

DESIGN DESIGNATION

A.A.D.T. - 2022 = 1957
A.A.D.T. - 2032 = 2088
T = 7.6%
V = 55 M.P.H.

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

NO NEW RIGHT OF WAY

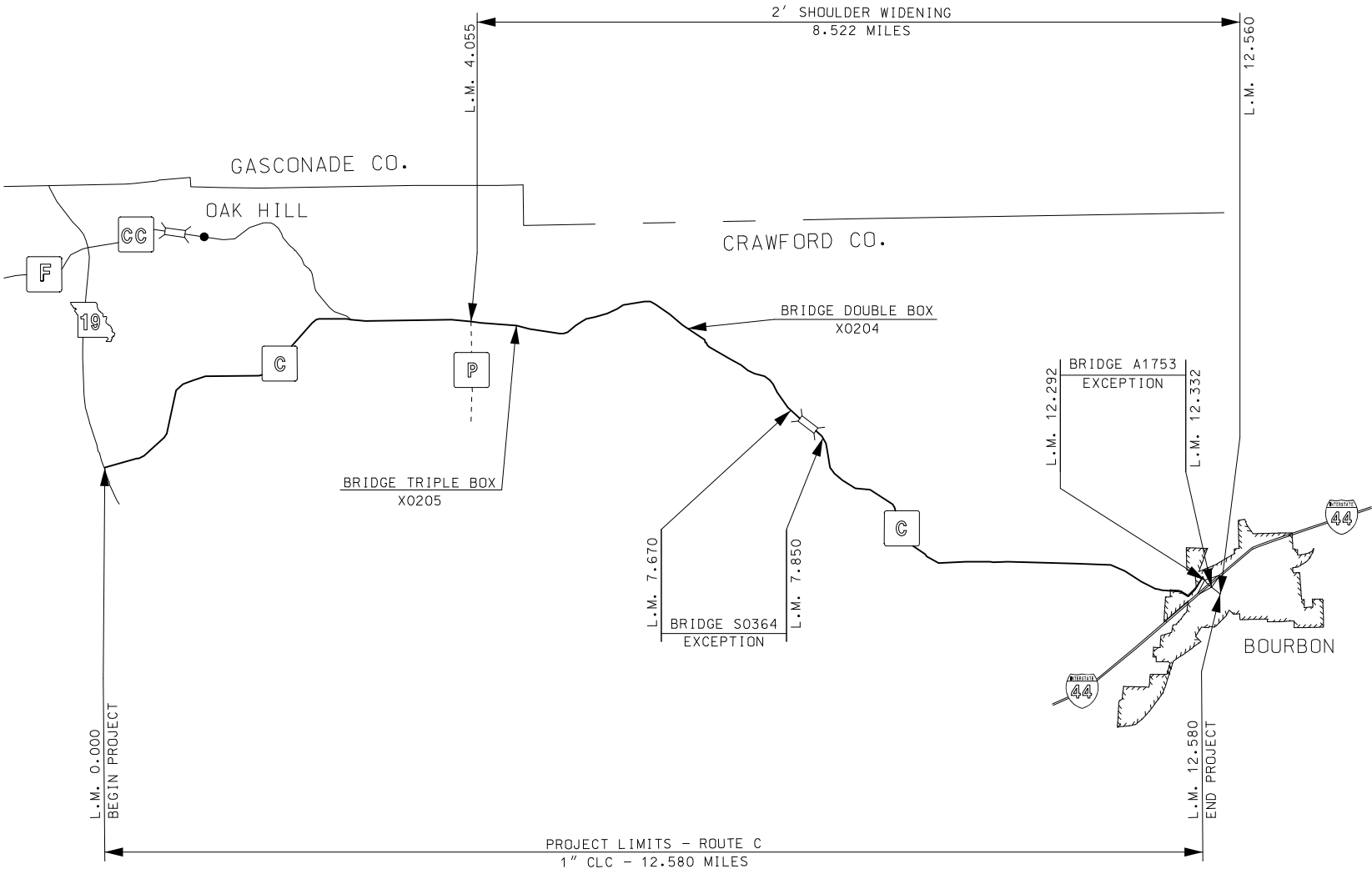


CONVENTIONAL SYMBOLS
(USED IN PLANS)

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
CRAWFORD COUNTY

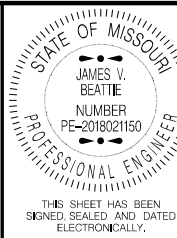


NOT TO SCALE

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

INDEX OF SHEETS

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DATE PREPARED 8/5/2021	
ROUTE C	STATE MO
DISTRICT CD	SHEET NO. 1
COUNTY CRAWFORD	
JOB NO. J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

LENGTH OF PROJECT

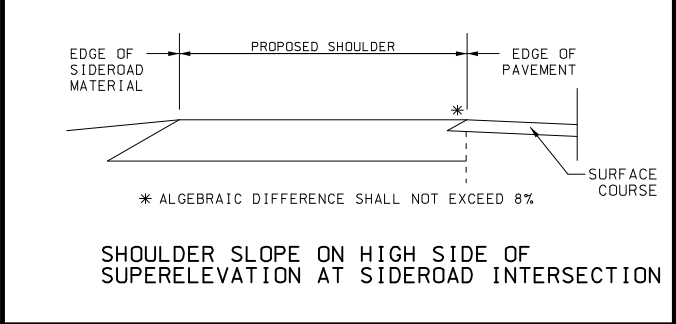
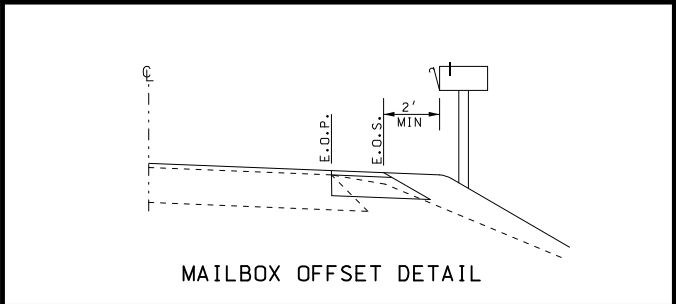
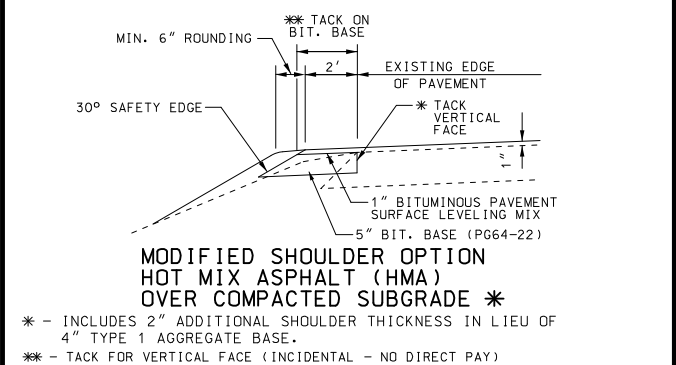
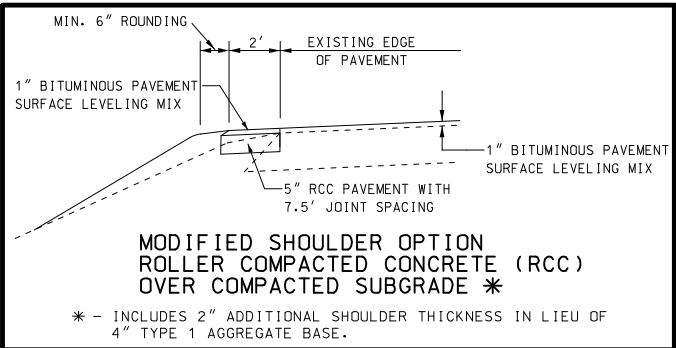
BEGINNING OF PROJECT	LOG MILE 0.000
END OF PROJECT	LOG MILE 12.580
APPARENT LENGTH	66,422.40 FEET
EQUATIONS AND EXCEPTIONS:	
BRIDGE S0364 EXCEPTION	950 FEET
BRIDGE A1753 EXCEPTION	211 FEET

TOTAL CORRECTIONS	1161 FEET
NET LENGTH OF PROJECT	65261.4 FEET
STATE LENGTH	12.360 MILES
FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES	19.64 ACRES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

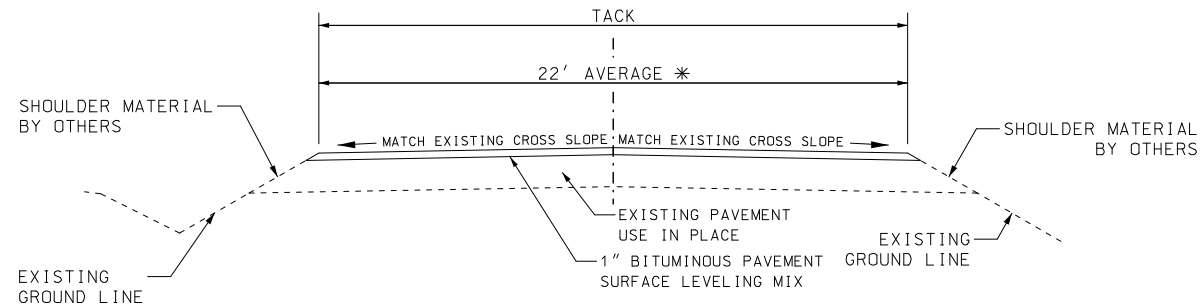
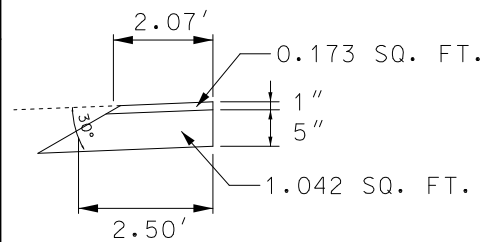
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



GENERAL NOTES:

- DO NOT PLACE 2' SHOULDER WIDENING WHERE ASPHALT OR CONCRETE ALREADY EXISTS. SHOULDER WIDENING IS 2' OUTSIDE OF EXISTING STRIPED TRAVELWAY.
- NO DIRECT PAY FOR PAVEMENT EDGE TREATMENT OR CLEARING AND GRUBBING.
- SURFACE PLACEMENT SHALL BE ONE PASS PER LANE.
- LOG MILES ARE APPROXIMATE. VERIFY ACTUAL LOCATIONS IN THE FIELD.
- ESTIMATE FACTORS:
BITUMINOUS PAVEMENT MIXTURE PG64-22 (SURFACE LEVELING) = 1.987 TONS/CY
BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE) = 1.943 TONS/CY
TACK = 0.08 GAL/SY
= 0.10 GAL/SY (MILLED SURFACES)
GRAVEL (A) OR CRUSHED STONE (B) = 1.4 TONS/CY
- CONTRACTOR TO PROVIDE A VERTICAL FACE TO EXIST. PAVEMENT. NO DIRECT PAY.

OPTIONAL SHOULDER
PAY LIMITS

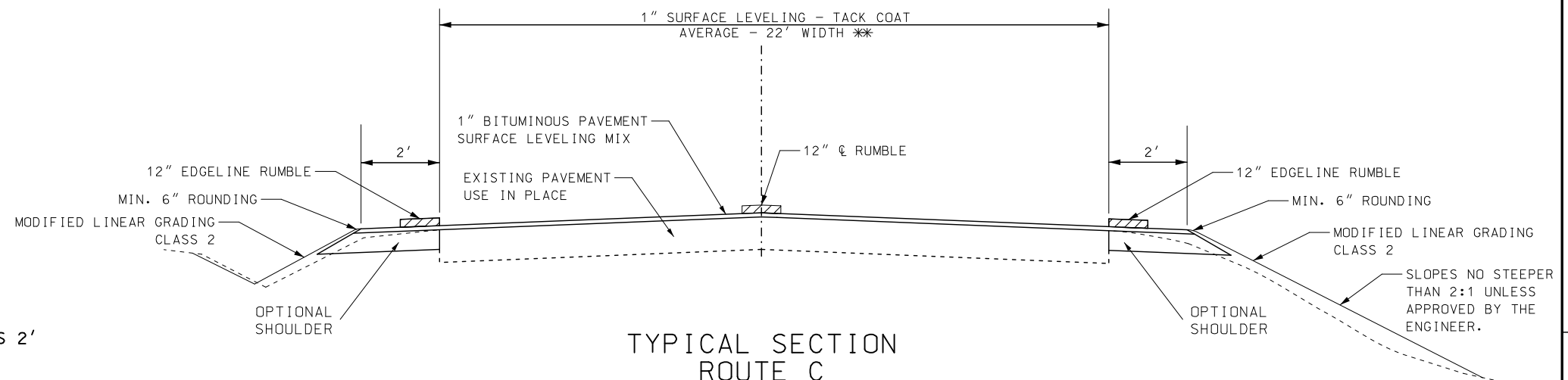


TYPICAL SECTION
ROUTE C

LOG MILE 0.000 TO LOG MILE 4.055
* LOG MILE 12.225 TO LOG MILE 12.292 (WIDTH VAR.)
LOG MILE 12.292 TO LOG MILE 12.332 (BRIDGE A1753 EXEMPTION)
* LOG MILE 12.332 TO LOG MILE 12.370 (WIDTH VAR.)

LOCATION OF CENTERLINE RUMBLES

PAVEMENT MARKING SHALL BE BASED ON THE DISTANCE WHICH CREATES TWO LANES OF THE SAME WIDTH. THE CONTRACTOR SHALL NOT CONSTRUCT LANES BASED ON FINISHED CROWN LOCATION.

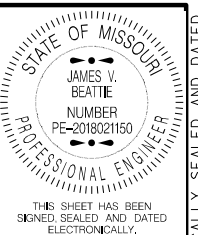


TYPICAL SECTION
ROUTE C

LOG MILE 4.055 TO LOG MILE 7.670
LOG MILE 7.670 TO LOG MILE 7.850 (BRIDGE S0364 EXCEPTION)
LOG MILE 7.850 TO LOG MILE 12.015
** LOG MILE 12.015 TO LOG MILE 12.225 (24' WIDTH)
** LOG MILE 12.370 TO LOG MILE 12.580 (25' WIDTH)

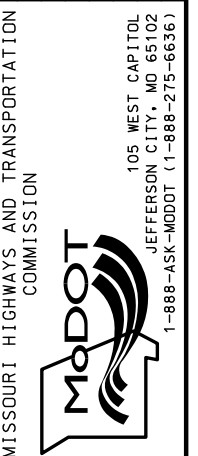
NOT TO SCALE

TYPICAL SECTIONS
SHEET 1 OF 1



DATE PREPARED 8/5/2021	
ROUTE C	STATE MO
DISTRICT CD	SHEET NO. 2
COUNTY CRAWFORD	
JOB NO. J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE



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

1" PMBP SURFACE LEVELING (PG64-22) - ROUTE C								
LOG MILE	LOG MILE	LOCATION	LENGTH (FT)	AVERAGE WIDTH (FT)	THICKNESS (IN)	PMBP (TONS)	TACK (GAL)	REMARKS
0.000	0.009	RTE. C	47.52		1	19.87	29	IRREGULAR AREA = 360 SY
0.009	7.670	RTE. C	40450.08	22	1	5,457.51	7,910	
7.670	7.850	RTE. C	950.4					BRIDGE S0364 EXCEPTION
7.850	12.015	RTE. C	21991.2	22	1	2,967.05	4,301	
12.015	12.225	RTE. C	1108.8	24	1	163.20	237	
12.225	12.292	RTE. C	353.76		1	151.78	275	IRREGULAR AREA = 2750 SY
12.292	12.332	RTE. C	211.2					BRIDGE A1753 EXCEPTION
12.332	12.370	RTE. C	200.64	36	1	57.68	105	IRREGULAR AREA = 1045 SY
12.370	12.430	RTE. C	316.8	25	1	48.57	88	
12.430	12.492	RTE. C	327.36	32	1	64.24	116	INCLUDES RIGHT SHOULDER
12.492	12.560	RTE. C	359.04	25	1	55.05	100	
12.560	12.580	RTE. C	105.6			21.25	31	IRREGULAR AREA = 385 SY
		RTE. CC			1	52.71	76	IRREGULAR AREA = 955 SY
		RTE. P			1	12.97	19	IRREGULAR AREA = 235 SY
		OUTER RD.			1	21.25	31	IRREGULAR AREA = 385 SY
						23.24		PAVED ENTRANCES
						1,801.24		20% FOR IRREGULARITIES
					TOTAL	10,917.61	13,316.40	SEE TYPICAL SECTIONS FOR ESTIMATE FACTORS.
					USE	10,917.6	13,316	

1" BITUMINOUS PAVEMENT SURFACE LEVELING (PG64-22) - OPTIONAL SHOULDER WIDENING							
LOG MILE	LOG MILE	LOCATION	LENGTH (FT)	WIDTH (FT)	PMBP (TONS)	TACK (GAL)	REMARKS
4.055	7.670	RTE. C - RT.	19087.2	2.07	242.31	351.20	
7.850	12.015	RTE. C- RT.	21991.2	2.07	279.17	404.64	
12.040	12.225	RTE. C - RT.	978.8	2.07	12.43	18.01	
12.370	12.432	RTE. C - RT.	327.36	2.07	4.16	6.02	
4.055	7.670	RTE. C - LT.	19087.2	2.07	242.31	351.20	
7.850	12.225	RTE. C - LT.	23100	2.07	293.25	425.04	
12.370	12.560	RTE. C - LT.	1003.2	2.07	12.74	18.46	
				TOTAL	1,086.35	1,574.58	SEE TYPICAL SECTIONS FOR ESTIMATE FACTORS.
				USE	1,086.4	1,575	

5" BITUMINOUS PAVEMENT BASE COURSE (PG64-22) - OPTIONAL SHOULDER WIDENING						
LOG MILE	LOG MILE	LOCATION	LENGTH (FT)	WIDTH (FT)	PMBP (TONS)	REMARKS
4.055	7.670	RTE. C - RT.	19087.2	2.50	1430.80	
7.850	12.015	RTE. C- RT.	21991.2	2.50	1648.49	
12.040	12.225	RTE. C - RT.	976.8	2.50	73.22	
12.370	12.432	RTE. C - RT.	327.36	2.50	24.54	
4.055	7.670	RTE. C - LT.	19087.2	2.50	1430.80	
7.850	12.225	RTE. C - LT.	23100	2.50	1731.61	
12.370	12.560	RTE. C - LT.	1003.2	2.50	75.20	
				TOTAL	6,414.67	SEE TYPICAL SECTIONS FOR ESTIMATE FACTORS.
				USE	6,414.7	

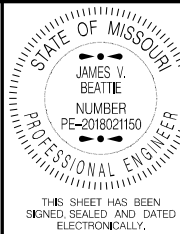
COLDMILLING (3" THICK OR LESS)						
LOG MILE	LOG MILE	LOCATION	LENGTH (FT)	WIDTH (FT)	COLDMILLING (SY)	REMARKS
12.225	12.292	RTE. C	353.8		2750.0	IRREGULAR AREA = 2750 SY
12.332	12.370	RTE. C	200.6		1045.0	IRREGULAR AREA = 1045 SY
12.370	12.430	RTE. C	316.8	25	880.0	
12.430	12.492	RTE. C	327.4	32	1163.9	
12.492	12.560	RTE. C	359.0	25	997.3	
12.560	12.580	RTE. C	105.6		385.0	IRREGULAR AREA = 385 SY
				TOTAL	7,221.2	
				USE	7,221	

MODIFIED COLDMILLING (DEPTH TRANSITIONS)						
LOG MILE	LOG MILE	LOCATION	LENGTH (FT)	WIDTH (FT)	MOD. COLDMILLING (SY)	REMARKS
0.000	0.009	RTE. C	50	VAR.	360.0	BEGIN PROJECT
7.665	7.670	RTE. C	25	22	61.1	BEGIN BRIDGE S0364
7.850	7.855	RTE. C	25	22	61.1	END BRIDGE S0364
12.216	12.225	RTE. C	50	22	122.2	APPROACH TO C/J
		RTE. CC	10	22	24.4	
		RTE. CC	10	22	24.4	
		RTE. P	10	22	24.4	
		NORTH OUTER ROAD	10	24	26.7	
				TOTAL	704.4	
				USE	704	

MOBILIZATION
1 LUMP SUM

ADDITIONAL MOBILIZATION FOR SEEDING
TOTAL = 4 UNITS
USE = 4 UNITS

MODIFIED LINEAR GRADING, CLASS 2					
LOG MILE	LOG MILE	LOCATION	LENGTH (FT)	MOD. LIN. GRADING CL. 2 (STA)	REMARKS
4.055	7.670	RTE. C - RT.	19087.2	190.87	
7.850	12.015	RTE. C- RT.	21991.2	219.91	BRIDGE B0467 EXCEPTION
12.040	12.220	RTE. C - RT.	950.4	9.50	
12.370	12.430	RTE. C - RT.	316.8	3.17	EXIST. SHLDR. EXCEPTION
		RTE. C - RT.		-11.57	ENTRANCE EXCEPTIONS
4.055	7.670	RTE. C - LT.	19087.2	190.87	
7.850	12.225	RTE. C - LT.	23100	231.00	BRIDGE B0467 EXCEPTION
12.370	12.560	RTE. C - LT.	1003.2	10.03	
		RTE. C - LT.		-22.11	ENTRANCE EXCEPTIONS
			TOTAL	821.68	
			USE	821.7	



DATE PREPARED 8/5/2021	
ROUTE C	STATE MO
DISTRICT CD	SHEET NO. 3
COUNTY CRAWFORD	
JOB NO. J5S3346	
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)

RUMBLE STRIPS					
LOG MILE	LOG MILE	LOCATION	BITUMINOUS CENTERLINE RUMBLE STRIPS (STA)	BITUMINOUS SHOULDER RUMBLE STRIPS (STA)	REMARKS
4.055	11.744	RTE. C	405.98		
4.055	11.744	RTE. C - RT.		405.98	
				-92.57	ENTRANCES & EXCEPTIONS
4.055	11.744	RTE. C - LT.		405.98	
				-166.11	ENTRANCES & EXCEPTIONS
		TOTAL	405.98	553.28	
		USE	406.0	553.3	

GUARDRAIL							
LOG MILE	LOG MILE	LOCATION	MGS GUARDRAIL (LF)	MGS THRIE BEAM TRANS. SECT. (EA)	TYPE A CRASHWORTHY END TERMINAL (MASH) (EA)	SHAPING SLOPES CLASS III (100 FT)	REMARKS
4.323	4.347	BRIDGE CULVERT X0205 - LT.	37.5	1	1	1.5	SOFTSTOP CET
4.311	4.347	BRIDGE CULVERT X0205 - RT.	100	1	1	2.1	SOFTSTOP CET
4.355	4.391	BRIDGE CULVERT X0205 - LT.	100	1	1	2.1	SOFTSTOP CET
4.355	4.379	BRIDGE CULVERT X0205 - RT.	37.5	1	1	1.5	SOFTSTOP CET
6.076	6.100	BRIDGE CULVERT X0204 - LT.	37.5	1	1	1.5	SOFTSTOP CET
6.064	6.100	BRIDGE CULVERT X0204 - RT.	100	1	1	2.1	SOFTSTOP CET
6.104	6.140	BRIDGE CULVERT X0204 - LT.	100	1	1	2.1	SOFTSTOP CET
6.104	6.128	BRIDGE CULVERT X0204 - RT.	37.5	1	1	1.5	SOFTSTOP CET
		TOTAL	550	8	8	14.5	
		USE	550	8	8	14.5	

EROSION CONTROL*						
LOCATION	SILT FENCE (LF)	ALT. DITCH CHECK (LF)	ROCK DITCH CHECK (LF)	SEDIMENT TRAP ROCK (CY)	SEDIMENT REMOVAL (CY)	REMARKS
RTE. C	1600.0	320.0	2560.0	48.00	313.6	
TOTAL	1600.0	320.0	2560.0	48.00	313.6	SEE TEMP. EROSION CONTROL JSP
USE	1600	320	2560	48.0	314	FOR MOR INFO.

* SILT FENCE - 200' PER MILE
ALTERNATE DITCH CHECKS - 5' PER MILE
ROCK DITCH CHECKS - 40' PER MILE
SEDIMENT TRAPS - 6 CY PER MILE

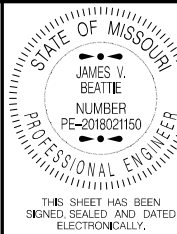
SEEDING AND MULCH			
LOCATION	COOL SEASON (AC)	TEMP. SEEDING (AC)	REMARKS
RTE. C	19.65	3.93	WIDTH = 10'/SIDE
TOTAL	19.65	3.93	
USE	19.6	3.9	
NOTE: TEMP. SEEDING ESTIMATED AT 20% OF COOL SEASON.			

GRAVEL (A), OR CRUSHED STONE (B)					
LOG MILE	LOG MILE	LOCATION	LENGTH (MI)	TONS	REMARKS
0.064	12.000	RTE. C	11.936	109.1	
12.000	12.223	RTE. C	0.223	81.4	RT & LT EXIST. GRAVEL SHLDR.
12.370	12.430	RTE. C	0.060	21.9	RT & LT EXIST. GRAVEL SHLDR.
12.43	12.56	RTE. C	0.130	29.7	LT. EXIST. GRAVEL SHLDR.
			TOTAL	242.1	TO BE USED ON EXIST. ENTRANCES
			USE	242	AND DROPOFF LOCATIONS.

CONTRACTOR FURNISHED SURVEYING AND STAKING
1 LUMP SUM

CULVERT HEADWALL MODIFICATION				
LOG MILE	LOCATION	ITEM	QTY (LS)	REMARKS
6.300	ROUTE C	CONCRETE CULVERT HEADWALL	1	RAISE LEFT HEADWALL (1' H x 19.9' L)
6.300	ROUTE C	CONCRETE CULVERT HEADWALL	1	RAISE RIGHT HEADWALL (1'H x 20'L)
6.550	ROUTE C	CONCRETE CULVERT HEADWALL	1	RAISE LEFT HEADWALL (1' H x 10.1' L)
		TOTAL	1	
		USE	1 LUMP SUM	

LOOP DETECTOR			
LOG MILE	LOCATION	QUANTITY (EA)	REMARKS
0.009	RTE. C & RTE. 19	1	SEE JSP
	TOTAL	1	
	USE	1	



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DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

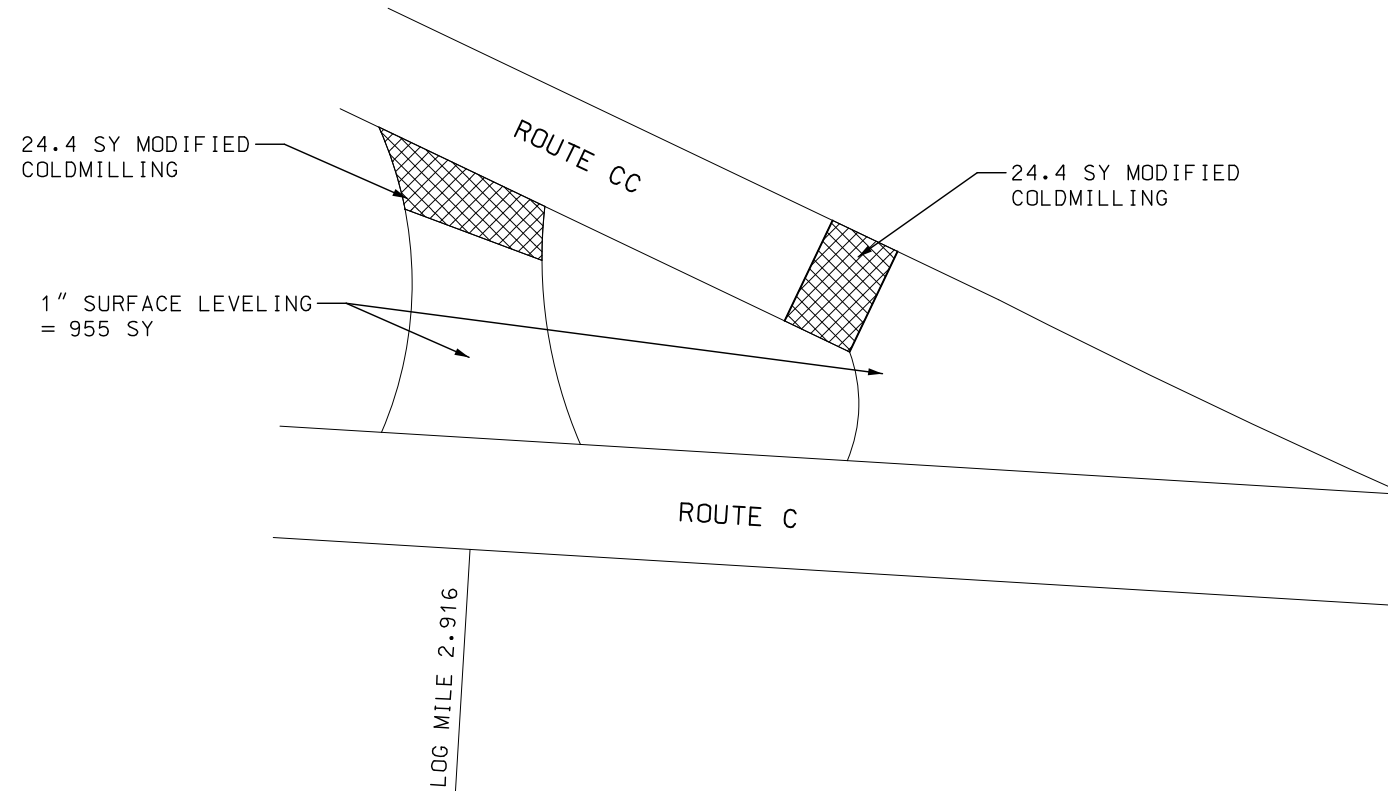
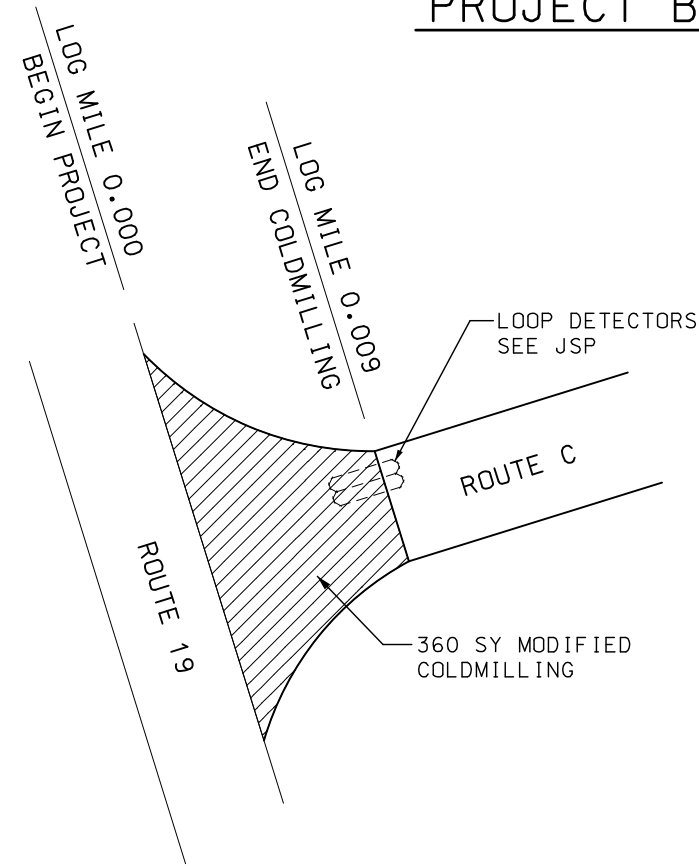
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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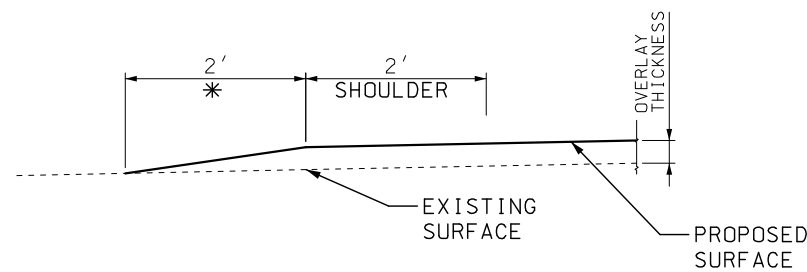
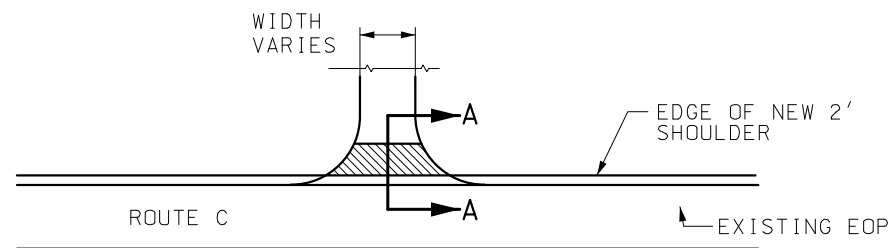
DATE PREPARED	
8/5/2021	
ROUTE	STATE
C	MO
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COUNTY	
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CONTRACT ID.	

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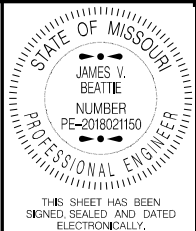
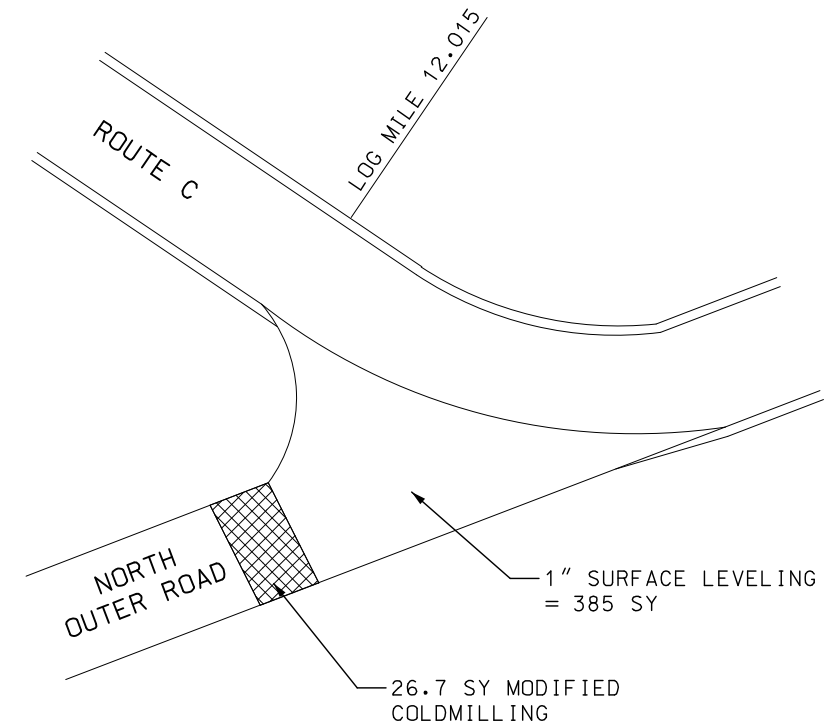
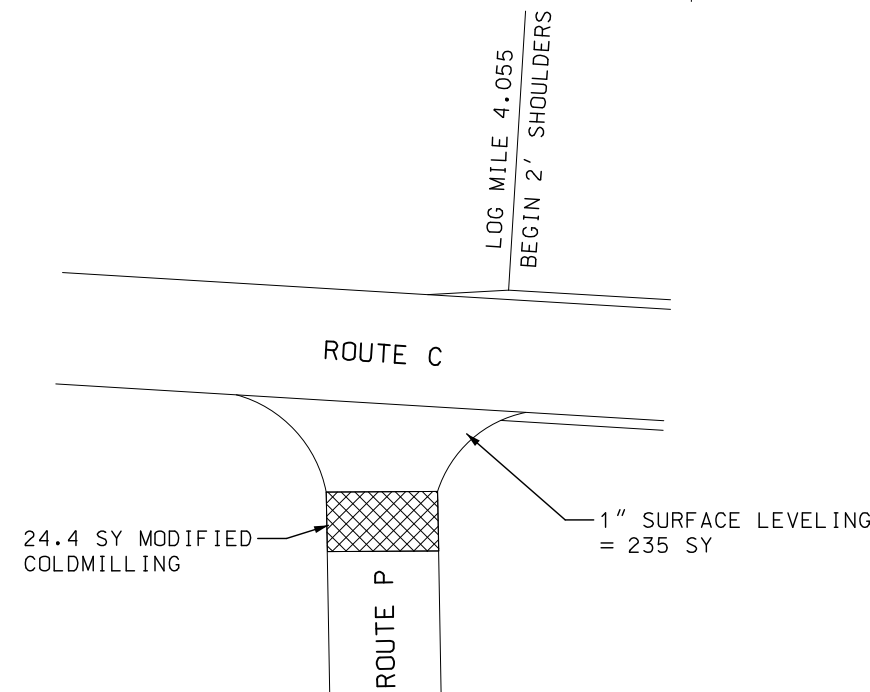
PROJECT BEGINNING AND STATE ROUTE INTERSECTIONS



PRIVATE ENTRANCES AND COUNTY ROADS



SECTION A-A
TYPICAL ENTRANCE
(FIELD, PRIVATE OR COUNTY ROAD)
* TAPER AT 1:1 FOR FIELD ENTRANCE



DATE PREPARED 8/5/2021	
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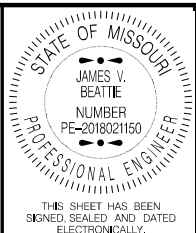
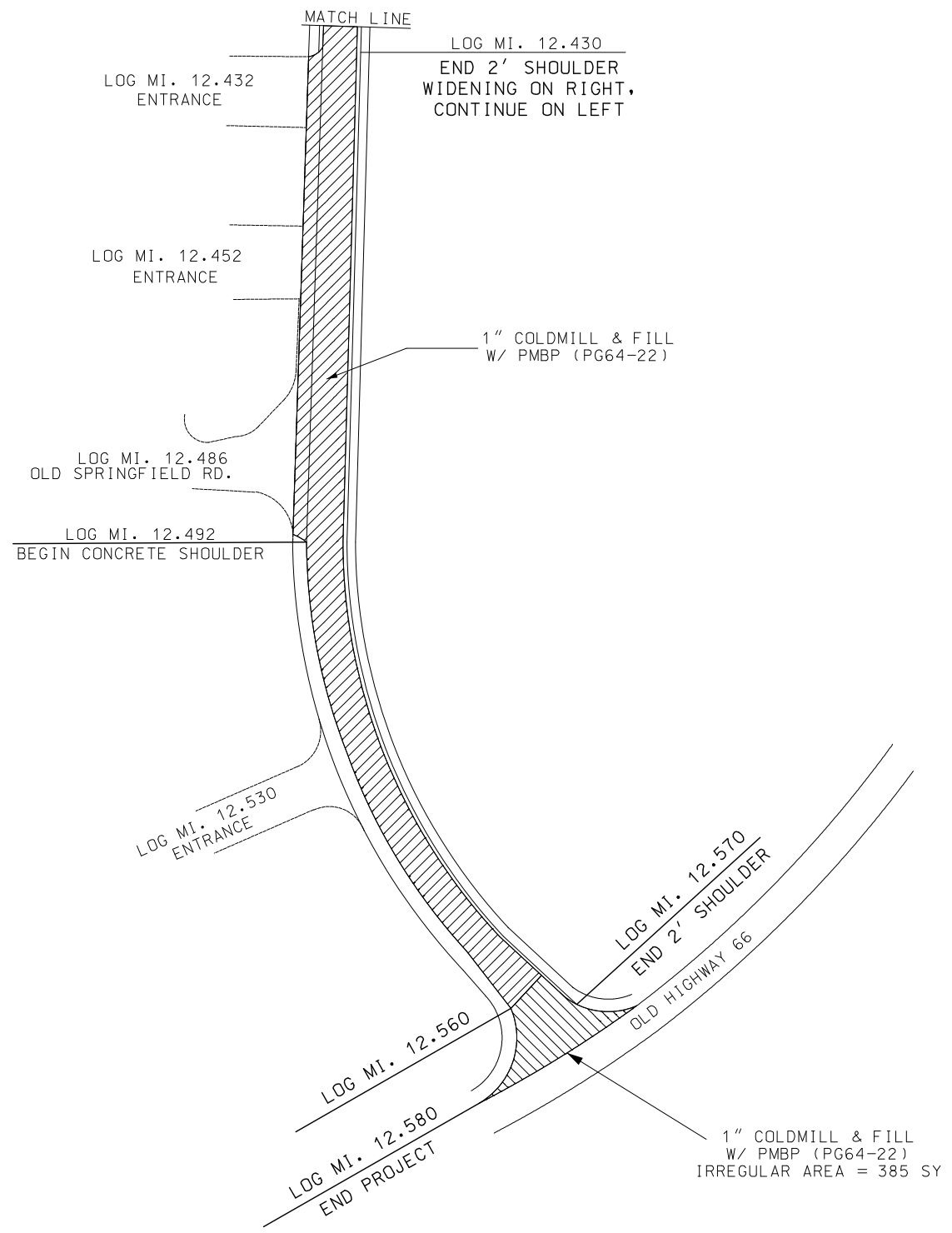
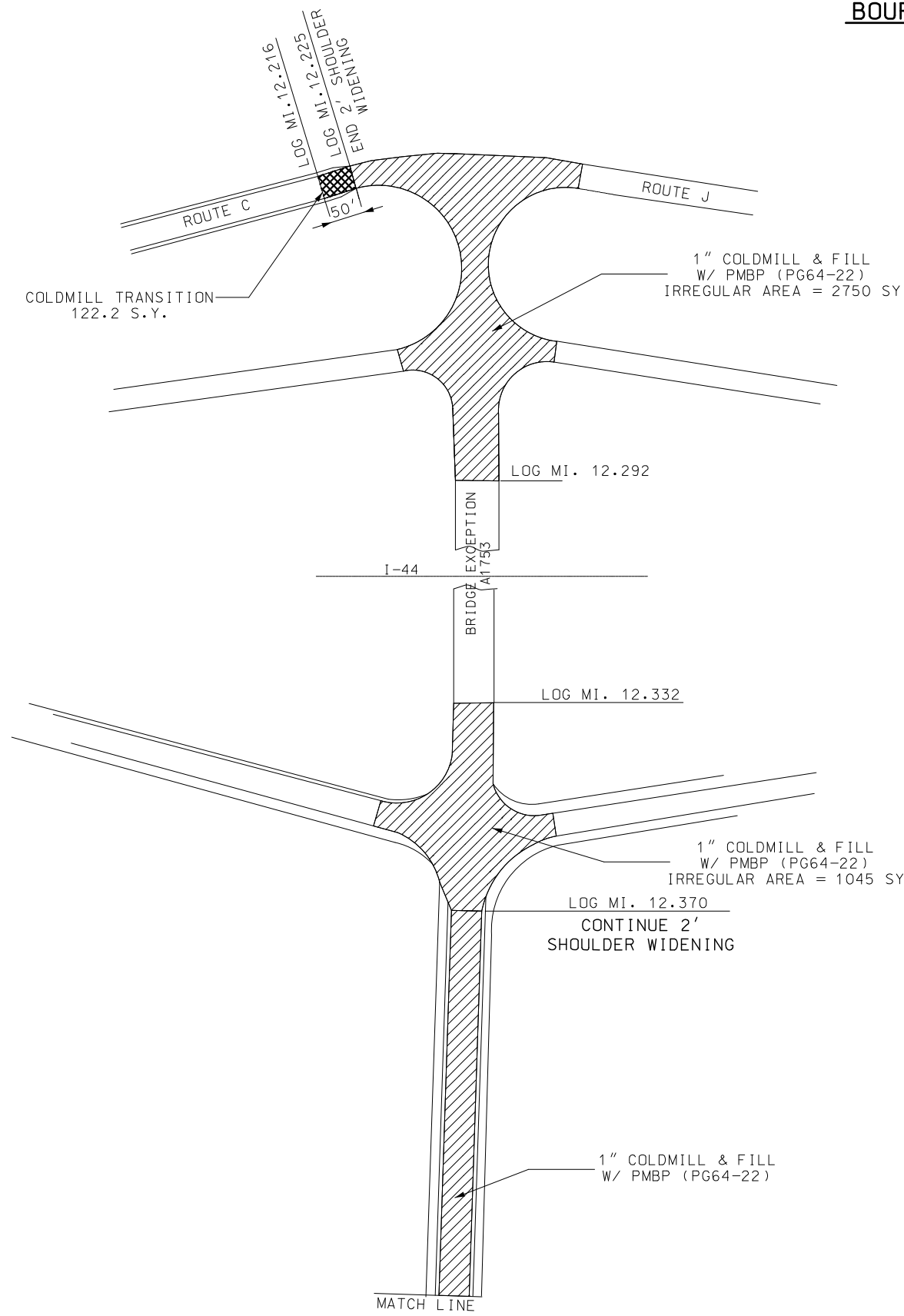
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

MoDOT

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

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BOURBON MILLING DETAILS



DATE PREPARED
8/5/2021

ROUTE
C

STATE
MO

DISTRICT
CD

SHEET NO.
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COUNTY
CRAWFORD

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PROJECT NO.

BRIDGE NO.

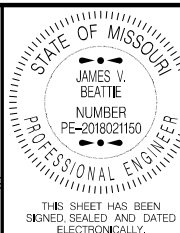
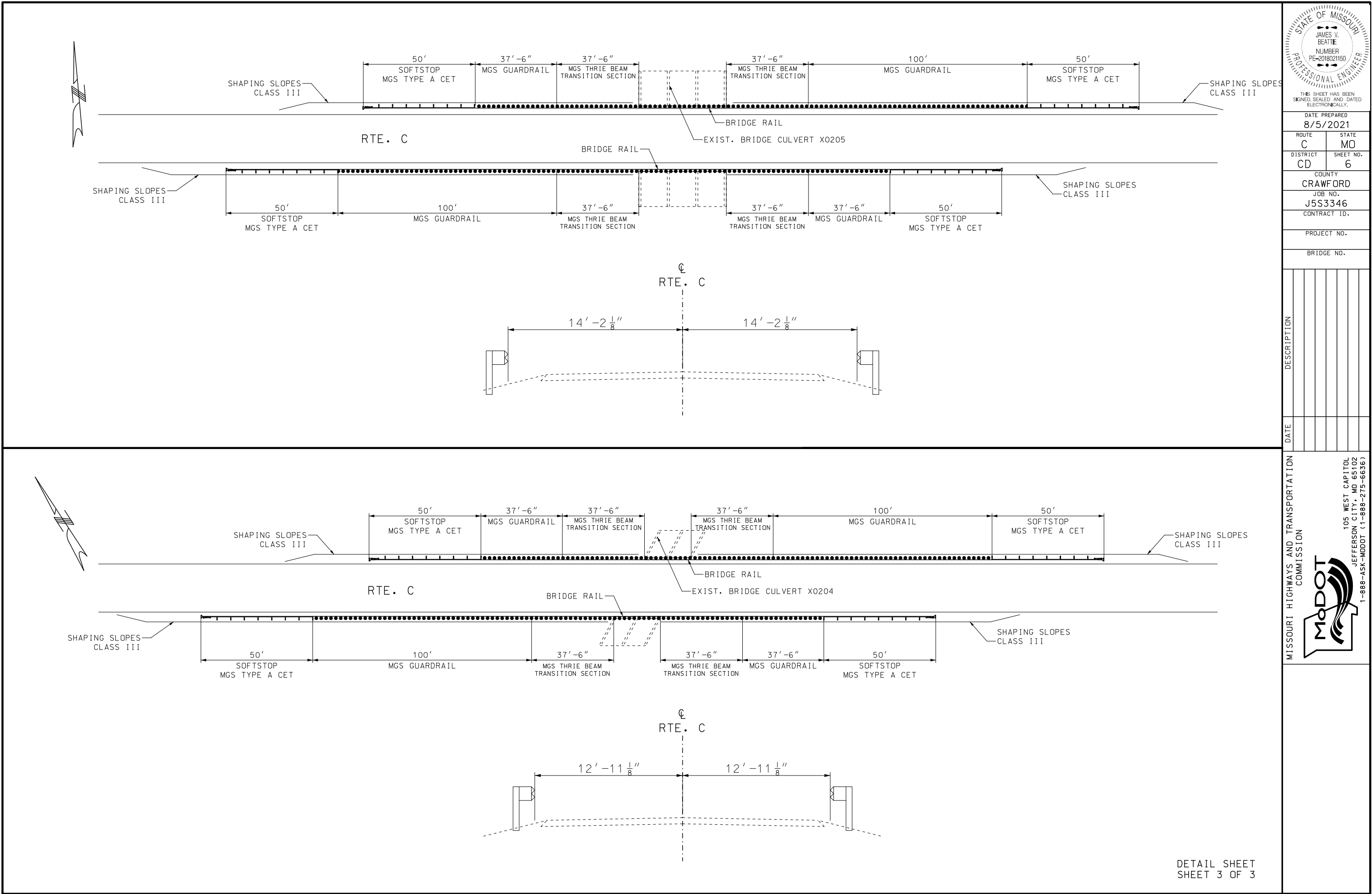
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

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



DATE PREPARED 8/5/2021	
ROUTE C	STATE MO
DISTRICT CD	SHEET NO. 6
COUNTY CRAWFORD	
JOB NO. J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

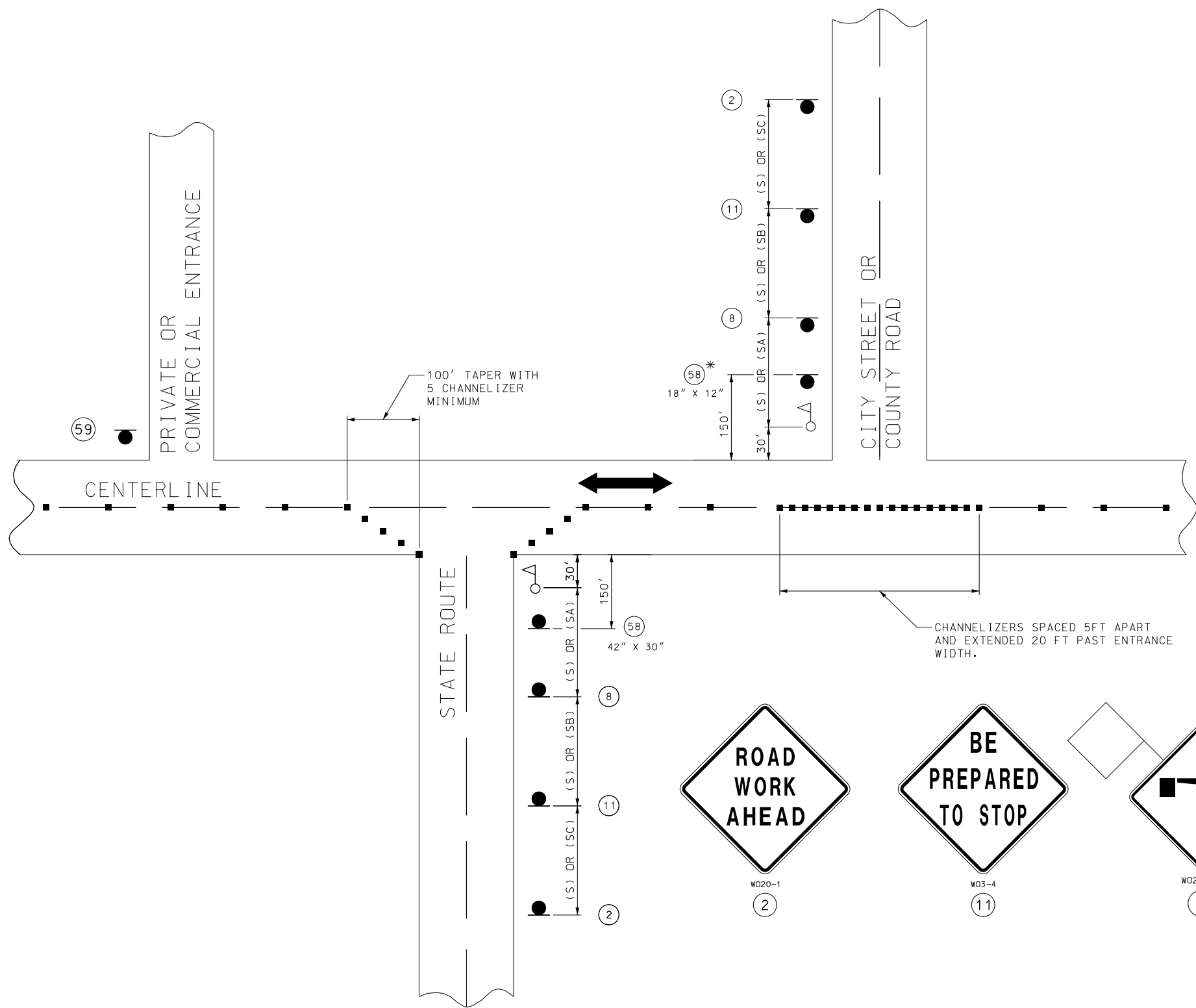
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

DETAIL SHEET
SHEET 3 OF 3

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



REV.



SPEED	SIGN SPACING (FT.)	
	NON-DIVIDED HIGHWAYS (S)	DIVIDED HIGHWAYS (S)
PERMANENT POSTED (MPH)		
0-35	200	200
40-45	350	500
50-55	500	1000
60-70	1000	(SA)-1000 (SB)-1500 (SC)-2640

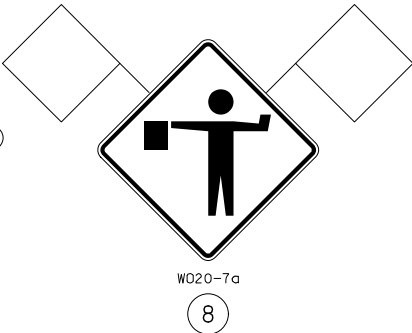
DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS.

NOTES:
WARNING SIGNS SHALL BE ERECTED AT EACH INTERSECTION WITH ANOTHER STATE HIGHWAY WITHIN THE WORK ZONE.

ADDITIONAL WARNING SIGNS SHALL BE ERECTED AT OTHER INTERSECTIONS WITHIN THE WORK ZONE, AS DIRECTED BY THE ENGINEER.

■ - CHANNELIZERS (AS SPECIFIED)

△ - FLAGGER



SHALL BE USED ON ALL STATE ROUTES AND MAY BE USED ON ANY NON-STATE ROUTES, AS DETERMINED BY THE ENGINEER.

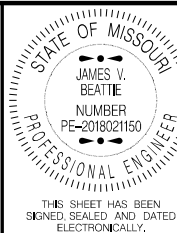
* THE SMALLER 18" X 12" SIGN 58 IS USED ON ALL OTHER NON-STATE ROUTES (CITY STREETS, COUNTY ROADS, ETC.).

SHALL ONLY BE USED AT PRIVATE AND COMMERCIAL ENTRANCES. SEE SPECIAL PROVISIONS.

SIDE ROADS ENTERING WORK ZONES

NOT TO SCALE

TRAFFIC CONTROL
3 OF 5



DATE PREPARED
8/5/2021
ROUTE C STATE MO
DISTRICT CD SHEET NO. 9

COUNTY
CRAWFORD

JOB NO.
J5S3346

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

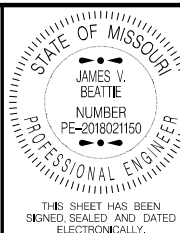
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

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

REV.



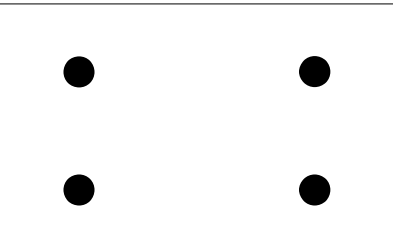
DATE PREPARED	
8/5/2021	
ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
CD	11
COUNTY	
CRAWFORD	
JOB NO.	
J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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




FLASHING ARROW PANEL
- CAUTION MODE




ONE LANE
ROAD
AHEAD

W020-4
48" X 48"

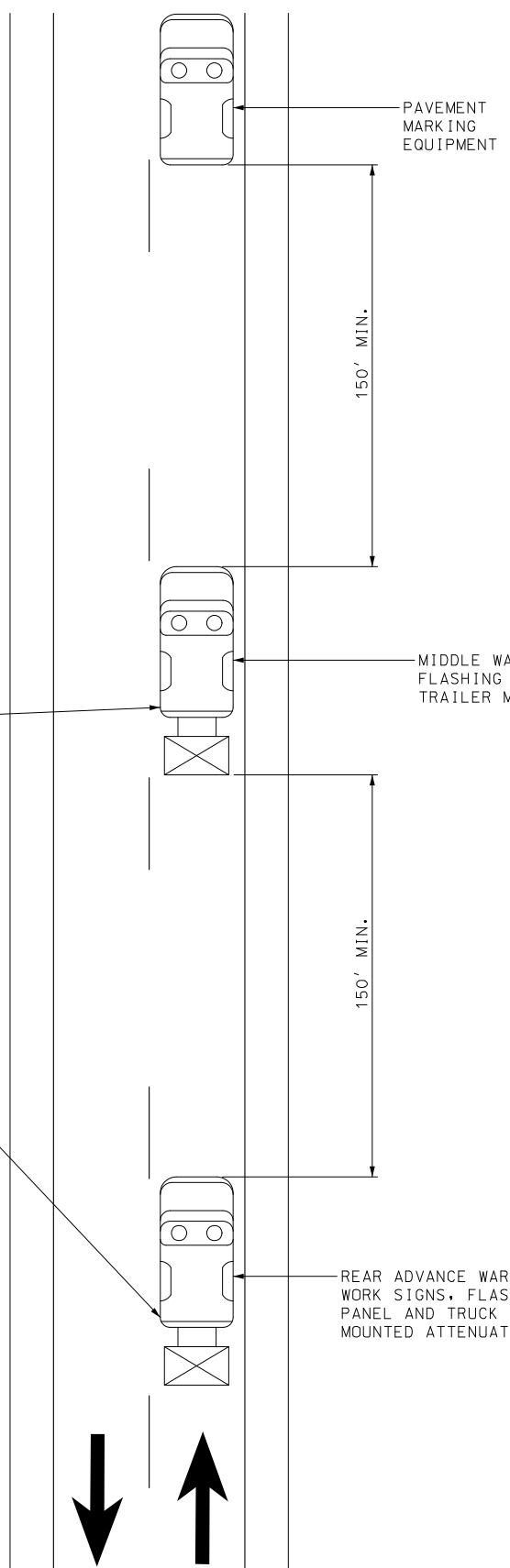


WET
PAINT



WET
PAINT

G022-1 (2)



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

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

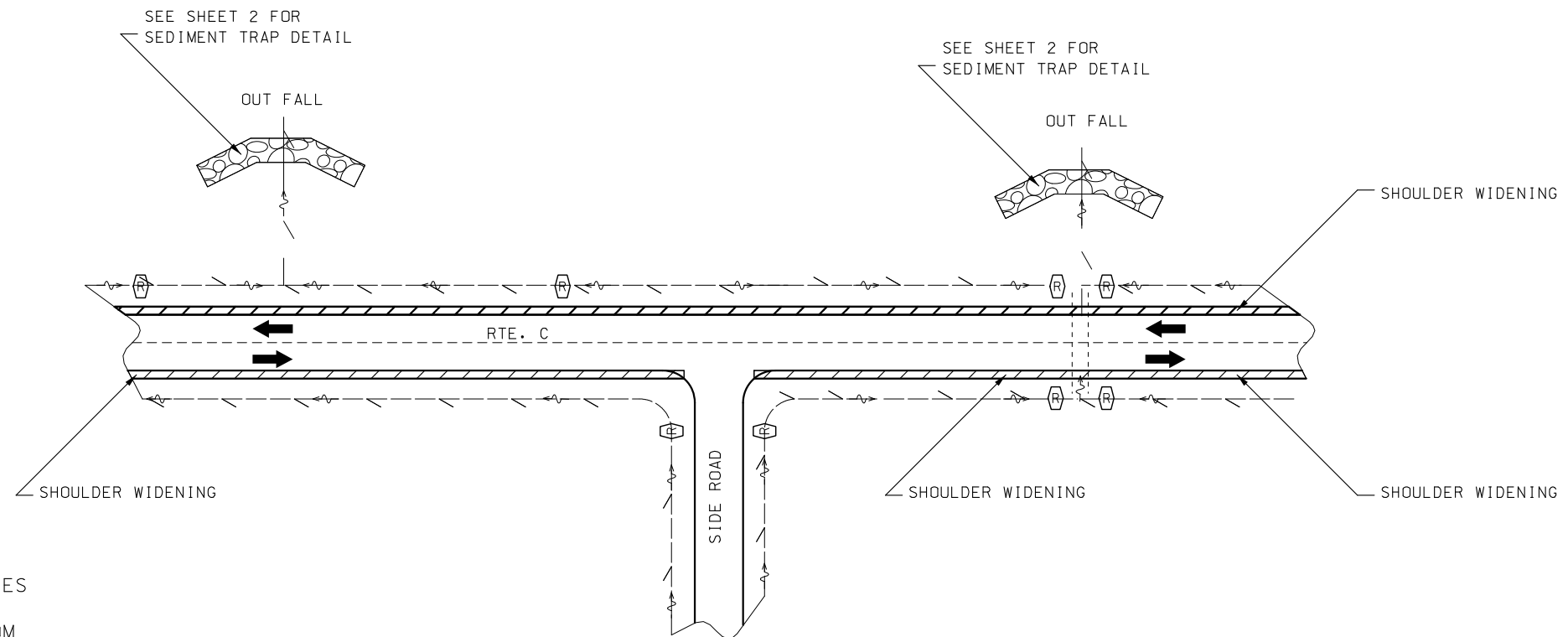
VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

FLASHING ARROW PANELS SHALL BE INCIDENTAL TO TRUCK MOUNTED ATTENUATORS, WHEREVER USED. NO ADDITIONAL PAYMENT SHALL BE MADE.

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

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





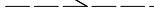

(3) REAR ADVANCE WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL, OR VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE, OR SPACING SHOWN.

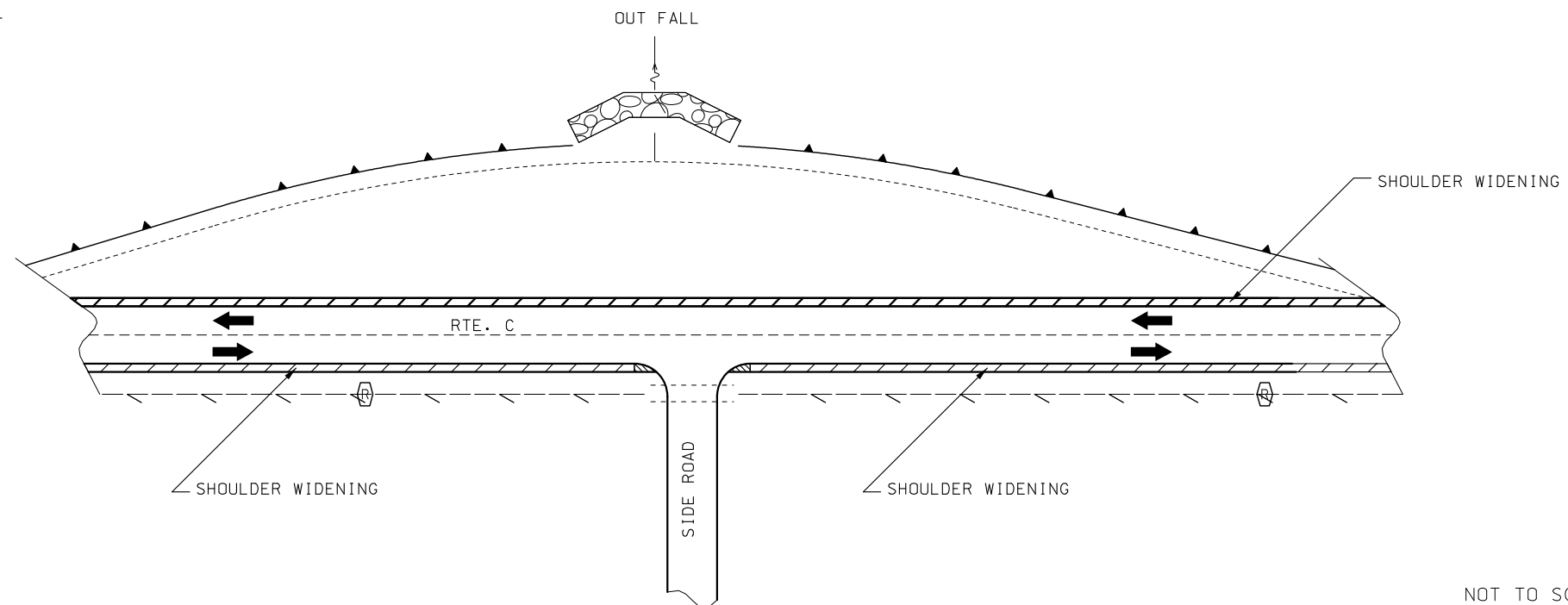


GENERAL NOTES:

- 1) ALL TEMPORARY EROSION CONTROL MEASURES TO BE PLACED IN A LOCATION THAT PREVENTS SEDIMENT FROM ENTERING ANY STREAM OR FROM LEAVING THE RIGHT OF WAY. EXACT SIZE AND LOCATION OF ALL TEMPORARY EROSION CONTROL MEASURES TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- 2) SILT FENCE MAY BE OMITTED FROM HIGH FILL LOCATIONS WHEN A 10' STRIP OF VEGETATION IS AVAILABLE BETWEEN THE WORK AND THE DRAINAGE COURSE AND WITH ENGINEER APPROVAL.
- 3) REFER TO JOB SPECIAL PROVISIONS AND STANDARD PLAN 806.10 FOR ALL TEMPORARY EROSION CONTROL MEASURES.

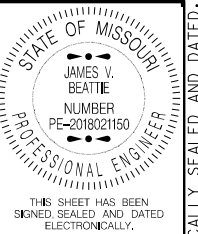
TEMPORARY EROSION CONTROL LEGEND

-  ROCK OR ALTERNATE DITCH CHECK
-  SEDIMENT TRAP
-  SILT FENCE
-  EXISTING FILL SLOPE
-  EXISTING "V" DITCH
-  EXISTING CULVERT



NOT TO SCALE

EROSION CONTROL SHEET
SHEET 1 OF 2



DATE PREPARED
8/5/2021

ROUTE C STATE MO

DISTRICT CD SHEET NO. 12

COUNTY
CRAWFORD

JOB NO.
J5S3346

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)

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

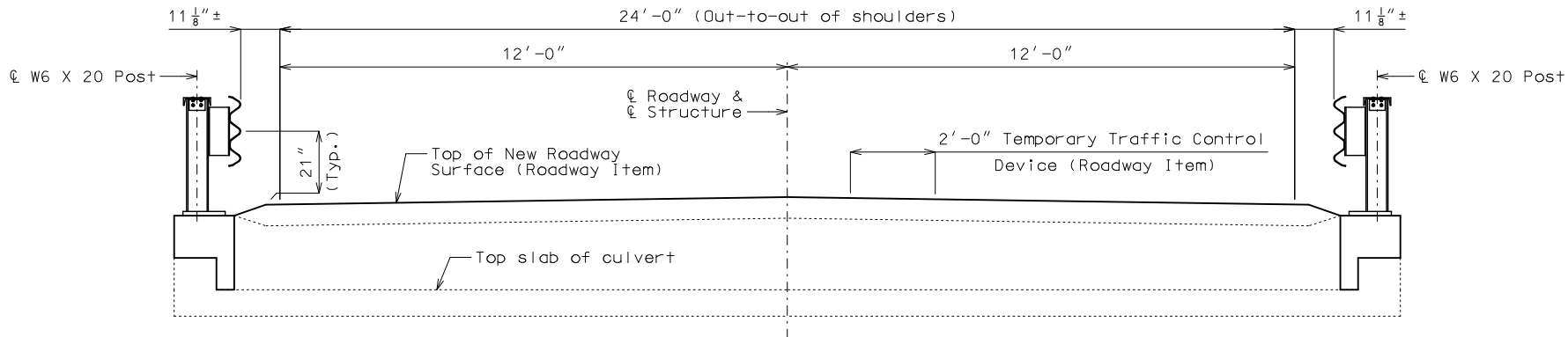
LARGE DRAINAGE STRUCTURE CROSSINGS PLACING DETAILS

The diagram illustrates the layout for a large drainage structure crossing a road. A central vertical line is labeled "RTE. C" with a centerline symbol. A horizontal rectangular structure, representing the drainage crossing, is positioned across the road. Four "SEDIMENT TRAP" locations are indicated by wavy arrows pointing to specific areas: two on the left side and two on the right side of the crossing. A vertical line on the right is labeled "EXISTING R/W". An "ALTERNATE DITCH CHECK" is indicated by a wavy arrow pointing to the bottom left corner of the crossing structure. The crossing structure itself is divided into sections by vertical lines, and there are wavy arrows indicating flow directions into and out of the structure.

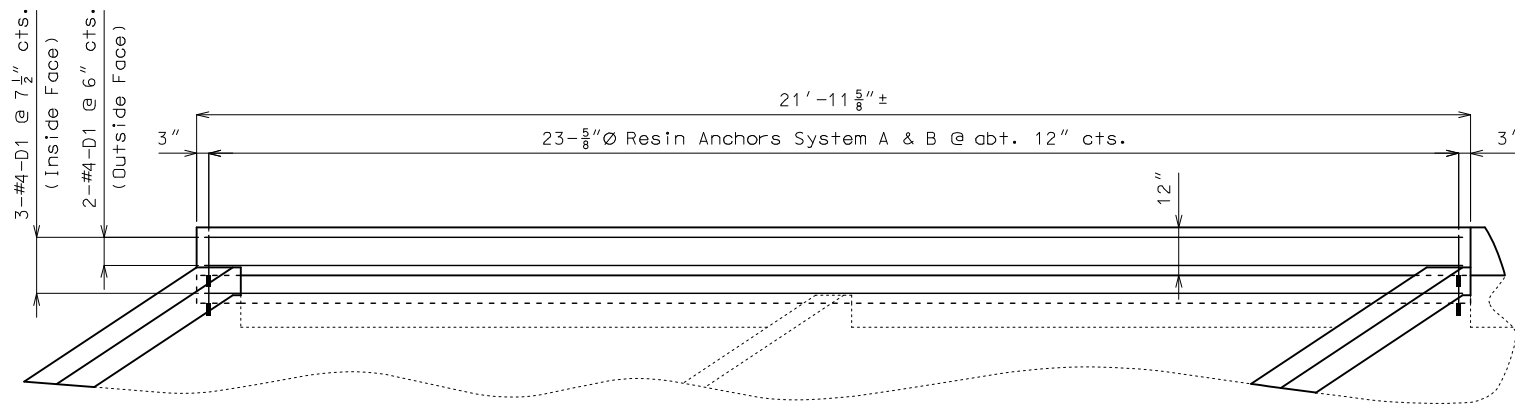
[illegible][illegible]

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

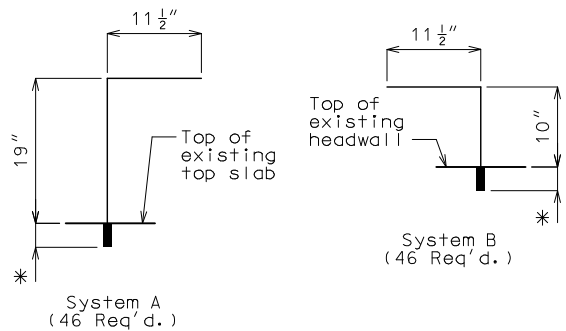
U.I.P. AND REHAB EXISTING 2(8' X 9.5') CONCRETE BOX CULVERT (SKEW: 35° L.A.)



SECTION THRU SLAB SHOWING RAIL POST



TYPICAL PART ELEVATION OF EXISTING BOX CULVERT SHOWING NEW HEADWALL REINFORCEMENT



* Manufacturer's recommended embedment length (5" min.)

DETAILS OF RESIN ANCHOR SYSTEMS

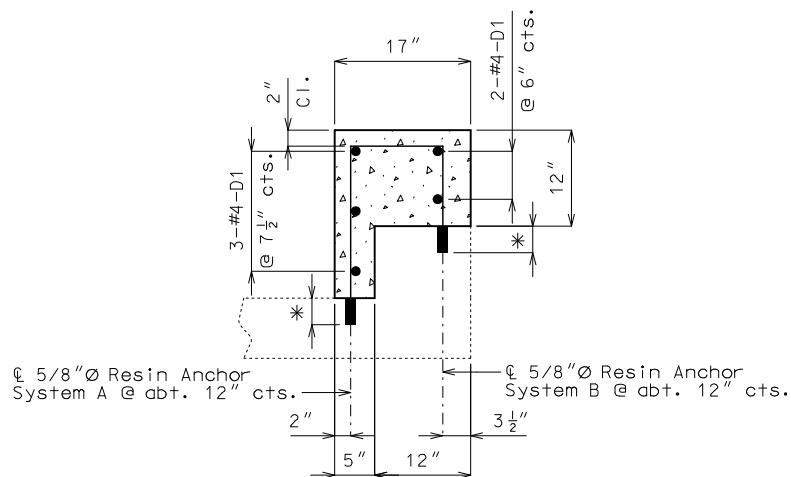
Notes:

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

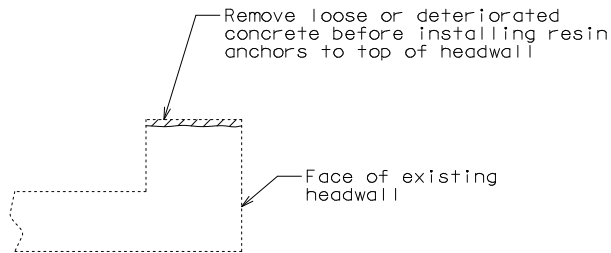
Cost of furnishing and installing the resin anchor systems for the headwall modification, complete in place, will be considered completely covered by the contract unit price for Headwall Modification.

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

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



SECTION THRU HEADWALL SHOWING REINFORCEMENT



SECTION THRU EXISTING HEADWALL SHOWING CONCRETE REMOVAL

GENERAL NOTES:

Design Specifications:
2002 AASHTO LFD (17th Ed.) Standard Specifications

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

Standard Plans:
606.70

Miscellaneous:
Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

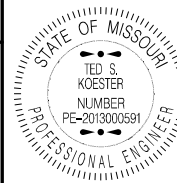
Bars banded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars. Unless otherwise noted.

Traffic Handling:
Traffic to be maintained on existing structure during construction. See roadway plans for traffic control.

Estimated Quantities		
Item		Total
Class B-1 Concrete (Culverts-Bridge)	cu. yard	5.2
Headwall Modification	linear foot	44
Reinforcing Steel (Culverts-Bridge)	pound	840
Bridge Guardrail (Thrie Beam)	linear foot	38

REPAIRS TO BRIDGE: ROUTE C OVER BRANCH RECTOR CREEK

ROUTE C FROM ROUTE P TO ROUTE I-44
ABOUT 2.1 MILES EAST OF ROUTE P
BEG. STA. 332+97.01± (MATCH EXISTING)



DATE PREPARED
8/12/2021

ROUTE
C

STATE
MO

DISTRICT
BR

SHEET NO.
1

COUNTY
CRAWFORD

JOB NO.
J5S3346

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
X02041

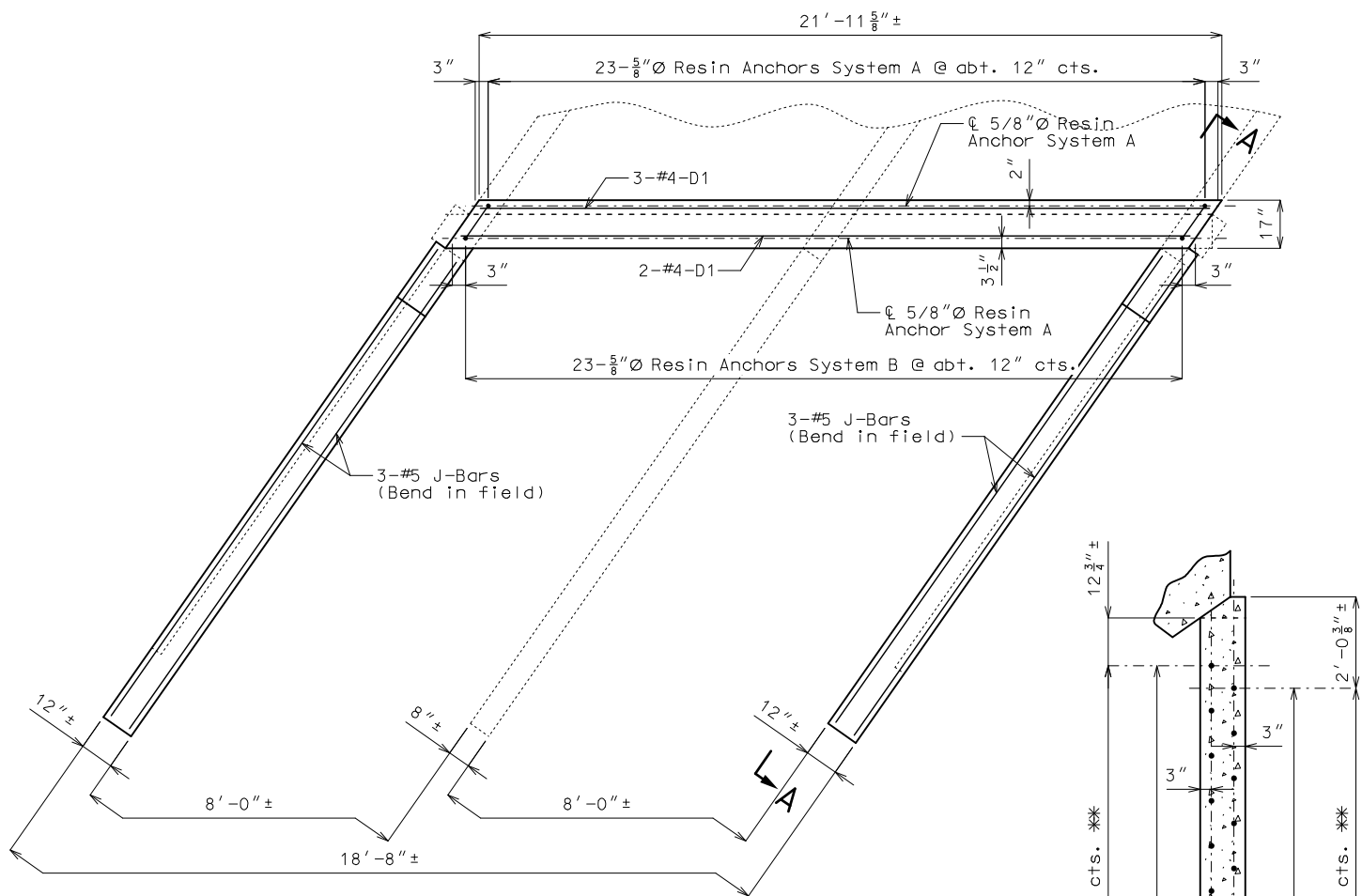
DESCRIPTION

DATE

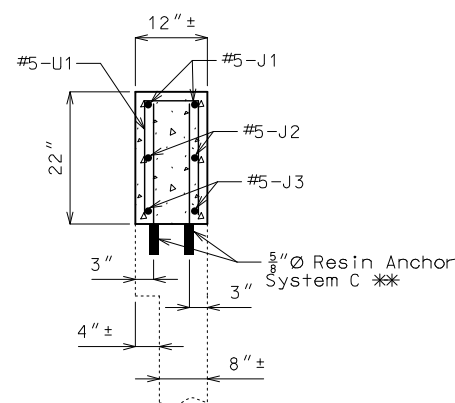
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

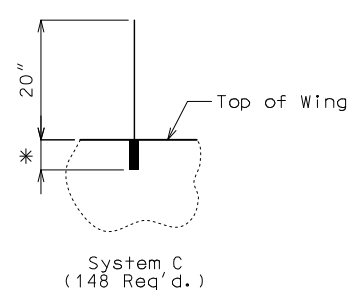
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PART PLAN SHOWING DOWNSTREAM EXTENSION
(Upstream extension similar by 180° rotation)

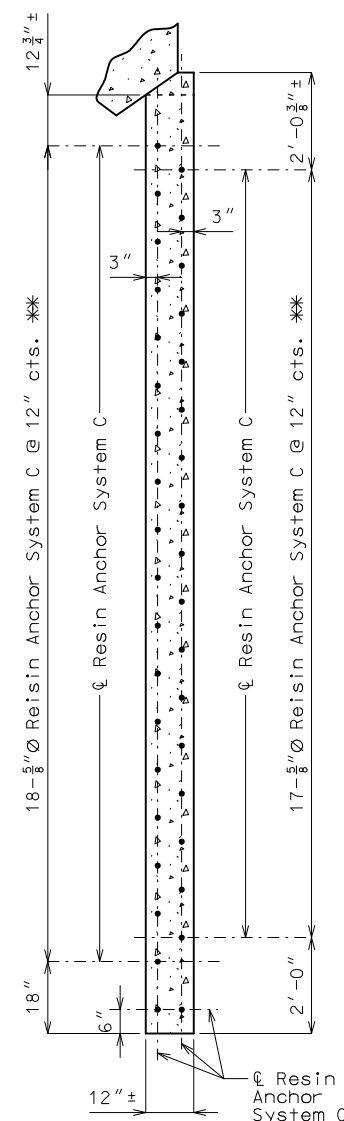


SECTION B-B

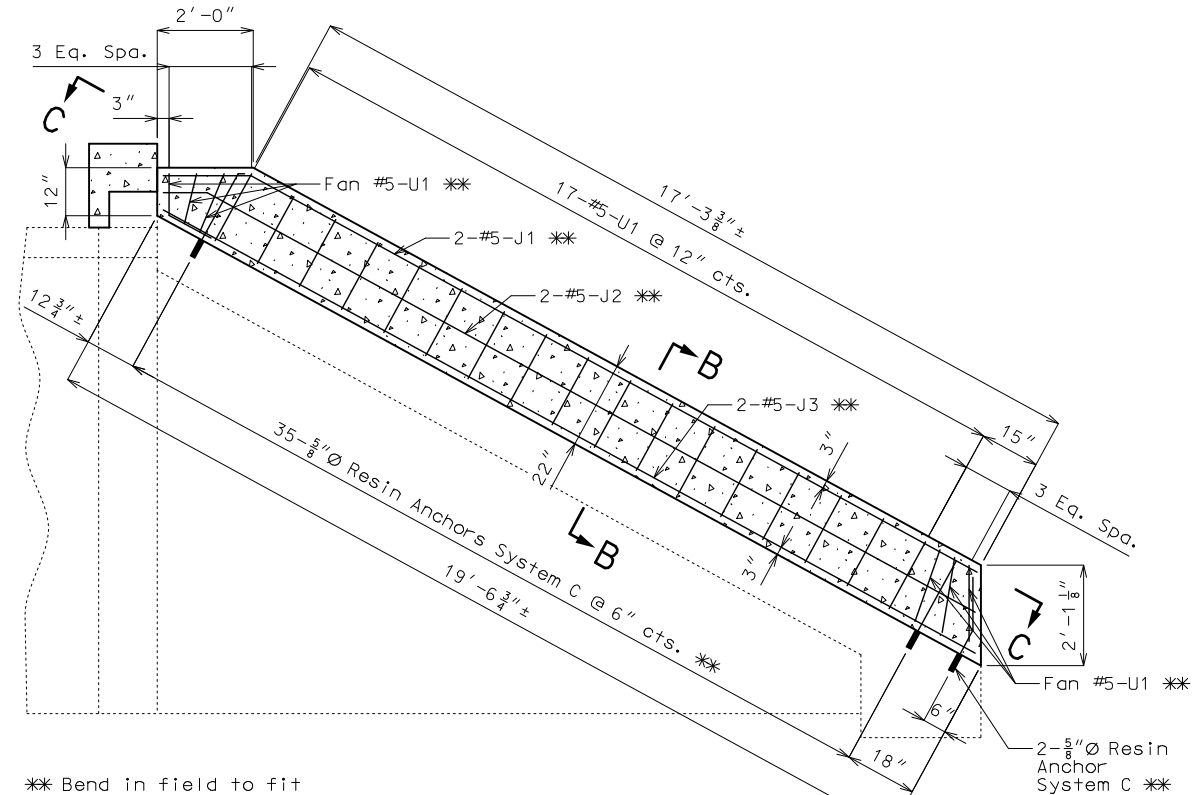


DETAILS OF RESIN ANCHOR SYSTEM C

* Manufacturer's recommended embedment length (5" min.)



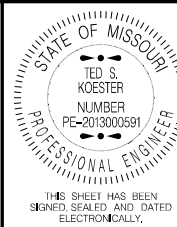
SECTION C-C



SECTION A-A

Note: Headwall bars not shown for clarity.

- Notes:
- Concrete for wing extension shall be Class B-1.
 - Payment for wing extension concrete, complete in place, will be considered completely covered by the contract unit price for Class B-1 Concrete (Culverts-Bridge).
 - Payment for wing extension reinforcement, complete in place, will be considered completely covered by the contract unit price for Reinforcing Steel (Culverts-Bridge).
 - 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 for the wing extensions, complete in place, will be considered completely covered by the contract unit price for Reinforcing Steel (Culverts-Bridge).
 - The minimum embedment depth in concrete with $f'c = 4,000$ psi for the resin anchor systems 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" diameter threaded rod.
 - For details of headwall extension, see Sheet No. 1.



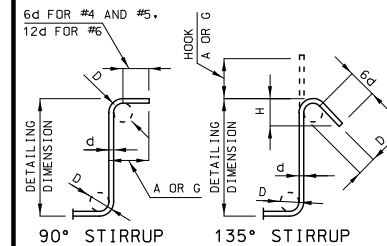
DATE PREPARED 8/12/2021	
ROUTE C	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY CRAWFORD	
JOB NO. J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. X02041	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

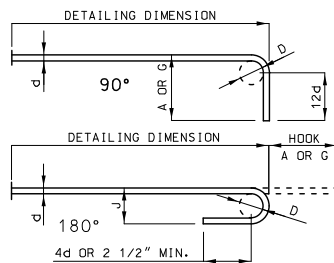
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

BILL OF REINFORCING STEEL

[illegible]

STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
		HOO K A OR G	HOO K A OR G	
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

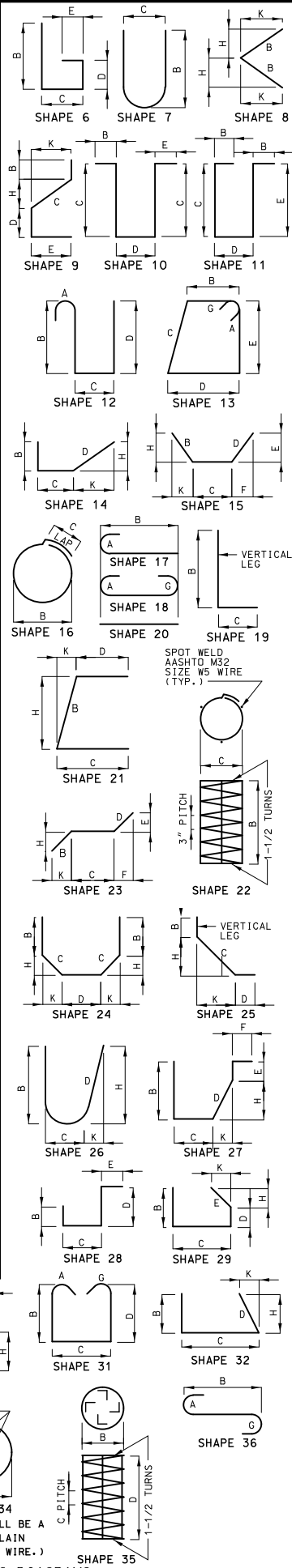
NOTE: UNLESS OTHERWISE NOTED, DIAMETER
"D" IS THE SAME FOR ALL BENDS AND HOOKS
ON A BAR.



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	ALL GRADES		
		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"
	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"	21'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

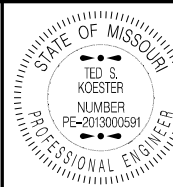
NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
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.

BILL OF REINFORCING STEEL

[illegible]Detailed July 2021
Checked Aug. 2021

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

Sheet No. 6 of 6



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY,

DATE PREPARED	
8/12/2021	
ROUTE	STATE
C	MO
DISTRICT	SHEET NO.
BR	6
COUNTY	
CRAWFORD	
JOB NO.	
J5S3346	
CONTRACT ID.	

PROJECT NO.
BRIDGE NO. X02041

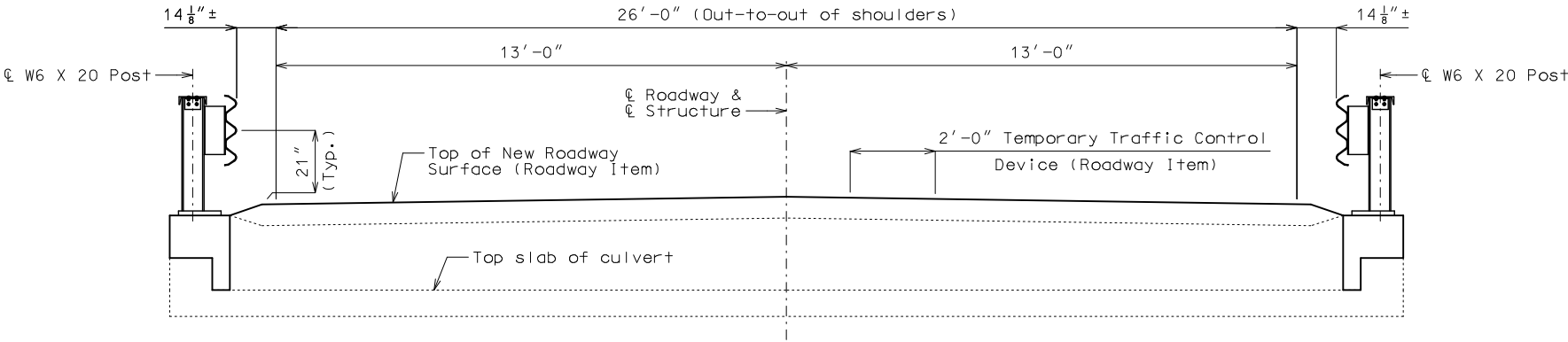
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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

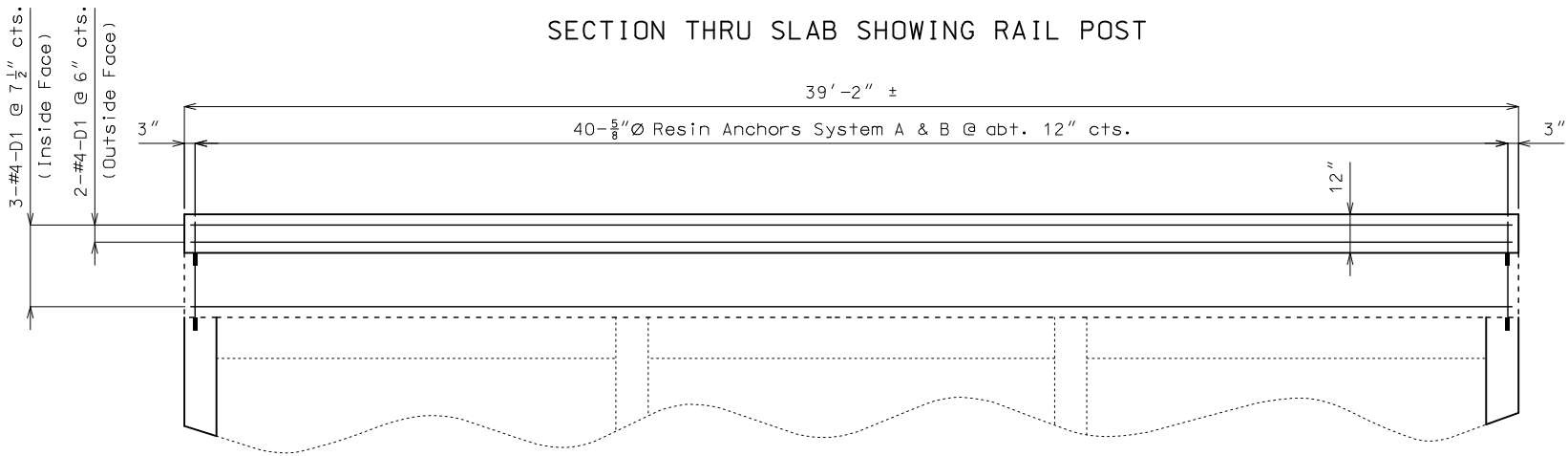
105 WEST CAPITOL
JEFFERSON CITY, MO 65102

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

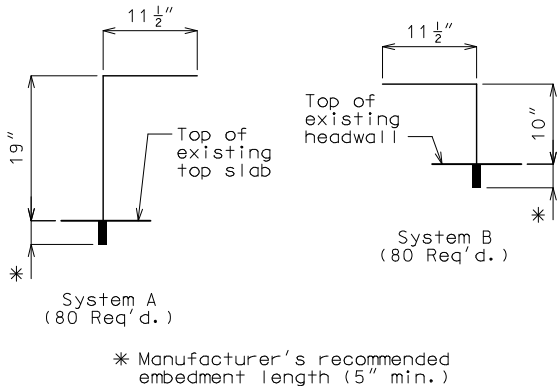
U.I.P. AND REHAB EXISTING 3(12' X 9.5') CONCRETE BOX CULVERT



SECTION THRU SLAB SHOWING RAIL POST



TYPICAL PART ELEVATION OF EXISTING BOX CULVERT SHOWING NEW HEADWALL REINFORCEMENT



DETAILS OF RESIN ANCHOR SYSTEMS

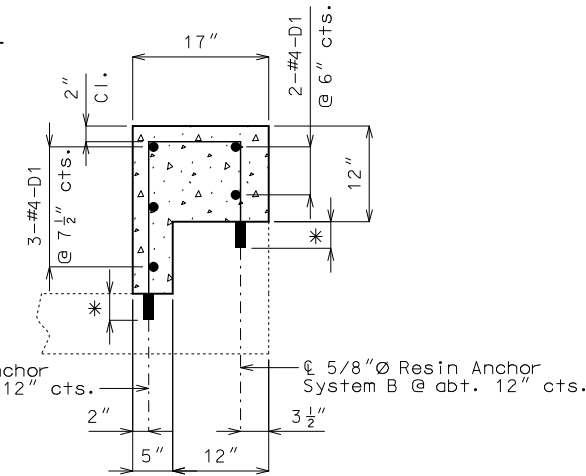
Notes:

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

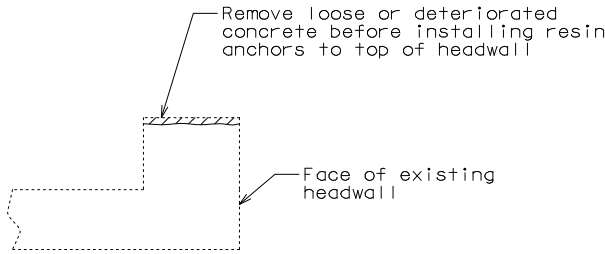
Cost of furnishing and installing the resin anchor systems for the headwall modification, complete in place, will be considered completely covered by the contract unit price for Headwall Modification.

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

A #5 Grade 60 reinforcing bar shall be substituted for the 5/8" threaded rod.



SECTION THRU HEADWALL SHOWING REINFORCEMENT



SECTION THRU EXISTING HEADWALL SHOWING CONCRETE REMOVAL

GENERAL NOTES:

Design Specifications:
2002 AASHTO LFD (17th Ed.) Standard Specifications

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

Standard Plans:
606.70

Miscellaneous:
Outline of existing work is indicated by light dashed lines.
Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

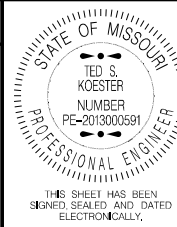
Bars banded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars. Unless otherwise noted.

Traffic Handling:
Traffic to be maintained on existing structure during construction. See roadway plans for traffic control.

Estimated Quantities		
Item		Total
Class B-1 Concrete (Culverts-Bridge)	cu. yard	4.7
Headwall Modification	linear foot	78
Reinforcing Steel (Culverts-Bridge)	pound	730
Bridge Guardrail (Thrie Beam)	linear foot	72

REPAIRS TO BRIDGE: ROUTE C OVER THREE MILE CREEK

ROUTE C FROM ROUTE P TO ROUTE I-44
ABOUT 0.3 MILES EAST OF ROUTE P
TIE STATION 425+93.67± (MATCH EXISTING)



DATE PREPARED 8/12/2021	
ROUTE C	STATE MO
DISTRICT BR	SHEET NO. 1
COUNTY CRAWFORD	
JOB NO. J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. X02051	

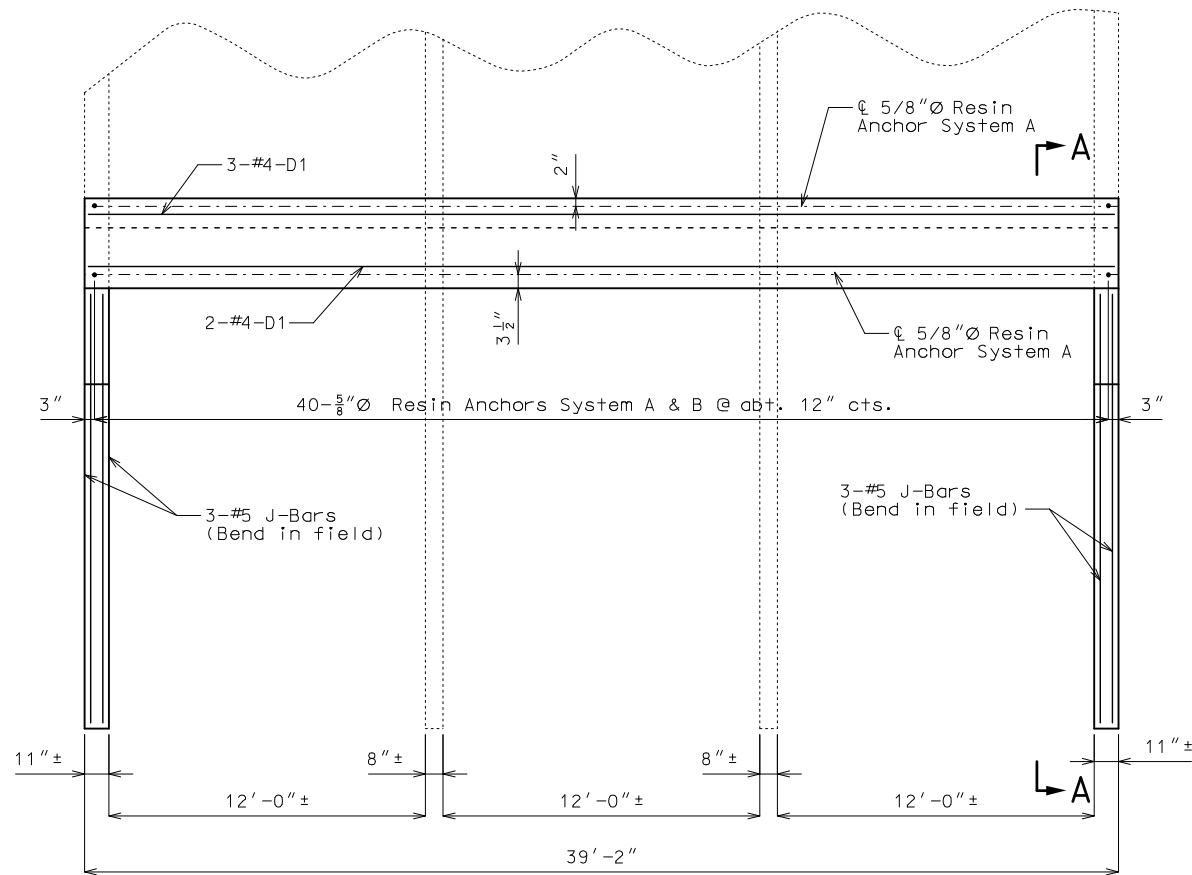
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

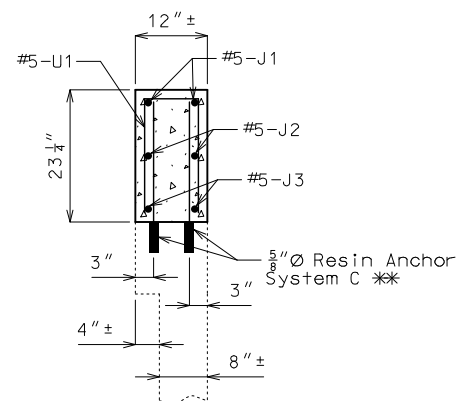
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MoDOT

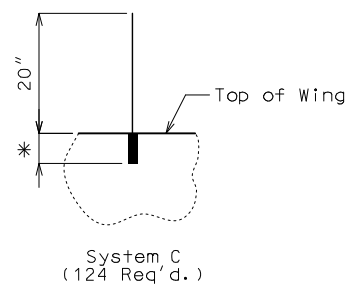
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PART PLAN SHOWING DOWNSTREAM EXTENSION
(Upstream extension similar by 180° rotation)

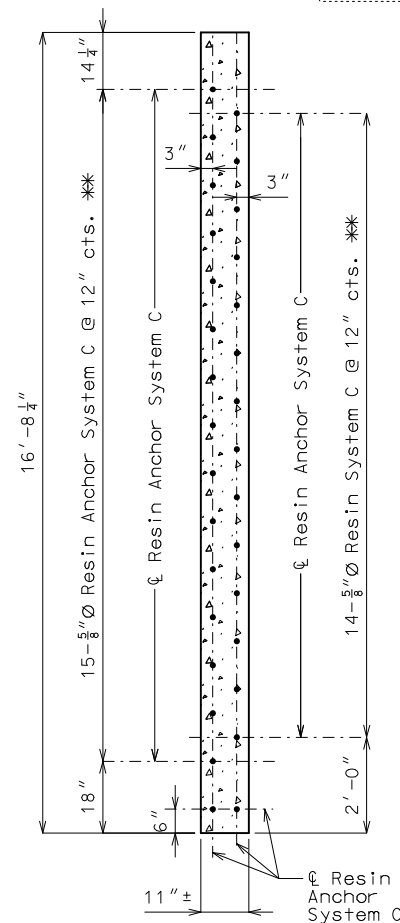


SECTION B-B

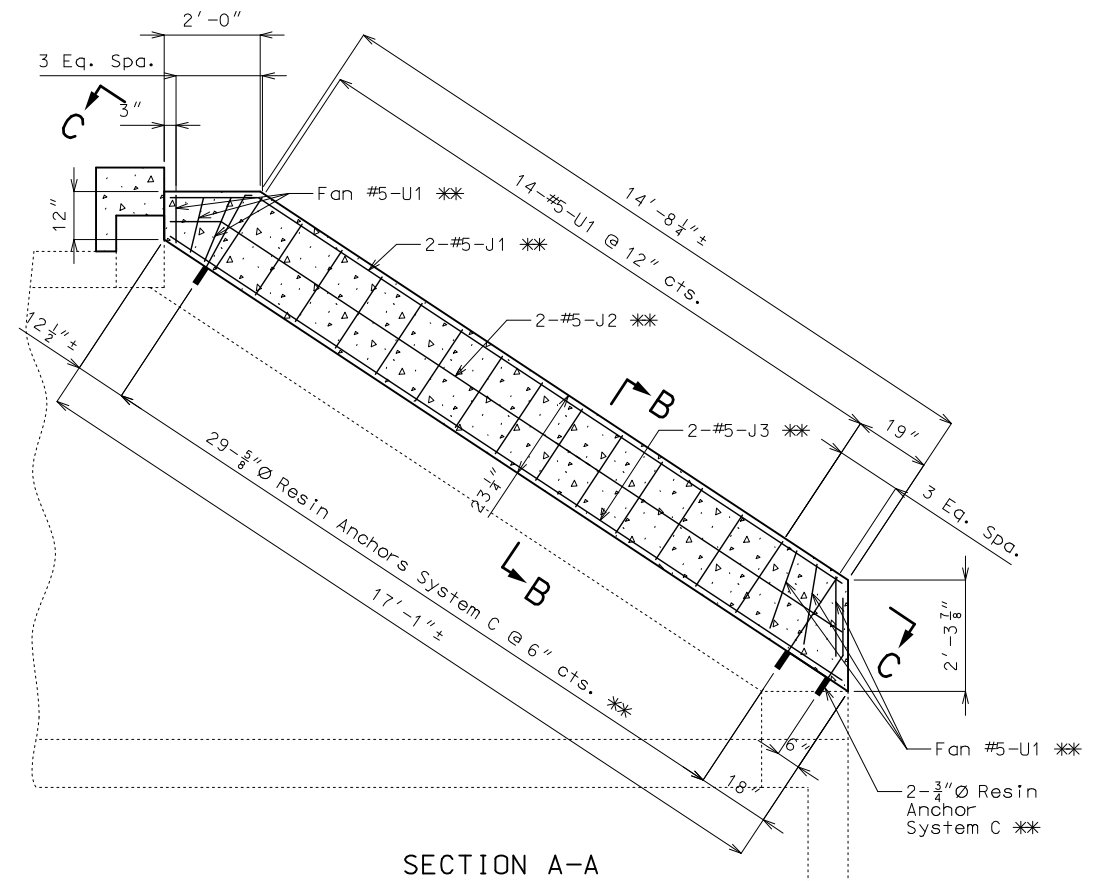


* Manufacturer's recommended embedment length (5" min.)

DETAILS OF RESIN ANCHOR SYSTEM C



SECTION C-C



SECTION A-A

Note: Headwall bars not shown for clarity.
** Bend in field to fit

Notes:

Concrete for wing extension shall be Class B-1.

Payment for wing extension concrete, complete in place, will be considered completely covered by the contract unit price for Class B-1 Concrete (Culverts-Bridge).

Payment for wing extension reinforcement, complete in place, will be considered completely covered by the contract unit price for Reinforcing Steel (Culverts-Bridge).

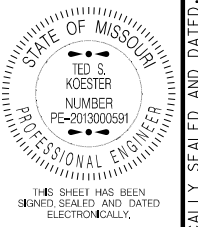
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems for the wing extensions, complete in place, will be considered completely covered by the contract unit price for Reinforcing Steel (Culverts-Bridge).

The minimum embedment depth in concrete with $f'_c = 4,000$ psi for the resin anchor systems 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.

For details of headwall extension, see Sheet No. 1.

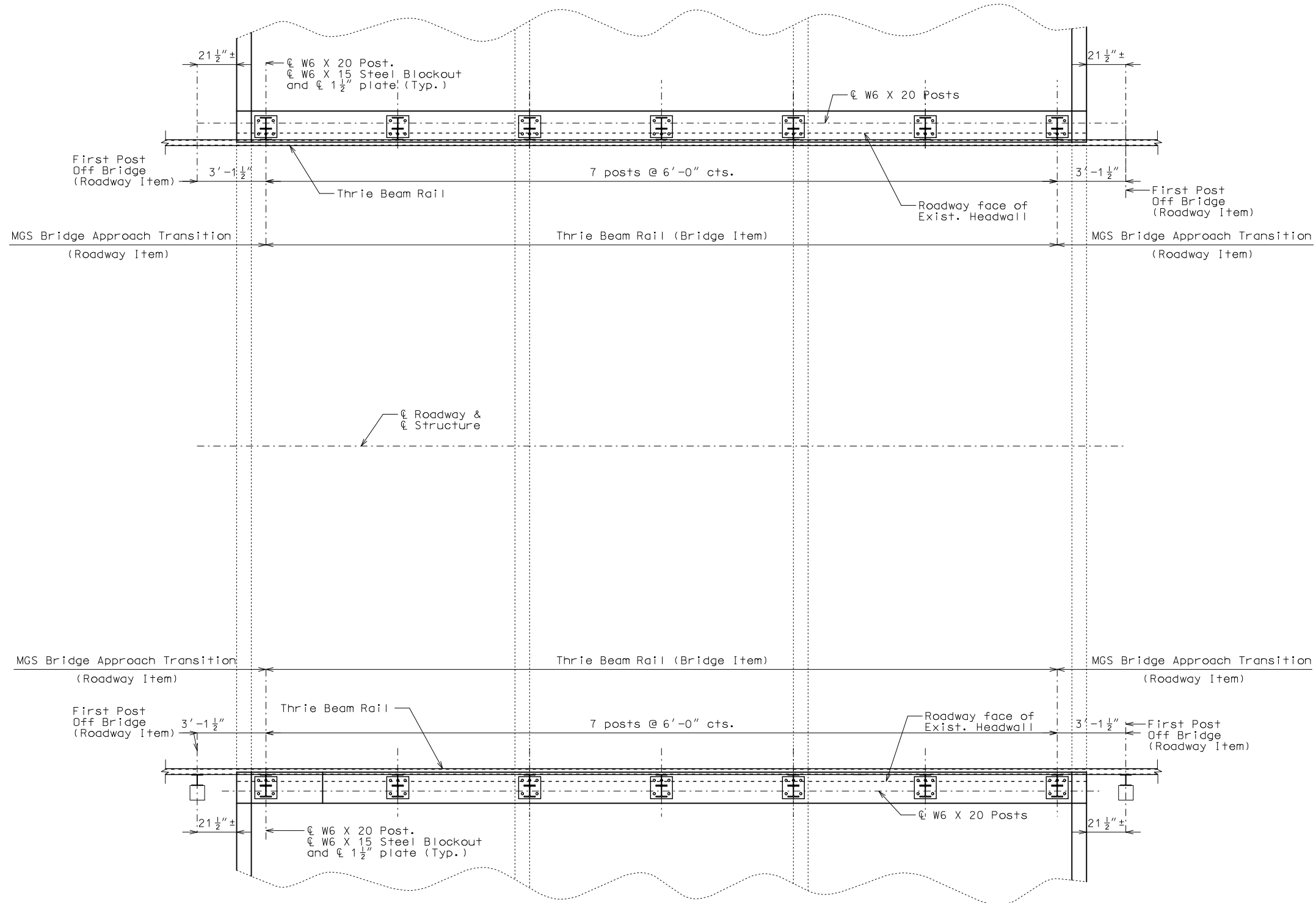


DATE PREPARED 8/12/2021	
ROUTE C	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY CRAWFORD	
JOB NO. J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. X02051	

DATE	DESCRIPTION

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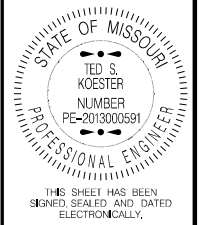
PART PLAN OF EXISTING CULVERT SHOWING RAIL POST SPACING
Cap rail channel not shown for clarity.

PART PLAN SHOWING RAIL POST SPACING

Notes:

Measurement of Bridge Guardrail (Thrie Beam) is to the nearest linear foot, measured along the roadway face of rail from center of first post to center of last post on culvert.

For Details of Rail Post, see Sheets No. 4 & 5.



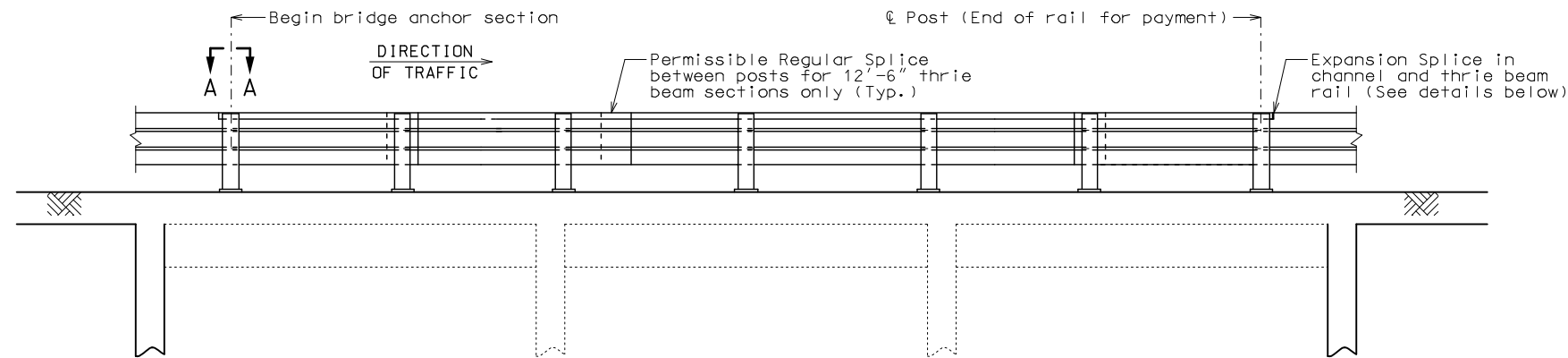
DATE PREPARED 8/12/2021	
ROUTE C	STATE MO
DISTRICT BR	SHEET NO. 3
COUNTY CRAWFORD	
JOB NO. J5S3346	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. X02051	

DESCRIPTION	DATE

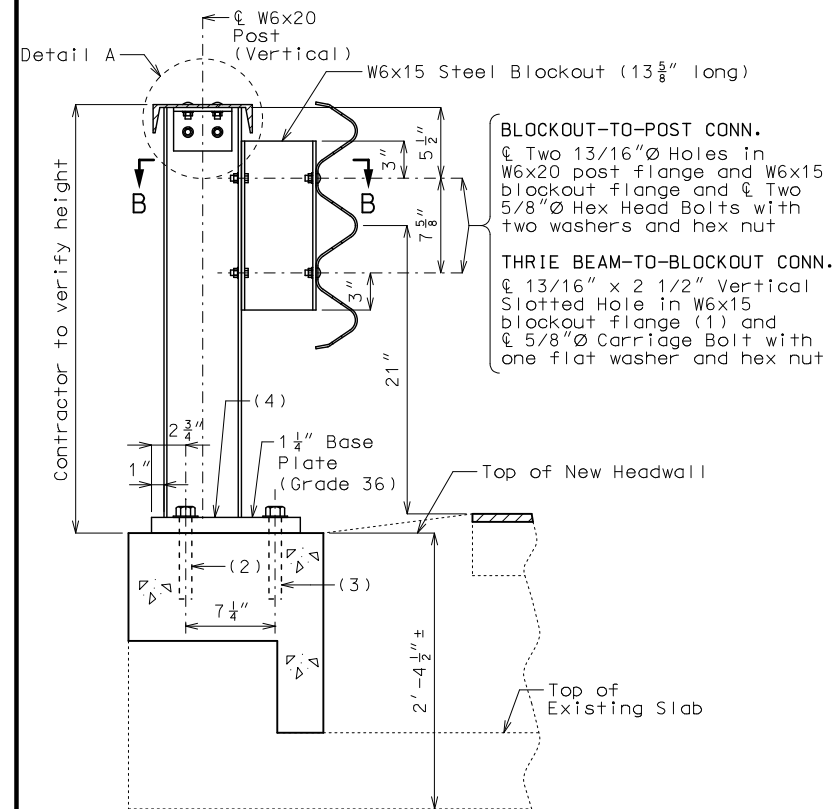
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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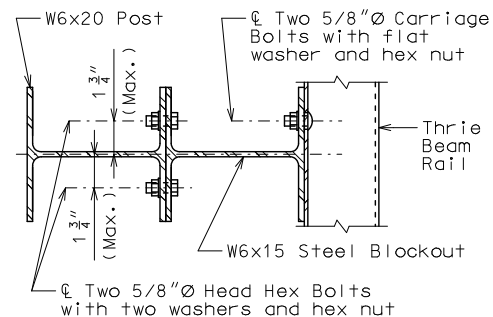
ELEVATION OF THRIE BEAM RAIL



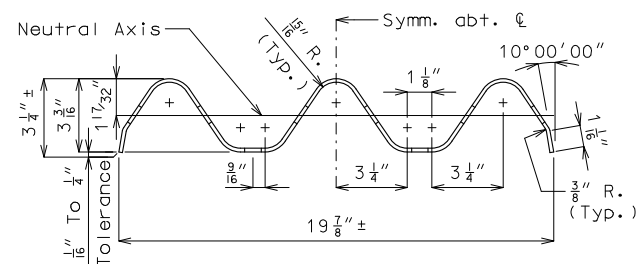
PART SECTION AT RAIL POST

See front sheet for rail post spacing.

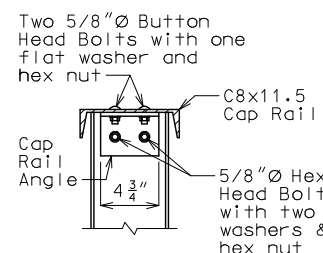
- (1) Required on one side of web only, but may be provided on both sides of web at the contractor's option.
- (2) \varnothing Two Resin Anchor Systems each to include:
 - 1 1/8" \varnothing (Min.) Drilled Hole in slab or as recommended by manufacturer
 - 1 1/4" \varnothing Hole in plate
 - 1" \varnothing A449 Type 1 Threaded Rod snug tight and embedded 8 inches in headwall
 - Hex Nut and 2 1/2" Hardened Locking Washer
- (3) \varnothing Three Resin Anchor Systems each to include:
 - 1 1/8" \varnothing (Min.) Drilled Hole in slab or as recommended by manufacturer
 - 1 1/4" \varnothing Hole in plate
 - 1" \varnothing A449 Type 1 Threaded Rod snug tight and embedded 8 inches in headwall
 - Hex Nut and 2 1/2" Hardened Locking Washer
- (4) Bevel bottom of post (slope 2% or slab elevation).



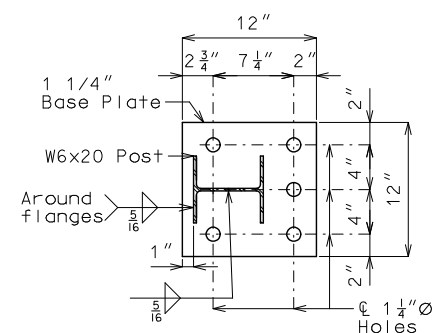
SECTION B-B



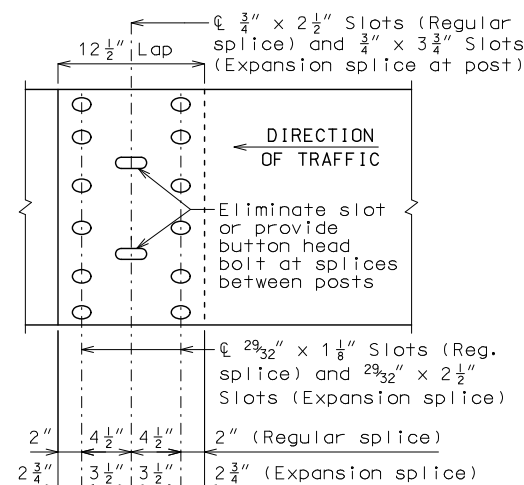
SECTION THRU THRIE BEAM RAIL



DETAIL A



BASE PLATE



THRIE BEAM RAIL SPLICE

General Notes:

Design Specifications: 2002 AASHTO LFD (17th Ed.)
Standard Specifications

Guardrail delineators shall be attached to the top of the guardrail and shall similarly use the delineator details of Missouri Standard Plan 617.10, except that the delineator body shall be attached to the top of the cap rail using galvanized anchorage as shown on Missouri Standard Plan 606.00. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Guardrail delineators will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

Panel lengths of channel members shall be attached continuously to a minimum of four posts and a maximum of six posts (except at end bents).

All bolts, nuts, washers, plates and elastomeric material will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

All steel connecting bolts and fasteners for posts and railing, and all anchor bolts, nuts, washers and plates shall be galvanized after fabrication. Protective coating and material requirement of steel railing shall be in accordance with Sec 1040.

Rail posts shall be set perpendicular to roadway profile grade, vertically in cross section and aligned in accordance with Sec 713 except that the rail posts shall be aligned by the use of 3 x 1 3/4-inch shims such that the post deviates not more than 1/2 inch from true horizontal alignment after final adjustment. The shims shall be placed between the blockout and the thrie beam rail. The thickness of the shims shall be determined by the contractor and verified by the engineer before ordering material for this work.

Rail posts shall be seated on 1/16-inch elastomeric pads having the same dimensions as the post base plate. Such pads may be any elastomeric material, plain or fibered, having a hardness (durometer) of 50 or above, as certified by the manufacturer. Additional pads or half pads may be used in shimming for alignment. Post heights shown will increase by the thickness of the pad.

At the expansion slots in the thrie beam rails and channels, the bolts shall be tightened and backed off one-half turn and the threads shall be burred.

Minimum length of thrie beam sections is equal to one post space.

A 5/8-inch diameter button-head, oval shoulder bolt with a minimum 3/8-inch thick hex nut shall be used at all slots.

Thrie beam guardrail on the bridge shall be 12-gauge steel.

Posts, cap rail angles, base plates, channels and channel splice plates shall be fabricated from ASTM A709 Grade 36 steel and galvanized.

Flat washers 3 x 1 3/4 x 3/16-inch minimum shall be used at all post bolts between the bolt head and beam. The washers shall be rectangular in shape with an 11/16 x 1-inch slot, or when necessary of such design as to fit the contour of the beam. Rectangular washers 3 x 1 3/4 x 5/8-inch shall be used between the blockout and the thrie beam rail.

Special drilling of the thrie beam may be required at the splices. All drilling details shall be shown on the shop drawings.

Fabrication of structural steel shall be in accordance with Sec 1080.

Expansion splices in the thrie beam rail shall be made at either the first or second post on either side of the joint and on structure at bridge ends. When the splice is made at the second post, an expansion slot shall be provided in the thrie beam rail for connection to the first post to allow for movement.

In addition to the expansion provisions at the expansion joints, expansion splices in the thrie beam rail and the channel shall be provided at other locations so that the maximum length without expansion provisions does not exceed 200 feet.

Shim plates 6 x 6 x 1/16-inch may be used between the top of the post and the channel member as required for vertical alignment.

Shim plates shall be galvanized after fabrication.

See Missouri Standard Plan 606.00 for details not shown.

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ROUTE C	STATE MO
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COUNTY CRAWFORD	
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DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	

