

A.A.D.T. - 2023 = 9,000
A.A.D.T. - 2043 = 10,000
D.H.V. = 800
T = 13%
V = 65 M.P.H.










NO R/W REQUIRED

[illegible]

STA. 502+50.00
LOG MILE 171.035

STA. 527+43.04
LOG MILE 170.563

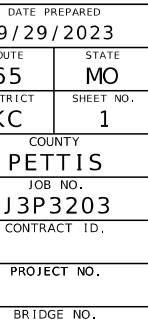
BUILDINGS AND STRUCTURES
GUARD RAIL
GUARD CABLE
CONCRETE RIGHT-OF-WAY MARKER
STEEL RIGHT-OF-WAY MARKER
LOCATION SURVEY MARKER
UTILITIES

EXISTING	NEW
	
	
	
	
	
- FO	- FO
- OTV	- OTV
- UTV	- UTV
- OT	- OT
- UT	- UT
- OE	- OE
- UE	- UE
- S	- S
- SS	- SS
- G	- G
- W	- W

SAN
HYD
WV
WM
D1
SIGN
PED
V
X
BM

DESCRIPTION	NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (1 SHEET) -----	2
QUANTITIES (QU) (4 SHEETS) -----	3
PLAN / PROFILE SHEETS (PL / PR) -----	4-13
REFERENCE POINTS (RP) -----	14
COORDINATE POINTS (CP) -----	15
TRAFFIC CONTROL SHEETS (TC) -----	16-24
EROSION CONTROL SHEETS (EC) -----	25-34
CULVERT SECTIONS (CS) -----	35-36
BRIDGE DRAWINGS (B)	
A30401 -----	1-18
CROSS SECTIONS (XS) -----	1-8

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A30401 -----	1-18
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[illegible]

BEGINNING OF PROJECT	STA. 502+50.00
END OF PROJECT	STA. 527+43.04

APPARENT LENGTH	2493.04 FEET
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EQUATIONS AND EXCEPTIONS:

TOTAL CORRECTIONS	0 FEET
NET LENGTH OF PROJECT	2496.04 FEET
STATE LENGTH	0.472 MILES

FOR INFORMATION ONLY	
ESTIMATED DISTURBED ACRES	1.2 ACRES

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



GBA
801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
D. LAND SURVEYOR 000059

MUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

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US-65 TYPICAL NOTES:

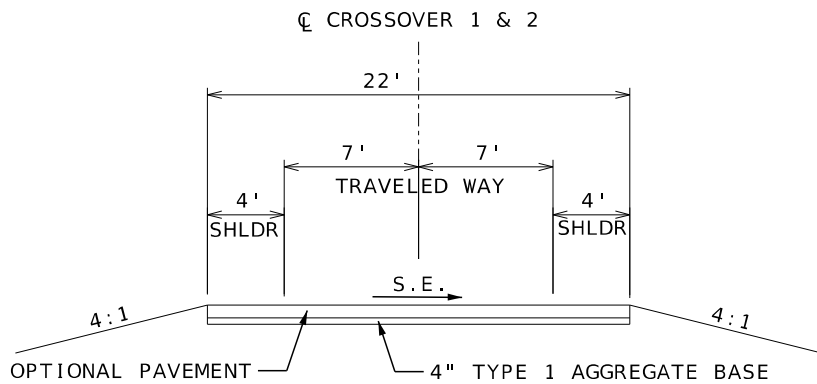
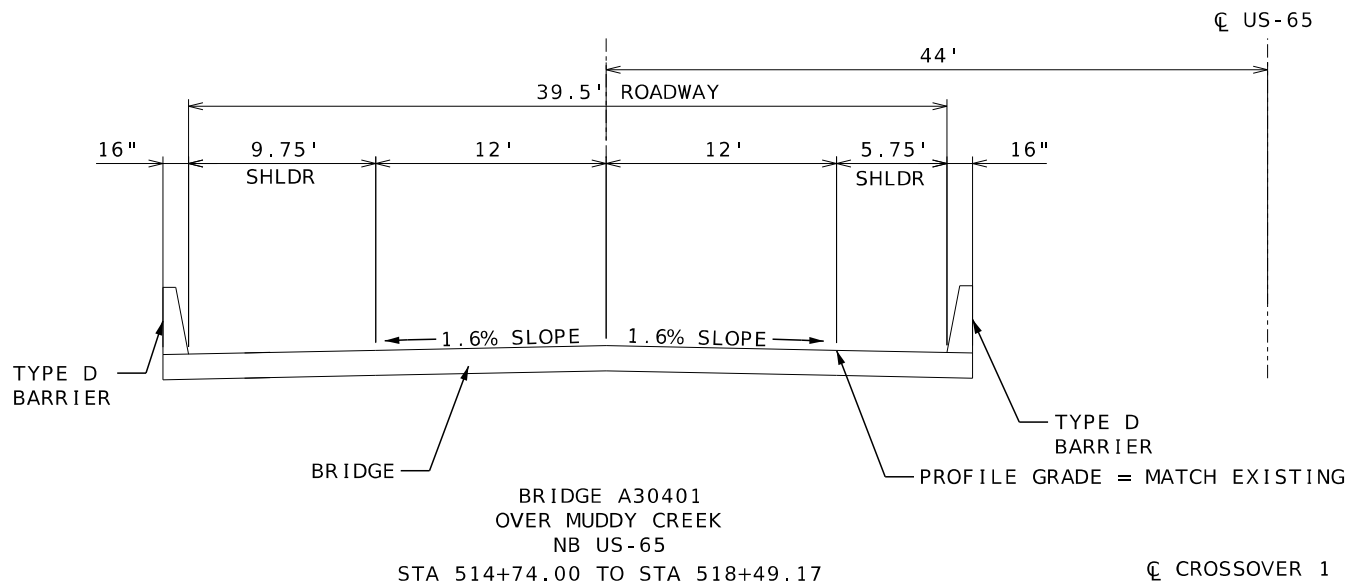
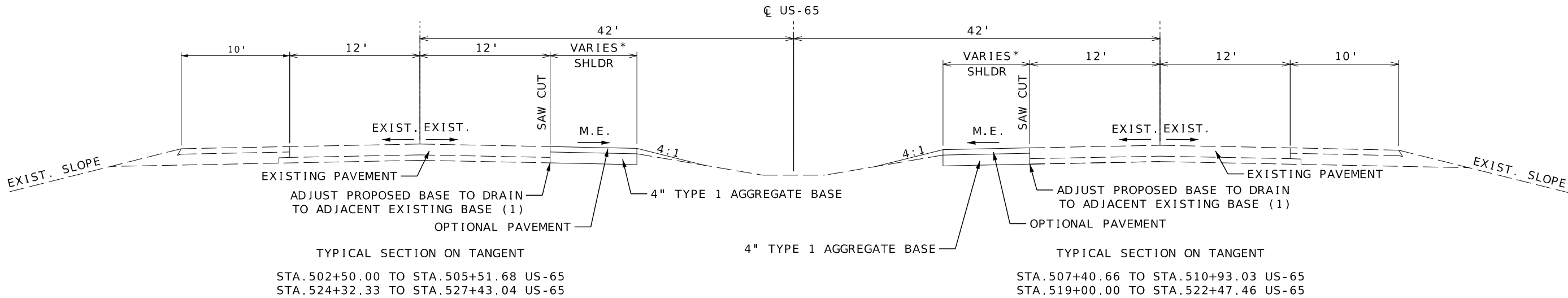
RESTORE EXISTING SLOPES AND DITCH FLOW
LINE AFTER CROSSOVER REMOVAL.

RUMBLE STRIPS TO BE ADDED AFTER CROSSOVER
REMOVAL.

M.E.= MATCH EXISTING CROSS SLOPE

* SEE PLAN SHEETS FOR WIDENING DETAILS

(1) INCIDENTAL BASE (NO DIRECT PAY)



ESTIMATE FACTORS:
FOR INFORMATION PURPOSES ONLY

SP125B - 1.99 TONS/CUYD
BP-1 - 2.00 TONS/CUYD
BIT. BASE - 2.00 TONS/CUYD
TACK COAT - 0.08 GAL/SOYD

OPTIONAL PAVEMENT
TEMPORARY CROSSOVER

HMA DESIGN:
8.0" BIT. PAVEMENT
1.75" BP-1 W/ PG64-22
6.25" BIT. BASE W/ PG64-22

PCCP DESIGN:
7" JPCP, 10' JOINTS
3-1.25" DIA. DOWELS
12" SPACING IN EACH WHEEL PATH

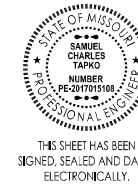
CROSSOVER TYPICAL NOTE:

MAXIMUM S.E. IS $\pm 2.0\%$. SEE PLAN SHEETS FOR DETAILS.

STA 3+51.21 TO STA 5+44.54 CROSSOVER 1
STA 3+97.36 TO STA 5+86.56 CROSSOVER 2

STA 505+51.68 TO STA 507+40.66 US-65
STA 522+47.46 TO STA 524+32.33 US-65

TYPICAL SECTIONS
SHEET 1 OF 1



DATE PREPARED
9/29/2023

ROUTE 65 STATE MO

DISTRICT KC SHEET NO. 2

COUNTY PETTIS

JOB NO. J3P3203

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

GBA

9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
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SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

REMOVAL OF IMPROVEMENTS

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	ITEM	QUANTITY	UNIT
4	CL US-65	502+50.00	505+51.68	LT	SAWCUT EXISTING EOP	302	LF
4	CL US-65	502+50.00	505+51.68	LT	EXISTING SHOULDER	99	SY
4	CL US-65	502+50.00	505+51.68	LT	SAWCUT EOS	302	LF
4,6	CL US-65	502+50.00	510+93.03	LT/RT	CROSSOVER PAVEMENT	986	SY
4	CL US-65	505+03.11	-	CL	3' X 2' TYPE S-1 DROP INLET	1	EA
4,6	CL US-65	505+04.11	509+02.11	CL	18" RCP	398	LF
6	CL US-65	507+40.66	509+45.17	RT	SAWCUT EOS	205	LF
6	CL US-65	507+40.66	510+93.03	RT	SAWCUT EXISTING EOP	352	LF
6	CL US-65	507+40.66	510+93.03	RT	EXISTING SHOULDER	360	SY
6	CL US-65	509+02.11	-	CL	18" FES	1	EA
9,11	CL US-65	518+54.92	522+15.36	LT	GUARDRAIL	361	LF
9	CL US-65	518+55.14	519+87.74	LT	GUARDRAIL	133	LF
9,11	CL US-65	519+00.00	522+47.46	RT	SAWCUT EXISTING EOP	348	LF
9,11	CL US-65	519+00.00	522+47.46	RT	EXISTING SHOULDER	370	SY
9,11,13	CL US-65	519+00.00	527+43.04	LT/RT	CROSSOVER PAVEMENT	946	SY
9,11	CL US-65	520+47.87	522+47.46	RT	SAWCUT EOS	200	LF
11	CL US-65	521+86.46	525+82.46	CL	18" RCP	396	LF
11,13	CL US-65	524+32.33	527+43.04	LT	SAWCUT EXISTING EOP	310	LF
11,13	CL US-65	524+32.33	527+43.04	LT	EXISTING SHOULDER	148	SY
11,13	CL US-65	524+32.33	527+43.04	LT	SAWCUT EOS	310	LF
11	CL US-65	525+85.46	-	CL	3' X 2' TYPE S-1 DROP INLET	1	EA
8	CL US-65	514+74.04	-	LT	BRIDGE APPROACH SLAB	1	EA
8	CL US-65	514+74.04	-	LT	CONCRETE APPROACH PAVEMENT	1	EA
9	CL US-65	518+48.81	-	LT	BRIDGE APPROACH SLAB	1	EA
9	CL US-65	518+48.81	-	LT	CONCRETE APPROACH PAVEMENT	1	EA
PROJECT TOTAL						1 LUMP SUM	

NOTE: FOR INFORMATION ONLY. NO DIRECT PAY.

CONTRACTOR FURNISHED SURVEYING AND STALKING

1 LUMP SUM

ADDITIONAL MOBLIZATION FOR SEEDING

1 EACH

MOBILIZATION

1 LUMP SUM

EARTHWORK

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	CLASS A EXCAVATION (CY)	COMPACTING EMBANKMENT (CY)	EMBANKMENT IN PLACE (CY)	COMPACTING IN CUT (STA)	REMARKS
4,6	CROSSOVER 1	2+19.08	7+26.29	108	108	214	5.1	
9,11,13	CROSSOVER 2	2+14.04	7+28.41	145	145	4	5.1	
4,6	CL US-65	502+50.00	509+46.70	322	108	-	-	CROSSOVER 1 REMOVAL. MEDIAN DITCH RECONSTRUCTION.
9,11,13	CL US-65	520+45.04	527+36.64	149	145	-	-	CROSSOVER 2 REMOVAL. MEDIAN DITCH RECONSTRUCTION.
		PROJECT TOTAL		724	507	218	10.2	

NOTE: UNADJUSTED VOLUMES. NO SHRINKAGE FACTOR INCLUDED.

CULVERT CLEANOUT

SHEET NO.	ROADWAY	STATION	CULVERT CLEANOUT (EACH)	REMARKS
11	CL US-65	525+84.21	1	EX. 18" RCP
PROJECT TOTAL			1	

TEMPORARY PAVEMENT

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	OPTIONAL PAVEMENT (SY)
4,6	CROSSOVER 1	0+50.00	8+96.86	LT/RT	1,445
9,11,13	CROSSOVER 2	0+50.00	8+96.87	LT/RT	1,465
PROJECT TOTAL					2,910

AGGREGATE

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	TYPE 1 AGGREGATE FOR BASE (4") (SY)
4,6	CROSSOVER 1	0+50.00	8+96.86	LT/RT	1445
9,11,13	CROSSOVER 2	0+50.00	8+96.87	LT/RT	1465
PROJECT TOTAL					2,910

CONCRETE APPROACH PAVEMENT

SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	CONCRETE APPROACH PAVEMENT (SY)	REMARKS
8	CL US-65	514+19.00	514+54.00	LT	153.6	BRIDGE A30401
9	CL US-65	518+69.17	519+04.17	LT	153.6	BRIDGE A30401
PROJECT TOTAL					307.2	

QUANTITY SHEET
SHEET 1 OF 4

STATE OF MISSOURI
SAMUEL CHARLES TAPKO
NUMBER PE-2017015108
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
9/29/2023

ROUTE
65

STATE
MO

DISTRICT
KC

SHEET NO.
3

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

MoDOT

GBA

9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
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GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

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GUARDRAIL							
SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	MGS GUARDRAIL 8 FT. POSTS, 6 FT. - 3 IN. SPACING (LF)	MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) (EACH)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EACH)
9,11	CL US-65	518+54.57	522+05.70	LT	263	1	1
9,11	CL US-65	518+54.57	522+18.20	LT	275	1	1
		PROJECT TOTAL			538	2	2

SHAPING SLOPES					
SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	SHAPING SLOPES CLASS III (100F)
9	CL US-65	518+54.57	521+05.70	LT	3
9,11	CL US-65	518+54.57	521+43.20	LT	3
		PROJECT TOTAL			6

NOTE: SEE STD 606.31B ALTERNATE GRADING LIMITS

PIPES									
SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	GROUP A PIPE	GROUP A FES	CLASS 3 EXCAVATION (CY)	ROCK LINING (CY)	REMARKS
					18" (LF)	18" OR ALLOWED SUBSTITUTE (EACH)			
4,6	CL US-65	505+03.11	509+02.11	CL	398	1	124	2	
11	CL US-65	521+85.46	525+82.46	CL	396	-	213	-	CONNECT TO EXIST. INLET
		PROJEC TOTAL			794	1	337	2	


INLETS						
SHEET NO.	ROADWAY	STATION	SIDE	PRECAST CONCRETE DROP INLET 3FT X 2FT (FT)	CLASS 3 EXCAVATION (CY)	REMARKS
4	CL US-65	505+03.11	CL	5	3	TYPE S-1 DROP INLET
11	CL US-65	525+85.46	CL	4	3	TYPE S-1 DROP INLET
		PROJECT TOTAL		9	6	

RUMBLE STRIP					
SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	OPTIONAL PAVEMENT RUMBLE STRIP (STA.)
4	CL US-65	502+50.00	505+51.68	LT	3.0
6	CL US-65	507+40.39	510+93.03	RT	3.5
9,11	CL US-65	519+00.00	522+47.46	RT	3.5
11,13	CL US-65	524+32.33	527+43.04	LT	3.1
		PROJECT TOTAL			13.1

TEMPORARY SEEDING AND MULCHING						
SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	TEMPORARY SEEDING (ACRE)	MULCHING (ACRE)
25,26	CROSSOVER 1	0+50.00	5+44.54	RT	0.1	0.1
25,26	CROSSOVER 1	3+51.21	7+48.14	LT	0.1	0.1
27,28,29	CROSSOVER 2	2+12.95	5+86.56	LT	0.1	0.1
27,28,29	CROSSOVER 2	3+97.36	8+90.44	RT	0.1	0.1
		PROJECT TOTAL			0.4	0.4

PERMANENT SEEDING AND MULCHING						
SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	PERMANENT SEEDING - COOL SEASON MIXTURES (ACRE)	MULCHING (ACRE)
30,31	CL US-65	502+50.00	509+46.70	LT/RT	0.4	0.4
32,33,34	CL US-65	520+45.04	527+36.64	LT/RT	0.4	0.4
		PROJECT TOTAL			0.8	0.8

QUANTITY SHEET
SHEET 2 OF 4



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
9/29/2023

ROUTE
65

STATE
MO

DISTRICT
KC

SHEET NO.
3

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.


BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-8MODOT (1-888-275-6636)



GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

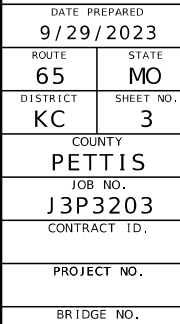
TEMPORARY EROSION CONTROL											
SHEET NO.	ROADWAY	STATION BEGIN	STATION END	SIDE	ALTERNATE DITCH CHECK (LF)	ROCK DITCH CHECK (LF)	SEDIMENT TRAP ROCK (CY)	SILT FENCE (LF)	SEDIMENT REMOVAL (CY)	NO. OF DITCH CHECKS	REMARKS
25	CROSSOVER 1	0+50.00	3+00.00	RT	-	-	-	248	3	-	
25	CROSSOVER 1	3+06.16	-	RT	14	-	-	-	1	1	AT DROP INLET
25,26	CROSSOVER 1	3+13.00	5+04.00	RT	-	-	-	191	2	-	
25,26	CROSSOVER 1	3+94.00	7+47.00	LT	-	-	-	352	4	-	
27,28	CROSSOVER 2	2+13.00	3+33.00	LT	-	-	-	119	2	-	
28	CROSSOVER 2	3+38.47	-	LT	14	-	-	-	1	1	AT DROP INLET
28	CROSSOVER 2	3+47.00	5+40.00	LT	-	-	-	193	2	-	
28,29	CROSSOVER 2	4+45.00	8+90.00	RT	-	-	-	443	5	-	
28	CROSSOVER 2	7+35.70	-	RT	20	-	-	-	1	1	AT EXISTING DROP INLET
30,31	CL US-65	505+00.00	508+70.00	CL	196	-	-	-	11	11	AT 37' SPACING
31	CL US-65	509+07.00	-	CL	-	18	-	-	1	1	LAST IN DITCH CHECK SYSTEM
31	CL US-65	509+44.00	-	CL	-	-	2.4	-	10	-	
32,33	CL US-65	522+00.00	525+00.00	CL	144	-	-	-	7	7	AT 50' SPACING
33	CL US-65	525+50.00	-	CL	-	21	-	-	1	1	LAST IN DITCH CHECK SYSTEM
34	CL US-65	526+00.00	-	CL	-	-	3.1	-	10	-	
		PROJECT TOTAL			387	38	5.5	1546	61		

PERMANENT EROSION CONTROL							
SHEET NO.	ROADWAY	STATION	SIDE	FURNISHING TYPE 1 ROCK BLANKET (CY)	PLACING TYPE 1 ROCK BLANKET (CY)	PERMANENT EROSION CONTROL GEOTEXTILE (SY)	REMARKS
32	CL US-65	518+70.67	LT	4	4	15	8" THICK DRAIN FLUME
32	CL US-65	518+70.67	LT	2	2	7	8" THICK DRAIN FLUME
		PROJECT TOTAL		6	6	22	

TEMPORARY PAVEMENT MARKING					
SHEET NO.	ROADWAY	TEMPORARY REMOVABLE MARKING TAPE, 4" WHITE (LF)	TEMPORARY REMOVABLE MARKING TAPE, 4" YELLOW (LF)	TEMPORARY PAVEMENT MARKING REMOVAL - BEFORE (LF)	TEMPORARY PAVEMENT MARKING REMOVAL - AFTER (LF)
20	US 65 SB	-	1345	306	1345
21	CROSSOVER 1	830	755	420	1585
21	US 65 SB	123	1191	390	1314
22	US 65 SB	447	1129	618	1576
22	BRIDGE	375	750	469	750
22	CROSSOVER 2	235	235	235	470
23	US 65 SB	-	525	106	525
23	CROSSOVER 2	545	498	275	1043
23	US 65 NB	892	-	-	892
24	US 65 NB	408	-	-	408
SUBTOTAL		3855	6428	2819	9908
PROJECT TOTAL		3855	6428	12727	

PERMANENT PAVEMENT MARKING						
ROADWAY	STATION BEGIN	STATION END	LENGTH (FT)	NO. OF LANES	6" WHITE HIGH BUILD (LF)	6" YELLOW HIGH BUILD (LF)
US-65 NB	502+50.00	505+51.68	301.70	2	-	302
US-65 SB	507+40.39	510+93.03	352.60	2	-	353
US-65 NB	514+19.00	514+74.00	55.00	2	69	55
US-65 NB	514+74.00	518+49.17	375.20	2	469	375
US-65 NB	518+49.17	519+04.17	55.00	2	69	55
US-65 SB	519+00.00	522.47.46	347.50	2	-	348
US-65 NB	524+32.33	527+43.04	310.70	2	-	311
		PROJECT TOTAL			607	1799

QUANTITY SHEET
SHEET 3 OF 4



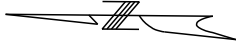
DATE _____

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 00005

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

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

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.			SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.			
WARNING SIGNS								DESCRIPTION		GUIDE SIGNS								DESCRIPTION		
WO1-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)		E05-1	36X48	12.00						GORE EXIT		
WO1-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)		E05-2	48X36	12.00						EXIT OPEN		
WO1-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)		E05-2a	48X36	12.00						EXIT CLOSED		
WO1-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)		GO20-1	60X24	10.00	4	40.00			1	ROAD WORK NEXT XX MILES		
WO1-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)		GO20-2	48X24	8.00	4	32.00			26	END ROAD WORK		
WO1-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)		GO20-4	36X18	4.50						PILOT CAR FOLLOW ME		
WO1-4L	48X48	16.00	2	32.00			15A	REVERSE CURVE (SYMBOL LEFT ARROW)		GO20-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW		
WO1-4R	48X48	16.00	2	32.00			15B	REVERSE CURVE (SYMBOL RIGHT ARROW)		GO20-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW		
WO1-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)		GO20-5aP	36X24	6.00	12	72.00			54	WORK ZONE (PLAQUE)		
WO1-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)		MO4-8a	24X18	3.00						END DETOUR		
WO1-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)		MO4-9L	48X36	12.00						DETOUR (LEFT ARROW)		
WO1-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)		MO4-9R	48X36	12.00						DETOUR (RIGHT ARROW)		
WO1-6	60X30	12.50	4	50.00			16	HORIZONTAL ARROW (SYMBOL)		MO4-9P	48X12	4.00						STREET NAME (PLAQUE)		
WO1-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)		MO4-10L	48X18	6.00						DETOUR (ARROW LEFT)		
WO1-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)		MO4-10R	48X18	6.00						DETOUR (ARROW RIGHT)		
WO1-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)		REGULATORY SIGNS										
WO1-8	18X24	3.00						CHEVRON (SYMBOL)		R1-1	48X48	13.25							STOP	
WO1-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)		R1-2	48TRI.	6.93							YIELD	
WO3-1	48X48	16.00						STOP AHEAD (SYMBOL)		R1-2a	36X36	9.00							TO ONCOMING TRAFFIC (PLAQUE)	
WO3-2	48X48	16.00						YIELD AHEAD (SYMBOL)		R1-3P	30X12	2.50							ALL WAY (PLAQUE)	
WO3-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)		R2-1	36X48	12.00	4	48.00			25	SPEED LIMIT 65 MPH		
WO3-4	48X48	16.00						BE PREPARED TO STOP		R2-1	36X48	12.00	8	96.00			4	SPEED LIMIT 55 MPH		
WO3-5	48X48	16.00	4	64.00			3	SPEED LIMIT AHEAD		R3-1	48X48	16.00							NO RIGHT TURN (SYMBOL)	
WO4-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)		R3-2	48X48	16.00							NO LEFT TURN (SYMBOL)	
WO4-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)		R3-3	36X36	9.00							NO TURNS	
WO4-1aL	48X48	16.00	1	16.00			6A	MERGE (ARROW SYMBOL)		R3-4	48X48	16.00							NO U-TURN (SYMBOL)	
WO4-1aR	48X48	16.00	2	32.00			6B	MERGE (ARROW SYMBOL)		R3-7L	30X30	6.25							LEFT LANE MUST TURN LEFT	
WO5-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS		R3-7R	30X30	6.25							RIGHT LANE MUST TURN RIGHT	
WO5-3	48X48	16.00						ONE LANE BRIDGE		R4-1	36X48	12.00	4	48.00			46	DO NOT PASS		
WO5-5	48X48	16.00	4	64.00			34	NARROW LANES		R4-2	36X48	12.00							PASS WITH CARE	
WO6-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)		R4-8a	36X48	12.00							KEEP LEFT (HORIZONTAL ARROW)	
WO6-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)		R4-7a	36X48	12.00							KEEP RIGHT (HORIZONTAL ARROW)	
WO6-3	48X48	16.00	4	64.00			31	TWO WAY TRAFFIC (SYMBOL)		R5-1	30X30	6.25	2	12.50			55	DO NOT ENTER		
WO7-3a	30X24	5.00	4	20.00			44A	NEXT XX MILES (PLAQUE)		R5-1a	36X24	6.00							WRONG WAY	
WO8-1	48X48	16.00						BUMP		R6-1L	54X18	6.75							ONE WAY ARROW (LEFT)	
WO8-2	48X48	16.00						DIP		R6-1R	54X18	6.75							ONE WAY ARROW (RIGHT)	
WO8-3	48X48	16.00						PAVEMENT ENDS		R6-2L	24X30	5.00							ONE WAY (LEFT)	
WO8-4	48X48	16.00						SOFT SHOULDER		R6-2R	24X30	5.00							ONE WAY (RIGHT)	
WO8-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)		R9-9	24X12	2.00							SIDEWALK CLOSED	
WO8-6	48X48	16.00						TRUCK CROSSING (WITH FLAGS)		R9-11L	24X18	3.00							SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE	
WO8-6c	48X48	16.00						TRUCK ENTRANCE		R9-11R	24X18	3.00							SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	
WO8-7	36X36	9.00						LOOSE GRAVEL		R10-6	24X36	6.00							STOP HERE ON RED (45° ARROW)	
WO8-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL		R11-2	48X30	10.00	1	10.00			29	ROAD CLOSED		
WO8-9	48X48	16.00						LOW SHOULDER		R11-3a	60X30	12.50							ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	
WO8-11	48X48	16.00						UNEVEN LANES		R11-4	60X30	12.50							ROAD CLOSED TO THRU TRAFFIC	
WO8-12	48X48	16.00						NO CENTER LINE		CONST-3A	60X48	20.00							FINE SIGN	
WO8-15	48X48	16.00						GROOVED PAVEMENT		CONST-3X	56X12	4.67							SPEEDING/PASSING (PLATE)	
WO8-15P	30X24	5.00						MOTORCYCLE (PLAQUE)		MISCELLANEOUS SIGNS										
WO8-17	48X48	16.00	4	64.00				SHOULDER DROP-OFF (SYMBOL)		CONST-5	48X36	12.00							POINT OF PRESENCE	
WO8-17P	30X24	5.00	4	20.00				SHOULDER DROP-OFF (PLAQUE)		CONST-5	96X48	32.00	2	64.00					POINT OF PRESENCE	
W10-1	42RND.	9.62						RAILROAD CROSSING		CONST-7	48X24	8.00							RATE OUR WORK ZONE	
WO12-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)		CONST-7	72X36	18.00	2	36.00					RATE OUR WORK ZONE	
WO12-2	48X48	16.00						LOW CLEARANCE (SYMBOL)		CONST-8	48X36	12.00	4	48.00					WORK ZONE NO PHONE ZONE	
WO12-2X	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	4	25.00			44	ADVISORY SPEED (PLAQUE)												
WO16-2	30X24	5.00						XXX FEET (PLAQUE)												
WO16-3	30X24	5.00						X MILE (PLAQUE)												
WO20-1	48X48	16.00	4	64.00			2	ROAD/BRIDGE/RAMP WORK AHEAD												
WO20-2	48X48	16.00						DETOUR AHEAD												
WO20-3	48X48	16.00						ROAD CLOSED AHEAD												
WO20-4	48X48	16.00						ONE LANE ROAD AHEAD												
WO20-5	48X48	16.00	4	64.00			5	RIGHT/CENTER/LEFT LANE CLOSED AHEAD												
WO20-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD												
WO20-6a	48X48	16.00	5	80.00			6	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	4	64.00			21	SHOULDER WORK AHEAD												
WO22-1	48X48																			



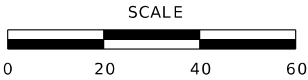
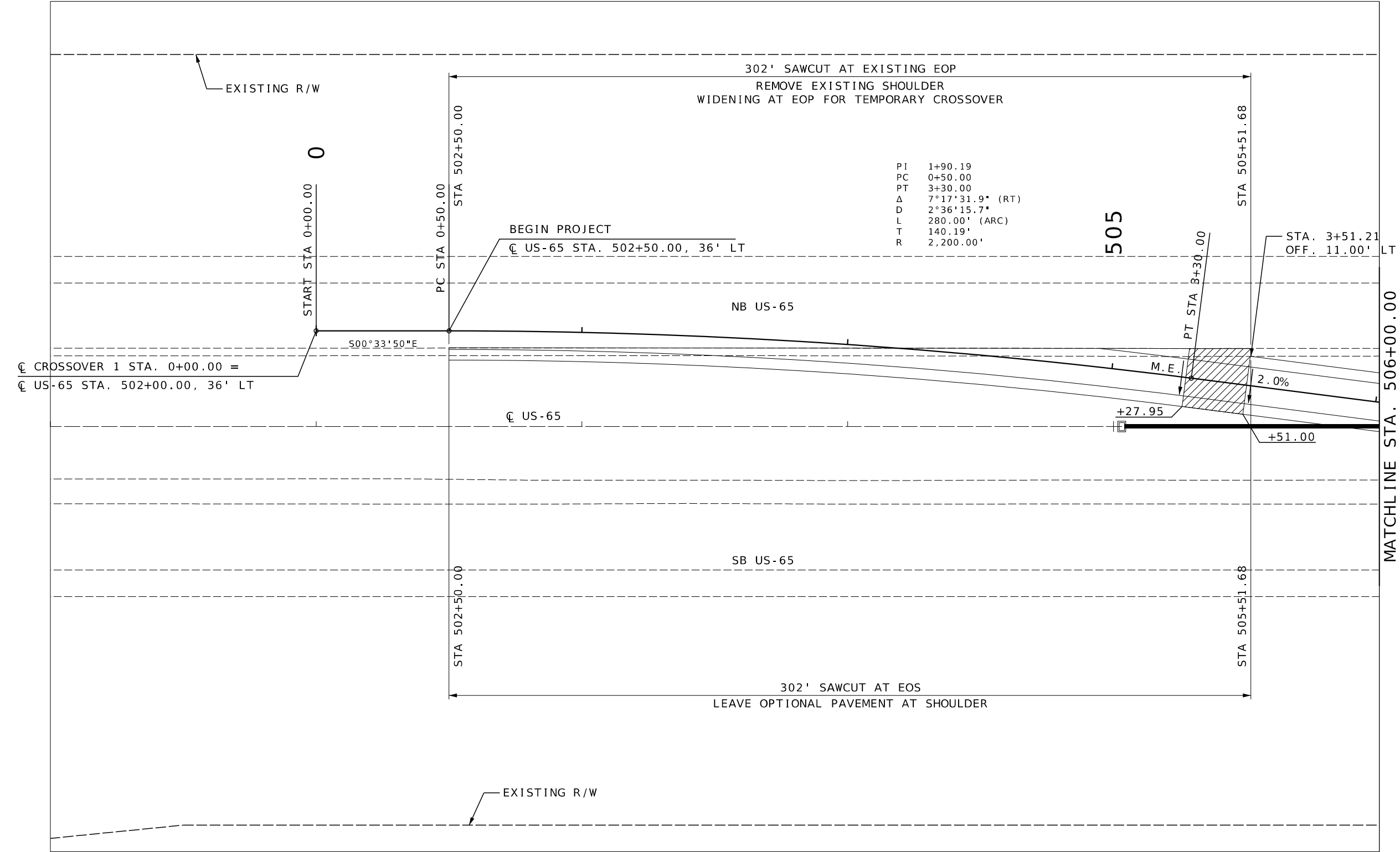
NOTES:
ANY ITEMS OF WORK BEYOND THE PROJECT LIMITS ARE INCIDENTAL TO,
AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

THE INFORMATION SHOWN IN THESE PLANS CONCERNING TYPE AND LOCATION
OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL
INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN
DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND
UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

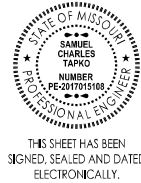
NOTE:
REGRADE TO EXISTING CONDITIONS AFTER
THE REHABILITATION OF THE BR. NO. A30401

 = SUPERELEVATION TRANSITION

CL US-65
STA. 505+03.11 TO STA. 509+02.11
INSTALL 3' x 2' TYPE S-1 DROP INLET
W/ 398.0 (398)' X 18" GROUP A PIPE
W/ 18" FLARED END SECTION
CL. 3 EXC. = 127 CY
REMOVE AFTER BRIDGE CONSTRUCTION
IS COMPLETE.



CROSSOVER 1
PLAN
SHEET 1 OF 6



DATE PREPARED
9/29/2023

ROUTE 65 STATE MO

DISTRICT KC SHEET NO. 4

COUNTY PETTIS

JOB NO. J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



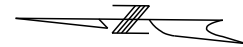
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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Lenexa, KS 66219
913.492.0400
GBAteam.com

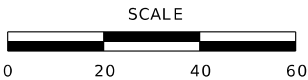
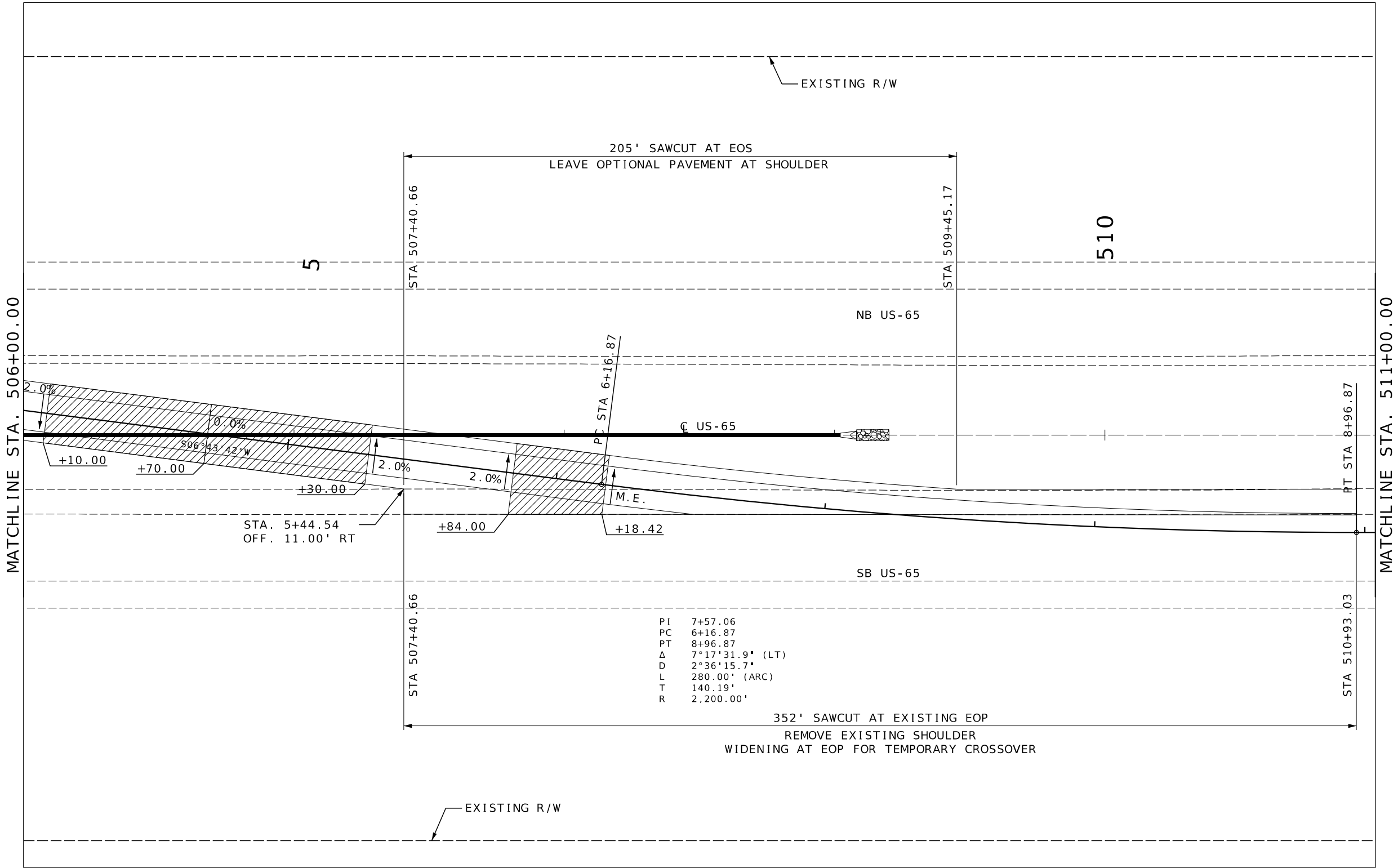
GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108




NOTE:
REGRADE TO EXISTING CONDITIONS AFTER
THE REHABILITATION OF THE BR. NO. A30401

 = SUPERELEVATION TRANSITION



CROSSOVER 1
PLAN
SHEET 2 OF 6



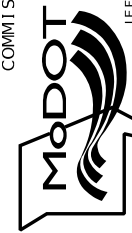
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DATE PREPARED
9/29/2023


ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 6
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



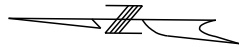
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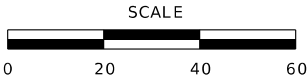
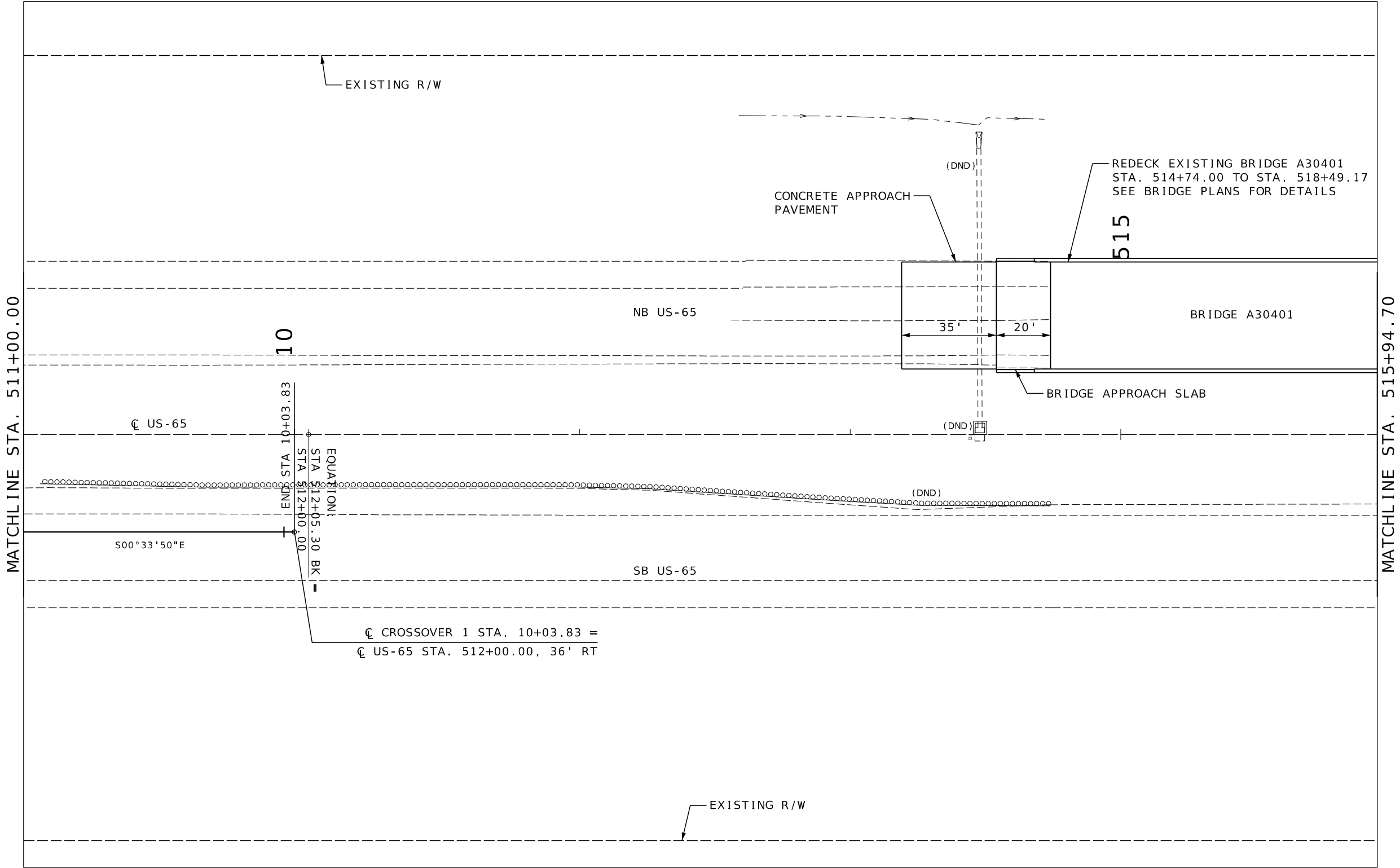
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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108



NOTE:
REGRADE TO EXISTING CONDITIONS AFTER
THE REHABILITATION OF THE BR. NO. A30401

US-65
STA. 514+19.00 TO STA. 514+54.00, LT
CONSTRUCT 153.6 SY CONCRETE APPROACH PAVEMENT
(STD. PLAN 504.00L)



CROSSOVER 1
PLAN
SHEET 3 OF 6



DATE PREPARED
9/29/2023

ROUTE 65 STATE MO

DISTRICT KC SHEET NO. 8

COUNTY PETTIS

JOB NO. J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

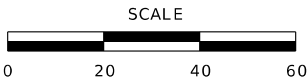
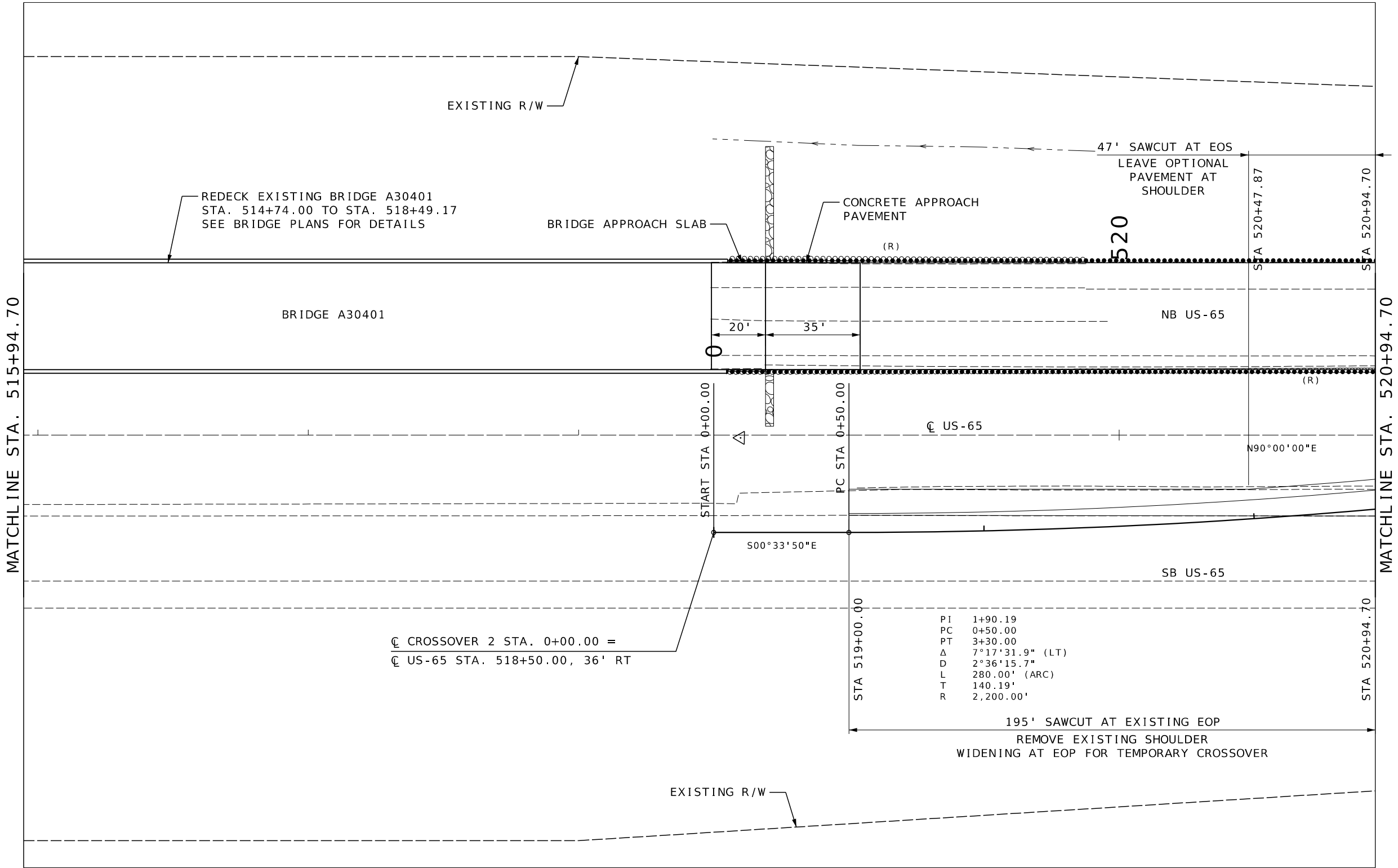
SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

NOTE:
REGRADE TO EXISTING CONDITIONS AFTER
THE REHABILITATION OF THE BR. NO. A30401

⊕ US-65
STA. 518+54.57 TO STA. 522+05.70, LT
INSTALL 1 MGS BRIDGE APPROACH TRANSITION
SECTION (REGULAR/NO CURB)
W/ 262.5' MGS GUARDRAIL (8' POSTS)
& 1 TYPE A CRASHWORTHY END
TERMINAL (MASH)

⊕ US-65
STA. 518+54.57 TO STA. 522+18.20, LT
INSTALL 1 MGS BRIDGE APPROACH TRANSITION
SECTION (REGULAR/NO CURB)
W/ 275.0' MGS GUARDRAIL (8' POSTS)
& 1 TYPE A CRASHWORTHY END
TERMINAL (MASH)

⊕ US-65
STA. 518+69.17 TO STA. 519+04.17, LT
CONSTRUCT 153.6 SY CONCRETE APPROACH PAVEMENT
(STD. PLAN 504.00L)



CROSSOVER 2
PLAN
SHEET 4 OF 6



DATE PREPARED
9/29/2023

ROUTE
65

STATE
MO

DISTRICT
KC

SHEET NO.
9

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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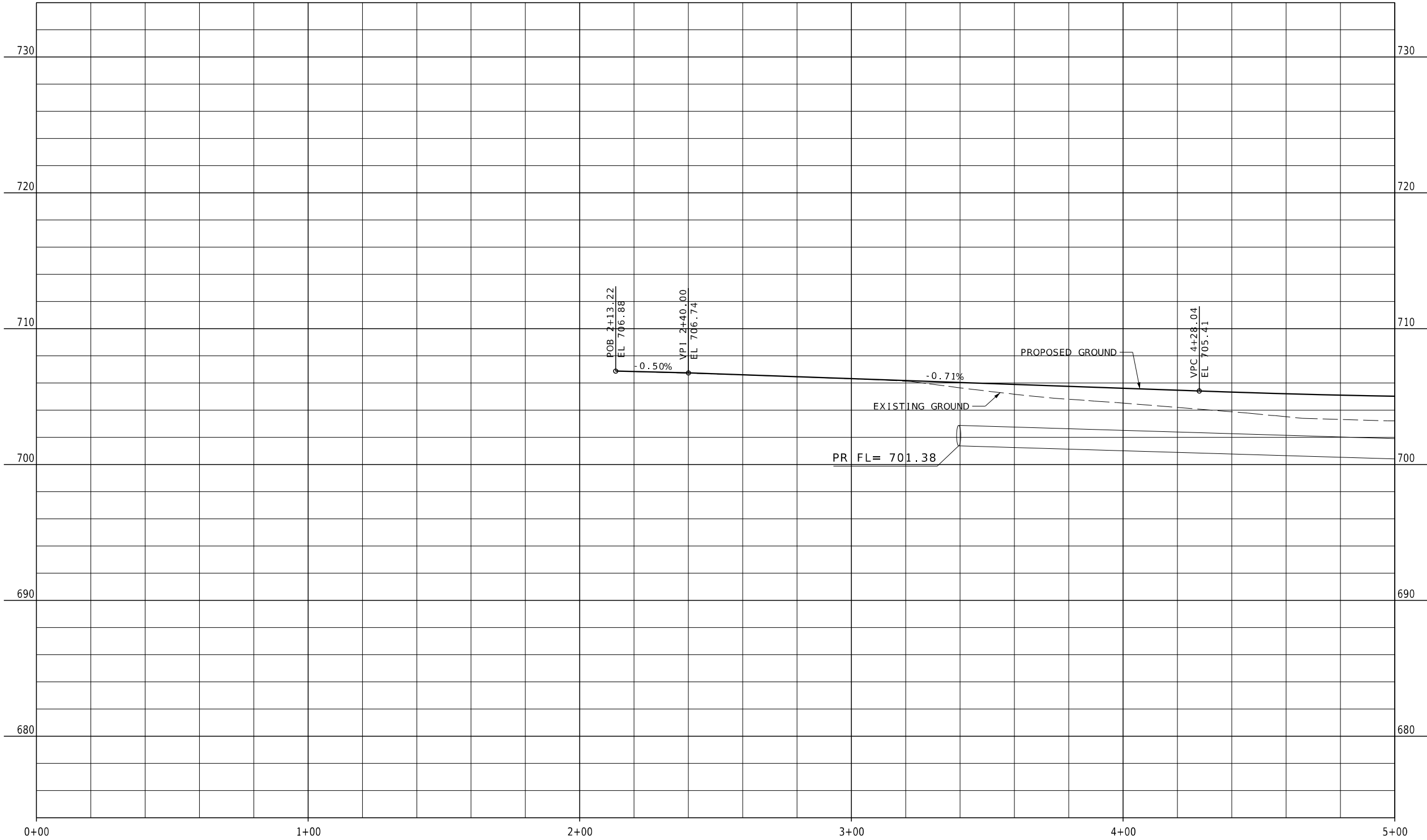
MoDOT

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PRO. LAND SURVEYOR 000059

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PE-2017015108



CROSSOVER 2
PROFILE
SHEET 3 OF 4



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
9/29/2023

ROUTE 65 STATE MO

DISTRICT KC SHEET NO. 10

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

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ENGINEER
PE-2017015108

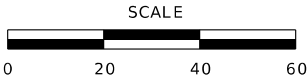
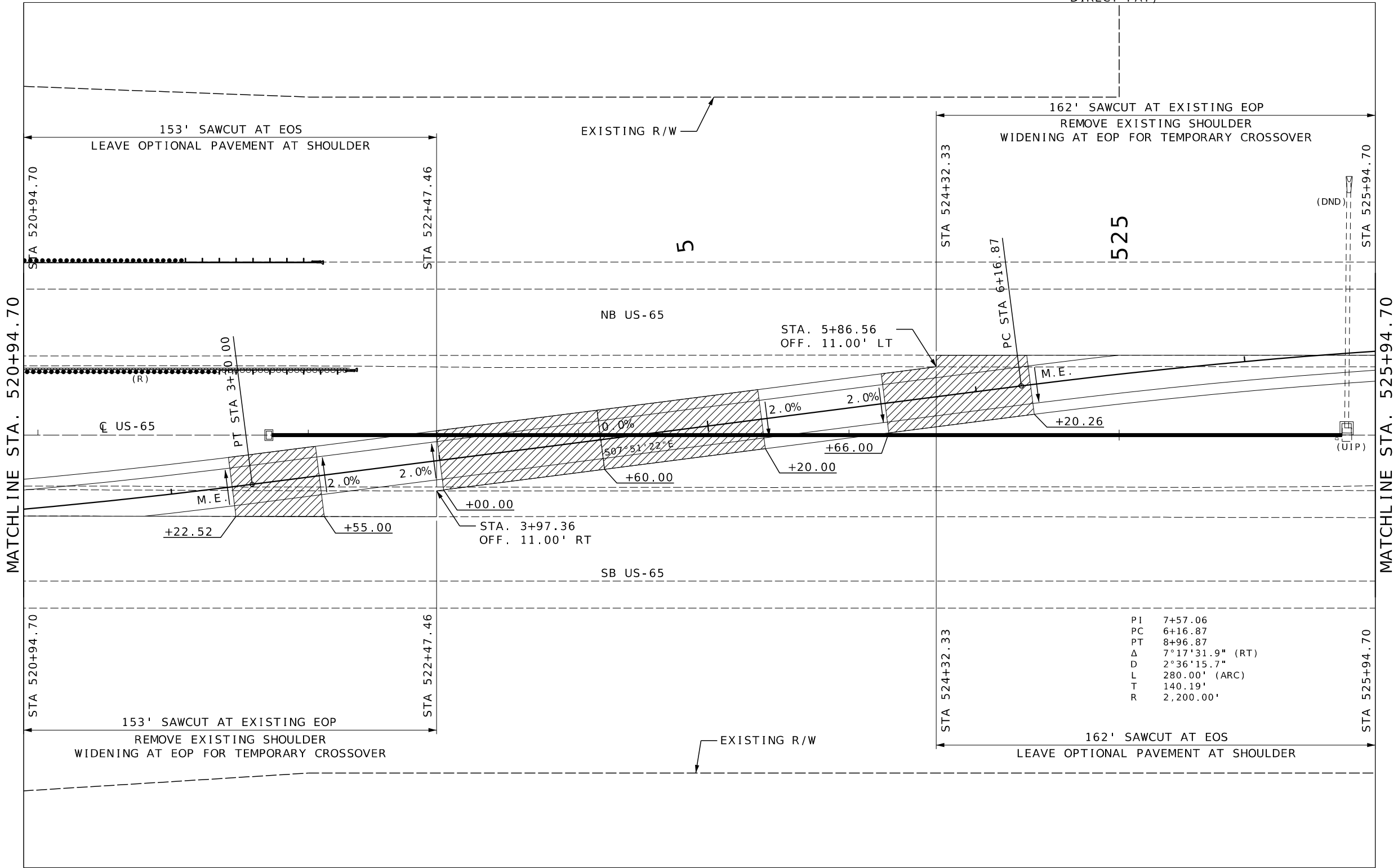
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



NOTE:
REGRADE TO EXISTING CONDITIONS AFTER
THE REHABILITATION OF THE BR. NO. A30401

 = SUPERELEVATION TRANSITION

US-65
STA. 521+85.46 TO STA. 525+82.46
INSTALL 3' x 2' TYPE S-1 DROP INLET
W/ 396.0 (396)' X 18" GROUP A PIPE
CL. 3 EXC. = 216 CY
CONNECT INTO EXISTING DROP INLET
REMOVE AFTER BRIDGE CONSTRUCTION
IS COMPLETE. LEAVE 5' LONG STUB OF PIPE
AND FILL WITH FLOWABLE BACKFILL (NO
DIRECT PAY)



CROSSOVER 2
PLAN
SHEET 5 OF 6



DATE PREPARED
9/29/2023

ROUTE
65

STATE
MO

DISTRICT
KC

SHEET NO.
11

COUNTY
PETTIS

JOB NO.
J3P3203

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)

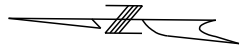
MoDOT

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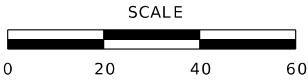
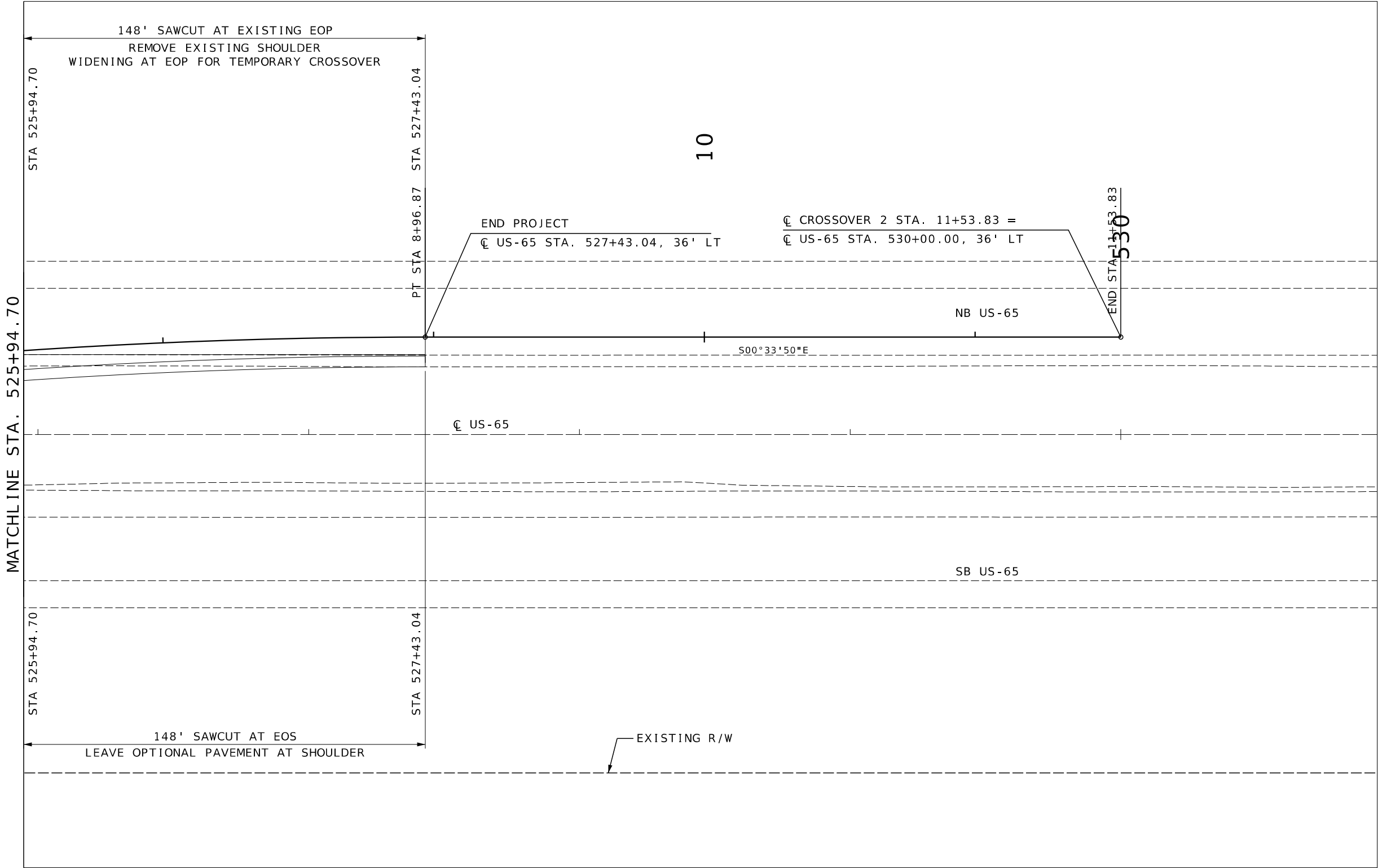
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ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108



NOTE:
REGRADE TO EXISTING CONDITIONS AFTER
THE REHABILITATION OF THE BR. NO. A30401



CROSSOVER 2
PLAN
SHEET 6 OF 6

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ELECTRONICALLY.

DATE PREPARED 9/29/2023	
ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 13
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

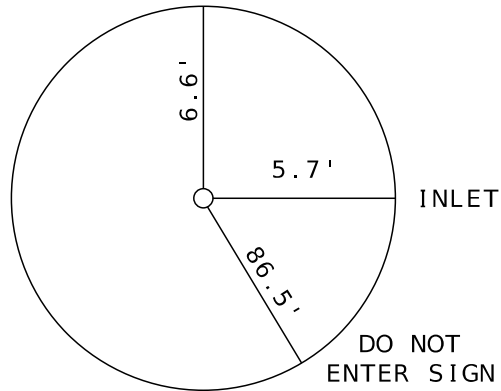
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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PRO. LAND SURVEYOR 000059

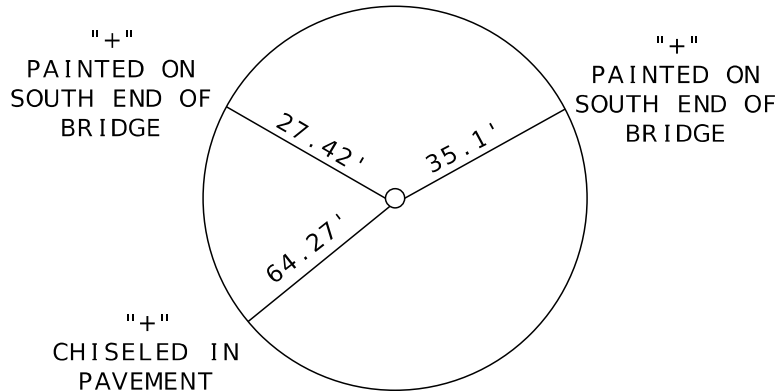
SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

US 65
STA 493+38.80
CP#1 OFFSET 6.22'
SOUTH EDGE OF PAVEMENT
AT CROSSOVER



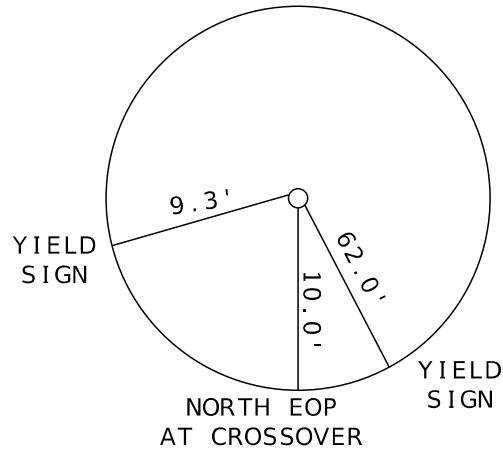
5/8" IRON BAR
N: 1,084,427.721
E: 1,433,632.991
ELEV: 749.21'

US 65
STA 518+59.92
CP#2 OFFSET 1.01'



5/8" IRON BAR
N: 1,081,901.472
E: 1,433,663.070
ELEV: 706.07'

US 65
STA 537+05.32
CP#3 OFFSET -1.09'



5/8" IRON BAR
N: 1,080,056.186
E: 1,433,683.328
ELEV: 705.36'



DATE PREPARED
9/29/2023

ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 14

COUNTY
PETTIS

JOB NO.
J3P3203

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)

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9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
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ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

ALL PROJECT COORDINATES HAVE BEEN PROJECTED FROM THE MISSOURI STATE PLANE COORDINATE (SPC) SYSTEM OF 1983 USING AN AVERAGE PROJECT PROJECTION (GRID TO GROUND) FACTOR. TO GET BACK TO STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.

PROJECT COORDINATE INFORMATION

COORDINATE SYSTEM	MODIFIED STATE PLANE (GROUND)
HORIZONTAL DATUM	NAD83 (CORS96)
VERTICAL DATUM	NAVD88
GEOID MODEL	GEOID12
ELEVATIONS DETERMINED BY	GPS OBSERVATION
PROJECT PROJECTION FACTOR	1.00004680

REFERENCE CONTROL INFORMATION

COORDINATE SYSTEM	MO COORDINATE SYSTEM OF 1983
CONTROL STATION	MO GEOGRAPHIC REFERENCE SYSTEM
DESIGNATION	PE-10
CORS_ID	XX
PID	159010
LATITUDE	38°47'45.31704"
LONGITUDE	93°17'46.37945"
NORTHING (M)	329077.9420
EASTING (M)	430833.0590
ZONE	CENTRAL
PROJECT AVERAGE GRID FACTOR	0.99995320


EXAMPLE OF PROJECT COORDINATE TO S.P.C.

PROJECT NORTHING X AVERAGE GRID FACTOR
= STATE PLANE NORTHING
PROJECT EASTING X AVERAGE GRID FACTOR
= STATE PLANE EASTING

EXAMPLE: CONTROL POINT # ____
N ____ X ____ = N ____
E ____ X ____ = E ____

LINEAR UNIT CONVERSION
1 METER = 3.280833333 US SURVEY FEET (USFT)

COORDINATE POINT LISTING								
SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
				NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
PROJECT CONTROL POINTS								
	493+38.80	EX US 65	6.22	1084427.72	1433632.99	749.21	CP#1 - 5/8" IRON BAR SET IN MEDIAN +/- 2140 FEET NORTH OF BRIDGES OVER MUDDY CREEK	
9	518+59.92	EX US 65	1.01	1081901.47	1433663.07	706.07	CP#2 - 5/8" IRON BAR SET IN MEDIAN AT SOUTH BRIDGE ENDS OF BRIDGES OVER MUDDY CREEK	
	537+05.32	EX US 65	-1.09	1080056.19	1433683.33	705.36	CP#3 - 5/8" IRON BAR SET IN MEDIAN +/- 1850' SOUTH OF BRIDGES OVER MUDDY CREEK	
	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	
	-	-	-	-	-	-	-	
ALIGNMENTS								
	491+25.21	EX US 65		1084641.36	1433637.11		POB	
8	512+05.30	EX US 65		1082561.37	1433657.58		EQUATION BACK	
8	512+00.00	EX US 65		1082561.37	1433657.58		EQUATION AHEAD	
8	512+00.00	EX US 65		1082561.37	1433657.58		PI	
	550+00.00	EX US 65		1078761.55	1433694.98		POE	
4	0+00.00	TEMP CROSSOVER 1		1083566.98	1433683.69		POB	
4	0+50.00	TEMP CROSSOVER 1		1083516.98	1433684.18		PC	
4	1+90.19	TEMP CROSSOVER 1		1083376.80	1433685.56		PI	
4	3+30.00	TEMP CROSSOVER 1		1083237.57	1433669.13		PT	
6	6+16.87	TEMP CROSSOVER 1		1082952.68	1433635.52		PC	
6	7+57.06	TEMP CROSSOVER 1		1082813.46	1433619.10		PI	
6	8+96.87	TEMP CROSSOVER 1		1082673.28	1433620.48		PT	
8	10+03.83	TEMP CROSSOVER 1		1082566.32	1433621.53		POE	
9	0+00.00	TEMP CROSSOVER 2		1081911.05	1433627.98		POB	
9	0+50.00	TEMP CROSSOVER 2		1081861.05	1433628.47		PC	
9	1+90.19	TEMP CROSSOVER 2		1081720.87	1433629.85		PI	
11	3+30.00	TEMP CROSSOVER 2		1081581.99	1433649.01		PT	
11	6+16.87	TEMP CROSSOVER 2		1081297.82	1433688.22		PC	
13	7+57.06	TEMP CROSSOVER 2		1081158.95	1433707.39		PI	
13	8+96.87	TEMP CROSSOVER 2		1081018.77	1433708.77		PT	
13	11+53.83	TEMP CROSSOVER 2		1080761.81	1433711.29		POE	



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
9/29/2023

ROUTE
65

STATE
MO

DISTRICT
KC

SHEET NO.
15

COUNTY
PETTIS

JOB NO.
J3P3203


CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION								
DATE								

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



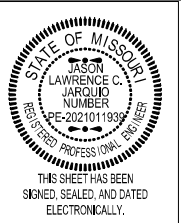
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

COORDINATE POINT
SHEET 1 OF 1



DATE PREPARED 10/2/2023	
ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 16
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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



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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JASON L. JARQUIO
PROFESSIONAL
ENGINEER
PE-2021011939

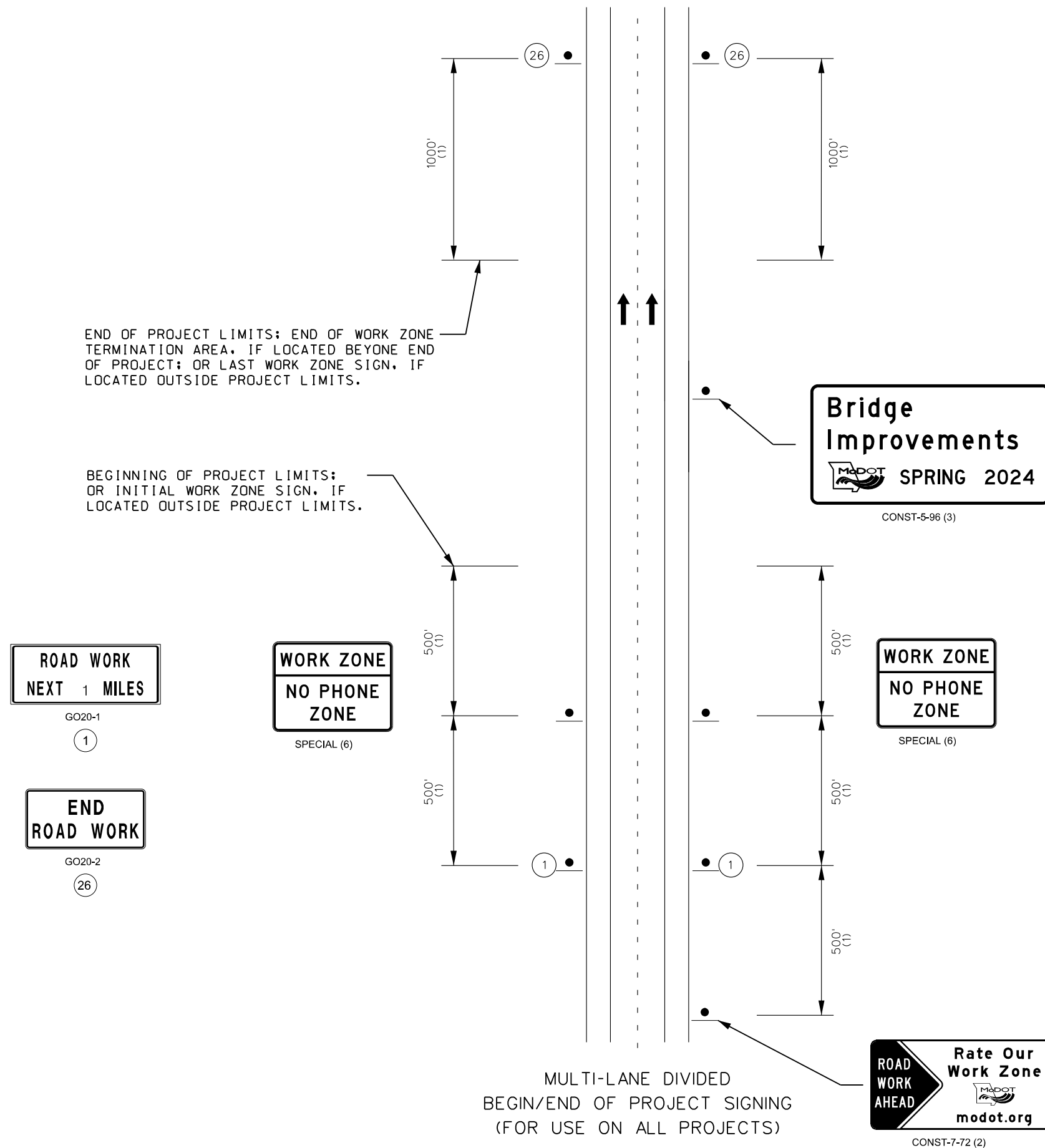
SPACING AND TAPER LENGTHS FOR WORK ZONE SIGNS, CHANNELIZERS AND CONCRETE BARRIER

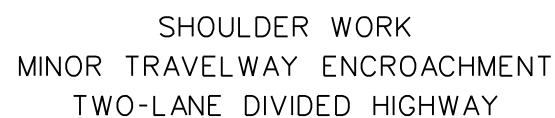
SIGN SPACING FOR ADVANCE SIGN SERIES (1) (2)		
PERMANENT POSTED SPEED MPH	UNDIVIDED HIGHWAYS (S)	DIVIDED HIGHWAYS (S)
0-35	200'	200'
40-45	350'	500'
50-55	500'	1000'
60-70	1000'	SA - 1000' SB - 1500' SC - 2640'

TAPER LENGTHS AND END TREATMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (3)			END TREATMENT (4)
	10'	11'	12'	
<40	160'	168'	176'	BARRIER HEIGHT TRANSITION
>40	160'	168'	176'	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (L)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10' SHOULDER	BUFFER LENGTH FT. (B)	MAXIMUM CHANNELIZER SPACING	
	10'	11'	12'			THROUGH TAPER	THROUGH WORK AREA
0-35	205'	225'	245'	70'	280'	35'	40'
40-45	450'	495'	540'	150'	400'	40'	80'
50-55	550'	605'	660'	185'	560'	50'	80'
60-70	700'	770'	840'	235'	840'	60'	120'

- NOTES:
- (1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OF SIGNED CONDITION.
 - (2) SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.
 - (3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER.
 - (4) CONCRETE BARRIER MAY BE INSTALLED AT AND 8:1 FLARE RATE FROM THE SHOULDER POINT TO THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER

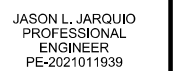




- (1). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING, AND CHANNELIZING TAPER LENGTHS.
- (2). SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- (3). SIGN ② NOT REQUIRED IF SHOULDER WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITY AREA WHERE ANOTHER SIGN ② IS ALREADY USED.
- (4). SIGN ④A NOT REQUIRED FOR NARROW LANE SECTIONS LESS THAN ONE MILE.
- (5). FLARE BARRIER TO EXTEND BEYOND CLEAR ZONE OR FLARE BARRIER TO EDGE LINE AND USE APPROVED END TREATMENT.

SHOULDER WORK LANE CLOSURE

TEMPORARY TRAFFIC CONTROL
TYPICAL APPLICATION
SHEET 3 OF 9



IF A SELECTION ALGORITHM ON THIS SET OF 11 HAS BEEN SUCCESSFULLY SCALED AND DATED:



A FLASHING ARROW BOARD SHALL BE USED WHEN A FREEWAY LANE IS CLOSED. WHEN MORE THAN ONE LANE IS CLOSED, A SEPARATE FLASHING ARROW BOARD SHALL BE USED FOR EACH CLOSED LANE.



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

MOBILE OPERATION
OPEN TO TRAFFIC

TEMPORARY TRAFFIC CONTROL
TYPICAL APPLICATION
SHEET 4 OF 9

MOBILE OPERATION
OPEN TO TRAFFIC



BRIDGE
OR
RAMP

WO20-1

(2)



CENTER LANE
OR
LEFT LANE

WO20-5

(5)



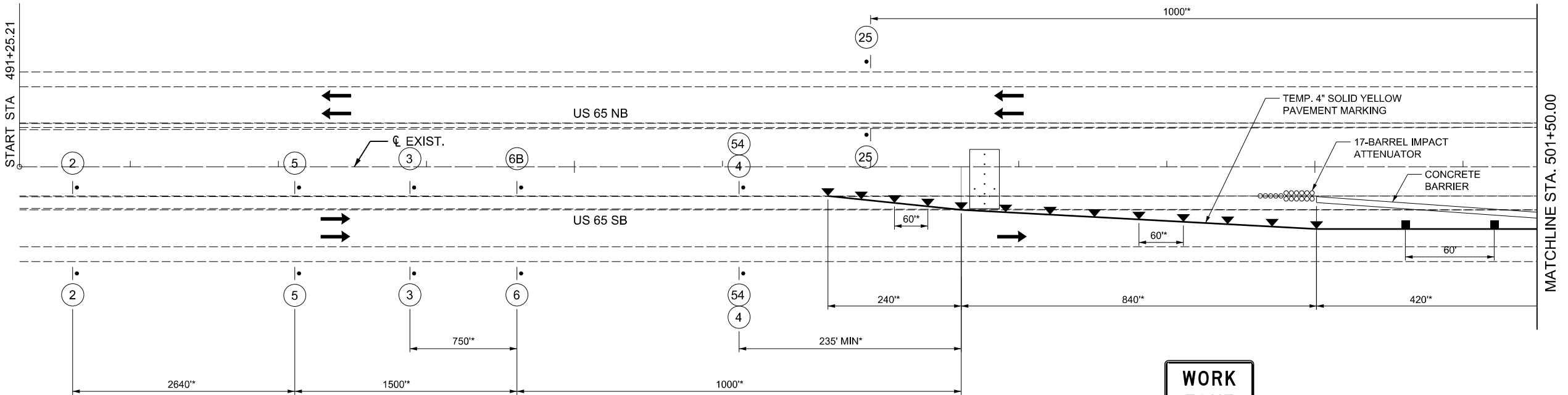
CENTER
OR
LEFT

WO20-6a

(6)

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ◁ FLAGGER
- ▲ CONE
- CHANNELIZER
- E BARRICADE
- CHANGEABLE MESSAGE BOARD
- ▲ DIRECTIONAL INDICATOR BARRICADE
- ◆ TUBULAR MARKER



WO3-5

(3)



WO4-1aR

(6B)



GO20-5aP

(54)



R2-1

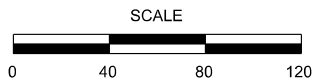
(4)



R2-1
(NORMAL SPEED)

(25)

* NOT TO SCALE



TEMPORARY TRAFFIC CONTROL
SHEET 5 OF 9



DATE PREPARED
10/17/2023

ROUTE 65 STATE MO
DISTRICT KC SHEET NO. 20

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

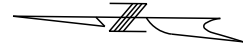
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JASON L. JARQUIO
PROFESSIONAL
ENGINEER
PE-2021011939

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TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ◁ FLAGGER
- ▲ CONE
- CHANNELIZER
- [BARRICADE
- CHANGEABLE MESSAGE BOARD
- ▲ DIRECTIONAL INDICATOR BARRICADE
- ◆ TUBULAR MARKER



DATE PREPARED 10/2/2023	
ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 21
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

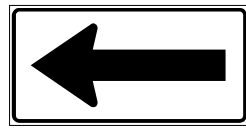
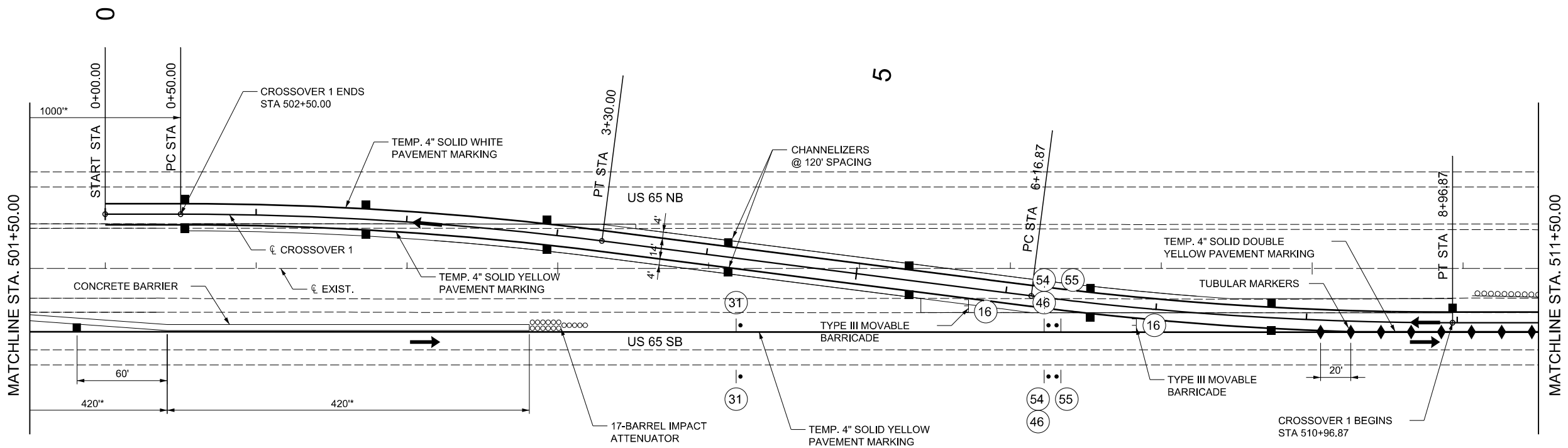
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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GBA

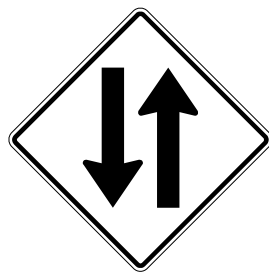
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913.492.0400
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PRO. LAND SURVEYOR 000059

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PE-2021011939



W01-6
16



W06-3
31



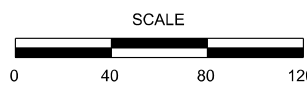
R4-1
46



GO20-5aP
54

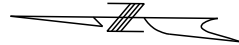


R5-1
55

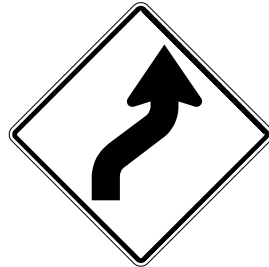


* NOT TO SCALE

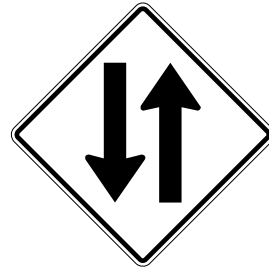
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



R2-1
4



W01-4R
15B



W06-3
31



W013-1
44



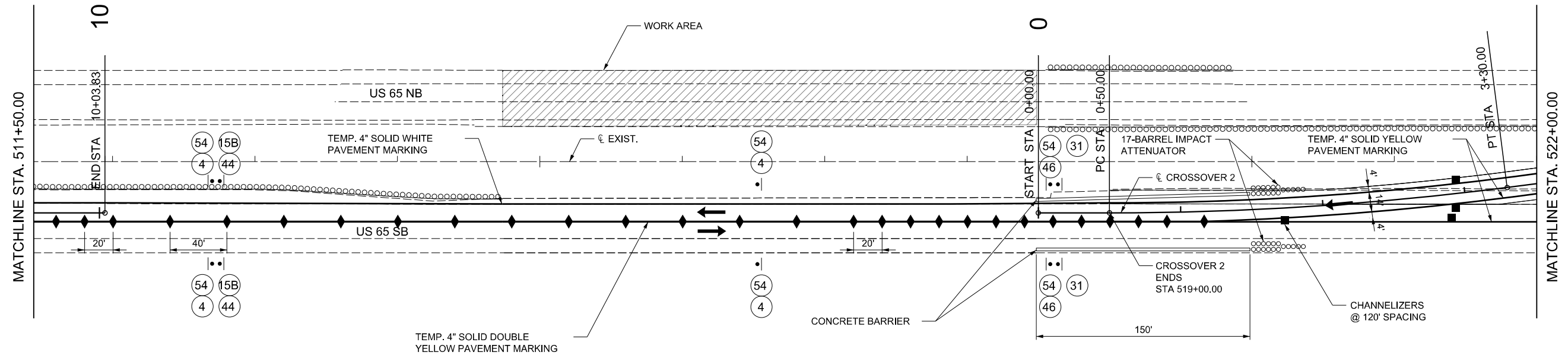
R4-1
46



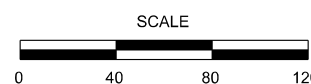
GO20-5aP
54

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- ◁ FLAGGER
- ▲ CONE
- CHANNELIZER
- ⌈ BARRICADE
- ▮ CHANGEABLE MESSAGE BOARD
- ▲ DIRECTIONAL INDICATOR BARRICADE
- ◆ TUBULAR MARKER



* NOT TO SCALE



TEMPORARY TRAFFIC CONTROL
SHEET 7 OF 9



DATE PREPARED
10/2/2023

ROUTE 65 STATE MO

DISTRICT KC SHEET NO. 22

COUNTY PETTIS

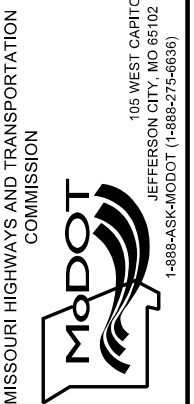
JOB NO. J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE






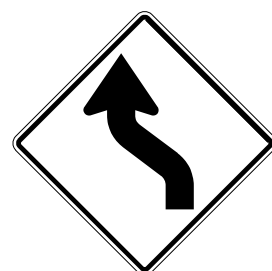
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ASSOCIATES, INC.
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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JASON L. JARQUIO
PROFESSIONAL
ENGINEER
PE-2021011939

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- SIGN (SINGLE SIDED)
-  FLAGGER
- ▲ CONE
- CHANNELIZER
- [BARRICADE
-  CHANGEABLE MESSAGE BOARD
- ▲ DIRECTIONAL INDICATOR BARRICADE
- ◆ TUBULAR MARKER



SPEED
LIMIT
65



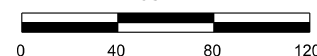
**ROAD
CLOSED**



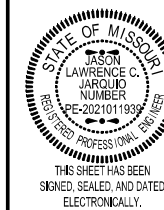
55
MPH

* NOT TO SCALE

SCALE



TEMPORARY TRAFFIC CONTROL
SHEET 8 OF 9



DATE PREPARED
10/2/2023

ROUTE	STATE
65	MO

DISTRICT	SHEET NO.
KC	23

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO. _____

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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Lenexa, KS 66219
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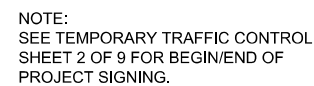
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ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

JASON L. JARQUIC
PROFESSIONAL
ENGINEER
PE-2021011939

[illegible]



- SIGN (SINGLE SIDED)
- ◀ FLAGGER
- ▲ CONE
- CHANNELIZER
- E BARRICADE
- CHANGEABLE MESSAGE BOARD
- ▲ DIRECTIONAL INDICATOR BARRICADE
- ◆ TUBULAR MARKER



WO20-1

②



54



4



5



DE



⑤



01

LE



64

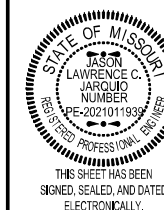


②

SCALE



TEMPORARY TRAFFIC CONTROL
SHEET 9 OF 9



DATE PREPARED _____

10/17/2023

ROUTE	STATE
65	MO

DISTRICT	SHEET NO.
KC	24

COUNTY

PETTIS

JOB NO.

13P3203

CONTRACT ID.

CONTRACT ID.

PROJECT NO. _____

PROJECT NO.

BRIDGE NO. _____

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

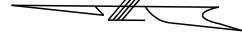


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ARCHITECT 000212
PRO. LAND SURVEYOR 000059


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ENGINEER
PE-2021011939

[illegible]


TEMPORARY EROSION CONTROL LEGEND




ALTERNATE DITCH CHECK



ROCK LINING



SILT FENCE



SEEDING

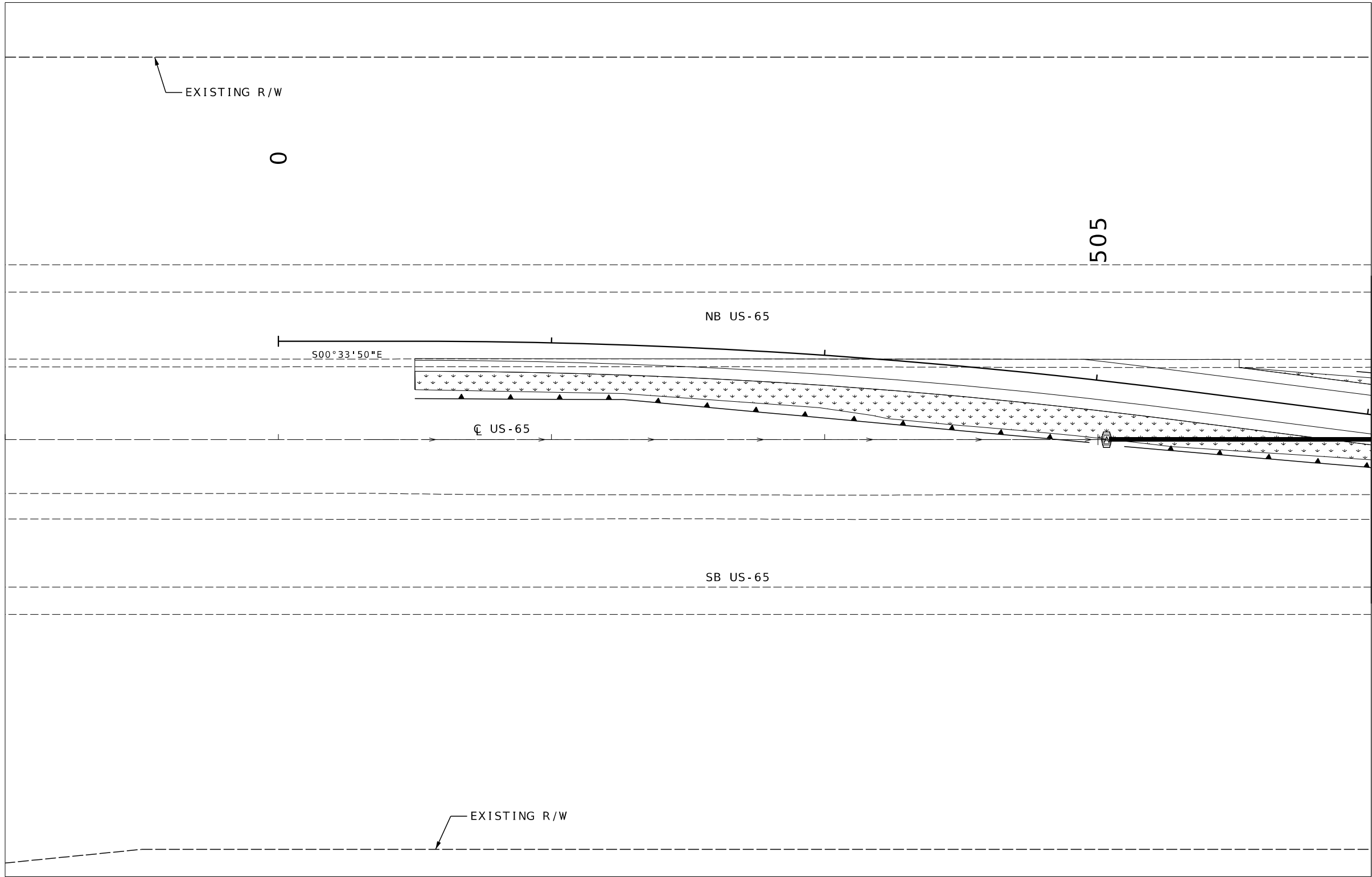
TEMP. CROSSOVER 1
STA 3+06.16, RT
INSTALL 1 ALTERNATE DITCH CHECK
AT DROP INLET


TEMP. CROSSOVER 1
STA 0+50, 21' RT TO STA 1+27, 20' RT
STA 1+27, 20' RT TO STA 3+00, 23' RT
INSTALL 248 LF SILT FENCE

TEMP. CROSSOVER 1
STA 3+13, 23' RT TO STA 5+04, 15' RT
INSTALL 191 LF SILT FENCE

TEMP. CROSSOVER 1
STA 0+50.00 TO STA 5+44.54, RT
INSTALL 0.1 ACRES
SEEDING - COOL SEASON MIXTURES

TEMP. CROSSOVER 1
STA 3+51.21 TO STA 7+48.14, LT
INSTALL 0.1 ACRES
SEEDING - COOL SEASON MIXTURES





THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
9/29/2023

ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 25

COUNTY
PETTIS

JOB NO.
J3P3203


CONTRACT ID.

PROJECT NO.


BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



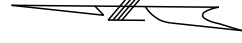
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)




9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com


GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

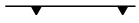
SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108




TEMPORARY EROSION CONTROL LEGEND

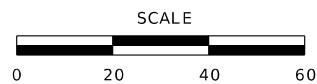
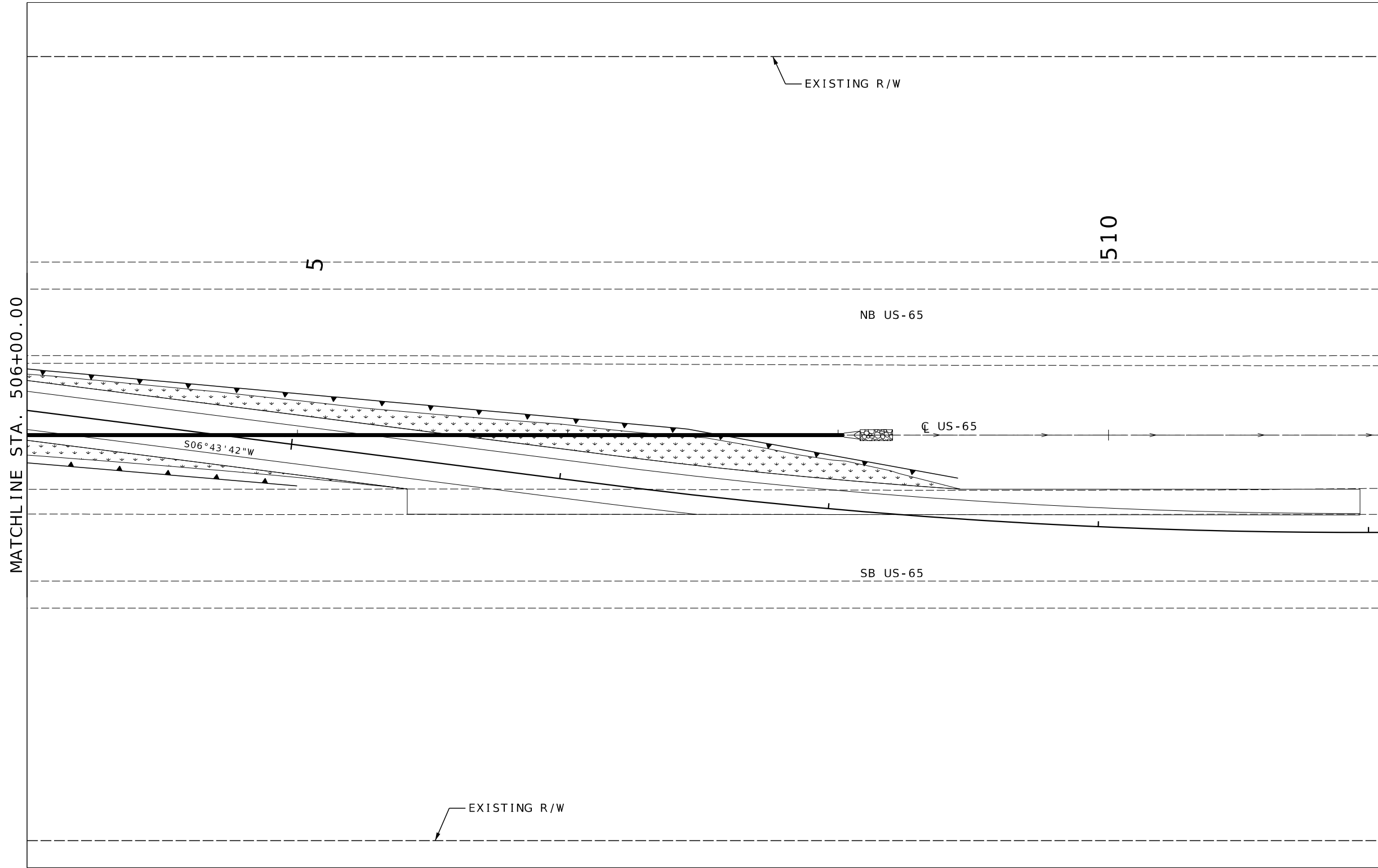
ALTERNATE DITCH CHECK

ROCK LINING

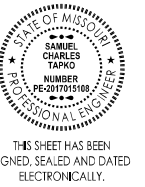
SILT FENCE

SEEDING

TEMP. CROSSOVER 1
STA 3+94, 15' LT TO STA 6+45, 24' LT
STA 6+45, 24' LT TO STA 7+47, 15' LT
INSTALL 352 LF SILT FENCE



TEMPORARY
EROSION CONTROL
SHEET 2 OF 5



DATE PREPARED 9/29/2023	
ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 26
COUNTY PETTIS	
JOB NO. J3P3203	
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)

GBA
9801 Renner Blvd, Ste. 300
Lenexa, KS 66219
913.492.0400
GBAteam.com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

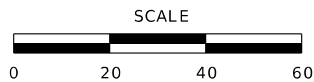
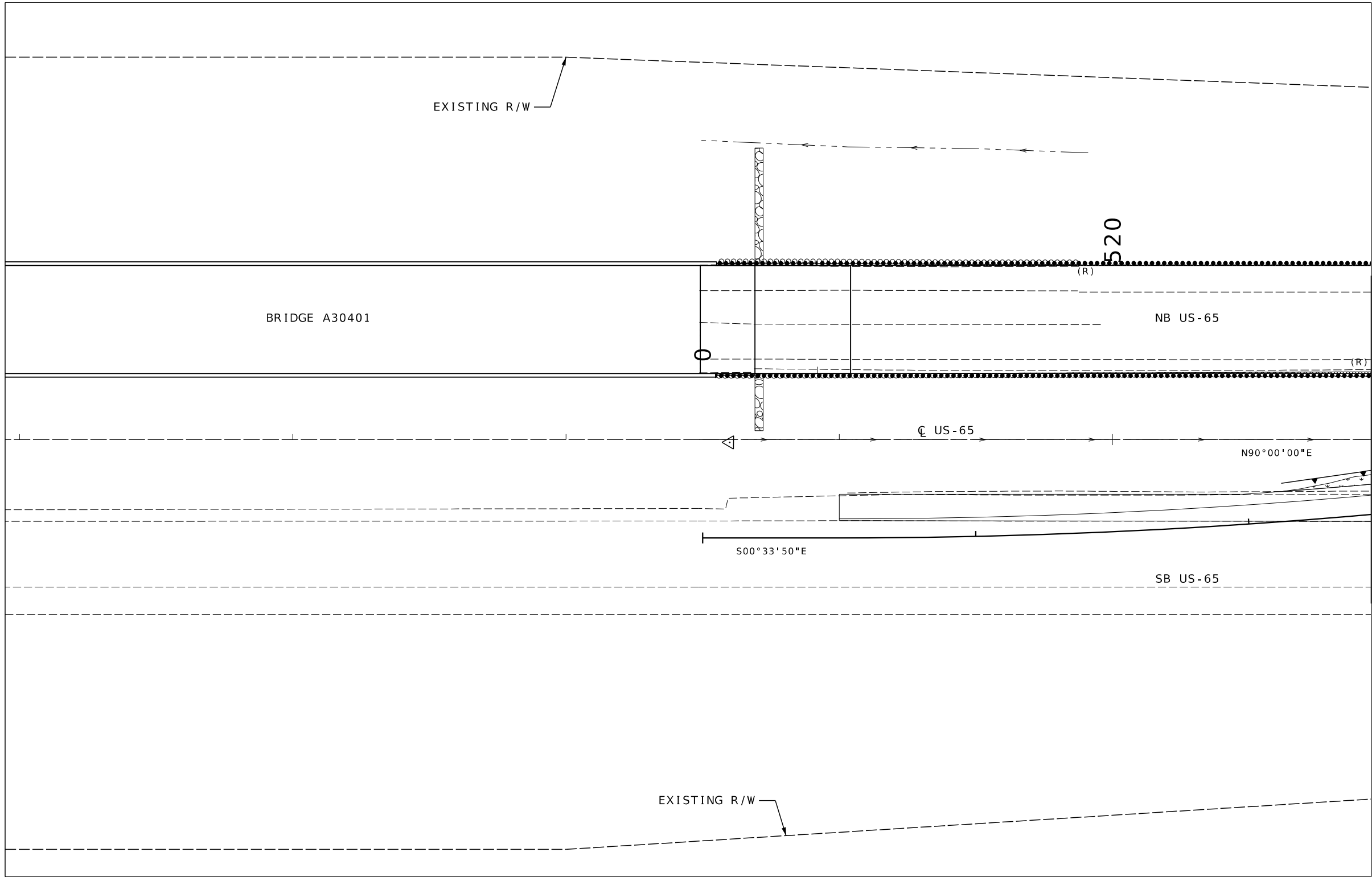
TEMPORARY EROSION CONTROL LEGEND

ALTERNATE DITCH CHECK

ROCK LINING

SILT FENCE

SEEDING



TEMPORARY
EROSION CONTROL
SHEET 3 OF 5

THIS SHEET HAS BEEN
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DATE PREPARED
9/29/2023

ROUTE
65

STATE
MO

DISTRICT
KC

SHEET NO.
27

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

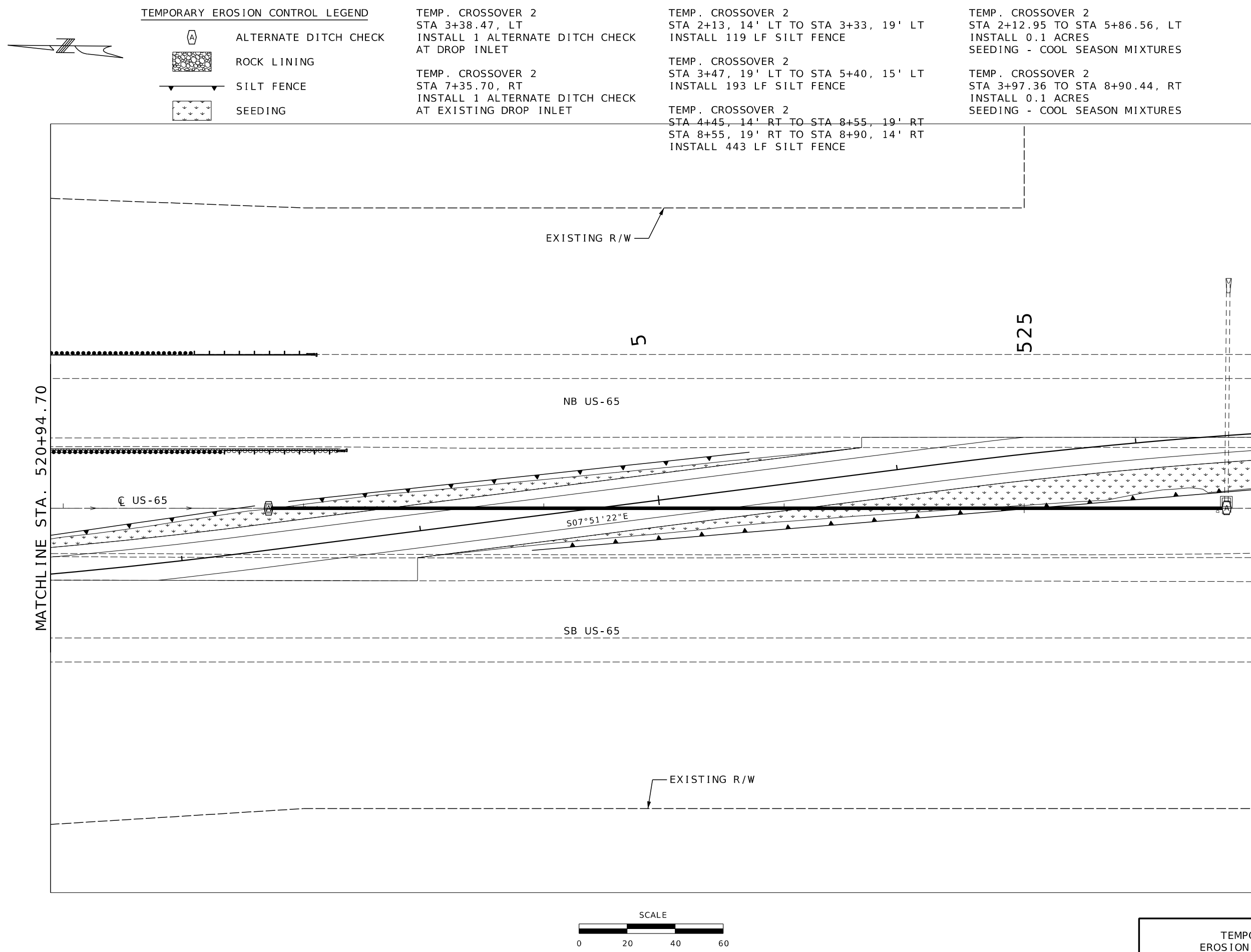
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ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 28
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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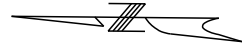


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TEMPORARY
EROSION CONTROL
SHEET 4 OF 5

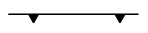
SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108




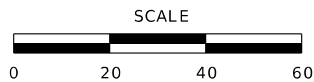
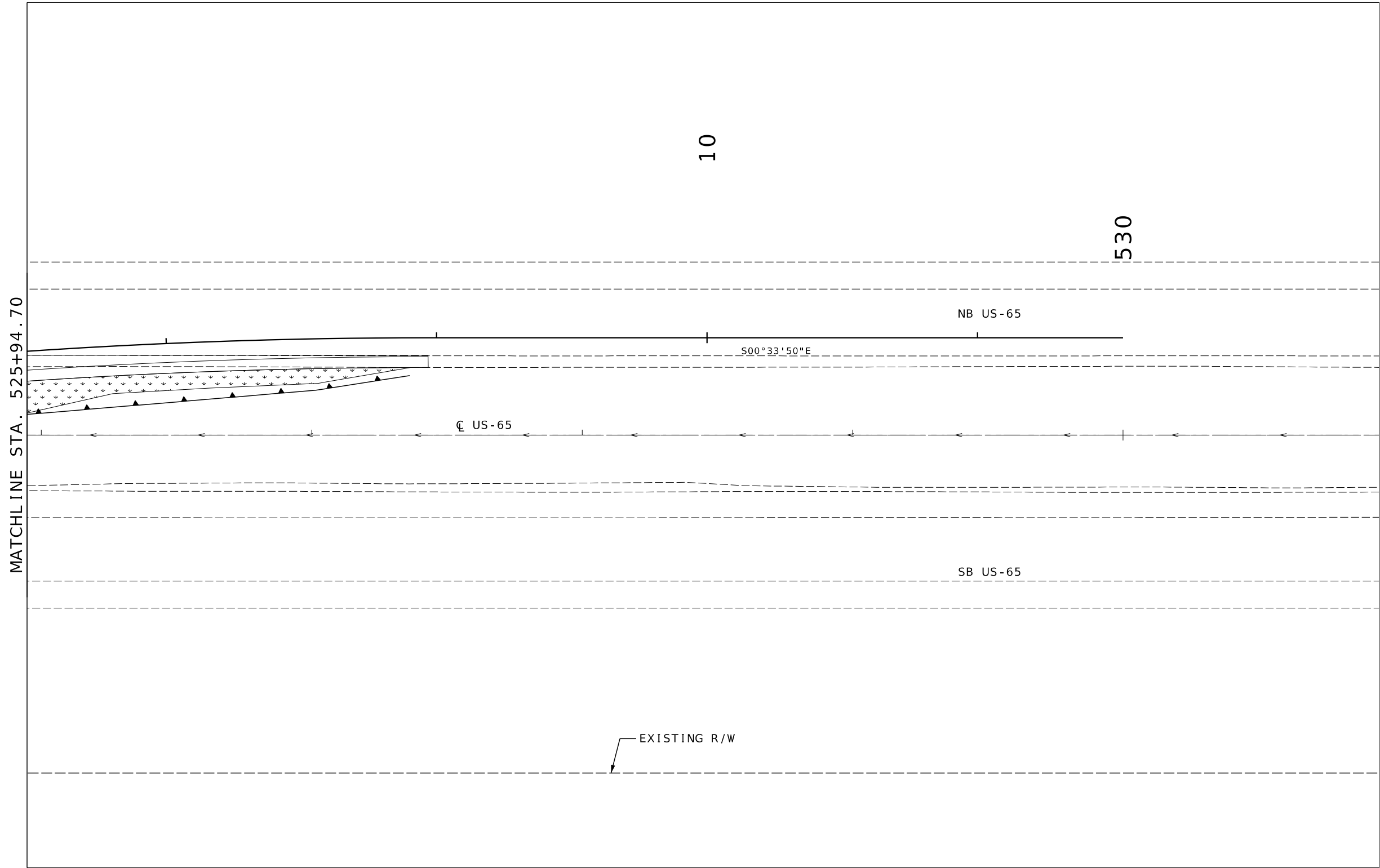
TEMPORARY EROSION CONTROL LEGEND

ALTERNATE DITCH CHECK


ROCK LINING

SILT FENCE

SEEDING



TEMPORARY
EROSION CONTROL
SHEET 5 OF 5



THIS SHEET HAS BEEN
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DATE PREPARED
9/29/2023

ROUTE
65

STATE
MO

DISTRICT
KC

SHEET NO.
29

COUNTY
PETTIS

JOB NO.
J3P3203


CONTRACT ID.

PROJECT NO.


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DESCRIPTION	DATE

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

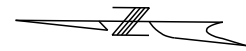


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ENGINEER
PE-2017015108

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PERMANENT EROSION CONTROL LEGEND

(A)

ALTERNATE DITCH CHECK

(R)

ROCK DITCH CHECK

(S)

SEDIMENT TRAP



ROCK BLANKET



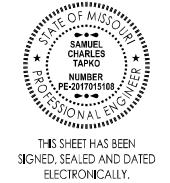
SEEDING

℄ US-65

STA 502+50.00 TO STA 509+46.70, LT & RT
INSTALL 0.4 ACRES
SEEDING - COOL SEASON MIXTURES

℄ US-65

STA 505+00.00 TO STA 508+70.00
INSTALL 11 ALTERNATE DITCH CHECKS
AT 37' SPACING



DATE PREPARED
9/29/2023

ROUTE 65 STATE MO

DISTRICT KC SHEET NO. 30

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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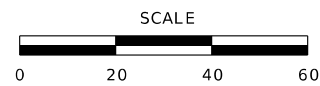
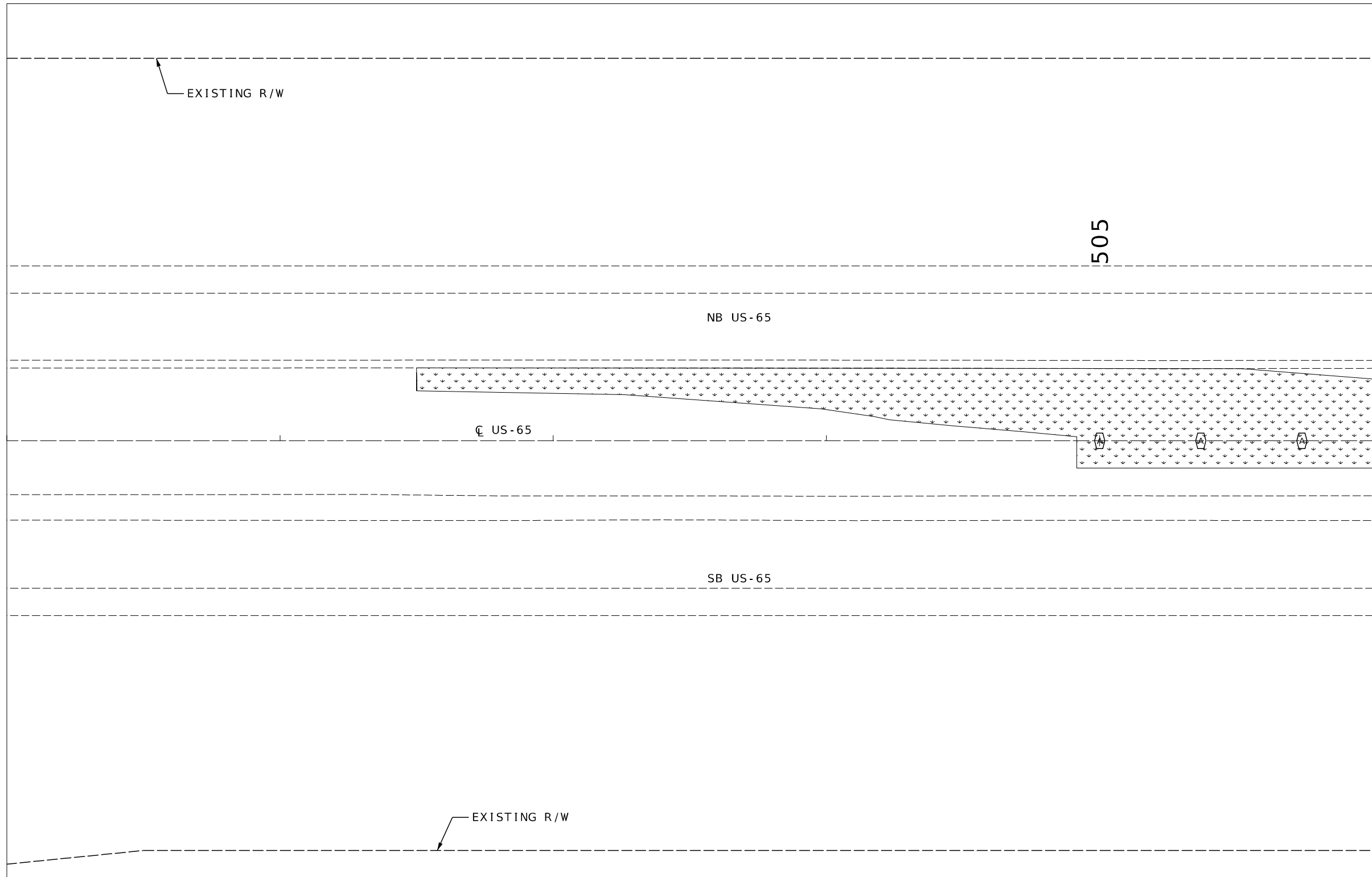
GBA

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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108

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



PERMANENT
EROSION CONTROL
SHEET 1 OF 5



PERMANENT EROSION CONTROL LEGEND

A


ALTERNATE DITCH CHECK


R

ROCK DITCH CHECK

S

SEDIMENT TRAP

ROCK BLANKET

SEEDING

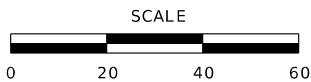
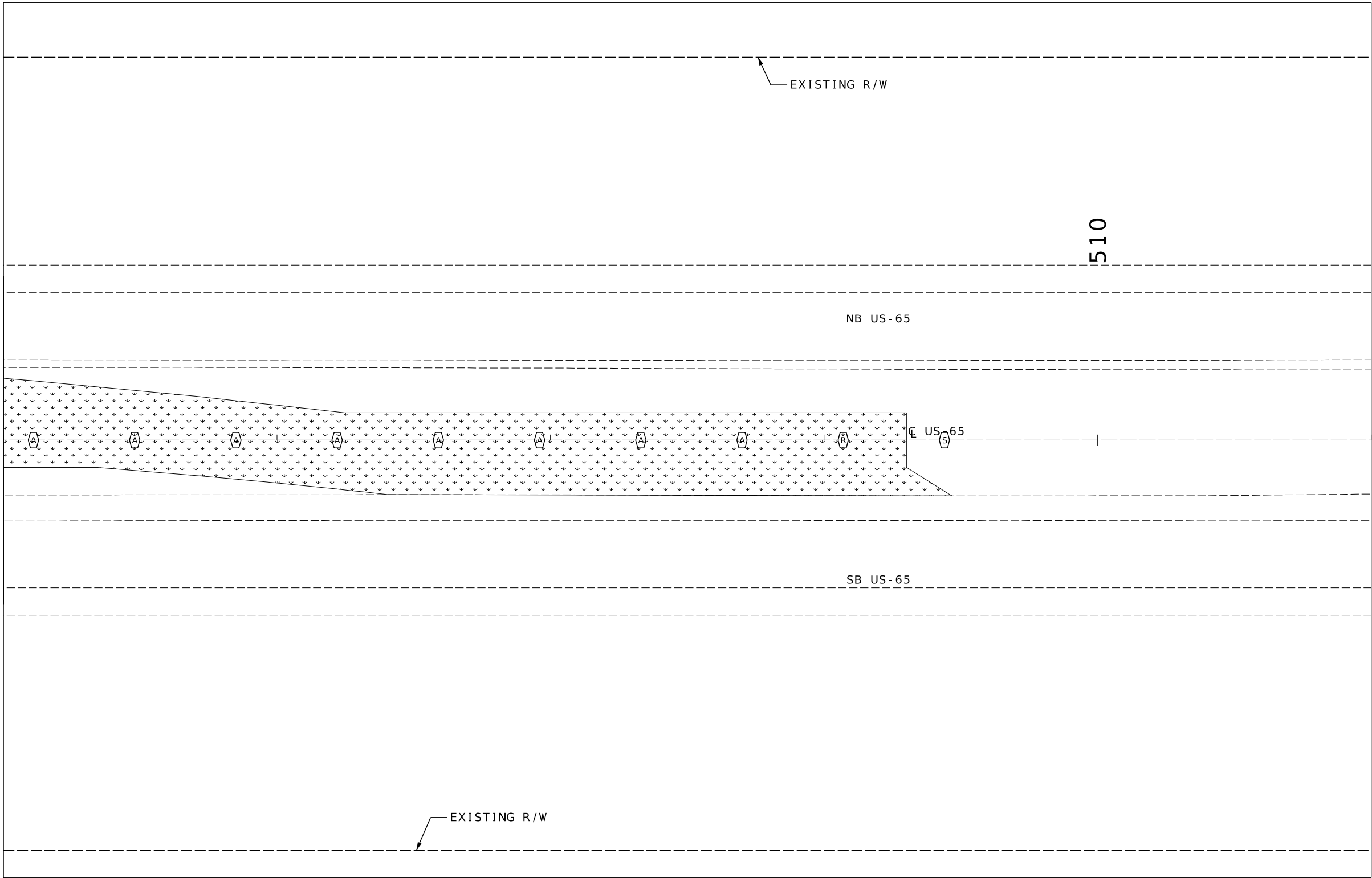
US-65

STA 509+07.00
INSTALL 1 ROCK DITCH CHECK


US-65

STA 509+44.00
INSTALL 1 SEDIMENT TRAP

MATCHLINE STA. 506+00.00



PERMANENT
EROSION CONTROL
SHEET 2 OF 5



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DATE PREPARED
9/29/2023

ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 31

COUNTY
PETTIS

JOB NO.
J3P3203

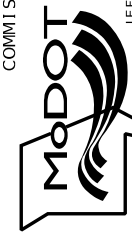
CONTRACT ID.

PROJECT NO.


BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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ARCHITECT 000212
PRO. LAND SURVEYOR 000059


SAMUEL C. TAPKO
PROFESSIONAL
ENGINEER
PE-2017015108


PERMANENT EROSION CONTROL LEGEND

 ALTERNATE DITCH CHECK

 ROCK DITCH CHECK

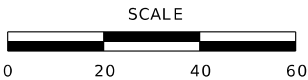
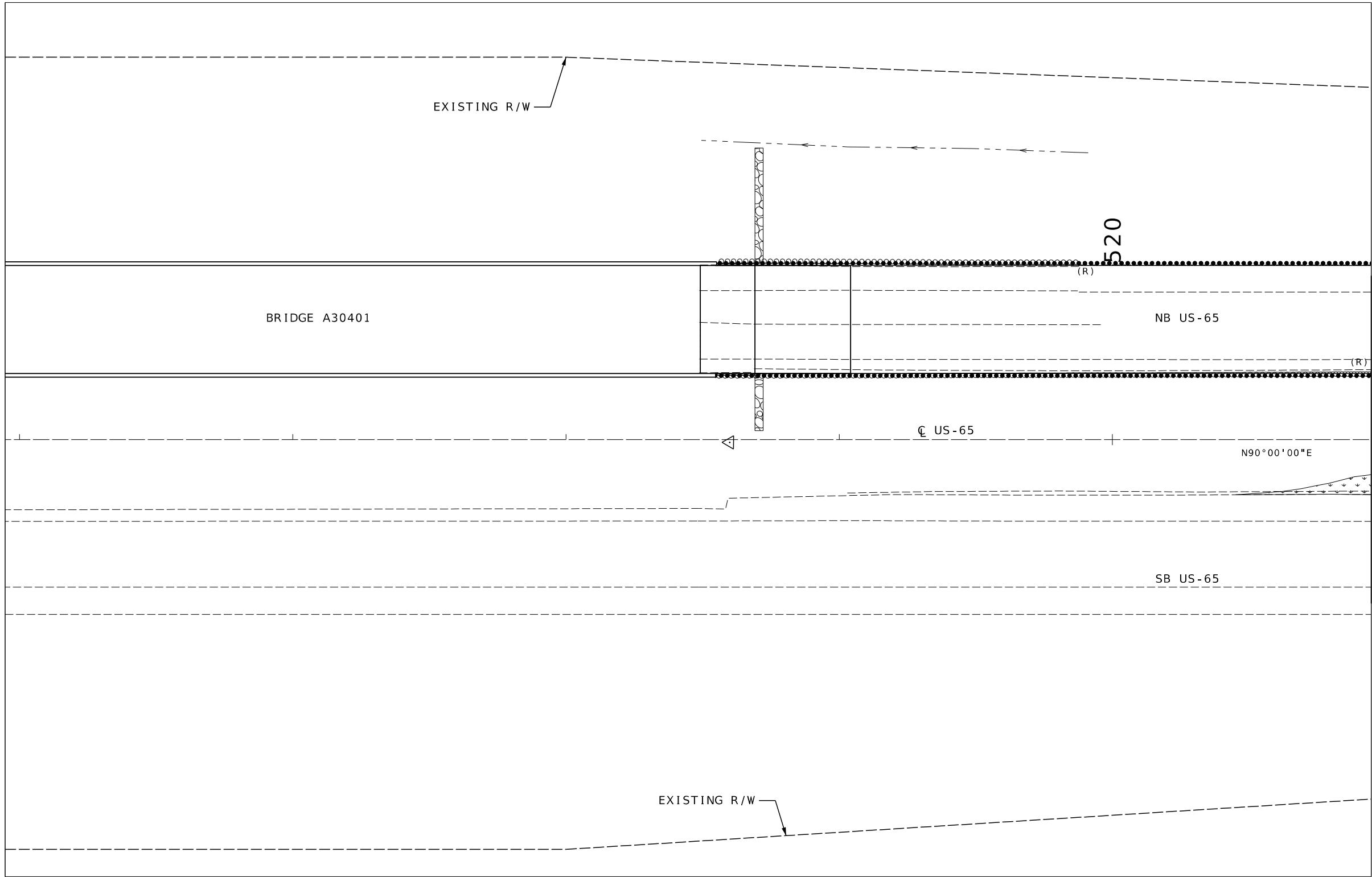
 SEDIMENT TRAP

 ROCK BLANKET


 SEEDING

℄ US-65
STA. 518+70.67, LT
INSTALL 4 CY DRAIN FLUME
W/ 15 SY PERMANENT EROSION CONTROL GEOTEXTILE
(STD. PLAN 609.40U)

℄ US-65
STA. 518+70.67, LT
INSTALL 2 CY DRAIN FLUME
W/ 7 SY PERMANENT EROSION CONTROL GEOTEXTILE
(STD. PLAN 609.40U)



PERMANENT
EROSION CONTROL
SHEET 3 OF 5



THIS SHEET HAS BEEN
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DATE PREPARED
9/29/2023

ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 32

COUNTY
PETTIS

JOB NO.
J3P3203


CONTRACT ID.

PROJECT NO.


BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



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ASSOCIATES, INC.
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PROFESSIONAL
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PE-2017015108

PERMANENT EROSION CONTROL LEGEND

ALTERNATE DITCH CHECK

ROCK DITCH CHECK

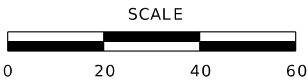
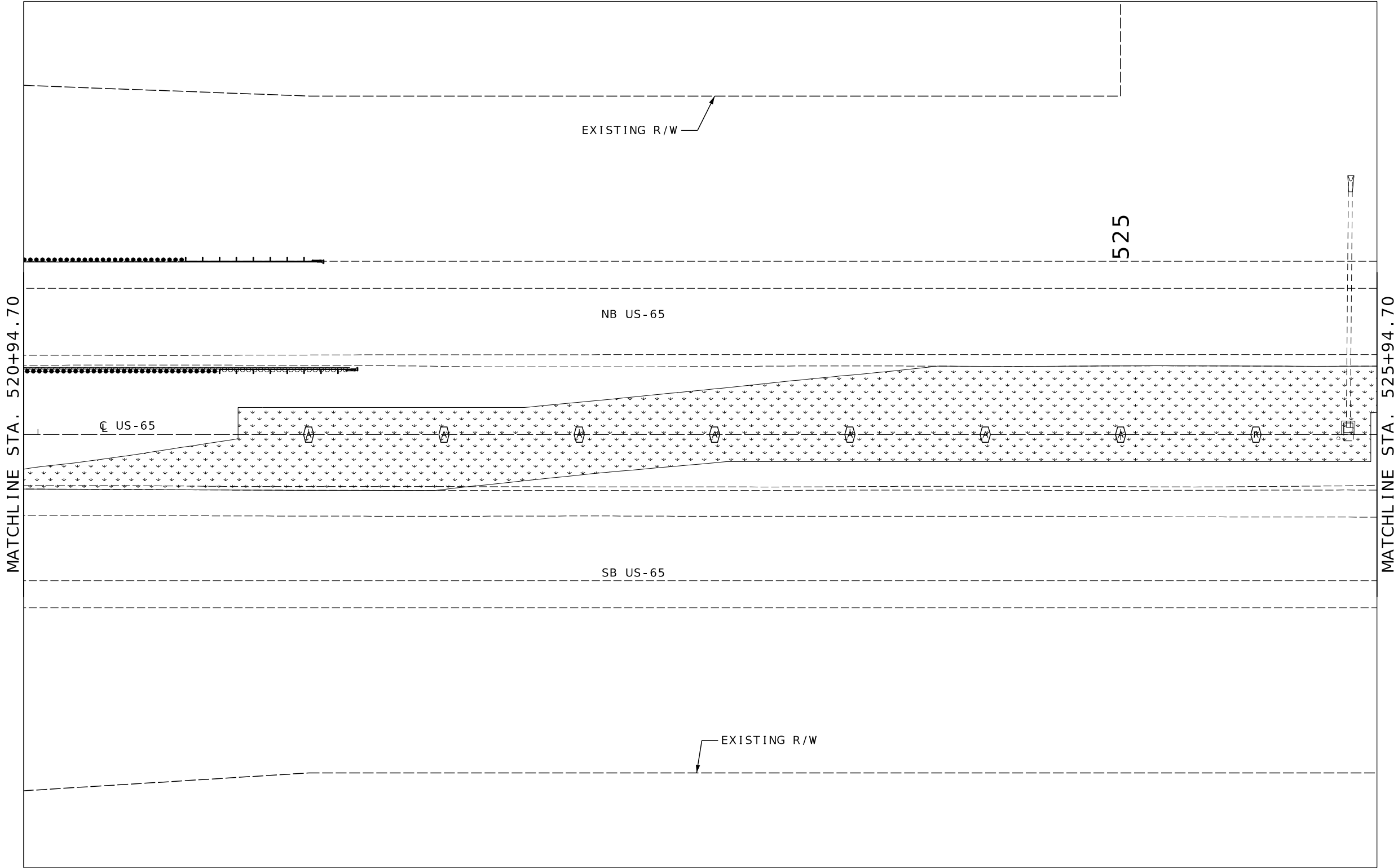
SEDIMENT TRAP

ROCK BLANKET SEEDING

☒ US-65
STA 520+45.04 TO STA 527+36.64, LT & RT
INSTALL 0.4 ACRES
SEEDING - COOL SEASON MIXTURES

☒ US-65
STA 522+00.00 TO STA 525+00.00
INSTALL 7 ALTERNATE DITCH CHECKS
AT 50' SPACING

☒ US-65
STA 525+50.00
INSTALL 1 ROCK DITCH CHECK



PERMANENT
EROSION CONTROL
SHEET 4 OF 5

DATE PREPARED 9/29/2023	
ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 33
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	
DESCRIPTION	DATE

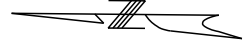
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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

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PROFESSIONAL
ENGINEER
PE-2017015108



PERMANENT EROSION CONTROL LEGEND

A


ALTERNATE DITCH CHECK


R

ROCK DITCH CHECK

S

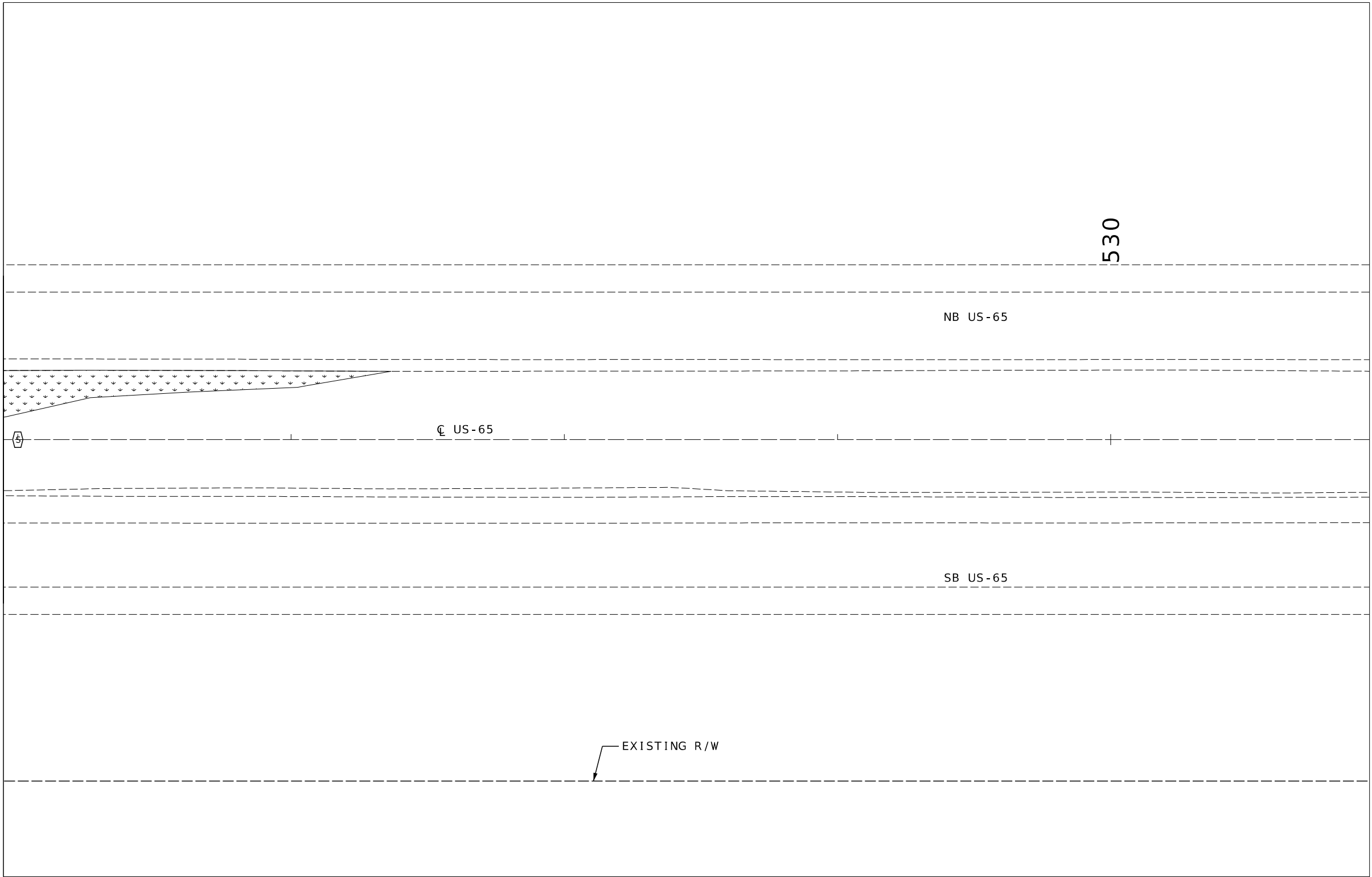
SEDIMENT TRAP

ROCK BLANKET


SEEDING

℄ US-65
STA 526+00.00
INSTALL 1 SEDIMENT TRAP


MATCHLINE STA. 525+94.70



SCALE



PERMANENT
EROSION CONTROL
SHEET 5 OF 5




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9/29/2023


ROUTE 65	STATE MO
DISTRICT KC	SHEET NO. 34
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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COMMISSION



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Estimated Quantities		
Item		Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	35
Class 1 Excavation	cu. yard	25
Removal and Storage of Existing Bridge Rail	linear foot	750
Removal of Existing Bridge Deck	sq. foot	15,851
Removal of Existing Bearings	each	30
Bridge Approach Slab (Major)	sq. yard	180
Slab on Steel	sq. yard	1,758
Type D Barrier	linear foot	774
Fiber Reinforced Polymer Wrap	sq. foot	304
Protective Coating - Concrete Bents and Pier (Epoxy)	lump sum	1
Fabricated Structure Low Alloy (Plate Girder) A709, Grade 50	pound	28,180
Slab Drain	each	64
Surface Preparation for Recoating Structural Steel	sq. foot	1,100
Field Application of Inorganic Zinc Primer	sq. foot	1,100
Intermediate Field Coat (System G)	sq. foot	3,300
Finish Field Coat (System G)	sq. foot	3,300
Non-Destructive Testing	linear foot	41
Reconfigure Existing Structural Steel	lump sum	1
Vertical Drain at End Bents	each	2
Laminated Neoprene Bearing Pad Assembly	each	10
Type N PTFE Bearing	each	20
Strip Seal Expansion Joint System	linear foot	79

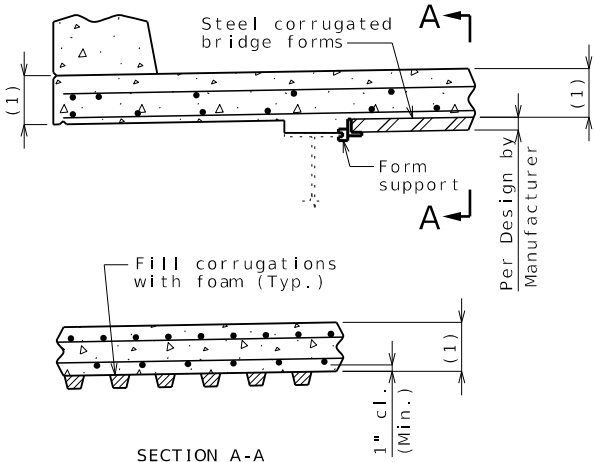
Cost of all concrete and reinforcement in the end bent backwall and wings, shall be considered completely covered by the contract unit price for Slab on Steel.

Estimated Quantities for Slab on Steel		
Item		Total
Class B-2 Concrete	cu. yard	378
Reinforcing Steel (Epoxy Coated)	pound	154,570

The table of Estimated Quantities for Slab on Steel 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 stay-in-place corrugated steel forms, 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 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.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.



OPTIONAL STAY-IN-PLACE FORM DETAILS

General Notes:

Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of girder/beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the girder/beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder/beam loading.

The contractor shall provide a method of preventing the direct contact of the stay-in-place forms and connection components with uncoated weathering steel members that is approved by the engineer.

Pouring and Finishing Slab:

The contractor shall provide bracing necessary for lateral and torsional stability of the girders/beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the girders/beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

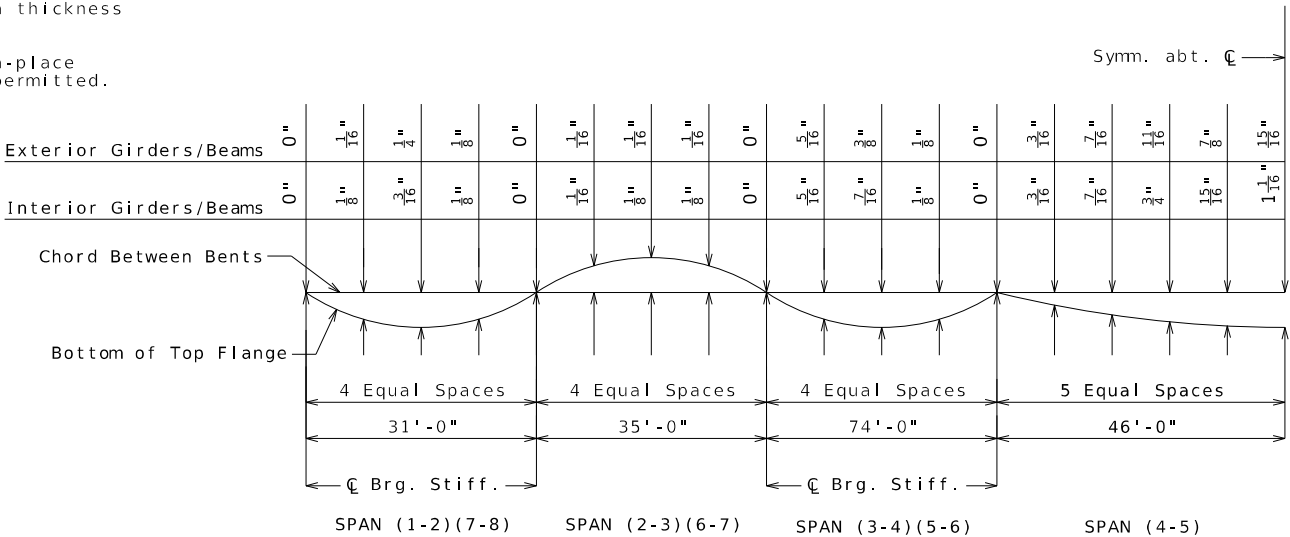
The contractor shall pour slab up grade from end to end at a minimum rate of 25 cubic yards per hour.

Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

Haunching:

(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness.

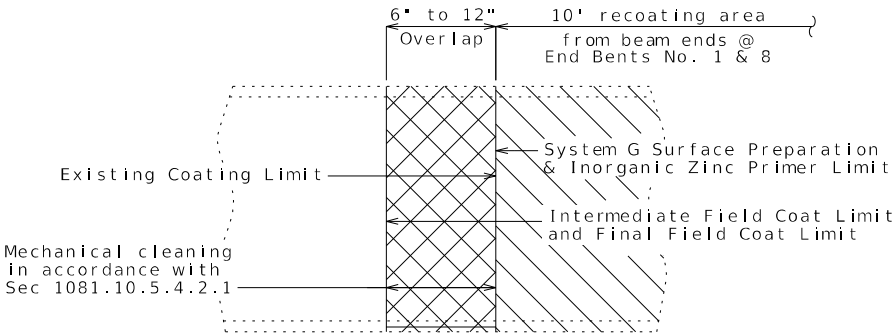
In order to properly form the haunches for the new deck, the contractor shall shoot deck elevations along each girder line prior to deck removal followed by shooting elevations of the tops of the girders after deck removal.



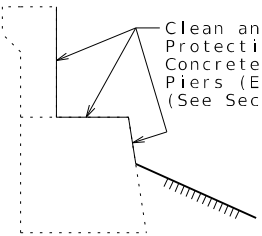
DEAD LOAD DEFLECTION

(*) % of dead load deflection is due to the weight of structural steel.

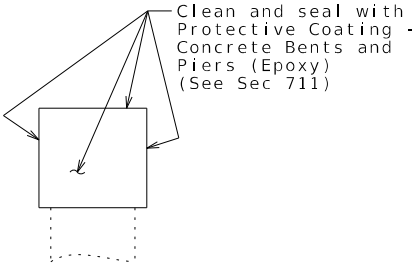
Dead load deflection includes weight of structural steel, concrete slab, and barrier.



PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP
(Vertical or horizontal paint limit. Horizontal limit shown)



TYPICAL SECTION THRU END BENTS NO. 1 & 8
SHOWING PROTECTIVE COATING



TYPICAL SECTION THRU INT. BENTS NO. 3 & 6
SHOWING PROTECTIVE COATING

The protective coating shall not be applied beneath the FRP System at Int. Bent No. 6.

For location of FRP wrap, see Sheet No. 6.

Table Showing (*) Values		
Spans	Exterior Girders/Beams	Interior Girders/Beams
(1-2)	11%	9%
(2-3)	12%	9%
(3-4)	11%	10%
(4-5)	11%	10%
(5-6)	13%	11%
(6-7)	12%	9%
(7-8)	11%	9%



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DATE PREPARED
10/3/2023

ROUTE
65

STATE
MO

DISTRICT
BR

SHEET NO.
2

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A30401

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102

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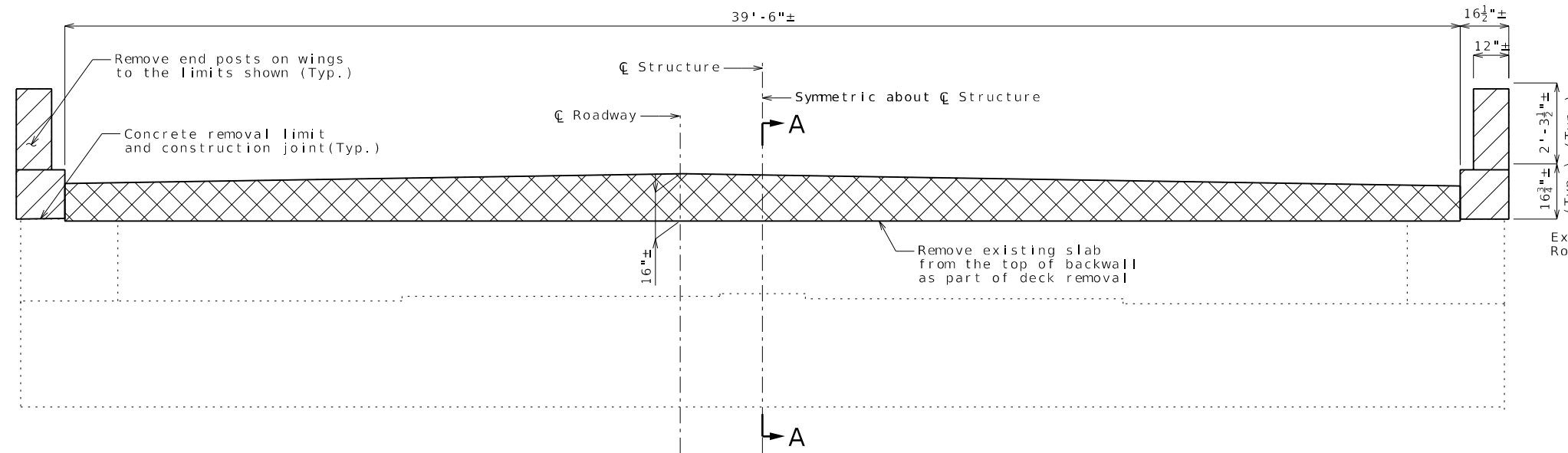
MODOT

GBA

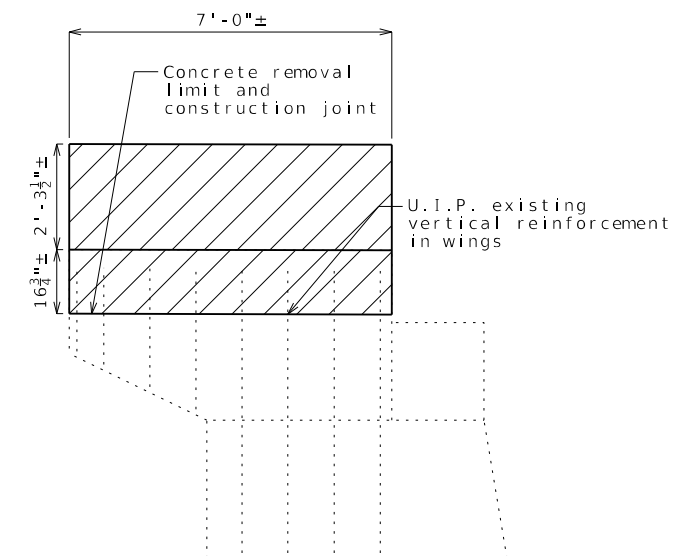
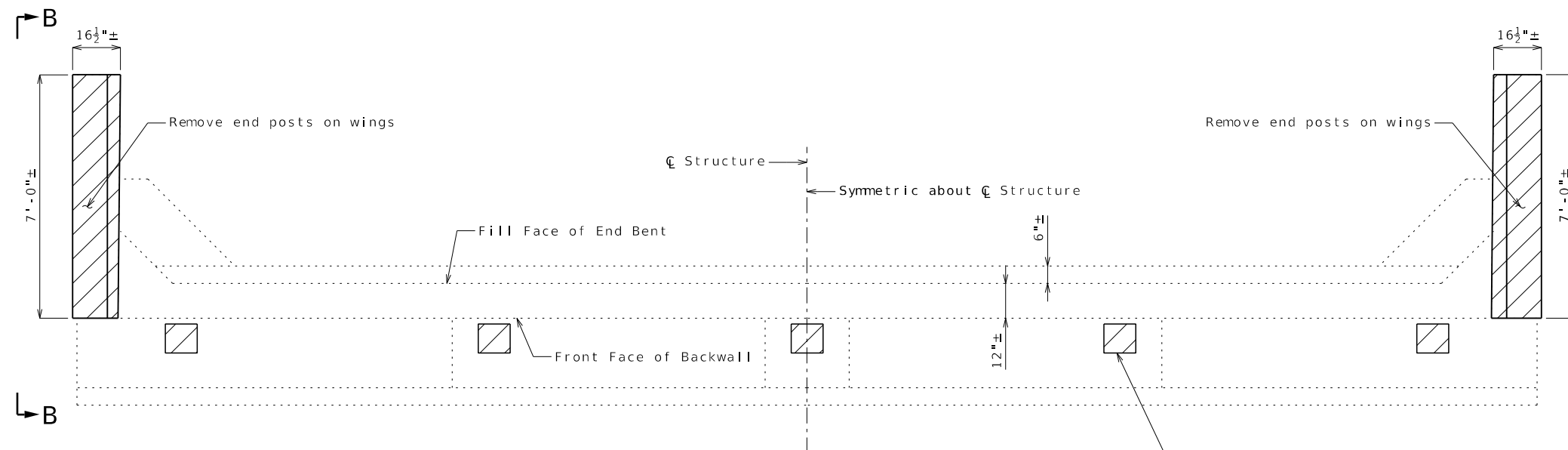
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ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

RYAN G. HAGERTY
PROFESSIONAL
ENGINEER
PE-2016034015



ELEVATION OF END BENT NO. 1
(End Bent No. 8 similar)



ELEVATION B-B

Notes:

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck.

Bars bonded in existing concrete and not removed shall be cleanly stripped prior to embedment into new concrete.

U.I.P existing vertical reinforcement in the wings and cut to fit within new concrete limits. Provide minimum clear distance as necessary.



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10/2/2023

ROUTE 65	STATE MO
DISTRICT BR	SHEET NO. 3

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A30401

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MISSOURI DEPARTMENT OF TRANSPORTATION
COMMISSION

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PRO. LAND SURVEYOR 000059

RYAN G. HAGERTY
PROFESIONAL
ENGINEER
PE-2016034015

END BENT REMOVAL DETAILS

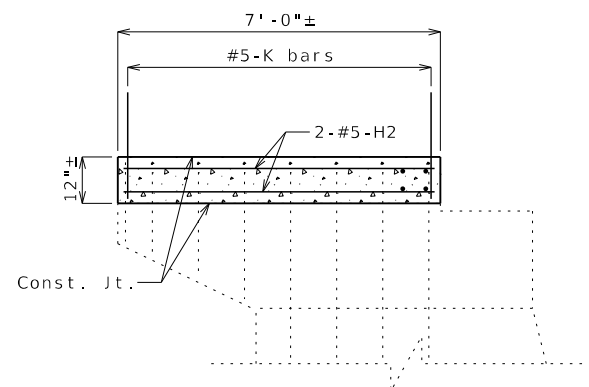
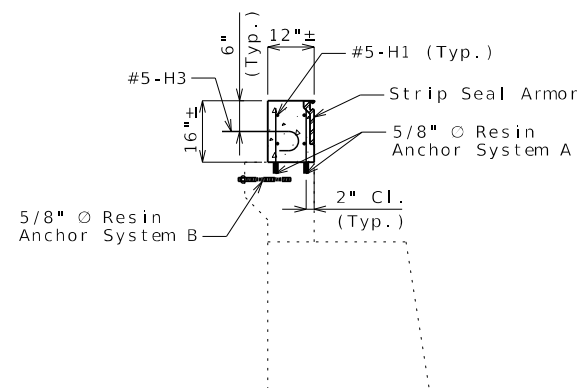
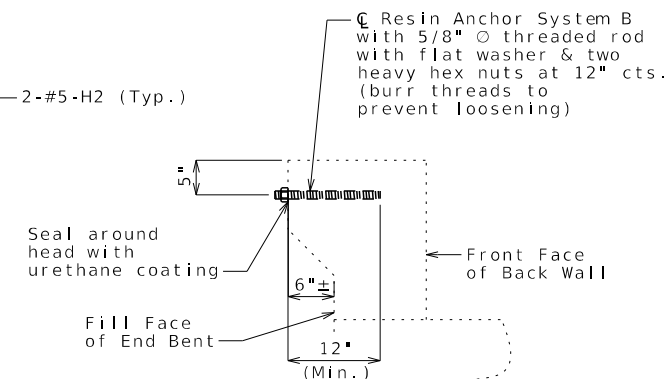
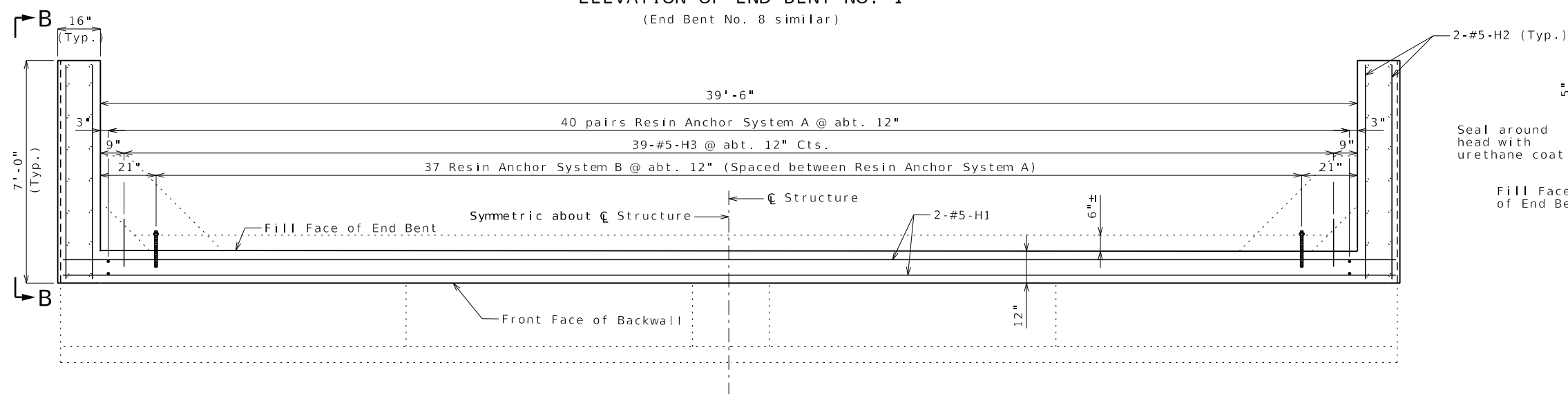
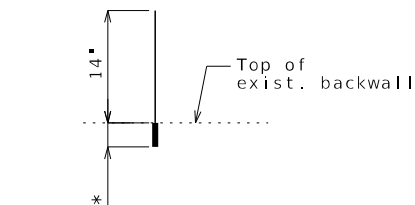
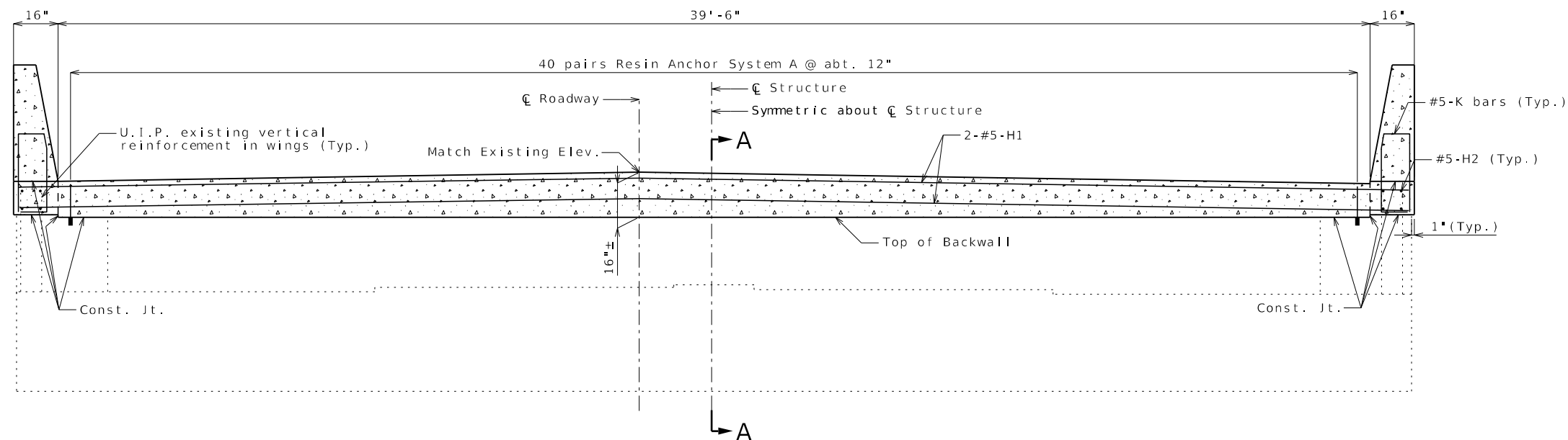
Detailed	Sept	2023
Checked	Sept	2023

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

Sheet No. 3 of 18

c:\bms\gba-pw-01\ victoria reilly\dms14031\B_A30401_003_J3P3203_Removal_Details.dgn 2:10:32 PM 10/2/2023

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Notes:

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems complete-in-place will be considered completely covered by the contract unit price for Slab on Steel.

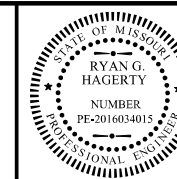
The minimum embedment depth in concrete with $f'_c = 4,000$ psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8" Ø threaded rod.

All concrete above the construction joint in the wings and the top of backwall shall be Class B-2.

Cost of all concrete and reinforcement in the end bent backwall and wings, shall be considered completely covered by the contract unit price for Slab on Steel.

For details of Type D Barriers, see Sheets No. 15 & 16.



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ROUTE	STATE
65	MO

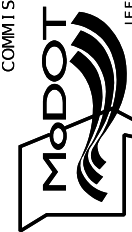
DISTRICT	SHEET NO.
BR	4

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A30401[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY MO 65102



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ARCHITECT 000212
PRO. LAND SURVEYOR 00

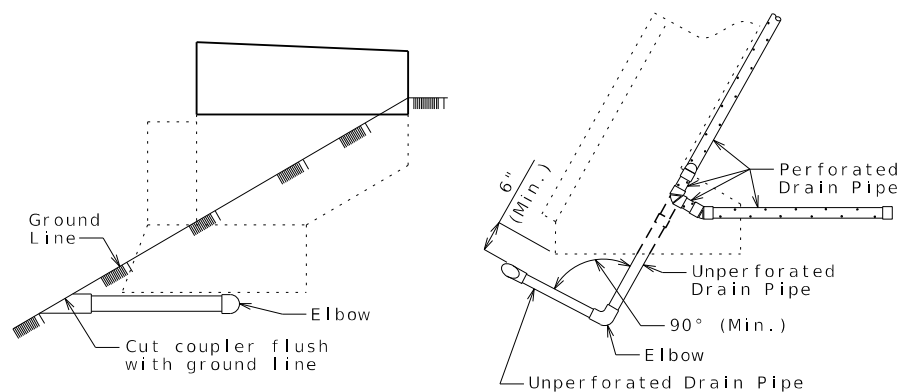
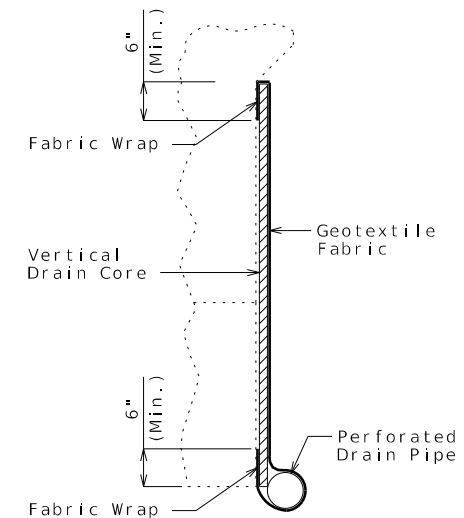
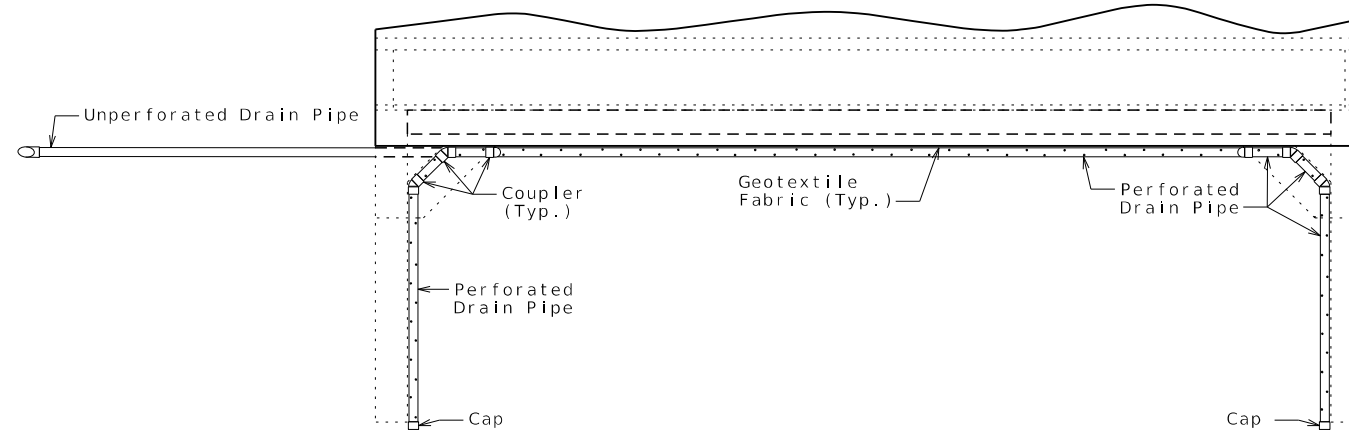
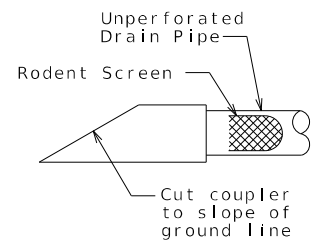
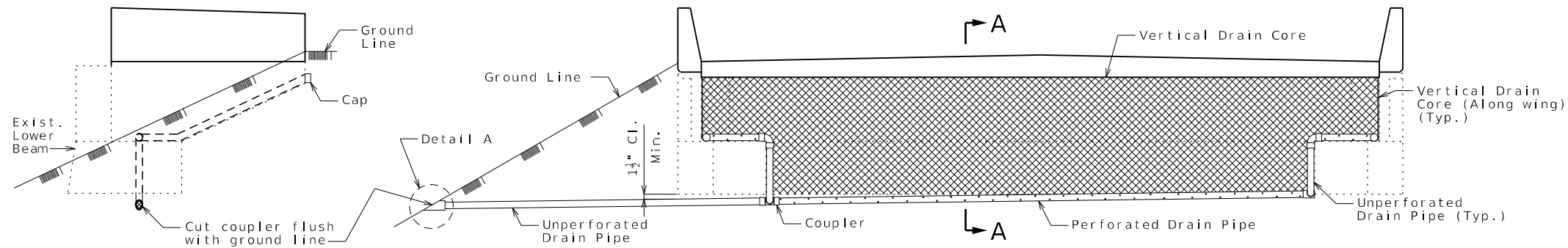
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ENGINEER
PE-2016034015

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

Sheet No. 4 of 18

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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.



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ROUTE	STATE
65	MO

DISTRICT	SHEET NO.
BR	5

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.	A30401
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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

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PE-2016034015

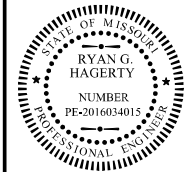
Detailed Sept 2023
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Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 18

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DATE PREPARED 10/2/2023	
ROUTE 65	STATE MO
DISTRICT BR	SHEET NO. 6
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A30401	

DESCRIPTION	DATE

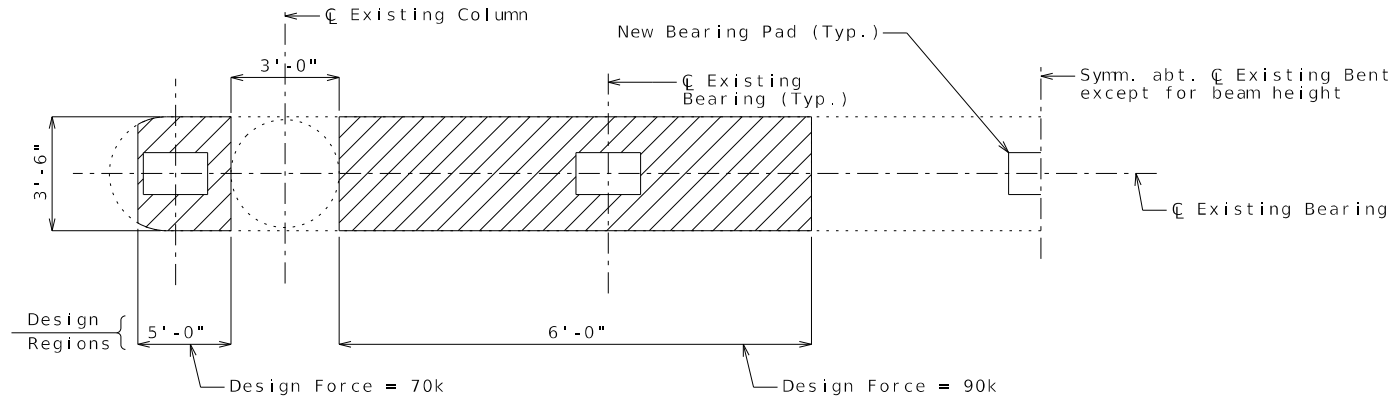
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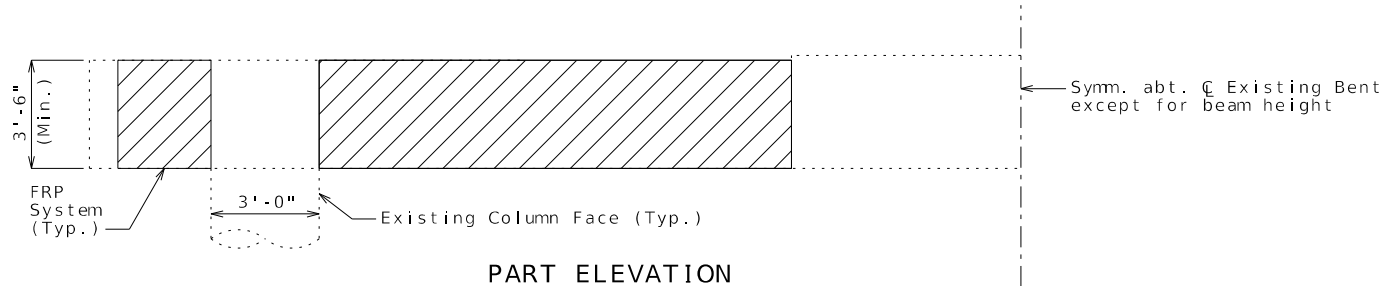
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PROFESSIONAL
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PE-2016034015



PART PLAN



PART ELEVATION

FRP WRAP AT INT. BENT NO. 6

Notes:

Design Force is the factored shear force at any cross section in each design region that shall be resisted entirely by the FRP reinforcement.

See special provisions.

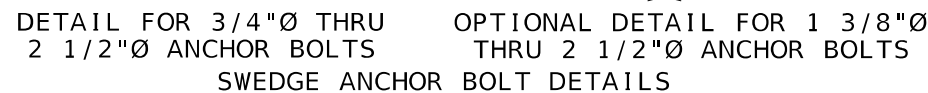
Protective Coating - Concrete Bents and Piers (Epoxy) shall not be applied on the FRP system.

BENT CAP SHEAR STRENGTHENING USING FRP WRAP

Detailed Sept 2023
Checked Sept 2023



The bottom face of the 1/8" stainless steel plate that is welded to the sole plate shall be lubricated with a lubricant that is approved by the bearing manufacturer.



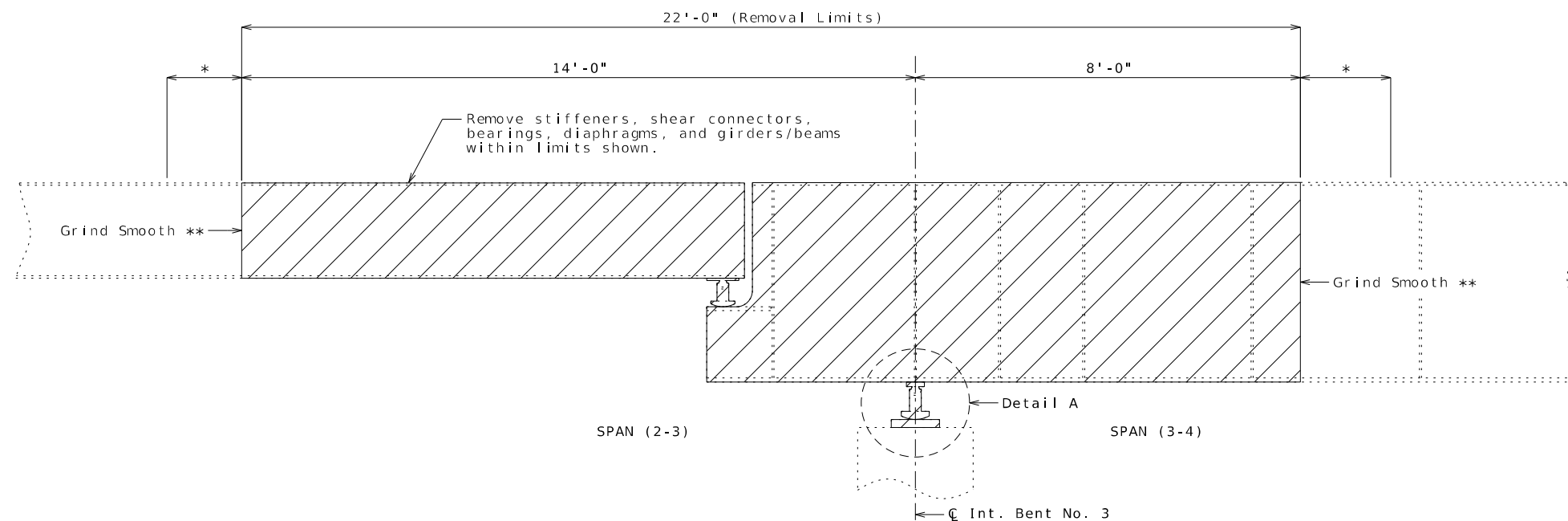
Trim beams as necessary at End Bents No. 1 & 8 to maintain the 3" clear at 60°F between the end of beam and front face of backwall. The cost of this work will be considered completely incidental to the contract unit price for Removal of Existing Bearings.

* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

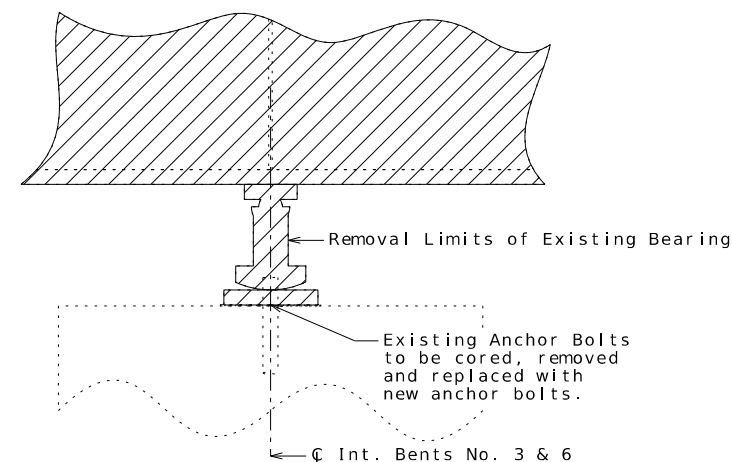
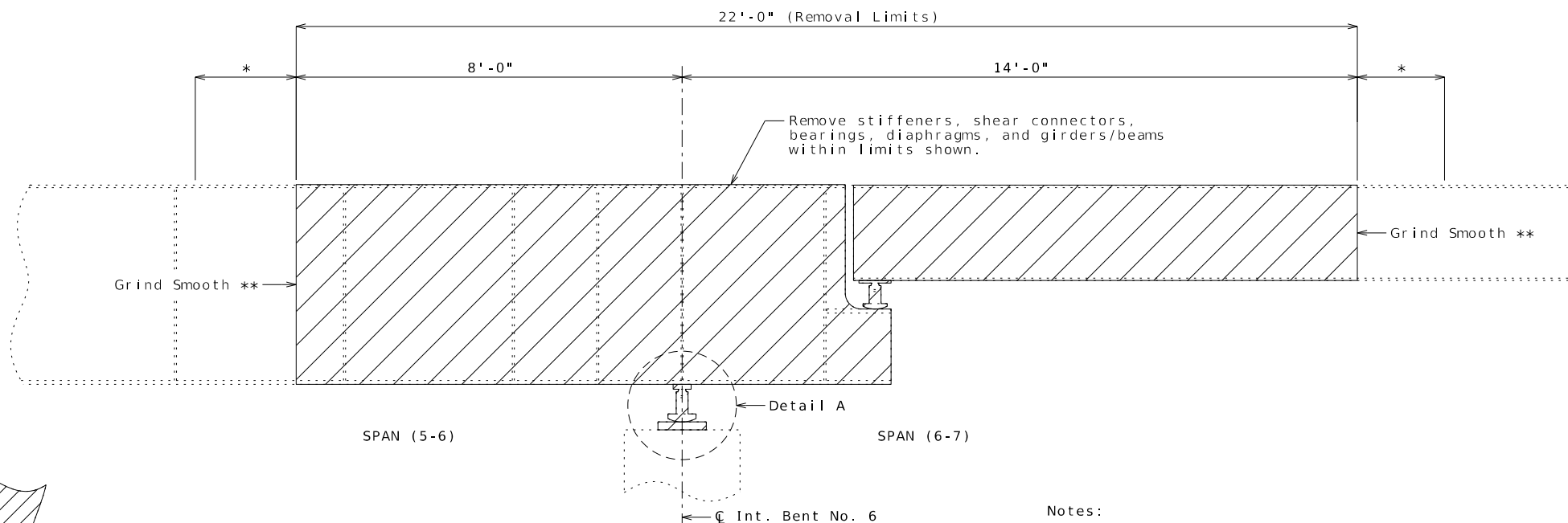
Sheet No. 8 of 18

TYPE N PTFE BEARINGS





PART ELEVATION OF EXISTING GIRDERS
AND BEAMS NEAR INT. BENT NO. 3
SHOWING STRUCTURAL STEEL REMOVAL



DETAIL A

DETAILS OF REMOVALS FOR EXISTING GIRDERS

Detailed Sept 2023
Checked Sept 2023

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

Sheet No. 9 of 18

Notes:

Removal of existing girders/beams, shear studs, intermediate diaphragms, end diaphragms, bearings, and any other incidental material included in the removal limits, and any coating repair will be considered completely covered by the contract unit price for Reconfigure Existing Structural Steel.

Any weld material remaining after removal shall be ground flush.

Required temporary load of 7 kips per beam on the Span (2-3) side of Bent 3 and Span (6-7) side of Bent 6. Additionally, there is a required temporary support load of 21 kips per girder on the Span (3-4) side of Bent 3 and the Span (5-6) side of Bent 6. These temporary support loads are service dead loads without a factor of safety. It includes existing girder weight (existing deck weight not included) and a construction load of 50 psf. See Special Provisions.

For details of Laminated Neoprene Bearing Pad Assembly, see Sheet No. 7.

For Part Plan of Structural Steel, see Sheet No. 12.

For Elevation of Girder Showing Reconfiguration, see Sheet No. 10.



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10/2/2023

ROUTE 65	STATE MO
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DISTRICT	SHEET NO.
BR	9

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A30401

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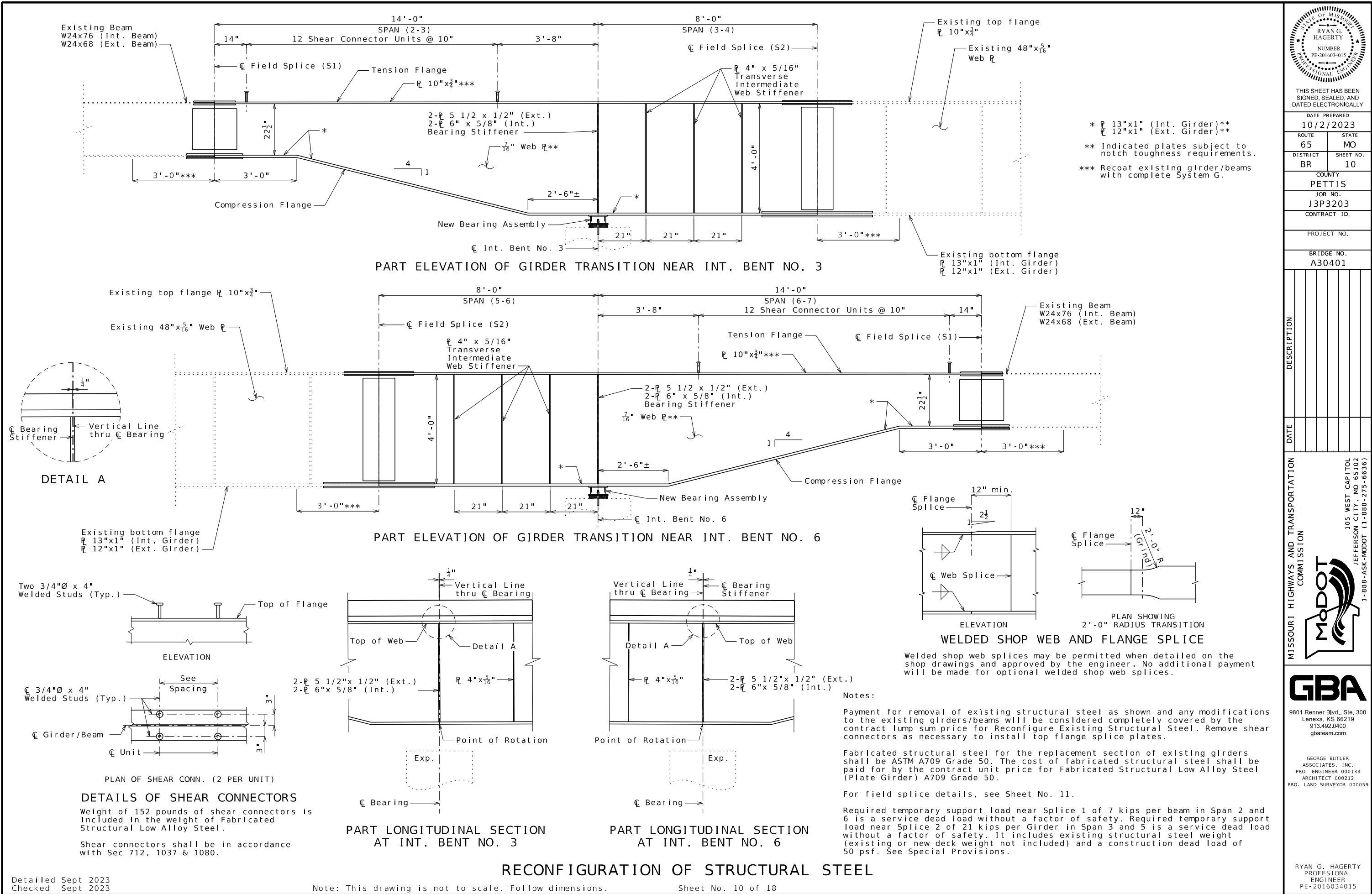
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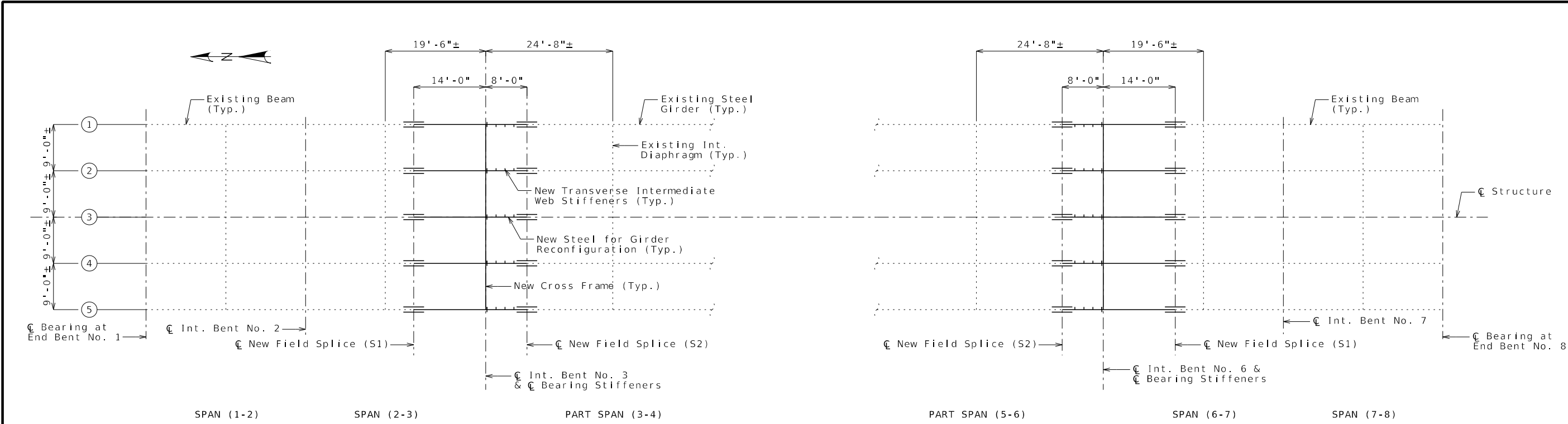
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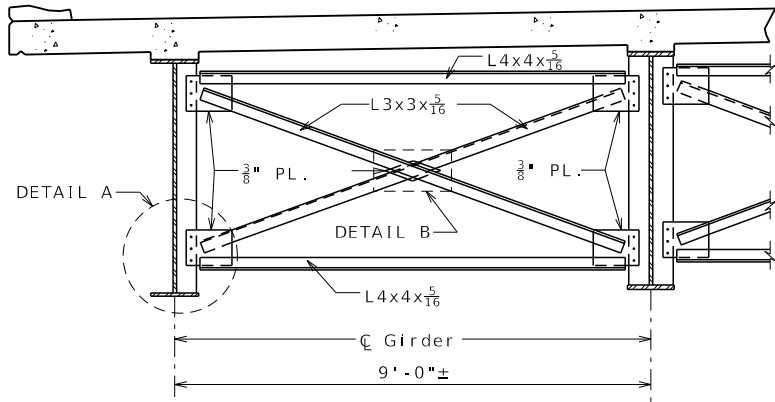
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ENGINEER
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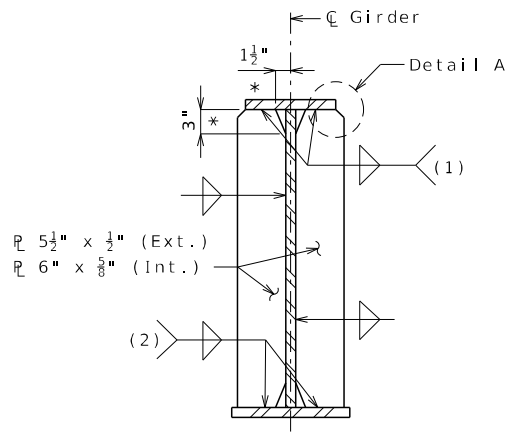




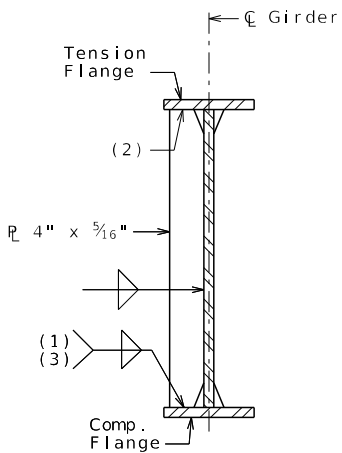
PART PLAN OF STRUCTURAL STEEL



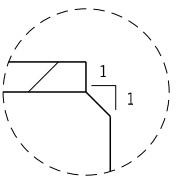
TYPICAL PART SECTION SHOWING CROSS FRAMES AT INT. BENTS NO. 3 & 6



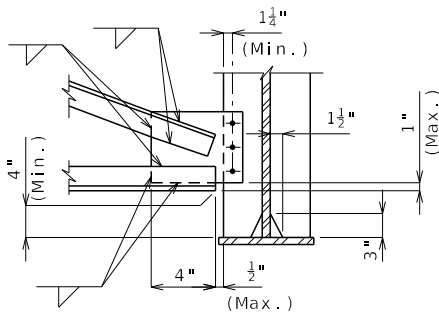
BEARING STIFFENER (CROSSFRAME ATTACHED)



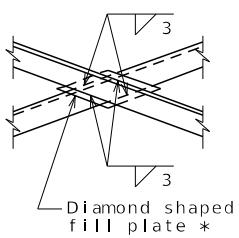
INTERMEDIATE WEB STIFFENER (One side only)



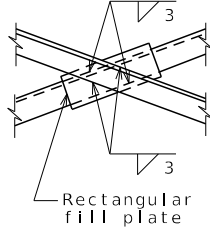
DETAIL A



DETAIL A (Bottom flange shown, top flange similar.)



DETAIL B



OPTIONAL DETAIL B

* At the contractor's option, rectangular fill plates may be used in lieu of diamond fill plates as shown in Optional Detail B.

WELDING DETAILS

- (1) Tight fit
- (2) Grind or mill to bear.
- (3) Weld to compression flange as located on Elevation of Girder.

* Typical for all intermediate web stiffeners, intermediate diaphragm connection plates and bearing stiffeners.

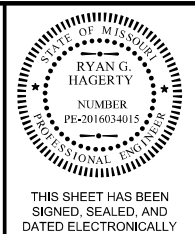
Note:

All fabricated structural steel shall be ASTM A709 Grade 50.
For details of structural steel removal, see Sheet No. 9.
For additional details of new structural steel and shear connector details, see Sheet No. 10.
For details of bolted field splices, see Sheet No. 11.

PLAN OF STRUCTURAL STEEL AND DIAPHRAGM DETAILS

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

Sheet No. 12 of 18



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ROUTE 65	STATE MO
DISTRICT BR	SHEET NO. 12
COUNTY PETTIS	
JOB NO. J3P3203	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A30401	

DESCRIPTION

DATE

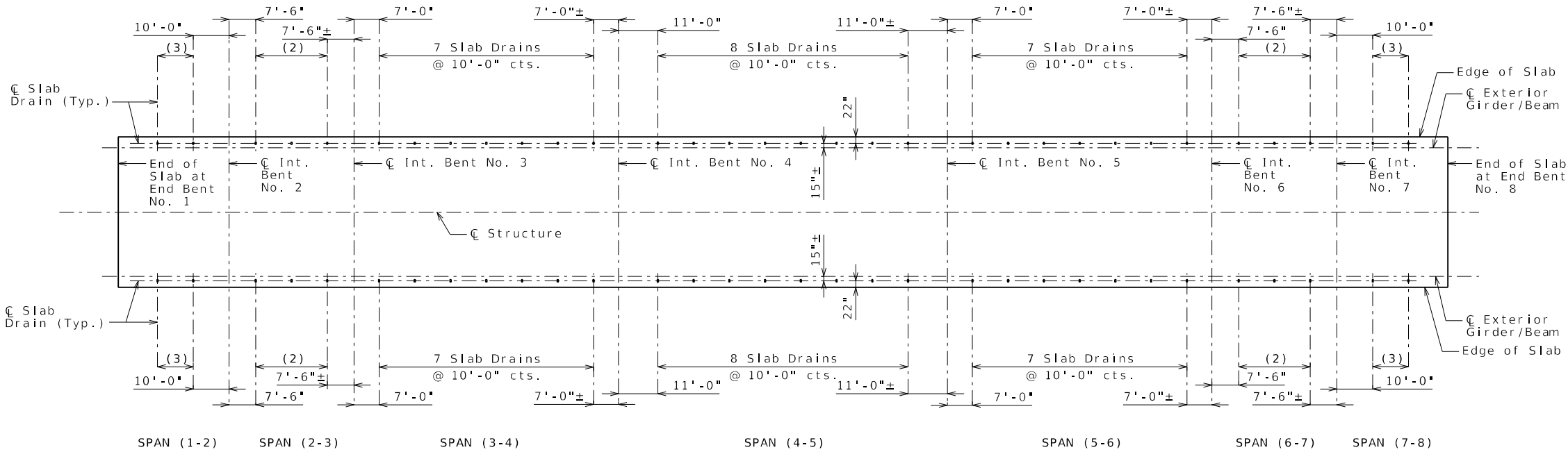
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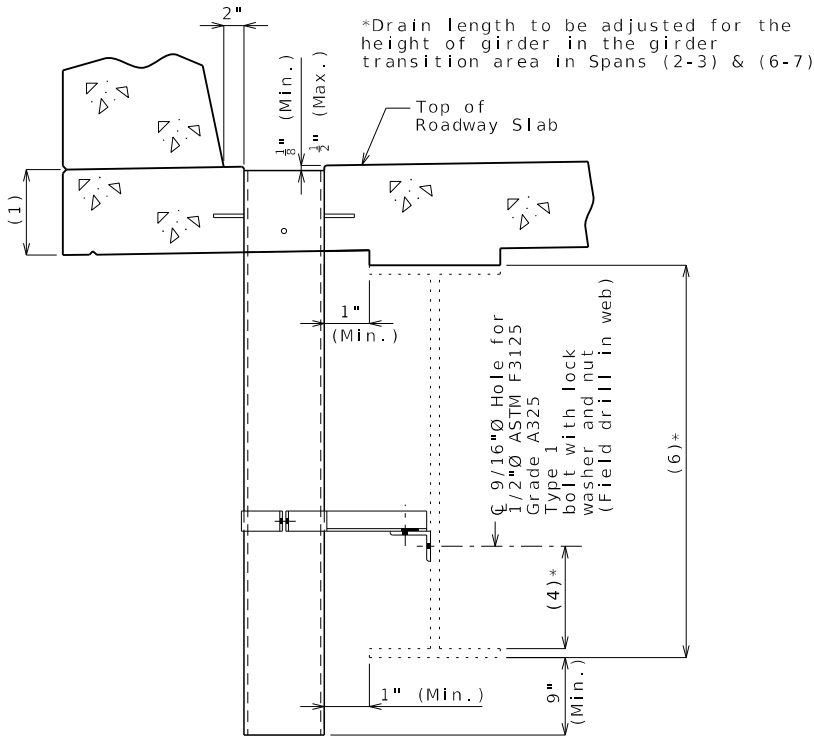
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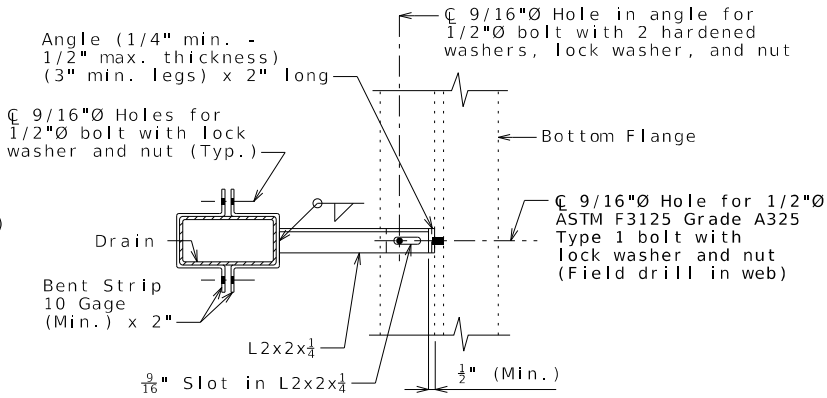


PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

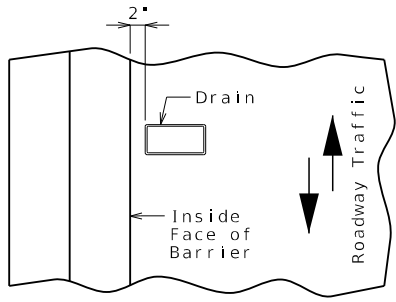
- (1) See front sheet for slab thickness.
(2) 3 Slab Drains @ 10'-0" cts.
(3) 2 Slab Drains @ 10'-0" cts.
(4) 4" Spans (1-2), (2-3), (6-7) & (7-8)
8" Spans (3-4), (4-5) & (5-6)
(5) 3'-7" Spans (1-2), (2-3), (6-7) & (7-8)
5'-9" Spans (3-4), (4-5) & (5-6)
(6) 23 7/8" Spans (1-2), (2-3), (6-7) & (7-8)
4'-2" Spans (3-4), (4-5) & (5-6)



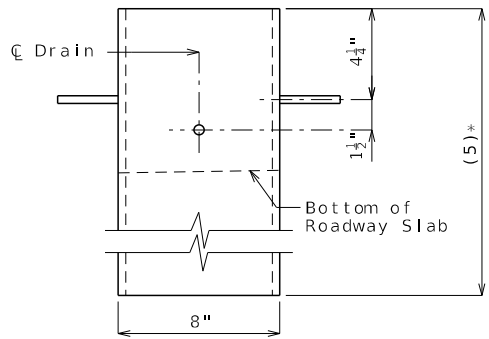
PART SECTION NEAR DRAIN



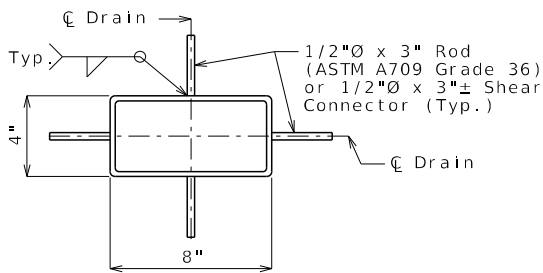
PART SECTION SHOWING BRACKET ASSEMBLY



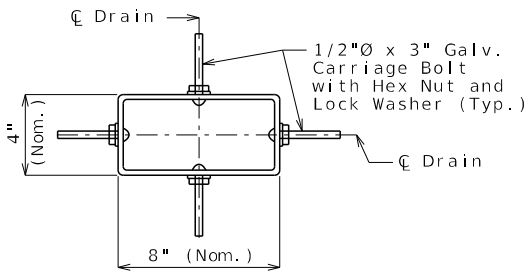
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

SLAB DRAINS

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 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, except as shown.

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

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the existing web.

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".

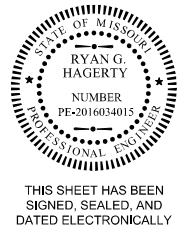
Minimum reinforced wall thickness shall be 1/4 inch.

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 recommended by the manufacturer to ensure a smooth, chip free cut.



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ROUTE 65 STATE MO

DISTRICT BR SHEET NO. 14

COUNTY PETTIS

JOB NO. J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A30401

DESCRIPTION

DATE

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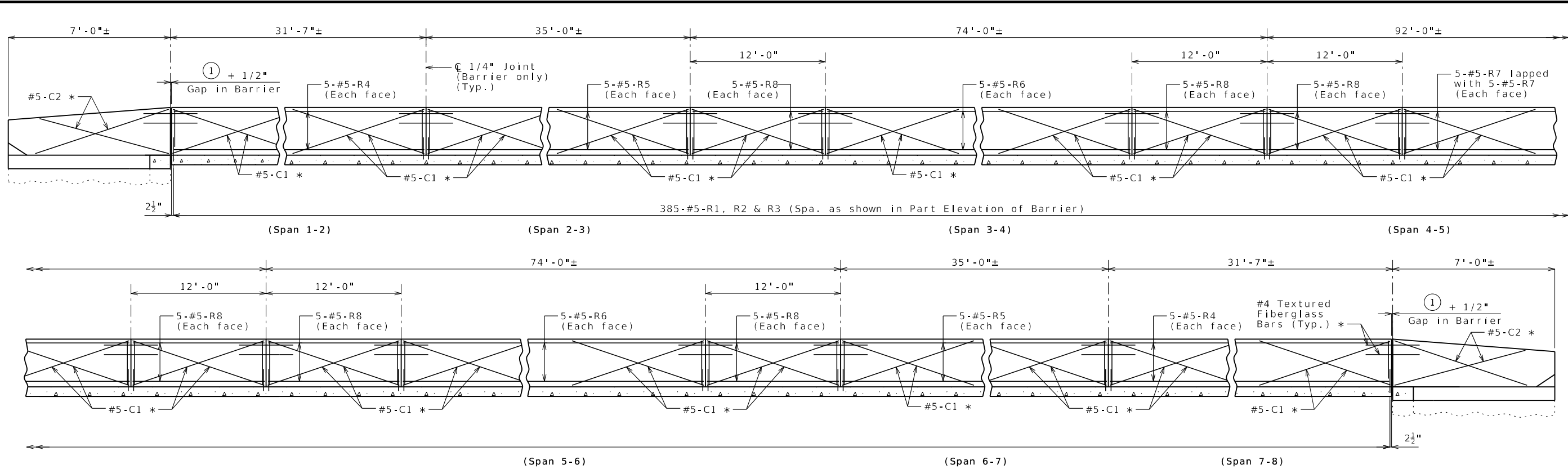
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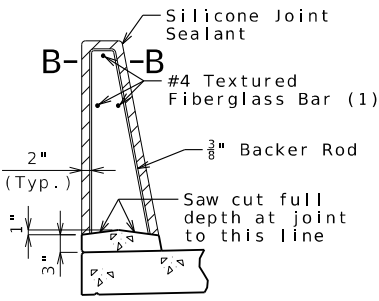
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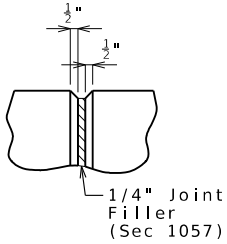


ELEVATION OF BARRIER

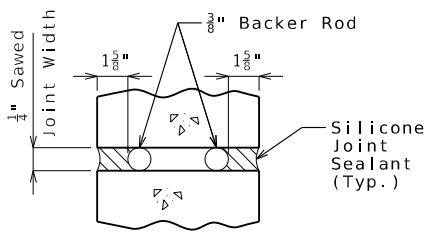
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.



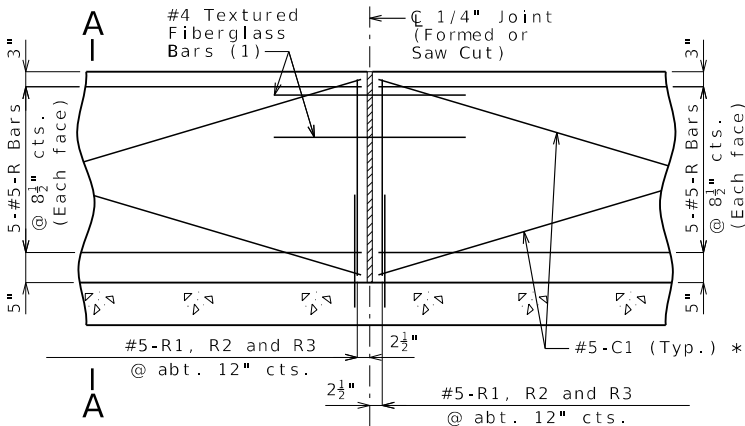
SECTION THRU SAW CUT JOINT



PART ELEVATION AT FORMED JOINT

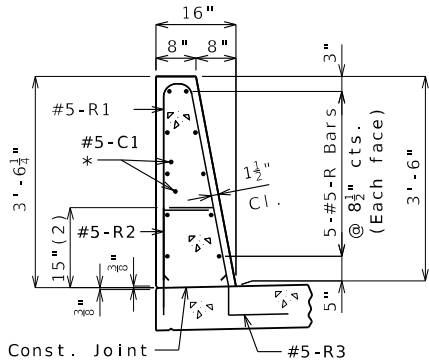


SECTION B-B



PART ELEVATION OF BARRIER

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

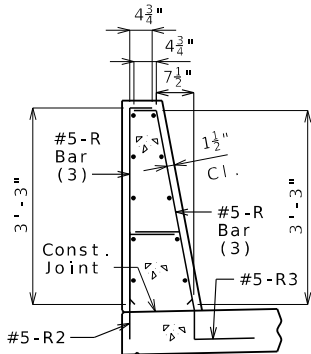


SECTION A-A

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

The cross-sectional area above the slab is 3.52 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.)

TYPE D BARRIER

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 D 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 D 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.

(1) See Sheet No. 13 for dimension of gap in the barrier.



THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED 10/2/2023

ROUTE 65 STATE MO

DISTRICT BR SHEET NO. 15

COUNTY PETTIS

JOB NO. J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A30401

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITAL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

MODOT

GBA

9801 Renner Blvd., Ste. 300

Lenexa, KS 66219

913.492.0400

gbateam.com

GEORGE BUTLER ASSOCIATES, INC.

PRO. ENGINEER 000133

ARCHITECT 000122

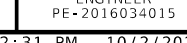
PRO. LAND SURVEYOR 000059

RYAN G. HAGERTY

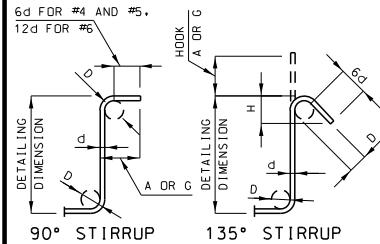
PROFESSIONAL

ENGINEER

PE-2016034015

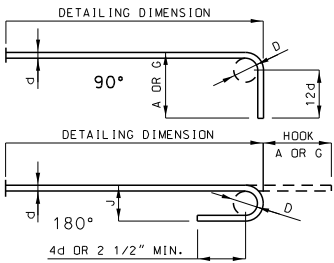


BILL OF REINFORCING STEEL																								
NO. REQ'D.	MARK NO.		LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT				
	SIZE	MARK								B	C	D	E	F	H	K								
																	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
END BENT NO. 1 & 8																								
8	5	H1	END BENT	E	20					41	11.000						41	11	350					
16	5	H2	END BENT	E	20					6	9.000						6	9	111					
78	5	H3	END BENT	E	17					18.000							2	1	169					
SLAB																								
665	5	S1	SLAB	E	20					56	0.000						56	0	39188					
132	6	S2	SLAB	E	20					57	0.000						57	0	11301					
132	6	S3	SLAB	E	20					48	0.000						48	0	9517					
1492	6	S4	SLAB	E	20					41	11.000						41	11	93935					
TYPE D BARRIER																								
770	5	R1	BARRIER	E	26					3	3.000	5.500	3	3.625			3	3.000	6.750	7	0	6	11	5555
770	5	R2	BARRIER	E	19					20.500	9.500							2	6	2	5		1941	
770	5	R3	BARRIER	E	27					9.500		15.250	5.000	12.000	15.000	3.000		3	6	3	3		2610	
40	5	R4	BARRIER	E	20					31	0.000							31	0	31	0		1293	
40	5	R5	BARRIER	E	20					34	8.000							34	8	34	8		1446	
40	5	R6	BARRIER	E	20					49	8.000							49	8	49	8		2072	
40	5	R7	BARRIER	E	20					35	6.000							35	6	35	6		1481	
120	5	R8	BARRIER	E	20					11	8.000							11	8	11	8		1460	
20	5	K1	BARRIER	E	50					2	3.500	9.250	5.375	22.250	9.500	5.250	1.000	6	2	5	10		122	
52	5	K2	BARRIER	E	50					2	3.500	9.250	14.500	13.250	10.000	14.250	2.750	6	3	5	11		321	
20	5	K4	BARRIER	E	19			V	4	2	4.250	10.000						3	2	3	1		66	
			INC = 1/2 IN							2	6.250	10.000						3	4	3	3			
20	5	K5	BARRIER	E	14			V	4	8.250	9.500	18.500			4.000	18.000		3	0	2	11		63	
			INC = 1/8 IN							8.250	9.500	20.500			4.500	20.000		3	2	3	1			
12	5	K6	BARRIER	E	19			V	4	2	6.750	10.000						3	5	3	3		41	
			INC = 1/2 IN							2	7.750	10.000						3	6	3	4			
12	5	K7	BARRIER	E	21			V	4	2	6.625	10.000			2	6.000	6.250	3	5	3	3		42	
			INC = 1/2 IN							2	7.625	10.000			2	7.000	6.500	3	6	3	5			
40	5	K8	BARRIER	E	19			V	4	2	8.500	10.000						3	7	3	5		153	
			INC = 1/16 IN							3	2.500	10.000						4	1	3	11			
40	5	K9	BARRIER	E	21			V	4	2	8.500	10.000			2	7.750	6.750	3	6	3	5		155	
			INC = 1/16 IN							3	2.500	10.000			3	1.750	7.750	4	1	4	0			
48	5	K12	BARRIER	E	20					6	9.000							6	9	6	9		338	
16	5	K13	BARRIER	E	20			V	4	2	9.000							2	9	2	9		70	
			INC = 2'-11"							5	8.000							5	8	5	8			
8	5	K16	BARRIER	E	20					6	9.000							6	9	6	9		56	
SLIP FORM OPTION																								
80	5	C1	SLIP FORM	E	20					12	0.000							12	0	12	0		1001	
8	5	C2	SLIP FORM	E	20					4	9.000							4	9	4	9		40	



STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	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		90° HOOKS
		A OR G	J	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.

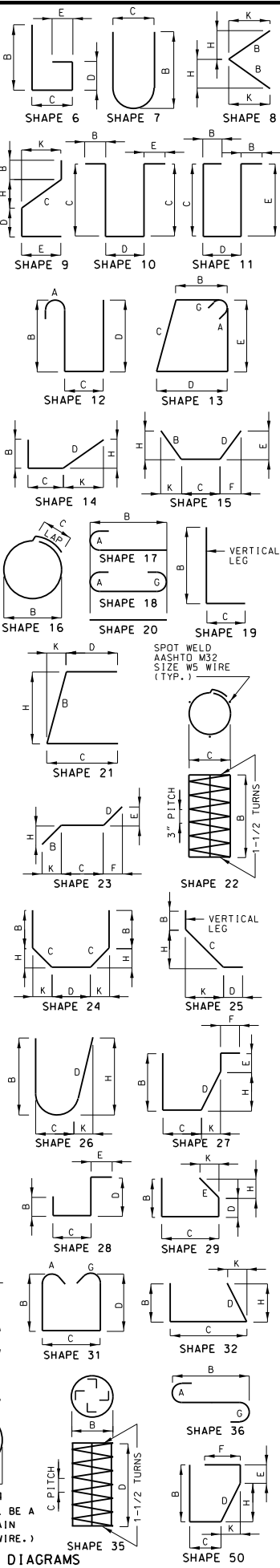
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed Sept 2023
Checked Sept 2023

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

Sheet No. 18 of 18

BILL OF REINFORCING STEEL																							
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K								
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.			
TOTALS																							
	5		E																60146				
	6		E																114753				
		TOTAL	E																174899				
SLAB ON STEEL																							
	5		E																39820				
	6		E																114753				
		TOTAL	E																154573				
TYPE D BARRIER																							
	5		E																19285				
		TOTAL	E																19285				
SLIP FORM																							
	5		E																1041				
		TOTAL	E																1041				



STATE OF MISSOURI
RYAN G. HAGERTY
NUMBER
PE-2016034015
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN
SIGNED, SEALED, AND
DATED ELECTRONICALLY

DATE PREPARED
10/2/2023

ROUTE
65

STATE
MO

DISTRICT
BR

SHEET NO.
18

COUNTY
PETTIS

JOB NO.
J3P3203

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A30401

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

MoDOT

9801 Renner Blvd., Ste. 300
Lenexa, KS 66219
913.492.0400
gbateam.com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

RYAN G. HAGERTY
PROFESSIONAL
ENGINEER
PE-2016034015

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