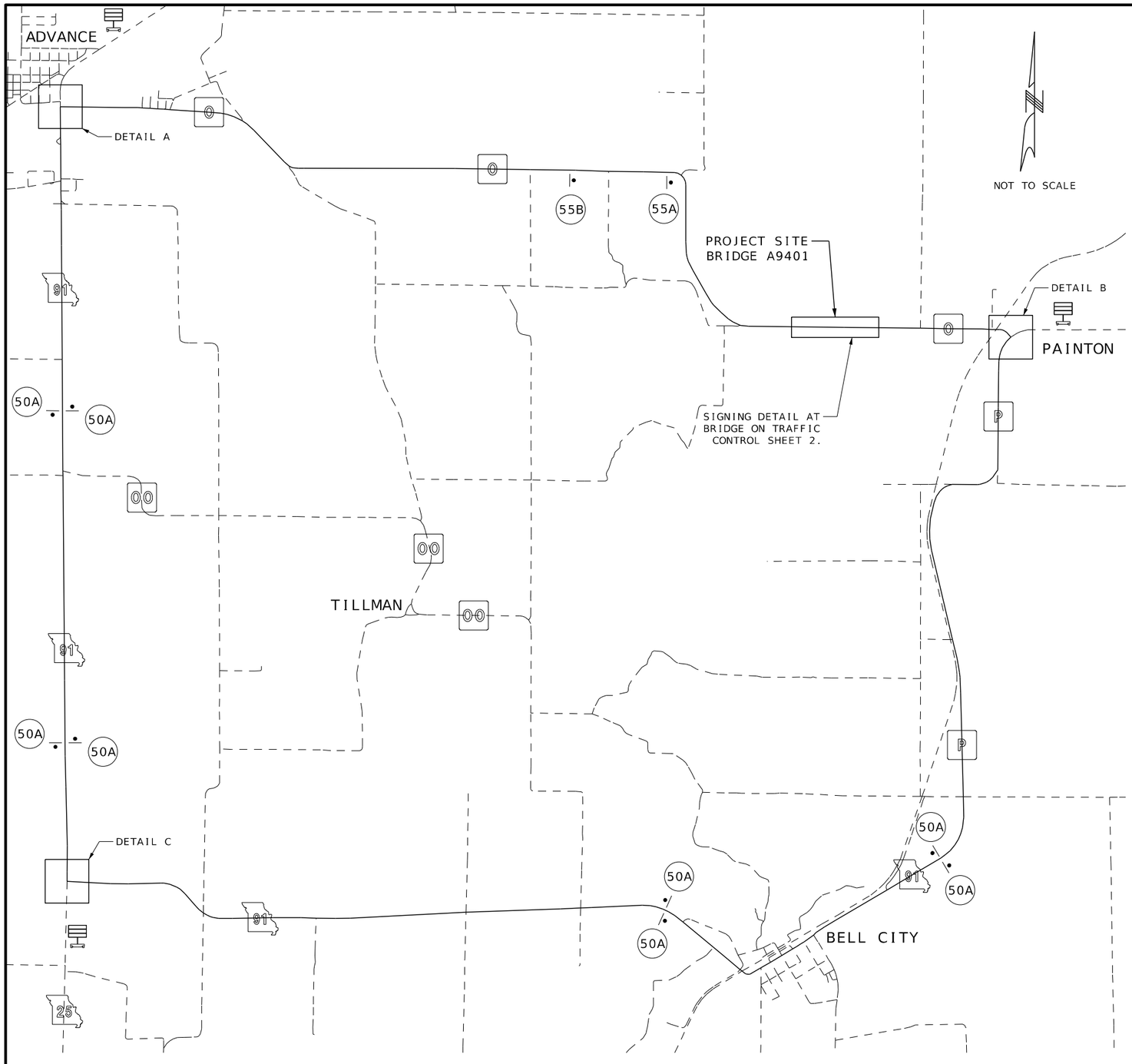
BRIDGE NO.

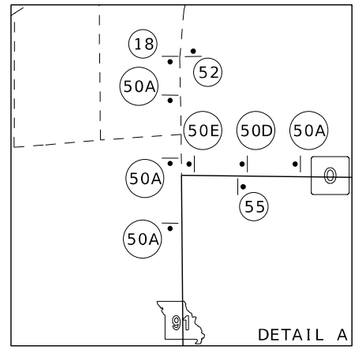
DESCRIPTION	DATE

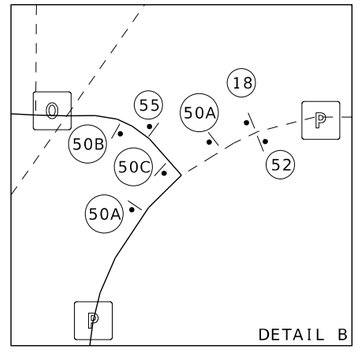
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

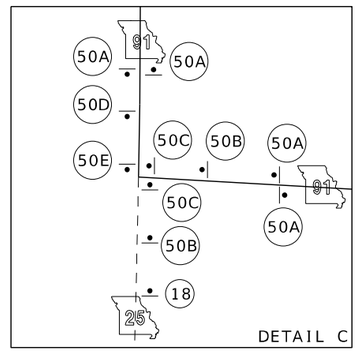
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen









TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- BARRICADE
- CHANGEABLE MESSAGE BOARD

NOTE: FOR TRAFFIC CONTROL SIGN SPACING, REFER TO TRAFFIC CONTROL SIGN SPACING TABLE ON TC SHEET 2.

FOR SIGN DETAILS, SEE TC SHEET 3.

TRAFFIC CONTROL
SHEET 1 OF 3

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250

DATE PREPARED: 2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	6

COUNTY: STODDARD

JOB NO.: JSE0116

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
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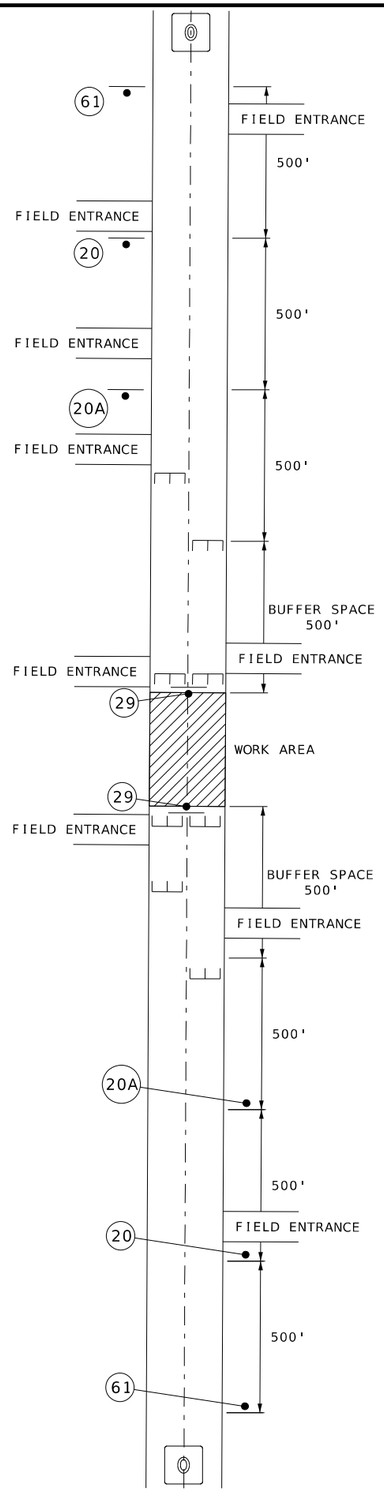
NOT TO SCALE

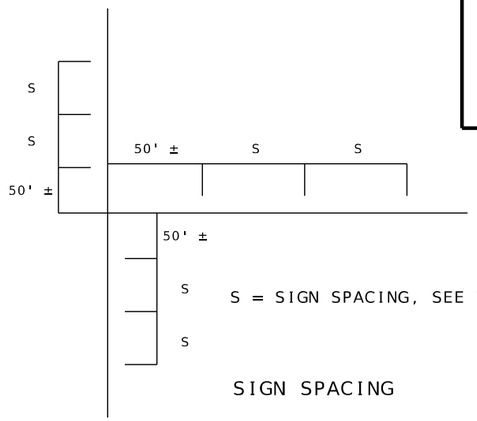


RTE. O SIGNING DETAIL AT
BRIDGE A9401

LONGITUDINAL BUFFER SPACE	
POSTED SPEED PRIOR TO CONSTRUCTION	LENGTH
≤ 35 MPH	280 FT
40-45 MPH	400 FT
50-55 MPH	560 FT
60-70 MPH	840 FT

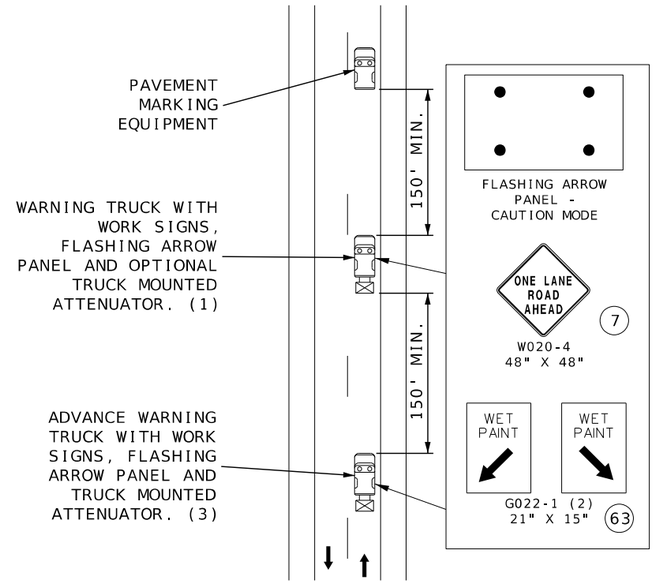
CHANNELIZER SPACING	
POSTED SPEED PRIOR TO CONSTRUCTION	BUFFER/ WORK AREAS
≤ 35 MPH	40 FT
40-45 MPH	80 FT
50-55 MPH	80 FT
60-70 MPH	120 FT

SIGN SPACING FOR ADVANCE SIGN SERIES	
POSTED SPEED PRIOR TO CONSTRUCTION	NON-DIVIDED HIGHWAYS (S)
≤ 35 MPH	200 FT
40-45 MPH	350 FT
50-55 MPH	500 FT
60-70 MPH	1000 FT



SIGN SPACING

MOVING OPERATION ON HIGHWAY OPEN TO TRAFFIC STRIPING



TWO LANE UNDIVIDED HIGHWAY

NOTES:

UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCK AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

(1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD IS MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.

(2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.

(3) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICHEVER IS GREATER.

(4) TRUCKS, FLASHING ARROW PANELS, AND SIGNS ARE INCIDENTAL TO PAVEMENT MARKINGS.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZERS
- FLAGGER
- BARRICADE

TRAFFIC CONTROL
SHEET 2 OF 3

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250

DATE PREPARED: 2/4/2025
ROUTE: O | STATE: MO
DISTRICT: SE | SHEET NO.: 7
COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

GENERAL NOTES:

ANY EXISTING WARNING OR REGULATORY SIGNS (NOT SHOWN) THAT INTERFERE WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

ALL TRAFFIC CONTROL SIGNS ARE TO BE NON-PORTABLE UNLESS OTHERWISE NOTED

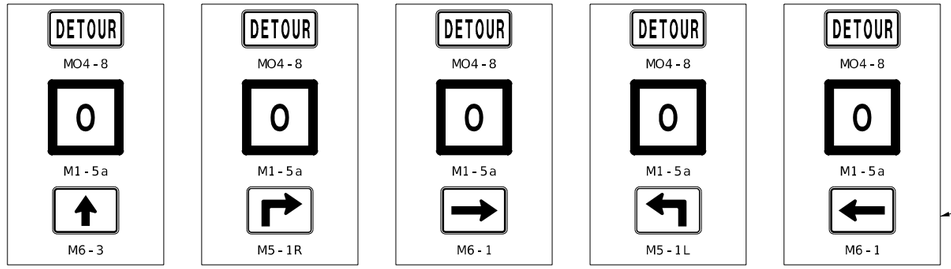
SEE STANDARD PLANS 616.10, 903.01 AND 903.03 FOR ADDITIONAL DETAILS REGARDING TRAFFIC CONTROL HIGHWAY SIGNING.

TEMPORARY TRAFFIC CONTROL SIGN AND DEVICE LOCATIONS MAY BE ADJUSTED UPON APPROVAL OF THE ENGINEER.

ANY RELOCATION OF SIGNS AND DEVICES FOR TRAFFIC CONTROL DEVICES OR SIGNS SHALL BE CONSIDERED INCIDENTAL, NO DIRECT PAY.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES. CONTRACTOR SHALL COORDINATE ACCESS TO FIELD ENTRANCES WITH PROPERTY OWNERS.

R11-2 SIGN ASSOCIATED WITH THE TYPE 3 MOVEABLE BARRICADES SHALL BE MOUNTED ON POST 7-10 FEET BEHIND THE BARRICADE.



50A 50B 50C 50D 50E

MO4-8a

52

R11-4

55

WO20-2

18

WO20-3

WO20-3a

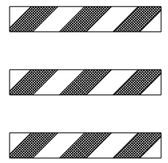
20A

R11-3a

55A

R11-3a

55B



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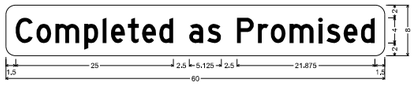
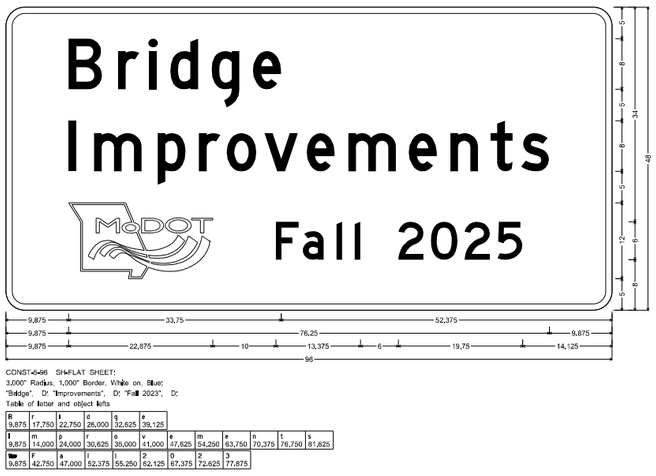


CONST-5P-60 SHI-FLAT SHEET FLUORESCENT:
1,500" Radius, No border, Yellow;
"Completed as Promised" Block, D 65% spacing;
Table of letter and object lefts

C	o	m	p	l	e	t	e	d	a	s
1,500	4,875	7,875	12,375	15,375	16,625	19,375	21,500	24,250	29,000	31,875
P	r	o	m	i	s	e	d			
36,625	39,875	41,875	44,875	49,500	50,750	53,500	56,250			

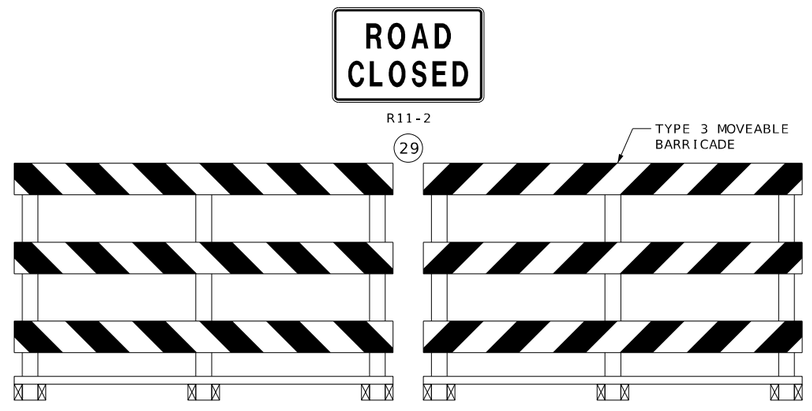


CONST-5-96 SHI-FLAT SHEET:
3,000" Radius, 1,000" Border, White on, Blue;
"Bridge", D; "Improvements", D; "Fall 2023", D;
Table of letter and object lefts

B	r	i	c	s	e							
9,875	17,750	22,750	26,000	32,625	39,125							
I	m	p	r	o	v	e	m	e	n	t	s	
9,875	14,000	24,000	30,625	35,000	41,000	47,625	54,250	63,750	70,375	76,750	81,825	
B	F	a	i	l	2	o	2	3				
9,875	42,750	47,000	52,375	55,250	62,125	67,375	72,625	77,875				

CONST-5

61



29

TRAFFIC CONTROL
SHEET 3 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	8

COUNTY: STODDARD

JOB NO.: JSE0116

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

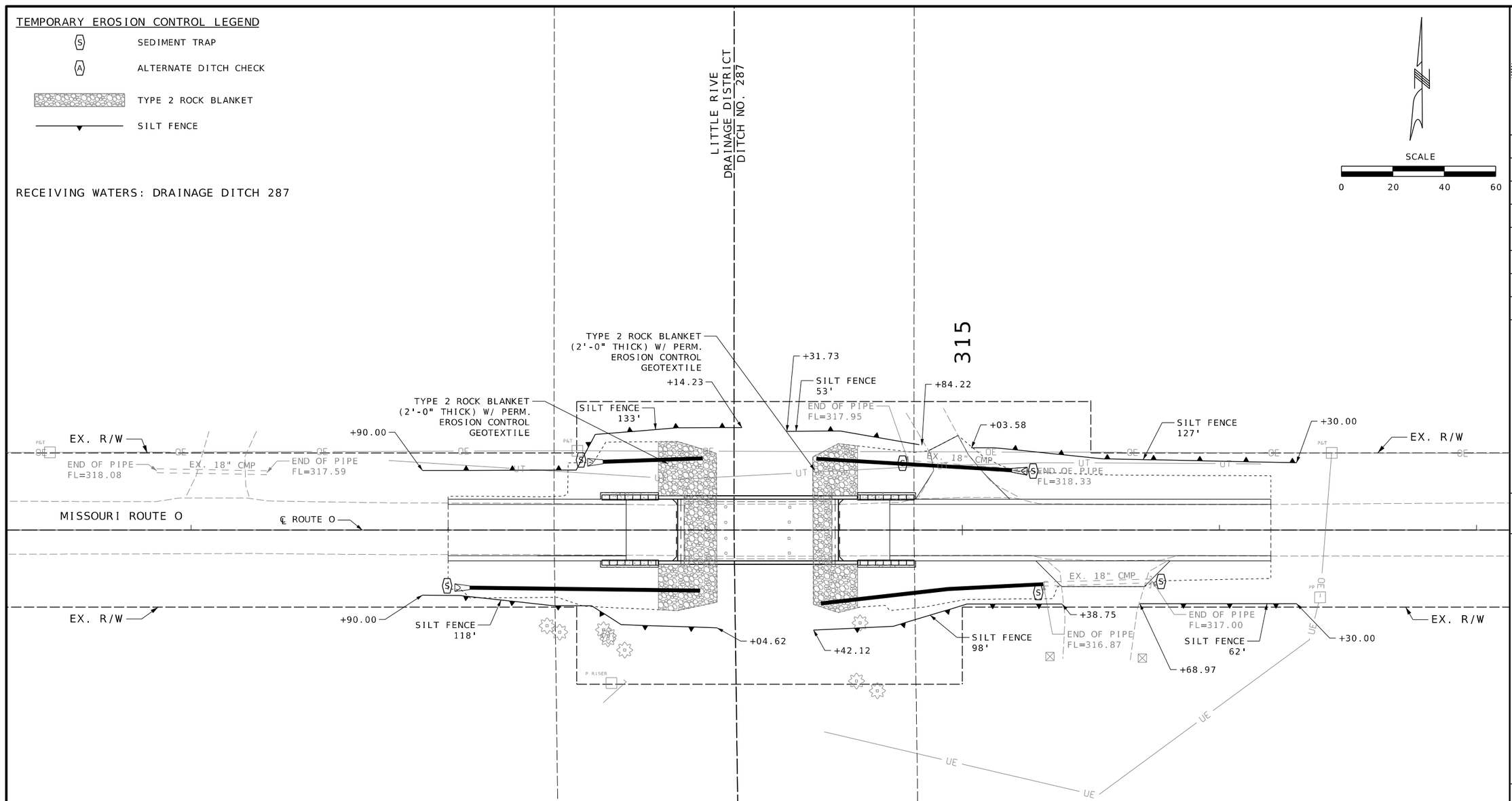
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- (A) ALTERNATE DITCH CHECK
- TYPE 2 ROCK BLANKET
- SILT FENCE

RECEIVING WATERS: DRAINAGE DITCH 287



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ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

EROSION CONTROL
SHEET 1 OF 1

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250

DATE PREPARED 2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	9

COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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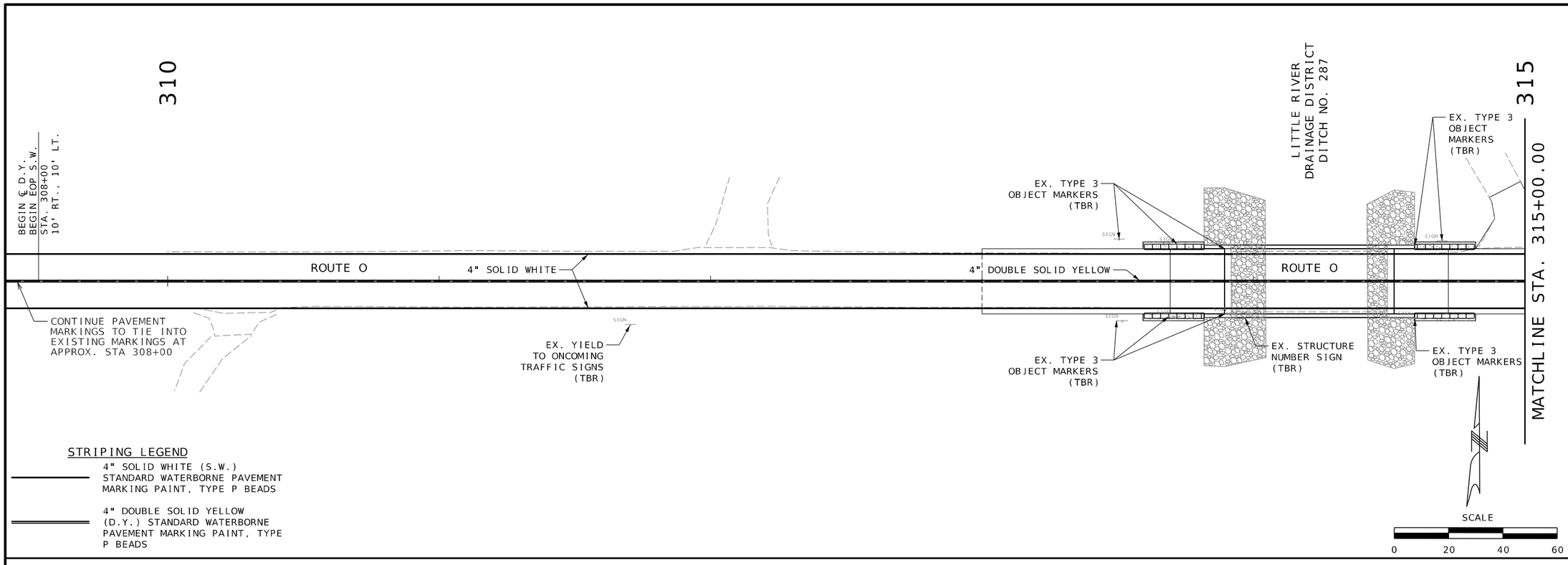
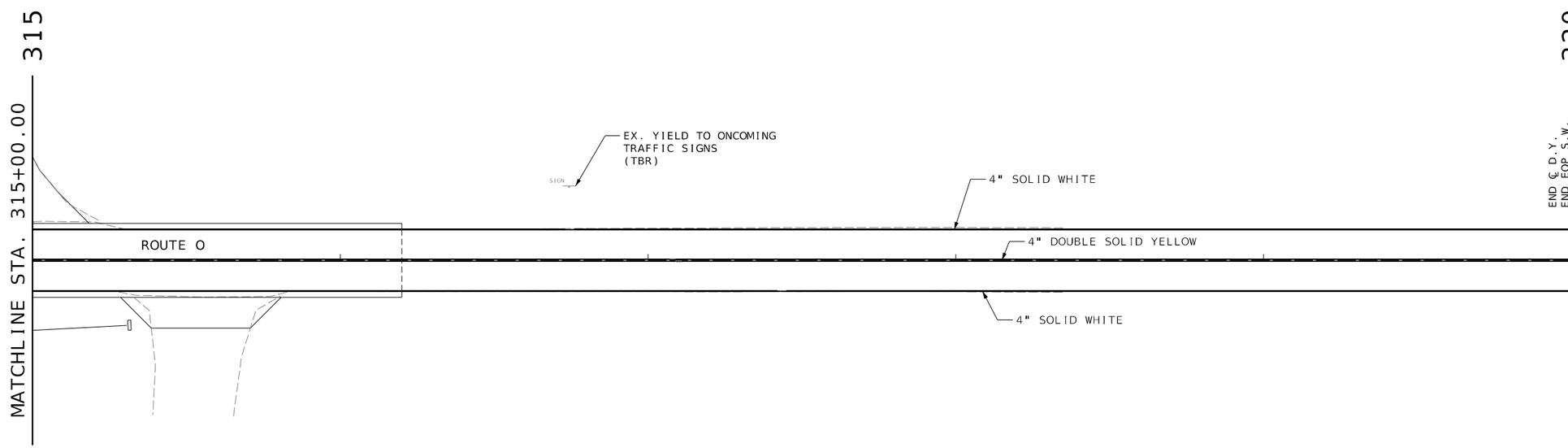


STRIPING LEGEND

4" SOLID WHITE (S.W.) STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS

4" DOUBLE SOLID YELLOW (D.Y.) STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS



ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

PAVEMENT MARKING
SHEET 1 OF 2

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	10

COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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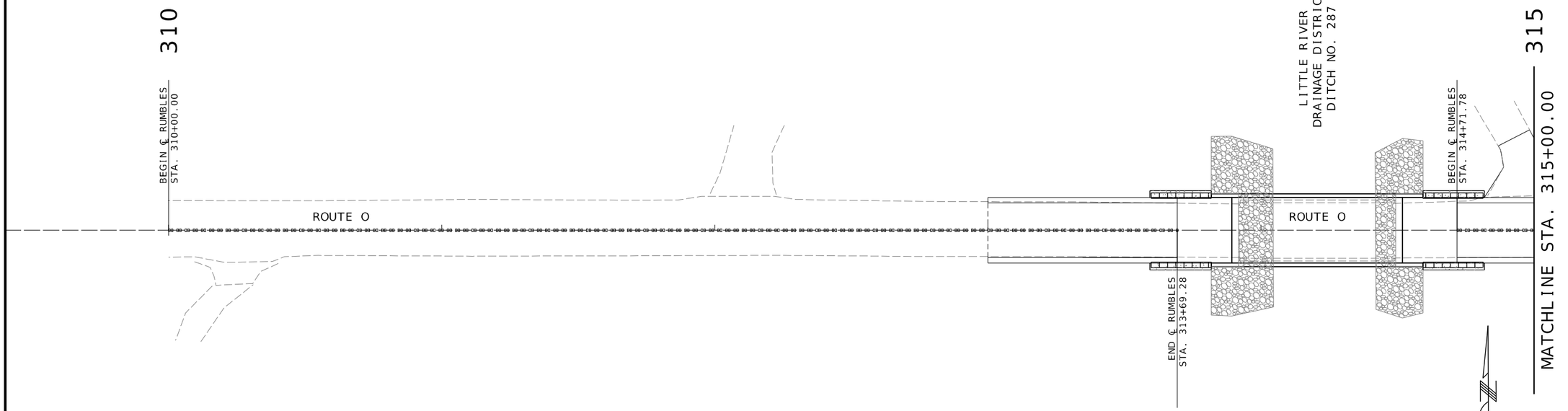
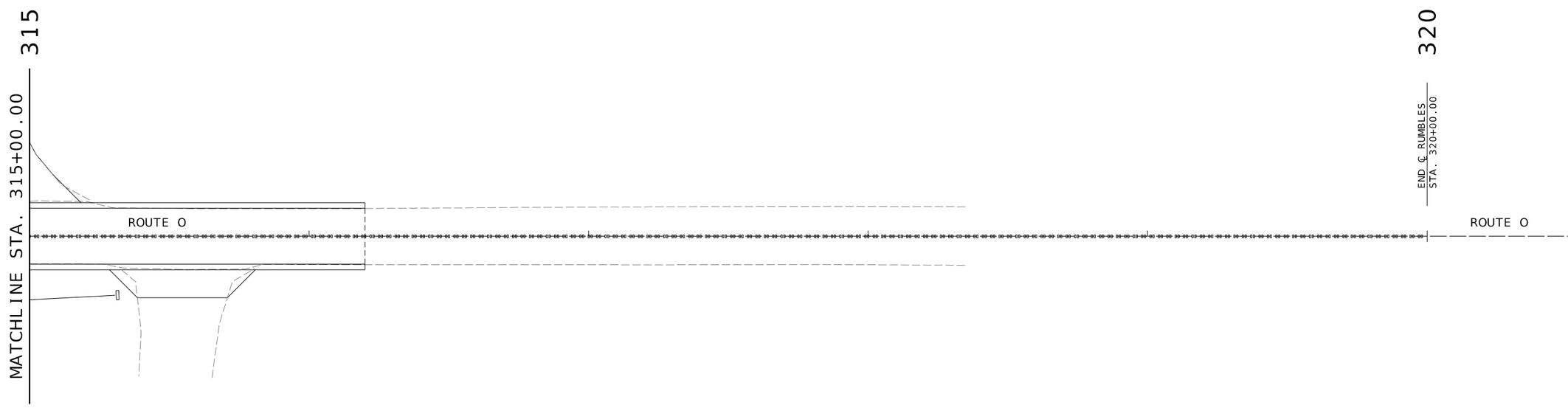


RUMBLE STRIP LEGEND

▭▭▭▭▭▭▭▭▭▭▭▭ 12" CENTERLINE RUMBLES

LOCATION OF CENTERLINE RUMBLES

PAVEMENT MARKING SHALL BE BASED ON THE DISTANCE WHICH CREATES TWO LANES OF THE SAME WIDTH, NOT TO BE LESS THAN 9.5'.



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PAVEMENT MARKING
SHEET 2 0F 2

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	11

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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520 MARYVILLE CENTRE DRIVE,
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ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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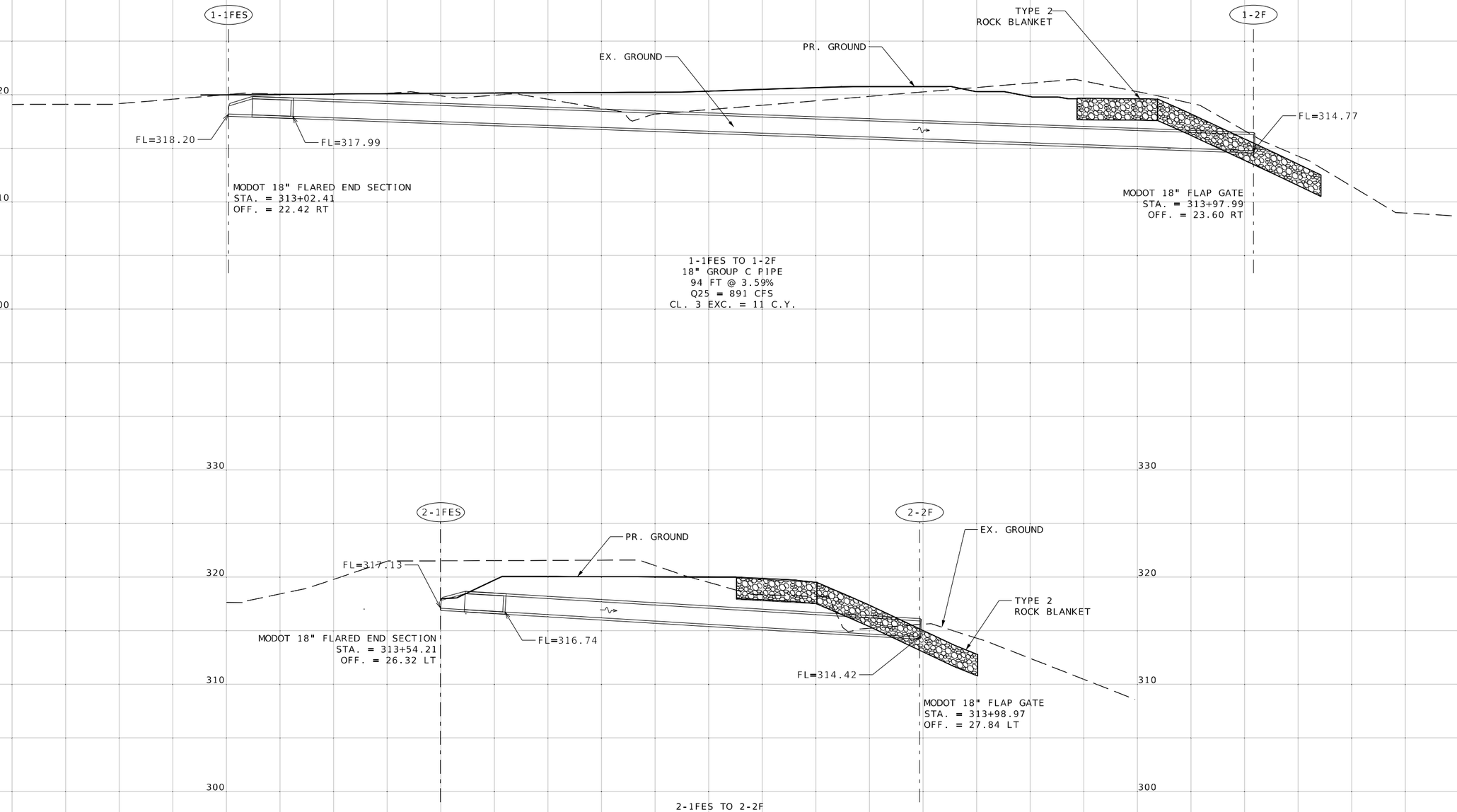

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CULVERT SECTIONS
SHEET 1 OF 2

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/5/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	12

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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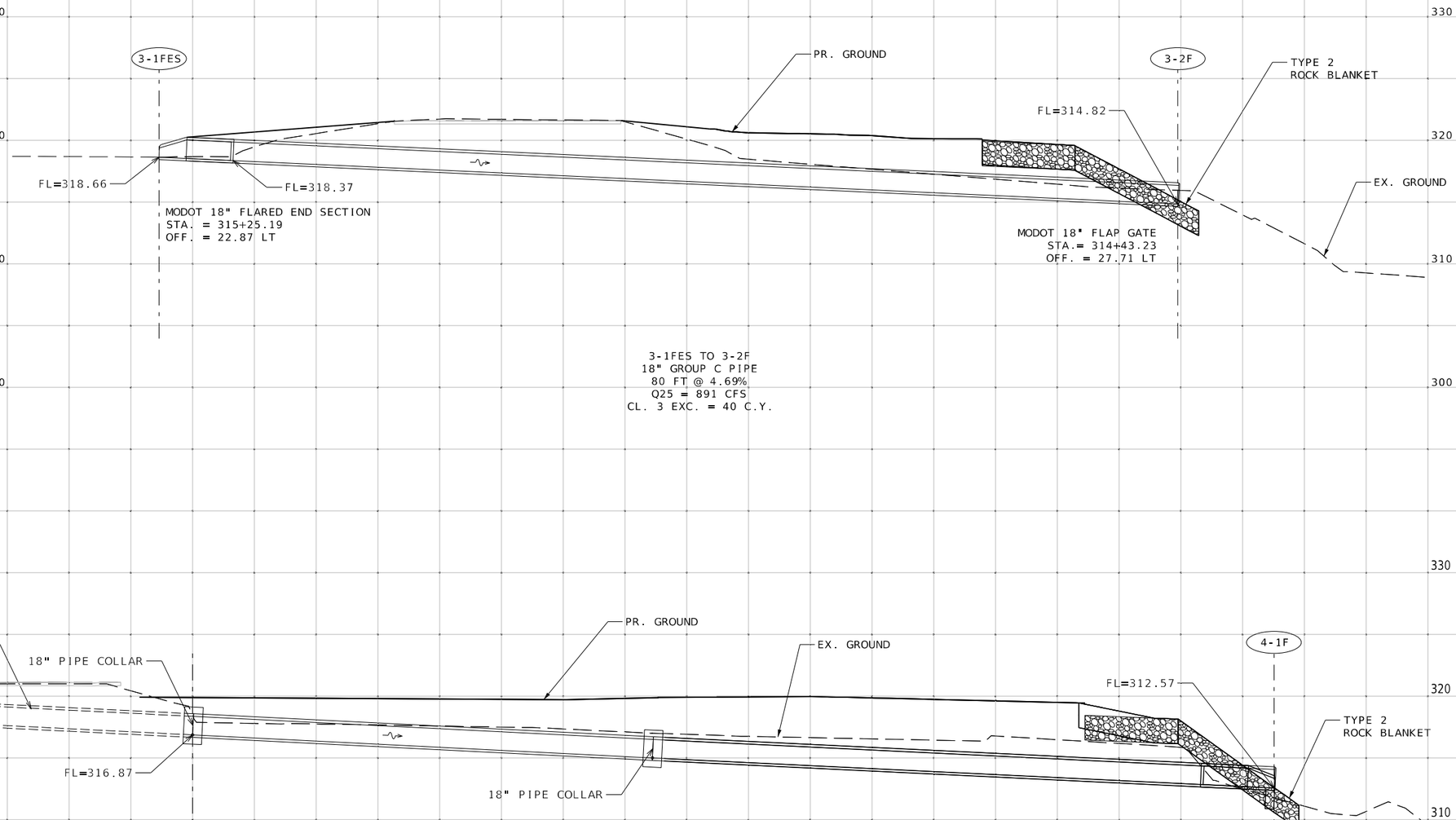
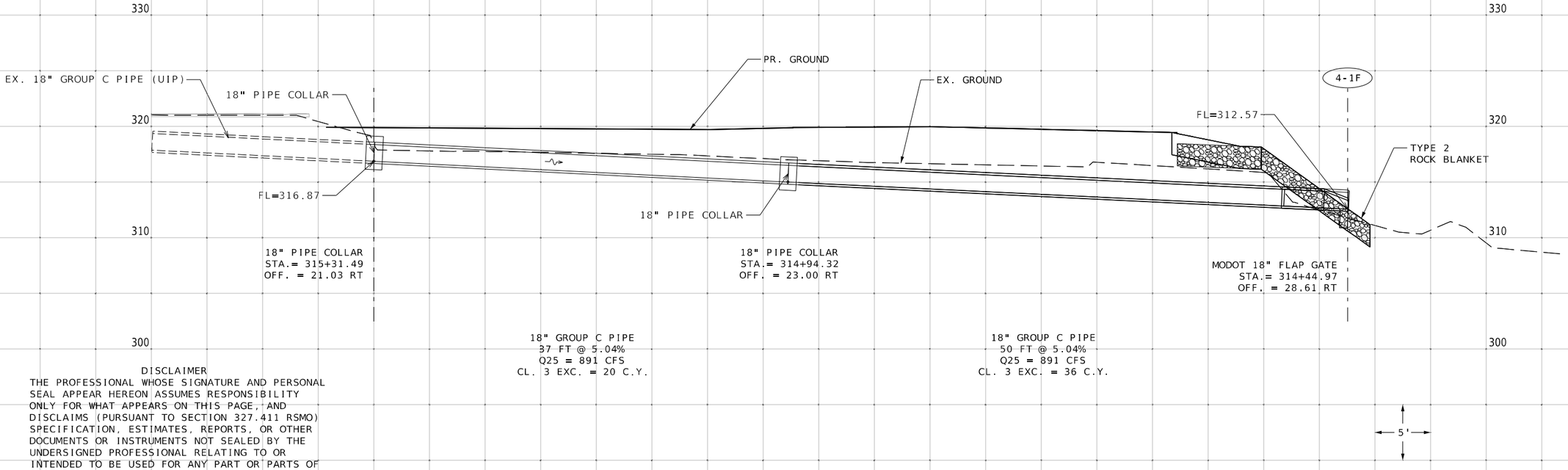


3-1FES TO 3-2F
18" GROUP C PIPE
80 FT @ 4.69%
Q25 = 891 CFS
CL. 3 EXC. = 40 C.Y.



18" GROUP C PIPE
37 FT @ 5.04%
Q25 = 891 CFS
CL. 3 EXC. = 20 C.Y.

18" GROUP C PIPE
50 FT @ 5.04%
Q25 = 891 CFS
CL. 3 EXC. = 36 C.Y.

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CULVERT SECTIONS
SHEET 2 OF 2

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/5/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
SE	13

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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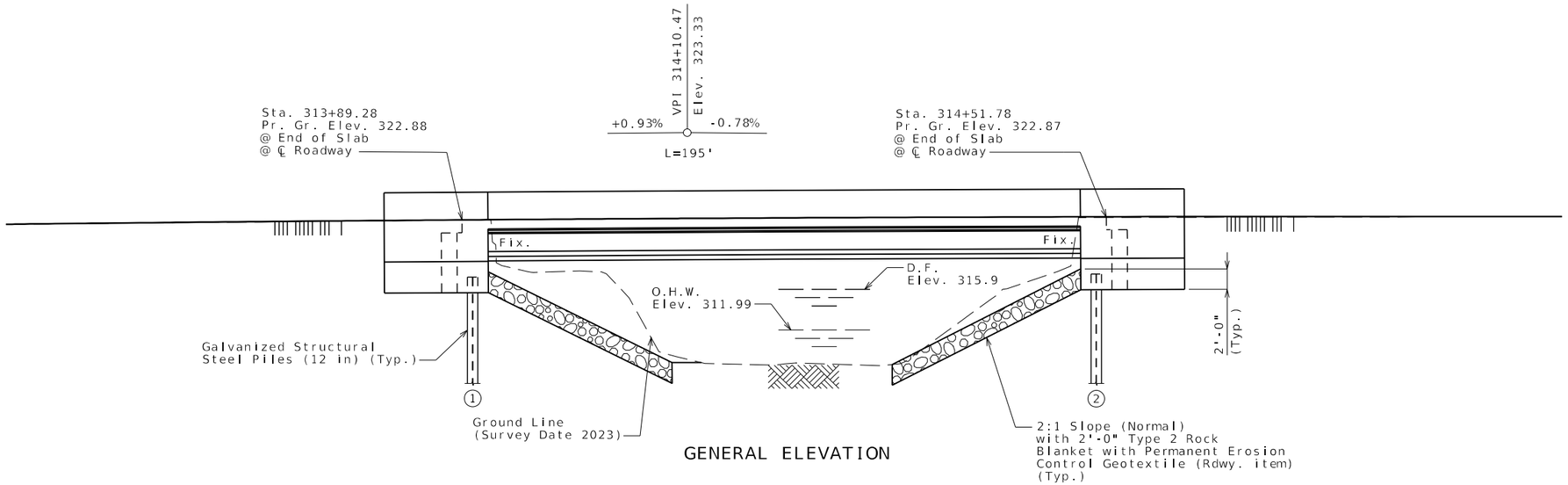
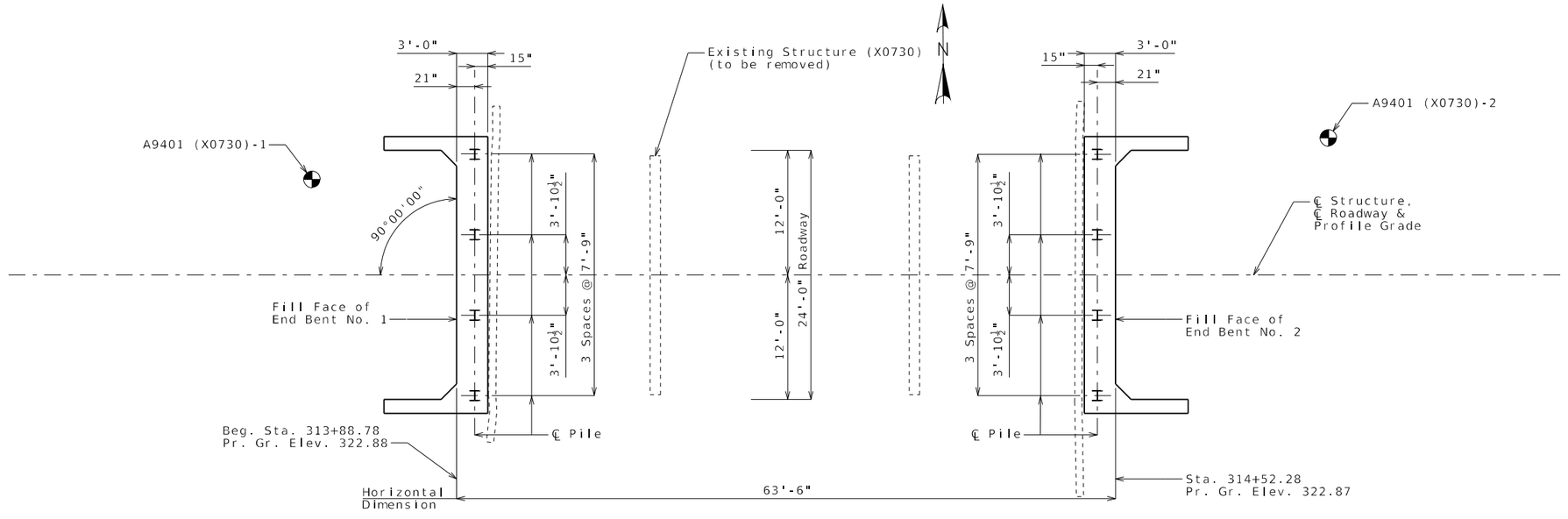
SEC/SUR 14,15,22,23 TWP 28N RGE 11E

(60') PRESTRESSED CONCRETE NU-GIRDER SPAN



GENERAL ELEVATION



PLAN

Indicates location of borings

Notice and Disclaimer Regarding Boring Log Data
The locations of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No. 18 & 19 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

B.M. 3 Elev. 320.80, 80-D SPIKE IN NORTH SIDE OF POWER POLE NORTHWEST QUADRANT 50'+/- WEST OF BRIDGE AND 30'+/- NORTH OF THE CENTERLINE OF ROUTE O

BRIDGE: ROUTE O OVER DRAINAGE DITCH NO. 287

ROUTE O FROM ROUTE 91 TO ROUTE P
ABOUT 1.1 MILES WEST OF ROUTE P
BEGINNING STATION 313+88.78

Designed July 2024
Detailed July 2024
Checked July 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	60		60
Removal of Bridge (X0730)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		109	109
Galvanized Structural Steel Piles (12 in.)	linear foot	360		360
Pile Wave Analysis	each	2		2
Pile Point Reinforcement	each	8		8
Class B Concrete (Substructure)	cu. yard	22.6		22.6
Type H Barrier	linear foot		155	155
Slab on Concrete NU-Girder	sq. yard		185	185
NU 35, Prestressed Concrete NU-Girder	linear foot		182	182
Slab Drain	each		12	12
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		6	6

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Foundation Data

Type	Design Data		Bent Number 1	Bent Number 2
Load Bearing Pile	Pile Type and Size		HP 12x53	HP 12x53
	Number	ea	4	4
	Approximate Length Per Each	ft	45	45
	Pile Point Reinforcement	ea	All	All
	Min. Galvanized Penetration (Elev.)	ft	Full Length	Full Length
	Minimum Tip Penetration (Elev.)		300	300
	Criteria for Min. Tip Penetration		Min. Embed.	Min. Embed.
	Pile Driving Verification Method		WEAP	WEAP
	Resistance Factor		0.4	0.4
	Minimum Nominal Axial Compressive Resistance	kip	382	382

WEAP = Wave Equation Analysis of Piles

Minimum Nominal Axial Compressive Resistance = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

Pile point reinforcement need not be galvanized. Shop Drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec. 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = C
Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{D1} = 0.466g
Acceleration Coefficient (effective peak ground acceleration coefficient), A_S = 0.528g

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)
Superstructure: Non-Composite for dead load.
Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi

Class B-1 Concrete (Barrier) f'c = 4,000 psi

Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier) f'c = 4,000 psi

Reinforcing Steel (ASTM A706 Grade 60) fy = 60,000 psi

Structural Steel HP Pile (ASTM A709 Grade 50S) fy = 50,000 psi

For precast prestressed panel stresses, see Sheet No. 8.

For prestressed girder stresses, see Sheets No. 6 & 7.

Neoprene Pads:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

Miscellaneous:

MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

☐ Constant Joint Filler
☐ Variable Joint Filler

Hydrologic Data

Drainage Area = 16 mi^2
Design Flood Frequency = 50 years
Design Flood Discharge = 960 cfs
Design Flood (D.F.) Elevation = 315.9
Base Flood (100-year)
Base Flood Elevation = 316.1
Base Flood Discharge = 1,020 cfs
Estimated Backwater = 0.0 ft
Average Velocity thru Opening = 4.0 ft/s
Freeboard (50-year)
Freeboard = 3.1 ft
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency > 500 years
500-Year Flood Elevation = 316.6

Estimated Quantities for Slab on Concrete NU-Girder

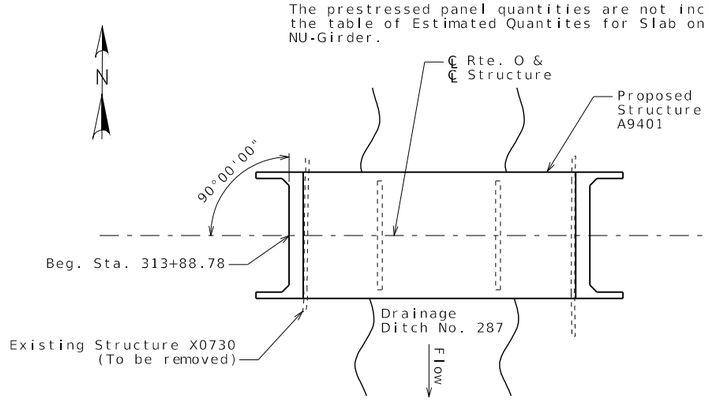
Item		Total
Class B-2 Concrete	cu. yard	72
Reinforcing Steel (Epoxy Coated)	pound	14,960

The table of Estimated Quantities for Slab on Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantites for Slab on Concrete NU-Girder.



LOCATION SKETCH

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

DESCRIPTION | DATE

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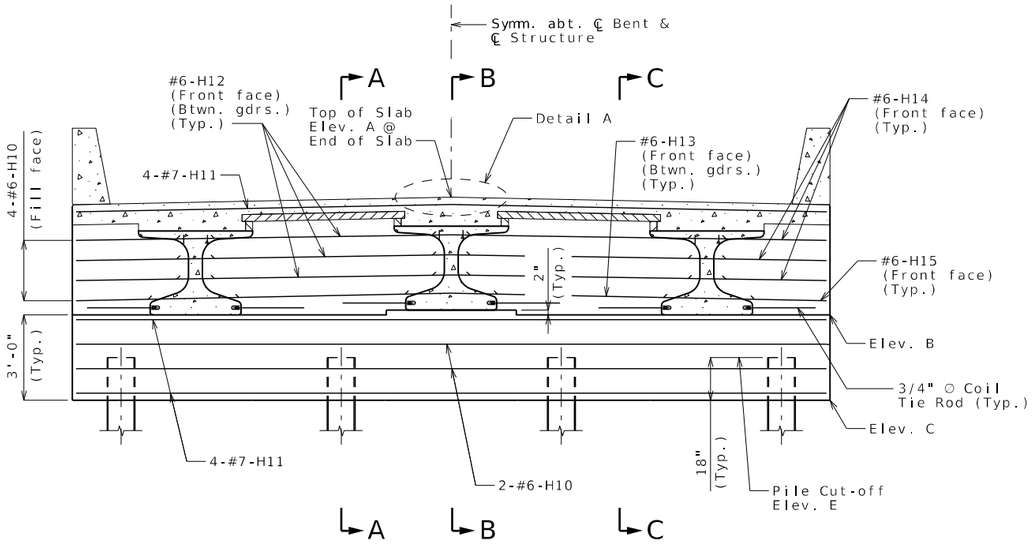
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

Detailed May 2024
Checked May 2024

GENERAL NOTES AND QUANTITIES

Note: This drawing is not to scale. Follow dimensions.



SECTION NEAR END BENT

Footing stirrups not shown for clarity.

General Notes:

Work this sheet with Sheet No. 4.

For Sections A-A, B-B & C-C, see Sheet No. 4.

The #6-F10 bars shall be bent in the field to clear girders.

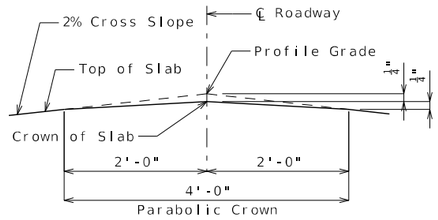
Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

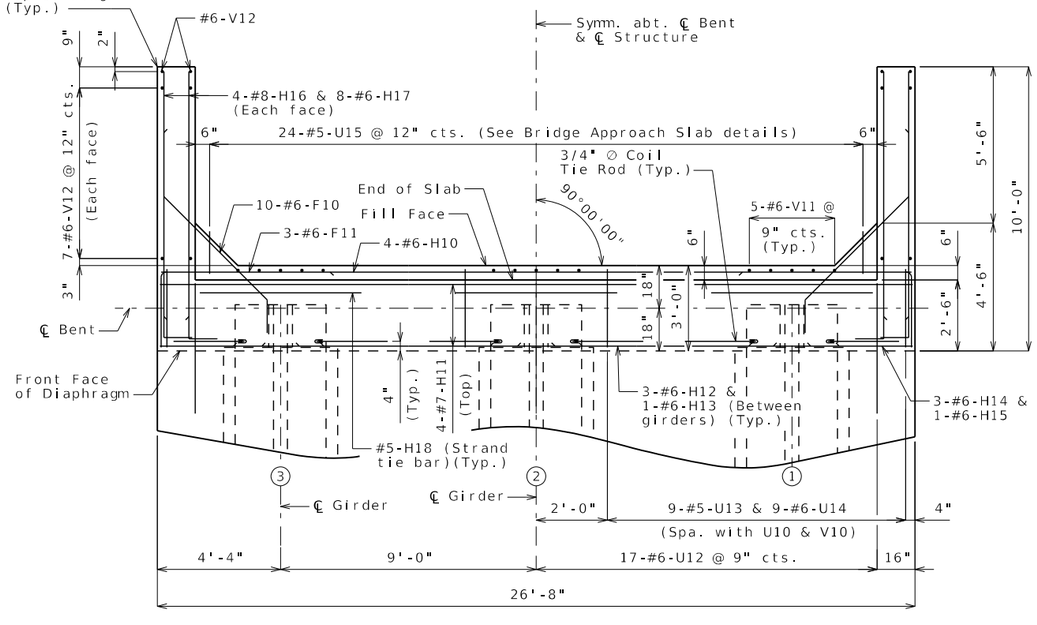
For details of vertical drain at end bents, see Sheet No. 5.

For location of coil tie rods and #5-H18 (strand tie bar), see Sheets No. 6 & 7.

For details of bridge approach slab, see Sheet No. 15.



DETAIL A



PART PLAN

Elevations					
Location	A	B	C	D	E
End Bent 1	322.86	318.82	315.82	322.59	317.32
End Bent 2	322.85	318.82	315.82	322.58	317.32

Substructure Quantity Table For Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	30
Galvanized Structural Steel Piles (12 in.)	linear foot	180
Pile Wave Analysis	each	1
Pile Point Reinforcement	each	4
Class B Concrete (Substructure)	cu. yard	11.3

Substructure Quantity Table For Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	30
Galvanized Structural Steel Piles (12 in.)	linear foot	180
Pile Wave Analysis	each	1
Pile Point Reinforcement	each	4
Class B Concrete (Substructure)	cu. yard	11.3

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF END BENTS NO. 1 & 2

Detailed Mar. 2024
Checked Apr. 2024

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
BR	3

COUNTY STODDARD

JOB NO. JSE0116

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9401

DESCRIPTION	DATE

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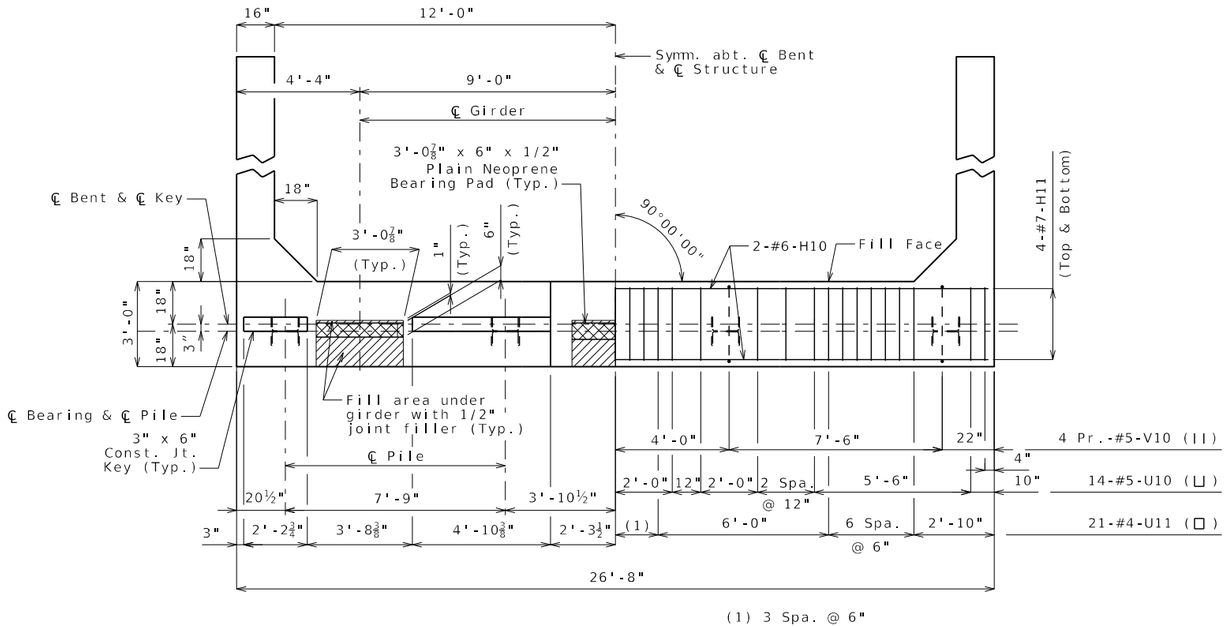
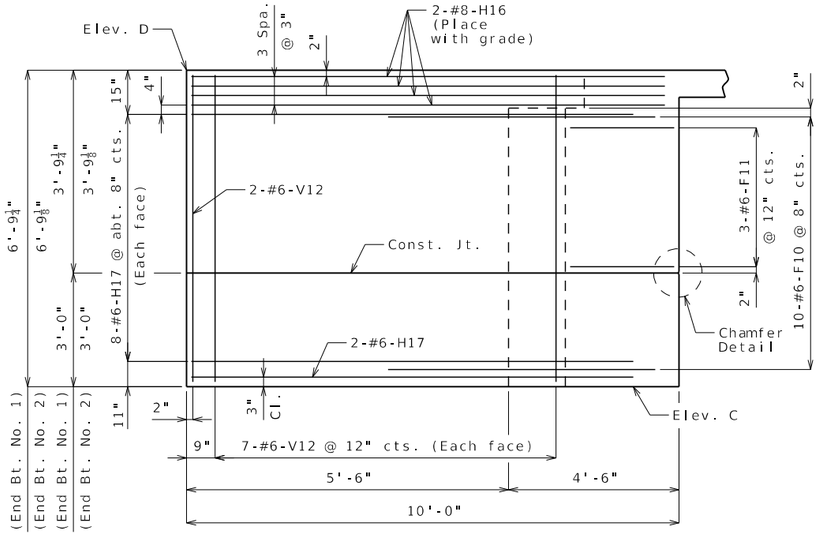
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

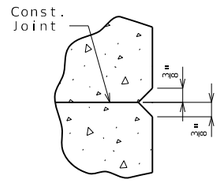


HALF PLAN OF BEAM

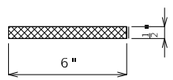
HALF PLAN OF BEAM
SHOWING REINFORCEMENT
Keys not shown for clarity.



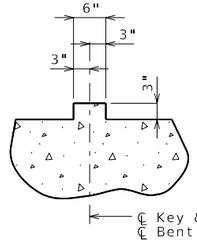
TYPICAL ELEVATION OF WING



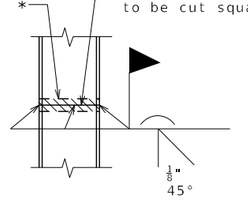
CHAMFER DETAIL



SECTION THRU PLAIN NEOPRENE BEARING PAD

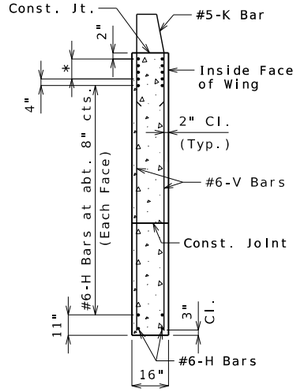


SECTION THRU KEY



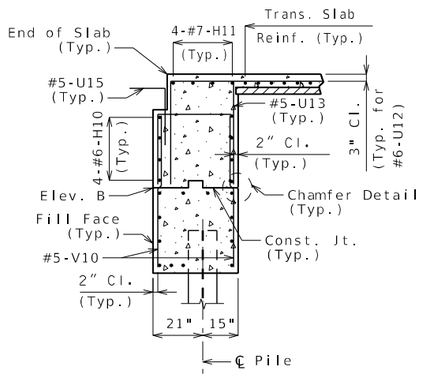
STEEL PILE SPLICE
(If required)

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

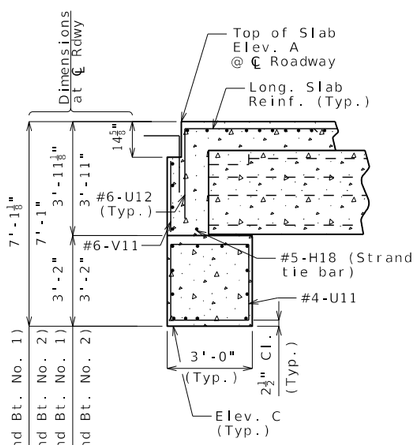


TYPICAL SECTION THRU WING

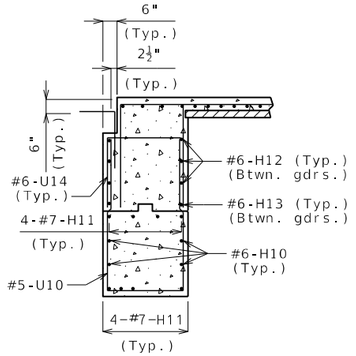
* #8-H Bars at 3" cts. (Each face)(Place with grade)



SECTION A-A



SECTION B-B



SECTION C-C

General Notes:

Work this sheet with Sheet No. 3.

For location of Sections A-A, B-B & C-C and table showing Elevations A, B, C & D, see Sheet No. 3.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

For reinforcement of the barrier, see Sheet No. 14.

DETAILS OF END BENTS NO. 1 & 2

Detailed Mar. 2024
Checked Apr. 2024

Note: This drawing is not to scale. Follow dimensions.

\\hrgreen.com\hrg\Data\2023\2302274\CAD\Bridge\SE0116_RouteO_Stoddard\Plan_Sheets\B_A9401_004_SE0116_EndBentDtls.dgn 9:39:10 AM 2/4/2025

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED	
2/4/2025	
ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
BR	4
COUNTY	
STODDARD	
JOB NO.	
JSE0116	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
A9401	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
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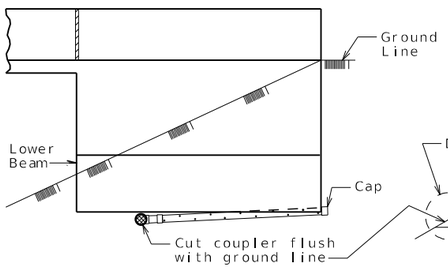
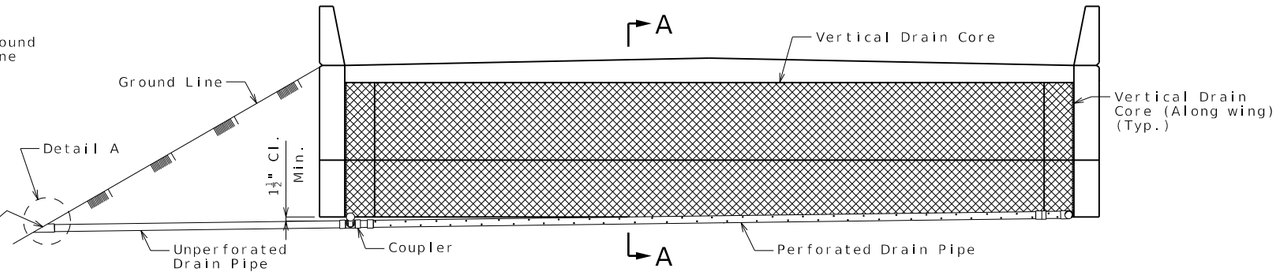
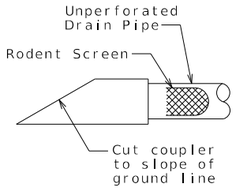
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



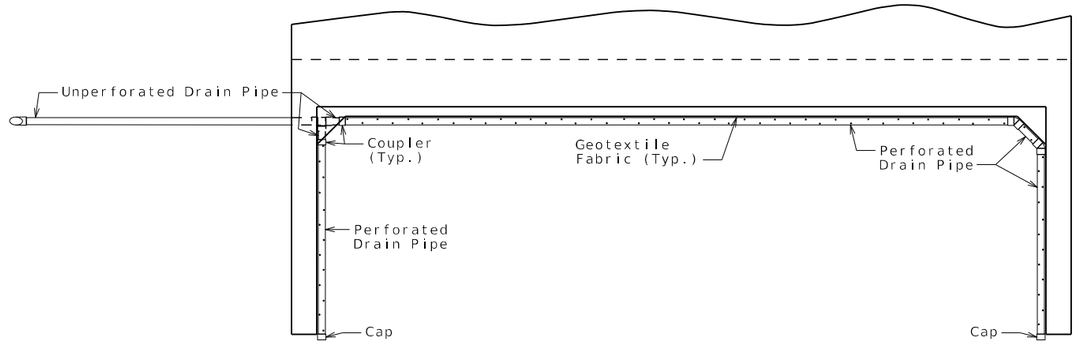
ELEVATION OF WING



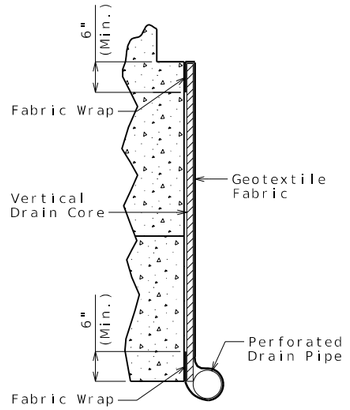
ELEVATION OF END BENT



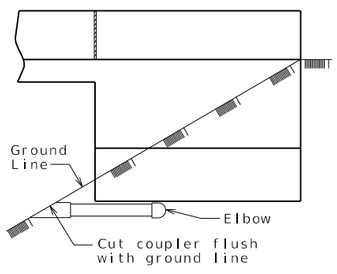
DETAIL A



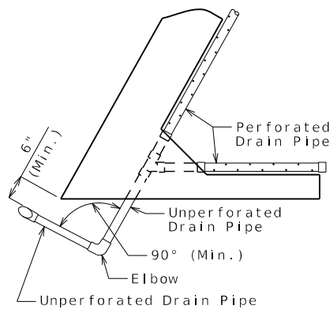
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN
(Use only when straight drain is not practical.)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

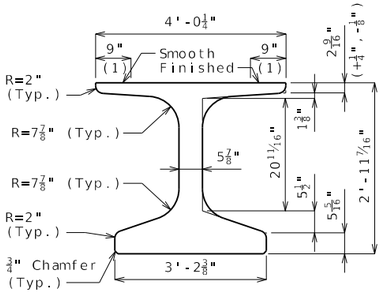
DATE PREPARED: 2/4/2025
ROUTE: O | STATE: MO
DISTRICT: BR | SHEET NO.: 5
COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9401

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

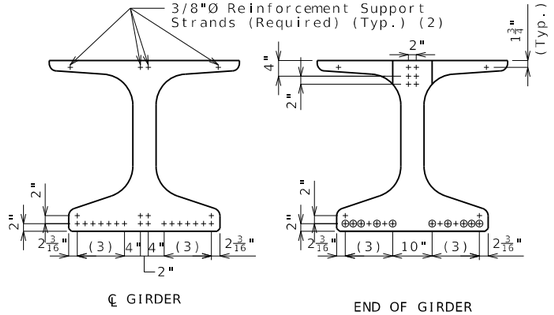
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



DIMENSIONS

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.

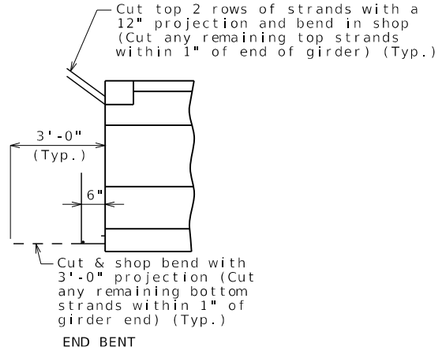


(3) 6 Spaces @ 2"

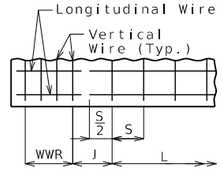
STRAND ARRANGEMENT

+ Indicates prestressing strand.

o Indicates cut & shop bend with 3'-0" projection.



STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

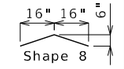
J = Distance between WWR mats

Bill of Reinforcing Steel

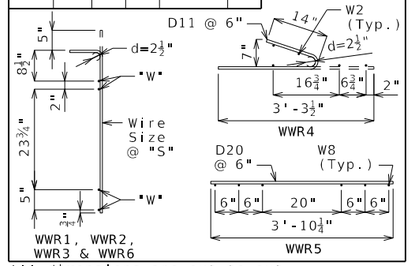
Bars Each Girder				
No.	Size/Mark		Length	Shape
82	3	G1	2'-10"	8
2	4	G3	3'-10"	20

Welded Wire Each Girder						
Mark	Size	S	W	L	J
WWR1	D31	4"	W12	16"	4"
WWR2	D31	12"	W12	16'-0"	12"
WWR3	D31	24"	W12	20'-0"	--
WWR6	D31	2"	W12	16"	2¼"

Bending Diagrams



Shape 20



All dimensions are out to out.

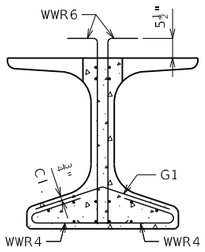
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1", unless otherwise shown.

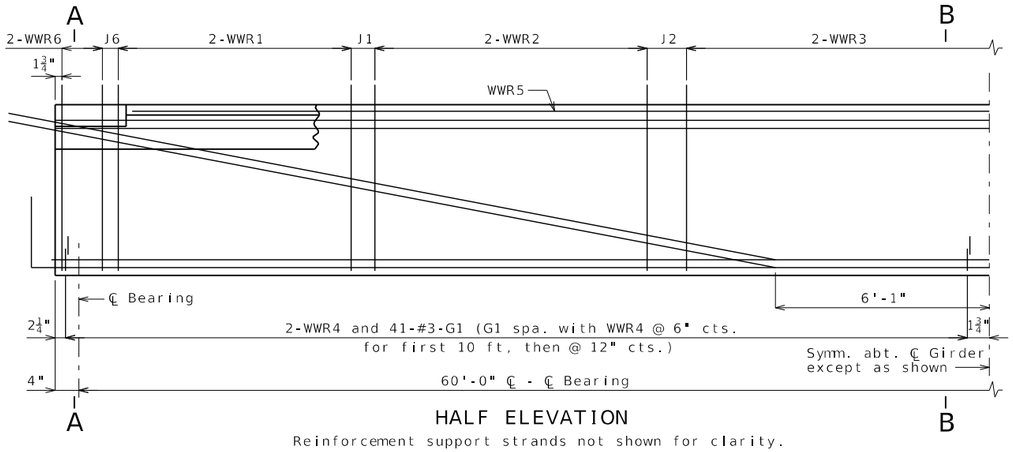
All bar reinforcement shall be Grade 60.

WWR shall not be epoxy coated.



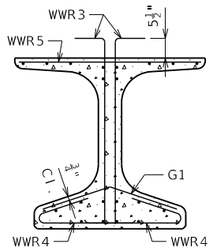
SECTION A-A

Strands not shown for clarity.



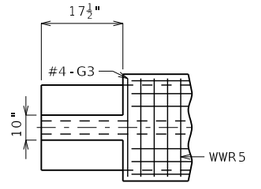
HALF ELEVATION

Reinforcement support strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.



INTERIOR GIRDER & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 20 strands, 0.6"Ø Grade 270, with an initial prestress force of 879 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: application of bond breaker, coil inserts for slab drains.

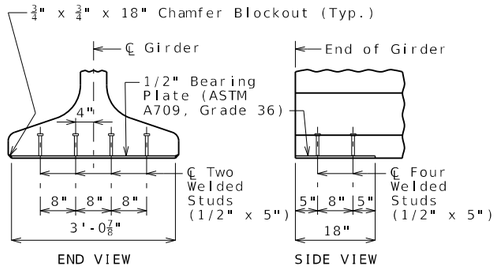
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 10.

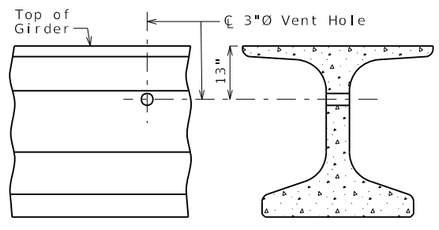
For location of coil inserts at slab drains, see Sheet No. 9.

For location of coil ties at integral bents, see Sheets No. 3 and 4.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

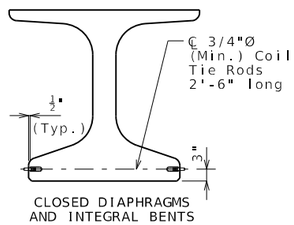


BEARING PLATE



VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum.



COIL TIES

NU-GIRDERS - SPAN (1-2)

Detailed Mar. 2024
Checked May 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM PE-2010024490
MISSOURI STATE OF ENGINEER PROFESSIONAL

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

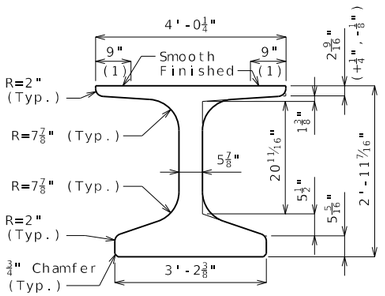
DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

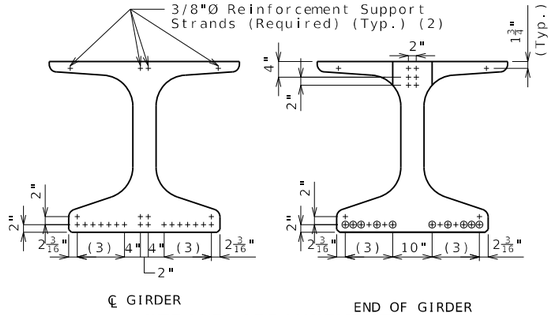
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



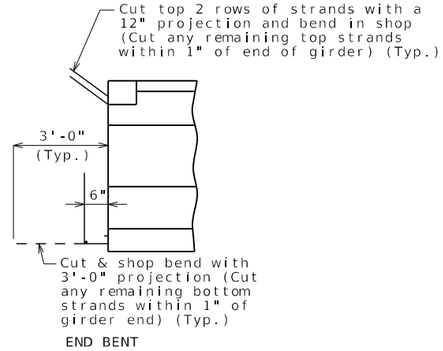
DIMENSIONS

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



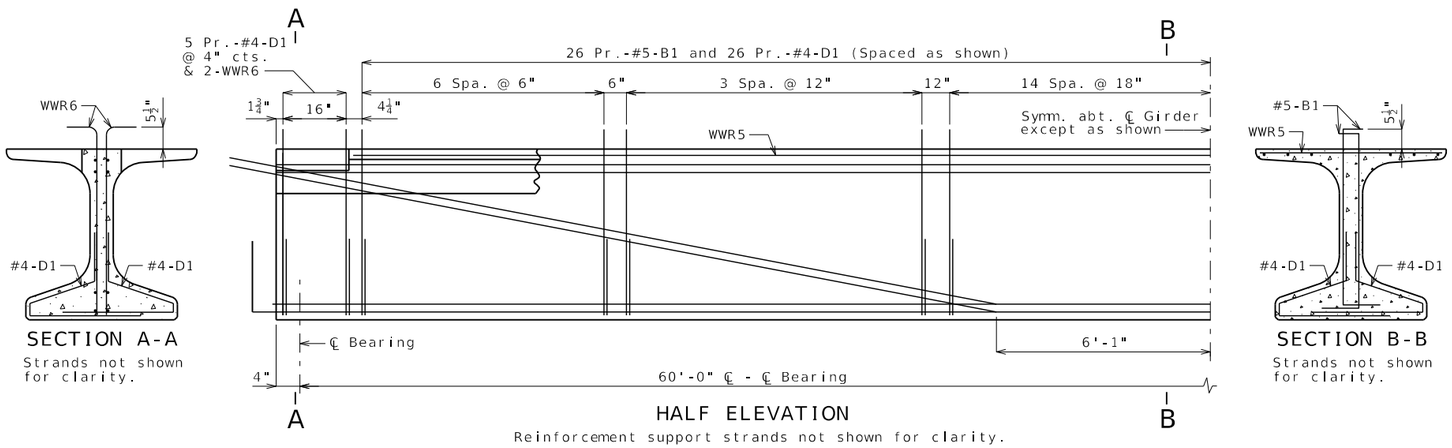
+ Indicates prestressing strand.

STRAND ARRANGEMENT



o Indicates cut & shop bend with 3'-0" projection.

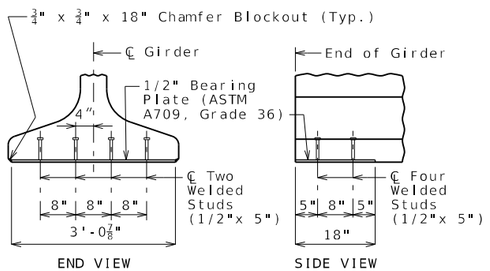
STRANDS AT GIRDER ENDS



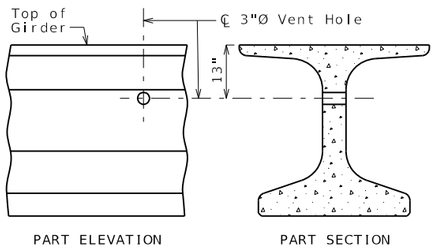
SECTION A-A
Strands not shown for clarity.

SECTION B-B
Strands not shown for clarity.

HALF ELEVATION
Reinforcement support strands not shown for clarity.

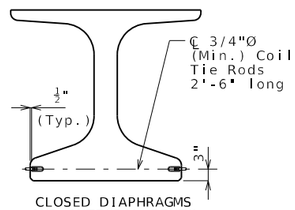


BEARING PLATE

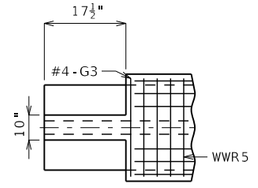


VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum.



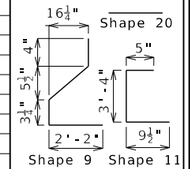
CLOSED DIAPHRAGMS AND INTEGRAL BENTS
COIL TIES



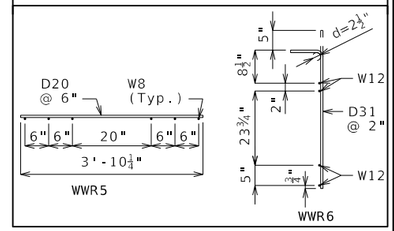
INTERIOR GIRDER & EXTERIOR GIRDER AT END BENT
TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
102	5 B1	4'-4"	11
122	4 D1	4'-0"	9
2	4 G3	3'-10"	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 20 strands, 0.6"Ø Grade 270, with an initial prestress force of 879 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: application of bond breaker, coil inserts for slab drains.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 10.

For location of coil inserts at slab drains, see Sheet No. 9.

For location of coil ties at integral bents, see Sheets No. 3 and 4.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
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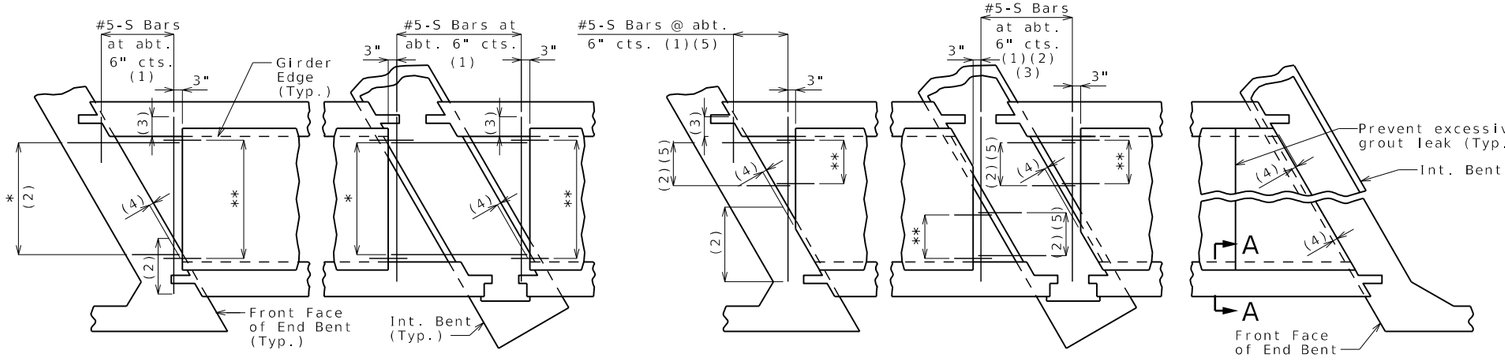
NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (1-2)

Detailed Mar. 2024
Checked May 2024

Note: This drawing is not to scale. Follow dimensions.

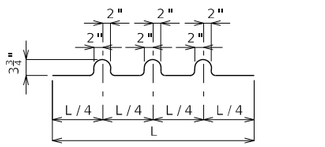


SQUARED END PANELS OR TRUNCATED END PANELS

SKEWED END PANELS

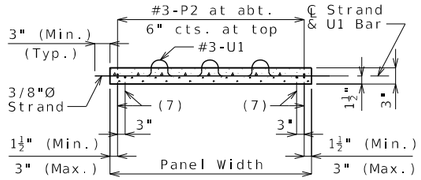
PLAN SHOWING PANEL PLACEMENT

* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)

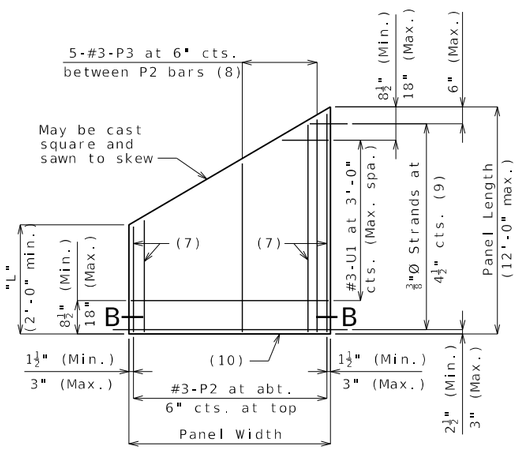


BENDING DIAGRAM FOR U1 BAR

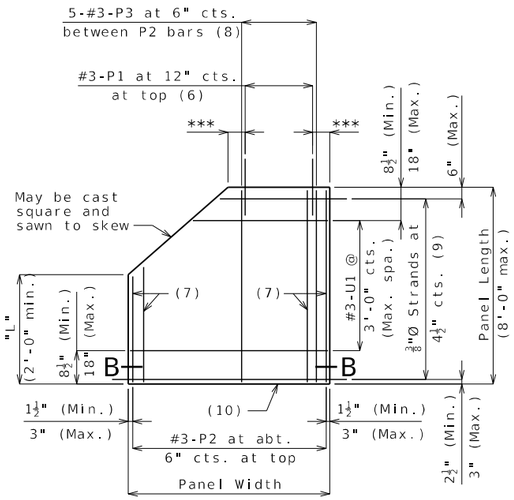
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



SECTION B-B

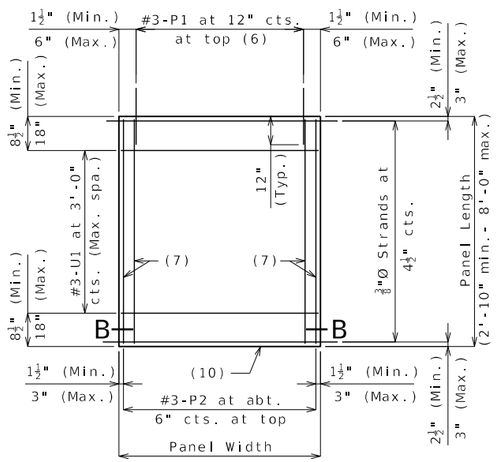


PLAN OF OPTIONAL SKEWED END PANEL

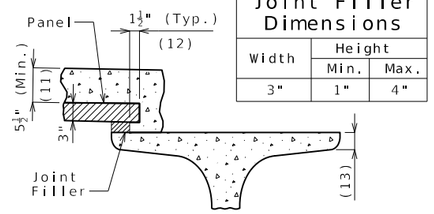


PLAN OF OPTIONAL TRUNCATED END PANEL

*** 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL



SECTION A-A

Joint Filler Dimensions		
Width	Height	
	Min.	Max.
3"	1"	4"

Reference Notes:

Plan of Panel Placement:
(1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.

(2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.

(3) Extend S-bars 9 inches beyond edge of girder (Typ.).

(4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.

(5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.

Plans of Panels:
(6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.

(7) #3-P2 bars near edge of panel at bottom (under strands).

(8) Use #3-P3 bars if panel is skewed 45° or greater.

(9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.

(10) Optional 1/2" x 45° Chamfer one or both sides at bottom.

Section A-A:
(11) Slab thickness over prestressed panels varies due to girder camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(12) Contractor shall ensure proper consolidation under and between panels.

(13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:
Concrete for prestressed panels shall be Class A-1 with f'c = 6,000 psi, f'ci = 4,000 psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq.in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:
All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:
Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. 10 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/2 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the girder. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

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DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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HR GREEN, INC.
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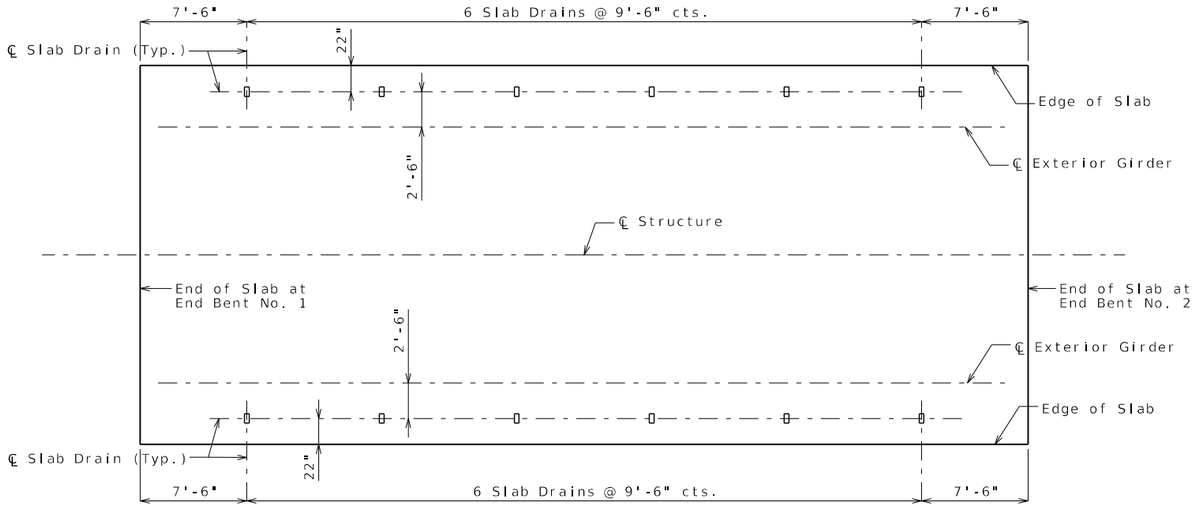
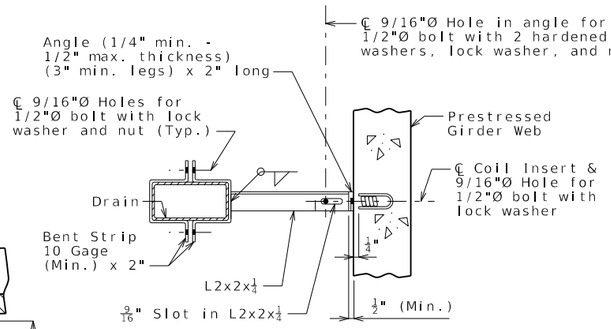
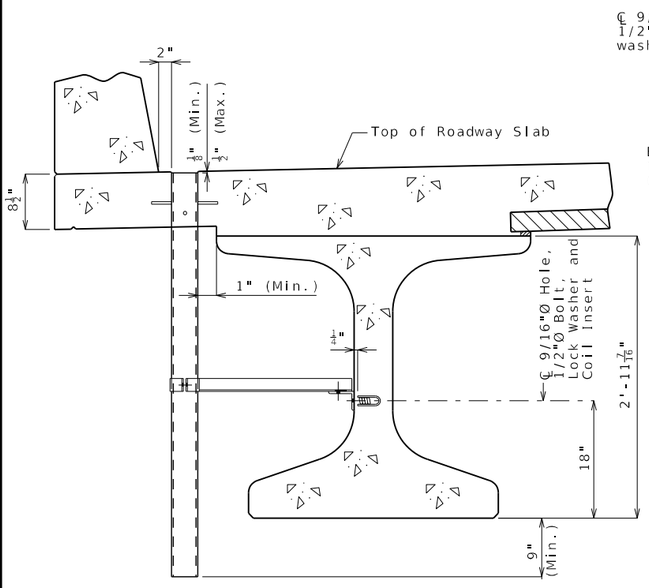
PRESTRESSED PANELS



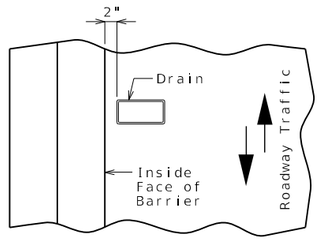
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



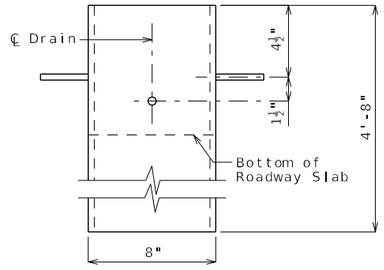
PART SECTION SHOWING BRACKET ASSEMBLY



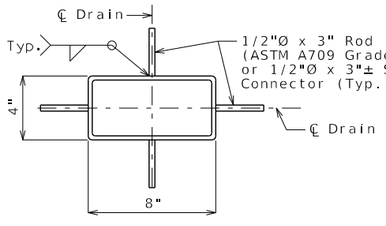
PART SECTION NEAR DRAIN



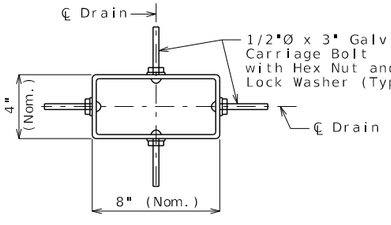
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard 26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 9
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
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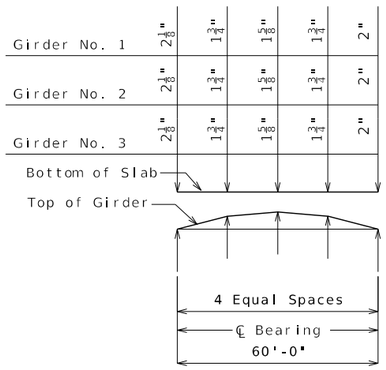
SLAB DRAINS

Detailed Mar. 2024
Checked May 2024

Note: This drawing is not to scale. Follow dimensions.

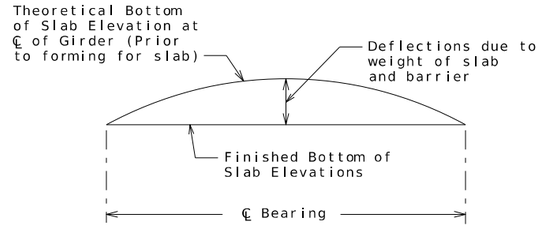


Span (1-2)

THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. The haunch shall be limited to ensure the projecting girder reinforcement is embedded into the slab at least 2 inches. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

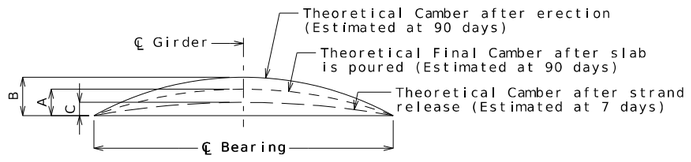


TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at Centerline of Beam (Prior to forming for slab) (Estimated at 90 days)

Beam Number	Span (1-2) (60'-0" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.
1	321.99	322.05	322.07	322.05	321.98
2	322.15	322.21	322.24	322.21	322.14
3	321.99	322.05	322.07	322.05	321.98

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier.



Girder	Span (1-2)		
	A	B	C
Exterior	1"	1 1/2"	1"
Interior	1"		

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

0.25 pt. = 0.7125 x 0.5 pt.

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DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 10
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JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

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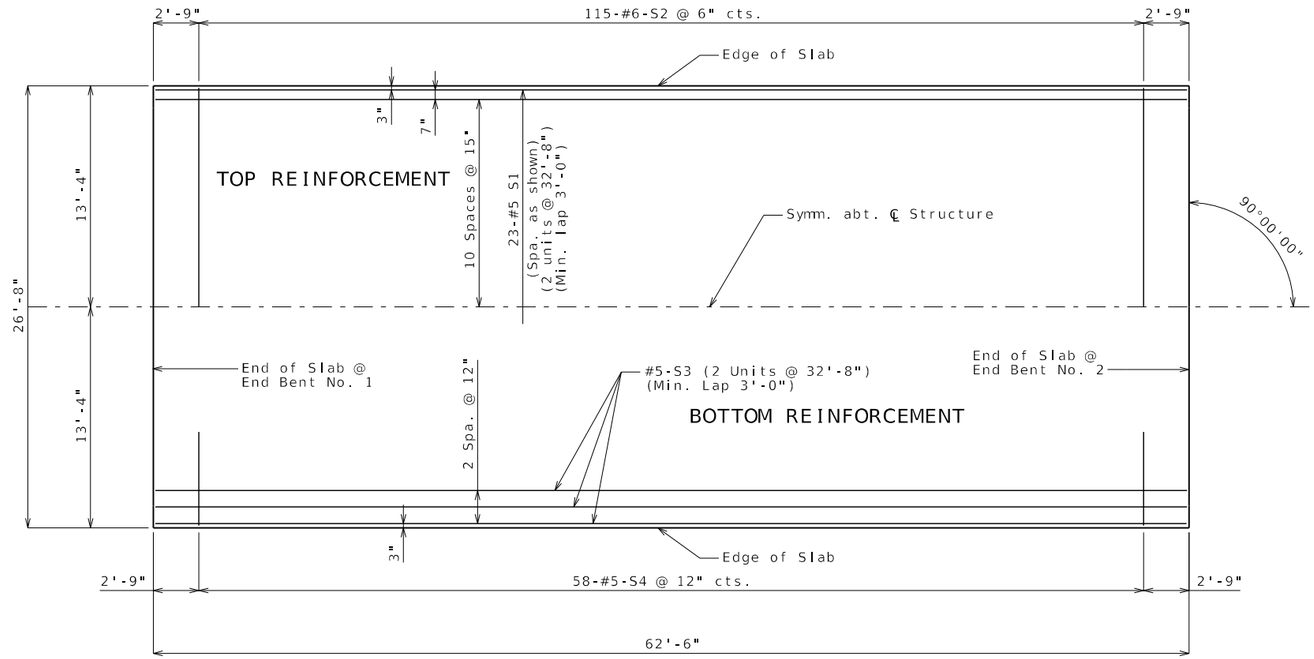

SPAN (1-2)

General Notes:

Longitudinal slab dimensions are measured horizontally.

For details of precast prestressed panels, see Sheet No. 8.

For details and locations of Slab Drains, see Sheet No. 9.

For details and reinforcement of barrier not shown, see Sheets No. 13 & 14.

For Theoretical Bottom of Slab Elevation, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 10.

For Section Thru Slab, see Sheet No. 12.

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed Mar. 2024
Checked Apr. 2024

Note: This drawing is not to scale. Follow dimensions.

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KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
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DATE PREPARED
2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
BR	11

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9401

DESCRIPTION	DATE

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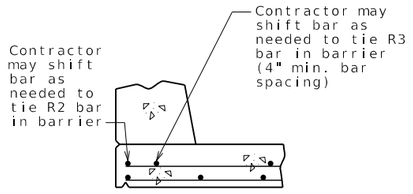
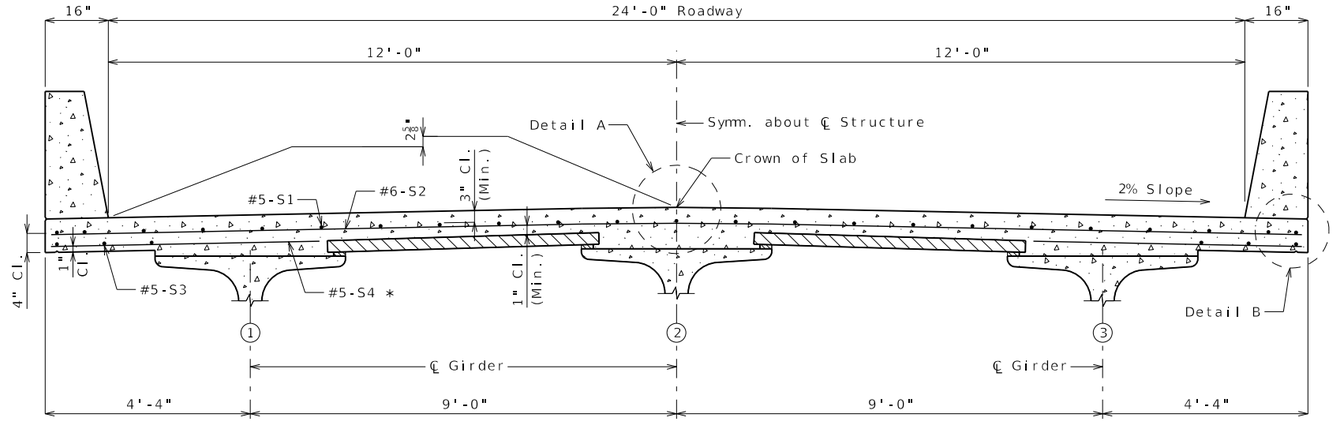
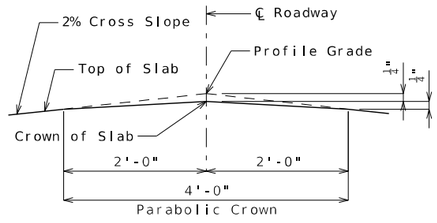


OPTIONAL SHIFTING
TOP BARS AT BARRIER

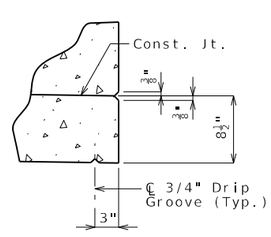


SECTION THRU SLAB

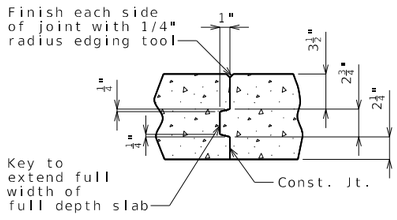
∗ Alternate bar shape available, see barrier sheet.



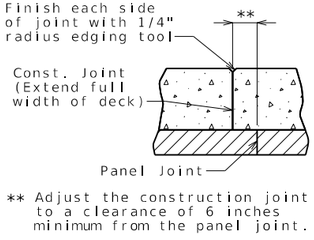
DETAIL A



DETAIL B



FULL DEPTH SLAB



** Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

SLAB ON PANELS

SLAB CONSTRUCTION JOINT

Notes:

For details of precast prestressed panels, see Sheet No. 8.

For reinforcement of barrier not shown, see Sheet No. 13.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 10.

For Plan of Slab Showing Reinforcement, see Sheet No. 11.

The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 25 cubic yards per hour.

The concrete diaphragm at the integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB DETAILS

Detailed Feb. 2024
Checked Apr. 2024

Note: This drawing is not to scale. Follow dimensions.

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DATE PREPARED 2/4/2025
ROUTE O
STATE MO
DISTRICT BR
SHEET NO. 12
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

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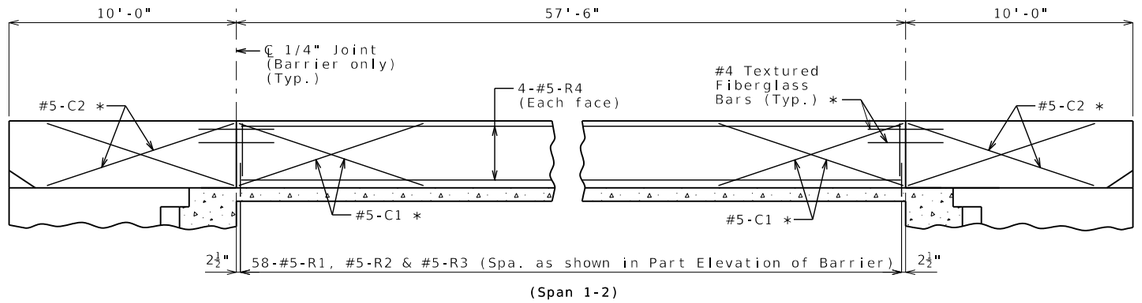
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

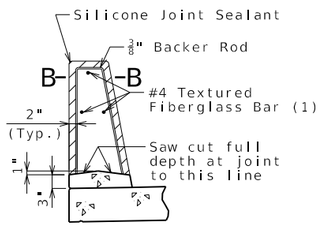


(Span 1-2)

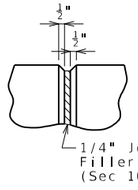
ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)

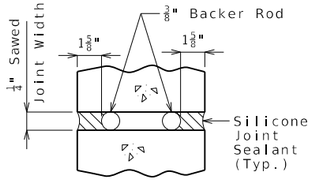
Longitudinal dimensions are horizontal.



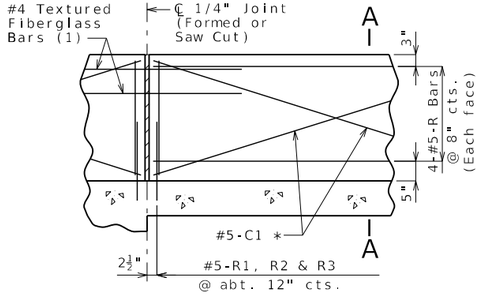
SECTION THRU
SAW CUT JOINT



PART ELEVATION
AT FORMED JOINT

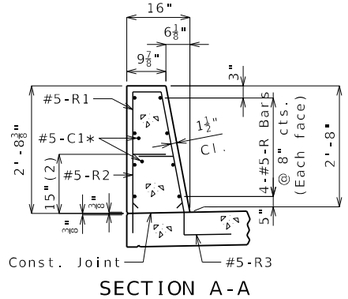


SECTION B-B



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

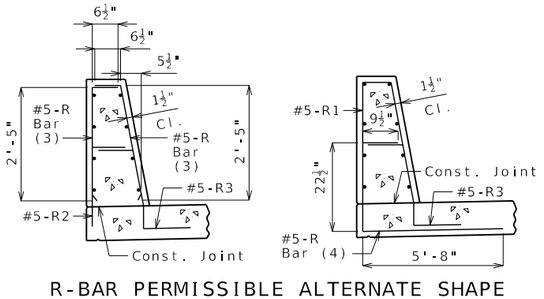


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

(4) The R2 bar and #5 bottom transverse slab bar in cantilever (prestressed panels only) combination may be furnished as one bar as shown, at the contractor's option.

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type H Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

TYPE H BARRIER

Detailed Feb. 2024
Checked Apr. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
BR	13

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

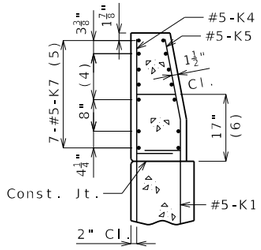
BRIDGE NO.
A9401

DESCRIPTION	DATE

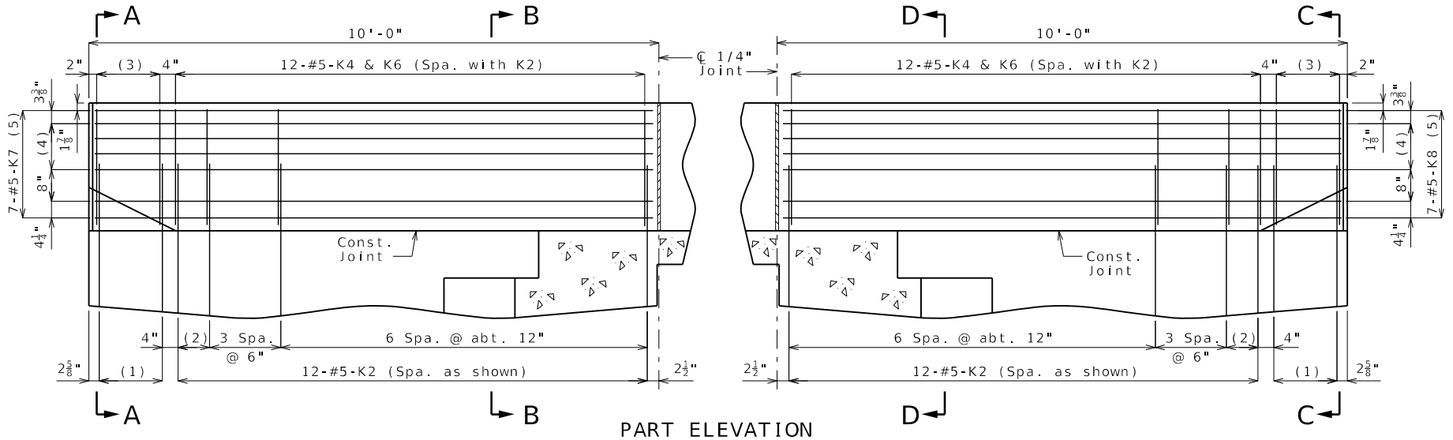
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

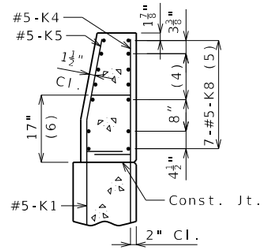
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



SECTION A-A



PART ELEVATION



SECTION C-C

(1) 5-#5-K1 @ 4" cts.

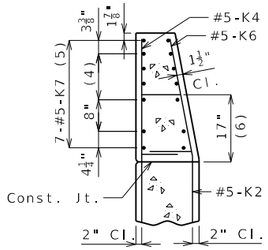
(2) 2 Spaces @ 4"

(3) 5-#5-K4 and 5-#5-K5, spaced with K1

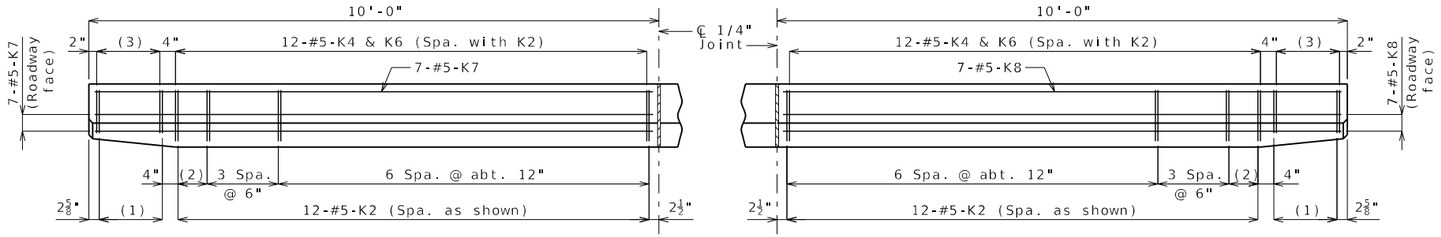
(4) 3 Spaces @ $3\frac{13}{16}$"

(5) Spaced as shown, each face

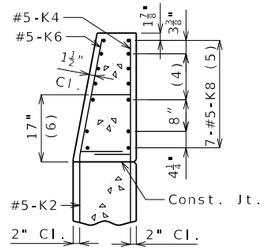
(6) To top of bar



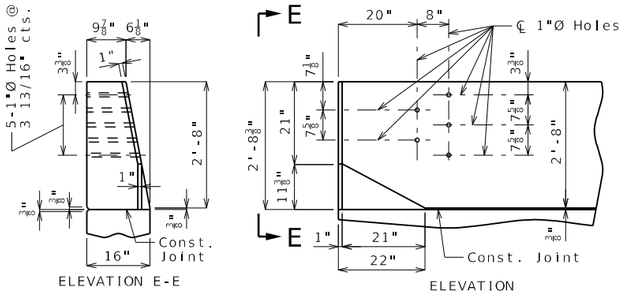
SECTION B-B

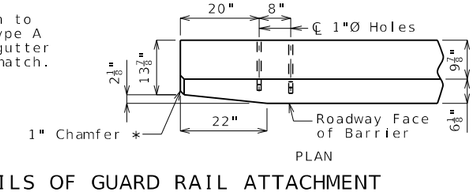


PART PLAN



SECTION D-D





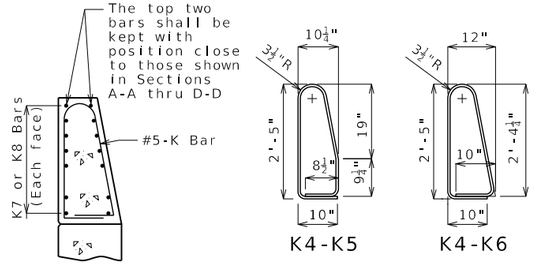
DETAILS OF GUARD RAIL ATTACHMENT

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.



PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

TYPE H BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Feb. 2024
Checked Apr. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM PE-2010024490
STATE OF MISSOURI PROFESSIONAL ENGINEER

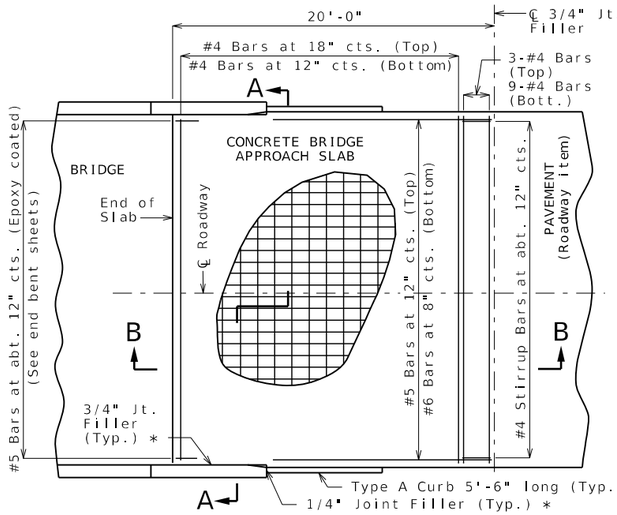
DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 14
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

DESCRIPTION | DATE

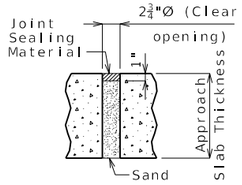
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

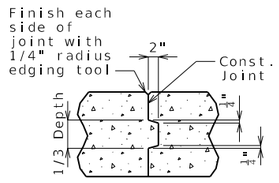
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



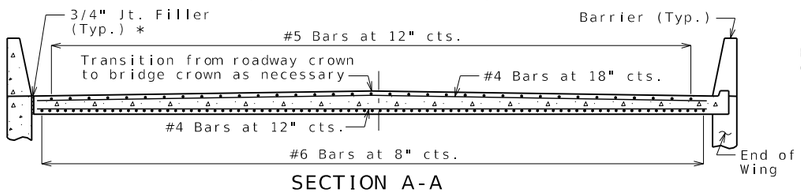
PART PLAN OF SQUARED STRUCTURE
(Skewed structure similar)



UNDERSEAL ACCESS HOLE DETAIL
(If required)

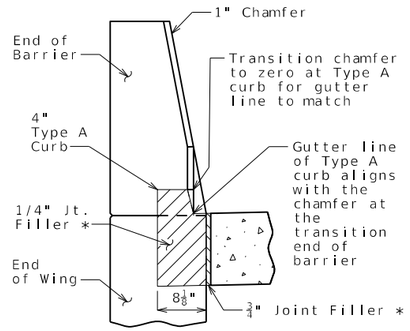


CONSTRUCTION JOINT DETAIL



SECTION A-A

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION BETWEEN CURB AND BARRIER

Notes For Concrete Slab Only:

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

See Missouri Standard Plan 609.00 for details of Type A curb.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

General Notes:

Contractor shall have the option to construct either slab except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

MoDOT Construction personnel will indicate the bridge approach slab used for this structure:

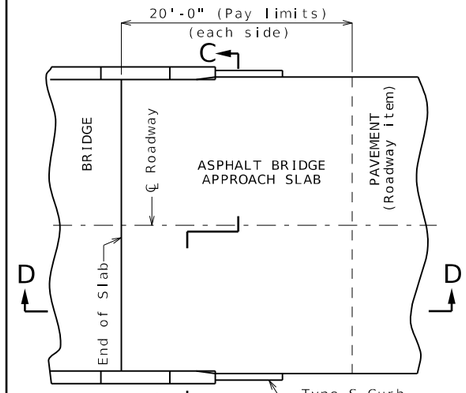
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

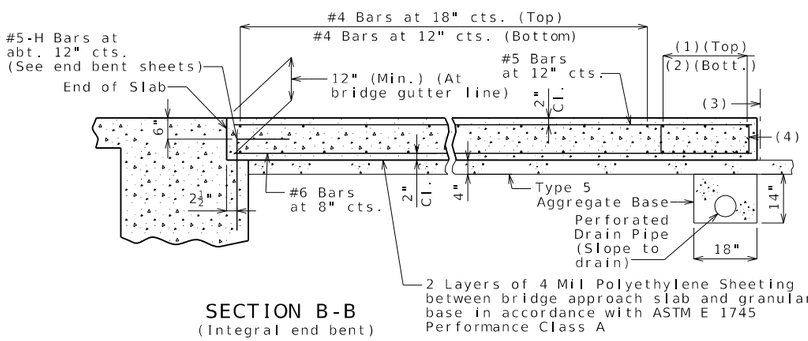
Notes For Asphalt Slab Only:

Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

Application of tack is required between lifts per Sec 403.



PART PLAN
(Squared structure shown, skewed structure similar)



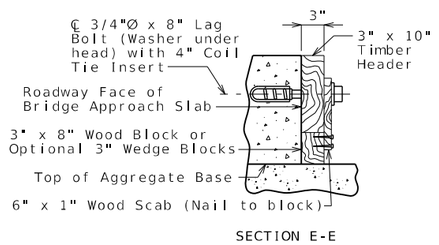
SECTION B-B
(Integral end bent)

(1) 3-#4 Bars

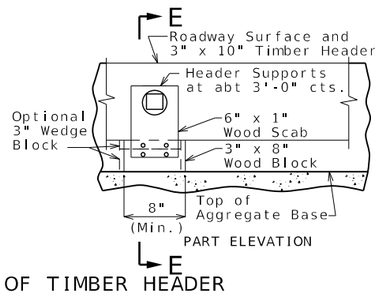
(2) 9-#4 Bars

(3) ℄ 3/4" Jt. Filler

(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.

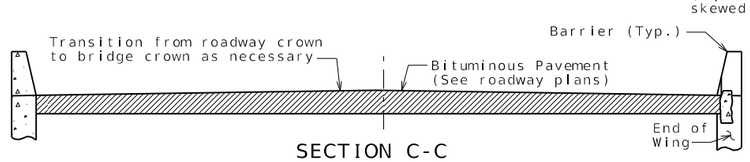


SECTION E-E



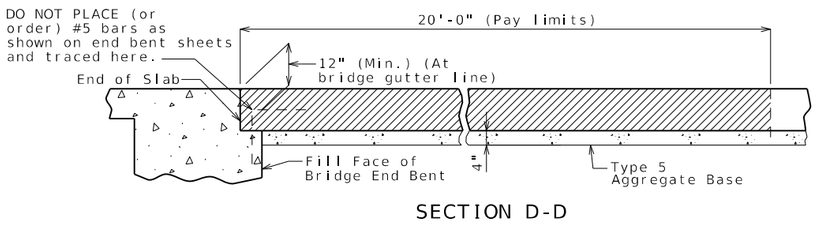
DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

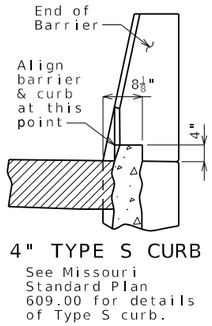


SECTION C-C

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION D-D



4" TYPE S CURB
See Missouri Standard Plan 609.00 for details of Type S curb.

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

BRIDGE APPROACH SLAB (MINOR)

Integral end bents shown, non-integral end bent similar.

Detailed Feb. 2024
Checked Apr. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM PE-2010024490 — STATE OF MISSOURI — PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025
ROUTE: O | STATE: MO
DISTRICT: BR | SHEET NO.: 15
COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9401

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

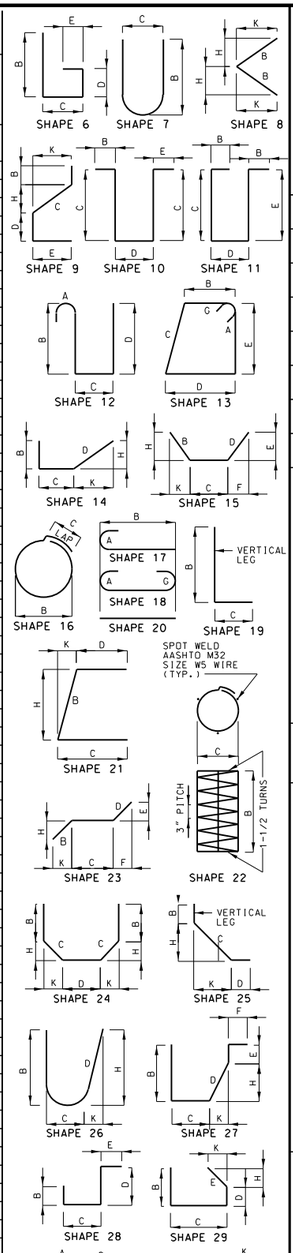
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

BILL OF REINFORCING STEEL

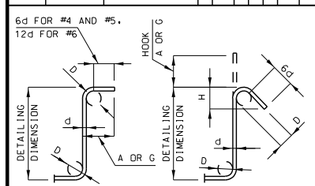
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUPERSTR.																									
			END BENTS																									
			NO. 1 & 2																									
40	6	F10	WING	E	9	S				2	3.000	5	1.750		14.000					3	7.625	3	7.625	8	7	8	6	511
12	6	F11	DIAPHRAGM	E	6	S				6	0.000	2	9.000											8	9	8	7	155
16	6	H10	BM & DIAPH	E	20					26	5.000													26	5	26	5	635
24	7	H11	BM & DIAPH	E	20					26	5.000													26	5	26	5	1296
12	6	H12	DIAPHRAGM	E	20					7	11.000													7	11	7	11	143
4	6	H13	DIAPHRAGM	E	20					5	6.000													5	6	5	6	33
12	6	H14	DIAPHRAGM	E	20					3	8.000													3	8	3	8	66
4	6	H15	DIAPHRAGM	E	20					2	5.000													2	5	2	5	15
32	8	H16	WING	E	19					9	6.000		16.000											10	10	10	8	911
64	6	H17	WING	E	19					8	8.000		12.000											9	8	9	6	913
6	5	H18	STRAND TIE	E	20					5	9.000													5	9	5	9	36
28	5	U10	BEAM	E	10	S						5	6.000	2	8.000									13	8	13	6	394
42	4	U11	BEAM	E	13	S				2	8.000	2	8.000	2	8.000	2	8.000							11	5	11	2	313
66	6	U12	DIAPHRAGM	E	19	S				3	2.000	4	6.500											7	9	7	7	752
36	5	U13	DIAPHRAGM	E	10	S						3	3.500	2	3.000									8	10	8	8	325
36	6	U14	DIAPHRAGM	E	19	S				2	5.000	2	7.000											5	0	4	10	261
48	5	U15	DIAPHRAGM	E	19					2	0.000		15.000											3	3	3	1	154
16	5	V10	BEAM	E	20					5	6.000													5	6	5	6	92
30	6	V11	DIAPHRAGM	E	20					2	5.000													2	5	2	5	109
64	6	V12	WING	E	20					6	5.000													6	5	6	5	617
			SLAB																									
46	5	S1	SLAB	E	20					32	8.000													32	8	32	8	1567
115	6	S2	SLAB	E	20					26	5.000													26	5	26	5	4563
12	5	S3	SLAB	E	20					32	8.000													32	8	32	8	409
116	5	S4	SLAB	E	20					5	8.000													5	8	5	8	686
			TYPE H																									
			BARRIER																									
20	5	K1	BARRIER	E	27	S				3	8.000	9.250		5.375		3	2.750			5.250		1.000		8	1	7	11	165
48	5	K2	BARRIER	E	27	S				3	8.000	9.250		14.500		2	5.750			14.250		2.750		8	2	8	0	401
68	5	K4	BARRIER	E	19	S				2	5.000	10.000												3	3	3	2	225
20	5	K5	BARRIER	E	14	S					8.250	9.500		19.250						4.250		18.750		3	1	3	0	63
48	5	K6	BARRIER	E	21	S				2	4.875	10.000								2	4.250	6.000		3	3	3	1	154
28	5	K7	BARRIER	E	20					9	9.000													9	9	9	9	285
28	5	K8	BARRIER	E	20					9	9.000													9	9	9	9	285
116	5	R1	BARRIER	E	14	S				2	5.000	6.500		2	5.500					2	5.000	5.500		5	5	5	3	635
116	5	R2	BARRIER	E	19	S					20.500	9.500												2	6	2	5	292
116	5	R3	BARRIER	E	27	S						9.500		15.250		5.000		12.000		15.000		3.000		3	6	3	4	403
16	5	R4	BARRIER	E	20					57	3.000													57	3	57	3	958

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SLIP FORM																									
			BARRIER																									
8	5	C1	SLIP FORM	E	20					12	0.000													12	0	12	0	100
8	5	C2	SLIP FORM	E	20					7	9.000													7	9	7	9	65
			TOTALS																									
	4			E																								313
	5			E																								7691
	6			E																								8773
	7			E																								1296
	8			E																								911
			TOTAL																									18984
			SLAB ON																									
			GIRDER																									
	4			E																								313
	5			E																								3663
	6			E																								8773
	7			E																								1296
	8			E																								911
			TOTAL																									14956
			TYPE H																									
			BARRIER																									
	5			E																								3866
			TOTAL																									3866
			SLIP FORM																									
			OPTION																									
	5			E																								165
			TOTAL																									165



BENDING DIAGRAMS

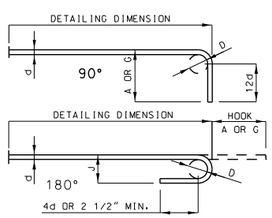


STIRRUP HOOK DIMENSIONS

GRADES 40 - 50 - 60 KSI

BAR SIZE	D (IN.)	90° HOOK: HOOK A OR G	90° HOOK: HOOK A OR G	135° HOOK: HOOK A OR G	135° HOOK: APPROX. H
#4	2"	4 1/2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS

BAR SIZE	D (IN.)	ALL GRADES: 180° HOOKS A OR G	ALL GRADES: 180° HOOKS J	ALL GRADES: 90° HOOKS A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed Apr. 2024
Checked

Note: This drawing is not to scale. Follow dimensions.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025
ROUTE: O
STATE: MO
DISTRICT: BR
SHEET NO.: 16
COUNTY: STODDARD
JOB NO.: JSE0116
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9401

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
			End Bent No. 2
5			
6			
7			
8			

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal

This sheet to be completed by MoDOT construction personnel.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
O	MO
DISTRICT	SHEET NO.
BR	17

COUNTY
STODDARD

JOB NO.
JSE0116

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9401

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

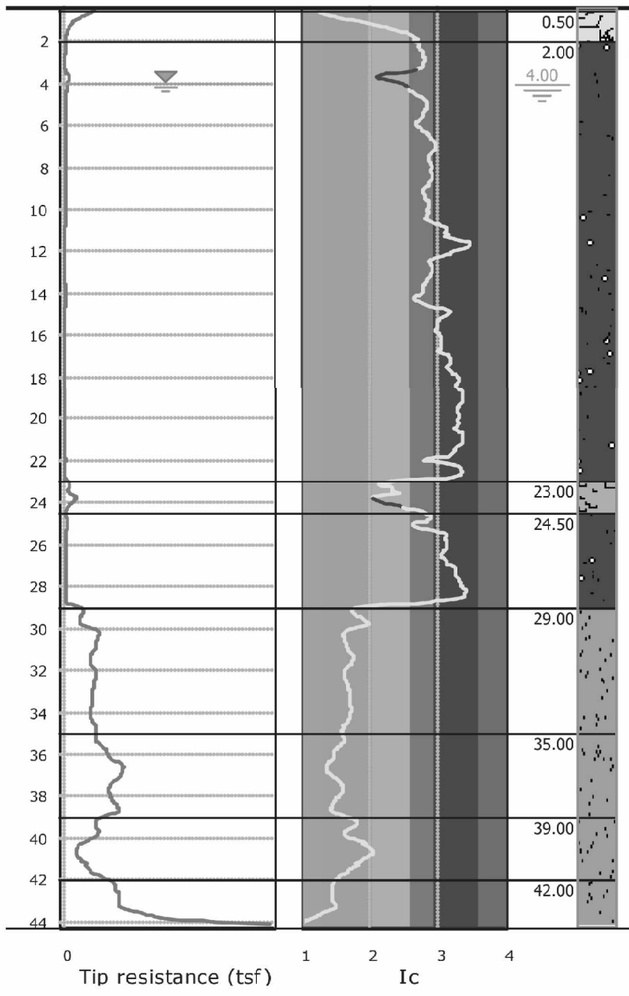
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

Geotechnology, LLC
11816 Lackland Road
St. Louis, Missouri
http://www.geotechnology.com

Project: SE Bridge Bundle SE0116 BR X0730
Location: Stoddard County, Missouri

A9401 (X0730)-1
Total depth: 44.10 ft, Date: 8/22/2023
Surface Elevation: 322.78 ft
Cone Type: 15cm2
Cone Operator: DWJ



Description	qt (tsf)	Ksbt (ft/s)	N60	Es (tsf)	Dr	Phi (°)	M (tsf)	Go (tsf)	Su (tsf)	Su ratio	OCR	Gamma (pcf)
Very dense/stiff soil	47.4	6.49E-4	10.6	-	-	-	522.8	433.5	1.2	7.7	35.7	120.9
Clay	6.8	5.26E-8	3.3	-	-	-	70.4	227.9	0.4	1.1	5.1	120.9
Silty sand & sandy silt	27.6	4.65E-6	8.5	349.5	30.3	33.1	430.5	432.2	-	-	-	120.9
Clay	12.1	4.79E-7	5.8	-	-	-	118.7	412.0	0.7	0.7	3.4	120.9
Sand & silty sand	126.8	2.14E-4	27.0	772.2	57.8	38.1	1544.3	967.8	-	-	-	120.9
Sand & silty sand	212.4	9.01E-4	39.7	1009.8	72.7	41.0	2019.6	1265.6	-	-	-	120.9
Sand & silty sand	116.8	1.64E-4	25.8	764.1	51.4	36.8	1528.1	957.6	-	-	-	120.9
Sand & silty sand	300.2	3.59E-3	50.5	1176.9	81.3	42.7	2353.9	1475.1	-	-	-	120.9

CPeT-IT v.2.3.1.9 - CPTU data presentation & interpretation software - Report created on: 12/5/2023, 7:04:17 AM

Project file: S:\Projects\J043\J043453.01-Southeast Bridge Bundle - SE0116 (Bridge\Data\BR X0730 CPT Data\J043453.01 SE0116 BR X0730.cpt

BORING DATA

Note: For locations of borings, see Sheet No. 1.

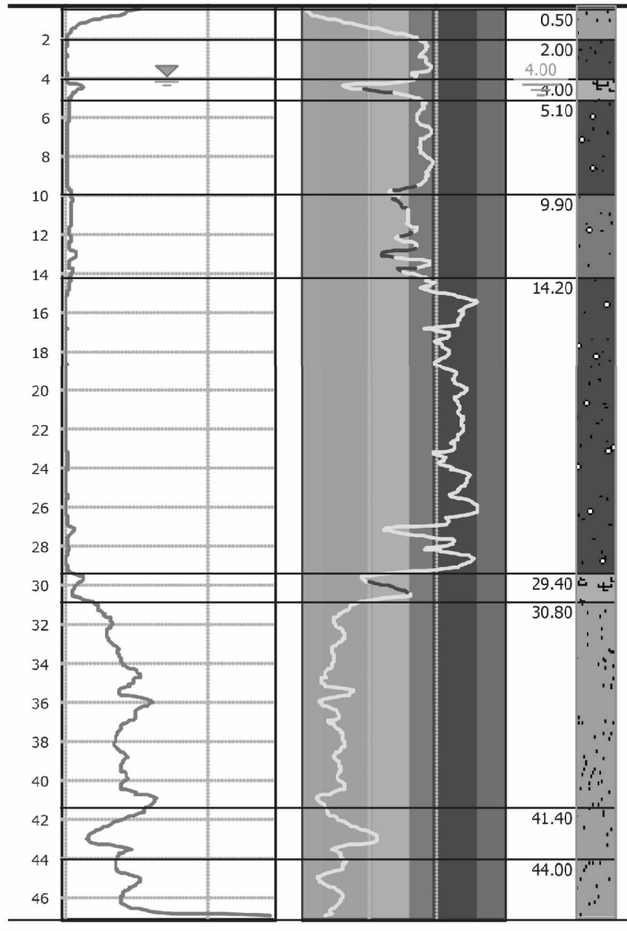
Note: This drawing is not to scale. Follow dimensions.

Detailed Feb. 2024
Checked July 2024

Geotechnology, LLC
11816 Lackland Road
St. Louis, Missouri
http://www.geotechnology.com

Project: SE Bridge Bundle SE0116 BR X0730
Location: Stoddard County, Missouri

A9401 (X0730)-2
Total depth: 46.92 ft, Date: 8/22/2023
Surface Elevation: 322.86 ft
Cone Type: 15cm2
Cone Operator: DWJ



Description	qt (tsf)	Ksbt (ft/s)	N60	Es (tsf)	Dr	Phi (°)	M (tsf)	Go (tsf)	Su (tsf)	Su ratio	OCR	Gamma (pcf)
Sand & silty sand	96.1	3.51E-3	16.3	458.1	85.0	44.5	751.6	513.3	-	-	-	120.9
Clay	6.1	9.90E-8	2.7	-	-	-	82.5	183.7	0.4	2.2	10.1	120.9
Silty sand & sandy silt	27.5	6.38E-5	7.4	304.7	48.8	37.0	365.4	354.8	-	-	-	120.9
Clay	10.0	9.23E-8	4.3	-	-	-	133.1	298.8	0.7	1.9	8.9	120.9
Clay & silty clay	18.5	4.62E-7	7.2	-	-	-	248.6	446.7	1.2	2.3	10.6	120.9
Clay	6.7	9.07E-8	3.5	-	-	-	46.0	247.5	0.3	0.5	2.2	120.9
Silty sand & sandy silt	53.4	2.48E-5	13.9	508.4	38.8	34.5	873.9	614.7	-	-	-	120.9
Sand & silty sand	202.9	1.16E-3	37.6	955.5	71.2	40.7	1911.0	1197.6	-	-	-	120.9
Sand & silty sand	173.5	6.34E-4	34.8	961.3	62.1	39.2	1922.6	1204.8	-	-	-	120.9
Sand & silty sand	225.1	1.35E-3	41.3	1040.2	71.0	40.7	2080.3	1303.7	-	-	-	120.9

CPeT-IT v.2.3.1.9 - CPTU data presentation & interpretation software - Report created on: 12/5/2023, 7:17:02 AM
Project file: S:\Projects\J043\J043453.01-Southeast Bridge Bundle - SE0116 (Bridge\Data\BR X0730 CPT Data\J043453.01 SE0116 BR X0730.cpt

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Detailed Feb. 2024
Checked July 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM PE-2010024490
STATE OF MISSOURI PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE O | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY STODDARD
JOB NO. JSE0116
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9401

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESIGN DESIGNATION

A.A.D.T. - 2021 = 215
A.A.D.T. - 2041 = 333
T = 15%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

NO RIGHT OF WAY WILL BE ACQUIRED WITH THIS PROJECT.

DISCLAIMER
THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

CONVENTIONAL SYMBOLS
(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	FO
OVERHEAD CABLE TV	-OTV-	OTV
UNDERGROUND CABLE TV	-UTV-	UTV
OVERHEAD TELEPHONE	-OT-	OT
UNDERGROUND TELEPHONE	-UT-	UT
OVERHEAD POWER	-OE-	OE
UNDERGROUND POWER	-UE-	UE
SANITARY SEWER	-S-	S
STORM SEWER	-SS-	SS
GAS	-G-	G
WATER	-W-	W
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET	D	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	-V-	
WOVEN WIRE	-X-	
GATE POST		
BENCHMARK	BM	

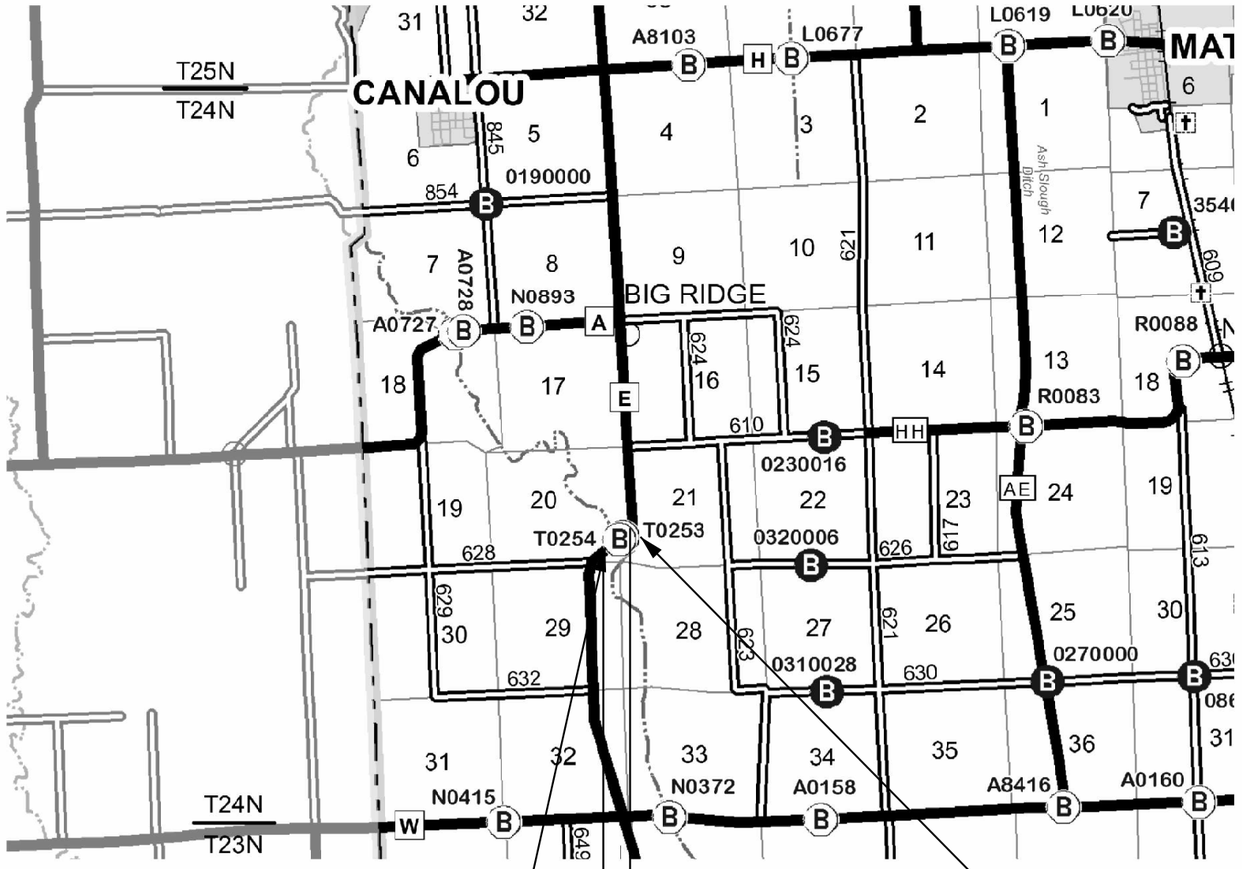
NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY E
NEW MADRID COUNTY

T24N, R13E

KEY MAP
LOCATION OF NEW MADRID COUNTY

NOT TO SCALE



THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	574 + 25.00
END OF PROJECT	STA.	578 + 45.00
APPARENT LENGTH		420.00 FEET
EQUATIONS AND EXCEPTIONS: NONE		
TOTAL CORRECTIONS		0.0 FEET
NET LENGTH OF PROJECT		420.00 FEET
STATE LENGTH		0.080 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES		0.2 ACRES

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025
ROUTE: E | STATE: MO
DISTRICT: SE | SHEET NO.: 1
COUNTY: NEW MADRID
JOB NO.: JSE0127
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519-0990
CORPORATE LICENSE #2002006608
HRGreen

DISCLAIMER
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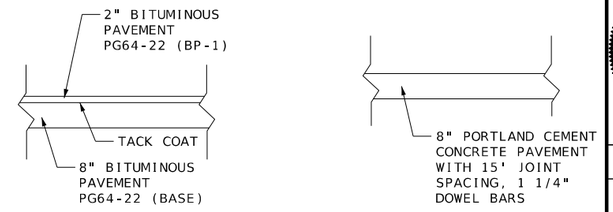
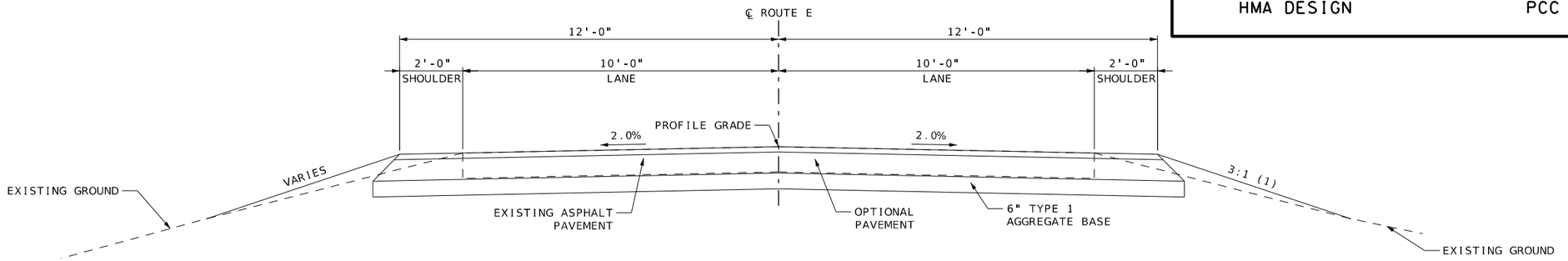
OPTIONAL PAVEMENT

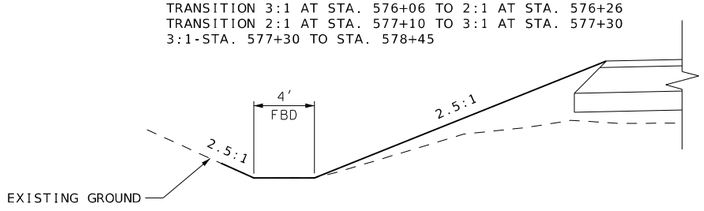


HMA DESIGN | PCC DESIGN



FILL SECTION

2.5:1-STA. 574+25 TO STA. 574+50
STA. 574+70 TO STA. 574+90
TRANSITION 2.5:1 AT STA. 574+90 TO 3:1 AT STA. 575+00
3:1-STA. 575+00 TO STA. 576+06
TRANSITION 3:1 AT STA. 576+06 TO 2:1 AT STA. 576+26
TRANSITION 2:1 AT STA. 577+10 TO 3:1 AT STA. 577+30
3:1-STA. 577+30 TO STA. 578+45



CUT SECTION-LT

STA. 574+50 TO STA. 574+70

TYPICAL SECTION - ROUTE E

STA. 574+25.00 TO STA. 576+05.49
STA. 577+29.99 TO STA. 578+45.00

(1) TRANSITION 3:1 AT STA. 576+06 TO 2:1 AT STA. 576+26
TRANSITION 2:1 AT STA. 577+10 TO 3:1 AT STA. 577+30

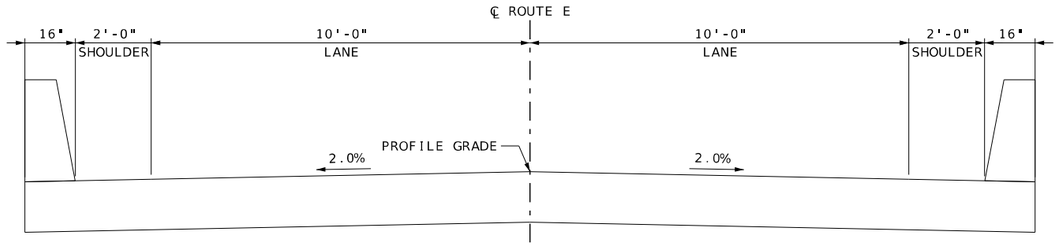
APPLICATION RATES:

PLANT MIX BITUMINOUS BASE COURSE:
PG64-22 (BASE): 1.943 TONS/CY

PLANT MIX BITUMINOUS ASPHALT:
PG64-22 (BP-1): 1.948 TONS/CY

TACK COAT:
0.08 GAL/SY

PAVEMENT HISTORY:
CONSTRUCTED: 1932



TYPICAL SECTION - ROUTE E BRIDGE #A9402

STA. 576+25.49 TO STA. 577+09.99

BRIDGE APPROACH SLAB (MINOR ROAD) ROUTE E:
STA. 576+05.49 TO STA. 576+25.49
STA. 577+09.99 TO STA. 577+29.99

TYPICAL SECTIONS
AND DETAILS
SHEET 1 OF 1

ANDREA S. DAVIS
PE-2018021250
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED	2/4/2025
ROUTE	E
STATE	MO
DISTRICT	SE
SHEET NO.	2
COUNTY	NEW MADRID
JOB NO.	JSE0127
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

REMOVAL OF IMPROVEMENTS	1 LUMP SUM
MOBILIZATION	1 LUMP SUM
CONTRACTOR FURNISHED SURVEYING AND STAKING	1 LUMP SUM

SIGN REMOVAL - FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	ROUTE	LOCATION	ITEM TO BE REMOVED
10	574+35	ROUTE E	LT	OBJECT MARKER
10	575+35	ROUTE E	LT	OBJECT MARKER
10	576+19	ROUTE E	LT	OBJECT MARKER
10	577+24	ROUTE E	LT	OBJECT MARKER
10	577+24	ROUTE E	LT	OBJECT MARKER
10	577+24	ROUTE E	LT	OBJECT MARKER
10	574+14	ROUTE E	RT	OBJECT MARKER
10	574+36	ROUTE E	RT	OBJECT MARKER
10	574+54	ROUTE E	RT	OBJECT MARKER
10	575+04	ROUTE E	RT	OBJECT MARKER
10	577+24	ROUTE E	RT	OBJECT MARKER
10	577+24	ROUTE E	RT	OBJECT MARKER
10	578+13	ROUTE E	LT	SPEED LIMIT SIGN

NOTE: NO DIRECT PAY WILL BE MADE FOR SIGN REMOVAL. SIGN REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF

PAVEMENT REMOVAL - FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	STATION	ROUTE	PAVEMENT REMOVAL SY
4	574+25	576+05	ROUTE E	475.9
4	577+30	578+45	ROUTE E	307.8
			SUBTOTAL =	783.7

NOTE: NO DIRECT PAY WILL BE MADE FOR PAVEMENT REMOVAL. PAVEMENT REMOVAL IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

SAWCUT - FOR INFORMATION ONLY

PLAN SHEET NO.	STATION	ROUTE	LOCATION	FULL DEPTH PAVEMENT REPAIR SAW CUT LF
4	574+25	ROUTE E	TRANSVERSE	20
4	578+45	ROUTE E	TRANSVERSE	20
			SUBTOTAL =	40

NOTE: NO DIRECT PAY WILL BE MADE FOR SAWCUT. SAWCUT IS INCLUDED IN THE LUMP SUM COST FOR REMOVAL OF IMPROVEMENTS.

PAVEMENT

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	TYPE 1 AGGREGATE FOR BASE (6 IN. THICK) SY	GRAVEL (A) SY	OPTIONAL PAVEMENT SY	REMARKS
4	574+25	576+05	ROUTE E	LT / RT	533		475.9	MAIN LINE
4	577+30	578+45	ROUTE E	LT / RT	330		307.8	MAIN LINE
4	577+31	577+59	ROUTE E	LT		25		FIELD ENTRANCE
4	575+84	576+11	ROUTE E	RT		23		FIELD ENTRANCE
4	577+28	577+55	ROUTE E	RT		24		FIELD ENTRANCE
				SUBTOTAL	863	71	783.7	
				PAY TOTAL =	863	71	783.7	

ROCK

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	FURNISHING TYPE 2 ROCK BLANKET CY	PLACING TYPE 2 ROCK BLANET CY	PERMANENT EROSION CONTROL GEOTEXTILE SY	REMARKS
6	575+85	576+35	ROUTE E	LT / RT	176	176	88	AROUND BRIDGE ABUTMENT
6	576+99	577+30	ROUTE E	LT / RT	178	178	89	AROUND BRIDGE ABUTMENT
				SUBTOTAL =	354	354	177	
				PAY TOTAL =	354	354	177	

EARTHWORK

STATION	STATION	ROUTE	CLASS A EXCAVATION CY	REQUIRED FILL (FOR INFO ONLY) CY	COMPACTING EMBANKMENT CY	EMBANKMENT IN PLACE CY
574+25	578+45	ROUTE E	346	353	346	7
		SUBTOTAL =	346	353	346	7
		PAY TOTAL =	346	0	346	7

NOTES: NO SHRINK OR SWELL FACTORS APPLIED TO EARTHWORK QUANTITY.
INCLUDES REMOVAL AND DISPOSAL OF EXISTING ASPHALT.

SUMMARY OF QUANTITIES
SHEET 1 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
SE	3

COUNTY
NEW MADRID

JOB NO.
JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

PERMANENT PAVEMENT MARKINGS - LINEAR

PLAN SHEET NO.	STATION	STATION	ROUTE	4 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS LF	4 IN. YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS LF	REMARKS
10	574+25	578+45	ROUTE E	420		SOLID EDGE LINE LEFT
10	574+25	578+45	ROUTE E	420		SOLID EDGE LINE RIGHT
10	574+25	578+45	ROUTE E		840	DOUBLE YELLOW CENTER LANE
			SUBTOTAL =	840	840	
			PAY TOTAL =	840	840	

ROADSIDE DEVELOPMENT

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	SEEDING - COOL SEASON MIXTURES AC	MULCHING AC
4	574+25	576+36	ROUTE E	LT / RT	0.08	0.08
4	577+00	578+45	ROUTE E	LT / RT	0.08	0.08
				SUBTOTAL =	0.16	0.16
				PAY TOTAL =	1.0	1.0

NOTE: NO FINAL MEASUREMENT WILL BE PERFORMED.

CLEARING AND GRUBBING

PLAN SHEET NO.	STATION	STATION	ROUTE	LOCATION	CLEARING AND GRUBBING AC
4	574+25	576+36	ROUTE E	LT / RT	0.05
4	577+00	578+45	ROUTE E	LT / RT	0.05
				SUBTOTAL =	0.10
				PAY TOTAL =	1.0

NOTE: NO FINAL MEASUREMENT WILL BE PERFORMED.

DRAINAGE STRUCTURES

PLAN SHEET NO.	FROM STRUCTURE	FROM STATION	TO STRUCTURE	TO STATION	ROUTE	LOCATION	60 IN. FLARED END SECTIONS GROUP C EACH	60 IN. PIPE GROUP C LF	CLASS 3 EXCAVATION CY
13	1-1FES	574+56	1-2FES	574+79	ROUTE E	TRANSVERSE	2	56	66
						SUBTOTAL =	2	56	66
						PAY TOTAL =	2	56	66

EROSION CONTROL - TEMPORARY

PLAN SHEET NO.	STATION	STATION	ROUTE	SIDE	SEDIMENT TRAP CY	SILT FENCE LF	SEDIMENT REMOVAL CY	REMARKS
9	574+15	574+67	ROUTE E	LT		69	1	
9	575+04	576+45	ROUTE E	LT		156	2	
9	576+90	577+36	ROUTE E	LT		47	1	
9	577+53	578+55	ROUTE E	LT		103	2	
9	574+15	574+38	ROUTE E	RT		23	1	
9	574+60	575+88	ROUTE E	RT		143	2	
9	576+10	576+45	ROUTE E	RT		36	1	
9	577+00	577+25	ROUTE E	RT		25	1	
9	577+49	578+55	ROUTE E	RT		106	2	
9	574+80		ROUTE E	LT	1		10	1-2FES
9	576+35		ROUTE E	LT	1		10	DITCH OUTLET
9	577+00		ROUTE E	LT	1		10	DITCH OUTLET
9	576+35		ROUTE E	RT	1		10	DITCH OUTLET
9	577+00		ROUTE E	RT	1		10	DITCH OUTLET
				SUBTOTAL =	5	708	63	
				PAY TOTAL =	5	850	63	20% CONTINGENCY ADDED TO SILT FENCE

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
SE	3

COUNTY NEW MADRID

JOB NO. JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

EFFECTIVE: 04-01-2023

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
WARNING SIGNS								
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
WO1-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
WO1-8	18X24	3.00						CHEVRON (SYMBOL)
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
WO3-4	48X48	16.00						BE PREPARED TO STOP
WO3-5	48X48	16.00						SPEED LIMIT AHEAD
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
WO4-1aL	48X48	16.00						MERGE (ARROW SYMBOL)
WO4-1aR	48X48	16.00						MERGE (ARROW SYMBOL)
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
WO5-3	48X48	16.00						ONE LANE BRIDGE
WO5-5	48X48	16.00						NARROW LANES
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
WO6-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)
WO7-3a	30X24	5.00						NEXT XX MILES (PLAQUE)
WO8-1	48X48	16.00						BUMP
WO8-2	48X48	16.00						DIP
WO8-3	48X48	16.00						PAVEMENT ENDS
WO8-4	48X48	16.00						SOFT SHOULDER
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)
WO8-6	48X48	16.00						TRUCK CROSSING (WITH FLAGS)
WO8-6c	48X48	16.00						TRUCK ENTRANCE
WO8-7	36X36	9.00						LOOSE GRAVEL
WO8-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL
WO8-9	48X48	16.00						LOW SHOULDER
WO8-11	48X48	16.00						UNEVEN LANES
WO8-12	48X48	16.00						NO CENTER LINE
WO8-15	48X48	16.00						GROOVED PAVEMENT
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)
WO8-17	48X48	16.00						SHOULDER DROP-OFF (SYMBOL)
WO8-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)
W10-1	42RND.	9.62						RAILROAD CROSSING
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)
W012-2X	24X18	3.00						LOW CLEARANCE (PLAQUE)
WO12-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO12-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
WO12-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
WO13-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
WO16-2	30X24	5.00						XXX FEET (PLAQUE)
WO16-3	30X24	5.00						X MILE (PLAQUE)
WO20-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD
WO20-2	48X48	16.00	4	64			18	DETOUR AHEAD
WO20-3	48X48	16.00	2	32			20	ROAD CLOSED AHEAD
WO20-3a	48X48	16.00	2	32			20A	ROAD CLOSED 500 FT AHEAD
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD
WO20-5	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED AHEAD
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
WO20-6a	48X48	16.00						RIGHT/CENTER/LEFT LANE CLOSED
WO20-7a	48X48	16.00						FLAGGER (SYMBOL, WITH FLAGS)
WO21-2	36X36	9.00						FRESH OIL
WO21-5	48X48	16.00						SHOULDER WORK AHEAD
WO22-1	48X48	16.00						BLASTING ZONE AHEAD
WO22-2	42X36	10.50						TURN OFF 2-WAY RADIO AND PHONE
WO22-3	42X36	10.50						END BLASTING ZONE
GO22-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
GO20-1	60X24	10.00						ROAD WORK NEXT XX MILES
GO20-2	48X24	8.00						END ROAD WORK
GO20-4	36X18	4.50						PILOT CAR FOLLOW ME
GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
GO20-5aP	36X24	6.00						WORK ZONE (PLAQUE)
MO4-8a	24X18	3.00	2	6			52	END DETOUR
MO4-9L	48X36	12.00						DETOUR (LEFT ARROW)
MO4-9R	48X36	12.00						DETOUR (RIGHT ARROW)
MO4-9P	48X12	4.00						STREET NAME (PLAQUE)
MO4-10L	48X18	6.00						DETOUR (ARROW LEFT)
MO4-10R	48X18	6.00						DETOUR (ARROW RIGHT)
REGULATORY SIGNS								
R1-1	48X48	13.25						STOP
R1-2	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00						SPEED LIMIT XX
R3-1	48X48	16.00						NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00						NO TURNS
R3-4	48X48	16.00						NO U-TURN (SYMBOL)
R3-7L	30X30	6.25						LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25						RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00						DO NOT PASS
R4-2	36X48	12.00						PASS WITH CARE
R4-8a	36X48	12.00						KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00						KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30X30	6.25						DO NOT ENTER
R5-1a	36X24	6.00						WRONG WAY
R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45^ ARROW)
R11-2	48X30	10.00	2	20			29	ROAD CLOSED
R11-3a	60X30	12.50	2	25			55A	ROAD CLOSED 2 MILES AHEAD LTO
R11-3a	60X30	12.50	1	12.5			55B	ROAD CLOSED 2.5 MI. AHEAD LTO
R11-4	60X30	12.50	2	25			55	ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00						FINE SIGN
CONST-3X	56X12	4.67						SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00	2	64			61	POINT OF PRESENCE
CONST-7	48X24	8.00						RATE OUR WORK ZONE
CONST-7	72X36	18.00						RATE OUR WORK ZONE
CONST-8	48X36	12.00						WORK ZONE NO PHONE ZONE
SPECIAL	36X60	15	19	285			50A	DETOUR ASSEMBLY
SPECIAL	36X60	15	3	45			50B	DETOUR ASSEMBLY
SPECIAL	36X60	15	3	45			50C	DETOUR ASSEMBLY
SPECIAL	36X60	15	3	45			50D	DETOUR ASSEMBLY
SPECIAL	36X60	15	3	45			50E	DETOUR ASSEMBLY

616-10.05 CONSTRUCTION SIGNS	TOTAL
	746

616-10.10 RELOCATED SIGNS	TOTAL
	0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161008		ADVANCED WARNING RAIL SYSTEM
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161025		CHANNELIZER (TRIM LINE)
6161030	8	TYPE III MOVEABLE BARRICADE
6161033		DIRECTION INDICATOR BARRICADE
6161040		FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	4**	CHANGEABLE MESSAGE SIGN W/O COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE - CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002		TEMPORARY LONG-TERM RUMBLE STRIPS
6173600D		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

NOTE: SIGN AND DEVICE LOCATIONS WILL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER.

CMS LOCATIONS TO BE DETERMINED BY THE ENGINEER.

ALL TRAFFIC CONTROL ITEMS ARE INCLUDED IN PAY ITEM 616-99.01, LUMP SUM TEMPORARY TRAFFIC CONTROL UNLESS NOTED OTHERWISE IN THE PLANS. THESE QUANTITIES ARE ONLY AN ESTIMATE AND ARE SUBJECT TO CHANGE BASED UPON FIELD CONDITIONS.

**NOT INCLUDED IN TEMPORARY TRAFFIC CONTROL - LUMP SUM QUANTITY.

TEMPORARY TRAFFIC CONTROL	
PAY TOTAL =	1 LUMP SUM

SUMMARY OR QUANTITIES
SHEET 3 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025
ROUTE: E | STATE: MO
DISTRICT: SE | SHEET NO.: 3
COUNTY: NEW MADRID
JOB NO.: JSE0127
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
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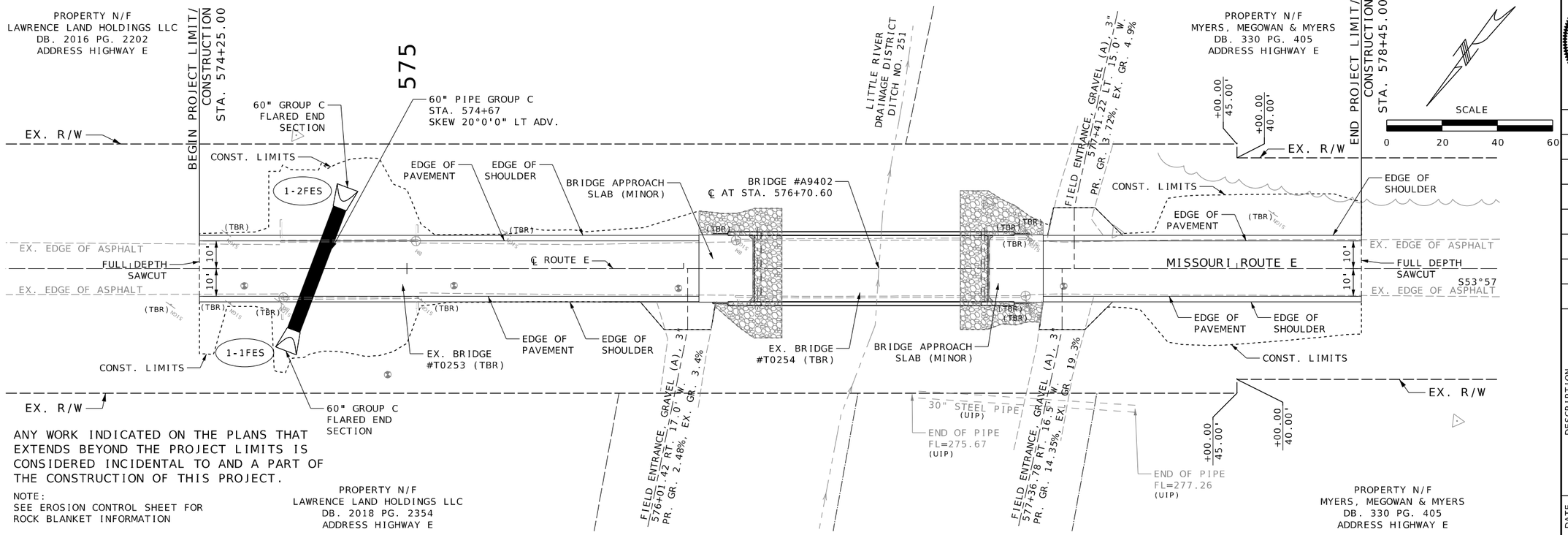

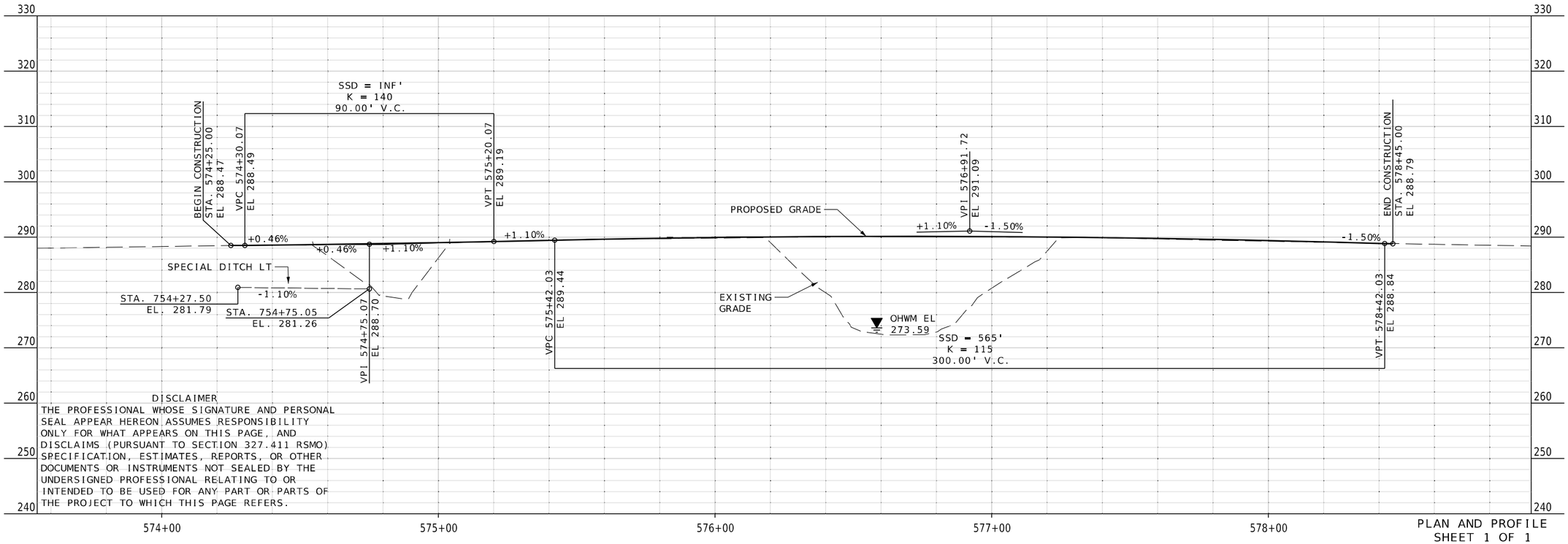

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PLAN AND PROFILE
SHEET 1 OF 1

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED	
2/4/2025	
ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
SE	4
COUNTY	
NEW MADRID	
JOB NO.	
JSE0127	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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HR GREEN, INC.
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HRGreen

SURVEY NOTES:

1. HORIZONTAL CONTROL STATEMENT: STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUSLY OPERATING REFERENCE STATIONS DURING AUGUST, 2023 AND ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF 1983, EAST ZONE. THE AVERAGE COMBINED PROJECT GRID FACTOR IS 0.9999922366 CALCULATED BY TRIMBLE GEOMATICS OFFICE.

2. PROJECT COORDINATES ARE MODIFIED MISSOURI STATE PLANE COORDINATES AND WERE ESTABLISHED BY APPLYING THE INVERSE OF THE PROJECT GRID FACTOR (1.0000077635) ABOUT THE ORIGIN (0,0). AS CALCULATED BY EFK MOEN, LLC.

3. VERTICAL DATUM IS NAVD 88. AN ELEVATION WAS ESTABLISHED ON CONTROL POINTS 10 AND 11, USING THE TRIMBLE R10 ROVER AND BASED ON THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS. FIELD WORK WAS PERFORMED DURING AUGUST, 2023.

PROJECT BENCHMARK:
NEW MADRID COUNTY BENCHMARK "D 26" (PID:GD0982) ELEVATION=302.02(NAVD88)
AT KEWANEE, NEW MADRID COUNTY, ON THE ST. LOUIS-SAN FRANCISCO RAILWAY, 87 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF THE STATION, 125.2 FEET EAST OF POLE 179-24, 96 FEET EAST OF THE CENTERLINE OF THE TRACK, 45 FEET NORTH OF THE CENTERLINE OF AN EAST-AND-WEST ROAD, AND 1 FOOT WEST OF A FENCE LINE. A STANDARD DISK, STAMPED D 26 1933 AND SET IN THE TOP OF A CONCRETE POST.

SITE BENCHMARKS:
TBM "1" ELEVATION=290.53: CUT SQUARE ON SOUTH END OF WEST BRIDGE CURB ON ROUTE E OVER THE LITTLE RIVER DRAINAGE DITCH # 251.
TBM "2" ELEVATION=290.54: CUT SQUARE ON NORTH END OF EAST BRIDGE CURB ON ROUTE E OVER THE LITTLE RIVER DRAINAGE DITCH # 251.
TBM "3" ELEVATION=289.65: CUT SQUARE ON THE SOUTH END OF WEST BRIDGE ON ROUTE E OVER THE LEVEE DITCH.
TBM "4" ELEVATION=289.17: CUT SQUARE ON THE NORTH END OF EAST BRIDGE ON ROUTE E OVER THE LEVEE DITCH.
TBM "5" ELEVATION=284.59: 80-D SPIKE IN ROOT WEST SIDE OF 36" COTTON WOOD 50'+/- WEST OF THE CENTERLINE OF ROUTE E, 225' SOUTHWEST OF THE END OF THE BRIDGE.

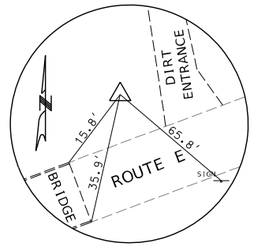
4. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE FOR THE TICKET NUMBER: 232122416, (07/31/23);
UTILITY COMPANIES THAT HAVE SUBSCRIBED ARE AS FOLLOWS:

ATT DISTRIBUTION -FO,TEL,TV- CLEAR/NO CONFLICT ATT_CLEAR PER TICKET CHECK

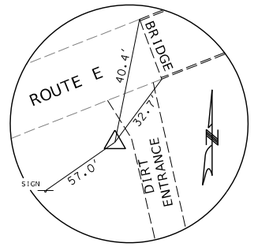
THE MISSOURI ONE CALL TICKET CHECK RESPONSES TO THE UTILITY MARKING FOR THE ABOVE TICKETS ARE PROVIDED AS SEPARATE SUPPORTING DOCUMENTS.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

NOTE: UTILITY LINES DESIGNATED AS (MAP) ARE SHOWN PER MAP RECORDS PROVIDED TO EFK, MOEN AND THE LOCATION SHOULD BE CONSIDERED APPROXIMATE.



CONTROL POINT NO. 10
SET IRON ROD W/CAP
N: 318014.400
E: 1064921.853
ELEV: 289.41



CONTROL POINT NO. 11
SET IRON ROD W/CAP
N: 317898.814
E: 1064827.653
ELEV: 289.17

ALIGNMENT INFORMATION FOR ROUTE E

ELEMENT	POINT TYPE	STATION	COORDINATES		OFFSET			
			NORTHING	EASTING	DELTA	RADIUS	TANGENT	LENGTH
TANGENT	POB	562+05.62	319170.8180	1065482.3609				
TANGENT	PC	565+86.07	318790.5891	1065495.3274				
ARC	PC	565+86.07	318790.5891	1065495.3274				
ARC	PI	569+66.52	318410.3601	1065508.2939	55°55'00" (RT)	716.7790	380.4498	699.5261
ARC	CC		318766.1595	1064778.9648				
ARC	PT	572+85.60	318186.5414	1065200.6460				
TANGENT	PT	572+85.60	318186.5414	1065200.6460				
TANGENT	POE	585+00.00	317472.1096	1064218.6302				

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REFERENCE TIES AND
CONTROL POINTS
SHEET 1 OF 1

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

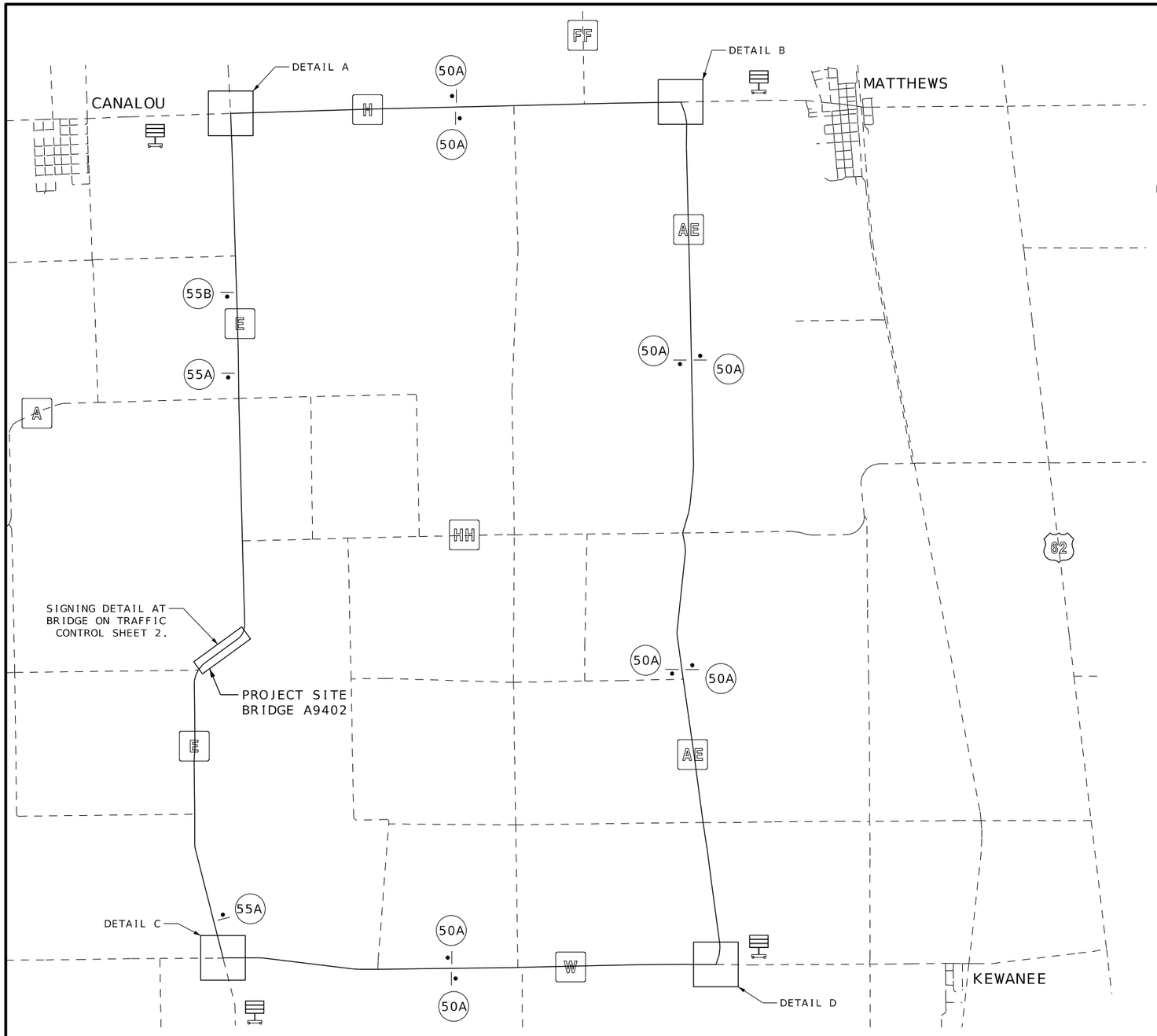
DATE PREPARED: 2/4/2025
ROUTE: E | STATE: MO
DISTRICT: SE | SHEET NO.: 5
COUNTY: NEW MADRID
JOB NO.: JSE0127
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen



NOT TO SCALE

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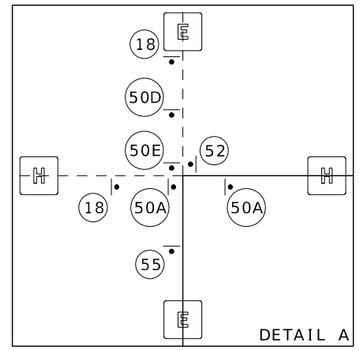

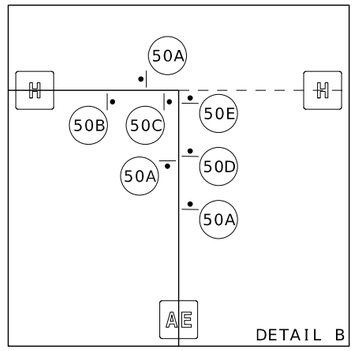

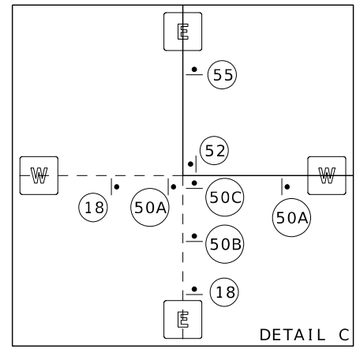

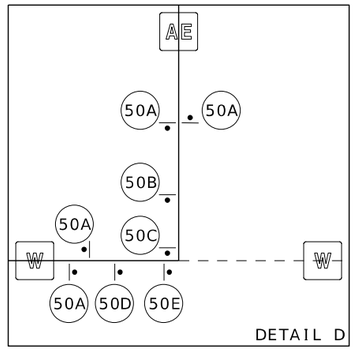

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- BARRICADE
- CHANGEABLE MESSAGE BOARD

NOTE: FOR TRAFFIC CONTROL SIGN SPACING, REFER TO TRAFFIC CONTROL SIGN SPACING TABLE ON TC SHEET 2.

FOR SIGN DETAILS, SEE TC SHEET 3.

TRAFFIC CONTROL
SHEET 1 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED	2/4/2025
ROUTE	E
STATE	MO
DISTRICT	SE
SHEET NO.	6
COUNTY	NEW MADRID
JOB NO.	JSE0127
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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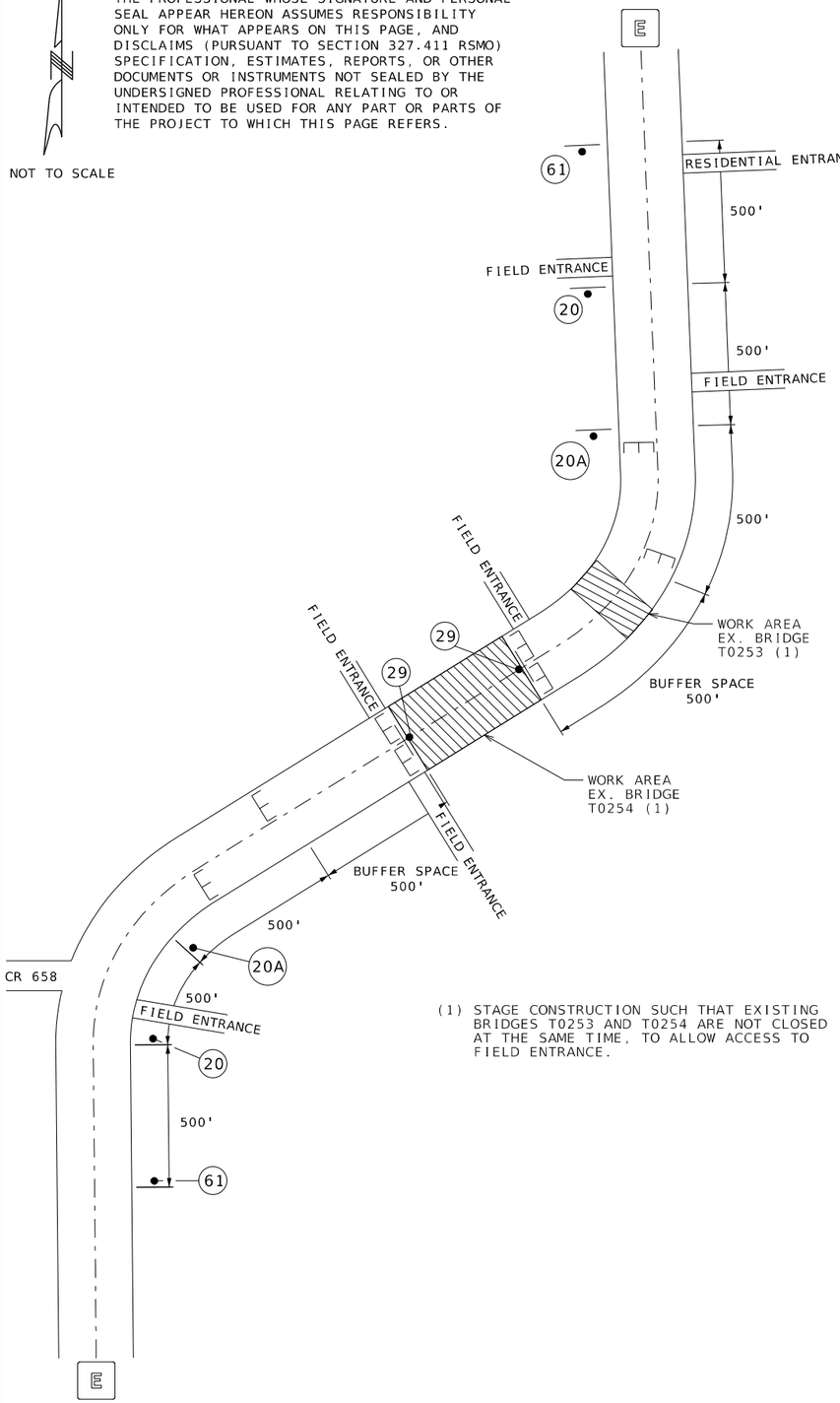
NOT TO SCALE

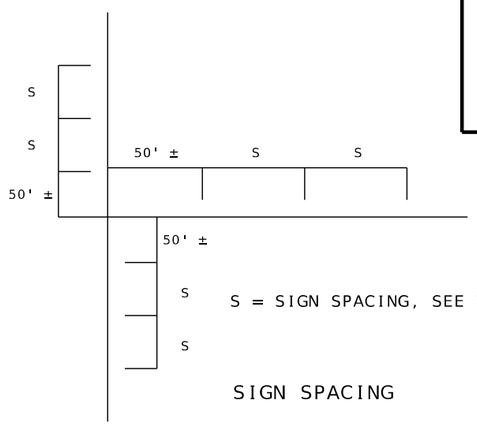


(1) STAGE CONSTRUCTION SUCH THAT EXISTING BRIDGES T0253 AND T0254 ARE NOT CLOSED AT THE SAME TIME, TO ALLOW ACCESS TO FIELD ENTRANCE.

RTE. E SIGNING DETAIL AT BRIDGE A9402

LONGITUDINAL BUFFER SPACE	
POSTED SPEED PRIOR TO CONSTRUCTION	LENGTH
≤ 35 MPH	280 FT
40-45 MPH	400 FT
50-55 MPH	560 FT
60-70 MPH	840 FT

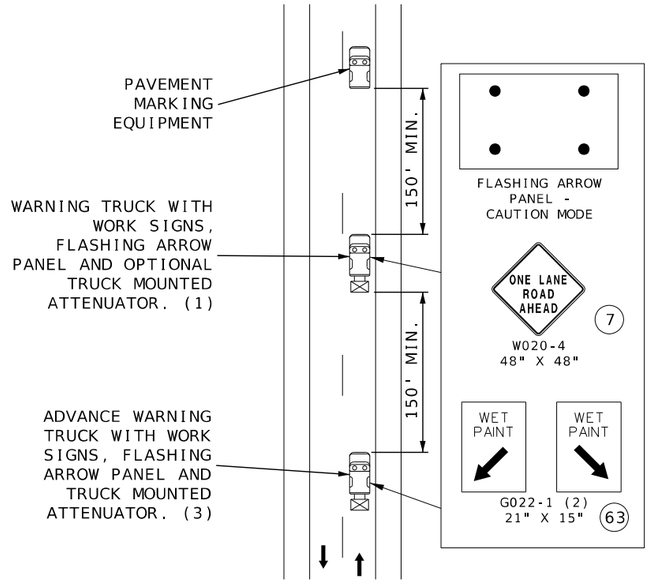
SIGN SPACING FOR ADVANCE SIGN SERIES	
POSTED SPEED PRIOR TO CONSTRUCTION	NON-DIVIDED HIGHWAYS (S)
≤ 35 MPH	200 FT
40-45 MPH	350 FT
50-55 MPH	500 FT
60-70 MPH	1000 FT



S = SIGN SPACING, SEE TABLE.

SIGN SPACING

MOVING OPERATION ON HIGHWAY OPEN TO TRAFFIC STRIPING



TWO LANE UNDIVIDED HIGHWAY

NOTES:

UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCK AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

(1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD IS MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.

(2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.

(3) ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL OR SPACING SHOWN, WHICHEVER IS GREATER.

(4) TRUCKS, FLASHING ARROW PANELS AND SIGNS ARE INCIDENTAL TO PAVEMENT MARKINGS.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZERS
- FLAGGER
- BARRICADE

TRAFFIC CONTROL SHEET 2 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED: 2/4/2025
ROUTE: E | STATE: MO
DISTRICT: SE | SHEET NO.: 7
COUNTY: NEW MADRID
JOB NO.: JSE0127
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

GENERAL NOTES:

ANY EXISTING WARNING OR REGULATORY SIGNS (NOT SHOWN) THAT INTERFERE WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

ALL TRAFFIC CONTROL SIGNS ARE TO BE NON-PORTABLE UNLESS OTHERWISE NOTED

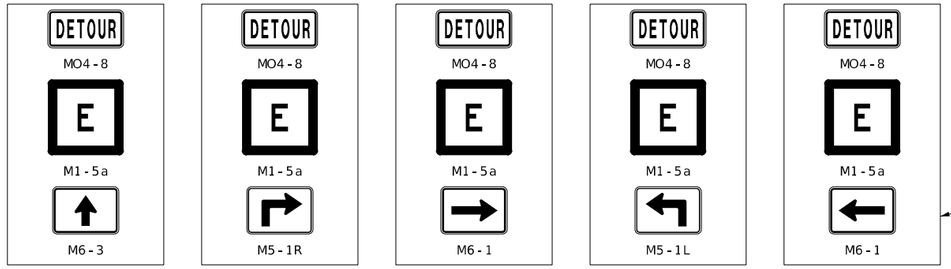
SEE STANDARD PLANS 616.10, 903.01 AND 903.03 FOR ADDITIONAL DETAILS REGARDING TRAFFIC CONTROL HIGHWAY SIGNING.

TEMPORARY TRAFFIC CONTROL SIGN AND DEVICE LOCATIONS MAY BE ADJUSTED UPON APPROVAL OF THE ENGINEER.

ANY RELOCATION OF SIGNS AND DEVICES FOR TRAFFIC CONTROL DEVICES OR SIGNS SHALL BE CONSIDERED INCIDENTAL, NO DIRECT PAY.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES. CONTRACTOR SHALL COORDINATE ACCESS TO FIELD ENTRANCES WITH PROPERTY OWNERS.

R11-2 SIGN ASSOCIATED WITH THE TYPE 3 MOVEABLE BARRICADES SHALL BE MOUNTED ON POST 7-10 FEET BEHIND THE BARRICADE.



50A 50B 50C 50D 50E

MO4-8a

52

R11-4

55

WO20-2

18

WO20-3

WO20-3a

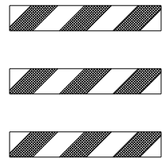
20A

R11-3a

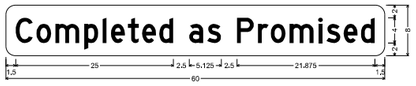
55A

R11-3a

55B

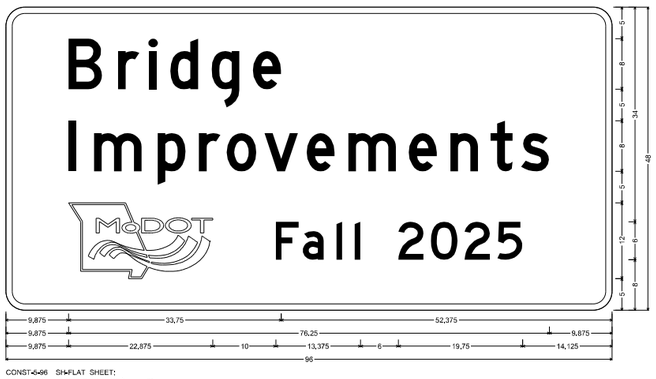


20



CONST-5P-60 SHT-FLAT SHEET FLUORESCENT:
1,500" Radius, No border, Yellow;
"Completed as Promised" Black, D 65% spacing;
Table of letter and object lefts

C	o	m	p	l	e	t	e	d	a	s	
1,500	4,875	7,875	12,375	15,375	16,625	19,375	21,500	24,250	29,000	31,875	
P	r	o	m	i	s	e	d	56,250			
36,625	39,875	41,875	44,875	49,500	50,750	53,500					



CONST-5-96 SH-FLAT SHEET:
3,000" Radius, 1,000" Border, White on, Blue;
"Bridge", D; "Improvements", D; "Fall 2023", D;
Table of letter and object lefts

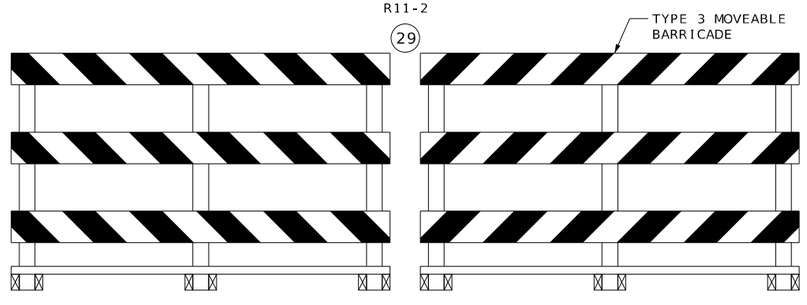
B	r	i	d	s	e
9,875	17,750	22,750	26,000	32,625	39,125
I	m	p	r	o	v
9,875	14,000	24,000	30,625	35,000	41,000
e	m	e	n	t	s
47,625	54,250	63,750	70,375	76,750	81,825
F	a	l	l	2	0
9,875	42,750	47,000	52,375	55,250	62,125
2	3				
67,375	72,625	77,875			

CONST-5

61

R11-2

29



TRAFFIC CONTROL
SHEET 3 OF 3

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STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
SE	8

COUNTY
NEW MADRID

JOB NO.
JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

\\hrgreen.com\hrg\Data\2023\2302274\CAD\Roadway\SE0127_RouteE_NewMadrid\Plan_Sheets\008_TC_03_SE0127_I20.dgn 10:31:22 AM 2/4/2025

TEMPORARY EROSION CONTROL LEGEND

- (S) SEDIMENT TRAP
- TYPE 2 ROCK BLANKET
- SILT FENCE

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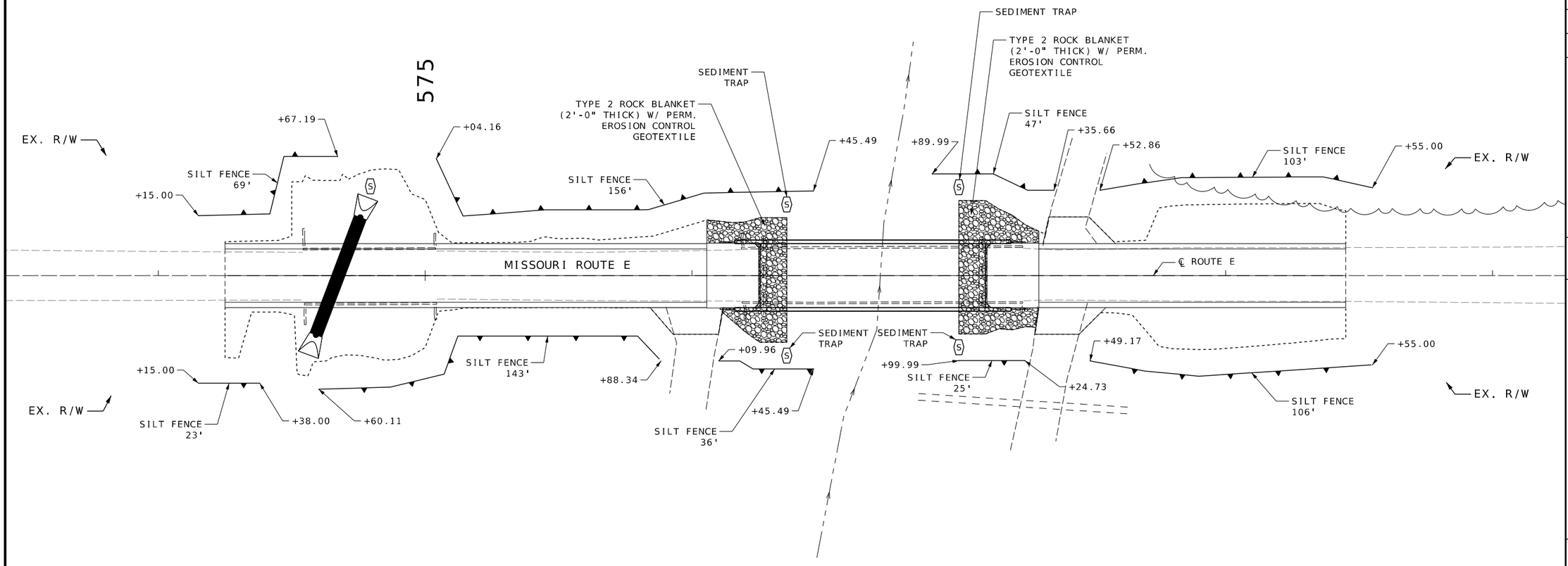
SCALE
0 20 40 60

RECEIVING WATERS: LRDD 251



ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

EROSION CONTROL
SHEET 1 OF 1

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED	2/4/2025
ROUTE	E
STATE	MO
DISTRICT	SE
SHEET NO.	9
COUNTY	NEW MADRID
JOB NO.	JSE0127
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

STRIPING LEGEND

4" SOLID WHITE (S.W)
STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS

4" DOUBLE SOLID (D.Y.)
YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS

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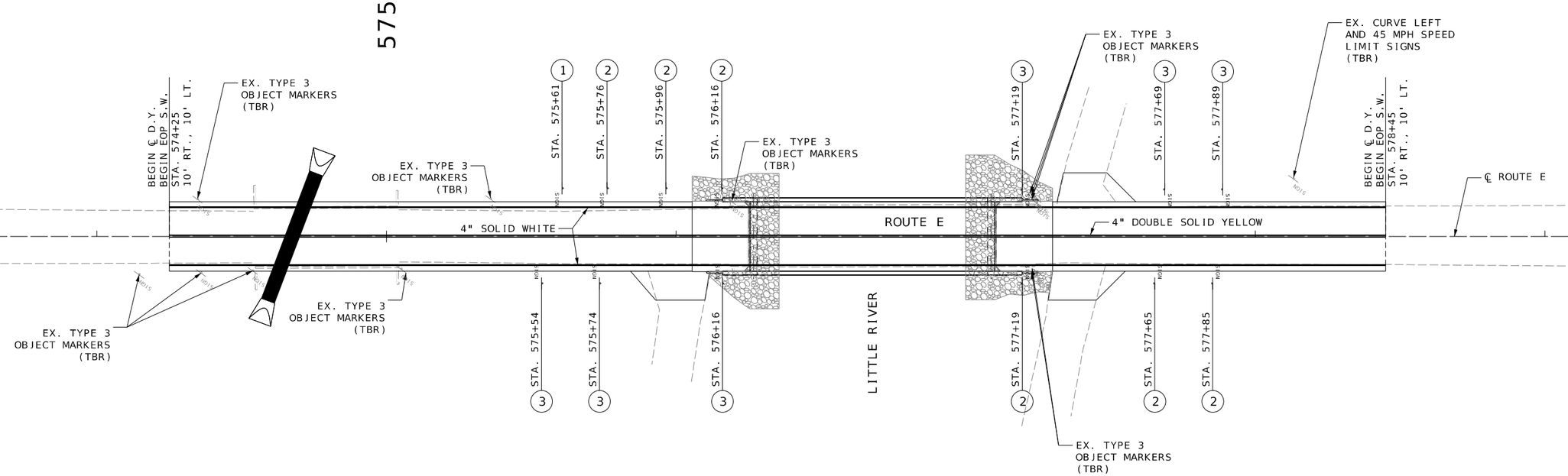
SCALE
0 20 40 60

575



ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

SIGNING AND STRIPING PLAN
1 OF 3

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
SE	10

COUNTY
NEW MADRID

JOB NO.
JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

EFFECTIVE 07-01-2022

SIGNS						CONCRETE FOOTINGS EMBEDDED	STRUCTURAL STEEL POSTS *						PIPE POSTS *					BACKING BARS **				U-CHANNEL POST	PERFORATED SQUARE STEEL TUBE												REMARKS AND OTHER REQUIRED ITEMS
902 SIGNAL SIGNS TABULATED ON D-37A SHEET																						2 IN. POST						2.5 IN. POST						BREAK-AWAY ASSEMBLY	
																									ANCHORS						ANCHORS			
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	ITEM NO. 9031010	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL ITEM NO. 9031210	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220	2" X ▯" BARS @ 2.55 LBS PER FT NO. EACH	LGTH	TOTAL	TOTAL	ITEM NO. 9031250A	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A	DRIVEN 12-GA. ITEM NO. 9031271A	DRIVEN 7-GA. ITEM NO. 9031273A	CONCRETE 7-GA. ITEM NO. 9031274	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280	2.25" INSERT (6 FT) ITEM NO. 9031272A	DRIVEN 7-GA. ITEM NO. 9031281A	CONCRETE 7-GA. ITEM NO. 9031285	ITEM NO. 9031241	
						CY		LF	LF	LF		LBS	IN.	LF	LF		LBS	EACH	IN.	LF	LBS	LF	LF	LF	LF	EA	EA	EA	LF	LF	LF	EA	EA	EA	EA	
1	ASSY	575+61		LEFT																		11.0														STANDARD MOUNTING HEIGHT
2	12"x36"	575+76		LEFT																		11.0														STANDARD MOUNTING HEIGHT
2	12"x36"	575+96		LEFT																		9.0														1/2 STANDARD MOUNTING HT.
2	12"x36"	576+16		LEFT																		7.0														GROUND LEVEL MOUNTING HT.
3	12"x36"	575+54		RIGHT																		11.0														STANDARD MOUNTING HEIGHT
3	12"x36"	575+74		RIGHT																		9.0														1/2 STANDARD MOUNTING HT.
3	12"x36"	576+16		RIGHT																		7.0														GROUND LEVEL MOUNTING HT.
3	12"x36"	577+19		LEFT																		7.0														GROUND LEVEL MOUNTING HT.
3	12"x36"	577+69		LEFT																		9.0														1/2 STANDARD MOUNTING HT.
3	12"x36"	577+89		LEFT																		11.0														STANDARD MOUNTING HEIGHT
2	12"x36"	577+19		RIGHT																		7.0														GROUND LEVEL MOUNTING HT.
2	12"x36"	577+65		RIGHT																		9.0														1/2 STANDARD MOUNTING HT.
2	12"x36"	577+85		RIGHT																		11.0														STANDARD MOUNTING HEIGHT
SUBTOTAL																						119														
TOTAL																					**	119														

* BREAKAWAY ASSEMBLY IS INCIDENTAL FOR STRUCTURAL STEEL AND PIPE POSTS.
** BACKING BARS ARE TOTALED WITH STRUCTURAL STEEL OR PIPE POSTS.

ROUND PIPE POST AND FOOTING DATA TABLE

NOM.SIZE	WEIGHT		STUB LENGTH	FOOTING		CONCRETE
(IN.)	LBS/FT	LBS/IN		DIA.	DEPTH	C.Y.
2½	5.79	0.48	4'- 3½"	12"	4~6"	0.13
3	7.58	0.63	4'- 3½"	12"	4~6"	0.13
4	10.79	0.90	5'- 3½"	18"	5~6"	0.36

STRUCTURAL STEEL POST AND FOOTING DATA TABLE

POST DES. NO.	NOM. SIZE	POST WEIGHT LBS/FT	POST WEIGHT LBS/IN	POST STUB LENGTH	FOOTING DIA.	FOOTING LEVEL GROUND DEPTH	FOOTING LEVEL GROUND C.Y.	FOOTING 6:1 GRADE DEPTH	FOOTING 6:1 GRADE C.Y.	FOOTING 4:1 GRADE DEPTH	FOOTING 4:1 GRADE C.Y.	FOOTING 3:1 OR 2:1 GRADE DEPTH	FOOTING 3:1 OR 2:1 GRADE C.Y.
1	W6	9.0	0.75	3'-0"	15"	3'-0"	0.14	3'-2"	0.15	3'-3"	0.16	3'-6"	0.17
2	W6	15.0	1.25	4'-0"	24"	4'-0"	0.47	4'-2"	0.50	4'-3"	0.51	4'-6"	0.54
3	W8	18.0	1.50	4'-6"	28"	4'-6"	0.71	4'-8"	0.73	4'-9"	0.74	5'-0"	0.78
4	W10	22.0	1.83	5'-0"	36"	5'-0"	1.31	5'-2"	1.36	5'-3"	1.39	5'-6"	1.45
5	W10	26.0	2.17	5'-0"	36"	5'-0"	1.31	5'-3"	1.37	5'-5"	1.43	5'-9"	1.52
6	W12	35.0	2.92	5'-6"	36"	5'-6"	1.44	5'-9"	1.52	5'-11"	1.56	6'-3"	1.65

SIGN QUANTITIES
2 OF 3

D-29

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
SE	11

COUNTY
NEW MADRID

JOB NO.
JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

EFFECTIVE 10-01-2016

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE: OM3-L	TYPE: OM3-R	TYPE: W1-2L	TYPE: W13-1P
			SIGN DESCRIPTION, SIZES & NUMBER OF EACH			
			12"x36"	12"x36"	36"x36"	24"x24"
1	575+61	ROUTE E LEFT			1	1
2	575+76	ROUTE E LEFT	1			
2	575+96	ROUTE E LEFT	1			
2	576+16	ROUTE E LEFT	1			
3	575+54	ROUTE E RIGHT		1		
3	575+74	ROUTE E RIGHT		1		
3	576+16	ROUTE E RIGHT		1		
3	577+19	ROUTE E LEFT		1		
3	577+69	ROUTE E LEFT		1		
3	577+89	ROUTE E LEFT		1		
2	577+19	ROUTE E RIGHT	1			
2	577+65	ROUTE E RIGHT	1			
2	577+85	ROUTE E RIGHT	1			

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH (ITEM NO. 9035004A)	FLAT SHEET FLUORESCENT SHF * (ITEM NO. 9035069A)	STRUCTURAL ST (ITEM NO. 9035011A)	STRUCTURAL FLUORESCENT STF * (ITEM NO. 9035071A)
TYPE 3 OBJECT MARKER (LEFT)		6	12" X 36"		18.0		
OM3-L							
TYPE 3 OBJECT MARKER (RIGHT)		6	12" X 36"		18.0		
OM3-R							
CURVE (LEFT) WARNING		1	36" X 36"		9.0		
W1-2L							
ADVISORY SPEED (45 M.P.H.)		1	24" X 24"		4.0		
W13-1P							
TOTAL					49.0		

* ORANGE, YELLOW & YELLOW/GREEN

SIGN QUANTITIES
3 OF 3

D-30

STATE OF MISSOURI
PROFESSIONAL ENGINEER
ANDREA S. DAVIS
PE-2018021250

DATE PREPARED: 2/4/2025
ROUTE: E | STATE: MO
DISTRICT: SE | SHEET NO.: 12
COUNTY: NEW MADRID
JOB NO.: JSE0127
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
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PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

HRGreen

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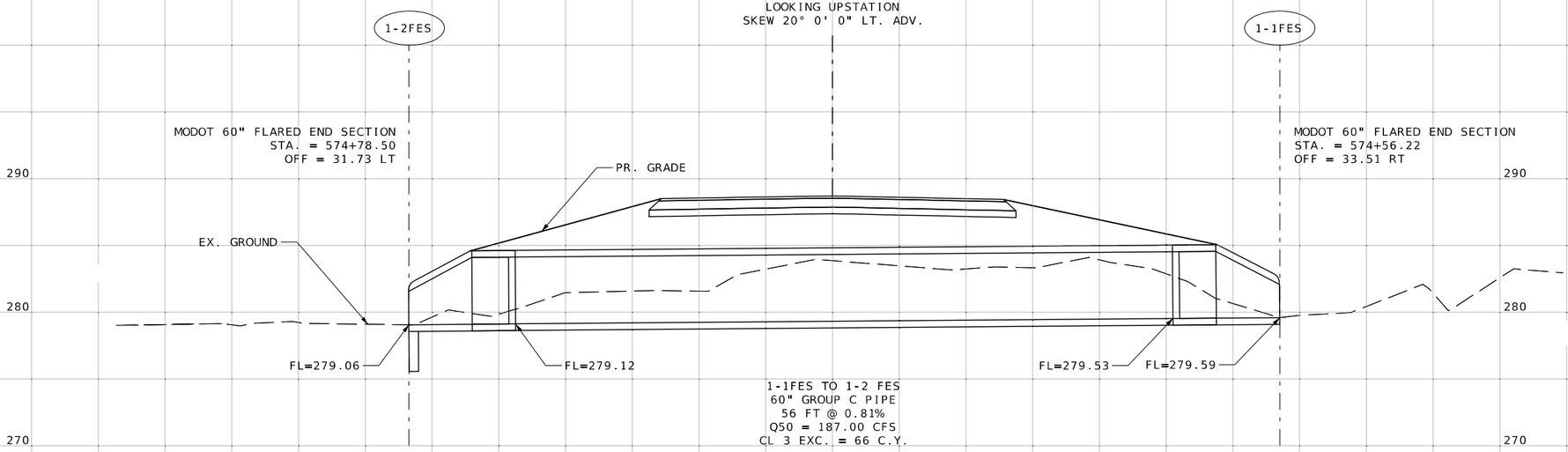

CULVERT SECTION
SHEET 1 OF 1

STATE OF MISSOURI
ANDREA S. DAVIS
PE-2018021250
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
SE	13

COUNTY
NEW MADRID

JOB NO.
JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
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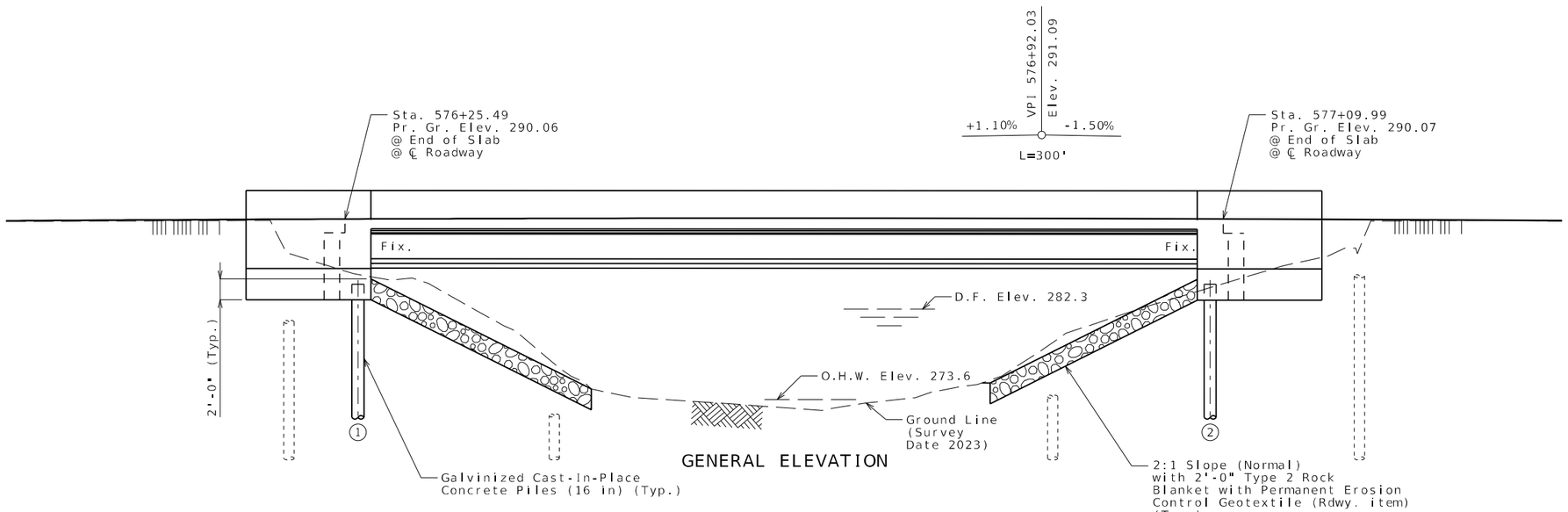
CORPORATE LICENSE #2002006608

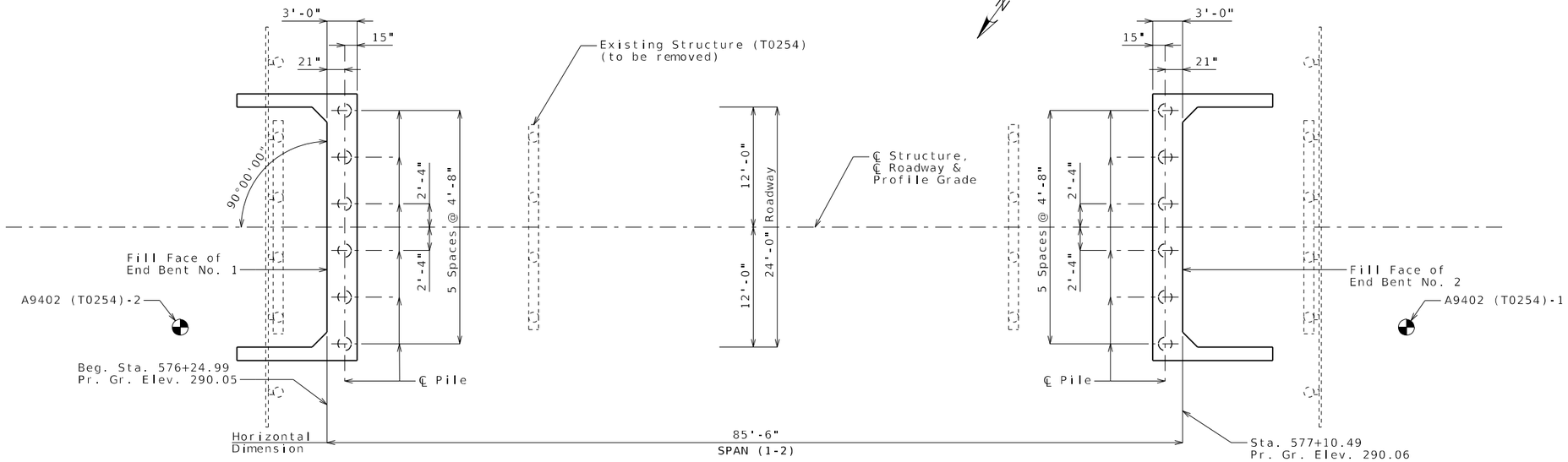
HRGreen

SEC/SUR 20 TWP 24N RGE 13E

(82') PRESTRESSED CONCRETE NU-GIRDER SPAN



GENERAL ELEVATION



PLAN

Indicates location of borings

Notice and Disclaimer Regarding Boring Log Data
The locations of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No. 19 & 20 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

B.M. 1 = CUT SQUARE ON SOUTH END OF WEST BRIDGE CURB ON ROUTE E OVER THE LITTLE RIVER DRAINAGE DITCH #251, ELEV 290.53'

BRIDGE: ROUTE E OVER LITTLE RIVER DITCH NO. 251

ROUTE E FROM ROUTE HH TO ROUTE W
ABOUT 1.8 MILES SOUTH OF ROUTE A
BEGINNING STATION 576+24.99

Designed July 2024
Detailed July 2024
Checked July 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

Estimated Quantities

Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	70		70
Removal of Bridge (T0254)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard			109
Galvanized Cast-In-Place Concrete Piles (16 in)	linear foot	720		720
Dynamic Pile Testing	each	2		2
Class B Concrete (Substructure)	cu. yard	23.8		23.8
Type H Barrier	linear foot		207	207
Slab on Concrete NU-Girder	sq. yard		250	250
NU 43, Prestressed Concrete NU-Girder	linear foot		248	248
Slab Drain	each		16	16
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		6	6

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents and all reinforcement in cast-in-place pile at end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Foundation Data

Type	Design Data		Bent Number 1	Bent Number 2
Load Bearing Pile	Pile Type and Size		CECIP 16"	CECIP 16"
	Number	ea	6	6
	Approximate Length Per Each	ft	60	60
	Pile Point Reinforcement	ea	None	None
	Min. Galvanized Penetration (Elev.)	ft	262	262
	Minimum Tip Penetration (Elev.)	ft	267	267
	Criteria for Min. Tip Penetration		Min. Embed.	Min. Embed.
	Pile Driving Verification Method		DT	DT
	Resistance Factor		0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip	238	238

CECIP = Closed Ended Cast-In-Place concrete pile

DT = Dynamic Testing

Minimum Nominal Axial Compressive Resistance = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = D
Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{D1} = 0.769g
Acceleration Coefficient (effective peak ground acceleration coefficient), A_S = 0.75g

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)
Superstructure: Non-Composite for dead load.
Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure, except CECIP Concrete Pile)	f'c = 3,000 psi
Class B-1 Concrete (Barrier & CECIP Concrete Pile)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60)	fy = 60,000 psi
Welded or Seamless steel shell (pipe) for CIP pile (ASTM A252 Grade 3)	fy = 45,000 psi

For precast prestressed panel stresses, see Sheet No. 9.

For prestressed girder stresses, see Sheets No. 7 & 8.

Neoprene Pads:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.

Miscellaneous:

MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

☐ Constant Joint Filler
☐ Variable Joint Filler

Hydrologic Data

Drainage Area = 44 mi^2
Design Flood Frequency = 50 years
Design Flood Discharge = 2,100 cfs
Design Flood (D.F.) Elevation = 282.3
Base Flood (100-year)
Base Flood Elevation = 282.6
Base Flood Discharge = 2,300 cfs
Estimated Backwater = 0.0 ft
Average Velocity thru Opening = 4.0 ft/s
Freeboard (50-year)
Freeboard = 3.1 ft
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency > 500 years
500-Year Flood Elevation = 283.4

Estimated Quantities for Slab on Concrete NU-Girder

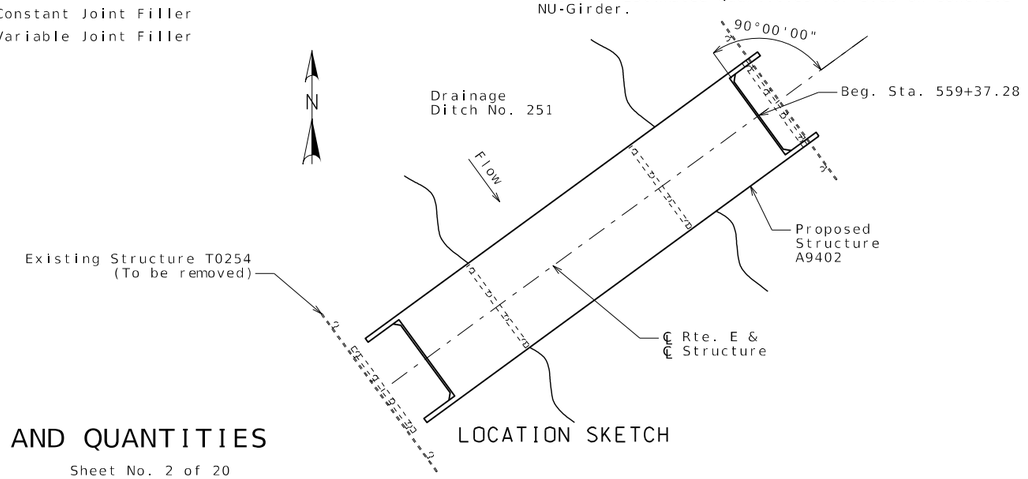
Item		Total
Class B-2 Concrete	cu. yard	96
Reinforcing Steel (Epoxy Coated)	pound	19,710

The table of Estimated Quantities for Slab on Concrete NU-Grider represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete NU-Girder.



LOCATION SKETCH

GENERAL NOTES AND QUANTITIES

Detailed July 2024
Checked July 2024

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
KEVIN J. BREHM
PE-2010024490
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
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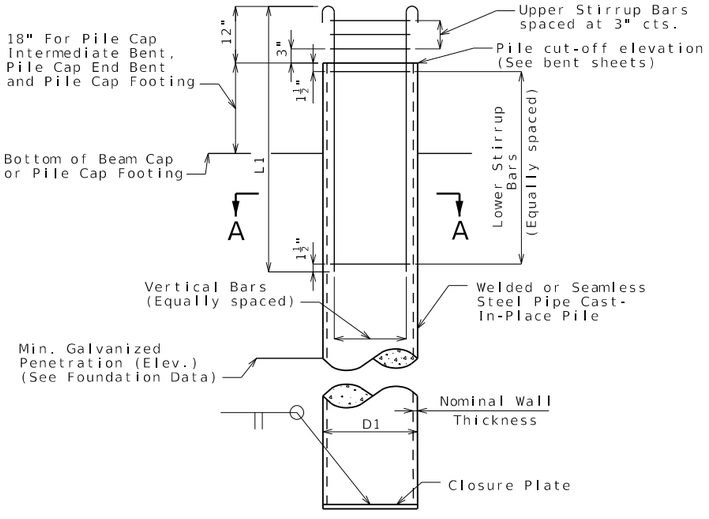
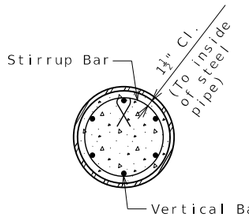
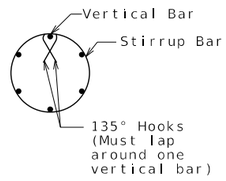
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



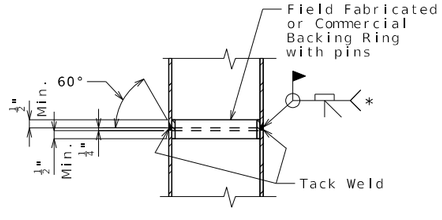
GALVANIZED CLOSED ENDED CAST-IN-PLACE (CECIP) CONCRETE PILE
WITHOUT PILE POINT REINFORCEMENT



SECTION A-A



DETAIL OF SEISMIC STIRRUP BAR



STEEL PIPE PILE SPLICE

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

Galvanized Closed Ended Cast-In-Place (CECIP) Concrete Pile Data		
Bent Number	1	2
D1, CECIP Pile (O.D.)	16"	16"
Min. Nominal Wall Thickness	1/2"	1/2"
Closure Plate Thickness	3/4"	3/4"
Pile Point Reinforcement	None	None
Vertical Bars	6-#6-V13	6-#6-V13
L1, Length of Vertical Bars	6'-6"	6'-6"
Upper Stirrup Bars	3-#4-P10	3-#4-P10
Lower Stirrup Bars	17-#4-P10	17-#4-P10

Notes:

Welded or seamless steel shell (pipe) shall be ASTM A252 Grade 3 (fy = 45,000 psi).

Concrete for cast-in-place pile shall be Class B-1.

Steel for closure plate shall be ASTM A709 Grade 50.

The minimum wall thickness of any spot or local area of any type shall not be more than 12.5% under the specified nominal wall thickness.

The contractor shall determine the pile wall thickness required to avoid damage from all driving activities, but wall thickness shall not be less than the minimum specified. No additional payment will be made for furnishing a thicker pile wall than specified on the plans.

Closure plate shall not project beyond the outside diameter of the pipe pile. Satisfactory weldments may be made by beveling tip end of pipe or by use of inside backing rings. In either case, proper gaps shall be used to obtain weld penetration full thickness of pipe. Payment for furnishing and installing closure plate will be considered completely covered by the contract unit price for Galvanized Cast-In-Place Concrete Piles.

Splices of pipe for cast-in-place concrete pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe damaged during driving shall be replaced without cost to the state. Pipe sections used for splicing shall be at least 5 feet in length.

The hooks of vertical bars embedded in the beam cap should not be turned outward, away from the pile core.

Closure plate need not be galvanized.

Reinforcing steel for cast-in-place piles is included in the Bill of Reinforcing Steel.

All reinforcement in cast-in-place pile at end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

For Foundation Data table, see Sheet No. 2.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION	DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
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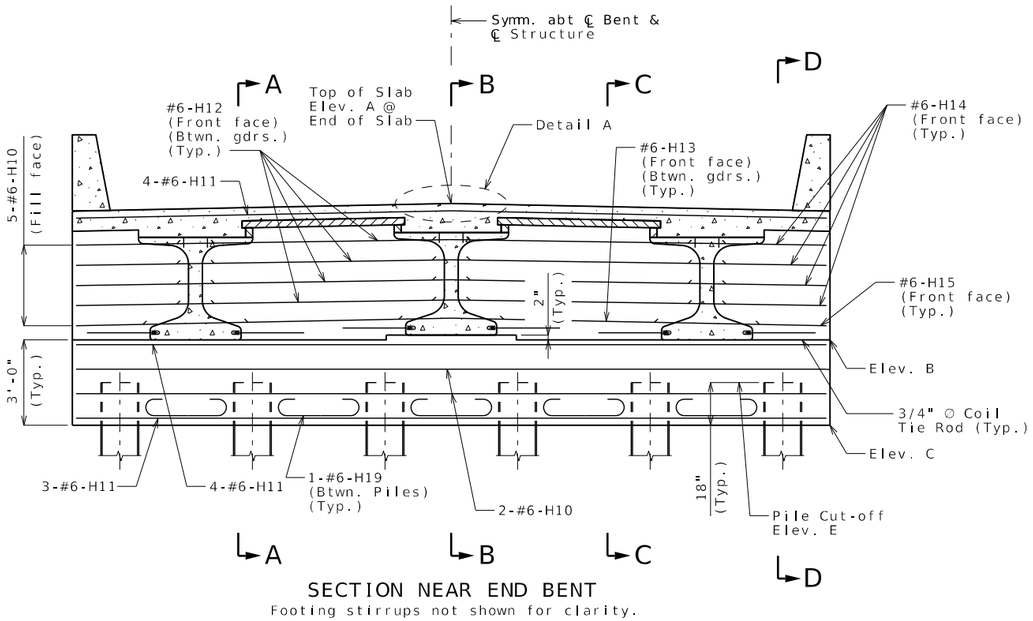
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

GALVANIZED CLOSED ENDED CAST-IN-PLACE (CECIP) CONCRETE PILE

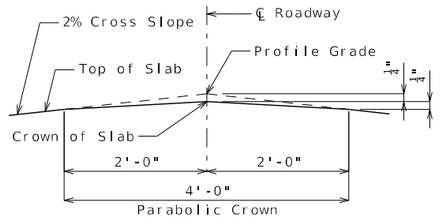
Detailed Feb. 2024
Checked Feb. 2024

Note: This drawing is not to scale. Follow dimensions.

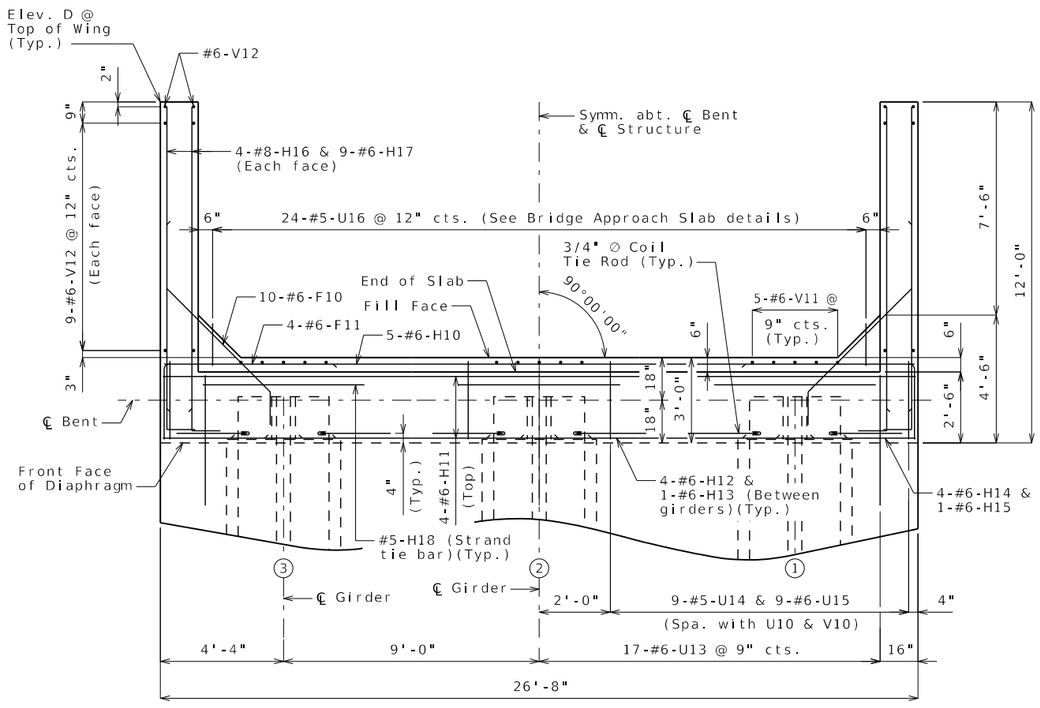


SECTION NEAR END BENT

Footing stirrups not shown for clarity.



DETAIL A



PART PLAN

General Notes:

Work this sheet with Sheet No. 5.

For Sections A-A, B-B, C-C & D-D, see Sheet No. 5.

The #6-F10 bars shall be bent in the field to clear girders.

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

For details of cast-in-place concrete piles, see Sheet No. 3.

For details of vertical drain at end bents, see Sheet No. 6.

For location of coil tie rods and #5-H18 (strand tie bar), see Sheets No. 7 & 8.

For details of bridge approach slab, see Sheet No. 16.

Elevations					
Location	A	B	C	D	E
End Bent 1	290.04	285.32	282.32	289.75	283.82
End Bent 2	290.05	285.34	282.34	289.76	283.84

Substructure Quantity Table For Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	35
Galvanized Cast-In-Place Concrete Piles (16 in.)	linear foot	360
Dynamic Pile Testing	each	1
Class B Concrete (Substructure)	cu. yard	11.9

Substructure Quantity Table For Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	35
Galvanized Cast-In-Place Concrete Piles (16 in.)	linear foot	360
Dynamic Pile Testing	each	1
Class B Concrete (Substructure)	cu. yard	11.9

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF END BENTS NO. 1 & 2

Detailed Feb. 2024
Checked Feb. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION | DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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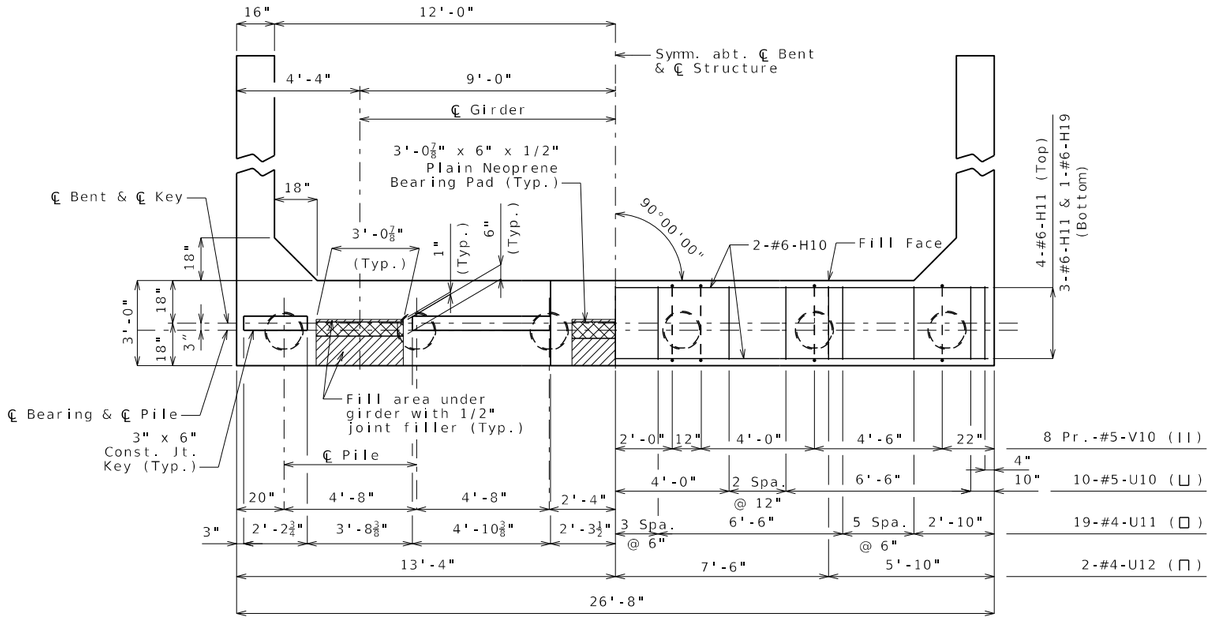
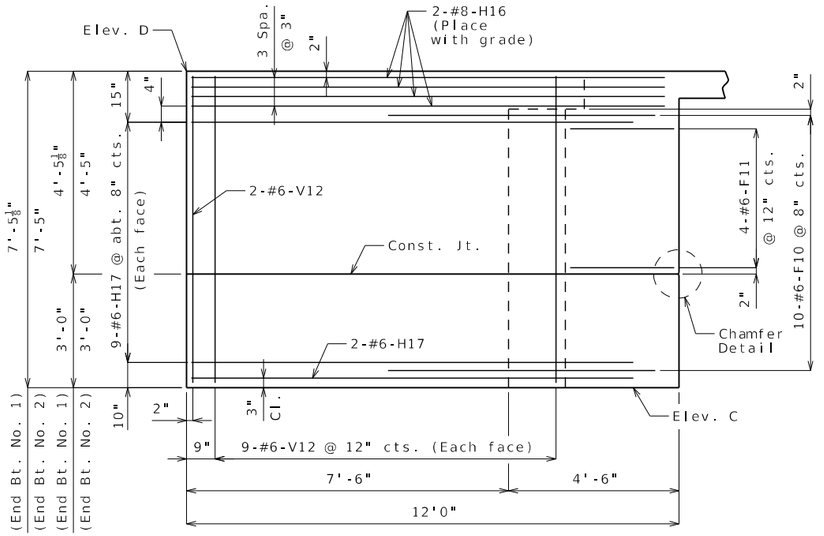
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

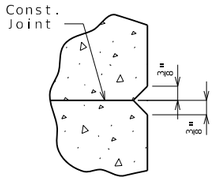


HALF PLAN OF BEAM

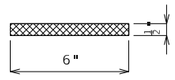
HALF PLAN OF BEAM
SHOWING REINFORCEMENT
Keys not shown for clarity.



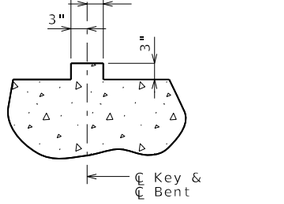
TYPICAL ELEVATION OF WING



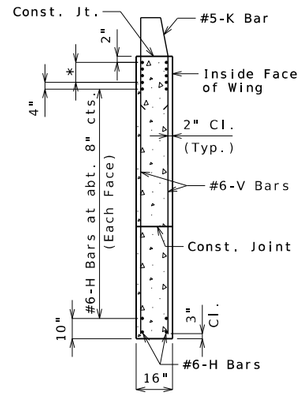
CHAMFER DETAIL



SECTION THRU PLAIN NEOPRENE BEARING PAD

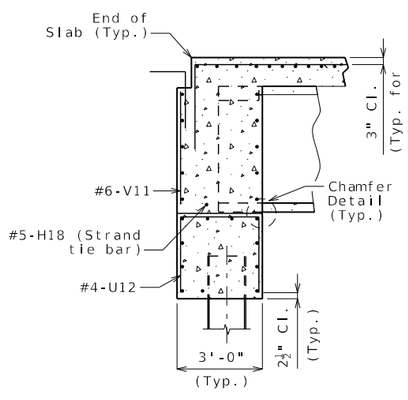


SECTION THRU KEY

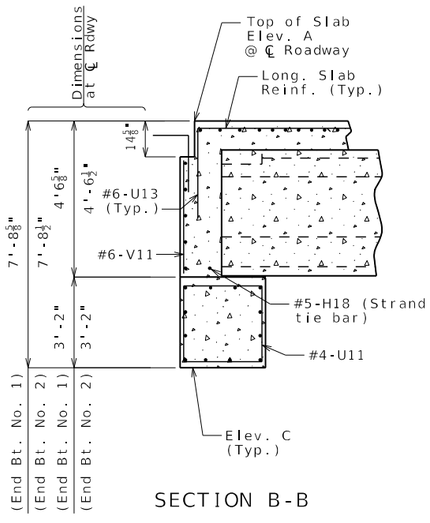


TYPICAL SECTION THRU WING

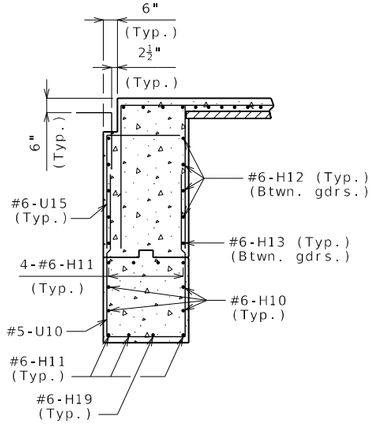
* #8-H Bars at 3" cts. (Each face)(Place with grade)



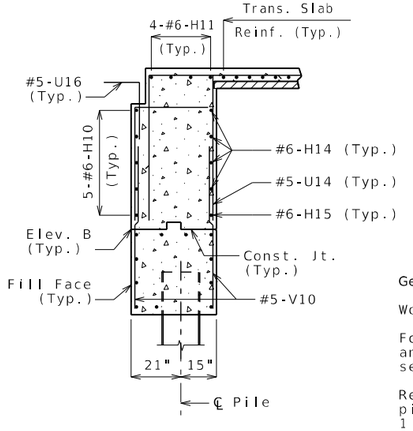
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

General Notes:

Work this sheet with Sheet No. 4.

For location of Sections A-A, B-B, C-C & D-D and table showing Elevations A, B, C & D, see Sheet No. 4.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1 1/2 inches.

For reinforcement of the barrier, see Sheet No. 15.

DETAILS OF END BENTS NO. 1 & 2

Detailed Feb. 2024
Checked Feb. 2024

Note: This drawing is not to scale. Follow dimensions.

\\hrgreen.com\hrg\Data\2023\2302274\CAD\Bridge\SE0127_RouteE_NewMadrid\Plan_Sheets\B_A9402_005_SE0127_EndBentDtls.dgn 10:05:35 AM 2/4/2025

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

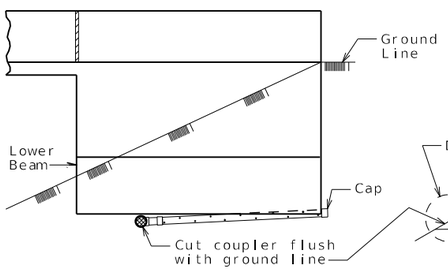
DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 5
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION | DATE

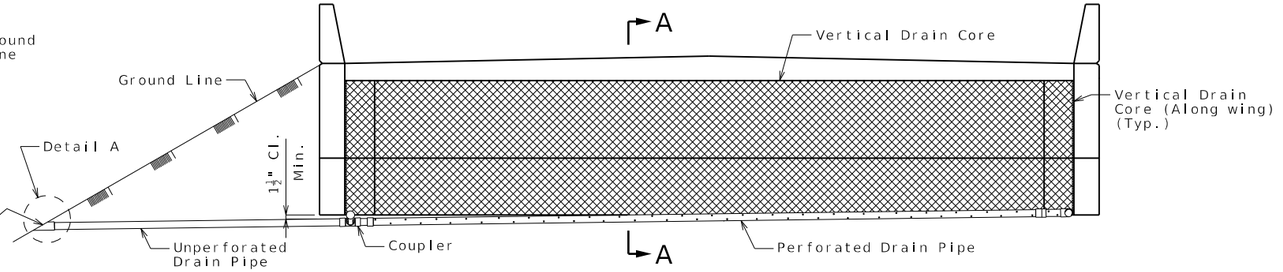
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

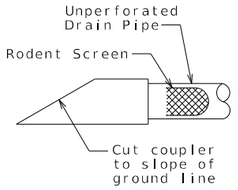
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



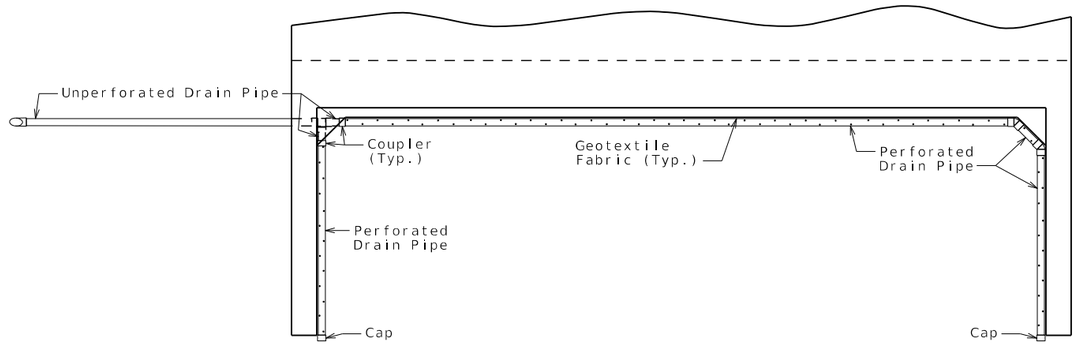
ELEVATION OF WING



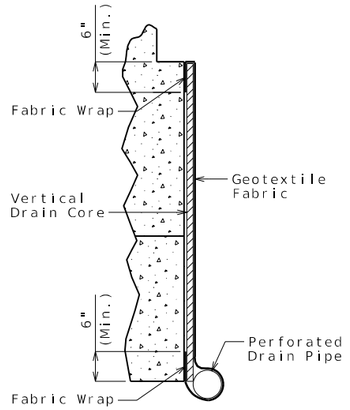
ELEVATION OF END BENT



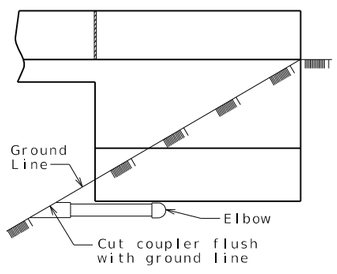
DETAIL A



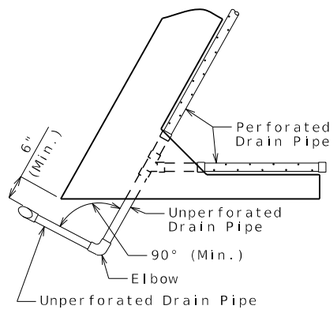
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN
(Use only when straight drain is not practical.)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED 2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
BR	6

COUNTY: NEW MADRID
JOB NO.: JSE0127
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A9402

DESCRIPTION / DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

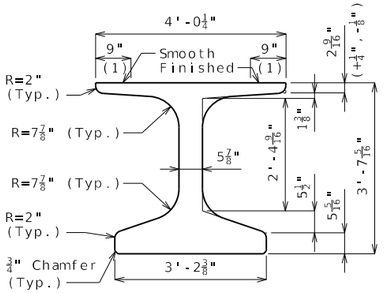
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

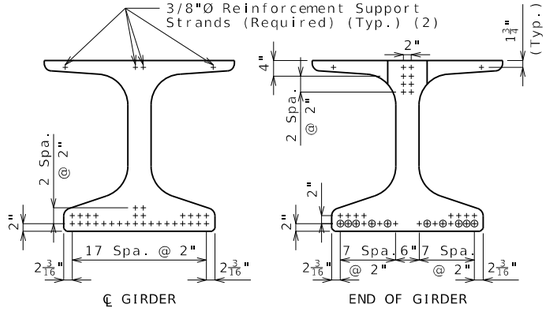
\\hrgreen.com\hrg\Data\2023\2302274\CAD\Bridge\SE0127_RouteE_NewMadrid\Plan_Sheets\B_A9402_006_SE0127_VerticalDrainDtls.dgn 10:05:36 AM 2/4/2025

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



DIMENSIONS

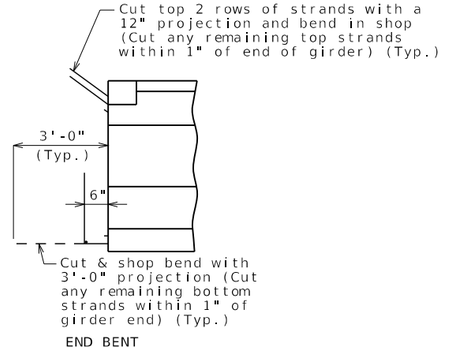
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



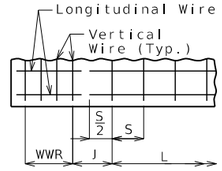
STRAND ARRANGEMENT

+ Indicates prestressing strand.

o Indicates cut & shop bend with 3'-0" projection.



STRANDS AT GIRDER ENDS



WELDED WIRE PLACEMENT

S = Vertical wire spacing

L = Length of WWR mats

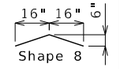
J = Distance between WWR mats

Bill of Reinforcing Steel

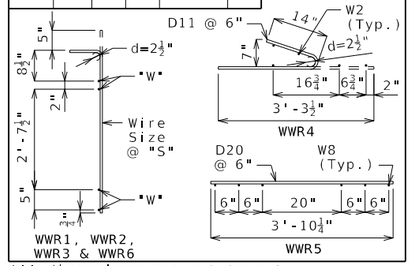
Bars Each Girder				
No.	Size/Mark		Length	Shape
104	3	G1	2'-10"	8
2	4	G3	3'-10"	20

Welded Wire Each Girder						
Mark	Size	S	W	L	J
WWR1	D31	4"	W12	16"	4"
WWR2	D31	12"	W12	17'-0"	12"
WWR3	D31	24"	W12	40'-0"	--
WWR6	D31	2"	W12	16"	2½"

Bending Diagrams



Shape 20



All dimensions are out to out.

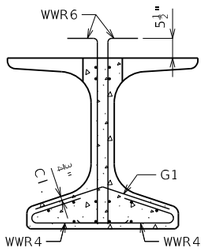
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1", unless otherwise shown.

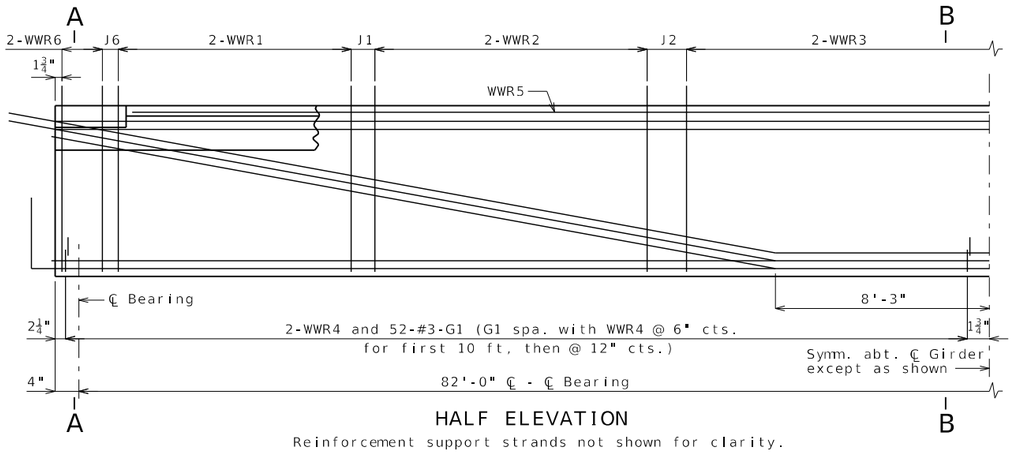
All bar reinforcement shall be Grade 60.

WWR shall not be epoxy coated.



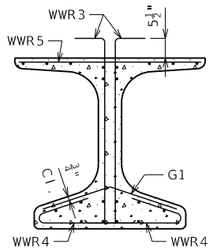
SECTION A-A

Strands not shown for clarity.



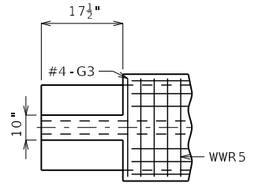
HALF ELEVATION

Reinforcement support strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.



INTERIOR GIRDER & EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 30 strands, 0.6"Ø Grade 270, with an initial prestress force of 1,318 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: application of bond breaker, coil inserts for slab drains.

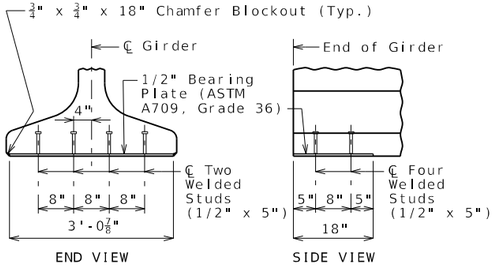
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 11.

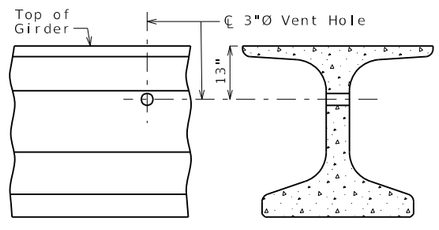
For location of coil inserts at slab drains, see Sheet No. 10.

For location of coil ties at integral bents, see Sheets No. 4 and 5.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

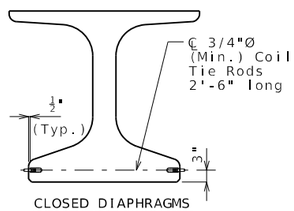


BEARING PLATE



VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum.



CLOSED DIAPHRAGMS AND INTEGRAL BENTS

COIL TIES

Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

NU-GIRDERS - SPAN (1-2)

KEVIN J. BREHM PE-2010024490
STATE OF MISSOURI PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

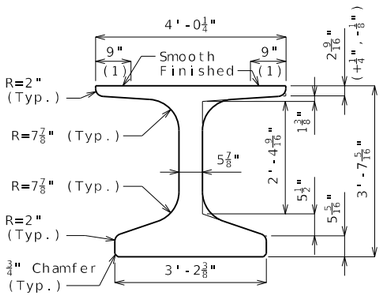
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

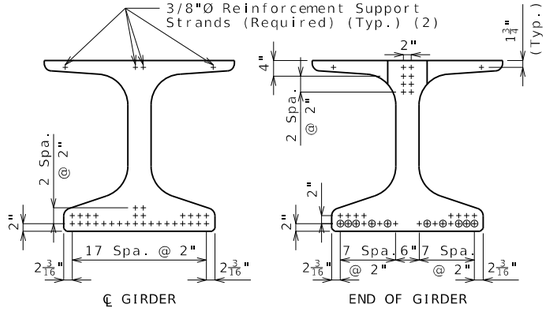
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen

(1) Fabricator shall apply a bond breaker to this region excluding where joint filler will be applied.



DIMENSIONS

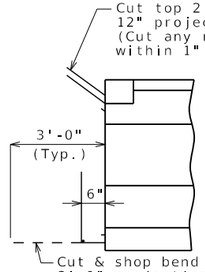
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



STRAND ARRANGEMENT

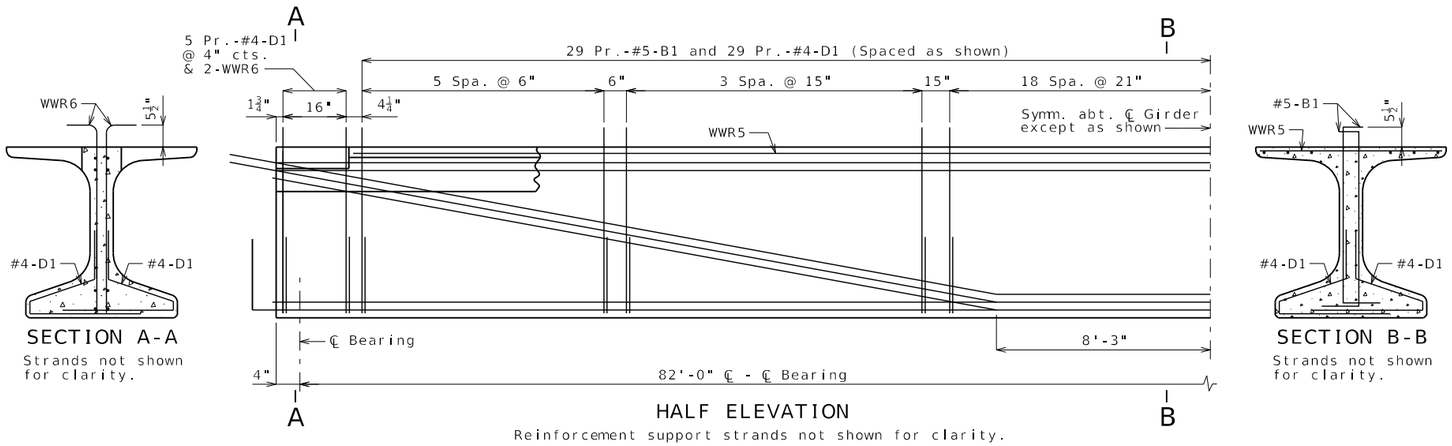
+ Indicates prestressing strand.

Cut top 2 rows of strands with a 12" projection and bend in shop (Cut any remaining top strands within 1" of end of girder) (Typ.)



STRANDS AT GIRDER ENDS

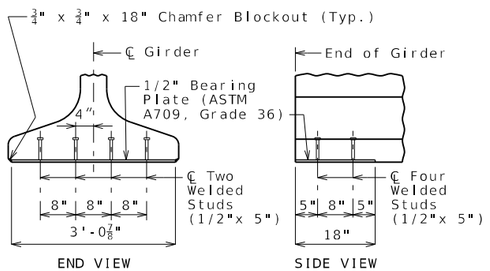
○ Indicates cut & shop bend with 3'-0" projection.



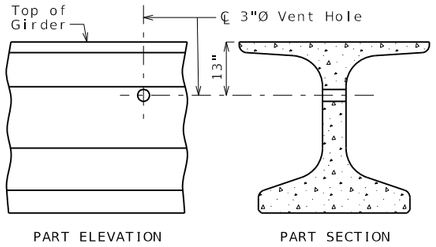
SECTION A-A
Strands not shown for clarity.

SECTION B-B
Strands not shown for clarity.

HALF ELEVATION
Reinforcement support strands not shown for clarity.

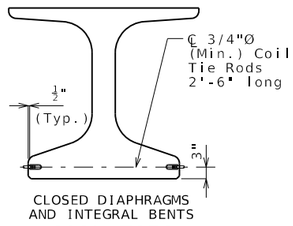


BEARING PLATE

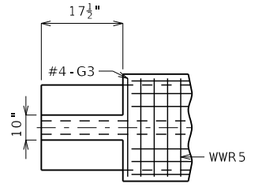


VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum.



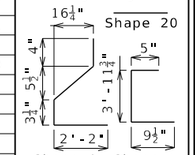
CLOSED DIAPHRAGMS AND INTEGRAL BENTS
COIL TIES



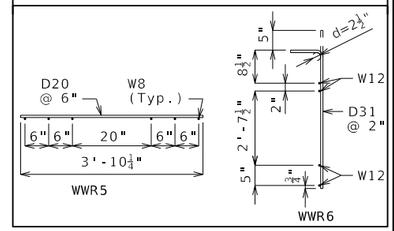
INTERIOR GIRDER & EXTERIOR GIRDER AT END BENT
TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder			
No.	Size/ Mark	Length	Shape
114	5 B1	5'-0"	11
134	4 D1	4'-0"	9
2	4 G3	3'-10"	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with f'c = 8000 psi and f'ci = 6500 psi.

Use 30 strands, 0.6"Ø Grade 270, with an initial prestress force of 1,318 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: application of bond breaker, coil inserts for slab drains.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 11.

For location of coil inserts at slab drains, see Sheet No. 10.

For location of coil ties at integral bents, see Sheets No. 4 and 5.

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

STATE OF MISSOURI
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PE-2010024490
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DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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1-888-ASK-MODOT (1-888-275-6636)
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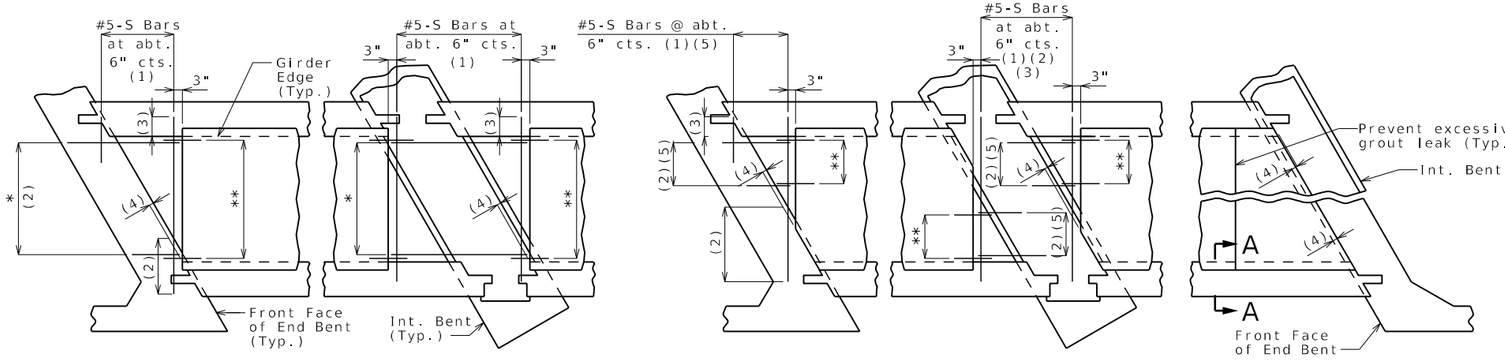
NU-GIRDERS (ALTERNATE REINFORCEMENT) - SPAN (1-2)

Note: This drawing is not to scale. Follow dimensions.

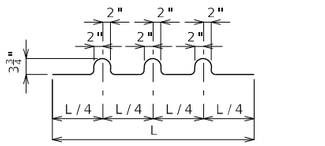


SQUARED END PANELS OR TRUNCATED END PANELS

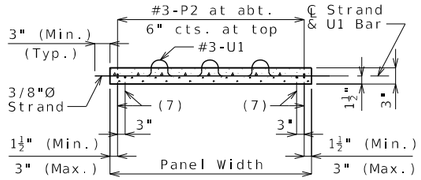
SKEWED END PANELS

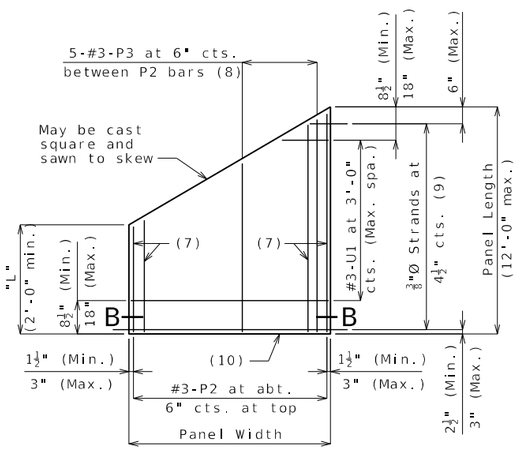
PLAN SHOWING PANEL PLACEMENT

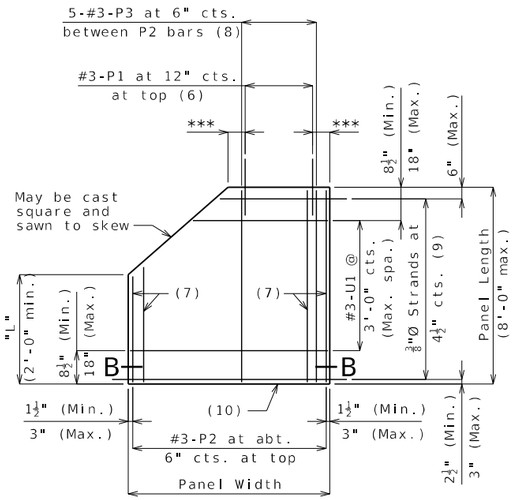
* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)

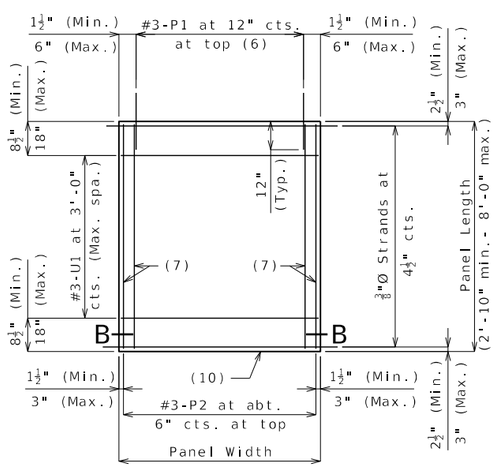


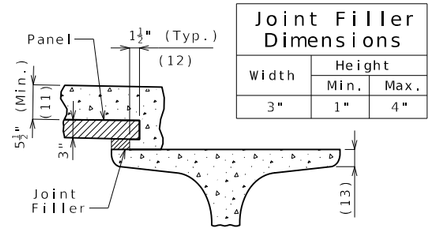
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.











Joint Filler Dimensions		
Width	Height	
	Min.	Max.
3"	1"	4"

Reference Notes:

Plan of Panel Placement:
(1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.

(2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.

(3) Extend S-bars 9 inches beyond edge of girder (Typ.).

(4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.

(5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.

Plans of Panels:
(6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.

(7) #3-P2 bars near edge of panel at bottom (under strands).

(8) Use #3-P3 bars if panel is skewed 45° or greater.

(9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.

(10) Optional 1/2" x 45° Chamfer one or both sides at bottom.

Section A-A:
(11) Slab thickness over prestressed panels varies due to girder camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(12) Contractor shall ensure proper consolidation under and between panels.

(13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:
Concrete for prestressed panels shall be Class A-1 with f'c = 6,000 psi, f'ci = 4,000 psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq.in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:
All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:
Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. 11 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/2 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the girder. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

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PRESTRESSED PANELS

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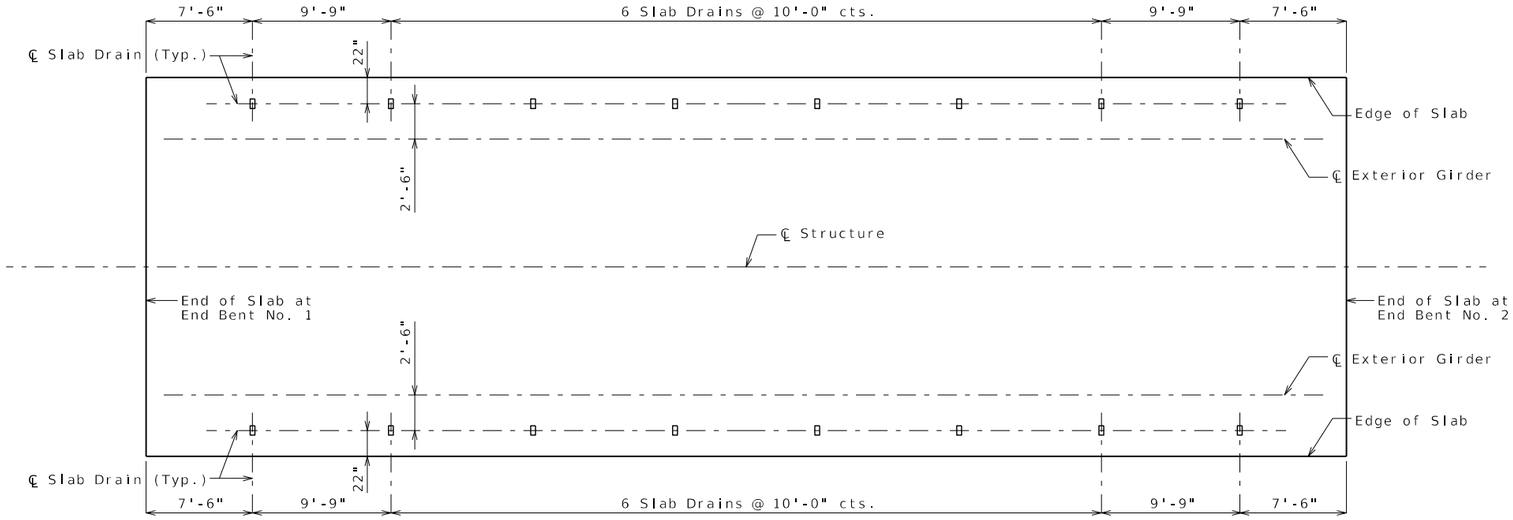
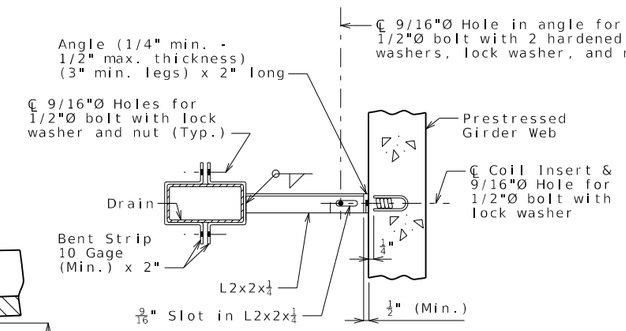
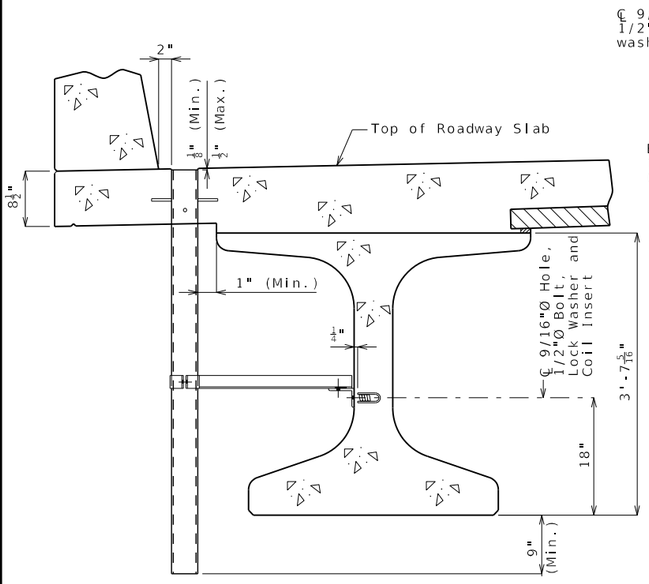


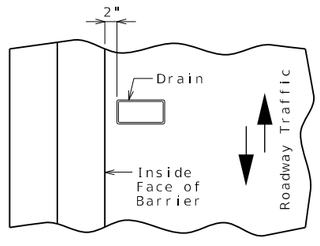
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



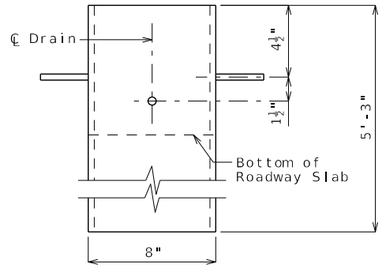
PART SECTION SHOWING BRACKET ASSEMBLY



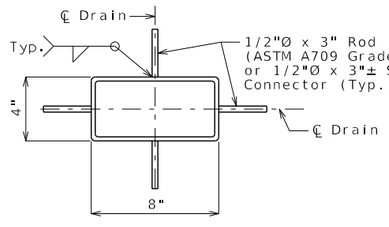
PART SECTION NEAR DRAIN



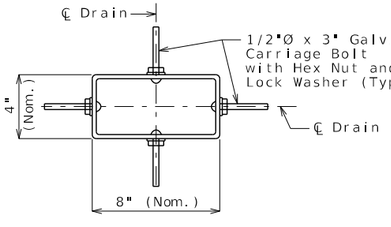
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard 26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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SLAB DRAINS

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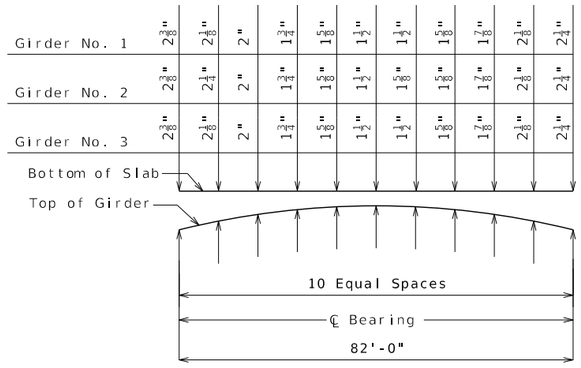
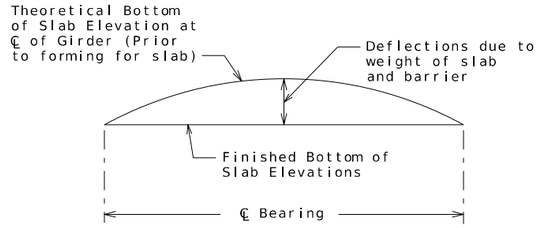


Span (1-2)

THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. The haunch shall be limited to ensure the projecting girder reinforcement is embedded into the slab at least 2 inches. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

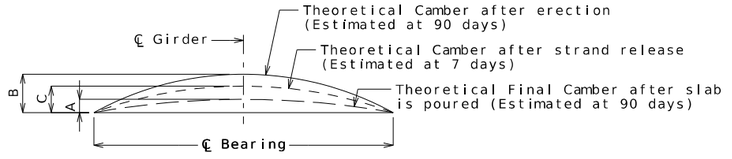


TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at Centerline of Beam (Prior to forming for slab) (Estimated at 90 days)

Beam Number	Span (1-2) (82'-0" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	289.17	289.23	289.28	289.32	289.34	289.35	289.34	289.32	289.28	289.24	289.18
2	289.33	289.39	289.44	289.48	289.50	289.51	289.50	289.48	289.45	289.40	289.34
3	289.17	289.23	289.28	289.32	289.34	289.35	289.34	289.32	289.28	289.24	289.18

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier.



Girder	Span (1-2)		
	A	B	C
Exterior	1 3/4"	2 7/8"	2"
Interior	1 3/4"		

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

0.1 pt. = 0.314 x 0.5 pt.
0.2 pt. = 0.593 x 0.5 pt.
0.3 pt. = 0.813 x 0.5 pt.
0.4 pt. = 0.952 x 0.5 pt.

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DATE PREPARED 2/4/2025
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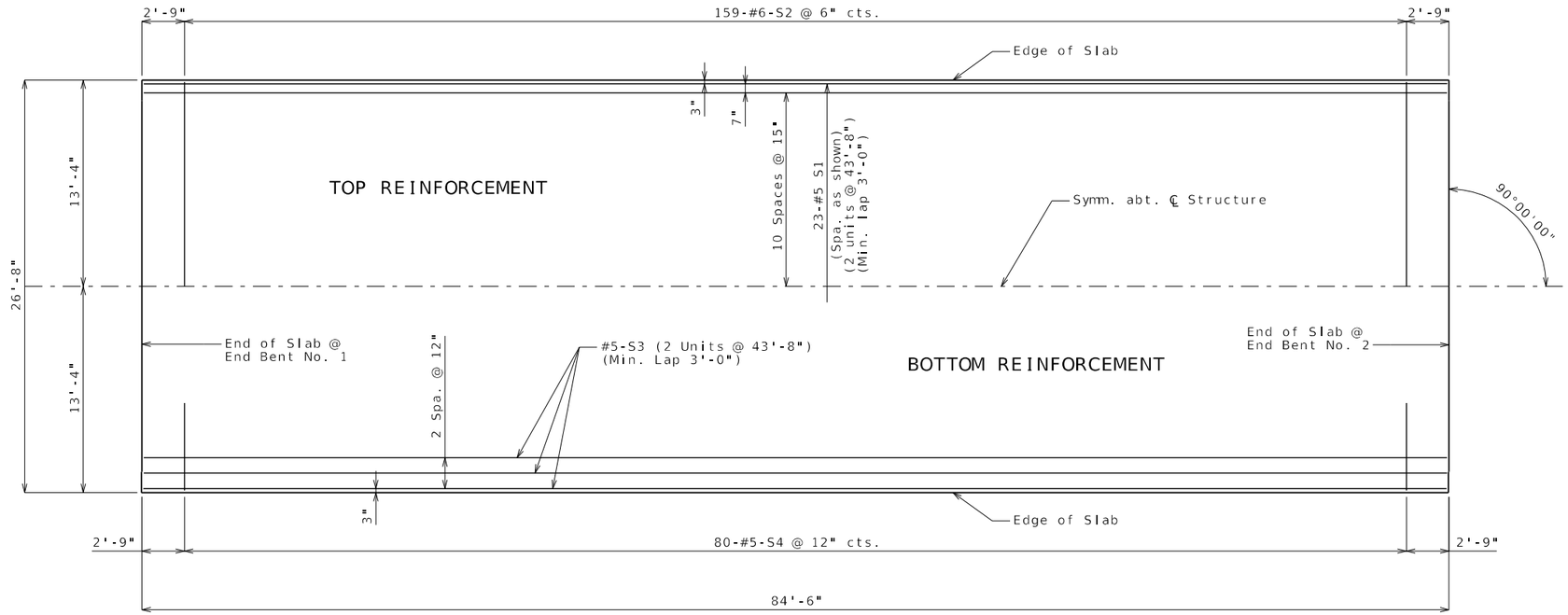

SPAN (1-2)

General Notes:

Longitudinal slab dimensions are measured horizontally.

For details of precast prestressed panels, see Sheet No. 9.

For details and locations of Slab Drains, see Sheet No. 10.

For details and reinforcement of barrier not shown, see Sheets No. 14 & 15.

For Theoretical Bottom of Slab Elevation, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 11.

For Section Thru Slab, see Sheet No. 13.

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

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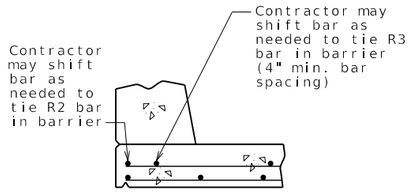
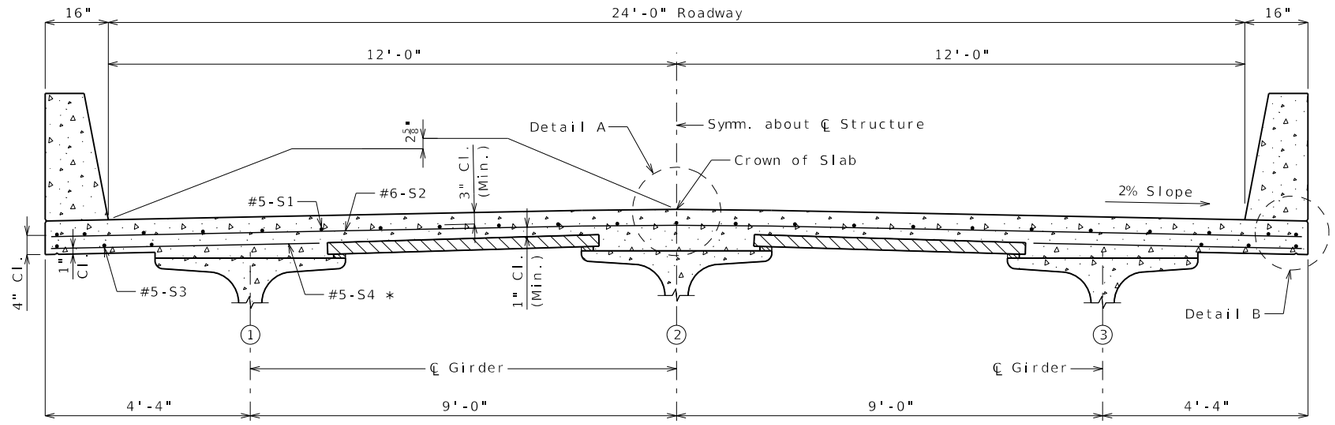
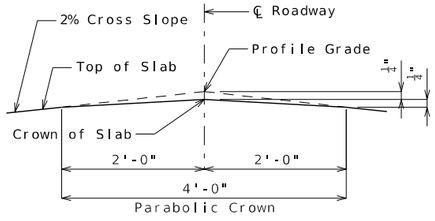


OPTIONAL SHIFTING
TOP BARS AT BARRIER

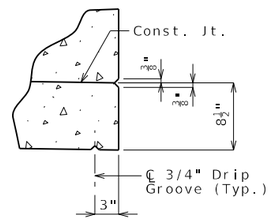


SECTION THRU SLAB

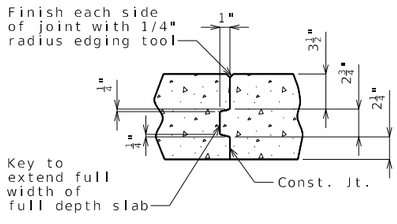
* Alternate bar shape available, see barrier sheet.



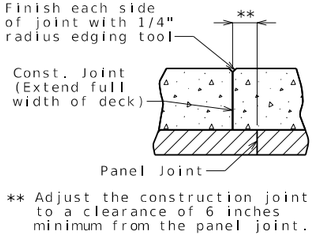
DETAIL A



DETAIL B



FULL DEPTH SLAB



** Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

SLAB ON PANELS

SLAB CONSTRUCTION JOINT

Notes:

For details of precast prestressed panels, see Sheet No. 9.

For reinforcement of barrier not shown, see Sheet No. 14.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 11.

For Plan of Slab Showing Reinforcement, see Sheet No. 12.

The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 25 cubic yards per hour.

The concrete diaphragm at the integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

SLAB DETAILS

Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

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DATE PREPARED 2/4/2025
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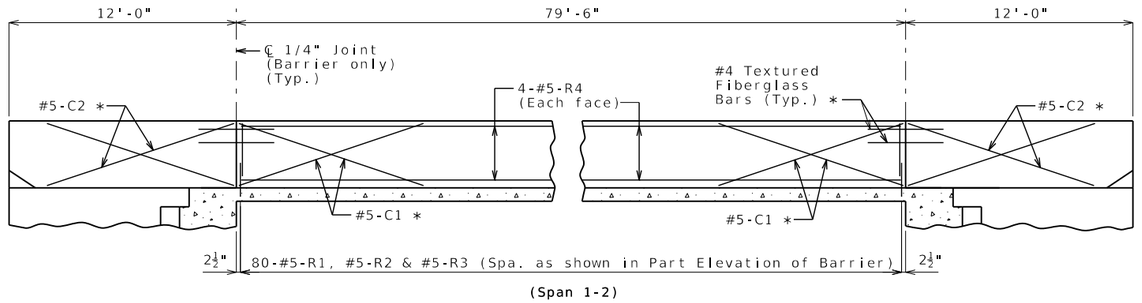
PROJECT NO.
BRIDGE NO. A9402

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

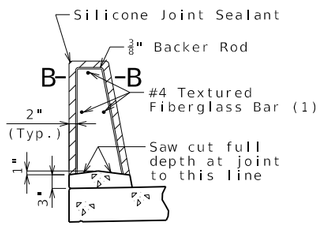


(Span 1-2)

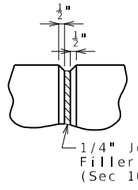
ELEVATION OF BARRIER

(Left barrier shown, right barrier similar)

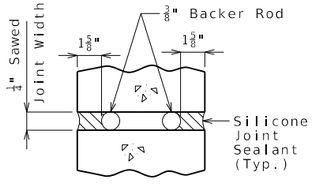
Longitudinal dimensions are horizontal.



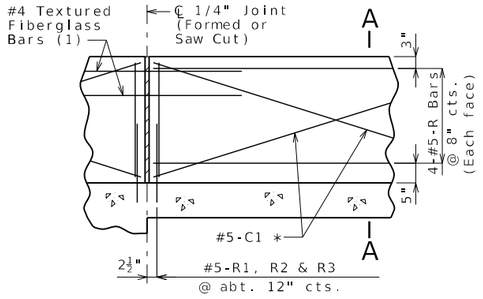
SECTION THRU
SAW CUT JOINT



PART ELEVATION
AT FORMED JOINT

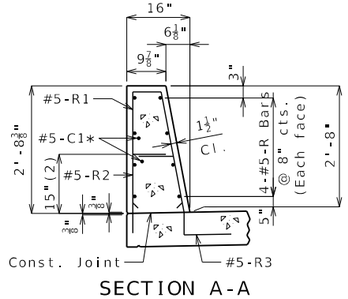


SECTION B-B



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

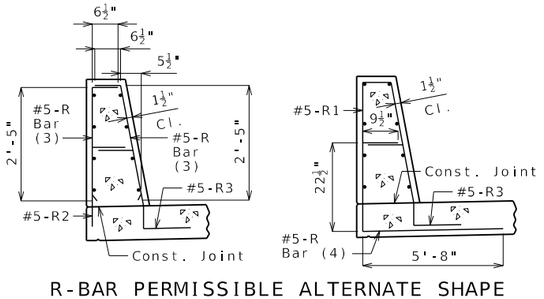


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 2.89 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

(4) The R2 bar and #5 bottom transverse slab bar in cantilever (prestressed panels only) combination may be furnished as one bar as shown, at the contractor's option.

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type H Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

TYPE H BARRIER

Detailed Feb. 2024
Checked Feb. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED
2/4/2025

ROUTE	STATE
E	MO
DISTRICT	SHEET NO.
BR	14

COUNTY
NEW MADRID

JOB NO.
JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9402

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
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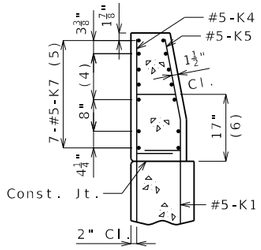
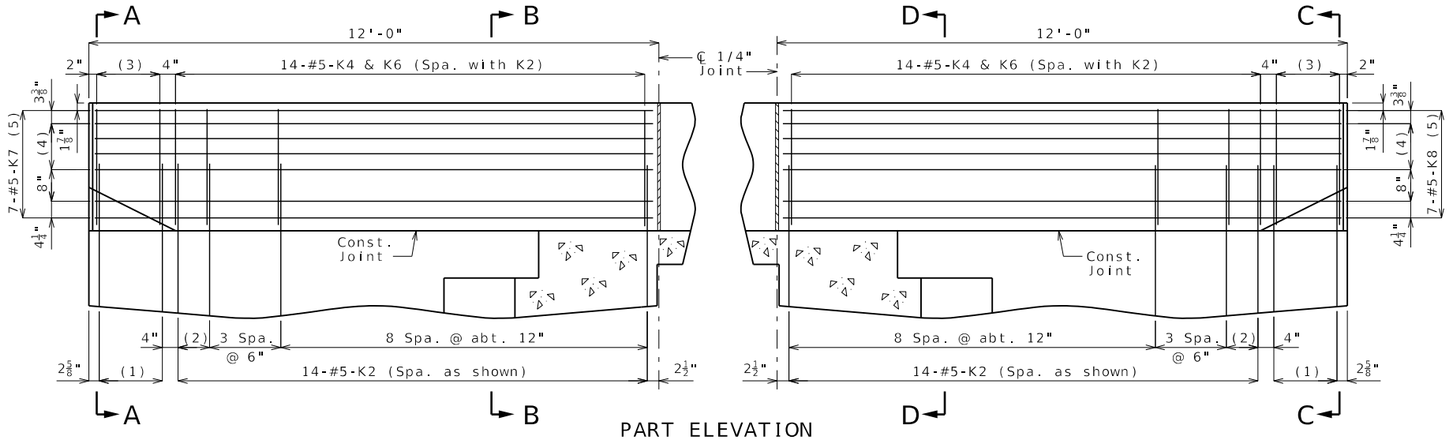
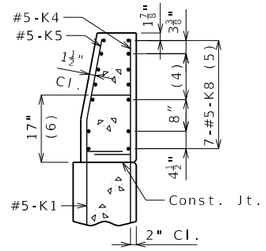
HRGreen



SECTION A-A



PART ELEVATION



SECTION C-C

(1) 5-#5-K1 @ 4" cts.

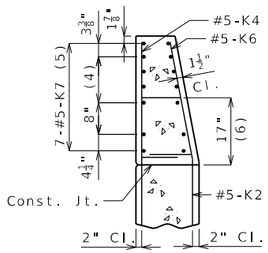
(2) 2 Spaces @ 4"

(3) 5-#5-K4 and 5-#5-K5, spaced with K1

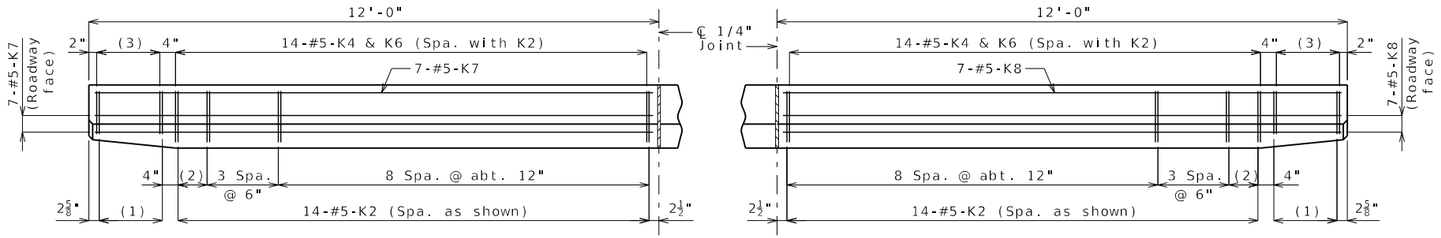
(4) 3 Spaces @ $3\frac{13}{16}$"

(5) Spaced as shown, each face

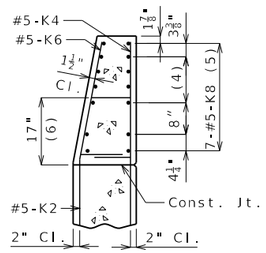
(6) To top of bar



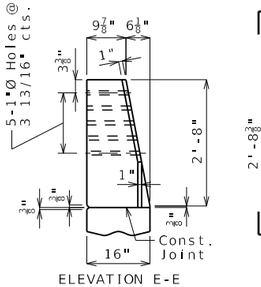
SECTION B-B



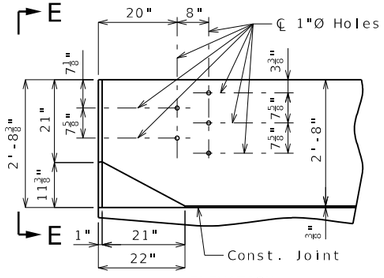
PART PLAN



SECTION D-D

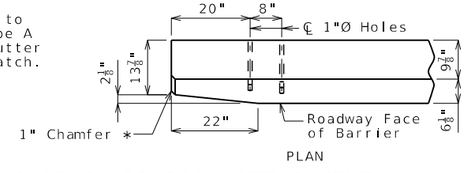


ELEVATION E-E



ELEVATION

* Transition to zero at Type A curb for gutter lines to match.



PLAN

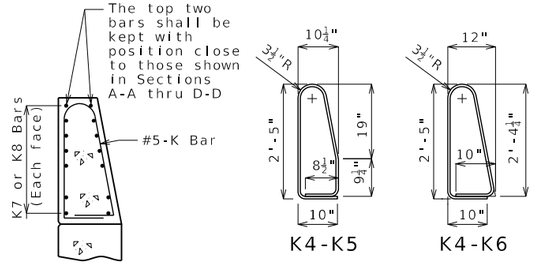
DETAILS OF GUARD RAIL ATTACHMENT

General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type H Barrier.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.



PERMISSIBLE ALTERNATE SHAPES

(Other K bars not shown for clarity)

The K4-K5 and K4-K6 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

TYPE H BARRIER AT END BENTS

(Left barrier shown, right barrier similar)

Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

KEVIN J. BREHM
PE-2010024490
STATE OF MISSOURI
PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 15
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
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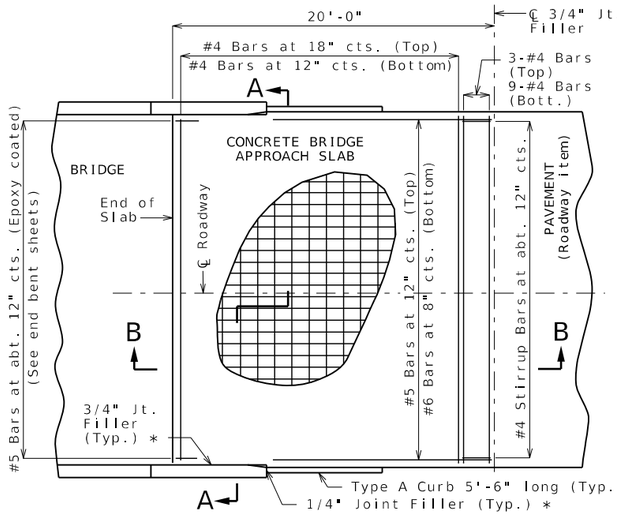
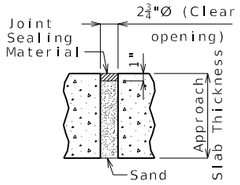
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608
HRGreen



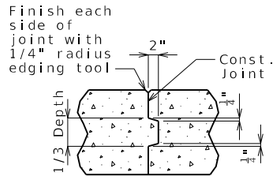
PART PLAN OF SQUARED STRUCTURE

(Skewed structure similar)

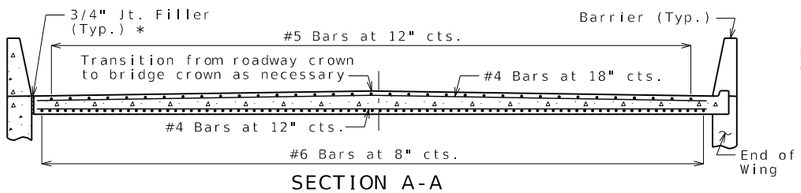


UNDERSEAL ACCESS HOLE DETAIL

(If required)

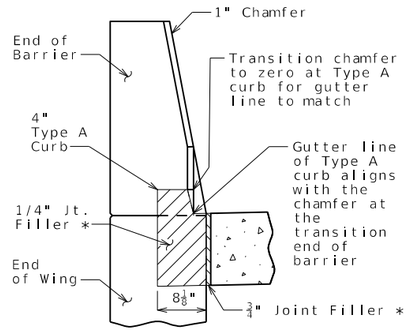


CONSTRUCTION JOINT DETAIL



SECTION A-A

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION BETWEEN CURB AND BARRIER

Notes For Concrete Slab Only:

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

See Missouri Standard Plan 609.00 for details of Type A curb.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

General Notes:

Contractor shall have the option to construct either slab except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

MoDOT Construction personnel will indicate the bridge approach slab used for this structure:

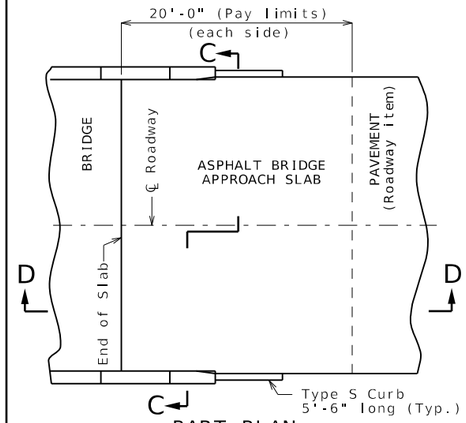
☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

Notes For Asphalt Slab Only:

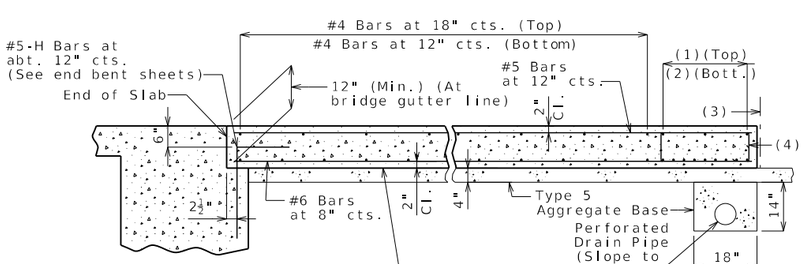
Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

Application of tack is required between lifts per Sec 403.



PART PLAN

(Squared structure shown, skewed structure similar)



(1) 3-#4 Bars

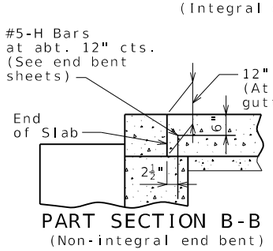
(2) 9-#4 Bars

(3) ℄ 3/4" Jt. Filler

(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.

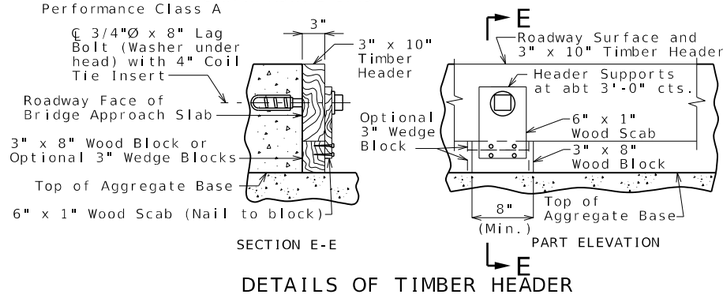
SECTION B-B

(Integral end bent)



PART SECTION B-B

(Non-integral end bent)



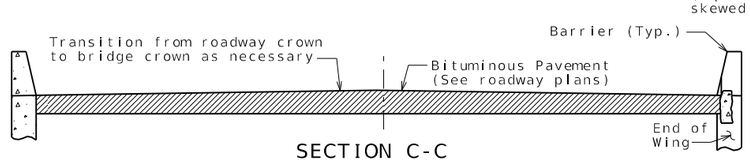
SECTION E-E

PART ELEVATION

DETAILS OF TIMBER HEADER

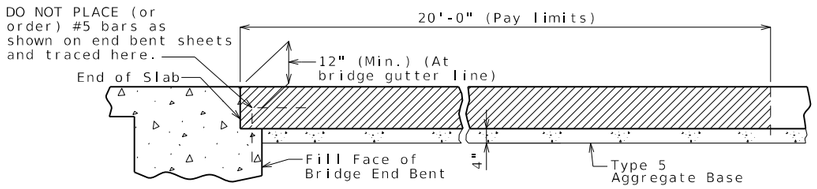
Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

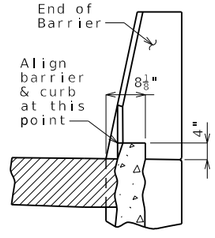


SECTION C-C

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION D-D



4" TYPE S CURB

See Missouri Standard Plan 609.00 for details of Type S curb.

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)

BRIDGE APPROACH SLAB (MINOR)

Integral end bents shown, non-integral end bent similar.

Detailed Jan. 2024
Checked Jan. 2024

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI KEVIN J. BREHM PE-2010024490 PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025

ROUTE E | STATE MO

DISTRICT BR | SHEET NO. 16

COUNTY NEW MADRID

JOB NO. JSE0127

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9402

DESCRIPTION | DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

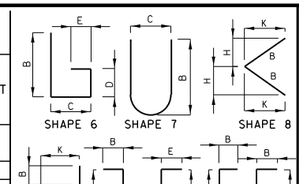
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE, SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

BILL OF REINFORCING STEEL

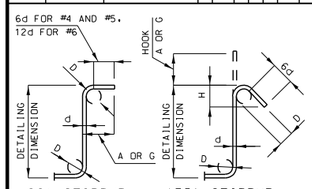
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUPERSTR.																									
			END BENTS																									
			NO. 1 & 2																									
40	6	F10	WING	E	9	S				2	3.000	5	1.750		14.000					3	7.625	3	7.625	8	7	8	6	511
16	6	F11	DIAPHRAGM	E	6	S				6	0.000	2	9.000											8	9	8	7	206
18	6	H10	BM & DIAPH	E	20					26	5.000													26	5	26	5	714
22	6	H11	BM & DIAPH	E	20					26	5.000													26	5	26	5	873
16	6	H12	DIAPHRAGM	E	20					7	11.000													7	11	7	11	190
4	6	H13	DIAPHRAGM	E	20					5	6.000													5	6	5	6	33
16	6	H14	DIAPHRAGM	E	20					3	8.000													3	8	3	8	88
4	6	H15	DIAPHRAGM	E	20					2	5.000													2	5	2	5	15
32	8	H16	WING	E	19					11	6.000		16.000											12	10	12	8	1082
72	6	H17	WING	E	19					10	8.000		12.000											11	8	11	6	1244
6	5	H18	STRAND TIE	E	20					5	9.000													5	9	5	9	36
10	6	H19	BEAM	E	18					3	1.000													4	5	4	5	66
240	4	P10	CIP PILE	E	34	S					12.000													3	11	3	11	628
20	5	U10	BEAM	E	10	S						6	0.000	2	9.000									14	9	14	7	304
38	4	U11	BEAM	E	13	S				2	9.000	2	8.000	2	9.000	2	8.000							11	7	11	4	288
4	4	U12	BEAM	E	10	S						2	8.000	2	9.000									8	1	7	11	21
66	6	U13	DIAPHRAGM	E	19	S				3	1.625	4	6.500											7	8	7	6	743
36	5	U14	DIAPHRAGM	E	10	S						3	11.125	2	3.000									10	1	9	11	372
36	6	U15	DIAPHRAGM	E	19	S				3	0.625	2	7.500											5	8	5	6	297
48	5	U16	DIAPHRAGM	E	19					2	0.000		15.000											3	3	3	1	154
32	5	V10	BEAM	E	20					6	0.000													6	0	6	0	200
30	6	V11	DIAPHRAGM	E	20					3	0.000													3	0	3	0	135
80	6	V12	WING	E	20					7	0.000													7	0	7	0	841
72	6	V13	CIP PILE	E	17					6	6.000													7	2	7	2	775
			SLAB																									
46	5	S1	SLAB	E	20					43	8.000													43	8	43	8	2095
159	6	S2	SLAB	E	20					26	5.000													26	5	26	5	6309
12	5	S3	SLAB	E	20					43	8.000													43	8	43	8	547
160	5	S4	SLAB	E	20					5	8.000													5	8	5	8	946
			TYPE H																									
			BARRIER																									
20	5	K1	BARRIER	E	27	S				3	8.000	9.250		5.375		3	2.750			5.250		1.000		8	1	7	11	165
56	5	K2	BARRIER	E	27	S				3	8.000	9.250		14.500		2	5.750			14.250		2.750		8	2	8	0	467
76	5	K4	BARRIER	E	19	S				2	5.000	10.000												3	3	3	2	251
20	5	K5	BARRIER	E	14	S					8.250	9.500		19.250						4.250		18.750		3	1	3	0	63
56	5	K6	BARRIER	E	21	S				2	4.875	10.000								2	4.250	6.000		3	3	3	1	180
28	5	K7	BARRIER	E	20					11	9.000													11	9	11	9	343
28	5	K8	BARRIER	E	20					11	9.000													11	9	11	9	343
160	5	R1	BARRIER	E	14	S				2	5.000	6.500		2	5.500					2	5.000	5.500		5	5	5	3	876
160	5	R2	BARRIER	E	19	S					20.500	9.500												2	6	2	5	403
160	5	R3	BARRIER	E	27	S						9.500		15.250		5.000		12.000		15.000		3.000		3	6	3	4	556
32	5	R4	BARRIER	E	20					41	2.000													41	2	41	2	1374

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SLIP FORM																									
			BARRIER																									
8	5	C1	SLIP FORM	E	20					12	0.000													12	0	12	0	100
8	5	C2	SLIP FORM	E	20					9	9.000													9	9	9	9	81
			TOTALS																									
	4			E																								937
	5			E																								9856
	6			E																								13040
	8			E																								1082
			TOTAL																									24915
			SLAB ON																									
			GIRDER																									
	4			E																								937
	5			E																								4654
	6			E																								13040
	8			E																								1082
			TOTAL																									19713
			TYPE D																									
			BARRIER																									
	5			E																								5021
			TOTAL																									5021
			SLIP FORM																									
			OPTION																									
	5			E																								181
			TOTAL																									181

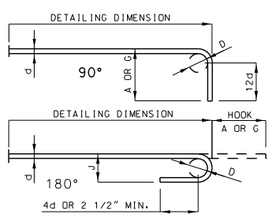


BENDING DIAGRAMS



STIRRUP HOOK DIMENSIONS			
GRADES 40 - 50 - 60 KSI			
BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
		ALL GRADES		
BAR SIZE	D (IN.)	180° HOOKS A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed Feb. 2024
Checked Feb. 2024

Note: This drawing is not to scale. Follow dimensions.

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 17
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 1
1					
2					
3					
4					
5					
6					
					End Bent No. 2
7					
8					
9					
10					
11					
12					

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 18
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

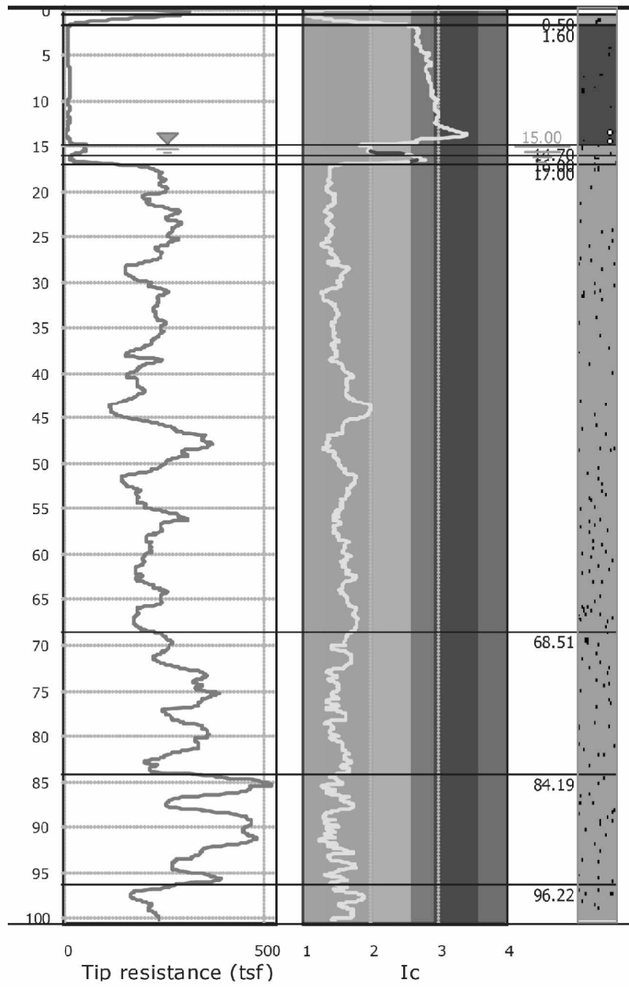
HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE.
SUITE 100
ST. LOUIS, MISSOURI 63141
PHONE: (636) 519.0990
CORPORATE LICENSE #2002006608

Geotechnology, LLC
11816 Lackland Road
St. Louis, Missouri
http://www.geotechnology.com

Project: SE Bridge Bundle BR T0254-T0253
Location: Stoddard County, Missouri

CPT: A9402 (T0254)-1

Total depth: 100.16 ft, Date: 8/24/2023
Surface Elevation: 289.93 ft
Cone Type: 15cm2
Cone Operator: DWJ



Depth (ft)	Description	qt (tsf)	Ksbt (ft/s)	N60	Es (tsf)	Dr	Phi (°)	M (tsf)	Go (tsf)	Su (tsf)	Su ratio	OCR	Gamma (pcf)
0.50	Sand & silty sand	156.9	5.43E-3	24.4	546.9	89.3	45.6	1081.5	685.4	-	-	-	120.6
1.60	Clay	10.9	1.17E-7	5.0	-	-	-	142.3	354.3	0.7	1.9	8.9	111.7
15.00	Sand & silty sand	47.0	2.93E-5	12.1	428.4	38.7	34.2	790.9	523.8	-	-	-	109.3
17.00	Silty sand & sandy silt	33.8	5.27E-5	9.7	638.6	56.8	37.8	414.1	506.1	-	-	-	110.6
	Sand & silty sand	220.6	9.09E-4	42.0	1095.3	68.3	40.1	2190.6	1372.8	-	-	-	123.3
68.51	Sand & silty sand	293.3	8.46E-4	55.7	1441.3	67.6	40.0	2882.5	1806.4	-	-	-	125.7
84.19	Sand & silty sand	382.9	1.41E-3	70.0	1747.0	74.0	41.2	3494.0	2189.5	-	-	-	128.3
96.22	Sand & silty sand	215.8	3.49E-4	44.7	1248.3	51.3	36.5	2482.1	1555.4	-	-	-	119.7

CPeT-IT v.2.3.1.9 - CPTU data presentation & interpretation software - Report created on: 12/5/2023, 8:35:19 AM
Project file: S:\Projects\J043\J043453.03-Southeast Bridge Bundle - SE0127\Data\BR T0254-T0253 CPT Data\J043453.03 SE Bridge Bundle T0254-T0253.cpt

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Note: This drawing is not to scale. Follow dimensions.

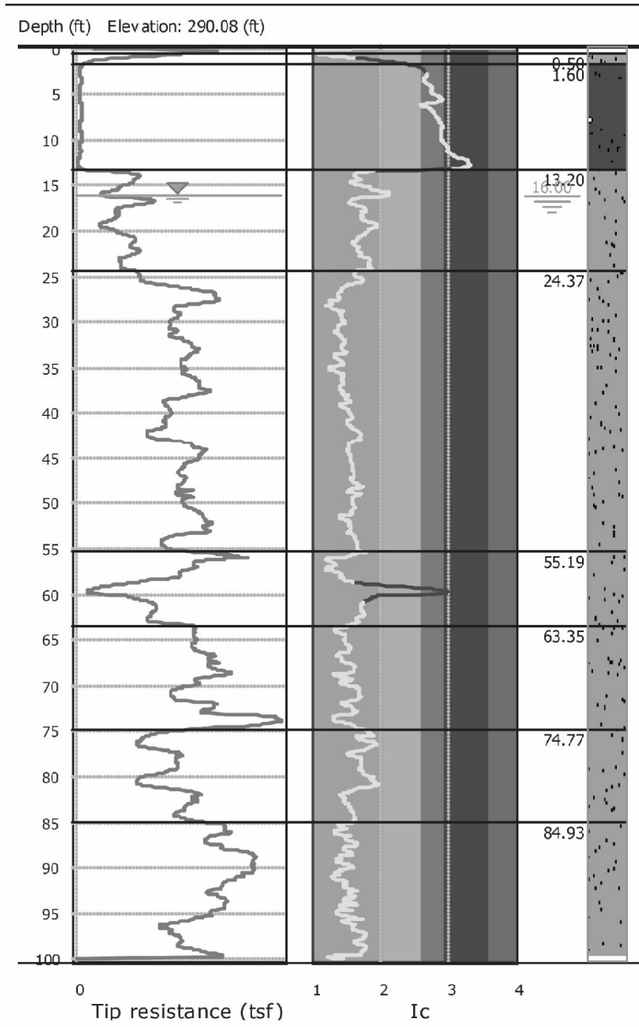
Detailed July 2024
Checked July 2024

Geotechnology, LLC
11816 Lackland Road
St. Louis, Missouri
http://www.geotechnology.com

Project: SE Bridge Bundle BR T0254-T0253
Location: Stoddard County, Missouri

CPT: A9402 (T0254)-2

Total depth: 99.94 ft, Date: 8/24/2023
Surface Elevation: 290.08 ft
Cone Type: 15cm2
Cone Operator: DWJ



Description	qt (tsf)	Ksbt (ft/s)	N60	Es (tsf)	Dr	Phi (°)	M (tsf)	Go (tsf)	Su (tsf)	Su ratio	OCR	Gamma (pcf)
Sand	192.7	8.44E-3	30.1	660.5	100.0	47.7	1321.1	827.9	-	-	-	123.8
Clay	10.4	8.67E-8	4.6	-	-	-	134.8	342.6	0.6	1.7	7.9	111.1
Sand & silty sand	114.5	1.99E-4	24.7	730.7	56.2	37.9	1453.3	912.6	-	-	-	118.6
Sand & silty sand	253.1	1.09E-3	47.3	1209.4	73.8	41.2	2418.7	1515.7	-	-	-	125.2
Sand & silty sand	241.7	1.36E-3	45.0	1168.0	64.9	39.4	2306.0	1445.1	-	-	-	121.6
Sand & silty sand	314.7	1.06E-3	58.8	1503.1	71.9	40.8	3006.1	1883.8	-	-	-	126.8
Sand & silty sand	222.6	3.61E-4	46.2	1292.5	55.9	37.7	2585.0	1619.9	-	-	-	123.0
Sand & silty sand	331.2	1.03E-3	62.3	1592.3	67.4	39.9	3184.6	1995.7	-	-	-	126.1

BORING DATA

Note: For locations of borings, see Sheet No. 1.

Note: This drawing is not to scale. Follow dimensions.

Detailed July 2024
Checked July 2024

KEVIN J. BREHM PE-2010024490
MISSOURI STATE OF MISSOURI PROFESSIONAL ENGINEER

DATE PREPARED 2/4/2025
ROUTE E | STATE MO
DISTRICT BR | SHEET NO. 20
COUNTY NEW MADRID
JOB NO. JSE0127
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A9402

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HR GREEN, INC.
520 MARYVILLE CENTRE DRIVE,
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HRGreen

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