DESIGN DESIGNATION

A.A.D.T. – 2017 = 25160
A.A.D.T. – 2037 = 31690
D.H.V. = 8%
T = 37%
V = 70 M.P.H.

FUNCTIONAL CLASSIFICATION – INTERSTATE

NO RIGHT OF ACCESS R/W
FULLY CONTROLLED ACCESS R/W
NORMAL R/W

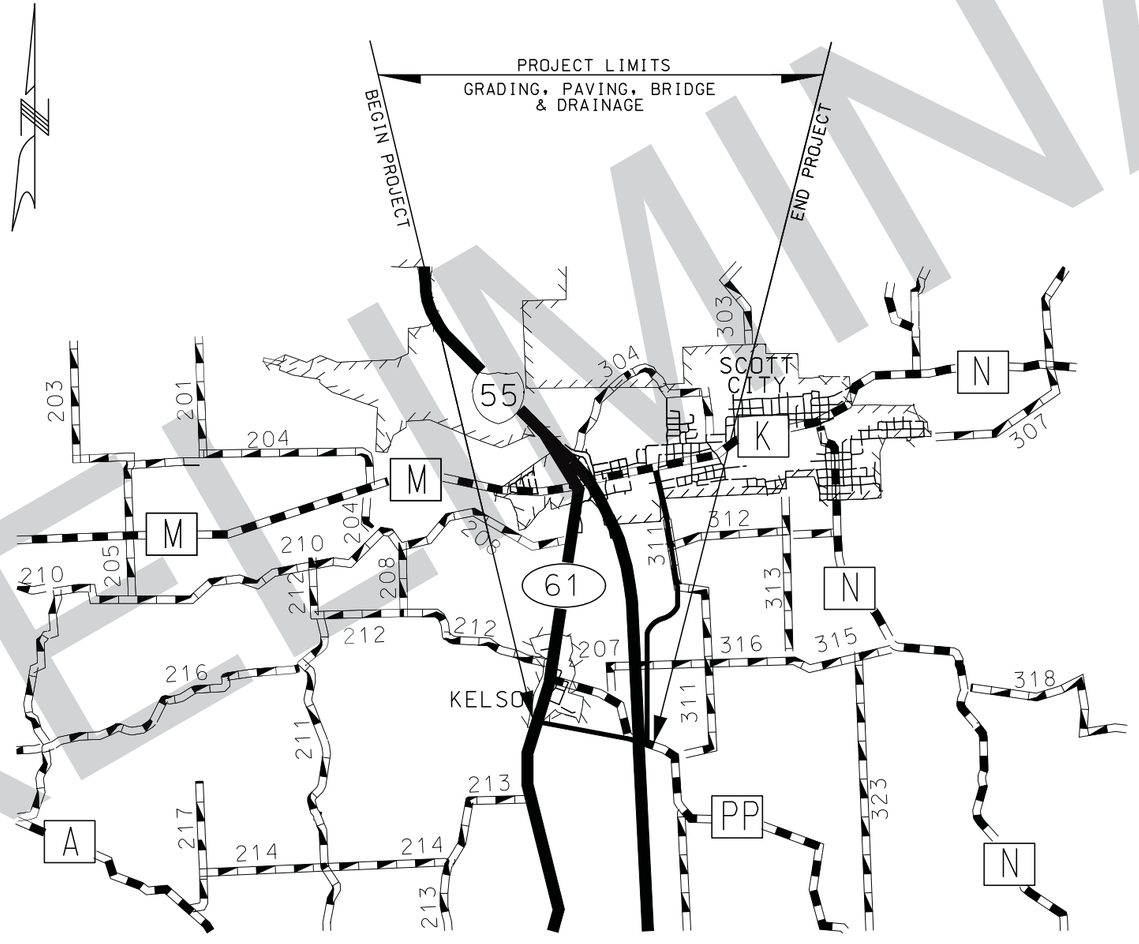
CONVENTIONAL SYMBOLS
(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	–FO–	FO
OVERHEAD TELEPHONE		
UNDERGROUND TELEPHONE	–T–	T
OVERHEAD POWER		
UNDERGROUND POWER	–P–	P
GAS	–G–	G
WATER	–W–	W
MANHOLE	SAN	
FIRE HYDRANT	HYD	
WATER VALVE	WV	
WATER METER	WM	
DROP INLET	DI	
DITCH BLOCK		
GROUND MOUNTED SIGN	SIGN	
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	
FENCE		
CHAIN LINK	V	
WOVEN WIRE	X	
GATE POST		
BENCHMARK	BM	

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PRELIMINARY PLANS FOR PROPOSED STATE HIGHWAY

SCOTT COUNTY



INDEX OF SHEETS

LENGTH OF PROJECT

I-55

BEGINNING OF PROJECT	STA.	295 + 06.08	
END OF PROJECT	STA.	318 + 23.09	FEET
APPARENT LENGTH		2317.01	

ROUTE 61

BEGINNING OF PROJECT	STA.	0 + 00.00	
END OF PROJECT	STA.	53 + 32.52	
APPARENT LENGTH		5332.52	FEET

OUTER ROAD E

BEGINNING OF PROJECT	STA.	0 + 00.00	
END OF PROJECT	STA.	125 + 00.17	
APPARENT LENGTH		12500.17	FEET

NEW CO RD

BEGINNING OF PROJECT	STA.	0 + 00.00	
END OF PROJECT	STA.	8 + 47.04	
APPARENT LENGTH		847.04	FEET

ROUTE PP

BEGINNING OF PROJECT	STA.	58 + 57.60	
END OF PROJECT	STA.	67 + 63.37	
APPARENT LENGTH		905.77	FEET

OUTER ROAD W

BEGINNING OF PROJECT	STA.	0 + 00.00	
END OF PROJECT	STA.	16 + 30.44	
APPARENT LENGTH		1630.44	FEET

ROSE CON CONN

BEGINNING OF PROJECT	STA.	0 + 00.00	
END OF PROJECT	STA.	4 + 98.21	
APPARENT LENGTH		498.21	FEET

EQUATIONS AND EXCEPTIONS:

TOTAL CORRECTIONS	24031.16	FEET
NET LENGTH OF PROJECT	24031.16	FEET
STATE LENGTH	4.551	MILES

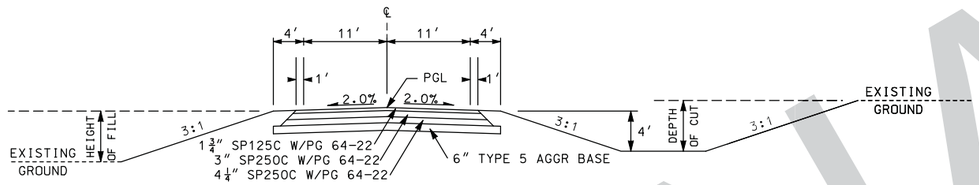
DATE PREPARED 3/30/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 1
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

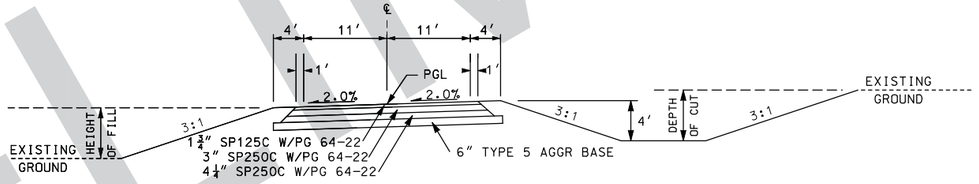
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

NOTE: THE DESIGN GUIDE FOR THE WIDTH OF RIGHT OF WAY FOR THIS PROJECT WILL BE 120 FEET. MORE OR LESS RIGHT OF WAY MAY BE SECURED TO SATISFY THE REQUIREMENTS OF THE DESIGN FEATURES OF THIS HIGHWAY. FULLY CONTROLLED ACCESS RIGHT OF WAY IS TO BE ACQUIRED FOR THIS PROJECT.



SECTION ON TANGENT
WEST OUTER ROAD/NEW CO RD/BUS 61/CO RD 311
STA 0+22.00 TO STA 0+68.00 (WEST OUTER ROAD)
STA 0+00.00 TO STA 8+17.59 (NEW CO RD)
STA 0+00.00 TO STA 2+58.21 (BUS 61)
STA 0+12.00 TO STA 2+17.89 (CO RD 311)



SECTION ON SUPERELEVATED CURVE
WEST OUTER ROAD/NEW CO RD/BUS 61/CO RD 311
STA 0+22.00 TO STA 0+68.00 (WEST OUTER ROAD)
STA 0+00.00 TO STA 8+17.59 (NEW CO RD)
STA 0+00.00 TO STA 2+58.21 (BUS 61)
STA 0+12.00 TO STA 2+17.89 (CO RD 311)

TYPICAL SECTION
ALTERNATE G
WOR/NEW CO RD/BUS 61/CO RD 311
SHEET 1 OF 10
DRAWING NOT TO SCALE

DATE PREPARED
4/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
SCOTT

JOB NO.
J0I0956

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)

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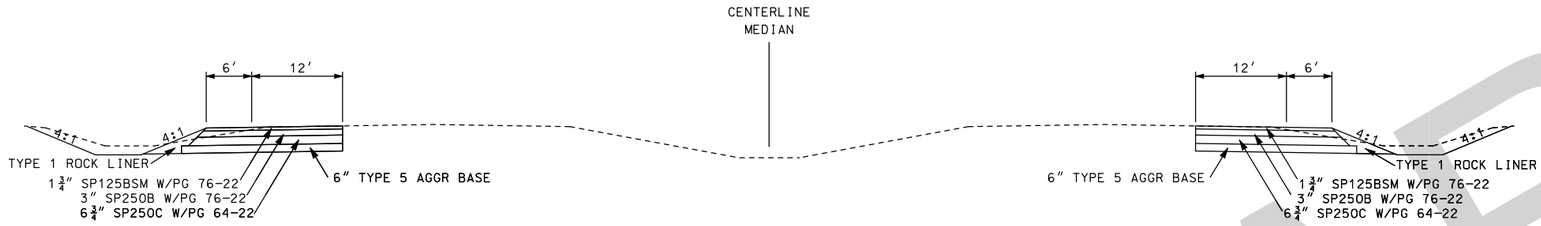
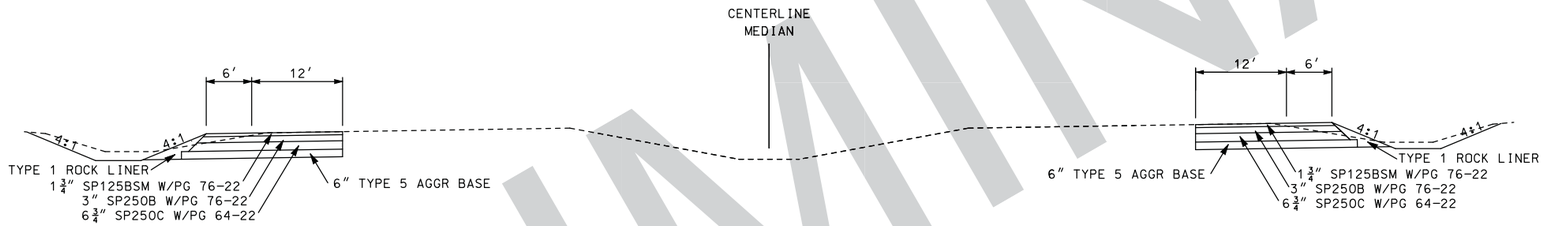


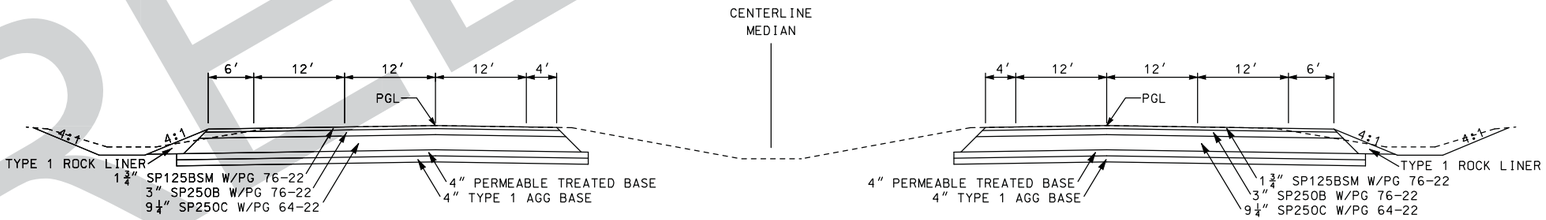
SECTION ON TANGENT
I-55/ACCEL/DECEL LANES

STA 288+63.40 TO STA 319+32.89 (NBL)
STA 321+96.82 TO STA 324+23.10 (NBL)
STA 289+06.09 TO STA 319+89.48 (SBL)
STA 322+53.10 TO STA 324+62.18 (SBL)



SECTION ON SUPERELEVATION
I-55/ACCEL/DECEL LANES

STA 288+63.40 TO STA 319+32.89 (NBL)
STA 321+96.82 TO STA 324+23.10 (NBL)
STA 289+06.09 TO STA 319+89.48 (SBL)
STA 322+53.10 TO STA 324+62.18 (SBL)



SECTION ON TANGENT
NEW I-55*

STA 319+32.89 TO STA 319+88.31 (NBL)
STA 321+72.58 TO STA 321+96.82 (NBL)
STA 319+89.48 TO STA 320+13.72 (SBL)
STA 322+20.78 TO STA 322+53.11 (SBL)

* NOTE:

OPTIONAL ALTERNATE A PAVEMENT
1¾″ SP125BSM W/PG 76-22
3″ SP250B W/PG 76-22
8¼″ SP250C W/PG 64-22

OPTIONAL BASE TYPE
12″ ROCK BASE

TYPICAL SECTION
ALTERNATE A
I-55
SHEET 2 OF 10
DRAWING NOT TO SCALE

DATE PREPARED
4/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

REV.

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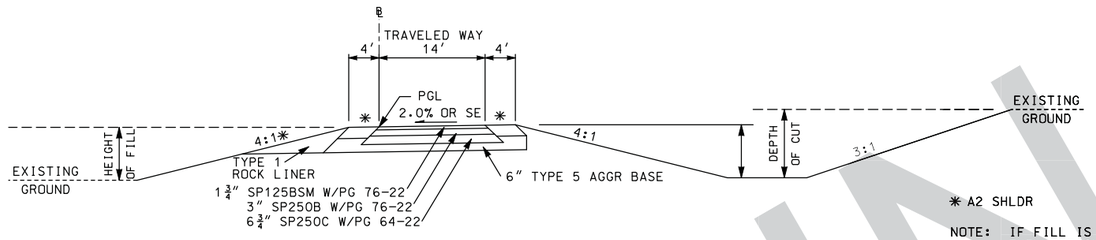


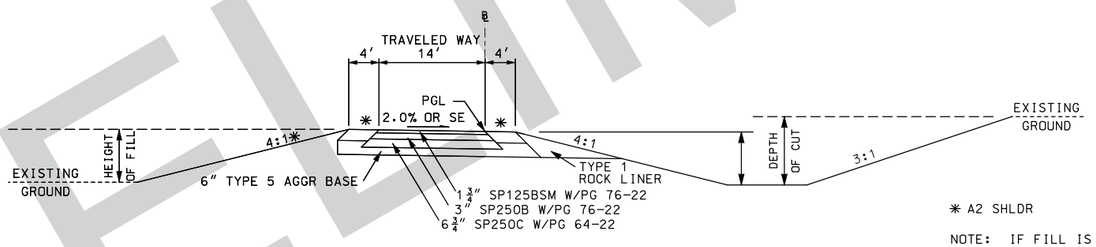
SECTION ON SUPERELEVATED CURVE
RAMPS 1, 2, 3 & 4

STA 0+00.00 TO STA 11+59.91 (RAMP 1)
STA 0+00.00 TO STA 10+20.39 (RAMP 2)
STA 0+22.00 TO STA 10+20.39 (RAMP 3)
STA 0+29.45 TO STA 11+86.34 (RAMP 4)

* A2 SHLDR

NOTE: IF FILL IS OVER 6.5′ DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 30′ FROM EDGE OF TRAVELWAY.

FULL DEPTH SHOULDERS CAN BE USED INSTEAD OF THE A2 SHOULDERS TO AID IN REDUCING THE NUMBER OF OPERATIONS WHILE PAVING. REGARDLESS OF WHAT IS USED IT WILL BE PAID AS A2 SHOULDER.



SECTION ON SUPERELEVATED CURVE
RAMPS 1, 2, 3 & 4

STA 0+00.00 TO STA 11+59.91 (RAMP 1)
STA 0+00.00 TO STA 10+20.39 (RAMP 2)
STA 0+22.00 TO STA 10+20.39 (RAMP 3)
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FULL DEPTH SHOULDERS CAN BE USED INSTEAD OF THE A2 SHOULDERS TO AID IN REDUCING THE NUMBER OF OPERATIONS WHILE PAVING. REGARDLESS OF WHAT IS USED IT WILL BE PAID AS A2 SHOULDER.

TYPICAL SECTION
ALTERNATE A
RAMPS
SHEET 3 OF 10
DRAWING NOT TO SCALE

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

DATE PREPARED 4/10/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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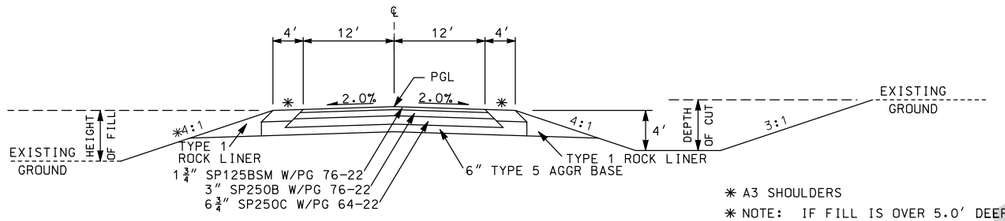
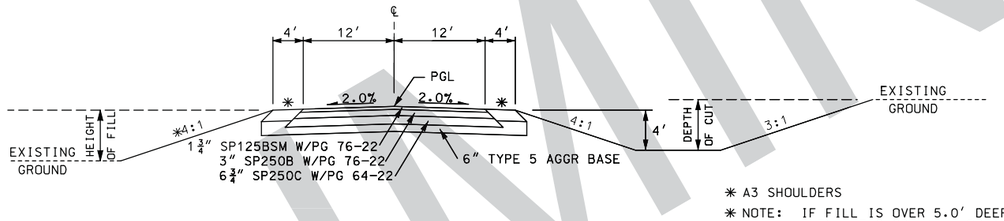


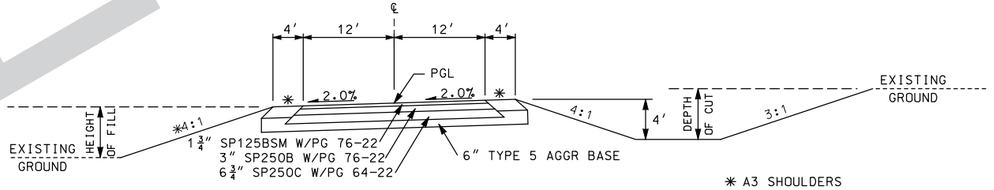
* A3 SHOULDERS
* NOTE: IF FILL IS OVER 5.0′ DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 24′ FROM EDGE OF TRAVELWAY.

SECTION ON TANGENT
RTE 61
STA 40+00.00 TO STA 55+00.00



* A3 SHOULDERS
* NOTE: IF FILL IS OVER 5.0′ DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 24′ FROM EDGE OF TRAVELWAY.

SECTION ON TANGENT
RTE 61
STA 0+00.00 TO STA 40+00.00
STA 55+00.00 TO STA 61+67.92



* A3 SHOULDERS
* NOTE: IF FILL IS OVER 5.0′ DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 24′ FROM EDGE OF TRAVELWAY.

SECTION ON SUPERELEVATED CURVE
RTE 61
STA 0+00.00 TO STA 40+00.00
STA 55+00.00 TO STA 61+67.92

TYPICAL SECTION
ALTERNATE E
RTE 61
SHEET 4 OF 10
DRAWING NOT TO SCALE

DATE PREPARED 4/10/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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105 WEST CAPITOL
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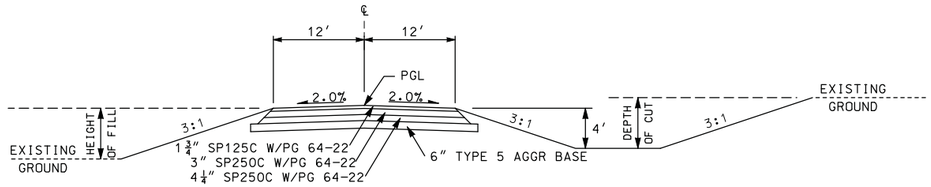
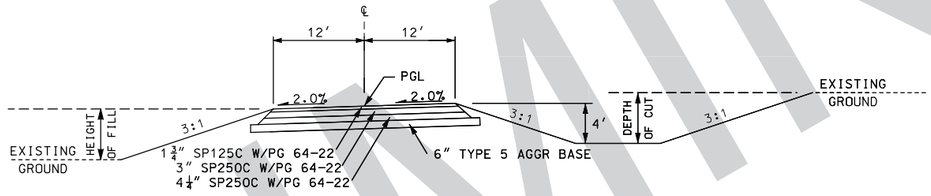
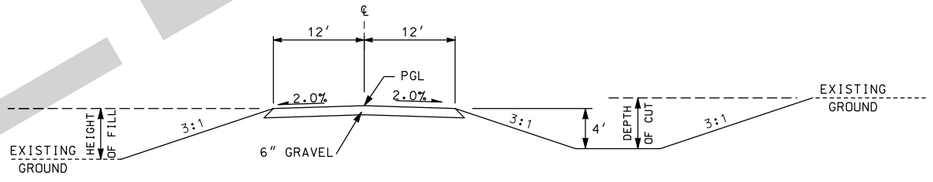


SECTION ON TANGENT
WEST OUTER ROAD
PAVED SECTION
STA 0+22.00 TO STA 0+68.00



SECTION ON SUPERELEVATED CURVE
WEST OUTER ROAD
PAVED SECTION
STA 0+22.00 TO STA 0+68.00



SECTION ON TANGENT
WEST OUTER ROAD
GRAVEL SECTION
STA 0+68.00 TO STA 16+30.44

TYPICAL SECTION
ALTERNATE G
WEST OUTER ROAD
SHEET 5 OF 10
DRAWING NOT TO SCALE

DATE PREPARED
4/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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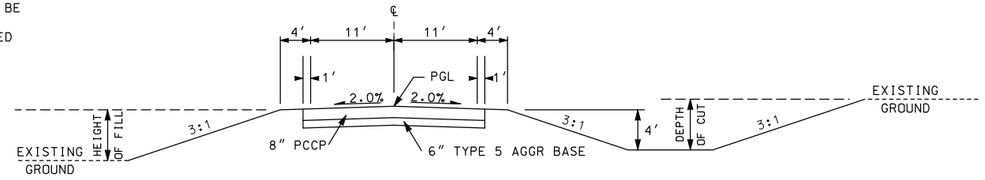
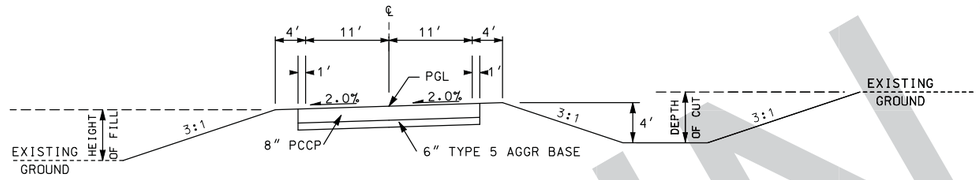


SECTION ON TANGENT
WEST OUTER ROAD/NEW CO RD/BUS 61/CO RD 311

STA 0+22.00 TO STA 0+68.00 (WEST OUTER ROAD)
STA 0+00.00 TO STA 8+17.59 (NEW CO RD)
STA 0+00.00 TO STA 2+58.21 (BUS 61)
STA 0+12.00 TO STA 2+17.89 (CO RD 311)



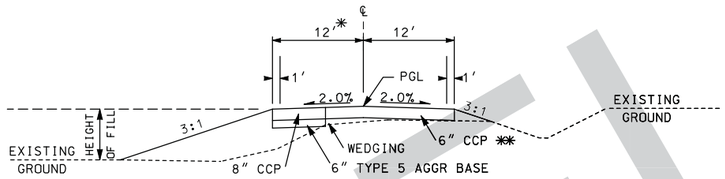
SECTION ON SUPERELEVATED CURVE
WEST OUTER ROAD/NEW CO RD/BUS 61/CO RD 311

STA 0+22.00 TO STA 0+68.00 (WEST OUTER ROAD)
STA 0+00.00 TO STA 8+17.59 (NEW CO RD)
STA 0+00.00 TO STA 2+58.21 (BUS 61)
STA 0+12.00 TO STA 2+17.89 (CO RD 311)

✱✱ NOTE: 8″ CCP CAN BE USED INSTEAD OF THE 6″ CCP TO AID IN STAGING OPERATIONS. REGARDLESS OF WHAT THICKNESS OF OVERLAY IS USED IT WILL BE PAID FOR AS THE 6″ THICKNESS.

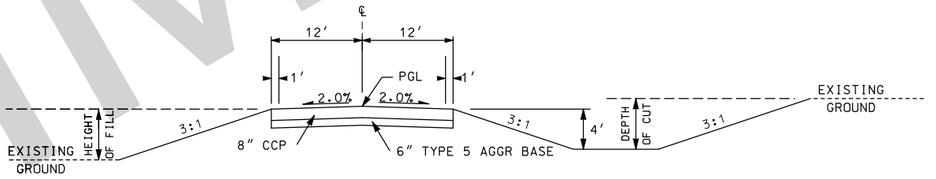
MODOT IS PILOTING CCP IN THIS PROJECT. AS A RESULT THE EAST OUTER ROAD SHALL BE BUILT WITH CCP. ALTERNATE PAVEMENT WILL NOT BE USED TO BUILD THE EAST OUTER ROAD.

✱ NOTE: STA 0+00.00 TO STA 19+73.63 WIDEN TO THE LEFT.
STA 19+73.63 TO STA 20+59.24 WIDEN BOTH SIDES.
STA 20+59.24 TO STA 39+99.99 WIDEN TO THE RIGHT.



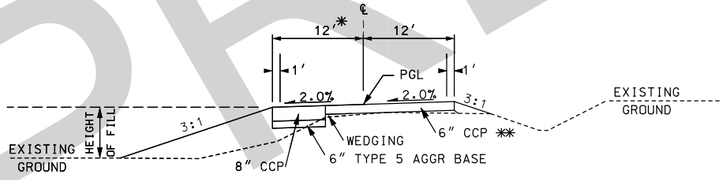
SECTION ON TANGENT
EAST OUTER ROAD WIDENING SECTION

STA 0+00.00 TO STA 39+99.99



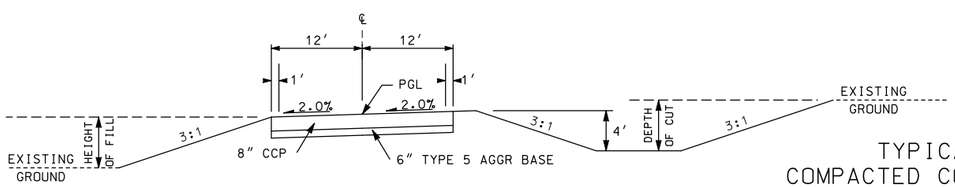
SECTION ON TANGENT
EAST OUTER ROAD

STA 39+99.99 TO STA 124+70.72



SECTION ON SUPERELEVATED CURVE
EAST OUTER ROAD WIDENING SECTION

STA 0+00.00 TO STA 39+99.99



SECTION ON SUPERELEVATED CURVE
EAST OUTER ROAD

STA 39+99.99 TO STA 124+70.72

TYPICAL SECTION
COMPACTED CONCRETE PAVEMENT
EAST OUTER ROAD

TYPICAL SECTION
ALTERNATE H
WOR/NEW CO RD/BUS 61/CO RD 311
SHEET 6 OF 10

DRAWING NOT TO SCALE

DATE PREPARED 4/10/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
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)

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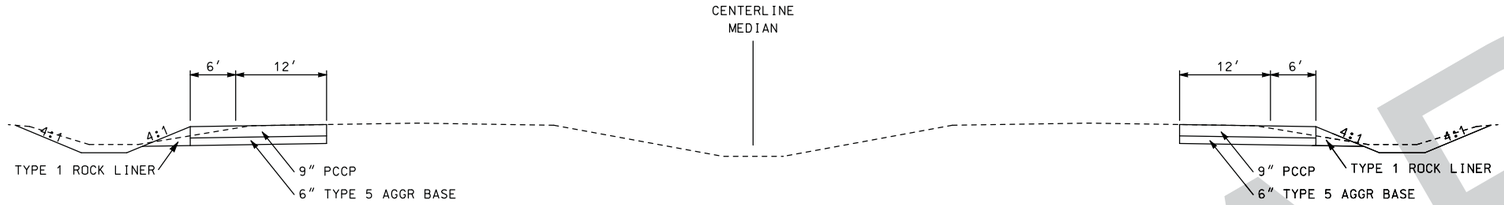
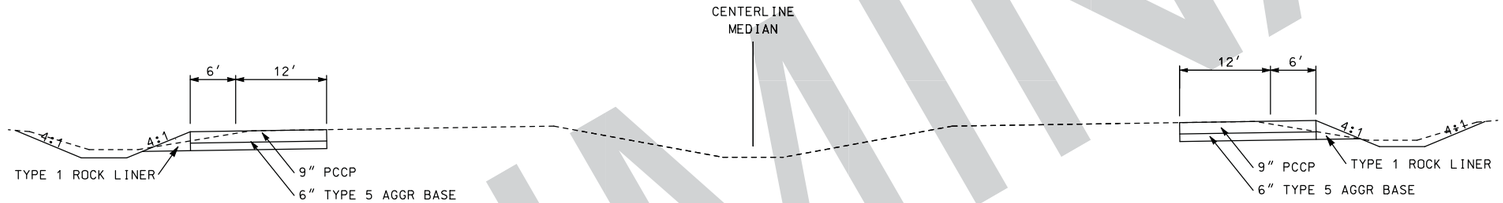


SECTION ON TANGENT
I-55/ACCEL/DECEL LANES

STA 288+63.40 TO STA 319+32.89 (NBL)
STA 321+96.82 TO STA 324+23.10 (NBL)
STA 289+06.09 TO STA 319+89.48 (SBL)
STA 322+53.10 TO STA 324+62.18 (SBL)



SECTION ON SUPERELEVATION
I-55/ACCEL/DECEL LANES

STA 288+63.40 TO STA 319+32.89 (NBL)
STA 321+96.82 TO STA 324+23.10 (NBL)
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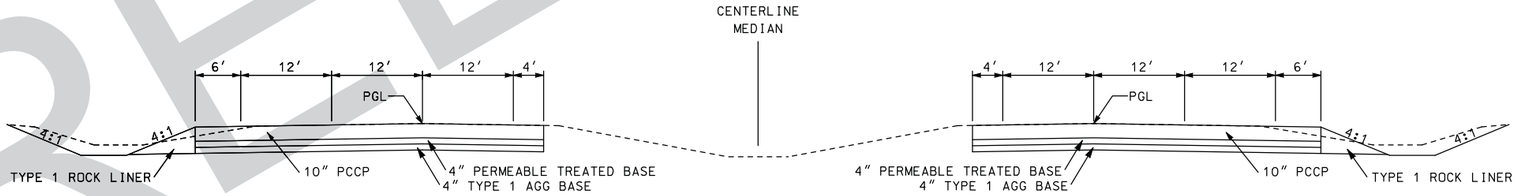


SECTION ON TANGENT
NEW I-55*

STA 319+32.89 TO STA 319+88.31 (NBL)
STA 321+72.58 TO STA 321+96.82 (NBL)
STA 319+89.48 TO STA 320+13.72 (SBL)
STA 322+20.78 TO STA 322+53.11 (SBL)

* NOTE:

OPTIONAL BASE TYPE
12″ ROCK BASE

TYPICAL SECTION
ALTERNATE B
ACCEL/DECEL LANES
SHEET 7 OF 10
DRAWING NOT TO SCALE

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

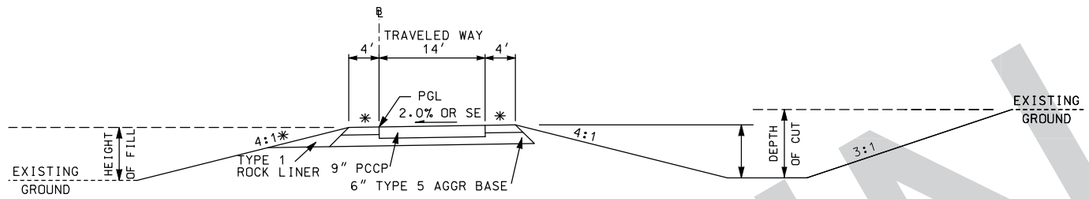
DATE PREPARED 4/10/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

REV.

NOTE: THE DESIGN GUIDE FOR THE WIDTH OF RIGHT OF WAY FOR THIS PROJECT WILL BE 120 FEET. MORE OR LESS RIGHT OF WAY MAY BE SECURED TO SATISFY THE REQUIREMENTS OF THE DESIGN FEATURES OF THIS HIGHWAY. FULLY CONTROLLED ACCESS RIGHT OF WAY IS TO BE ACQUIRED FOR THIS PROJECT.



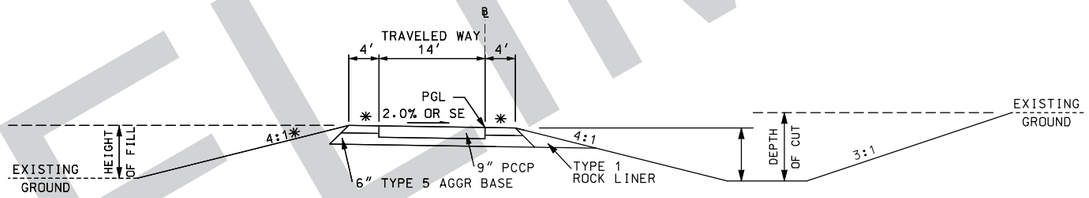
SECTION ON SUPERELEVATED CURVE
RAMPS 1, 2, 3 & 4

STA 0+00.00 TO STA 11+59.91 (RAMP 1)
STA 0+00.00 TO STA 10+20.39 (RAMP 2)
STA 0+22.00 TO STA 10+20.39 (RAMP 3)
STA 0+29.45 TP STA 11+86.34 (RAMP 4)

* A2 SHLDR

NOTE: IF FILL IS OVER 6.5' DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 30' FROM EDGE OF TRAVELWAY.

FULL DEPTH SHOULDERS CAN BE USED INSTEAD OF THE A2 SHOULDERS TO AID IN REDUCING THE NUMBER OF OPERATIONS WHILE PAVING. REGARDLESS OF WHAT IS USED IT WILL BE PAID AS A2 SHOULDER.



SECTION ON SUPERELEVATED CURVE
RAMPS 1, 2, 3 & 4

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* A2 SHLDR

NOTE: IF FILL IS OVER 6.5' DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 30' FROM EDGE OF TRAVELWAY.

FULL DEPTH SHOULDERS CAN BE USED INSTEAD OF THE A2 SHOULDERS TO AID IN REDUCING THE NUMBER OF OPERATIONS WHILE PAVING. REGARDLESS OF WHAT IS USED IT WILL BE PAID AS A2 SHOULDER.

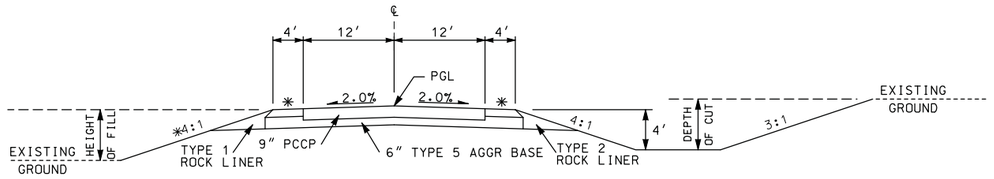
TYPICAL SECTION
ALTERNATE B
RAMPS
SHEET 8 OF 10
DRAWING NOT TO SCALE

DATE PREPARED 4/10/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

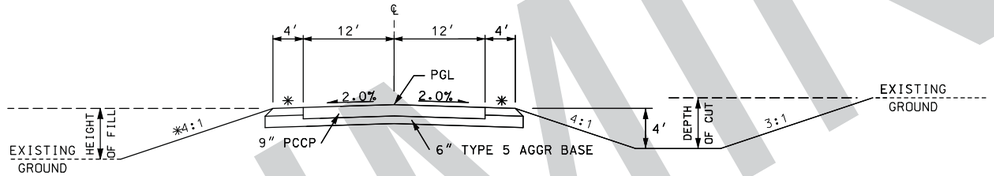
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

NOTE: THE DESIGN GUIDE FOR THE WIDTH OF RIGHT OF WAY FOR THIS PROJECT WILL BE 120 FEET. MORE OR LESS RIGHT OF WAY MAY BE SECURED TO SATISFY THE REQUIREMENTS OF THE DESIGN FEATURES OF THIS HIGHWAY. FULLY CONTROLLED ACCESS RIGHT OF WAY IS TO BE ACQUIRED FOR THIS PROJECT.



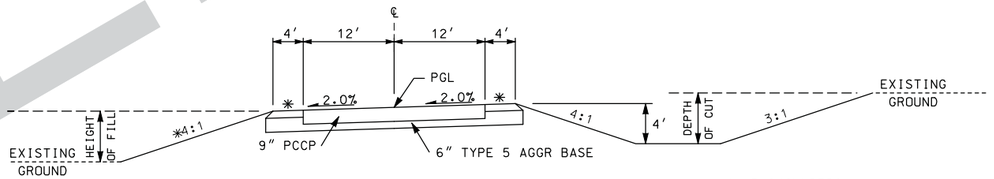
* A3 SHOULDERS
* NOTE: IF FILL IS OVER 5.0′ DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 24′ FROM EDGE OF TRAVELWAY.

SECTION ON TANGENT
RTE 61
STA 40+00.00 TO STA 55+00.00



* A3 SHOULDERS
* NOTE: IF FILL IS OVER 5.0′ DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 24′ FROM EDGE OF TRAVELWAY.

SECTION ON TANGENT
RTE 61
STA 0+00.00 TO STA 40+00.00
STA 55+00.00 TO STA 61+67.92



* A3 SHOULDERS
* NOTE: IF FILL IS OVER 5.0′ DEEP THEN THE SLOPE WILL BREAK TO A 3:1 AT 24′ FROM EDGE OF TRAVELWAY.

SECTION ON SUPERELEVATED CURVE
RTE 61
STA 0+00.00 TO STA 40+00.00
STA 55+00.00 TO STA 61+67.92

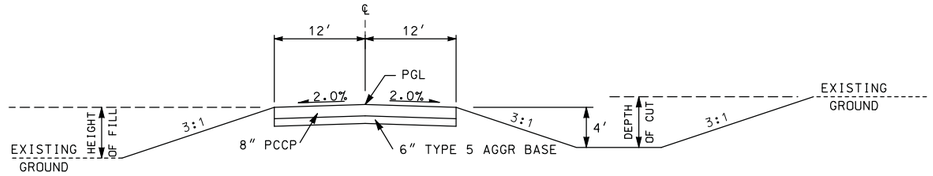
TYPICAL SECTION
ALTERNATE F
RTE 61
SHEET 9 OF 10
DRAWING NOT TO SCALE

DATE PREPARED 4/10/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

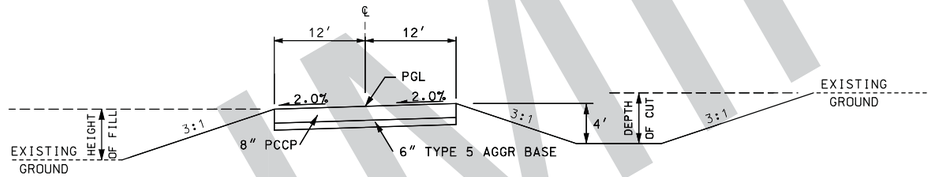
DESCRIPTION | DATE | REV.

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

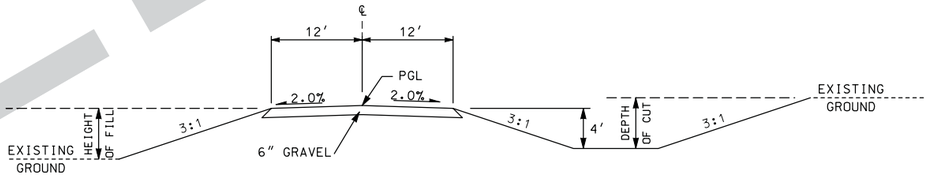
NOTE: THE DESIGN GUIDE FOR THE WIDTH OF RIGHT OF WAY FOR THIS PROJECT WILL BE 120 FEET. MORE OR LESS RIGHT OF WAY MAY BE SECURED TO SATISFY THE REQUIREMENTS OF THE DESIGN FEATURES OF THIS HIGHWAY. FULLY CONTROLLED ACCESS RIGHT OF WAY IS TO BE ACQUIRED FOR THIS PROJECT.



SECTION ON TANGENT
WEST OUTER ROAD
PAVED SECTION
STA 0+22.00 TO STA 0+68.00



SECTION ON SUPERELEVATED CURVE
WEST OUTER ROAD
PAVED SECTION
STA 0+22.00 TO STA 0+68.00



SECTION ON TANGENT
WEST OUTER ROAD
GRAVEL SECTION
STA 0+68.00 TO STA 16+30.44

TYPICAL SECTION
ALTERNATE H
WEST OUTER ROAD
SHEET 10 OF 10
DRAWING NOT TO SCALE

DATE PREPARED
4/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	2

COUNTY
SCOTT

JOB NO.
J0I0956

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.

AGGREGATE BASE

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	6" AGG BASE SY	REMARKS
				ROUTE 61			
4	0+00.00	5+34.23	534.23		36.9	2190.3	
4,5	5+34.23	38+37.52	3303.29	32.0		11745.0	
5	38+37.52	40+04.36	166.84		39.7	735.9	
5	40+04.36	42+90.81	286.45		51.1	1627.0	
5	42+90.81	44+16.32	125.51	44.0		613.6	
5	44+16.32	45+81.07	164.75		50.1	916.7	
5	45+81.07	47+65.88	184.81	44.0		903.5	
5	47+65.88	47+91.14	25.26			123.5	
5	50+73.90	50+99.16	25.26			123.5	
5,6	50+99.16	52+83.98	184.82	44.0		903.6	
6	52+83.98	53+32.52	48.54		48.1	259.4	
6	53+32.52	54+48.73	116.21		51.1	659.8	STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	54+48.73	55+39.15	90.42	44.0		442.1	STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	55+39.15	58+25.59	286.44		50.8	1616.8	STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	58+25.59	59+40.82	115.23		38.2	489.1	STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	60+89.32	61+67.92	78.60		30.3	264.6	STA FROM CONSTUCTION CHAIN NEW_RTE_61
					SUB-TOTAL	23614.6	
				EAST OUTER ROAD			
7	0+00.00	1+00.02	100.02		23.3	258.9	STA FROM CHAIN ROSE_CON_CONN
7	1+00.02	3+91.34	291.32	24		776.9	STA FROM CHAIN ROSE_CON_CONN
7	3+91.34	4+98.21	106.87		4.5	53.4	STA FROM CHAIN ROSE_CON_CONN
7	0+00.00	5+00.10	500.10		6.0	333.4	
7	5+00.10	8+49.90	349.80	24.0		932.8	
7	8+49.90	19+16.71	1066.81		7.0	829.7	
7	19+16.71	21+00.00	183.29		8.0	162.9	
8	21+00.00	23+00.00	200.00		8.0	177.8	
8	23+00.00	32+58.90	958.90	24.0		2557.1	
8	32+58.90	40+00.00	741.10		12.0	988.1	
8,9	40+00.00	57+35.62	1735.62	24.0		4628.3	
9	57+35.62	58+90.62	155.00		25.3	435.7	WIDEN INSIDE OF CURVE FROM 0' TO 2.5'
9	58+90.62	59+99.87	109.25	26.5		321.7	WIDEN INSIDE OF CURVE 2.5'
9	59+99.87	60+33.71	33.84		26.3	98.9	WIDEN INSIDE OF CURVE FROM 2.5' TO 2.0'
9	62+46.29	63+40.00	93.71		25.8	268.6	WIDEN INSIDE OF CURVE FROM 1.0' TO 2.5'
9	63+40.00	63+75.28	35.28	26.5		103.9	WIDEN INSIDE OF CURVE 2.5'
9	63+75.28	65+30.28	155.00		26.3	452.9	WIDEN INSIDE OF CURVE FROM 2.5' TO 0'
9,10	65+30.28	92+30.00	2699.72	24.0		7199.3	
10,11	92+30.00	108+37.16	1607.16		5.5	982.2	
11	108+37.16	108+85.18	48.02	24.0		128.1	
11	108+85.18	110+77.18	192.00		25.3	539.7	WIDEN INSIDE OF CURVE FROM 0' TO 2.5'
11	110+77.18	115+19.33	442.15	26.5		1301.9	WIDEN INSIDE OF CURVE 2.5'
11	115+19.33	117+11.33	192.00		25.3	539.7	WIDEN INSIDE OF CURVE FROM 2.5' TO 0'
11	117+11.33	119+99.52	288.19	24.0		768.5	
11	119+99.52	121+44.52	145.00		25.3	407.6	WIDEN INSIDE OF CURVE FROM 0' TO 2.5'
11	121+44.52	123+76.68	232.16	26.5		683.6	WIDEN INSIDE OF CURVE 2.5'
11	123+76.68	123+90.13	13.45		25.9	38.7	TRANSISTION INSIDE OF CURVE FROM 14.16' TO 13.71'
11	123+90.13	124+70.72	80.59			577.3	INTERSECTION
					SUB-TOTAL	26547.7	
				RAMP 1			
11	0+00.00	0+89.61	89.61			408.0	TIE INTO I-55
11	0+89.61	10+92.74	1003.13	22.0		2452.1	
11	10+92.74	11+59.91	67.17			331.0	INTERSECTION
					SUB-TOTAL	3191.1	
				RAMP 2			
12	0+00.00	2+39.07	239.07			719.0	TIE INTO I-55
12	2+39.07	9+44.39	705.32	22.0		1724.1	
12	9+44.39	10+20.39	76.00			360.0	INTERSECTION
					SUB-TOTAL	2803.1	
				RAMP 3			
13	0+22.00	0+98.00	76.00			360.0	INTERSECTION
13	0+94.44	8+06.33	711.89	22.0		1740.2	
13	9+50.89	10+20.39	69.50			719.0	TIE INTO I-55
					SUB-TOTAL	2819.2	
				RAMP 4			
12,13	0+29.45	0+96.63	67.18			331.0	INTERSECTION
12,13	0+96.63	10+99.90	1003.27	22.0		2452.4	
12,13	10+99.90	11+86.34	86.44			408.0	TIE INTO I-55
					SUB-TOTAL	3191.4	
					SUB-TOTAL 1	62167.1	

REMOVAL OF IMPROVEMENTS

SHEET	STA	STA	LOC	DESCRIPTION	REMARKS
4	1+55	3+28	LT	911 SY EXISTING PAV'T	ROUTE 61 STATIONING
4	2+66		LT	58' EXISTING 3' X 2' BOX CULVERT	ROUTE 61 STATIONING
4	2+98		LT	47' EXISTING 15" CMP	ROUTE 61 STATIONING
4	2+95	7+09	LT,CL,RT	910 SY ASPHALT STREET	ROUTE 61 STATIONING
4	3+12		LT,CL,RT	11' X 5' ARCH BRIDGE	ROUTE 61 STATIONING
4	5+67	7+06	LT	92 SY ASPHALT	ROUTE 61 STATIONING
4	21+42		RT	41' EXISTING 18" CMP	ROUTE 61 STATIONING
5	41+46	48+12	LT,CL,RT	3118 SY ASPHALT (OLD RTE PP)	ROUTE 61 STATIONING
5	45+22	48+12	LT,RT	600' GUARDRAIL	ROUTE 61 STATIONING
5	50+50	53+75	LT,RT	660' GUARDRAIL	ROUTE 61 STATIONING
5,6	50+50	67+63	LT,CL,RT	2500 SY ASPHALT (OLD RTE PP)	ROUTE 61 STATIONING
7	0+00	5+00	LT,CL,RT	1112 SY ASPHALT (CO RD 311)	EAST OUTER ROAD STATIONING
7	6+38	7+72	LT,RT	10 MISCELLANEOUS SIGNS	EAST OUTER ROAD STATIONING
7	11+45	12+29	LT	3 MISCELLANEOUS SIGNS	EAST OUTER ROAD STATIONING
7	12+42		LT	25' EXISTING 18" RCP	EAST OUTER ROAD STATIONING
7	13+75		LT	50' EXISTING 18" RCP	EAST OUTER ROAD STATIONING
7	20+00	20+42	LT,RT	3 MISCELLANEOUS SIGNS	EAST OUTER ROAD STATIONING
8	23+00	32+50	LT,CL,RT	2112 SY ASPHALT (CO RD 311)	EAST OUTER ROAD STATIONING
8	23+60	24+05	LT	3 MISCELLANEOUS SIGNS	EAST OUTER ROAD STATIONING
8	24+65		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
8	25+57		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
8	28+60		LT	54' EXISTING 12" CMP	EAST OUTER ROAD STATIONING
8	28+97		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
8	29+32		RT	174 SY ASPHALT (ENT)	EAST OUTER ROAD STATIONING
8	30+03		LT	41' EXISTING 12" CMP	EAST OUTER ROAD STATIONING
8	33+76		LT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
8	37+26		LT	14' EXISTING 12" CMP	EAST OUTER ROAD STATIONING
8	41+79		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
8	40+00	46+78	LT,CL,RT	1507 SY ASPHALT (CO RD 311)	EAST OUTER ROAD STATIONING
8	44+44		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
9	71+25		RT	BILLBOARD	EAST OUTER ROAD STATIONING
9	78+65		LT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
10	82+94	93+10	RT	1016' GUARDCABLE	EAST OUTER ROAD STATIONING
10	84+59		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
10	90+35		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
10	97+73		LT	HEADWALL	EAST OUTER ROAD STATIONING
10	97+78		RT	HEADWALL	EAST OUTER ROAD STATIONING
11	108+78	48+12	RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
11	109+95		LT	29' EXISTING 18" CMP	EAST OUTER ROAD STATIONING
11	111+14		RT	MISCELLANEOUS SIGN	EAST OUTER ROAD STATIONING
11	108+00	125+00	RT	3400 SY ASPHALT (OLD OUTER ROAD)	EAST OUTER ROAD STATIONING
11	113+48		RT	15' EXISTING 15" RCP	EAST OUTER ROAD STATIONING
11	114+49		RT	18' EXISTING 15" RCP	EAST OUTER ROAD STATIONING
11	124+50		RT	58' EXISTING 18" CMP	EAST OUTER ROAD STATIONING
13	9+55	16+30	LT	910' GUARDCABLE	WEST OUTER ROAD STATIONING
13	13+40		LT	15' EXISTING 15" RCP & DI	WEST OUTER ROAD STATIONING
12,13	305+84	307+41	MED	350' BULL NOSE GUARDRAIL	I-55 CL MED STATIONING
13	311+15		RT	HEADWALL	I-55 SBL STATIONING
13	303+42	320+50	LT,RT	600' GUARDRAIL	I-55 SBL STATIONING
13	321+38	324+00	LT,RT	770' GUARDRAIL	I-55 NBL STATIONING
				LUMP SUM 1	

CLEARING AND GRUBBING

SHEET	STA	STA	LOC	UNITS	REMARKS
4	0+45	3+15	ROUTE 61	20	
4	20+00	22+35	ROUTE 61	33	
5	42+25	44+86	ROUTE 61	19	
7	2+90	4+50	EAST OUTER ROAD	3	
7	5+89	7+58	EAST OUTER ROAD	5	
7	13+90	14+43	EAST OUTER ROAD	5	
7	17+73	18+25	EAST OUTER ROAD	4	
9	59+08	67+70	EAST OUTER ROAD	79	
9	70+46	71+08	EAST OUTER ROAD	6	
9,10	76+46	83+00	EAST OUTER ROAD	7	
10	84+00	90+60	EAST OUTER ROAD	18	
11	108+25	125+00	EAST OUTER ROAD	8	
12	291+50	293+60	SBL I-55	4	
12	1+40	6+10	RAMP 2	10	
13	2+70	9+70	RAMP 3	55	
			SUB-TOTAL	276	UNITS
			TOTAL	3.2	ACRES
			USE	3	ACRES

SUMMARY SHEET
SHEET 1 OF 14

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 3/30/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	3

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

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

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

AGGREGATE BASE CONT'D

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	6" AGG BASE SY	REMARKS
WEST OUTER ROAD							
5	0+22.00	0+68.00	46.00			258.4	INTERSECTION
					SUB-TOTAL	258.4	
NEW COUNTY ROAD							
5	0+00.00	7+29.04	729.04	28.0		2268.1	
5	7+29.04	8+17.59	88.55			596.9	INTERSECTION
					SUB-TOTAL	2865.0	
I-55 NBL							
12	288+63.40	289+14.11	50.71	2.0		11.3	
12	289+14.11	291+63.27	249.16		7.0	193.8	
12	291+63.27	297+43.40	580.13	12.0		773.5	
12	312+22.42	312+82.65	60.23	2.0		13.4	
13	312+82.65	315+82.42	299.77		7.0	233.2	
13	318+23.09	319+32.89	109.80	12.0		146.4	
13	319+32.89	319+65.22	32.33			144.8	
13	321+72.58	321+96.82	24.24			144.8	
13	321+96.82	323+80.53	183.71		6.5	132.7	
13	323+80.53	324+23.10	42.57	2.0		9.5	
					SUB-TOTAL	1803.2	
I-55 SBL							
12	289+06.09	289+47.49	41.40	2.0		9.2	
12	289+47.49	291+56.08	208.59		7.0	162.2	
12	291+56.08	295+06.08	350.00	12.0		466.7	
12	297+46.80	300+47.64	300.84		7.0	234.0	
13	300+47.64	301+06.80	59.16	2.0		13.1	
13	315+80.16	319+89.48	409.32	12.0		545.8	
13	319+89.48	320+13.72	24.24			144.8	
13	322+20.78	322+53.10	32.32			144.8	
13	322+53.10	324+12.33	159.23		5.1	90.2	
13	324+12.33	324+62.18	49.85	2.0		11.1	
					SUB-TOTAL	1821.9	
BUS ROUTE 61							
4	0+00.00	1+00.00	100.00		27.3	303.3	
4	1+00.00	2+58.21	158.21			1039.2	INTERSECTION
					SUB-TOTAL	1342.5	
COUNTY ROAD 311 CONNECTION							
8	0+12.00	0+66.99	54.99			364.8	INTERSECTION
8	0+66.99	1+63.44	96.45	24.0		257.2	
8	1+63.44	2+17.89	54.45		VAR	126.8	
					SUB-TOTAL	749	
					SUB-TOTAL 1	62167.1	
					SUB-TOTAL 2	8839.9	
					TOTAL	71007.0	
					USE	71007.0	

MAILBOX TURNOUTS

SHEET	STA	LOC	"W" LENGTH FT	CLASS 2 LG STA	REMARKS
37	10+22	LT	8	0.7	STA FROM EAST OUTER ROAD
37	15+35	LT	8	0.7	STA FROM EAST OUTER ROAD
37	18+31	LT	8	0.7	STA FROM EAST OUTER ROAD
37	30+21	LT	8	0.7	STA FROM EAST OUTER ROAD
37	40+45	LT	8	0.7	STA FROM EAST OUTER ROAD
37	46+13	LT	8	0.7	STA FROM EAST OUTER ROAD
37	109+72	LT	8	0.7	STA FROM EAST OUTER ROAD
			TOTAL	4.9	
			USE	4.9	

I-55 GUARDRAIL TREATMENT

SHEET	STA	STA	LOC	TYPE 1 AGG BASE TONS	FOG SEAL GAL	REMARKS
12	303+60	306+64	RT	75.0	50.7	CL SBL STA
12,13	305+84	309+60	LT	92.7	62.7	CL MED STA
13	306+62	309+66	LT	75.0	50.7	CL NBL STA
13	310+65	312+69	LT,RT	50.3	34.0	CL NBL STA
13	317+49	320+54	LT,RT	75.2	50.8	CL SBL STA
13	321+32	326+46	LT,RT	126.8	85.7	CL NBL STA
			TOTAL	495.1	334.5	
			USE	495	335	

TEMPORARY SURFACING

SHEET	STA	STA	CY	REMARKS
45	289+90	295+68	149.7	STA FROM EX ROUTE 61
7-10	0+00	125+00	5555.6	STAGING FOE E.O.R.
4-13			400.0	USE AS DIRECTED BY ENGINEER
		TOTAL	6105.3	
		USE	6105	

ROCK STABILIZATION

SHEET	BIAXIAL GEOGRID SY	GRAVEL TONS	SEPARATION GEOTEXTILE SY	REMARKS
37	9072	12096	18144	STA FROM EAST OUTER ROAD
37	5344	7126	10688	STA FROM EAST OUTER ROAD
TOTAL	14416.0	19222.0	28832.0	
USE	14416	19222	28832	

WATER POLLUTION CONTROL MANAGER
146 WEEKS

SURFACE ROUGHENING
LUMP SUM = 1

ADDITIONAL MOB FOR SEEDING
1 EA

SEWER RELOCATION
LUMP SUM = 1

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 4/5/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 3

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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

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

EARTHWORK

SHEET	STA	STA	CLASS A EXC CY	COMP EMB CY	EMB IN PLACE CY	NEEDED FILL CY	COMP IN CUT STA	LINEAR GRADING CL 2 STA	REMARKS
					ROUTE 61				
4	0+00	27+00	9126	8148	84	8232	17		
5	27+00	48+11	4228	3775	65796	69571			
5	50+54	54+00	56	50	14591	14641			
6	54+00	62+38	723	646	16291	16937	2		
	SUB-TOTAL		14133	12619	96762		19	0	
					EAST OUTER ROAD				
7	0+00	4+98					5	5	STA FROM CHAIN ROSE_CON_CONN
7	0+00	20+00	3891	3474	-2145	1329	20		2145 CY EXCESS MATERIAL (COMPACTED VALUE)
8	20+00	49+00	7753	6922	-5142	1780	29		5142 CY EXCESS MATERIAL (COMPACTED VALUE)
9	49+00	60+54	475	424	14807	15231			
9	62+26	76+00	18623	16628	-5476	11152	6		5476 CY EXCESS MATERIAL (COMPACTED VALUE)
10	76+00	104+00	21377	19087	-15188	3899	24		15188 CY EXCESS MATERIAL (COMPACTED VALUE)
11	104+00	125+00	6135	5478	9477	14955	9		
	SUB-TOTAL		58254	52013	-3666		93	5	3666 CY EXCESS MATERIAL TO USE ON OTHER ROADWAY (COMPACTED VALUE)
					RAMP 1				
14	0+00	11+89	18784	16771	529	17300	7		
	SUB-TOTAL		18784	16771	529		7	0	
					RAMP 2				
14	0+00	10+42	395	353	19114	19467	4		
	SUB-TOTAL		395	353	19114		4	0	
					RAMP 3				
14	0+00	10+45	256	229	34887	35116	3		
	SUB-TOTAL		256	229	34887		3	0	
					RAMP 4				
14	0+00	11+86	7455	6656	44602	51258	3		
	SUB-TOTAL		7455	6656	44602		3	0	
					WEST OUTER ROAD				
15	0+00	16+30	3624	3236	33472	36708	2		
	SUB-TOTAL		3624	3236	33472		2	0	
					NEW COUNTY ROAD				
15	0+00	8+47	2600	2321	15746	18067	3		
	SUB-TOTAL		2600	2321	15746		3	0	
					I-55 NBL				
15	288+63	297+50	419	374	589	963	9		
15	298+34	299+43	66	59	-49	10	1		49 CY EXCESS MATERIAL (COMPACTED VALUE)
15	312+50	315+82	127	113	126	239	3		
15	318+50	319+88	173	154	46	200	1		
15	321+50	324+23	166	148	214	362	3		
	SUB-TOTAL		951	849	925		17	0	
					I-55 SBL				
15	289+06	295+00	743	663	-27	636	6		27 CY EXCESS MATERIAL (COMPACTED VALUE)
15	297+47	300+48	137	122	-61	61	1		61 CY EXCESS MATERIAL (COMPACTED VALUE)
15	313+82	314+92	58	52	-25	27	1		25 CY EXCESS MATERIAL (COMPACTED VALUE)
15	316+00	320+36	320	286	50	336	4		
15	321+98	324+12	204	182	-159	23	2		159 CY EXCESS MATERIAL (COMPACTED VALUE)
	SUB-TOTAL		1462	1305	-222		14	0	222 CY EXCESS MATERIAL TO USE ON OTHER ROADWAY (COMPACTED VALUE)
					BUS ROUTE 61				
15	0+00	2+72	1323	1181	-518	663	3		518 CY EXCESS MATERIAL (COMPACTED VALUE)
	SUB-TOTAL		1323	1181	-518		3	0	518 CY EXCESS MATERIAL TO USE ON OTHER ROADWAY (COMPACTED VALUE)
					COUNTY ROAD 311 CON				
15	0+00	2+65	576	514	-459	55	3		459 CY EXCESS MATERIAL (COMPACTED VALUE)
	SUB-TOTAL		576	514	-459		3	0	459 CY EXCESS MATERIAL TO USE ON OTHER ROADWAY (COMPACTED VALUE)
					CHANNEL RELOCATION				
15	0+00	4+14	6537	5837	-5837	0	4		5837 CY EXCESS MATERIAL (COMPACTED VALUE)
	SUB-TOTAL		6537	5837	-5837		4	0	5837 CY EXCESS MATERIAL TO USE ON OTHER ROADWAY (COMPACTED VALUE)
49+00	69+00				8000	8000			2' SURCHARGE FOR EAST OUTER ROAD (1' SETTLEMENT EXPECTED)
					51928	51928			4' SURCHARGE FOR INTERCHANGE (2' SETTLEMENT EXPECTED)
					-9611	0			TO BE DISPLACED BY ROCK STABILIZATION ON EAST OUTER ROAD
					-25964	0			TO BE DISPLACED BY SAND BLANKET AT INTERCHANGE
		TOTAL	116350	103884	259687		175	5	
		USE	116350	103884	259687		175	5	

NOTE: ALL EXCESS MATERIALS TO BE USED AT OTHER LOCATIONS WITHIN PROJECT LIMITS.

6" GRAVEL A CRUSHED STONE B

WEST OUTER ROAD

SHEET	STA	STA	LENGTH FT	WIDTH FT	SY	REMARKS
12,13	0+68.00	16+30.44	1562.4	24.0	4166.5	
				TOTAL	4166.5	
				USE	4167	

A2 SHOULDER (ALT C & D)

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	SY	REMARKS
11	0+00.00	0+63.38	63.38		5.0	35.2	RAMP 1 STATIONING
11	0+63.38	2+00.00	136.62		VAR	72.1	RAMP 1 STATIONING
11	2+00.00	11+59.91	959.91	8.00		853.3	RAMP 1 STATIONING
12	0+00.00	0+80.11	80.11		5.0	44.5	RAMP 2 STATIONING
12	0+80.11	2+79.49	199.38	4.00		88.6	RAMP 2 STATIONING
12	2+79.49	10+20.39	740.90	8.00		658.6	RAMP 2 STATIONING
13	0+22.00	7+65.70	743.70	8.00		661.1	RAMP 3 STATIONING
13	7+65.70	9+65.99	200.29	4.00		89.0	RAMP 3 STATIONING
13	9+65.99	10+45.36	79.37		5.0	44.1	RAMP 3 STATIONING
12,13	0+29.45	9+91.00	961.55	8.00		854.7	RAMP 4 STATIONING
12,13	9+91.00	11+22.78	131.78		VAR	72.1	RAMP 4 STATIONING
12,13	11+22.78	11+86.34	63.56		5.0	35.3	RAMP 4 STATIONING
					TOTAL	3508.6	
					USE	3508.6	

A3 SHOULDER

ROUTE 61

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	SY	REMARKS
4	4+37.56	4+87.52	49.96		1.6	8.9	
4	4+87.52	5+34.23	46.71		2.8	14.5	
4,5	5+34.23	40+61.62	3527.39	8.00		3135.5	
5	40+61.62	40+85.52	23.90	4.00		10.6	
5	42+09.52	42+33.55	24.03	4.00		10.7	
5	42+33.55	44+52.52	218.97	8.00		194.6	
5	44+52.52	44+73.57	21.05	4.00		9.4	
5	45+65.73	45+67.28	1.55	4.00		0.7	
5	45+67.28	47+65.88	198.60	8.00		176.5	
5	50+99.16	52+97.77	198.61	8.00		176.5	
5	52+97.77	52+99.32	1.55	4.00		0.7	
5	53+87.54	53+91.42	3.88	4.00		1.7	
6	53+91.42	55+39.15	147.73	8.00		131.3	
6	55+39.15	58+25.59	286.44	4.00		127.3	
6	58+25.59	59+40.82	115.23	8.00		102.4	
6	60+89.32	61+76.77	87.45	8.00		77.7	
6	61+76.77	62+07.91	31.14		3.1	10.7	
					TOTAL	4189.9	
					USE	4189.9	

WEDGING

EAST OUTER ROAD

SHEET	STA	STA	CY	TACK GAL	REMARKS
7	0+00.00	5+00.00	59.42	80	
7	8+50.00	22+94.00	260.16	231	
7	33+00.00	39+50.00	91.94	104	
7	92+50.00	108+00.00	148.03	248	
		TOTAL	559.6	663	
		USE	559.6	670	

NOTE: USE TACK IF NEEDED

SUMMARY SHEET
SHEET 3 OF 14

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 3/30/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 3
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

DATE	DESCRIPTION

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

ASPHALT PAVEMENT

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	9" PAVEMENT SY	11.5" PAVEMENT SY	14" PAVEMENT SY	REMARKS
ROUTE 61 (ALT E)									
4	0+00.00	5+34.23	534.23		36.9		2190.3		
4.5	5+34.23	38+37.52	3303.29	24.0			8808.8		
5	38+37.52	40+04.36	166.84		31.7		587.6		
5	40+04.36	42+90.81	286.45		46.7		1486.4		
5	42+90.81	44+16.32	125.51	36.0			502.0		
5	44+16.32	45+81.07	164.75		47.3		865.9		
5	45+81.07	47+65.88	184.81	36.0			739.2		
5	47+65.88	47+91.14	25.26						
5	50+73.90	50+99.16	25.26						
5.6	50+99.16	52+83.98	184.82	36.0			739.3		
6	52+83.98	53+32.52	48.54		48.1		259.4		
6	53+32.52	54+48.73	116.21		46.9		605.6		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	54+48.73	55+39.15	90.42	36.0			361.7		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	55+39.15	58+25.59	286.44		45.2		1438.6		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	58+25.59	59+40.82	115.23		30.2		386.7		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	60+89.32	61+67.92	78.60		22.3		194.8		STA FROM CONSTUCTION CHAIN NEW_RTE_61
					SUB-TOTAL	0.0	19166.2	0.0	
RAMP 1 (ALT A)									
11	0+00.00	0+89.61	89.61				137.9		TIE INTO I-55
11	0+89.61	10+92.74	1003.13	14.0			1560.4		
11	10+92.74	11+59.91	67.17				253.9		INTERSECTION
					SUB-TOTAL	0.0	1952.2	0.0	
RAMP 2 (ALT A)									
12	0+00.00	2+39.07	239.07				475.9		TIE INTO I-55
12	2+39.07	9+44.39	705.32	14.0			1097.2		
12	9+44.39	10+20.39	76.00				273.2		INTERSECTION
					SUB-TOTAL	0.0	1846.3	0.0	
RAMP 3 (ALT A)									
13	0+22.00	0+98.00	76.00				273.2		INTERSECTION
13	0+94.44	8+06.33	711.89	14.0			1107.4		
13	9+50.89	10+20.39	69.50				475.9		TIE INTO I-55
					SUB-TOTAL	0.0	1856.5	0.0	
RAMP (ALT A)									
12,13	0+29.45	0+96.63	67.18				253.9		INTERSECTION
12,13	0+96.63	10+99.90	1003.27	14.0			1560.6		
12,13	10+99.90	11+86.34	86.44				137.9		TIE INTO I-55
					SUB-TOTAL	0.0	1952.4	0.0	
					SUB-TOTAL 1	0.0	26773.6	0.0	

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 4/10/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 3

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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

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

ASPHALT PAVEMENT CONT'D

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	9" PAVEMENT SY	11.5" PAVEMENT SY	14" PAVEMENT SY	REMARKS
					WEST OUTER ROAD (ALT G)				
5	0+22.00	0+68.00	46.00			258			INTERSECTION
					SUB-TOTAL	258.4	0.0	0.0	
					NEW COUNTY ROAD (ALT G)				
5	0+00.00	7+29.04	729.04	24.0		1944.1			
5	7+29.04	8+17.59	88.55			596.9			INTERSECTION
					SUB-TOTAL	2541.0	0.0	0.0	
					I-55 NBL (ALT A)				
12	288+63.40	289+14.11	50.71	2.0			11.3		
12	289+14.11	291+63.27	249.16		7.0		193.8		
12	291+63.27	297+43.40	580.13	12.0			773.5		
12	312+22.42	312+82.65	60.23	2.0			13.4		
13	312+82.65	315+82.42	299.77		7.0		233.2		
13	318+23.09	319+32.89	109.80	12.0			146.4	166.7	USE AS DIRECTED BY ENGINEER
13	319+32.89	319+65.22	32.33						
13	321+72.58	321+96.82	24.24						
13	321+96.82	323+80.53	183.71		6.5		132.7	166.7	USE AS DIRECTED BY ENGINEER
13	323+80.53	324+23.10	42.57	2.0			9.5		
					SUB-TOTAL	0.0	1513.6	333.3	
					I-55 SBL (ALT A)				
12	289+06.09	289+47.49	41.40	2.0			9.2		
12	289+47.49	291+56.08	208.59		7.0		162.2		
12	291+56.08	295+06.08	350.00	12.0			466.7		
12	297+46.80	300+47.64	300.84		7.0		234.0		
13	300+47.64	301+06.80	59.16	2.0			13.1		
13	315+80.16	319+89.48	409.32	12.0			545.8	166.7	USE AS DIRECTED BY ENGINEER
13	319+89.48	320+13.72	24.24						
13	322+20.78	322+53.10	32.32						
13	322+53.10	324+12.33	159.23		5.1		90.2	166.7	USE AS DIRECTED BY ENGINEER
13	324+12.33	324+62.18	49.85	2.0			11.1		
					SUB-TOTAL	0.0	1532.3	333.3	
					BUS ROUTE 61 (ALT G)				
4	0+00.00	1+00.00	100.00		27.3	303.3			
4	1+00.00	2+58.21	158.21			1039.2			INTERSECTION
					SUB-TOTAL	1342.5	0.0	0.0	
					COUNTY ROAD 311 CONNECTION (ALT G)				
8	0+12.00	0+66.99	54.99			364.8			INTERSECTION
8	0+66.99	1+63.44	96.45	24.0		257.2			
8	1+63.44	2+17.89	54.45		VAR	126.8	0.0	0.0	
					SUB-TOTAL	749	0	0	
					SUB-TOTAL 1	0.0	26773.6	0.0	
					SUB-TOTAL 2	4890.7	3045.9	666.7	
					TOTAL	4890.7	29819.5	666.7	

ASPHALT PAVEMENT ALTERNATES
11.5 IN ALT A TOTAL/USE = 10653.30 SY
14 IN ALT A TOTAL/USE = 666.70 SY
11.5 IN ALT E TOTAL/USE = 19166.20 SY
9 IN ALT G TOTAL/USE = 4890.70 SY

SUMMARY SHEET
SHEET 5 OF 14

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 4/10/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 3

COUNTY SCOTT

JOB NO. J0I0956

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.

CONCRETE PAVEMENT

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	8" PAVEMENT SY	9" PAVEMENT SY	10" PAVEMENT SY	REMARKS
					ROUTE 61 (ALT F)				
4	0+00.00	5+34.23	534.23		36.9		2190.3		
4.5	5+34.23	38+37.52	3303.29	24.0			8808.8		
5	38+37.52	40+04.36	166.84		31.7		587.6		
5	40+04.36	42+90.81	286.45		46.7		1486.4		
5	42+90.81	44+16.32	125.51	36.0			502.0		
5	44+16.32	45+81.07	164.75		47.3		865.9		
5	45+81.07	47+65.88	184.81	36.0			739.2		
5	47+65.88	47+91.14	25.26						
5	50+73.90	50+99.16	25.26						
5,6	50+99.16	52+83.98	184.82	36.0			739.3		
6	52+83.98	53+32.52	48.54		48.1		259.4		
6	53+32.52	54+48.73	116.21		46.9		605.6		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	54+48.73	55+39.15	90.42	36.0			361.7		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	55+39.15	58+25.59	286.44		45.2		1438.6		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	58+25.59	59+40.82	115.23		30.2		386.7		STA FROM CONSTUCTION CHAIN NEW_RTE_61
6	60+89.32	61+67.92	78.60		22.3		194.8		STA FROM CONSTUCTION CHAIN NEW_RTE_61
					SUB-TOTAL	0.0	19166.2	0.0	
					RAMP 1 (ALT B)				
11	0+00.00	0+89.61	89.61				137.9		TIE INTO I-55
11	0+89.61	10+92.74	1003.13	14.0			1560.4		
11	10+92.74	11+59.91	67.17				253.9		INTERSECTION
					SUB-TOTAL	0.0	1952.2	0.0	
					RAMP 2 (ALT B)				
12	0+00.00	2+39.07	239.07				475.9		TIE INTO I-55
12	2+39.07	9+44.39	705.32	14.0			1097.2		
12	9+44.39	10+20.39	76.00				273.2		INTERSECTION
					SUB-TOTAL	0.0	1846.3	0.0	
					RAMP 3 (ALT B)				
13	0+22.00	0+98.00	76.00				273.2		INTERSECTION
13	0+94.44	8+06.33	711.89	14.0			1107.4		
13	9+50.89	10+20.39	69.50				475.9		TIE INTO I-55
					SUB-TOTAL	0.0	1856.5	0.0	
					RAMP 4 (ALT B)				
12,13	0+29.45	0+96.63	67.18				253.9		INTERSECTION
12,13	0+96.63	10+99.90	1003.27	14.0			1560.6		
12,13	10+99.90	11+86.34	86.44				137.9		TIE INTO I-55
					SUB-TOTAL	0.0	1952.4	0.0	
					SUB-TOTAL 1	0.0	24821.2	0.0	

SUMMARY SHEET
SHEET 6 OF 14

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 4/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	3

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

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

CONCRETE PAVEMENT CONT'D

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	8" PAVEMENT SY	9" PAVEMENT SY	10" PAVEMENT SY	REMARKS
					WEST OUTER ROAD (ALT H)				
5	0+22.00	0+68.00	46.00			258			INTERSECTION
					SUB-TOTAL	258.4	0.0	0.0	
					NEW COUNTY ROAD (ALT H)				
5	0+00.00	7+29.04	729.04	24.0		1944.1			
5	7+29.04	8+17.59	88.55			596.9			INTERSECTION
					SUB-TOTAL	2541.0	0.0	0.0	
					I-55 NBL (ALT B)				
12	288+63.40	289+14.11	50.71	2.0			11.3		
12	289+14.11	291+63.27	249.16		7.0		193.8		
12	291+63.27	297+43.40	580.13	12.0			773.5		
12	312+22.42	312+82.65	60.23	2.0			13.4		
13	312+82.65	315+82.42	299.77		7.0		233.2		
13	318+23.09	319+32.89	109.80	12.0			146.4	166.7	USE AS DIRECTED BY ENGINEER
13	319+32.89	319+65.22	32.33						
13	321+72.58	321+96.82	24.24						
13	321+96.82	323+80.53	183.71		6.5		132.7	166.7	USE AS DIRECTED BY ENGINEER
13	323+80.53	324+23.10	42.57	2.0			9.5		
					SUB-TOTAL	0.0	1513.6	333.3	
					I-55 SBL (ALT B)				
12	289+06.09	289+47.49	41.40	2.0			9.2		
12	289+47.49	291+56.08	208.59		7.0		162.2		
12	291+56.08	295+06.08	350.00	12.0			466.7		
12	297+46.80	300+47.64	300.84		7.0		234.0		
13	300+47.64	301+06.80	59.16	2.0			13.1		
13	315+80.16	319+89.48	409.32	12.0			545.8	166.7	USE AS DIRECTED BY ENGINEER
13	319+89.48	320+13.72	24.24						
13	322+20.78	322+53.10	32.32						
13	322+53.10	324+12.33	159.23		5.1		90.2	166.7	USE AS DIRECTED BY ENGINEER
13	324+12.33	324+62.18	49.85	2.0			11.1		
					SUB-TOTAL	0.0	1532.3	333.3	
					BUS ROUTE 61 (ALT H)				
4	0+00.00	1+00.00	100.00		27.3	303.3			
4	1+00.00	2+58.21	158.21			1039.2			INTERSECTION
					SUB-TOTAL	1342.5	0.0	0.0	
					COUNTY ROAD 311 CONNECTION (ALT H)				
8	0+12.00	0+66.99	54.99			364.8			INTERSECTION
8	0+66.99	1+63.44	96.45	24.0		257.2			
8	1+63.44	2+17.89	54.45		VAR	126.8			
					SUB-TOTAL	749	0	0	
					SUB-TOTAL 1	0.0	26773.6	0.0	
					SUB-TOTAL 2	4890.7	3045.9	666.7	
					TOTAL	4890.7	29819.5	666.7	

CONCRETE PAVEMENT ALTERNATES
9.5 IN ALT B TOTAL/USE = 10653.30 SY
10 IN ALT B TOTAL/USE = 666.70 SY
9.5 IN ALT F TOTAL/USE = 19166.20 SY
8 IN ALT H TOTAL/USE = 4890.70 SY

SUMMARY SHEET
SHEET 7 OF 14

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 4/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	3

COUNTY: SCOTT
JOB NO.: J0I0956
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.

GUARDRAIL & BARRIER

SHEET	STA	STA	LOC	MGS TYPE A FT	MASH TYPE A CRASHWORTHY END TERMINAL EA	MGS TRANSITION SECTION EA	BRIDGE ANCHOR SECTION EA	TYPE E GUARDRAIL EA	TYPE B TRAFFIC BARRIER FT	END ANCHOR EA	REMARKS
6	47+33	51+35	LT,RT		4	4	4				ADD GUARDRAIL TO ALL FOUR CORNERS (ROUTE 61 STA)
7	58+91	61+39	LT,RT	50.0	4	4	4				ADD GUARDRAIL TO ALL FOUR CORNERS (ROUTE 61 STA)
9	59+76	62+97	LT,RT		4	4	4				ADD GUARDRAIL TO ALL FOUR CORNERS (EOR ROAD STA)
12	303+95	306+64	RT	200.0	1	1	1		60		PROTECT BR PIERS, REPLACE EXISTING NORTH OF BARRIER (CL SBL STA)
12,13	305+84	309+25	LT		1			112.5		1	PROTECT BR PIERS, NORTH BOUND SIDE ONLY (CL MED STA)
13	306+62	309+31	LT	200.0	1	1	1		60		PROTECT BR PIERS, REPLACE EXISTING SOUTH OF BARRIER (CL NBL STA)
13	310+65	312+34	LT,RT	112.5	1					1	REPLACE EXISTING GUARDRAIL ON LT (CL NBL STA)
13	317+84	320+54	LT,RT	237.5	2	2	2				ADD GUARDRAIL TO APPROACH CORNERS (CL SBL STA)
13	321+32	326+11	LT,RT	587.5	2	2	2				ADD GUARDRAIL TO APPROACH CORNERS, REPLACE EXISTING GUARDRAIL (CL NBL STA)
			TOTAL	1387.5	20.0	18.0	18.0	112.5	120.0	2	
			USE	1387.5	20.0	18.0	18.0	112.5	120.0	2	

TYPE 2 ROCK DITCH LINER

SHEET	STA	STA	LOC	LENGTH FT	WIDTH FT	1′ DEPTH CY	2′ DEPTH CY	2.5′ DEPTH CY	SEPARATION GEOTEXTILE FABRIC SY	REMARKS
4	5+16		RT	18	9		9.0		31.8	ROUTE 61 STATIONING
4	5+60		RT	12	4	2.0			9.3	ROUTE 61 STATIONING
4	15+28		RT	16	14		16.6		40.0	ROUTE 61 STATIONING
4	16+49		LT	14	6	3.0			14.2	ROUTE 61 STATIONING
4	21+63	22+25	RT	VAR	VAR		120.0		222.0	ROUTE 61 STATIONING
4	24+33		RT	12	4	2.0			9.3	ROUTE 61 STATIONING
5	27+80		LT	12	4	2.0			9.3	ROUTE 61 STATIONING
5	31+34		LT	12	4	2.0			9.3	ROUTE 61 STATIONING
5	37+12		LT	25	25	23.1			81.0	ROUTE 61 STATIONING
5	43+70		RT	25	15		28.0		61.2	ROUTE 61 STATIONING
7	7+27		LT,RT	VAR	VAR			332.0	456.0	EAST OUTER ROAD STATIONING
7	7+60		LT	18	9		12.0		31.8	EAST OUTER ROAD STATIONING
7	8+96		LT	18	9		12.0		31.8	EAST OUTER ROAD STATIONING
7	12+16		LT	18	9		12.0		31.8	EAST OUTER ROAD STATIONING
7	13+44		LT	18	9		12.0		31.8	EAST OUTER ROAD STATIONING
7	16+00		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
8	23+56		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
8	29+17		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
8	30+29		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
8	30+76		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
8	33+81		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
8	37+47		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
8	38+20		LT,RT	VAR	16	13.0		53.0	211.0	EAST OUTER ROAD STATIONING
8	46+00		RT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
9	54+33		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
10	84+20		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
10	97+75		LT	20	12		18.0		34.2	EAST OUTER ROAD STATIONING
10	97+78		RT	7	12		6.0		14.0	EAST OUTER ROAD STATIONING
10	106+74		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
10	107+55		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
10	109+74		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
10	118+60		LT	12	4	2.0			9.3	EAST OUTER ROAD STATIONING
10	124+07		LT	6	14	3.0			14.2	EAST OUTER ROAD STATIONING
5	6+70		LT	25	15		27.8		61.2	NEW COUNTY ROAD STATIONING
5	4+54		RT	12	4	2.0			9.3	WEST OUTER ROAD STATIONING
13	9+75		LT	70	30			194.4	291.7	WEST OUTER ROAD STATIONING
12	10+00		LT	12	4	2.0			9.3	RAMP 1 STATIONING
13	3+22		LT,RT	73	60			405.6	563.3	RAMP 3 STATIONING
13	8+00		RT	12	4	2.0			9.3	RAMP 4 STATIONING
8	0+40		RT	12	4	2.0			9.3	CO RD CONNECTION STATIONING
9	0+00	4+14	LT,CL,RT	414	80		2453.3		3790.2	CO RD CONNECTION STATIONING
					TOTAL	86.1	2726.7	985.0	6218.6	
					USE	86	2727	985	6218.6	

NOTE: CY ROCK QUANTITIES ARE FOR BOTH PLACING AND PROVIDING.

MOBILIZATION

LUMP SUM = 1

HI-TENSION GUARDCABLE (DISASSEMBLE, STORE, REASSEMBLE)

SHEET	STA	STA	FT	REMARKS
	BR# A0911	BR# N0912	7300.0	
	BR# N0912	BR# A0914	4300.0	
		TOTAL	11600.0	
		USE	11600	

PAVEMENT EDGE TREATMENT

SHEET	STA	STA	FT	REMARKS
7	0+00	4+98	498.0	STA FROM CHAIN ROSE_CON_CONN
7-8	0+00	47+78	4778.0	STA EAST OUTER ROAD
10-11	92+30	108+37	1607.0	STA EAST OUTER ROAD
		TOTAL	6883.0	
		USE	6883	

CURB AND GUTTER

SHEET	STA	STA	LOC	TYPE A CURB & GUTTER FT	TYPE F CURB FT	REMARKS
4	2+00.00	3+75.00	RT	175.0		ROUTE 61 STATIONING
4	5+92.00	6+80.00	LT		179.00	ROUTE 61 STATIONING
			TOTAL	175.0	179.0	
			USE	175.0	179.0	

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 4/5/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 3

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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

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

PERMANENT PAVEMENT MARKING

STA	STA	LOCATION	HIGH BUILD WATERBORNE WITH TYPE L BEADS 6" WHITE INT FT	HIGH BUILD WATERBORNE WITH TYPE L BEADS 6" WHITE SOLID FT	HIGH BUILD WATERBORNE WITH TYPE L BEADS 12" WHITE SOLID FT	HIGH BUILD WATERBORNE WITH TYPE L BEADS 6" YELLOW SOLID FT	WATERBORNE WITH TYPE P BEADS 4" WHITE SOLID FT	WATERBORNE WITH TYPE P BEADS 4" YELLOW INT FT	WATERBORNE WITH TYPE P BEADS 4" YELLOW SOLID FT	TYPE 2 PREFORMED MARKING TAPE GROOVED 24" YELLOW FT	TYPE 2 PREFORMED MARKING TAPE GROOVED 24" WHITE FT	TYPE 2 PREFORMED MARKING TAPE GROOVED LT/RT ARROW EA	PAVEMENT MARKING REMOVAL FT	REMARKS
0+00	4+98	RT/LT ROSE CONN RD					996.0		996.0					DOUBLE YELLOW
0+00	65+00	RT/LT EAST OR					13000.0		13000.0					DOUBLE YELLOW
65+00	72+00	RT/LT EAST OR					1400.0	175.0	700.0					SOLID YELLOW LT / INT YELLOW RT
72+00	79+00	RT/LT EAST OR					1400.0	175.0						INT YELLOW
79+00	86+00	RT/LT EAST OR					1400.0	175.0	700.0					INT YELLOW LT / SOLID YELLOW RT
86+00	89+00	RT/LT EAST OR					600.0		600.0					DOUBLE YELLOW
89+00	96+00	RT/LT EAST OR					1400.0	175.0	700.0					SOLID YELLOW LT / INT YELLOW RT
96+00	103+00	RT/LT EAST OR					1400.0	175.0						INT YELLOW
103+00	110+00	RT/LT EAST OR					1400.0	175.0	700.0					INT YELLOW LT / SOLID YELLOW RT
110+00	124+55	RT/LT EAST OR					2935.0		2910.0					DOUBLE YELLOW
0+00	2+67	RT/LT BUS RTE 61					550.0		500.0		34.0			DOUBLE YELLOW
0+00	1+95	RT/LT RTE 61					390.0		725.0	30.0				DOUBLE YELLOW
1+95	3+40	RT/LT RTE 61					248.0		200.0			1		DOUBLE YELLOW, TURN LANE
3+40	4+62	RT/LT RTE 61					244.0		424.0	24.0				DOUBLE YELLOW
4+62	8+00	RT/LT RTE 61					676.0		676.0					DOUBLE YELLOW
8+00	15+00	RT/LT RTE 61					1400.0	175	700.0					SOLID YELLOW LT / INT YELLOW RT
15+00	31+00	RT/LT RTE 61					3200.0	400						INT YELLOW
31+00	38+00	RT/LT RTE 61					1400.0	175.0	700.0					INT YELLOW LT / SOLID YELLOW RT
38+00	41+18	RT/LT RTE 61					680.0		1005.0	38.0		1		DOUBLE YELLOW, TURN LANE
41+90	45+02	RT/LT RTE 61					538.0		1072.0	75.0		1		TURN LANE, DOUBLE YELLOW
45+69	52+96	RT/LT RTE 61					1992.0		1370.0			4		2 TURN LANES, DOUBLE YELLOW
53+57	56+59	RT/LT RTE 61					540.0		952.0	60.0		1		DOUBLE YELLOW, TURN LANE
56+59	62+38	RT/LT RTE 61					1095.0		1445.0	65.0				DOUBLE YELLOW
0+00	7+96	RT/LT NEW CRD					1592.0		1574.0					DOUBLE YELLOW
0+64	11+71	RT/LT RAMP 1		1185.0	275.0	976.0								
0+78	10+24	RT/LT RAMP 2		995.0	408.0	760.0								
0+18	9+67	RT/LT RAMP 3		995.0	408.0	760.0								
0+18	11+26	RT/LT RAMP 4		1185.0	275.0	976.0								
288+63	293+61	LT EXIST I-55	124.5	498.0									498.0	
293+61	298+08	LT EXIST I-55	111.8	447.0									447.0	
298+08	299+43	LT EXIST I-55											135.0	
289+06	291+56	RT EXIST I-55	62.5	250.0									250.0	
291+56	295+85	RT EXIST I-55	107.3	429.0									429.0	
295+85	297+87	RT EXIST I-55											202.0	
297+87	301+07	RT EXIST I-55		320.0									320.0	
312+83	315+42	LT EXIST I-55		259.0									259.0	
315+42	317+44	LT EXIST I-55											202.0	
317+44	321+73	LT EXIST I-55	107.3	429.0									429.0	
321+73	324+23	LT EXIST I-55	62.5	250.0									250.0	
313+82	315+19	RT EXIST I-55											137.0	
315+19	319+66	RT EXIST I-55	111.8	447.0									447.0	
319+66	324+62	RT EXIST I-55	124.0	496.0									496.0	
		SUB-TOTAL	811.7	8185.0	1366.0	3472.0	40476.0	1800.0	31649.0	292.0	34.0	8	4501.0	
		TOTAL	8996.7		1366.0	3472.0	40476.0	33449.0		292.0	34.0	8	4501.0	
		USE	8997		1366	3472	40476	33449		292	34	8	4501	

NOTE: LENGTHS ARE APPROXIMATE

TEMPORARY PAVEMENT MARKING

SHEET	PREFORMED REMOVABLE MARKING TAPE 4" WHITE FT	PREFORMED REMOVABLE MARKING TAPE 4" YELLOW FT	PREFORMED REMOVABLE MARKING TAPE 24" WHITE FT	WATERBORNE PAVEMENT MARKING TYPE P BEADS 8" WHITE FT	WATERBORNE PAVEMENT MARKING TYPE P BEADS 8" YELLOW FT	WATERBORNE PAVEMENT MARKING TYPE P BEADS 4" WHITE FT	WATERBORNE PAVEMENT MARKING TYPE P BEADS 4" YELLOW FT	PAVEMENT MARKING REMOVAL FT	REMARKS
TC (3)	1800.0		24.0						
TC (4)	2125.0	500.0	24.0						
TC (5)				980.0	980.0	3850.0	19680.0	26290.0	
TC (6)				1180.0	980.0		7180.0	10140.0	
TOTAL	3925.0	500.0	48.0	2160.0	1960.0	3850.0	26860.0	36430.0	
USE	3925	500	48	2160	1960	3850	26860	36430	

SUMMARY SHEET
SHEET 9 OF 14

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 3/30/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 3
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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

WICK DRAIN DRAINAGE SYSTEM

LUMP SUM = 1

ACCESS RESTRAINT CABLE

SHEET	STA	STA	FT	REMARKS
9-11	75+00	112+00	3700.0	EAST OUTER ROAD
		TOTAL	3700.0	
		USE	3700	

CONTRACTOR FURNISHED SURVEYING

LUMP SUM = 1

WICK DRAINS

SHEET	STA	STA	WICK DRAIN FT	SEPARATION GEOTEXTILE SY	REMARKS
36	36+00	46+00	97875	10000	STA FROM ROUTE 61
36	53+00	57+00	39150	4000	STA FROM ROUTE 61
36	1+00	7+00	52200	5333	STA FROM WEST OUTER ROAD
36	119+00	124+50	30000	3056	STA FROM EAST OUTER ROAD
36	5+50	8+00	21600	2222	STA FROM NEW COUNTY ROAD
36	1+00	6+00	38325	3889	STA FROM RAMP 3
36	1+00	7+50	49350	5056	STA FROM RAMP 4
36	7+50	10+00	18900	1944	STA FROM RAMP 1
36	7+00	9+50	18900	1944	STA FROM RAMP 2
		TOTAL	366300.0	37444.0	
		USE	366300	37444	

ROCK STABILIZATION

LUMP SUM = 1

SEEDING

SHEET	STA	STA	SEED ACRE	FIBER REINFORCED MATRIX ACRE	REMARKS
4-6	0+00	62+38	14.7	7.8	ROUTE 61
7-11	0+00	124+70	14.2	1.0	EAST OUTER ROAD
11	0+00	11+60	2.2	1.0	RAMP 1
12	0+00	10+20	1.7	1.0	RAMP 2
13	0+22	10+45	1.9	1.0	RAMP 3
12,13	0+29	11+86	4.2	1.0	RAMP 4
12,13	0+22	16+30	3.2	1.0	WEST OUTER ROAD
12	0+00	8+18	1.5	1.0	NEW COUNTY ROAD
12	289+14	297+43	0.2		I-55 NBL
13	318+23	324+05	0.1		I-55 NBL
12	289+48	295+06	0.1		I-55 NBL
13	315+80	324+13	0.2		I-55 NBL
4	0+00	2+56	0.1		BUS ROUTE 61
8	0+12	2+64	0.2		COUNTY ROAD 311 CONNECTION
9	0+00	4+14	0.1		CHANNEL RELOCATION
		TOTAL	44.6	14.8	
		USE	44.6	14.8	

EROSION CONTROL

SHEET	LOCATION	ROCK DITCH CHECK FT	SILT FENCE FT	TYPE C BERM FT	TEMP SEEDING ACRE	REMARKS
EC	BUS RTE 61	70.0	435.0			ROCK DITCH CHECK = 5X14'
EC	RTE 61	1470.0	4970.0	208.0		ROCK DITCH CHECK = 105X14'
EC	RAMP 1	266.0	1835.0			ROCK DITCH CHECK = 19X14'
EC	RAMP 2	196.0	1310.0			ROCK DITCH CHECK = 14X14'
EC	RAMP 3	126.0	1160.0			ROCK DITCH CHECK = 9X14'
EC	RAMP 4	168.0	1860.0			ROCK DITCH CHECK = 12X14'
EC	CRD	266.0	1235.0			ROCK DITCH CHECK = 19X14'
EC	WEST OUTER RD	336.0	1087.0			ROCK DITCH CHECK = 24X14'
EC	EAST OUTER RD	3528.0	10675.0	326.0		ROCK DITCH CHECK = 252X14'
EC	I-55		1430.0	456.0		
EC					10.0	USE AS DIRECTED BY ENGINEER
	TOTAL	6426.0	25997.0	990.0	10.0	
	USE	6426	25997	990	10	

TYPE IV OBJECT MARKERS

SHEET	LOC	EA	REMARKS
4	MESSMER ST	8	USE AS DIRECTED BY ENGINEER TO CLOSE MESSMER STREET
	TOTAL	8	
	USE	8	

DRAINAGE STRUCTURES

SHEET	STA	GROUP A PIPE 18" FT	24" FT	36" FT	60" FT	72" FT	84" FT	GROUP A FES 18" EA	24" EA	36" EA	60" EA	72" EA	84" EA	HW & BOX CULVERT B1 CONC CY	STEEL LBS	CL 3 EXC CY	CL 4 EXC CY	PRECAST 5'X3' S-1 DI "D" FT	PRECAST 3'X2' S-3 DI "D" FT	5'X3' GRATES BEARING PLATES EA	3'X2' GRATES BEARING PLATES EA	36" TYPE S HW EA	REMARKS
4	2+58.30			278						1				6.1	200	330		12.75		1		1	ROUTE 61 STATIONING
4	5+60.00	62						1								63			3.00		1		ROUTE 61 STATIONING
4	21+26.99					131						2				88							ROUTE 61 STATIONING
4	22+00.00					72						2				136							ROUTE 61 STATIONING
4	22+09.00					72						2				175							ROUTE 61 STATIONING
5	43+70.00						181				2					821							ROUTE 61 STATIONING
7	16+00.00	38						2								27							EAST OUTER ROAD STATIONING
8	38+20.00						52						2			70							EAST OUTER ROAD STATIONING
8	46+00.00	36						1								34			3.00		1		EAST OUTER ROAD STATIONING
10	97+74.36													15.9	3050		5						EAST OUTER ROAD STATIONING
10	97+78.00													9.9	2050		5						EAST OUTER ROAD STATIONING
10	107+54.78	46						2								15							EAST OUTER ROAD STATIONING
11	124+06.09		146						2							3							EAST OUTER ROAD STATIONING
12	6+69.36				131						2					111							NEW COUNTY ROAD STATIONING
13	9+75.16													102.3	17180		86						WEST OUTER ROAD STATIONING
12	10+00.00	136						2								78							RAMP 1 STATIONING
12	4+35.00	40						2								11							RAMP 2 STATIONING
13	3+21.61													176.7	31900		229						RAMP 3 STATIONING
13	6+60.00		115						2							79							RAMP 4 STATIONING
13	7+01.67													82.5	17090		50						RAMP 4 STATIONING
13	8+00.00	80						2								53							RAMP 4 STATIONING
8	0+40.41	61						1								86			3.00		1		COUNTY ROAD 311 CONNECTION STATIONING
	TOTAL	499	261	278	131	275	233	13	4	1	4	6	2	393.4	71470	2180	375	12.75	9.00	1	3	1	
	USE	499	261	278	131	275	233	13	4	1	4	6	2	393.4	71470	2180	375	12.75	9.00	1	3		

SUMMARY SHEET
SHEET 10 OF 14

DATE PREPARED 3/30/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 3
COUNTY SCOTT
JOB NO. J0I0956
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)

TYPE 1 DRIVEWAYS

SHEET	STA	LOC	"D" LENGTH FT	GROUP B PIPE 18" FT	24" FT	30" FT	36" FT	4" CONC OPTION SY	3 3/4"" ASPH OPTION SY	CLASS A CY	EMB IN PLACE CY	TEMP SURFACE CY	REMARKS
4	295+20.00	LT	15					33.3	33.3		1		EX ROUTE 61 STATIONING
4	0+30.00	LT	27	32				60.0	60.0		14		BUS ROUTE 61 STATIONING
4			30					66.7	66.7	15	2		MESSEMER STREET
4	5+80.00	LT	12					26.7	26.7	2	2	5	ROUTE 61 STATIONING
4	6+92.00	LT	12					26.7	26.7	2	2	5	ROUTE 61 STATIONING
4	16+20.00	LT	49		40			108.9	108.9		33		ROUTE 61 STATIONING
4	21+06.00	RT	78			120		173.3	173.3		52		ROUTE 61 STATIONING
4	24+00.00	LT	49					108.9	108.9		127		ROUTE 61 STATIONING
4	24+00.00	RT	45	35				100.0	100.0		43		ROUTE 61 STATIONING
5	27+50.00	LT	49	43				108.9	108.9		112		ROUTE 61 STATIONING
5	31+00.00	LT	63	43				140.0	140.0		126		ROUTE 61 STATIONING
5	32+00.00	RT	68					151.1	151.1		158		ROUTE 61 STATIONING
6	58+59.00	RT	56					124.4	124.4		65		ROUTE 61 STATIONING (63+85 RTE PP STA)
7	0+00.00	LT	18					40.0	40.0		1	10	EAST OUTER ROAD STATIONING
7	1+45.00	LT	16					35.6	35.6		1	10	EAST OUTER ROAD STATIONING
7	2+80.00	LT	40					88.9	88.9		12	10	EAST OUTER ROAD STATIONING
7	7+93.00	LT	49				50	108.9	108.9		16	10	EAST OUTER ROAD STATIONING
7	9+00.00	RT	13					245.6	245.6		1	10	EAST OUTER ROAD STATIONING
7	9+43.00	LT	54				61	150.0	150.0		5	10	EAST OUTER ROAD STATIONING
7	12+45.00	LT	49				44	108.9	108.9		26	10	EAST OUTER ROAD STATIONING
7	13+75.00	LT	41				45	91.1	91.1		6	10	EAST OUTER ROAD STATIONING
7	15+49.00	RT	37					82.2	82.2		1	10	EAST OUTER ROAD STATIONING
7	18+42.00	RT	32					71.1	71.1		6	10	EAST OUTER ROAD STATIONING
7	18+75.00	LT	47					104.4	104.4		10	10	EAST OUTER ROAD STATIONING (CO RD 312)
8	23+81.00	LT	38	38				84.4	84.4		5	10	EAST OUTER ROAD STATIONING
8	25+85.00	LT	38					84.4	84.4	24	5		EAST OUTER ROAD STATIONING
8	28+66.00	LT	17	97				151.1	151.1		35	30	EAST OUTER ROAD STATIONING
8	29+61.00	RT	98					217.8	217.8		274	10	EAST OUTER ROAD STATIONING
8	30+06.00	LT	58	48				128.9	128.9	21		10	EAST OUTER ROAD STATIONING
8	30+50.00	LT	44	50				97.8	97.8	35	2	10	EAST OUTER ROAD STATIONING
8	33+50.00	LT	21	36				46.7	46.7		27	10	EAST OUTER ROAD STATIONING
8	37+25.00	LT	13	32				28.9	28.9		3	10	EAST OUTER ROAD STATIONING
8	40+65.00	LT	30					66.7	66.7	5		10	EAST OUTER ROAD STATIONING
8	46+30.00	LT	19					42.2	42.2	5		10	EAST OUTER ROAD STATIONING
9	54+00.00	LT	53	44				117.8	117.8		102	10	EAST OUTER ROAD STATIONING
10	84+43.00	LT	52	36				115.6	115.6	2	2	20	EAST OUTER ROAD STATIONING
10	106+50.00	LT	39	36				86.7	86.7		33	10	EAST OUTER ROAD STATIONING
11	110+00.00	LT	35	44				77.8	77.8	3		10	EAST OUTER ROAD STATIONING
11	112+80.00	LT	51					113.3	113.3		61		EAST OUTER ROAD STATIONING
11	118+34.00	LT	53	42				117.8	117.8		85		EAST OUTER ROAD STATIONING
12	3+15.00	RT	54					120.0	120.0		43	10	NEW COUNTY ROAD STATIONING
12	4+34.00	RT	73					162.2	162.2		180	10	NEW COUNTY ROAD STATIONING
13	4+00.00	RT	157	86				348.9	348.9		1500		WEST OUTER ROAD STATIONING
13	10+50.00	RT	70		70			155.6	155.6		154		WEST OUTER ROAD STATIONING
28		LT,RT						222.2	222.2			37.0	ROSE CON RD (USE 10' APRON FOR ALL ENT)
			TOTAL	742	110	120	200	4942		114	3333	337	
			USE	742	110	120	200	4942		114	3333	337	

NOTE: PICK OPTIONAL DRIVEWAY SURFACE BASES UPON THE MATERIAL THE A3 SHOULDER IS PAVED WITH.
NOTE: PIPE LENGTHS BASED UPON 3:1 SIDE SLOPES FOR ENTRANCES. BEVEL PIPES TO SLOPE.

CULVERT SETTLEMENT TREATMENT

LUMP SUM = 1

TEMPORARY CROSSOVERS

SHEET	STA	STA	CLASS 2 LG STA	CLASS 1 LG STA	OPTIONAL PAV'T SY	12" GROUP B PIPE FT	REMARKS
34	279+00	289+00	8.1		733	275	STA FROM CL MED I-55
34	324+00	334+00	8.1		733		STA FROM CL MED I-55
35	279+00	289+00	8.1	8.1	733	275	STA FROM CL MED I-55
35	324+00	334+00	8.1	8.1	733		STA FROM CL MED I-55
		TOTAL	32.4	16.2	2933.3	550.0	
		USE	32.4	16.2	2933.3	550.0	

USE CLASS 1 LG TO BUILD OPPOSITE DIRECTION CROSSOVER AT SAME LOCATION.

APPROACH PAVEMENT

SHEET	STA	STA	LENGTH FT	SY	REMARKS
5	47+65.88	47+91.14	25.26	123.5	STA FROM ROUTE 61
5	50+73.90	50+99.16	25.26	123.5	STA FROM ROUTE 61
13	319+32.89	319+65.22	32.33	144.8	STA FROM NBL I-55
13	321+72.58	321+96.82	24.24	144.8	STA FROM NBL I-55
13	319+89.48	320+13.72	24.24	144.8	STA FROM SBL I-55
13	322+20.78	322+53.10	32.32	144.8	STA FROM SBL I-55
			TOTAL	826.2	
			USE	826.2	

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JEFFERSON CITY, MO 65102
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LIGHTING PULL BOXES

SHEET	PULL BOX NO	CIRCUIT	STA	LOCATION	PREFORMED DRAIN TYPE 1 CL 1 EACH	PREFORMED DRAIN TYPE 1 CL 3 EACH	REMARKS
58	1	1,2,3	311+10.53	238.88' LT CL MED I-55		1	
58	2	1,2	310+99.97	216.22' LT CL MED I-55	1		
58	3	1	308+30.71	303.76' LT CL MED I-55	1		
58	4	1	307+87.56	322.45' LT CL MED I-55	1		
58	5	1	305+89.01	396.26' LT CL MED I-55	1		
58	6	1	305+84.37	420.82' LT CL MED I-55	1		
58	7	1	301+60.56	163.30' LT CL MED I-55	1		
58	8	1	296+73.83	73.61' LT CL MED I-55	1		
58	9	1	291+73.83	73.64' LT CL MED I-55	1		
58	10	2	310+00.00	64.82' LT CL MED I-55	1		
58	11	2	310+00.00	65.79' RT CL MED I-55	1		
58	12	2	309+37.85	276.63' RT CL MED I-55	1		
58	13	2	305+40.51	340.96' RT CL MED I-55	1		
58	14	2	305+38.84	322.45' RT CL MED I-55	1		
58	15	2	304+96.24	302.59' RT CL MED I-55	1		
58	16	2	302+28.96	217.40' RT CL MED I-55	1		
58	17	2	302+18.40	240.06' RT CL MED I-55	1		
58	18	2	297+43.43	90.23' RT CL MED I-55	1		
58	19	3	315+85.56	89.25' LT CL MED I-55	1		
58	20	3	319+00.00	73.49' LT CL MED I-55	1		
58	21	3	319+00.00	73.50' RT CL MED I-55	1		
58	22	3	320+53.59	73.44' RT CL MED I-55	1		
58	23	3	322+17.21	72.72' RT CL MED I-55	1		
				TOTAL	22	1	
				USE	22	1	

LIGHTING TRENCHING

SHEET	FROM	TO	CIRCUIT	TRENCHING TYPE I FT	REMARKS
58	2	3	1	300	
58	4	101	1	9	
58	101	5	1	228	
58	6	7	1	500	
58	7	8	1	500	
58	8	9	1	500	
58	9	102	1	10	
58	2	10	2	181	
58	11	12	2	220	
58	12	13	2	455	
58	13	201	2	10	
58	201	14	2	10	
58	15	16	2	299	
58	17	18	2	500	
58	18	202	2	10	
58	1	19	3	500	
58	19	301	3	10	
58	301	20	3	305	
58	21	22	3	154	
58	23	302	3	10	
			TOTAL	4711	
			USE	4711	

LIGHTING RIGID CONDUIT

SHEET	FROM	TO	CENTER TO CENTER DISTANCE FT	CIRCUIT	3" PUSHED FT	3" TRENCHED FT	2" BRIDGE FT	REMARKS
58	PS	CONT	56	PS		60		
58	CONT	1	126	1,2,3		129		
58	1	2	25	1,2		23		
58	3	4	47	1		45		
58	5	6	25	1		23		
58	10	11	131	2	129			
58	14	15	47	2		45		
58	16	17	25	2		23		
58	20	21	147	3	145			
58	22	23	164	3			162	
				TOTAL	274	348	162	
				USE	274	348	162	

BASE MOUNTED POWER SUPPLY & LIGHTING CONTROLLER

SHEET	DIRECTION TO FACE	STA	LOCATION	POWER SUPPLY TYPE 1 240V EACH	CONTROLLER BREAKERS (AMPS) MAIN	CONTROLLER BREAKERS (AMPS) CIRCUIT 1	2	3	4	4 CIR. 240V EACH	REMARKS
58	WEST	310+45.74	346.87' LT CL MED I-55	1	100	15	15	15	15	1	
			TOTAL	1	NO DIRECT PAY					1	
			USE	1	NO DIRECT PAY					1	

LIGHTING CABLE CONDUIT

SHEET	FROM	TO	CENTER TO CENTER DISTANCE FT	CIRCUIT	#2 AWG 1-CONDUCTOR FT	1" CABLE CONDUIT 2-CONDUCTOR 1-BARE NEUTRAL #8 AWG FT	REMARKS
58	PS	CONT	56	PS	99		
58	CONT	101	461	1		498	
58	101	102	1763	2		1803	
58	CONT	201	1147	2		1196	
58	201	202	881	2		921	
58	CONT	301	636	2		661	
58	301	302	786	3		820	
				SUBTOTAL	99	5899	
				5% FOR SNAKING	5	295	
				TOTAL	104	6194	
				USE	110	6200	

LIGHTING POLES AND WIRING

SHEET	POLE NO	CIRCUIT	STA	LOCATION	45' POLE TYPE AT D3 EACH	HPS LUMINAIRE 400W EACH	BRACKET ARM 15' EACH	45' POLE FOUNDATION EACH	#10 AWG 1-CONDUCTOR POLE & BRACKET FT	REMARKS
58	101	1	307+88.83	331.34' LT CL MED I-55	1	1	1	1	110	
58	102	2	0+63.97		1	1	1	1	110	
58	201	2	3+34.48		1	1	1	1	110	
58	202	2	4+06.23		1	1	1	1	110	
58	301	2	1+86.23		1	1	1	1	110	
58	302	2	24+25.50		1	1	1	1	110	
				SUBTOTAL	6	6	6	6	660	
				5% SNAKING					33	
				TOTAL	6	6	6	6	693	
				USE	6	6	6	6	700	

SUMMARY SHEET
SHEET 12 OF 14

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PERMANENT EROSION CONTROL AT BRIDGE ENDS

ROUTE	LOC	STA	STA	FURNISHING TYPE 2 ROCK BLANKET (CY)	PLACING TYPE 2 ROCK BLANKET (CY)	FURNISHING TYPE 1 ROCK DITCH LINER (CY)	PLACING TYPE 1 ROCK DITCH LINER (CY)	SEPARATION CONTROL GEOTEXTILE (SY)	SLOPE PROTECTION (SY)	REMARKS
I-55	LT/RT	321+69.7		170	310			465		I-55 SB AND NB - BRIDGE NO. A8433 AND A8434 SOUTH BRIDGE END
I-55	LT	319+47.9	319+50.9			2.0	2.0	6		I-55 NB - DRAIN FLUME LT
I-55	RT	320+30.9	320+68.5			9.8	9.8	29		I-55 SB - DRAIN FLUME RT
I-55	MEDIAN	319+74.5	320+18.9			18.3	18.3	55		I-55 - DRAIN FLUME IN MEDIAN
I-55	LT/RT	320+33.9		151	291			436		I-55 SB AND NB - BRIDGE NO. A8433 AND A8434 NORTH BRIDGE END
I-55	LT	321+52.2	321+55.2			2.0	2.0	6		I-55 NB - DRAIN FLUME LT
I-55	RT	322+18.2	322+38.1			5.7	5.7	17		I-55 SB - DRAIN FLUME RT
I-55	MEDIAN	321+67.4	322+11.6			18.2	18.2	54		I-55 - DRAIN FLUME IN MEDIAN
ROUTE 61	LT	49+93.3	48+05.7						5.7	ROUTE 61 - SLOPE PROTECTION NW QUADRANT BRIDGE NO. A8436
ROUTE 61	RT	48+15.5	48+30.0						6.7	ROUTE 61 - SLOPE PROTECTION SW QUADRANT BRIDGE NO. A8436
ROUTE 61	LT/RT	48+16.9	48+56.7	830	830			1245		ROUTE 61 ROCK BLANKET - WEST END BRIDGE NO. A8436
ROUTE 61	LT	50+37.0	50+51.3						6.6	ROUTE 61 - SLOPE PROTECTION NE QUADRANT BRIDGE NO. A8436
ROUTE 61	RT	50+61.2	50+73.6						5.7	ROUTE 61 - SLOPE PROTECTION SE QUADRANT BRIDGE NO. A8436
ROUTE 61	LT/RT	50+10.3	50+50.0	681	681			1022		ROUTE 61 ROCK BLANKET - EAST END BRIDGE NO. A8436
ROUTE PP (CON CL STA)	LT	59+40.8	59+43.8			1.6	1.6	5		ROUTE PP - DRAIN FLUME NW QUADRANT BRIDGE NO. A8435
ROUTE PP (CON CL STA)	RT	59+40.8	59+43.8			1.6	1.6	5		ROUTE PP - DRAIN FLUME SW QUADRANT BRIDGE NO. A8435
ROUTE PP (CON CL STA)	LT/RT	59+64.8	59+79.8	93	157			235		ROUTE PP ROCK BLANKET - WEST END BRIDGE NO. A8435
ROUTE PP (CON CL STA)	LT	60+86.3	60+89.3			1.3	1.3	4		ROUTE PP - DRAIN FLUME NE QUADRANT BRIDGE NO. A8435
ROUTE PP (CON CL STA)	RT	60+86.3	60+89.3			1.3	1.3	4		ROUTE PP - DRAIN FLUME SE QUADRANT BRIDGE NO. A8435
ROUTE PP (CON CL STA)	LT/RT	60+50.3	60+65.3	69	133			200		ROUTE PP ROCK BLANKET - EAST END BRIDGE NO. A8435
EAST OUTER ROAD	LT	60+28.5	60+31.5			2.4	2.4	7		EAST OUTER ROAD - DRAIN FLUME NE QUADRANT BRIDGE NO. A8437
EAST OUTER ROAD	LT/RT	60+57.9	60+88.9	275	375			562		EAST OUTER ROAD - ROCK BLANKET - NORTH END BRIDGE NO. A8437
EAST OUTER ROAD	LT	60+39.6	60+42.6			2.3	2.3	7		EAST OUTER ROAD - DRAIN FLUME SE QUADRANT BRIDGE NO. A8437
EAST OUTER ROAD	LT/RT	61+96.3	62+22.2	333	433			650		EAST OUTER ROAD - ROCK BLANKET - SOUTH END BRIDGE NO. A8437
			TOTAL	2281	2609	28.7	28.7	4000	24.7	
			USE	2281	2609	29	29	4000	25	

NOTE: USE ROCK FROM THE TYPE C BERM TO CONSTRUCT ROCK BLANKET IN AREAS WHERE TYPE C BERM IS USED.

CCP PAVEMENT

SHEET	STA	STA	LENGTH FT	WIDTH FT	AVE WIDTH FT	8" PAVEMENT SY	AVE WIDTH OVERLAY FT	6" OVERLAY SY	REMARKS
EAST OUTER ROAD									
7	0+00.00	1+00.02	100.02		23.3	258.9			STA FROM CHAIN ROSE_CON_CONN
7	1+00.02	3+91.34	291.32	24		776.9			STA FROM CHAIN ROSE_CON_CONN
7	3+91.34	4+98.21	106.87		4.5	53.4	19.5	231.6	STA FROM CHAIN ROSE_CON_CONN
7	0+00.00	5+00.10	500.10		6.0	333.4	18.0	1000.2	
7	5+00.10	8+49.90	349.80	24.0		932.8			
7	8+49.90	19+16.71	1066.81		7.0	829.7	17.0	2015.1	
7	19+16.71	21+00.00	183.29		8.0	162.9	16.0	325.8	
8	21+00.00	23+00.00	200.00		8.0	177.8	16.0	355.6	
8	23+00.00	32+58.90	958.90	24.0		2557.1			
8	32+58.90	40+00.00	741.10		12.0	988.1	12.0	988.1	
8,9	40+00.00	57+35.62	1735.62	24.0		4628.3			
9	57+35.62	58+90.62	155.00		25.3	435.7			WIDEN INSIDE OF CURVE FROM 0' TO 2.5'
9	58+90.62	59+99.87	109.25	26.5		321.7			WIDEN INSIDE OF CURVE 2.5'
9	59+99.87	60+33.71	33.84		26.3	98.9			WIDEN INSIDE OF CURVE FROM 2.5' TO 2.0'
9	62+46.29	63+40.00	93.71		25.8	268.6			WIDEN INSIDE OF CURVE FROM 1.0' TO 2.5'
9	63+40.00	63+75.28	35.28	26.5		103.9			WIDEN INSIDE OF CURVE 2.5'
9	63+75.28	65+30.28	155.00		26.3	452.9			WIDEN INSIDE OF CURVE FROM 2.5' TO 0'
9,10	65+30.28	92+30.00	2699.72	24.0		7199.3			
10,11	92+30.00	108+37.16	1607.16		5.5	982.2	18.5	3303.6	
11	108+37.16	108+85.18	48.02	24.0		128.1			
11	108+85.18	110+77.18	192.00		25.3	539.7			WIDEN INSIDE OF CURVE FROM 0' TO 2.5'
11	110+77.18	115+19.33	442.15	26.5		1301.9			WIDEN INSIDE OF CURVE 2.5'
11	115+19.33	117+11.33	192.00		25.3	539.7			WIDEN INSIDE OF CURVE FROM 2.5' TO 0'
11	117+11.33	119+99.52	288.19	24.0		768.5			
11	119+99.52	121+44.52	145.00		25.3	407.6			WIDEN INSIDE OF CURVE FROM 0' TO 2.5'
11	121+44.52	123+76.68	232.16	26.5		683.6			WIDEN INSIDE OF CURVE 2.5'
11	123+76.68	123+90.13	13.45		25.9	38.7			TRANSISTION INSIDE OF CURVE FROM 14.16' TO 13.71'
11	123+90.13	124+70.72	80.59			577.3			INTERSECTION
					TOTAL	26547.7		8220.0	
					USE	26547.7		8220.0	

SUMMARY SHEET
SHEET 13 OF 14

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 3/30/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 3
COUNTY SCOTT
JOB NO. J0I0956
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.

SIGN	SIZE (IN.)	AREA (SQ. FT.)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
WARNING SIGNS							
W01-1L	48X48	16.00					TURN (SYMBOL LEFT ARROW)
W01-1R	48X48	16.00					TURN (SYMBOL RIGHT ARROW)
W01-2L	48X48	16.00					CURVE (SYMBOL LEFT ARROW)
W01-2R	48X48	16.00					CURVE (SYMBOL RIGHT ARROW)
W01-3L	48X48	16.00					REVERSE TURN (SYMBOL LEFT ARROW)
W01-3R	48X48	16.00					REVERSE TURN (SYMBOL RIGHT ARROW)
W01-4L	48X48	16.00	3	48.00			REVERSE CURVE (SYMBOL LEFT ARROW)
W01-4R	48X48	16.00	2	32.00			REVERSE CURVE (SYMBOL RIGHT ARROW)
W01-4bL	48X48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
W01-4bR	48X48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
W01-4cL	48X48	16.00					TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
W01-4cR	48X48	16.00					TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
W01-6	60X30	12.50	4	50.00			HORIZONTAL ARROW (SYMBOL)
W01-6a	72X36	18.00					HORIZONTAL ARROW (SYMBOL ON PERMANENT BARRICADE)
W01-7	60X30	12.50					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W01-7a	72X36	18.00					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL ON PERMANENT BARRICADE)
W01-8	18X24	3.00					CHEVRON (SYMBOL)
W01-8a	30X36	7.50					CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
W03-1	48X48	16.00					STOP AHEAD (SYMBOL)
W03-2	48X48	16.00					YIELD AHEAD (SYMBOL)
W03-3	48X48	16.00	2	32.00			SIGNAL AHEAD (SYMBOL)
W03-4	48X48	16.00	2	32.00			BE PREPARED TO STOP
W03-5	48X48	16.00	1	16.00			SPEED LIMIT AHEAD
W04-1L	48X48	16.00					MERGE (SYMBOL FROM LEFT)
W04-1aL	48X48	16.00	2	32.00			MERGE (LEFT ARROW AT LANE DROP)
W04-1R	48X48	16.00					MERGE (SYMBOL FROM RIGHT)
W04-1aR	48X48	16.00	2	32.00			MERGE (RIGHT ARROW AT LANE DROP)
W05-1	48X48	16.00	2	32.00			ROAD/BRIDGE/RAMP NARROWS
W05-3	48X48	16.00					ONE LANE BRIDGE
W05-5	48X48	16.00					NARROW LANES
W06-1	48X48	16.00					DIVIDED HIGHWAY (SYMBOL)
W06-2	48X48	16.00					DIVIDED HIGHWAY END (SYMBOL)
W06-3	48X48	16.00	9	144.00			TWO WAY TRAFFIC (SYMBOL)
W07-3a	30X24	5.00					NEXT XX MILES (PLAQUE)
W08-1	48X48	16.00					BUMP
W08-2	48X48	16.00					DIP
W08-3	48X48	16.00					PAVEMENT ENDS
W08-4	48X48	16.00					SOFT SHOULDER
W08-5	48X48	16.00					SLIPPERY WHEN WET (SYMBOL)
W08-6	48X48	16.00					TRUCK CROSSING WITH FLAGS
W08-6c	48X48	16.00					TRUCK ENTRANCE
W08-7	36X36	9.00					LOOSE GRAVEL
W08-9	48X48	16.00					LOW SHOULDER
W08-11	48X48	16.00					UNEVEN LANES
W08-12	48X48	16.00					NO CENTER LINE
W10-1	42 RND.	9.62					RAILROAD CROSSING
W012-1	24X24	4.00					DOUBLE DOWN ARROW (SYMBOL)
W012-2	48X48	16.00					LOW CLEARANCE (SYMBOL)
W012-2x	24X18	3.00					LOW CLEARANCE (PLAQUE)
W012-2a	84X24	14.00					OVERHEAD LOW CLEARANCE (FEET AND INCHES)
W08-15	48X48	16.00					GROOVED PAVEMENT
W08-15p	30X24	5.00					MOTORCYCLE (PLAQUE)
W08-17	48X48	16.00					SHOULDER DROP-OFF (SYMBOL)
W08-17p	30X24	5.00					SHOULDER DROP-OFF (PLAQUE)
SPECIAL	120X60	50.00					LOW CLEARANCE XX FT XX IN XX MILES AHEAD
SPECIAL	120X60	50.00					WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
W013-1	30X30	6.25	3	18.75			ADVISORY SPEED (PLAQUE)
W016-2	30X24	5.00					XXX FEET (PLAQUE)
W016-3	30X24	5.00					X MILE (PLAQUE)
W020-1	48X48	16.00	8	128.00			ROAD/BRIDGE/RAMP WORK AHEAD
W020-2	48X48	16.00	7	112.00			DETOUR AHEAD
W020-3	48X48	16.00	3	48.00			ROAD CLOSED AHEAD
W020-4	48X48	16.00	4	64.00			ONE LANE ROAD AHEAD
W020-5	48X48	16.00	4	64.00			RIGHT/CENTER/LEFT LANE CLOSED AHEAD
W020-5a	48X48	16.00					2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
W020-6a	48X48	16.00	2	32.00			RIGHT/CENTER/LEFT LANE CLOSED
W020-7a	48X48	16.00	2	32.00			FLAGGER (SYMBOL) WITH FLAGS
W021-2	36X36	9.00					FRESH OIL
W021-5	48X48	16.00	4	64.00			SHOULDER WORK AHEAD
W022-1	48X48	16.00					BLASTING ZONE AHEAD
W022-2	42X36	10.50					TURN OFF 2-WAY RADIO AND PHONE
W022-3	42X36	10.50					END BLASTING ZONE
W022-6e	21X15	2.19					WET PAINT (ARROW PIVOTS)
GUIDE SIGNS							
E05-1	36X48	12.00					GORE EXIT
E05-2	48X36	12.00					EXIT OPEN
E05-2a	48X36	12.00					EXIT CLOSED
G020-1	60X24	10.00	4	40.00			ROAD WORK NEXT XX MILES
G020-2	48X24	8.00					END ROAD WORK
G020-4	36X18	4.50					PILOT CAR FOLLOW ME
SPECIAL	42X30	8.75					PLEASE WAIT FOR PILOT CAR
G020-5aP	36X24	6.00	28	168.00			WORK ZONE (PLAQUE)
M04-8a	24X18	3.00	2	6.00			END DETOUR
M04-9L	48X36	12.00					DETOUR (LEFT ARROW)
M04-9R	48X36	12.00					DETOUR (RIGHT ARROW)
M04-10L	48X18	6.00					DETOUR (ARROW LEFT)
M04-10R	48X18	6.00					DETOUR (ARROW RIGHT)
REGULATORY SIGNS							
R1-1	48X48	13.25					STOP
R1-2	48 TRI.	6.93					YIELD
R1-2a	36X36	9.00					TO ONCOMING TRAFFIC (PLAQUE)
R1-3	20X9	1.25					X-WAY (PLAQUE)
R2-1	36X48	12.00	26	312.00			SPEED LIMIT 4@70,7@60,1@55,3@45,3@40, 6@35,2@30
R3-1	48X48	16.00					NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00					NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00					NO TURNS
R3-4	48X48	16.00					NO U-TURN (SYMBOL)
R3-7L	30X30	6.25					LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25					RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00	12	144.00			DO NOT PASS
R4-2	36X48	12.00	4	48.00			PASS WITH CARE
R4-7aL	36X48	12.00					KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00					KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30X30	6.25	2	12.50			DO NOT ENTER
R5-1a	36X24	6.00					WRONG WAY
R6-1L	48X18	6.00					ONE WAY ARROW (LEFT)
R6-1R	48X18	6.00					ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00					ONE WAY (LEFT)
R6-2R	24X30	5.00					ONE WAY (RIGHT)
R10-6	24X36	6.00	2	12.00			STOP HERE ON RED (45° ARROW)
R11-2	48X30	10.00	7	70.00			ROAD CLOSED
R11-3a	60X30	12.50	2	25.00			ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY 1@1 MILE, 1@5 MILE
R11-4	60X30	12.50					ROAD CLOSED TO THRU TRAFFIC
S4-4	36X15	3.75					WHEN FLASHING
CONST-3A	60X48	20.00	4	80.00			FINE SIGN
CONST-3X	56X12	4.67	4	18.68			SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS							
SPECIAL	96X48	32.00	2	64.00			POINT OF PRESENCE
CONST-7-72	72X36	18.00	2	36.00			RATE OUR WORK ZONE
	36X78	19.50	30	585.00			DETOUR BLANK
	36X60	15.00	18	270.00			DETOUR BLANK
M3-1	24X12	2.00	16	32.00			NORTH
M3-3	24X12	2.00	14	18.00			NORTH
M1-1	24X24	4.00	30	120.00			I-55 SHIELD
M1-5A	30X24	5.00	18	90.00			RTE PP SHIELD
M5-1L	21X15	2.19	4	8.76			ADVANCED TURN ARROW LT
M5-5R	21X15	2.19	2	4.38			ADVANCED TURN ARROW RT
M6-1	21X15	2.19	8	17.52			DIRECTIONAL ARROW LT/RT
M6-2R	21X15	2.19	2	4.38			DIRECTIONAL ARROW 45° RT
M6-3	21X15	2.19	14	30.66			DIRECTIONAL ARROW STRAIGHT
W20-3a	48X48	16.00	3	48.00			ROAD CLOSED 500 FT
W21-5a	48X48	16.00	4	64.00			RT/LT SHOULDER CLOSED

616-10.05	CONSTRUCTION SIGNS TOTAL	3342
616-10.10	RELOCATED SIGNS TOTAL	

EFFECTIVE: 06-08-2016

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR (8 SAND BARRELS)
6122009		IMPACT ATTENUATOR (9 SAND BARRELS)
6122010		IMPACT ATTENUATOR (10 SAND BARRELS)
6122012		IMPACT ATTENUATOR (12 SAND BARRELS)
6122014		IMPACT ATTENUATOR (14 SAND BARRELS)
6122017		IMPACT ATTENUATOR (17 SAND BARRELS)
6122019	8	IMPACT ATTENUATOR (19 SAND BARRELS)
6122020	19	REPLACEMENT SAND BARREL
6122030	5	IMPACT ATTENUATOR (RELOCATION)
6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY
6161008	18	ADVANCED WARNING RAIL SYSTEM
6161009	10	FLAG ASSEMBLY
6161020	10	CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONES)
6161024		CHANNELIZER (TRIM LINE) WITH LIGHT
6161025	165	CHANNELIZER (TRIM LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161027		CHANNELIZER (VERTICAL PANEL) WITH LIGHT
6161028		CHANNELIZER
6161030	25	TYPE III MOVEABLE BARRICADE
6161031		TYPE III MOVEABLE BARRICADE WITH LIGHT
6161033	42	DIRECTION INDICATOR BARRICADE
6161034		DIRECTION INDICATOR BARRICADE, WITH LIGHT
6161040	2	FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161051		WARNING LIGHT, TYPE A
6161052		WARNING LIGHT, TYPE B
6161053		WARNING LIGHT, TYPE C
6161055		SEQUENTIAL FLASHING WARNING LIGHT
6161070	500	TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A	5	CHANGEABLE MESSAGE SIGN WITHOUT COMMUNICATION INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099		CHANGEABLE MESSAGE SIGN WITH COMMUNICATION INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A	2	WORK ZONE TRAFFIC SIGNAL SYSTEM
6173600D	951	CONTRACTOR FURNISHED/RETAINED TEMPORARY TRAFFIC BARRIER
6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED TEMPORARY TRAFFIC BARRIER
6174000A		TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
6175010A	1101	RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		COMMISSION FURNISHED/RETAINED TEMPORARY TRAFFIC BARRIER
6177000B		COMMISSION FURNISHED/RETAINED TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
9019400		TEMPORARY LIGHTING
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING
6162003	960	LONG TERM RUMBLE STRIPS
616-99.01	1	DETOUR SIGNS LUMP SUM 1

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/14/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	3

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

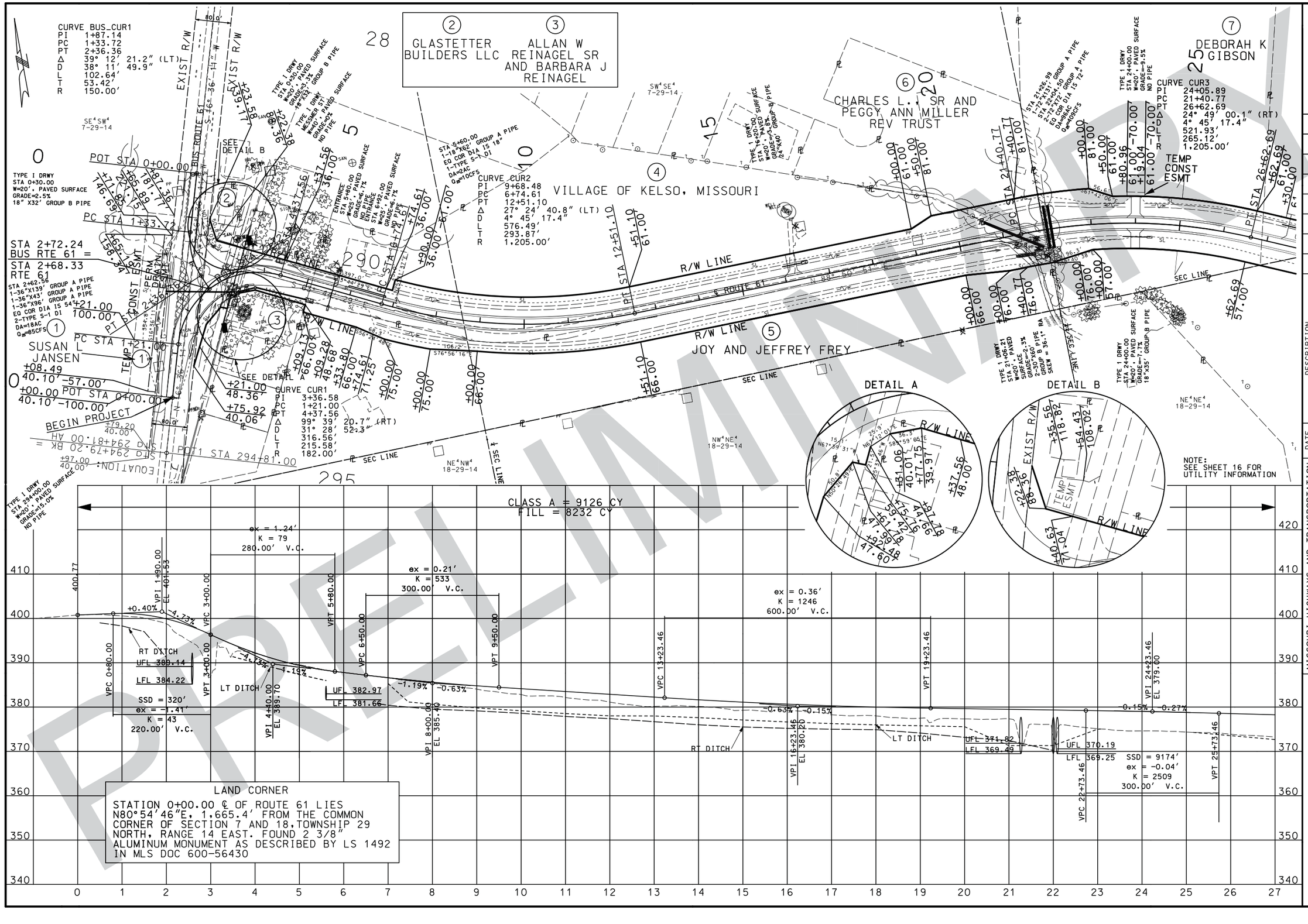
BRIDGE NO.

DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

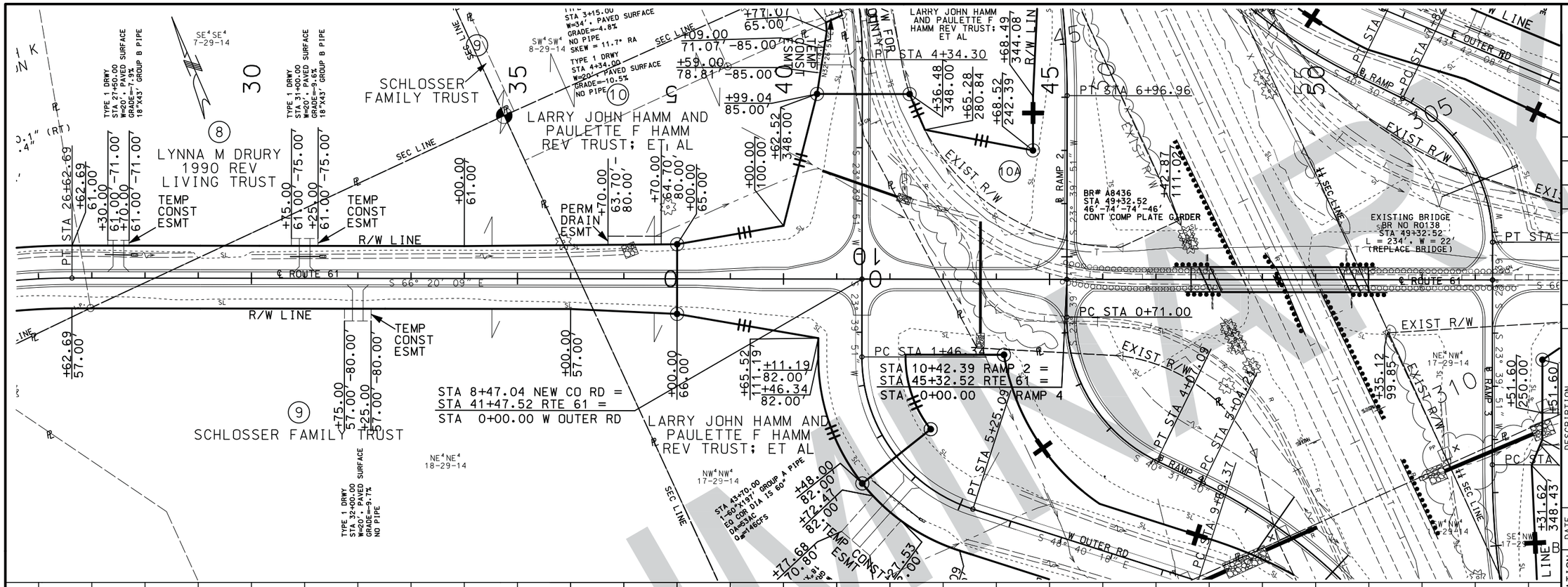
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



DATE PREPARED	3/6/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	4
COUNTY	SCOTT
JOB NO.	J0I0956
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)



DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	5

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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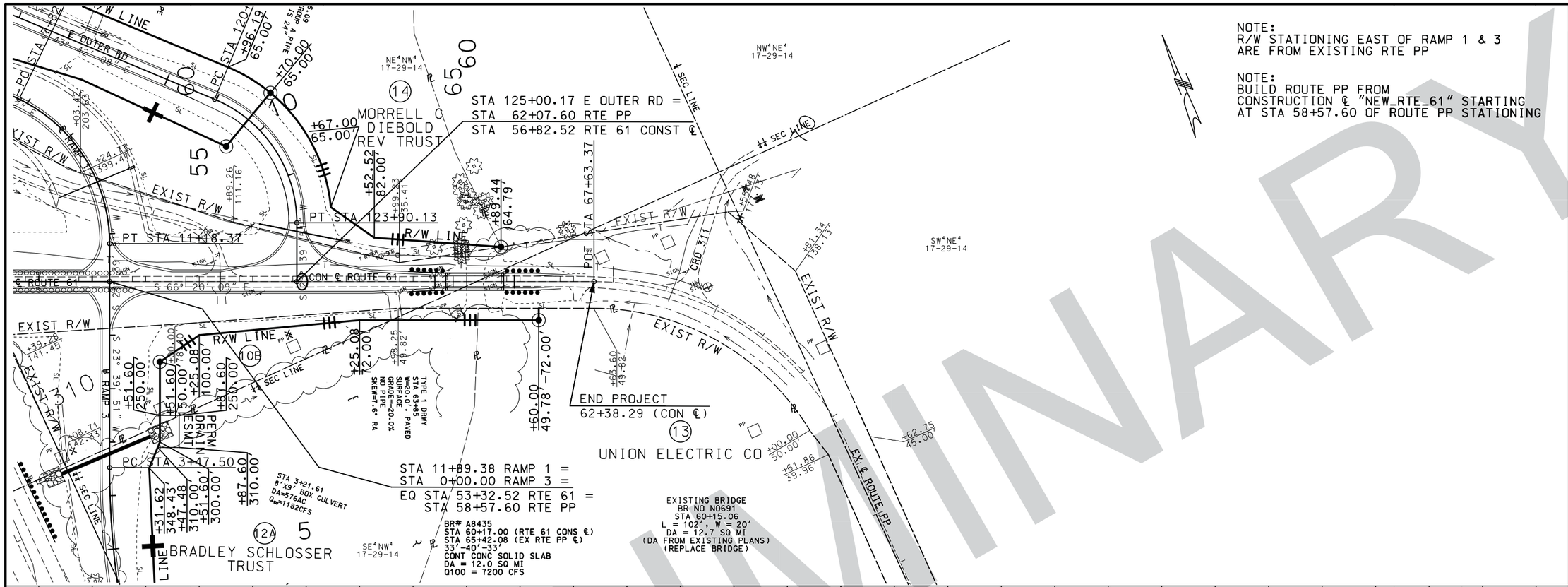
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	6

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

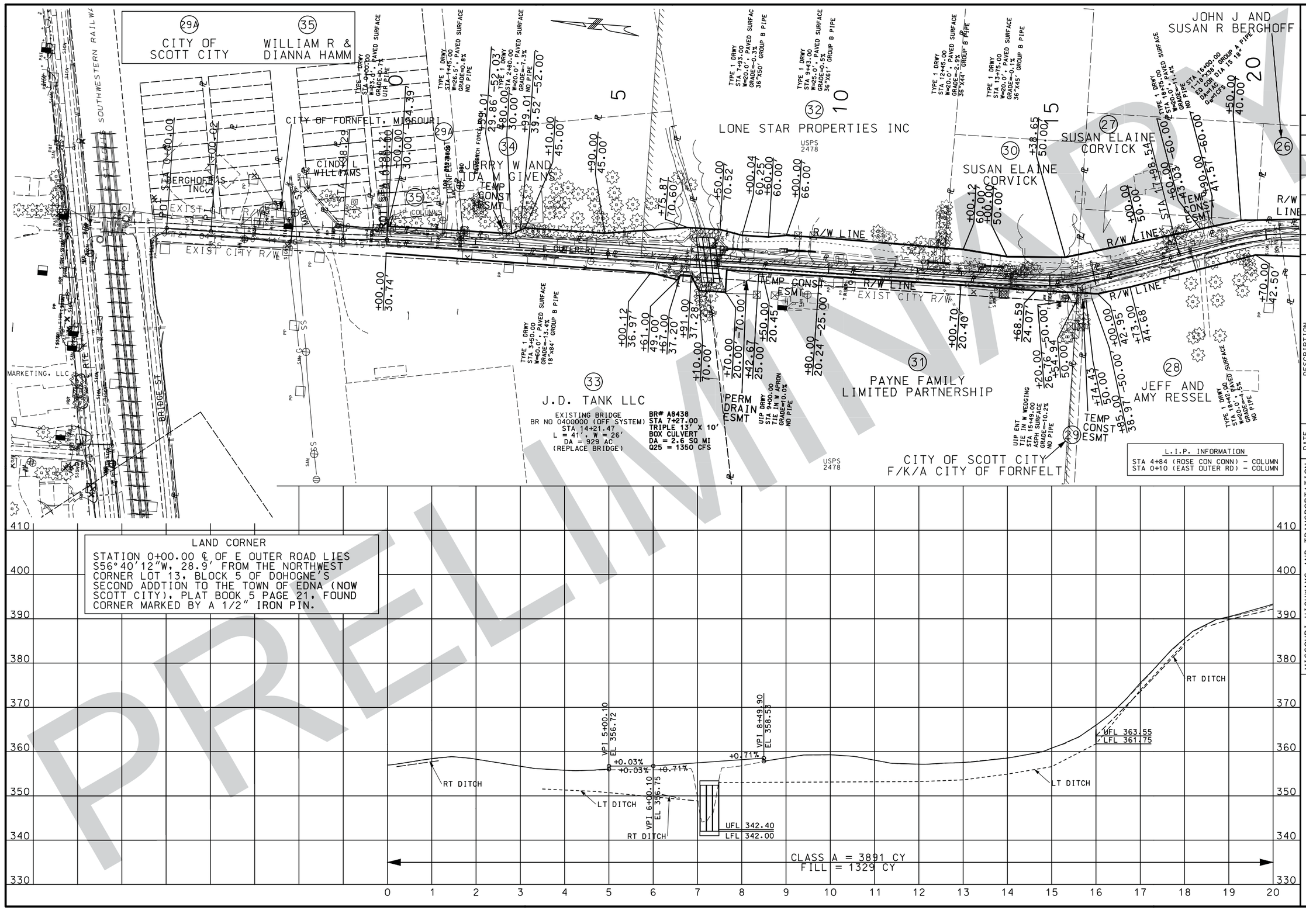
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



DATE PREPARED 3/30/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	7

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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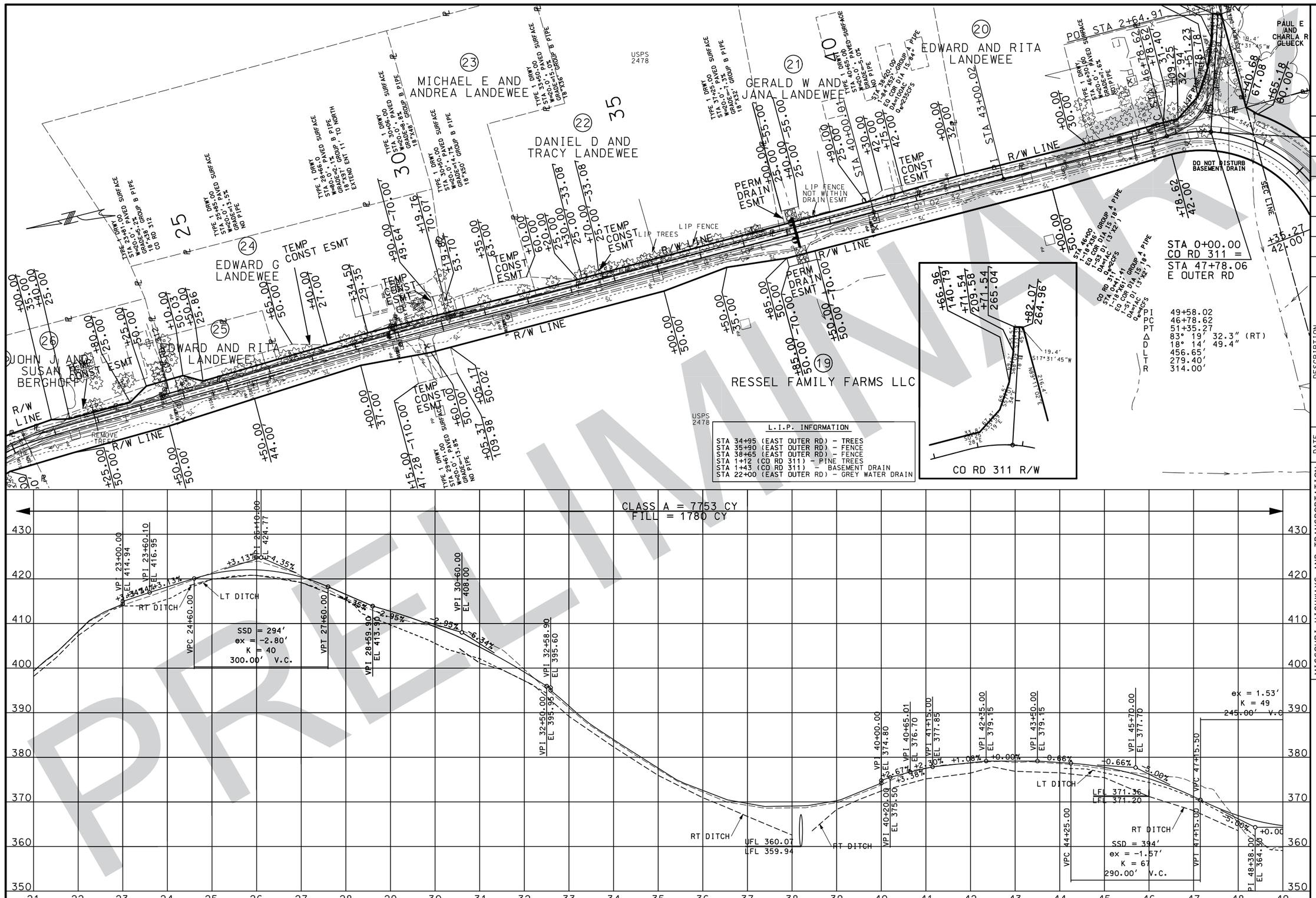
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



DATE PREPARED	3/30/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	8
COUNTY	SCOTT
JOB NO.	J0I0956
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE

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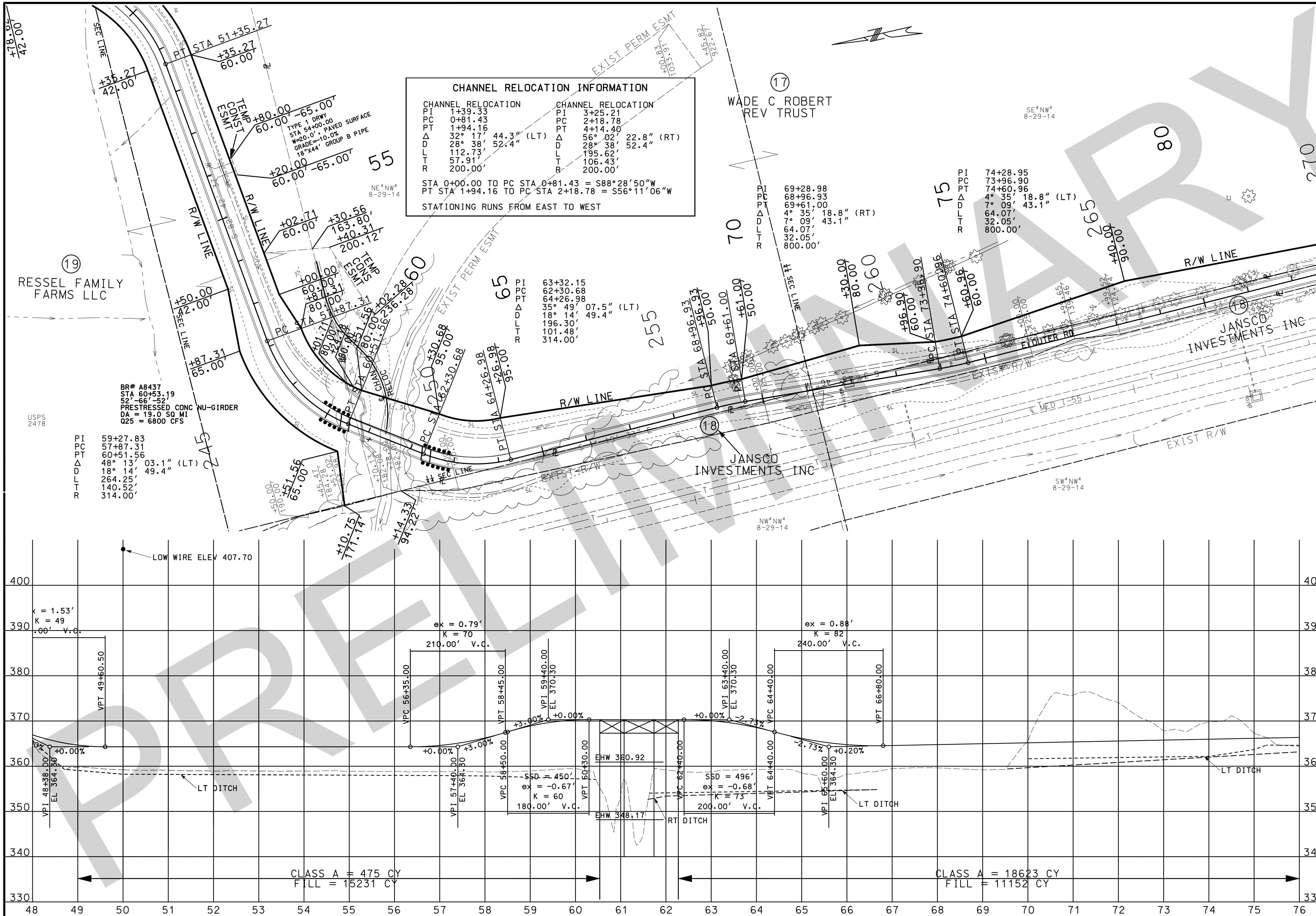
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



PRELIMINARY

DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	9
COUNTY	SCOTT
JOB NO.	J0I0956
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)

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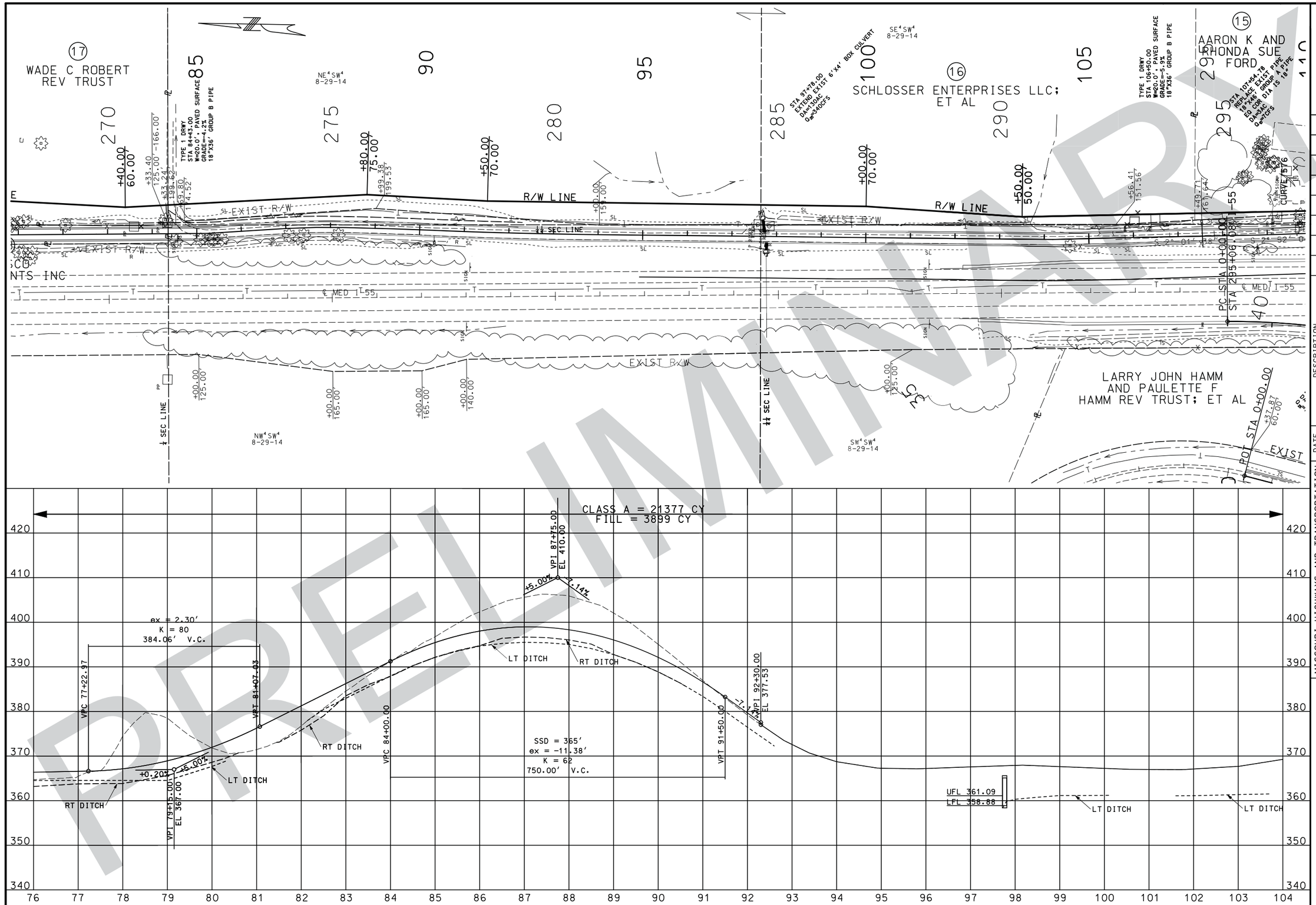

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	10

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

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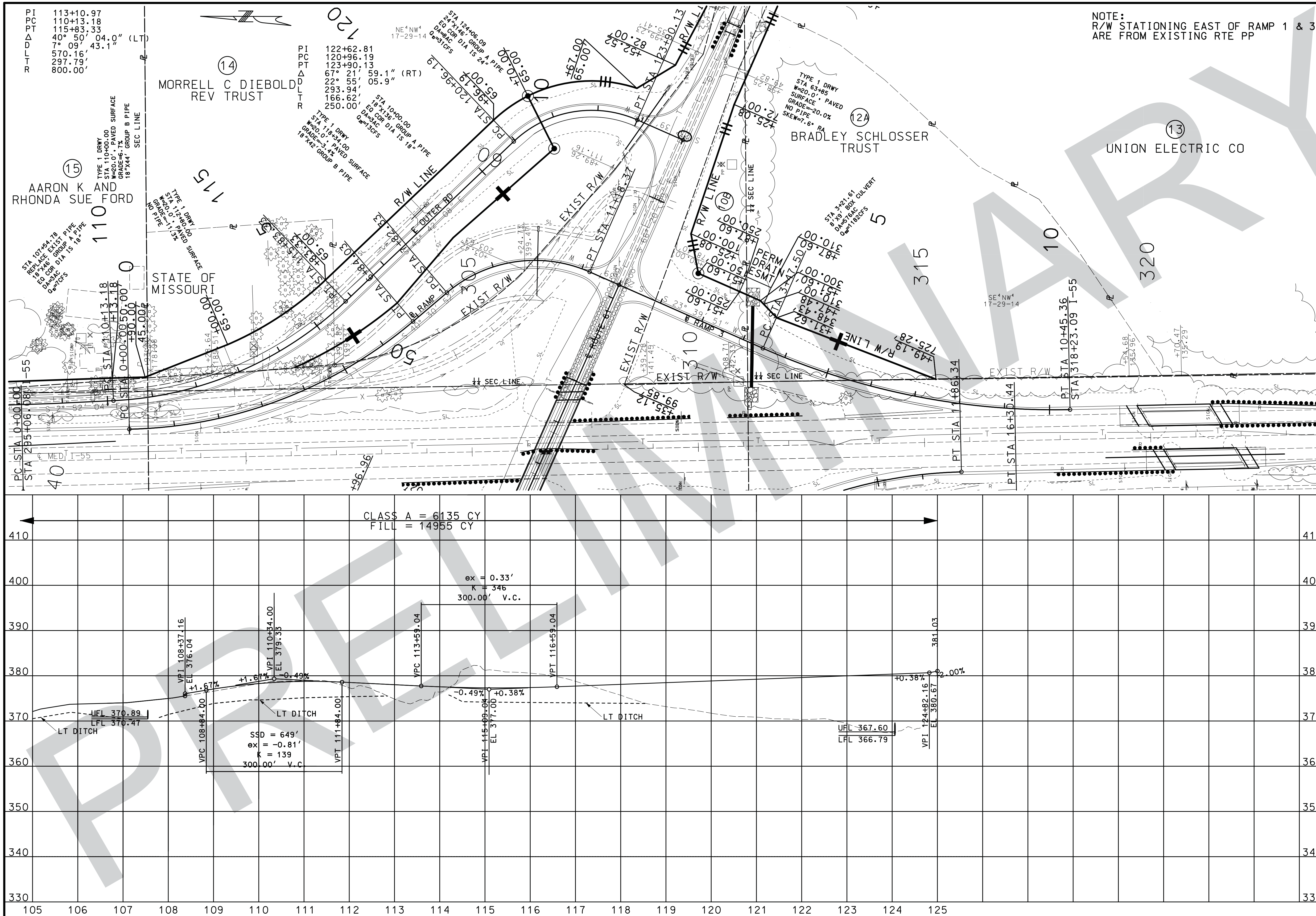

NOTE:
R/W STATIONING EAST OF RAMP 1 & 3 ARE FROM EXISTING RTE PP
PI 113+10.97
PC 110+13.18
PT 115+83.33
Δ 40° 50' 04.0" (LT)
D 7° 09' 43.1"
L 570.16'
T 297.79'
R 800.00'
PI 122+62.81
PC 120+96.19
PT 123+90.13
Δ 67° 21' 59.1" (RT)
D 22° 55' 05.9"
L 293.94'
T 166.62'
R 250.00'
MORRELL C DIEBOLD REV TRUST
AARON K AND RHONDA SUE FORD
STATE OF MISSOURI
BRADLEY SCHLOSSER TRUST
UNION ELECTRIC CO
R/W LINE
EXIST R/W
SEC LINE
RAMP 3
CLASS A = 6135 CY
FILL = 14955 CY
ex = 0.33'
K = 346
300.00' V.C.
SSD = 649'
ex = -0.81'
K = 139
300.00' V.C.
VPI 108+37.16
EL 376.04
VPC 108+84.00
VPI 110+34.00
EL 379.33
VPT 111+84.00
VPC 113+59.04
VPI 115+09.04
EL 377.00
VPT 116+59.04
VPI 124+82.16
EL 380.67
381.03
+1.67%
-0.49%
+0.38%
2.00%
LT DITCH
UFL 370.89
LFL 370.47
UFL 367.60
LFL 366.79

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	11

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

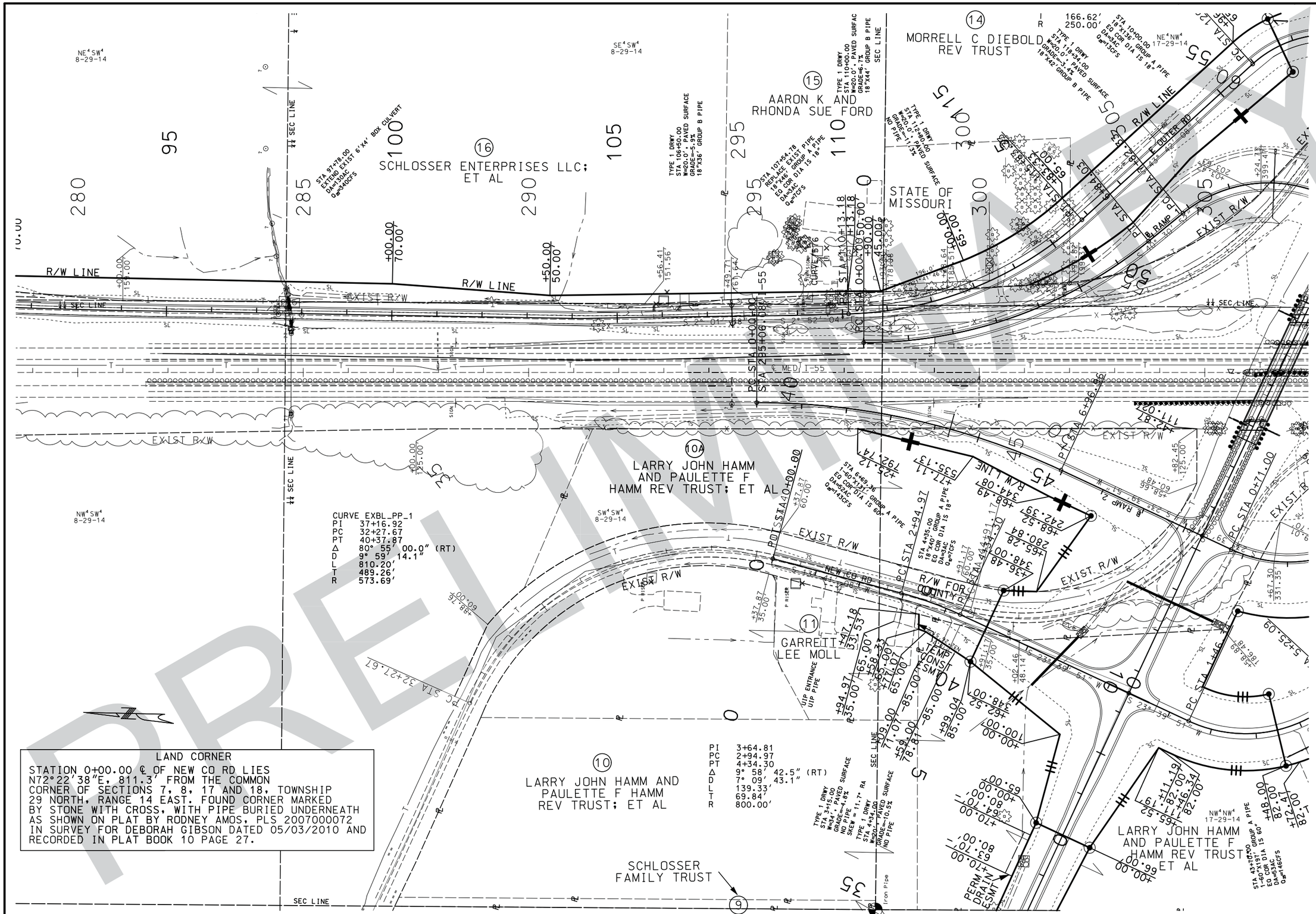
BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	12
COUNTY	SCOTT
JOB NO.	J0I0956
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

NOTE:
R/W STATIONING EAST OF RAMP 1 & 3
ARE FROM EXISTING RTE PP

NOTE:
BUILD ROUTE PP FROM
CONSTRUCTION ℄ "NEW_RTE_61" STARTING
AT STA 58+57.60 OF ROUTE PP STATIONING

(12A) BRADLEY SCHLOSSER TRUST

(13) UNION ELECTRIC CO

(12) BRADLEY SCHLOSSER TRUST

(10) LARRY JOHN HAMM AND PAULETTE F HAMM REV TRUST; ET AL

(10B)

BR# A8433
STA 319+87.73
46'-66'-46'
PRESTRESSED CONC NU-GIRDER
DA = 12.0 SQ MI
Q100 = 6800 CFS

EXISTING BRIDGE
BR NO N0912(DUAL BR)
STA 320+92.8
L = 149', W = 30'
DA = 11.8 SQ MI
(DA FROM EXISTING PLANS)
(REPLACE BRIDGE'S)

BR# A8434
STA 320+36.23
46'-66'-46'
PRESTRESSED CONC NU-GIRDER
DA = 12.0 SQ MI
Q100 = 6800 CFS

CURVE ORW1
PI 3+65.65
PC 1+46.34
PT 5+25.09
Δ 72° 20' 08.7" (LT)
D 19° 05' 54.9"
L 378.75'
T 219.31'
R 300.00'

CURVE ORW2
PI 13+20.09
PC 9+69.37
PT 16+30.44
Δ 47° 20' 44.7" (RT)
D 7° 09' 43.1"
L 661.07'
T 350.72'
R 800.00'

CURVE EXBL_WESTOR_9
PI 324+40.90
PC 323+54.89
PT 325+26.29
Δ 11° 59' 26.0" (RT)
D 6° 59' 44.3"
L 171.40'
T 86.01'
R 819.02'

CURVE EXBL_WESTOR_12
PI 327+97.59
PC 326+97.09
PT 328+97.09
Δ 13° 59' 28.7" (LT)
D 6° 59' 44.3"
L 200.00'
T 100.50'
R 819.02'

RAMP 1

CURVE
PI 3+56.00
PC 0+00.00
PT 6+84.03
Δ 39° 11' 31.0" (LT)
D 5° 43' 46.5"
L 684.03'
T 356.00'
R 1,000.00'

CURVE
PI 9+70.45
PC 7+82.33
PT 11+18.37
Δ 64° 10' 42.8" (RT)
D 19° 05' 54.9"
L 336.04'
T 188.11'
R 300.00'

RAMP 2

CURVE
PI 3+54.10
PC 0+00.00
PT 6+96.96
Δ 24° 57' 28.6" (RT)
D 3° 34' 51.6"
L 696.96'
T 354.10'
R 1,600.00'

RAMP 3

CURVE
PI 7+02.07
PC 3+47.50
PT 10+45.36
Δ 24° 59' 25.0" (LT)
D 3° 34' 51.6"
L 697.86'
T 354.57'
R 1,600.00'

RAMP 4

CURVE
PI 2+59.15
PC 0+71.00
PT 4+07.09
Δ 64° 11' 20.5" (LT)
D 19° 05' 54.9"
L 336.09'
T 188.15'
R 300.00'

CURVE
PI 8+59.14
PC 5+04.21
PT 11+86.34
Δ 39° 04' 59.1" (RT)
D 5° 43' 46.5"
L 682.13'
T 354.93'
R 1,000.00'

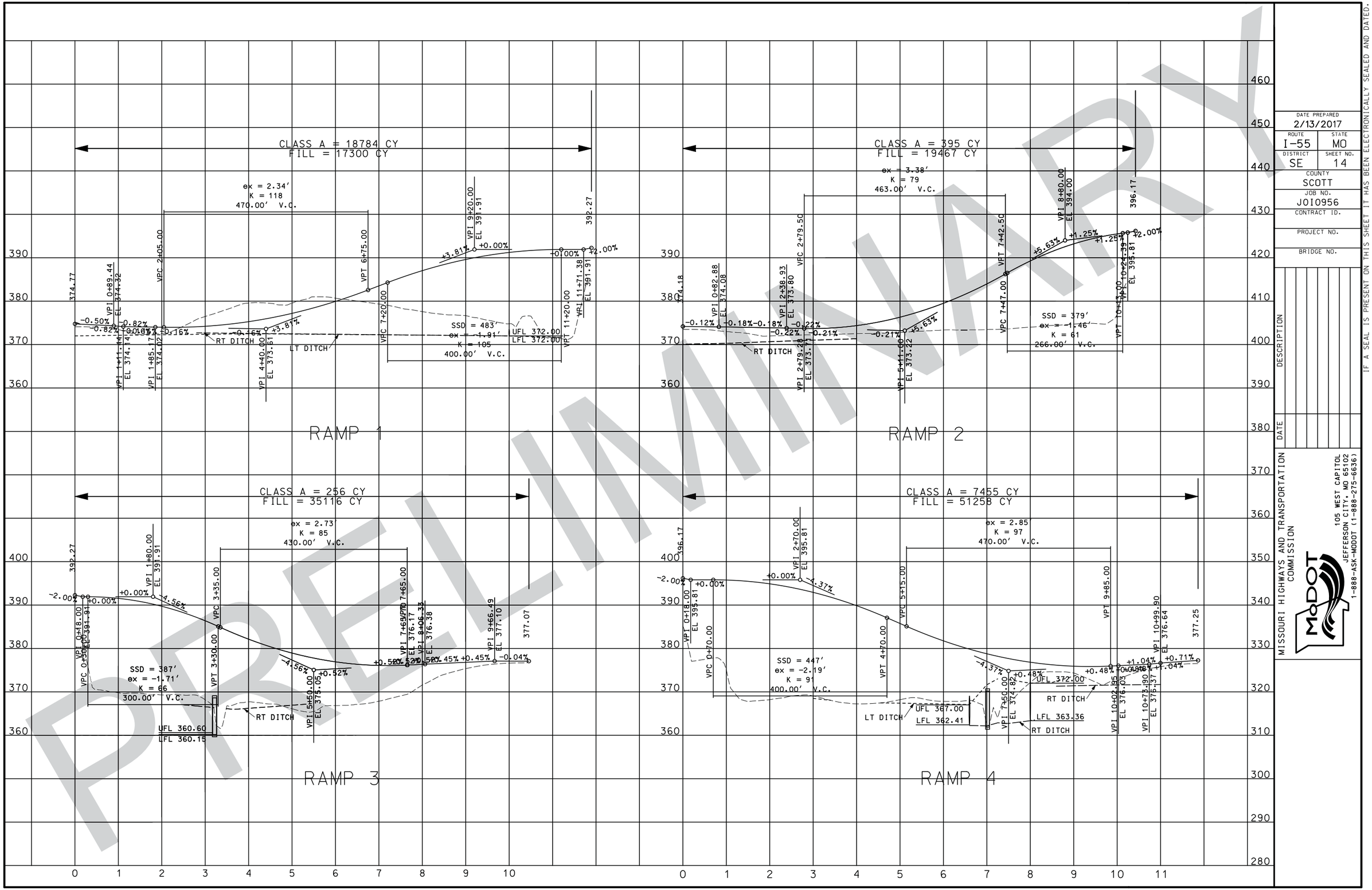
PRELIMINARY

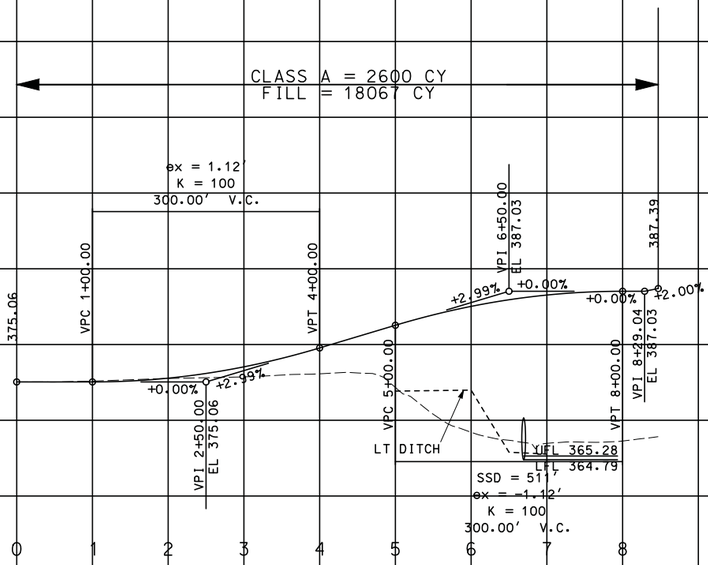
DATE PREPARED	
2/13/2017	
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	13
COUNTY	
SCOTT	
JOB NO.	
J0I0956	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

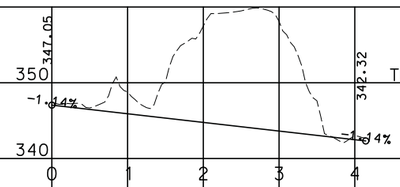
DATE	DESCRIPTION

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

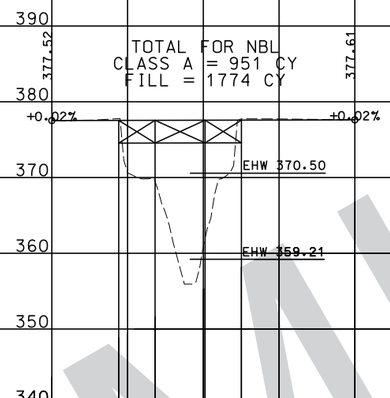
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

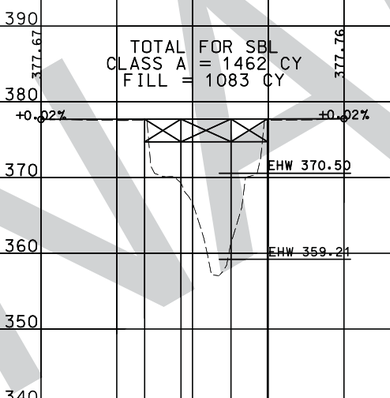

CLASS A = 18784 CY
FILL = 17300 CY
ex = 2.34'
K = 118
470.00' V.C.
VPC 2+05.00
VPT 6+75.00
VPI 9+20.00
EL 391.91
392.27
374.77
VPI 0+89.44
EL 374.32
VPI 1+11.44
EL 374.14
VPI 1+85.17
EL 374.02
VPI 4+40.00
EL 373.61
VPC 7+20.00
VPT 11+20.00
VPI 11+71.38
EL 391.91
-0.50%
-0.82%
-0.16%
+3.81%
+0.00%
-0.00%
+2.00%
RT DITCH
LT DITCH
SSD = 483'
ex = -1.91'
K = 105
400.00' V.C.
UFL 372.00
LFL 372.00
RAMP 1
CLASS A = 395 CY
FILL = 19467 CY
ex = 3.38'
K = 79
463.00' V.C.
VPC 2+79.50
VPT 7+42.50
VPI 8+80.00
EL 394.00
396.17
374.18
VPI 0+82.88
EL 374.08
VPI 2+38.93
EL 373.80
VPI 2+79.28
EL 373.71
VPI 5+11.00
EL 373.22
-0.12%
-0.18%
-0.22%
-0.21%
+5.63%
+1.25%
+2.00%
RT DITCH
SSD = 379'
ex = 1.46'
K = 61
266.00' V.C.
VPI 10+02.39
EL 395.81
RAMP 2
CLASS A = 256 CY
FILL = 35116 CY
ex = 2.73
K = 85
430.00' V.C.
VPI 1+80.00
EL 391.91
VPC 3+35.00
VPT 3+30.00
VPI 7+65.00
EL 376.17
VPI 8+06.38
EL 376.38
VPI 9+66.49
EL 377.10
377.07
VPI 0+18.00
EL 391.91
VPC 0+50.00
-2.00%
+0.00%
-4.56%
+0.52%
+0.45%
-0.04%
SSD = 387'
ex = -1.71'
K = 66
300.00' V.C.
VPI 5+50.00
EL 375.05
RT DITCH
UFL 360.60
LFL 360.15
RAMP 3
CLASS A = 7455 CY
FILL = 51258 CY
ex = 2.85
K = 97
470.00' V.C.
396.17
VPI 2+70.00
EL 395.81
VPI 0+18.00
EL 395.81
VPC 0+70.00
VPC 5+15.00
VPT 9+85.00
VPT 4+70.00
VPI 7+50.00
EL 374.82
VPI 10+73.90
EL 376.37
VPI 10+99.90
EL 376.64
377.25
-2.00%
+0.00%
-4.37%
+0.48%
+1.04%
+0.71%
SSD = 447'
ex = -2.19'
K = 91
400.00' V.C.
LT DITCH
UFL 367.00
LFL 362.41
UFL 372.00
LFL 363.36
RT DITCH
RAMP 4
PRELIMINARY
DATE PREPARED
2/13/2017
ROUTE
I-55
STATE
MO
DISTRICT
SE
SHEET NO.
14
COUNTY
SCOTT
JOB NO.
J0I0956
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.

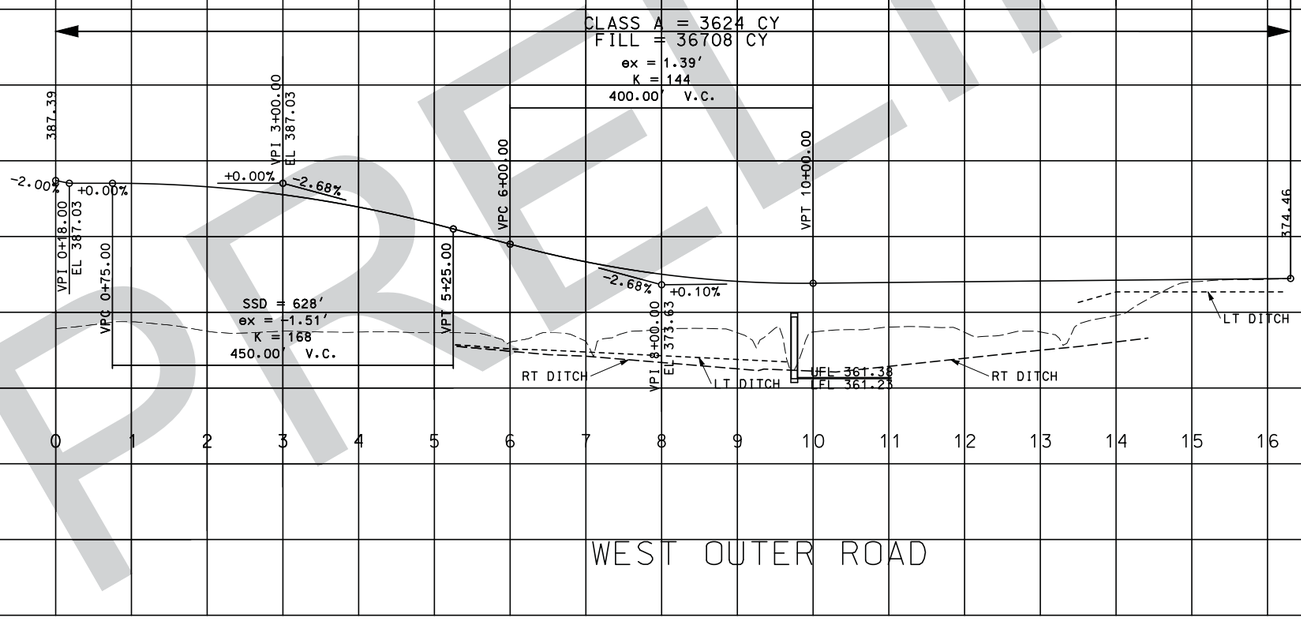


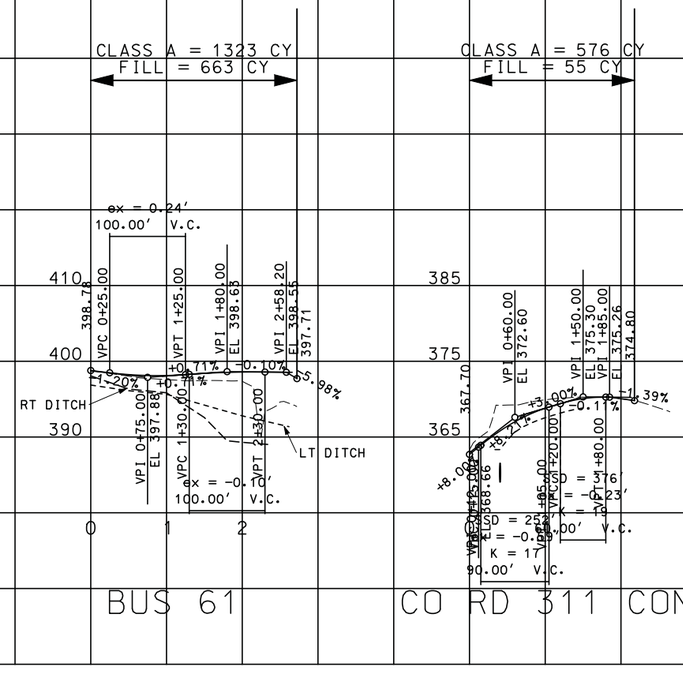


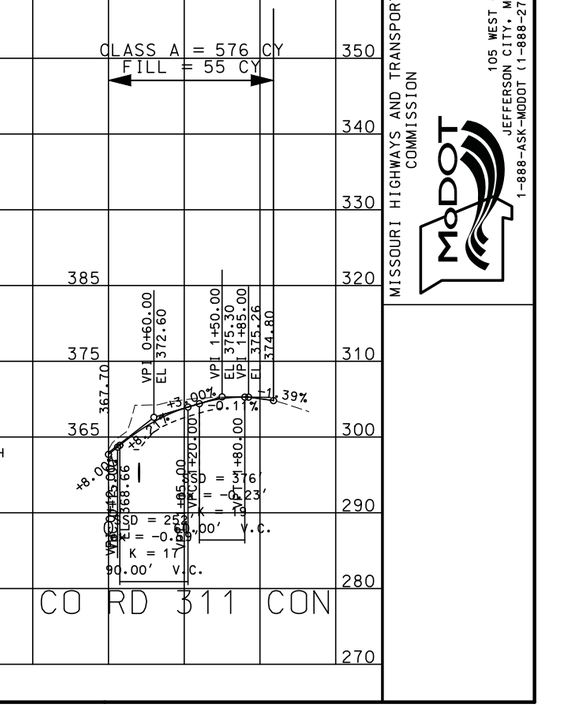
TOTAL FOR CHAN RELOC
CLASS A = 6537 CY











DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	15

COUNTY
SCOTT

JOB NO.
J0I0956

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.

STA 0+00.00 TO STA 1+00.03, S 1° 16′ 47.5″ E Dist 100.03′
STA 1+00.03 TO STA 2+00.03, S 0° 48′ 30.9″ E Dist 100.00′
STA 2+00.03 TO STA 3+00.03, S 0° 29′ 42.6″ E Dist 100.00′
STA 3+00.03 TO STA 4+00.03, S 0° 32′ 49.6″ E Dist 100.00′
STA 4+00.03 TO STA 5+00.03, S 0° 33′ 53.6″ E Dist 100.00′
STA 5+00.03 TO STA 6+00.03, S 0° 28′ 51.8″ E Dist 100.00′
STA 6+00.03 TO STA 7+00.04, S 0° 17′ 43.8″ E Dist 100.00′
STA 7+00.04 TO STA 8+00.04, S 1° 03′ 12.6″ E Dist 100.00′
STA 8+00.04 TO STA 9+00.04 S 0° 58′ 57.1″ E Dist 100.00′
STA 9+00.04 TO STA 10+00.04, S 0° 20′ 13.8″ E Dist 100.00′
STA 10+00.04 TO STA 11+00.04, S 0° 48′ 33.0″ E Dist 100.00′
STA 11+00.04 TO STA 12+00.04, S 0° 50′ 02.6″ E Dist 100.00′
STA 12+00.04 TO STA 13+00.04, S 0°33′ 21.1″ E Dist 100.00′
STA 13+00.04 TO STA 14+00.04, S 0° 40′ 15.8″ E Dist 100.00′
STA 14+00.04 TO STA 14+10.03, S 0° 41′ 27.6″ E Dist 9.99′
STA 14+10.03 TO STA 14+19.94, S 1° 42′ 02.7″ E Dist 9.91′
STA 14+19.94 TO STA 14+70.24, S 2° 22′ 36.4″ E Dist 50.29′
STA 14+70.24 TO STA 14+80.07, S 3° 24′ 51.3″ E Dist 9.83′
STA 14+80.07 TO STA 15+09.63, S 3° 50′ 04.3″ E Dist 29.55′
STA 15+09.63 TO STA 15+19.64, S 5° 59′ 37.9″ E Dist 10.00′

STA 15+19.64 TO STA 15+39.34, S 8° 46′ 34.7″ E Dist 19.71′
STA 15+39.34 TO STA 15+48.92, S 10° 19′ 45.7″ E Dist 9.57′
STA 15+48.92 TO STA 15+69.56, S 11° 48′ 47.4″ E Dist 20.64′
STA 15+69.56 TO STA 15+78.88, S 12° 50′ 27.2″ E Dist 9.32′
STA 15+78.88 TO STA 16+18.89, S 16° 14′ 16.5″ E Dist 40.00′
STA 16+18.89 TO STA 16+29.17, S 16° 33′ 37.3″ E Dist 10.28′
STA 16+29.17 TO STA 16+88.79, S 18° 06′ 15.5″ E Dist 59.62′
STA 16+88.79 TO STA 16+98.51, S 18° 03′ 48.0″ E Dist 9.72′
STA 16+98.51 TO STA 17+98.54, S 18° 33′ 54.2″ E Dist 100.03′
STA 17+98.54 TO STA 18+98.49, S 19° 02′ 55.9″ E Dist 99.95′
STA 18+98.49 TO STA 19+18.56, S 18° 44′ 41.8″ E Dist 20.07′
STA 19+18.56 TO STA 19+28.56, S 17° 56′ 23.7″ E Dist 10.00′
STA 19+28.56 TO STA 19+38.72, S 16° 48′ 16.0″ E Dist 10.16′
STA 19+38.72 TO STA 19+48.74, S 15° 38′ 54.2″ E Dist 10.02′
STA 19+48.74 TO STA 19+58.76, S 14° 30′ 02.2″ E Dist 10.02′

STA 19+58.76 TO STA 19+68.78, S 13° 21′ 07.6″ E Dist 10.03′
STA 19+68.78 TO STA 19+78.39, S 1° 13′ 38.2″ E Dist 9.60′
STA 19+78.39 TO STA 19+88.83, S 11° 04′ 43.2″ E Dist 10.44′
STA 19+88.83 TO STA 19+98.97, S 9° 53′ 57.7″ E Dist 10.14′
STA 19+98.97 TO STA 20+09.07, S 8° 44′ 22.2″ E Dist 10.10′
STA 20+09.07 TO STA 20+18.83, S 7° 36′ 06.7″ E Dist 9.75′
STA 20+18.83 TO STA 20+28.58, S 6° 29′ 03.4″ E Dist 9.75′
STA 20+28.58 TO STA 20+38.39, S 5° 21′ 47.2″ E Dist 9.81′
STA 20+38.39 TO STA 20+48.44, S 4° 13′ 31.3″ E Dist 10.04′
STA 20+48.44 TO STA 20+58.54, S 3° 04′ 16.1″ E Dist 10.10′
STA 20+58.54 TO STA 20+68.57, S 2° 26′ 24.3″ E Dist 10.03′
STA 20+68.57 TO STA 21+48.67, S 2° 26′ 19.8″ E Dist 80.10′
STA 21+48.67 TO STA 21+58.68, S 1° 04′ 38.3″ E Dist 10.01′
STA 21+58.68 TO STA 21+98.49, S 0° 57′ 06.9″ E Dist 39.81′
STA 21+98.49 TO STA 22+98.49, S 1° 17′ 01.2″ E Dist 100.00′
STA 22+98.49 TO STA 23+98.49, S 1° 56′ 56.1″ E Dist 100.00′
STA 23+98.49 TO STA 24+98.49, S 1° 41′ 40.5″ E Dist 100.00′
STA 24+98.49 TO STA 25+98.50, S 2° 15′ 09.8″ E Dist 100.00′
STA 25+98.50 TO STA 26+98.50, S 1° 47′ 51.2″ E Dist 100.00′
STA 26+98.50 TO STA 27+98.43, S 1° 17′ 17.7″ E Dist 99.93′
STA 27+98.43 TO STA 28+98.43, S 1° 08′ 23.3″ E Dist 100.00′
STA 28+98.43 TO STA 29+98.43, S 0° 47′ 42.6″ E Dist 100.00′
STA 29+98.43 TO STA 30+98.43, S 0° 36′ 00.1″ E Dist 100.00′
STA 30+98.43 TO STA 31+98.44, S 0° 16′ 35.1″ E Dist 100.01′
STA 31+98.44 TO STA 32+98.44, S 0° 32′ 33.8″ E Dist 100.00′
STA 32+98.44 TO STA 33+23.59, S 0° 40′ 16.8″ E Dist 25.15′
STA 33+23.59 TO STA 40+00.01, S 0° 52′ 09.7″ E Dist 676.42′
STA 40+00.01 TO STA 43+00.02, S 0° 02′ 32.3″ E Dist 300.01′
STA 43+00.02 TO PC STA 46+78.62, S 0° 36′ 55″ E Dist 378.60′

PT STA 74+60.96 TO STA 85+21.87, S 1° 19′ 33″ E Dist 1,060.91′
STA 85+21.87 TO STA 87+00.90, S 4° 30′ 14.0″ E Dist 179.03′
STA 87+00.90 TO STA 87+67.84, S 2° 57′ 30.1″ E Dist 66.93′
STA 87+67.84 TO STA 88+34.39, S 0° 38′ 46.3″ E Dist 66.56′
STA 88+34.39 TO STA 89+42.11, S 0° 36′ 14.6″ W Dist 107.72′

STA 89+42.11 TO STA 90+28.72, S 1° 10′ 25.1″ W Dist 86.62′
STA 90+28.72 TO STA 91+25.93, S 1° 18′ 26.7″ W Dist 97.21′
STA 91+25.93 TO STA 92+16.84, S 0° 42′ 27.3″ W Dist 90.91′
STA 92+16.84 TO STA 93+69.67, S 0° 14′ 27.7″ W Dist 152.83′
STA 93+69.67 TO STA 94+93.25, S 0° 19′ 31.2″ E Dist 123.57′
STA 94+93.25 TO STA 96+44.00, S 0° 20′ 44.5″ E Dist 150.75′
STA 96+44.00 TO STA 97+57.88, S 0° 22′ 25.6″ E Dist 113.89′
STA 97+57.88 TO STA 99+36.62, S 0° 12′ 10.2″ E Dist 178.73′
STA 99+36.62 TO STA 100+57.30, S 0° 16′ 50.3″ E Dist 120.68′
STA 100+57.30 TO STA 101+15.17, S 0° 27′ 27.4″ E Dist 57.87′
STA 101+15.17 TO STA 103+02.52, S 0° 21′ 42.7″ E Dist 187.35′
STA 103+02.52 TO STA 104+19.16, S 0° 19′ 45.6″ E Dist 116.64′
STA 104+19.16 TO STA 105+82.28, S 2° 24′ 19.5″ E Dist 163.12′
STA 105+82.28 TO STA 108+77.28, S 2° 01′ 37.9″ E Dist 295.00′
STA 108+77.28 TO PC STA 110+13.18, S 2° 52′ 04.4″ E Dist 135.89′

UTILITIES

POWER: AMEREN TRANSMISSION
1901 CHOUTEAU AVE
ST LOUIS, MO 63166
CONTACT: MATHEW ADAMS
TEL: 314-554-3811

AMERENUE
45 SOUTH MINNESOTA
CAPE GIRARDEAU, MO 63703
CONTACT: ROB WOLF
TEL: 573-651-5722

SEMO ELECTRIC COOP
1505 SOUTH MAIN
SIKESTON, MO 63801
CONTACT: LARRY KELLY
TEL: 573-471-5821

COMMUNICATION: AT&T
800 BROADWAY
CAPE GIRARDEAU, MO 63701
CONTACT: TOM KILBURN
TEL: 573-339-9467

CENTURYLINK OF MISSOURI
418 FIRST STREET
MARSHFIELD, MO 65706
CONTACT: BOBBY KENNEDY
TEL: 417-860-4526

CHARTER COMMUNICATIONS
3140 WEST NASH ROAD
SCOTT CITY, MO 63780
CONTACT: SONNY FORD
TEL: 573-335-7644

SHO-METECHNOLOGIES
301 WEST JACKSON
MARSHFIELD, MO 63706
CONTACT: BRAD BAKER
TEL: 417-859-2615

GAS: AMERENUE
45 SOUTH MINNESOTA
CAPE GIRARDEAU, MO 63703
CONTACT: JOSH BEUSSINK
TEL: 573-651-5640

CITY: SCOTT CITY
215 CHESTER AVE
SCOTT CITY, MO 63780
CONTACT: RON ESKEW
TEL: 573-264-2157

KELSO
426 N MESSMER ST
KELSO, MO 63758
CONTACT: MAYOR LARRY MCCLAIN
TEL: 573-264-2334

PRIVATE: WATERLINE
371 CO HWY 312
SCOTT CITY, MO 63870
CONTACT: EDWARD LANDEWEE
TEL: 573-264-2547

SEWER
205 CLAIRBORNE
CAPE GIRARDEAU, MO 63701
CONTACT: LARRY PAYNE
TEL: 573-264-2162

NOTE: ALL STATIONS ARE PI'S
UNLESS OTHERWISE NOTED.

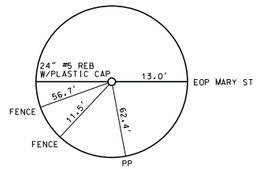
EAST OUTER ROAD
ALIGNMENT EXIST SECTIONS
AND UTILITY INFO

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

DATE PREPARED: 2/13/2017
ROUTE: I-55 | STATE: MO
DISTRICT: SE | SHEET NO.: 16
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

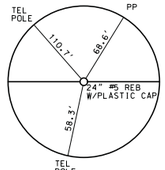
DATE	DESCRIPTION

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



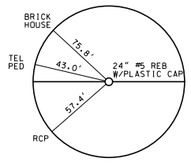
CONTROL PT #100
ROSE_CON_CONN
STA 2+67.41
OFFSET 89.07' LT

X 1101787.87360
Y 503988.75000
Z 357.51



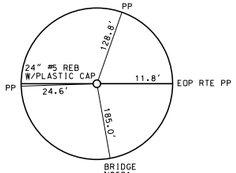
CONTROL PT #101
EX BL PP

X 1099286.46220
Y 494738.95650
Z 375.26



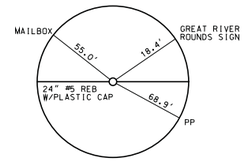
CONTROL PT #102
OUTER_ROAD_E_F
STA 115+06.41
OFFSET 124.21' RT

X 1100743.36600
Y 493121.16100
Z 379.70



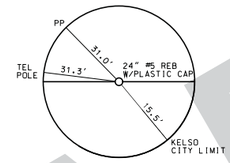
CONTROL PT #103
EX BL PP

X 1101778.28850
Y 492185.70730
Z 371.84



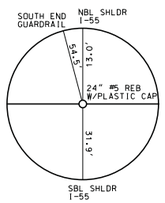
CONTROL PT #104
EX BL 61
STA 286+22.37
OFFSET 29.51' RT

X 1096207.75570
Y 494401.66840
Z 403.41



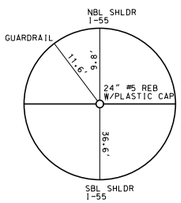
CONTROL PT #105
EX BL 61
STA 296+25.76
OFFSET 33.15' LT

X 1095981.61470
Y 493423.93660
Z 395.77



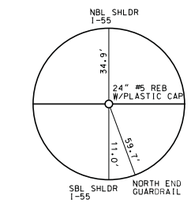
CONTROL PT #106
EX CL I-55
STA 344+67.59
OFFSET 12.44' LT

X 1100663.33100
Y 488893.20630
Z 406.51



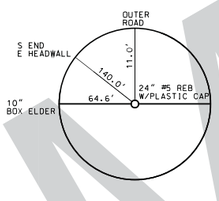
CONTROL PT #107
EX CL I-55
STA 326+18.66
OFFSET 16.29' LT

X 1100624.3952
Y 490741.72650
Z 377.53



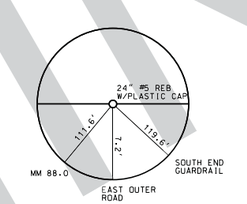
CONTROL PT #108
EX CL I-55
STA 316+95.06
OFFSET 9.60' RT

X 1100577.14210
Y 491664.48420
Z 375.02



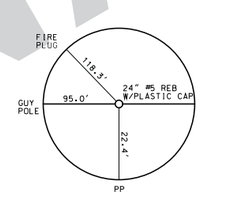
CONTROL PT #109
OUTER_ROAD_E_F
STA 99+12.20
OFFSET 22.25' RT

X 1100621.41370
Y 494752.97520
Z 363.32



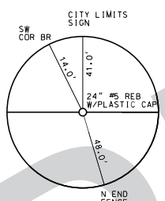
CONTROL PT #110
OUTER_ROAD_E_F
STA 91+76.10
OFFSET 13.57' LT

X 1100655.47660
Y 495488.97540
Z 379.25



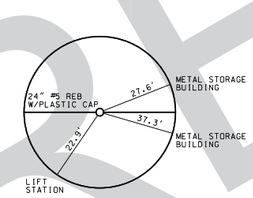
CONTROL PT #111
OUTER_ROAD_E_F
STA 2+78.30
OFFSET 24.60' RT

X 1101687.67130
Y 503478.60430
Z 354.79



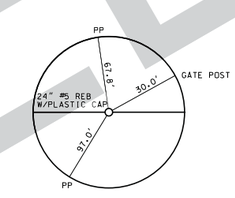
CONTROL PT #112
OUTER_ROAD_E_F
STA 7+62.88
OFFSET 25.88' RT

X 1101691.03450
Y 502993.78840
Z 355.94



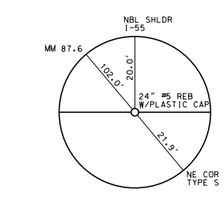
CONTROL PT #113
NEW RTE 61
STA 16+53.12
OFFSET 135.16' LT

X 1097485.73170
Y 493833.73500
Z 378.00



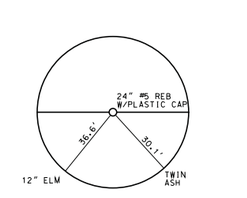
CONTROL PT #114
NEW RTE 61
STA 23+17.65
OFFSET 313.15' RT

X 1098112.90570
Y 493388.36400
Z 376.16



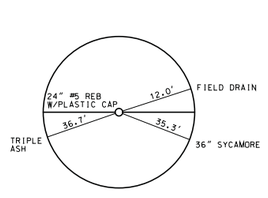
CONTROL PT #115
EX CL I-55
STA 299+82.52
OFFSET 5.02' LT

X 1100552.12770
Y 493376.90040
Z 373.95



CONTROL PT #116
OUTER_ROAD_E_F
STA 60+23.75
OFFSET 273.95' RT

X 1100583.05070
Y 498765.80510
Z 356.30



CONTROL PT #117
OUTER_ROAD_E_F
STA 62+69.87
OFFSET 68.48' RT

X 1100595.10500
Y 498419.33550
Z 357.50

BENCH MARKS - NAVD 88

BM#1 ELEV 356.00
☐ SW COR OF BRIDGE
OUTER_ROAD_E_F
STA 7+52.18 16.53'RT

BM#2 ELEV 415.08
SW BOLT OF FIRE HYDRANT
OUTER_ROAD_E_F
STA 28+93.86 25.06'LT

BM#3 ELEV 378.45
COTTON PICKER SPINDLE
NW ROOT 18" MAPLE
OUTER_ROAD_E_F
STA 45+30.18 56.85'LT

BM#4 ELEV 356.65
COTTON PICKER SPINDLE
SOUTH SIDE OF TWIN ASH
OUTER_ROAD_E_F
STA 60+40.93 280.76'RT

BM#5 ELEV 393.51
COTTON PICKER SPINDLE IN
SOUTH ROOT OF 14" HACKBERRY
OUTER_ROAD_E_F
STA 84+31.76 32.54'LT

BM#6 ELEV 366.91
☐ TOP CENTER WEST HEADWALL
OUTER_ROAD_E_F
STA 97+78.07 16.49'RT

BM#7 ELEV 374.49
☐ NW COR BR# N0691
NEW_RTE_61
STA 59+64.63 10.82'LT

BM#8 ELEV 368.77
NW ROOT 24" PECAN
NEW_RTE_61
STA 37+51.58 298.65'RT

BM#9 ELEV 377.22
SOUTH ROOT 18" COTTONWOOD
NEW_RTE_61
STA 20+89.89 30.82'LT

BM#10 ELEV 394.14
☐ TOP WESTSIDE KELSO CITY
HALL SIGN BASE
NEW_RTE_61
STA 3+75.82 39.23'LT

BM#11 ELEV 378.34
☐ TOP NW WINGWALL BR# A0912
EX CL I-55
STA 320+02.82 23.57'LT

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017
ROUTE 55 | STATE MO
DISTRICT SE | SHEET NO. 17
COUNTY SCOTT
JOB NO. J0I0956
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.

REFERENCE POINTS
SHEET 1 OF 1

ALIGNMENT COORDINATE POINTS (NEW_RTE_61)

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1096027.05171	493692.33462	POT
CUR1	1+21.00	1096061.62601	493808.28986	PC
	3+36.58	1096123.22557	494014.88243	PI
	4+37.56	1096316.55942	493919.50413	PT
		1096236.03802	493756.28555	CC
CUR2	6+74.61	1096529.15122	493814.62521	PC
	9+68.48	1096792.69854	493684.60817	PI
	12+51.10	1097086.51255	493690.51952	PT
		1097062.27364	494895.27571	CC
CUR3	21+40.77	1097975.99745	493708.41538	PT
	24+05.89	1098241.06424	493713.74835	PI
	26+62.69	1098483.89184	493607.33595	PT
		1098000.23637	492503.65919	CC
	62+38.29	1101758.83257	492172.18475	POT

ALIGNMENT COORDINATE POINTS (BUS_RTE_61)

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1096172.52187	494180.21230	POT
BUS_CUR_1	1+33.72	1096134.31214	494052.06455	PC
	1+87.14	1096119.04764	494000.87050	PI
	2+36.36	1096139.57972	493951.55246	PT
		1096278.05831	494009.20385	CC
	2+72.24	1096153.37027	493918.42759	POT

ALIGNMENT COORDINATE POINTS (RAMP1)

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
R1	0+00.00	1100607.66898	493617.36925	PC
	3+56.00	1100615.88560	493261.45919	PI
	6+84.03	1100847.16061	492990.80933	PT
		1101607.40260	493640.44932	CC
R2	7+82.33	1100911.02401	492916.07311	PT
	9+70.45	1101033.22872	492773.06291	PI
	11+18.37	1100957.72571	492600.76896	PC
		1100682.95141	492721.18111	CC
	11+89.38	1100929.22693	492535.73622	POT

ALIGNMENT COORDINATE POINTS (RAMP2A)

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
R7A	0+00.00	1100469.27144	493851.54651	PC
	3+54.10	1100477.26696	493497.54129	PI
	6+96.96	1100335.14229	493173.22016	PT
		1098869.67938	493815.41830	CC
	10+42.39	1100196.49547	492856.83529	POT

ALIGNMENT COORDINATE POINTS (RAMP3)

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1100929.22693	492535.73622	POT
R4	3+47.50	1100789.74877	492217.45428	PC
	7+02.07	1100647.43399	491892.69932	PI
	10+45.36	1100655.64027	491538.22515	PT
		1102255.21168	491575.25613	CC

ALIGNMENT COORDINATE POINTS (RAMP4A)

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1100196.49547	492856.83529	POT
R8A	0+71.00	1100167.99793	492791.80537	PC
	2+59.15	1100092.47959	492619.47644	PI
	4+07.09	1100214.73526	492476.45954	PT
		1100442.77223	492671.39322	CC
R9A	5+04.21	1100277.83899	492402.63965	PC
	8+59.14	1100508.46812	492132.84549	PI
	11+86.34	1100517.39914	491778.02311	PT
		1099517.71576	491752.86070	CC

ALIGNMENT COORDINATE POINTS (OUTER_ROAD_W)

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1099843.86846	493011.36422	POT
ORW1	1+46.34	1099785.13098	492877.32834	PC
	3+65.65	1099697.10627	492676.46049	PI
	5+25.09	1099861.79327	492531.63496	PT
		1100059.90528	492756.91619	CC
ORW2	9+69.37	1100195.41969	492238.24432	PC
	13+20.09	1100458.79132	492006.63567	PI
	16+30.44	1100466.90680	491656.00578	PT
		1099667.12100	491637.49438	CC

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE 55 | STATE MO

DISTRICT SE | SHEET NO. 18

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

COORDINATE POINTS
SHEET 1 OF 3

ALIGNMENT COORDINATE POINTS (NEW_CO_RD)				
CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1100123.87693	493807.82281	POT
RTEPP1	2+94.97	1100054.08841	493521.22593	PC
	3+64.81	1100037.56478	493453.36920	PI
	4+34.30	1100009.53300	493389.40212	PT
		1099276.80155	493710.50120	CC
	8+47.04	1099843.86846	493011.36422	POT

ALIGNMENT COORDINATE POINTS (CL_I55_NBL)				
CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	285+00.00	1100554.79521	494859.87582	POT
	327+00.00	1100651.98002	490661.00036	POT

ALIGNMENT COORDINATE POINTS (CL_I55_SBL)				
CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	285+00.00	1100470.81770	494857.93212	POT
	327+00.00	1100568.00251	490659.05666	POT

ALIGNMENT COORDINATE POINTS (CHAN_RELOC)				
CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1101143.18821	498557.59470	POT
301	0+81.43	1101061.79105	498555.43559	PC
	1+39.33	1101003.90350	498553.90009	PI
	1+94.16	1100955.79141	498521.67350	PT
		1101067.09431	498355.50592	CC
302	2+18.78	1100935.33401	498507.97066	PC
	3+25.21	1100846.90734	498448.74043	PI
	4+14.40	1100748.38353	498488.99656	PT
		1100824.03111	498674.13824	CC

ALIGNMENT COORDINATE POINTS (ROSE_CON_CONN)				
CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1101696.02311	504254.98056	POT
	1+00.02	1101696.63599	504154.96432	POT
	3+98.29	1101700.52032	503856.71555	POT
	4+98.21	1101707.94650	503757.07774	POT

ALIGNMENT COORDINATE POINTS (OUTER_ROAD_E_F)				
CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	0+00.00	1101707.94650	503757.07774	POT
	1+00.03	1101710.18077	503657.07210	POT
	2+00.03	1101711.59194	503557.08200	POT
	3+00.03	101712.45615	503457.08477	POT
	4+00.03	1101713.41101	503357.08872	POT
	5+00.03	1101714.39691	503257.09308	POT
	6+00.03	1101715.23650	503157.09552	POT
	7+00.04	1101715.75225	503057.09375	POT
	8+00.04	1101717.59088	502957.10922	POT
	9+00.04	1101719.30564	502857.12308	POT
	10+00.04	1101719.89411	502757.12687	POT
	11+00.04	1101721.30639	502657.13217	POT
	12+00.04	1101722.76206	502557.14265	POT
	13+00.04	1101723.73219	502457.14679	POT
	14+00.04	1101724.90334	502357.15647	POT
	14+10.03	1101725.02386	502347.16343	POT
	14+19.94	1101725.31789	502337.26093	POT
	14+29.89	1101725.73062	502327.31709	POT
	14+39.89	1101726.14542	502317.32359	POT
	14+49.90	1101726.56021	502307.33009	POT
	14+59.90	1101726.97501	502297.33659	POT
	14+70.24	1101727.40393	502287.00257	POT
	14+80.07	1101727.98946	502277.18822	POT
	14+89.63	1101728.62821	502267.65823	POT
	14+99.63	1101729.29728	502257.67591	POT
	15+09.63	1101729.96635	502247.69359	POT
	15+19.64	1101731.01067	502237.74724	POT
	15+29.65	1101732.53907	502227.84729	POT
	15+39.34	1101734.01777	502218.26928	POT
	15+48.92	1101735.73421	502208.85177	POT
	15+58.92	1101737.78221	502199.05978	POT
	15+69.56	1101739.96052	502188.64478	POT
	15+78.88	1101742.03209	502179.55675	POT
	15+88.88	1101744.82882	502169.95408	POT
	15+98.89	1101747.62555	502160.35140	POT

DATE PREPARED: 2/13/2017

ROUTE: 55 | STATE: MO

DISTRICT: SE | SHEET NO.: 19

COUNTY: SCOTT

JOB NO.: J0I0956

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.

COORDINATE POINTS
SHEET 2 OF 3

ALIGNMENT COORDINATE POINTS (OUTER_ROAD_E_F) CONT'D

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	16+08.89	1101750.42227	502150.74872	POT
	16+18.89	1101753.21900	502141.14605	POT
	16+29.17	1101756.14854	502131.29421	POT
	16+38.96	1101759.19039	502121.99004	POT
	16+48.77	1101762.24123	502112.65836	POT
	16+58.78	1101765.34963	502103.15062	POT
	16+68.78	1101768.45803	502093.64288	POT
	16+78.78	1101771.56643	502084.13515	POT
	16+88.79	1101774.67483	502074.62741	POT
	16+98.51	1101777.69019	502065.38186	POT
	17+98.54	1101809.53922	501970.55315	POT
	18+98.49	1101842.15932	501876.07935	POT
	19+08.56	1101845.39570	501866.54254	POT
	19+18.56	1101848.60929	501857.07287	POT
	19+28.56	1101851.68964	501847.55857	POT
	19+38.72	1101854.62707	501837.83206	POT
	19+48.74	1101857.32876	501828.18717	POT
	19+58.76	1101859.83667	501818.49023	POT
	19+68.78	1101862.15266	501808.73254	POT
	19+78.39	1101864.18647	501799.34746	POT
	19+88.83	1101866.19331	501789.09831	POT
	19+98.97	1101867.93637	501779.11034	POT
	20+09.07	1101869.47159	501769.12366	POT
	20+18.83	1101870.76158	501759.45808	POT
	20+28.58	1101871.86310	501749.76650	POT
	20+38.39	1101872.78036	501739.99573	POT
	20+48.44	1101873.52036	501729.97954	POT
	20+58.54	1101874.06152	501719.89318	POT
	20+68.57	1101874.48858	501709.87139	POT
	20+78.60	1101874.91542	501699.84957	POT
	20+88.65	1101875.34308	501689.80867	POT
	20+98.66	1101875.76927	501679.80206	POT
	21+08.67	1101876.19486	501669.80970	POT
	21+18.67	1101876.62045	501659.81734	POT
	21+28.67	1101877.04604	501649.82498	POT
	21+38.67	1101877.47162	501639.83261	POT

ALIGNMENT COORDINATE POINTS (OUTER_ROAD_E_F) CONT'D

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	21+48.67	1101877.89721	501629.84025	POT
	21+58.68	1101878.08538	501619.83377	POT
	21+98.49	1101878.74676	501580.02898	POT
	22+98.49	1101880.98703	501480.05157	POT
	23+98.49	1101884.38790	501380.10839	POT
	24+98.49	1101887.34507	501280.15212	POT
	25+98.50	1101891.27601	501180.22458	POT
	26+98.50	1101894.41281	501080.27361	POT
	27+98.43	1101896.65940	500980.37120	POT
	28+98.43	1101898.64863	500880.39021	POT
	29+98.43	1101900.03642	500780.39963	POT
	30+98.43	1101901.08365	500680.40362	POT
	31+98.44	1101901.56611	500580.39861	POT
	32+98.44	1101902.51335	500480.40101	POT
	33+23.59	1101902.80803	500455.25164	POT
	40+00.01	1101913.07096	499778.91124	POT
	43+00.02	1101913.29244	499478.89632	POT
600	46+78.62	1101917.35774	499100.31738	PC
	49+58.02	1101920.35783	498820.93500	PI
	51+35.27	1101643.21759	498785.48365	PT
		1101603.37584	499096.94575	CC
TEST1	57+87.31	1100996.44962	498702.75010	PC
	59+27.83	1100857.06867	498684.92071	PI
	60+51.56	1100777.49358	498569.10733	PT
		1101036.29136	498391.28801	CC
TEST2	62+30.68	1100676.05923	498421.48003	PC
	63+32.15	1100618.59301	498337.84383	PI
	64+26.98	1100620.94109	498236.39499	PT
		1100934.85701	498243.66071	CC
574	68+96.93	1100631.81545	497766.56757	PC
	69+28.98	1100632.55709	497734.52478	PI
	69+61.00	1100630.73294	497702.52537	PT
		1099832.02965	497748.05617	CC
575	73+96.90	1100605.92450	497267.33464	POT
	74+28.95	1100604.10034	497235.33523	
	74+60.96	1100604.84198	497203.29245	POT
		1101404.62779	497221.80384	
	85+21.87	1100629.39060	496142.66810	POT
	87+00.90	1100643.44936	495964.18956	POT
	87+67.84	1100646.90371	495897.34708	POT
	88+34.39	1100647.65432	495830.79546	POT
	89+42.11	1100646.51873	495723.08485	POT
	90+28.72	1100644.74462	495636.48601	POT

ALIGNMENT COORDINATE POINTS (OUTER_ROAD_E_F) CONT'D

CURVE NAME	STATION	EASTING / X	NORTHING / Y	DESCRIPTION
	91+25.93	1100642.52661	495539.30124	POT
	92+16.84	1100641.40396	495448.40207	POT
	93+69.67	1100640.76104	495295.57159	POT
	94+93.25	1100641.46271	495171.99947	POT
	96+44.00	1100642.37224	495021.25292	POT
	97+57.88	1100643.11519	494907.36751	POT
	99+36.62	1100643.74792	494728.63407	POT
	100+57.30	1100644.33902	494607.95378	POT
	101+15.17	1100644.80122	494550.08380	POT
	103+02.52	1100645.98449	494362.73688	POT
	104+19.16	1100646.65493	494246.10196	POT
	105+82.28	1100653.50120	494083.12375	POT
	108+77.28	1100663.93655	493788.30545	POT
576	110+13.18	1100670.73564	493652.58359	PC
	113+10.97	1100685.63503	493355.16557	PI
	115+83.33	1100891.38227	493139.88077	PT
		1101469.73369	493692.61003	CC
577	120+96.19	1101245.72130	492769.11610	PC
	122+62.81	1101360.84334	492648.65750	PI
	123+90.13	1101293.96506	492496.04475	PT
		1101064.98648	492596.38821	CC
	125+00.17	1101249.79694	492395.25538	POT

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE 55 | STATE MO

DISTRICT SE | SHEET NO. 20

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

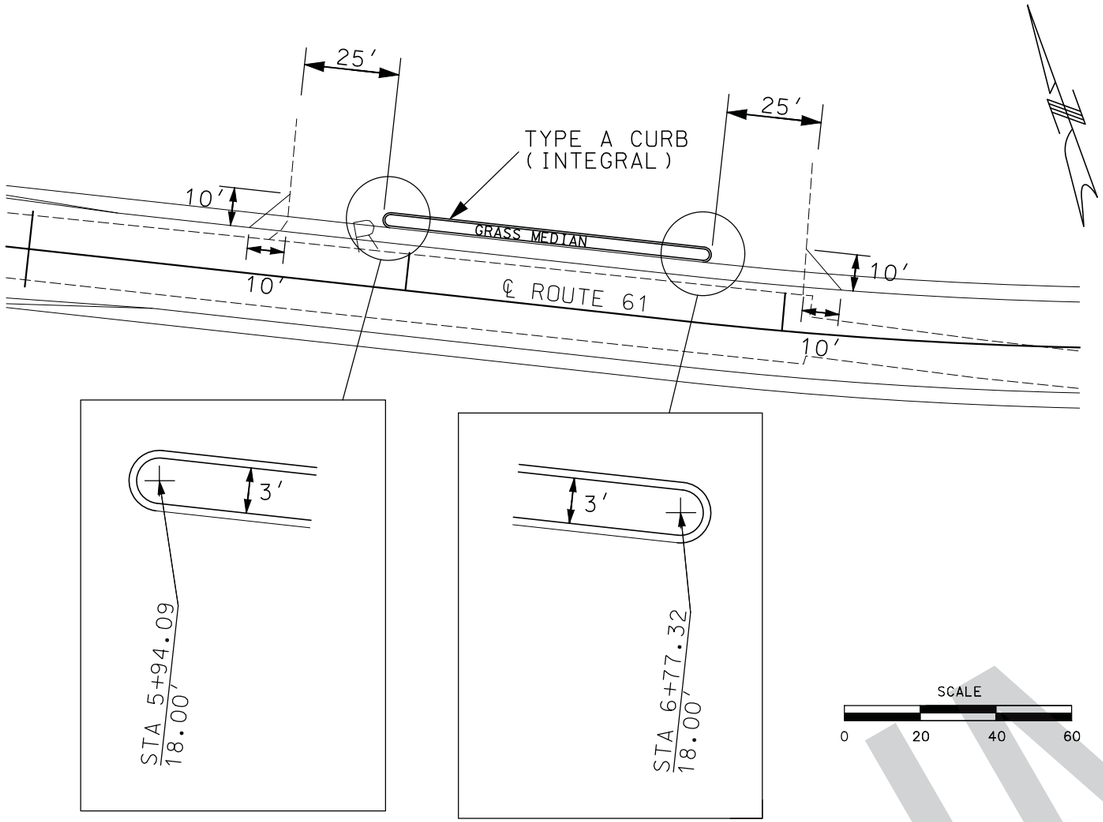
BRIDGE NO.

DESCRIPTION	DATE

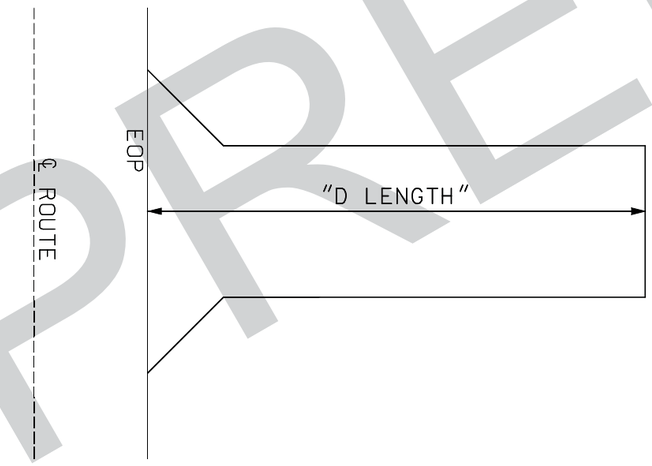
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

COORDINATE POINTS
SHEET 3 OF 3

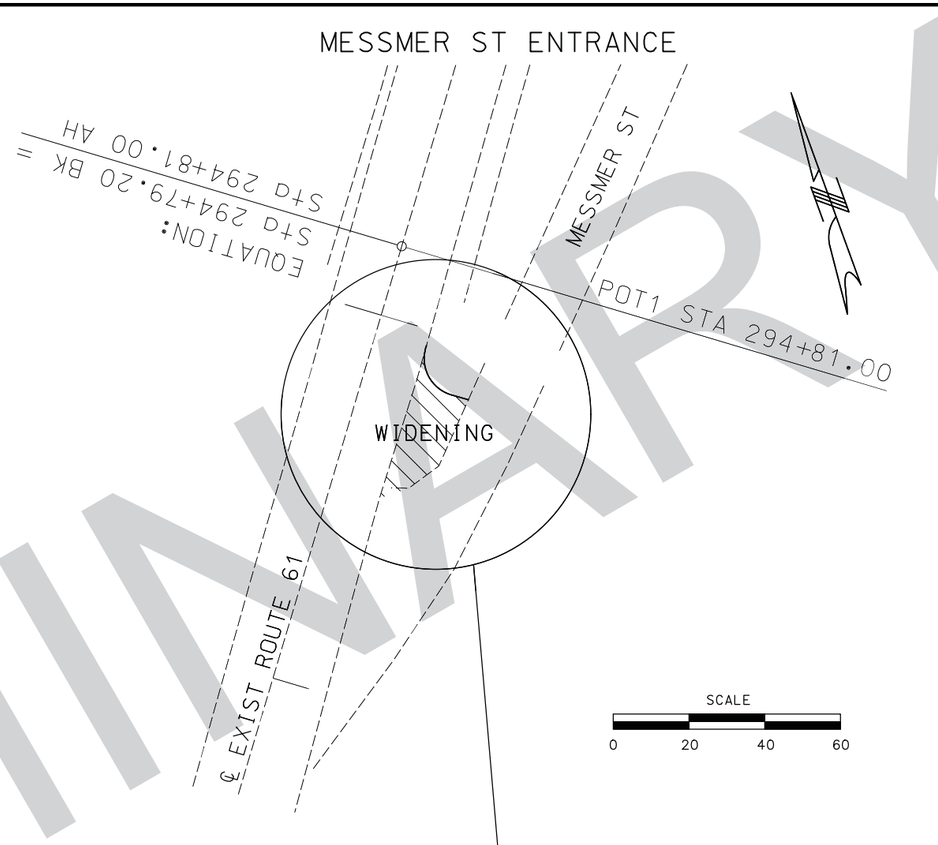


KELSO CITY HALL ENTRANCE



TYPICAL TYPE 1 ENTRANCE

NOT TO SCALE



ENTRANCE
SPECIAL SHEET
SHEET 1 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	21

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

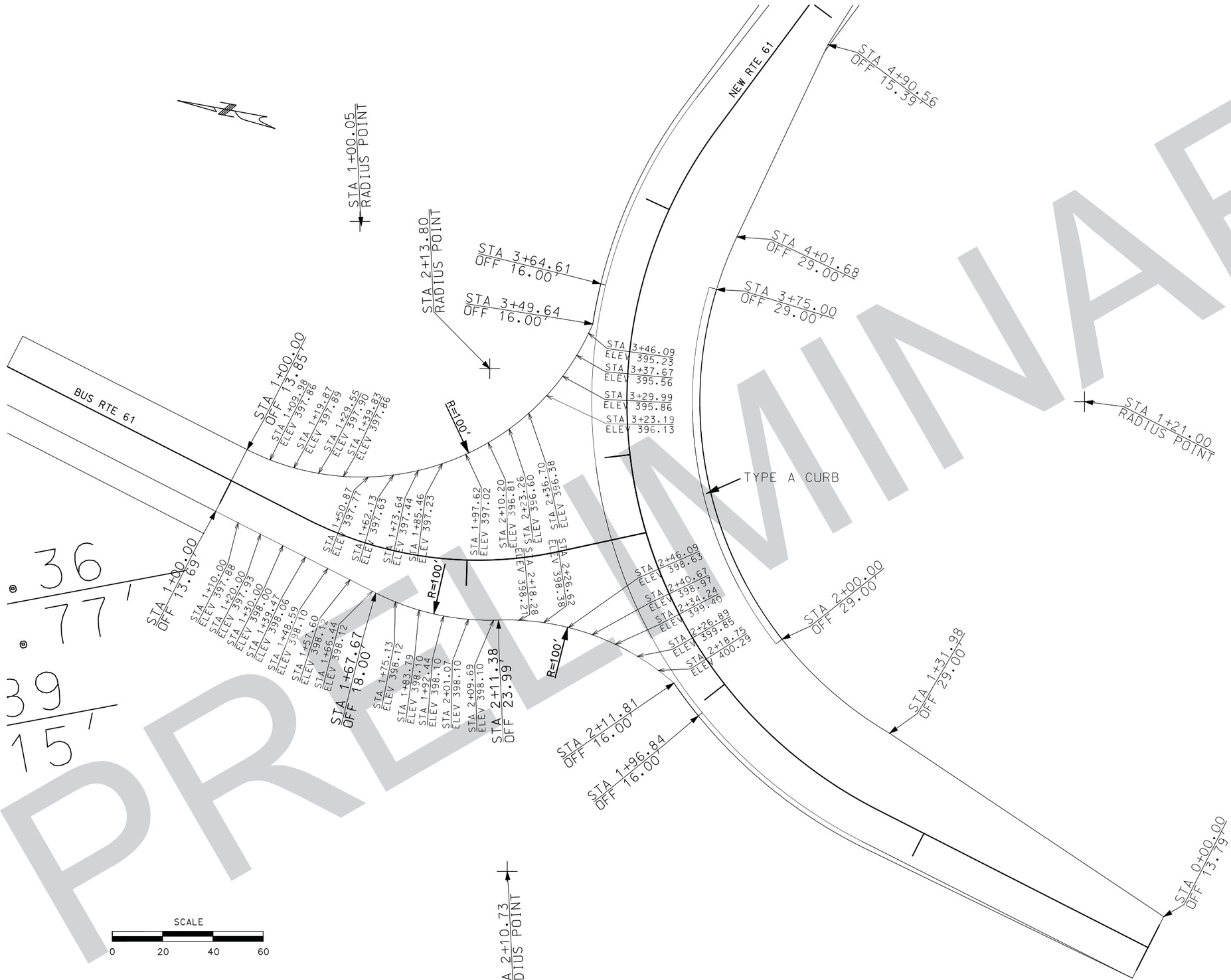
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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



BUS RTE 61
INTERSECTION DETAIL
SPECIAL SHEET
SHEET 2 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	22

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

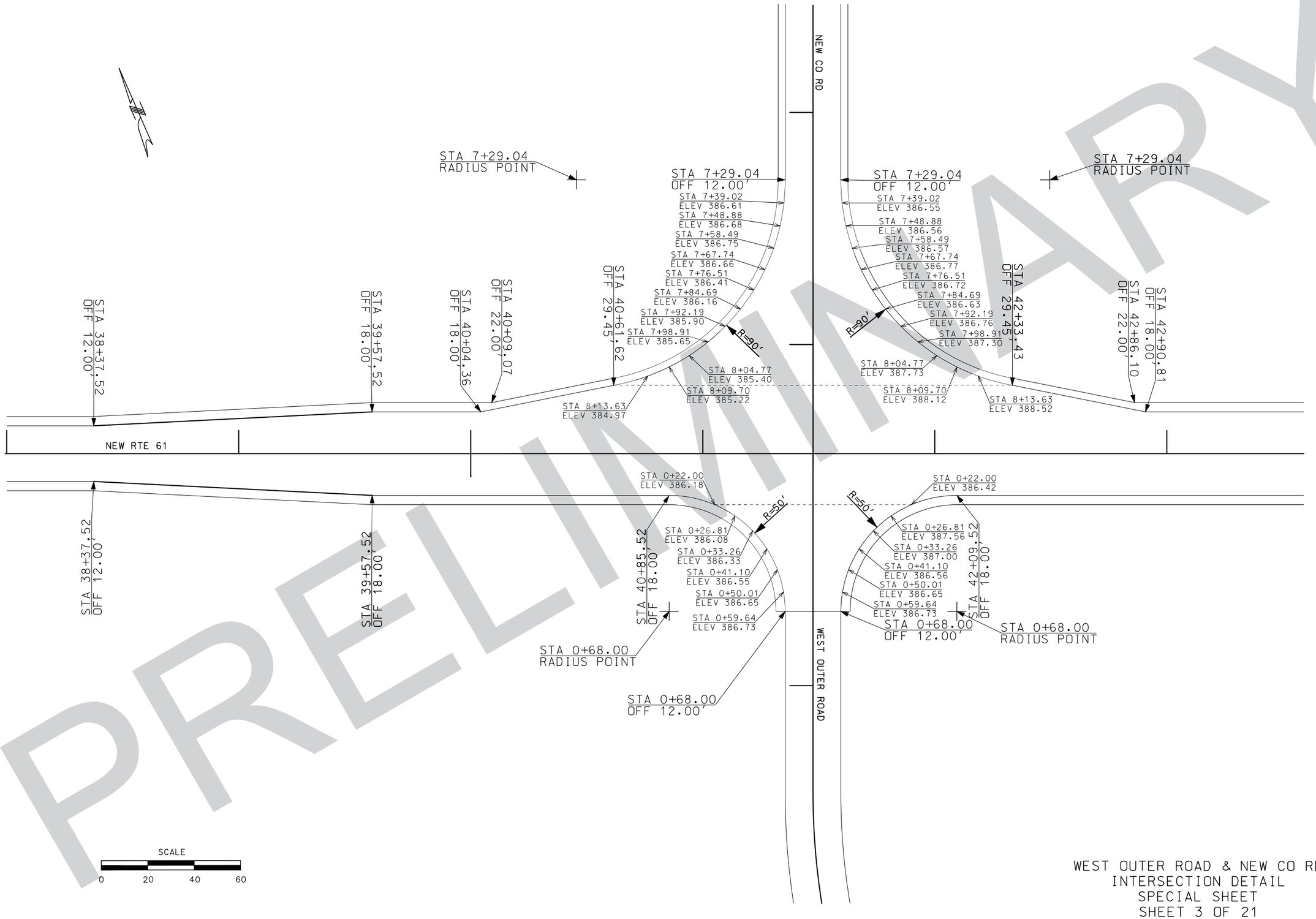
BRIDGE NO.

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.



WEST OUTER ROAD & NEW CO RD
INTERSECTION DETAIL
SPECIAL SHEET
SHEET 3 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	23

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

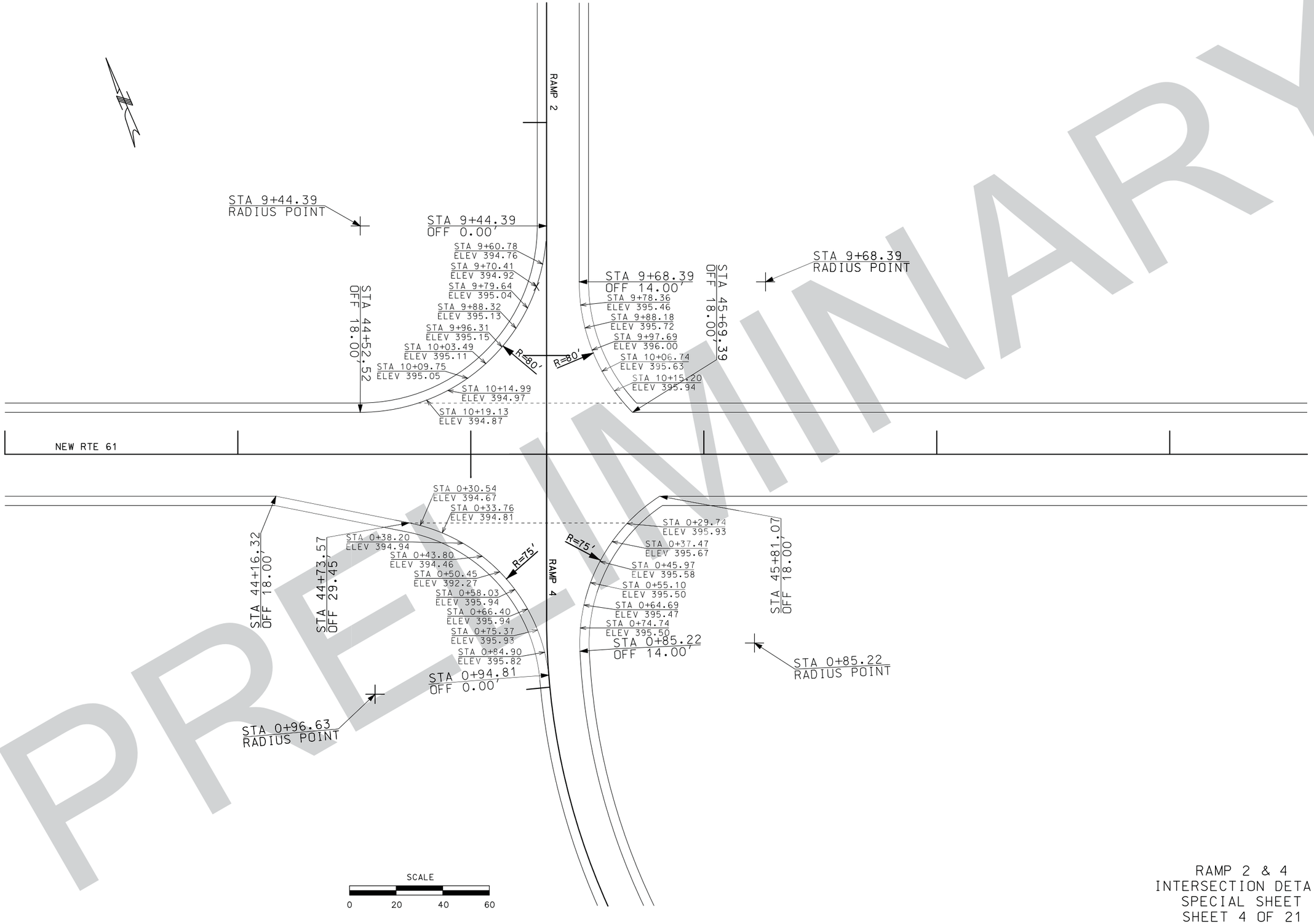
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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



"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	24

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

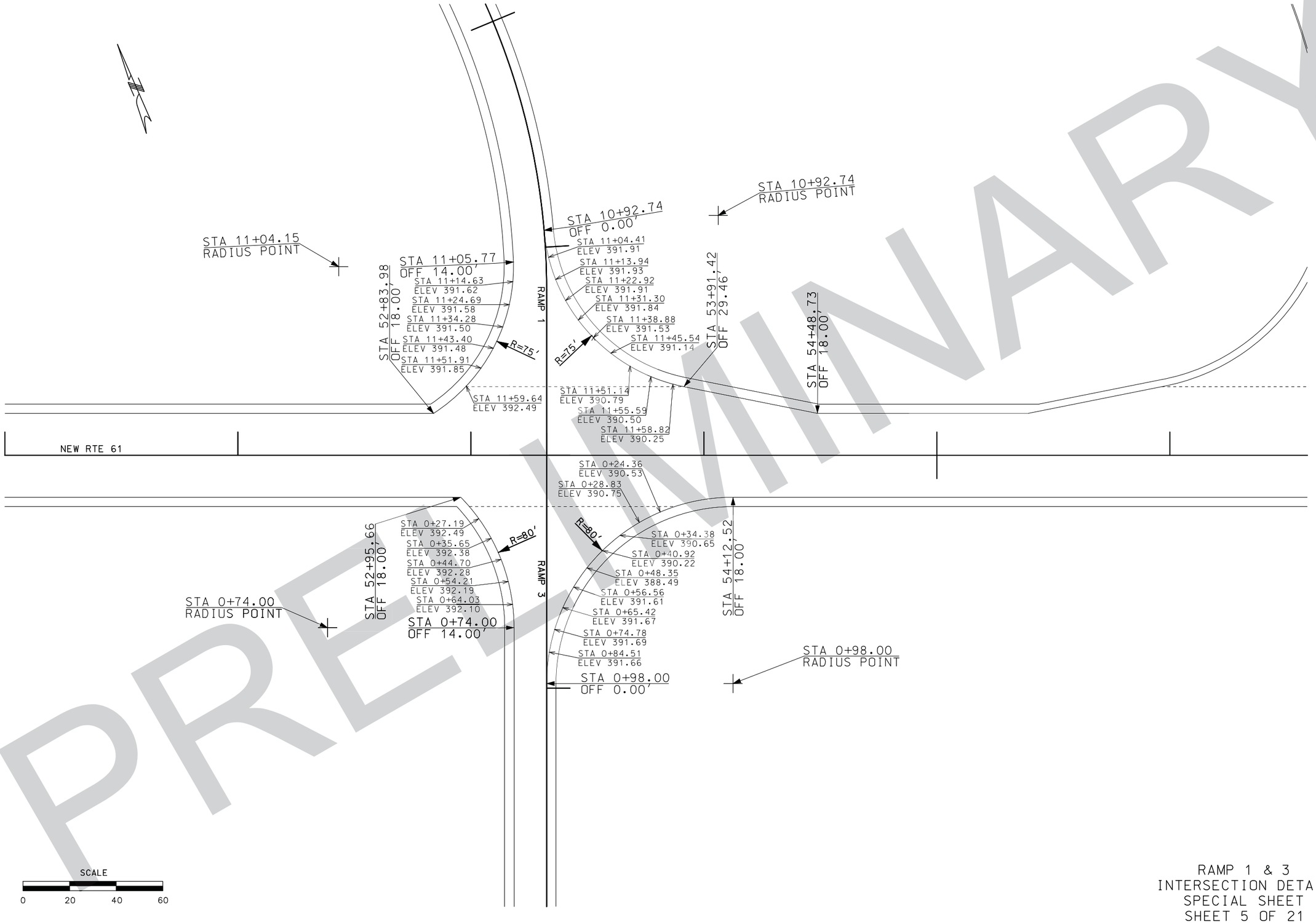
BRIDGE NO.

DATE	DESCRIPTION

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

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

RAMP 2 & 4
INTERSECTION DETAIL
SPECIAL SHEET
SHEET 4 OF 21



"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	25

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

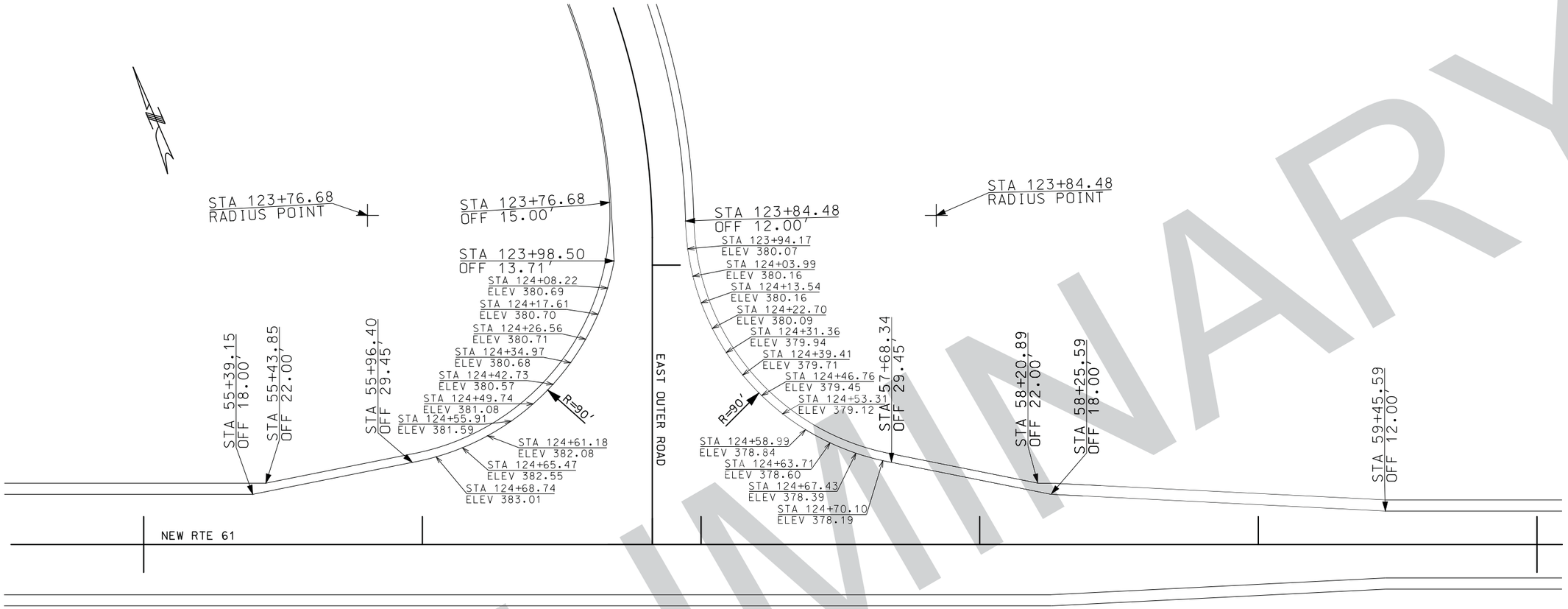
BRIDGE NO.

DESCRIPTION	DATE

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

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

RAMP 1 & 3
INTERSECTION DETAIL
SPECIAL SHEET
SHEET 5 OF 21



SCALE

0 20 40 60

EAST OUTER ROAD
INTERSECTION DETAIL
SPECIAL SHEET
SHEET 6 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	26

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

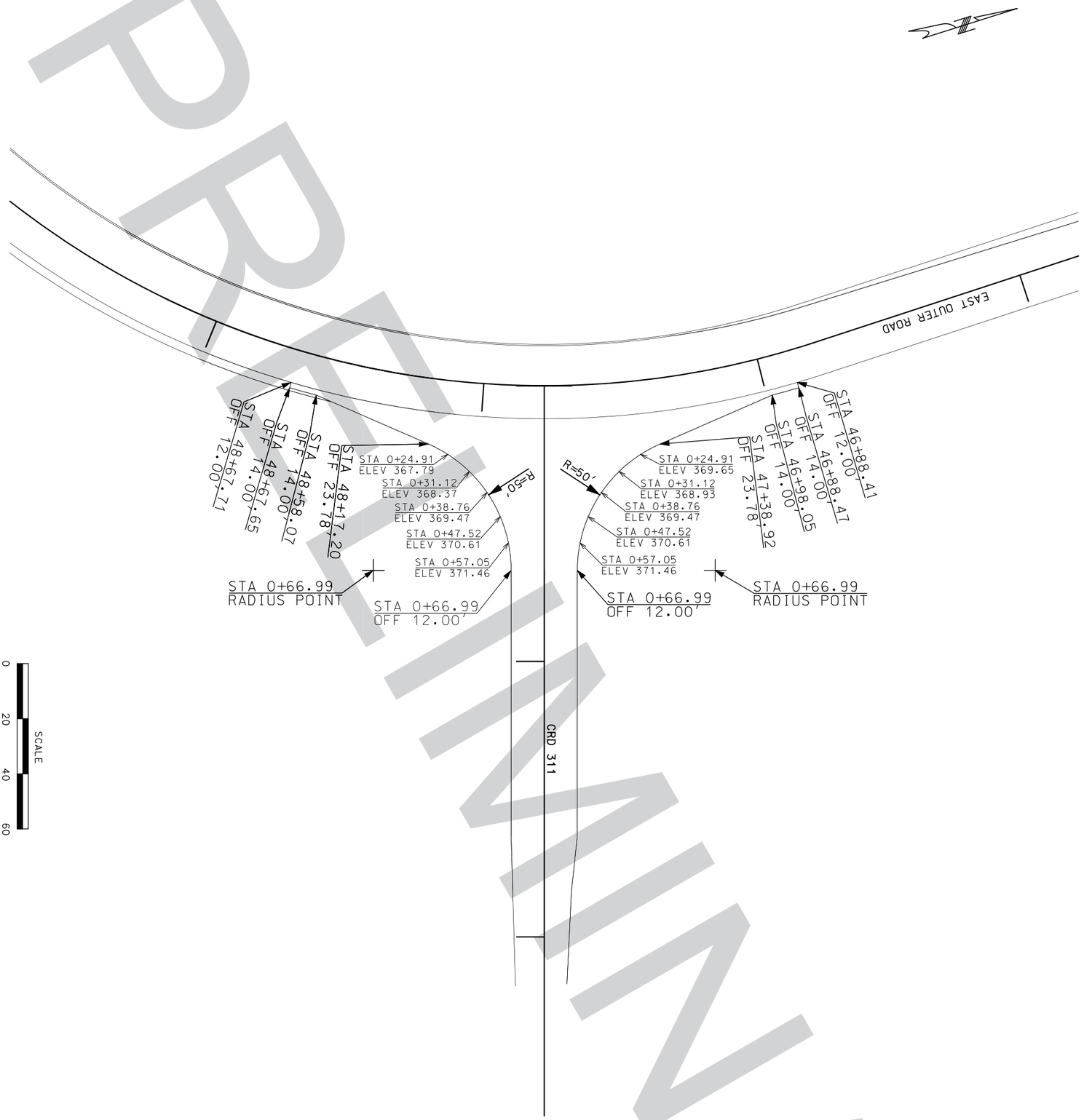
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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



CRD 311
INTERSECTION DETAIL
SPECIAL SHEET
SHEET 7 OF 21

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

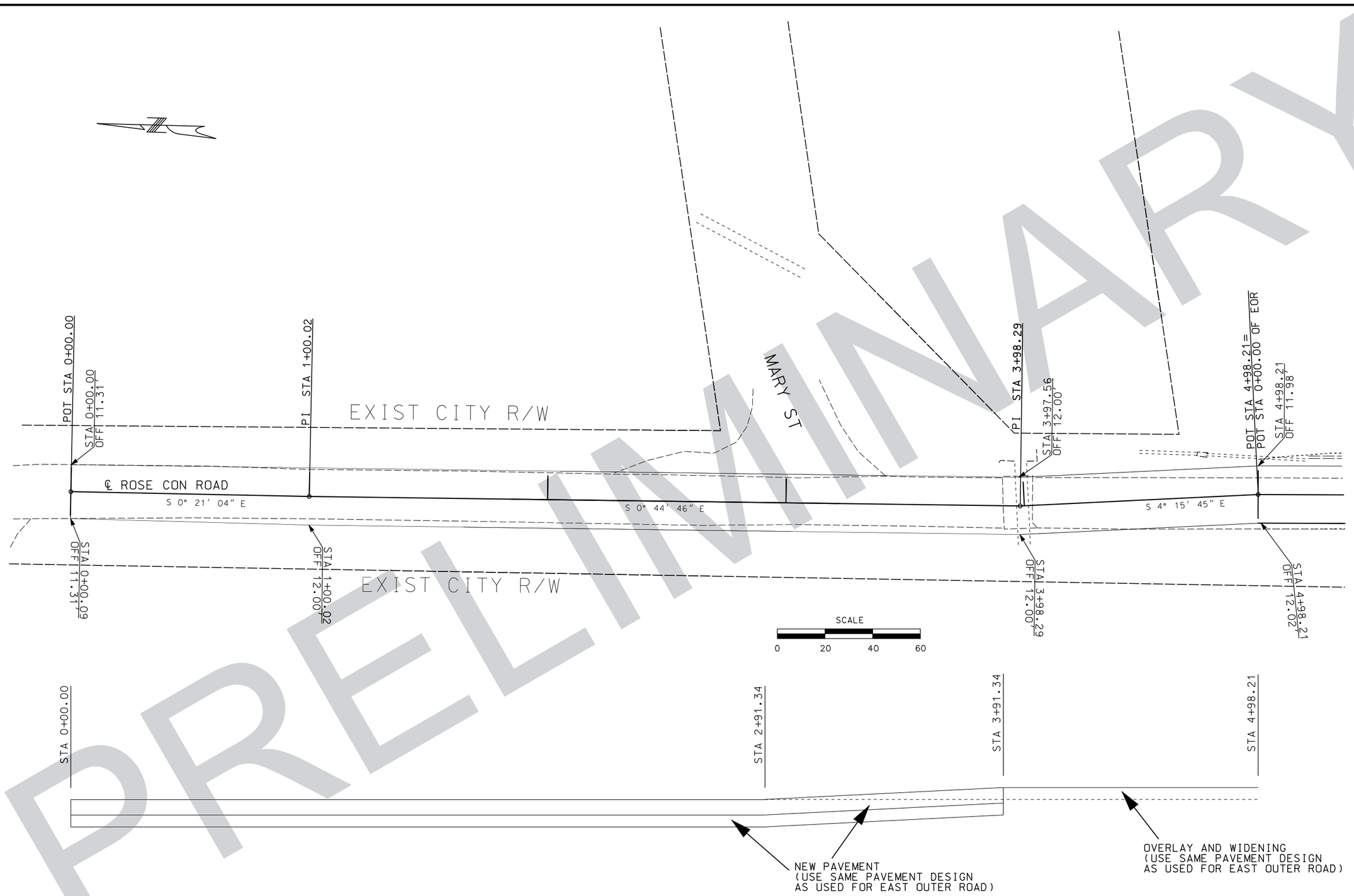
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

DATE	DESCRIPTION

BRIDGE NO.
PROJECT NO.
CONTRACT ID.
JOB NO. J0I0956
COUNTY SCOTT
DISTRICT SE
ROUTE I-55
STATE MO
SHEET NO. 27
DATE PREPARED 2/13/2017

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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



ROSE CON ROAD
TIE IN DETAIL
SPECIAL SHEET
SHEET 8 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	28

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

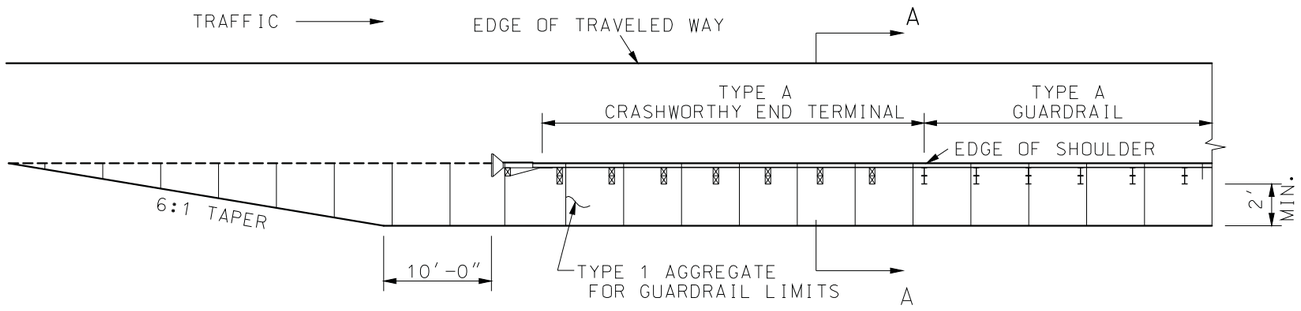
PROJECT NO.

BRIDGE NO.

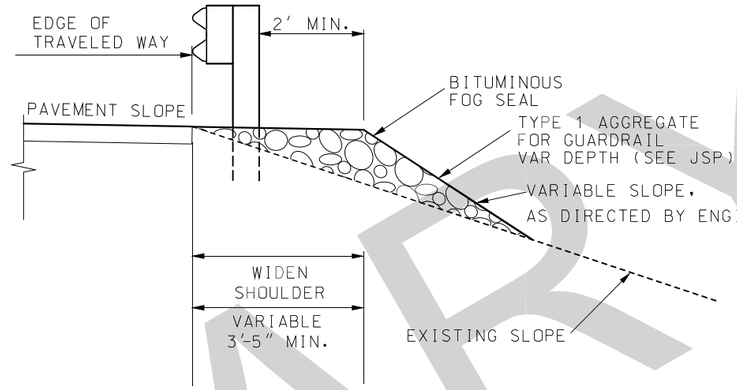
DESCRIPTION	DATE

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

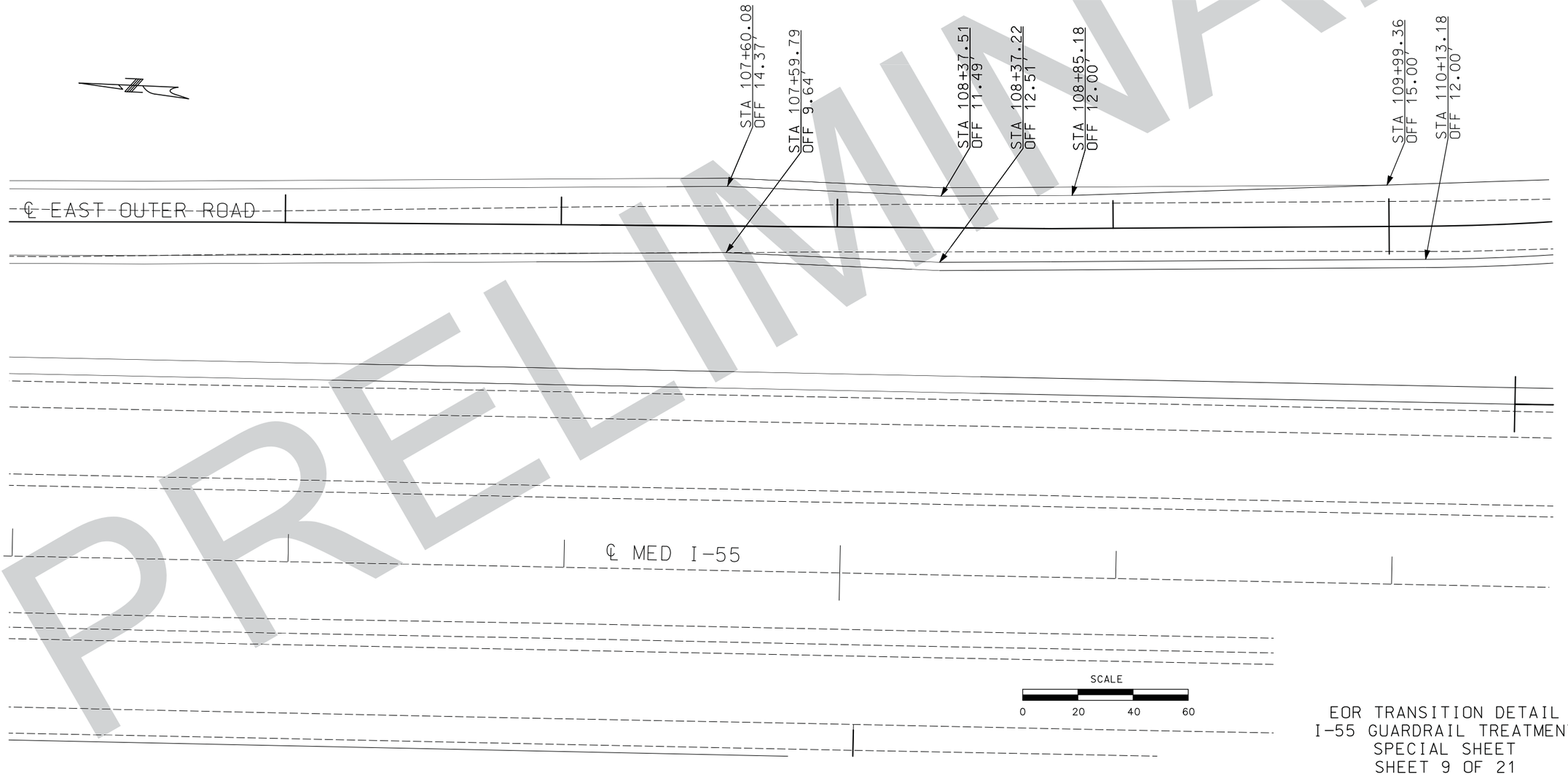
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



TREATMENT BEHIND I-55 GUARDRAIL



SECTION A-A



EOR TRANSITION DETAIL
I-55 GUARDRAIL TREATMENT
SPECIAL SHEET
SHEET 9 OF 21

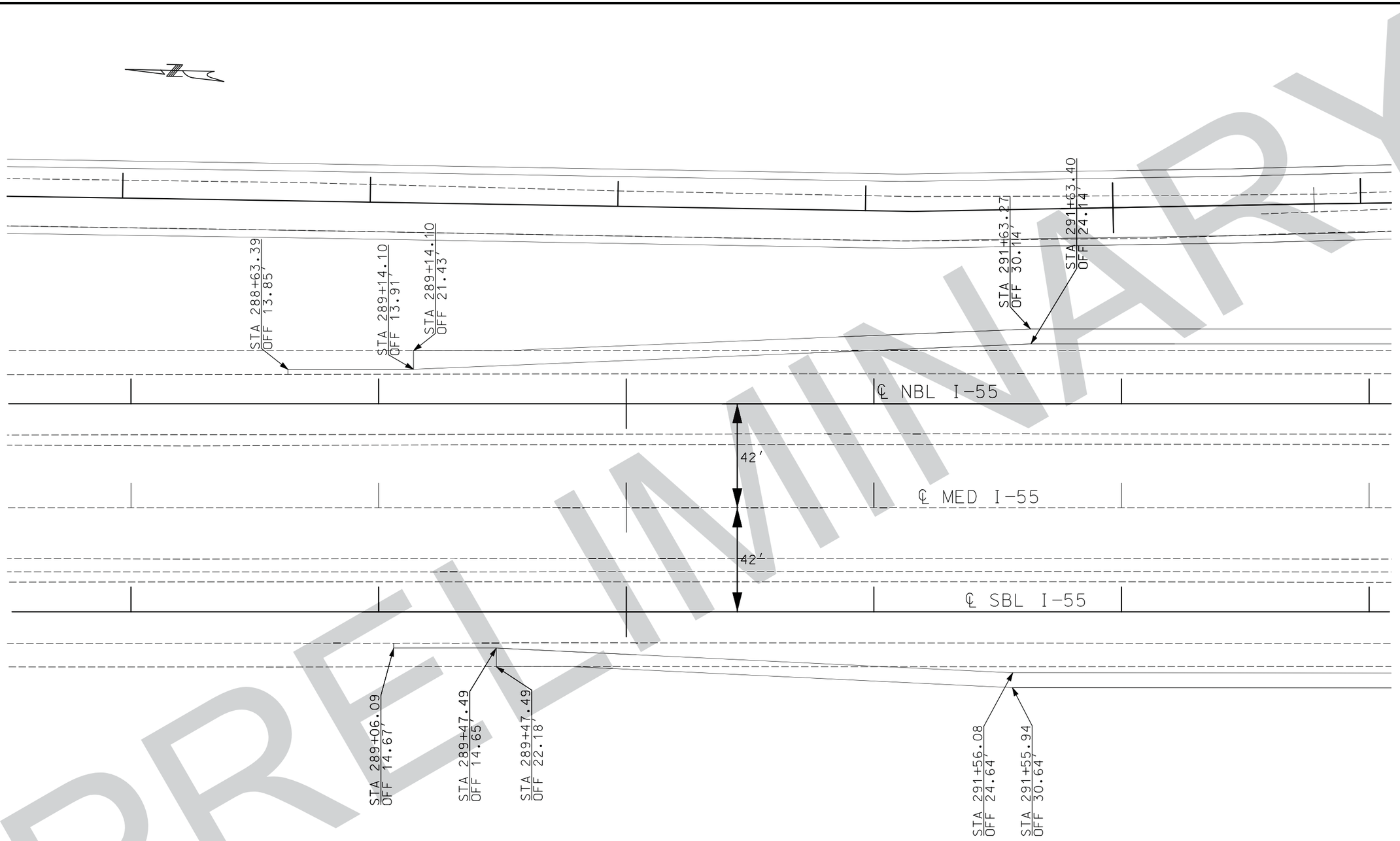
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED: 2/13/2017
ROUTE: I-55
STATE: MO
DISTRICT: SE
SHEET NO.: 29
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

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



I-55 TIE DETAIL
SPECIAL SHEET
SHEET 10 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	30

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

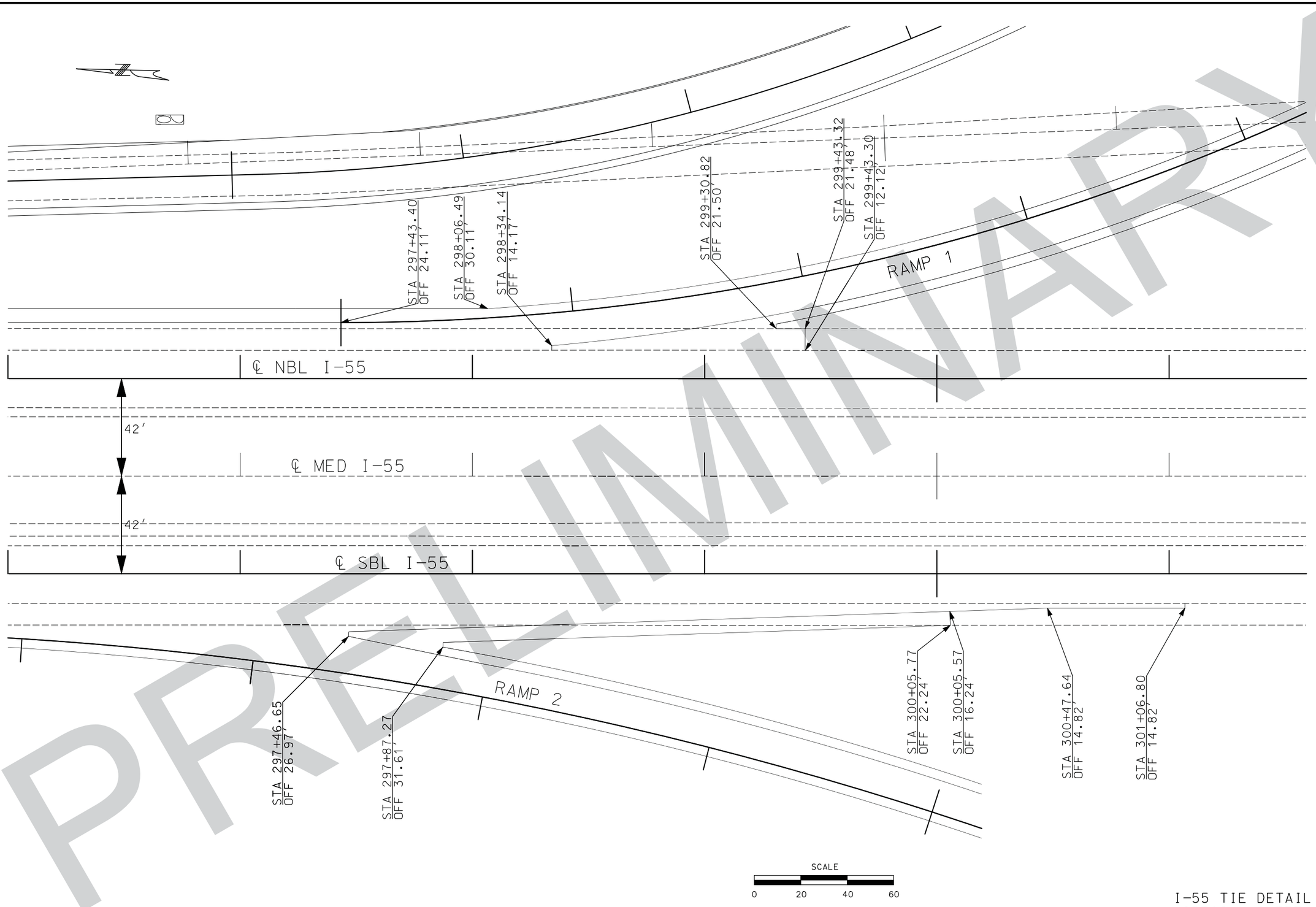
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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



I-55 TIE DETAIL
SPECIAL SHEET
SHEET 11 OF 21

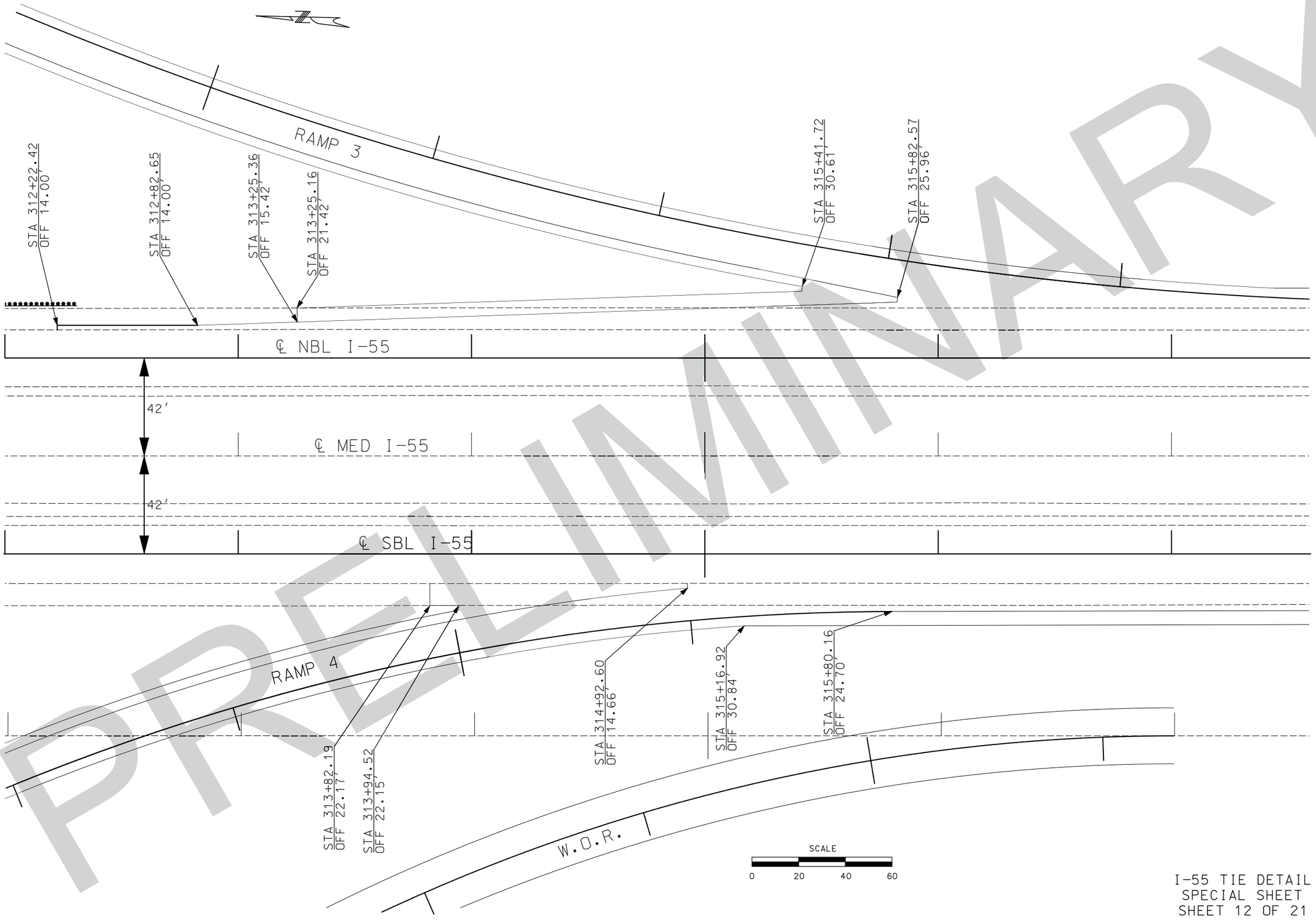
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	31
COUNTY	SCOTT
JOB NO.	J0I0956
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.



I-55 TIE DETAIL
SPECIAL SHEET
SHEET 12 OF 21

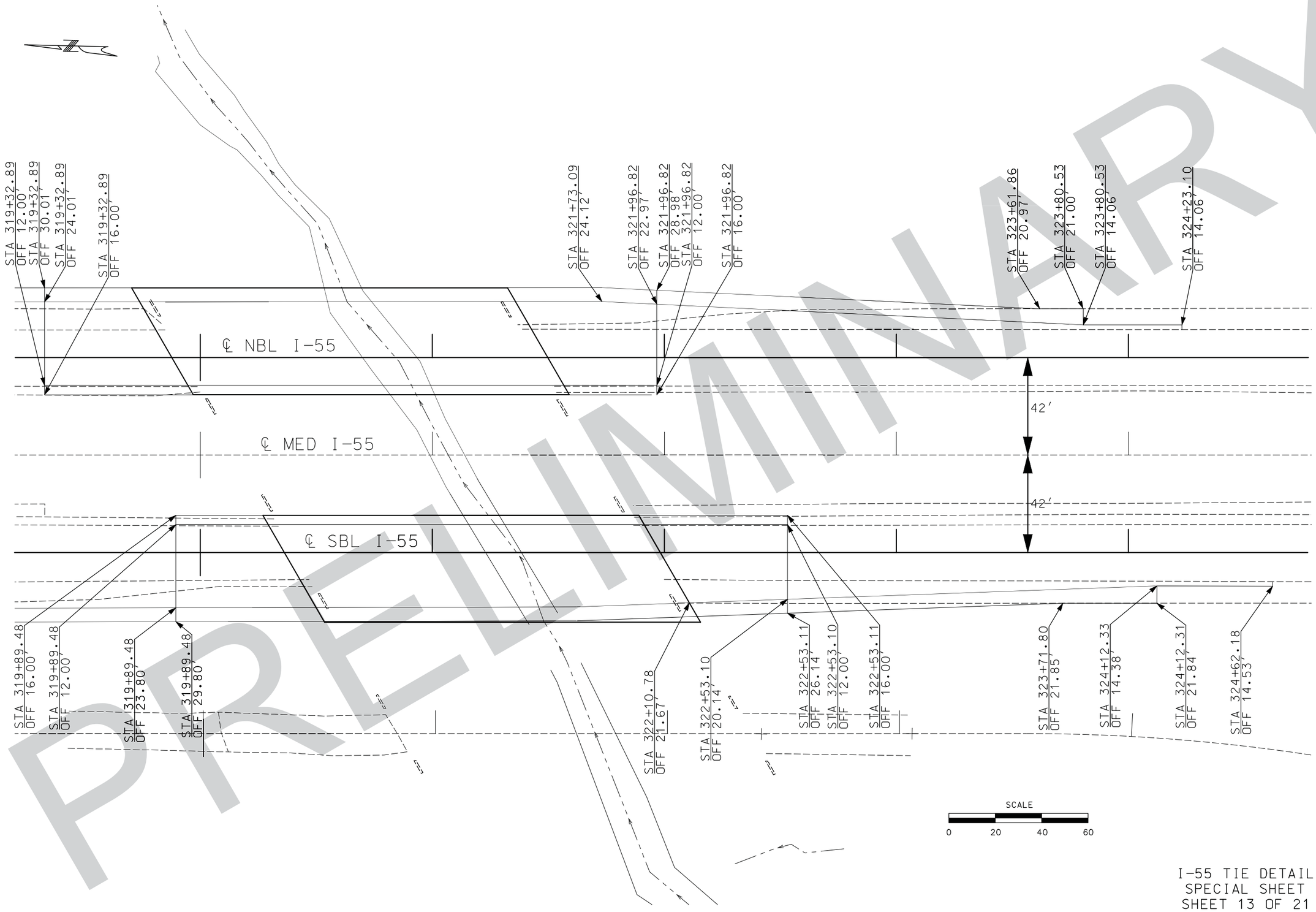
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	32
COUNTY	SCOTT
JOB NO.	J0I0956
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)



I-55 TIE DETAIL
SPECIAL SHEET
SHEET 13 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	33
COUNTY	SCOTT
JOB NO.	J0I0956
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

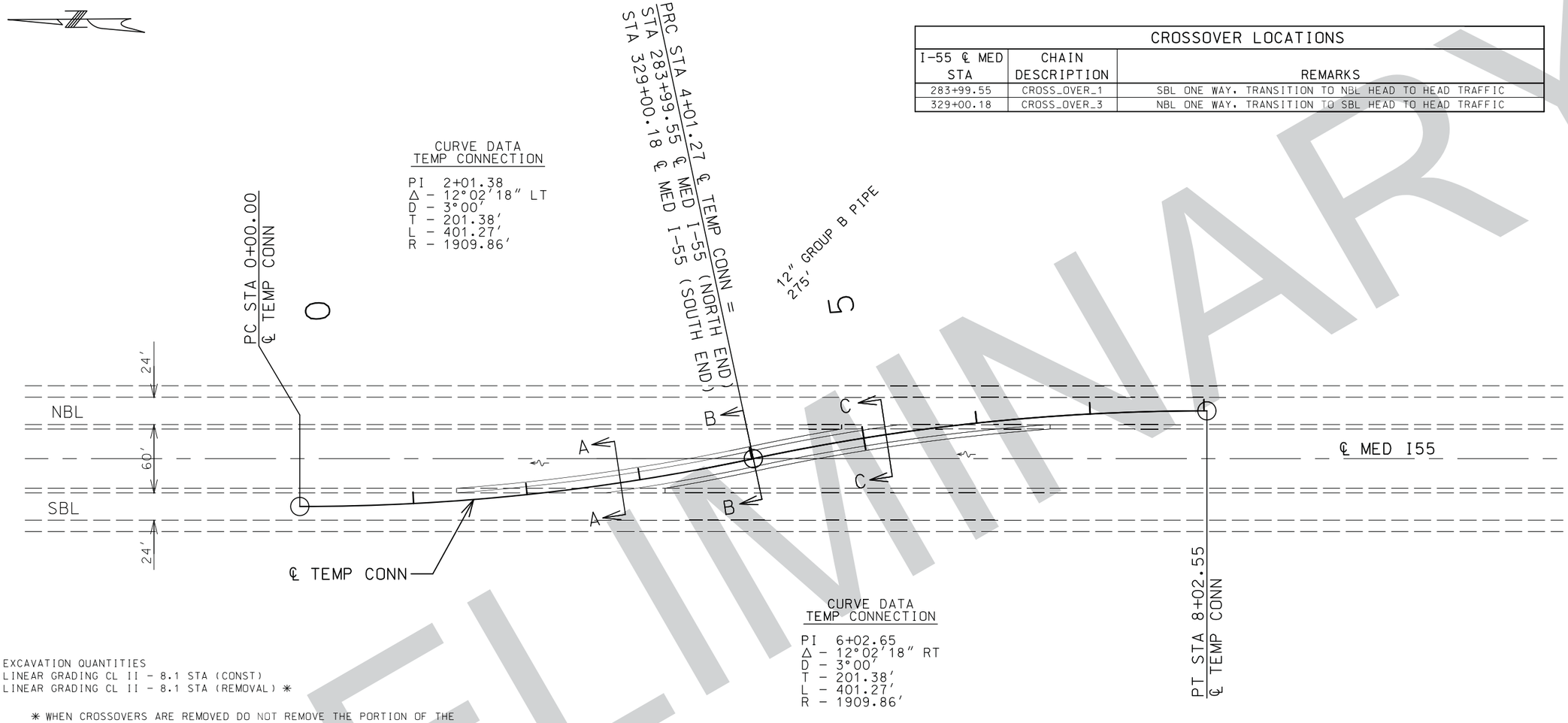
DESCRIPTION | DATE

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.

TYPICAL LEFT CROSSOVER DETAILS

CROSSOVER LOCATIONS		
I-55 ℄ MED STA	CHAIN DESCRIPTION	REMARKS
283+99.55	CROSS_OVER_1	SBL ONE WAY, TRANSITION TO NBL HEAD TO HEAD TRAFFIC
329+00.18	CROSS_OVER_3	NBL ONE WAY, TRANSITION TO SBL HEAD TO HEAD TRAFFIC



NOTE: EXCAVATION QUANTITIES
LINEAR GRADING CL II - 8.1 STA (CONST)
LINEAR GRADING CL II - 8.1 STA (REMOVAL) ✱

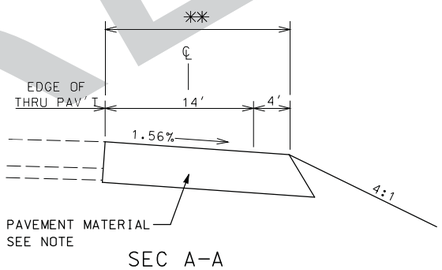
✱ WHEN CROSSOVERS ARE REMOVED DO NOT REMOVE THE PORTION OF THE CROSSOVER THAT IS WITHIN THE LIMITS OF THE SHOULDERS

TEMPORARY CONNECTION TYPICAL SECTIONS

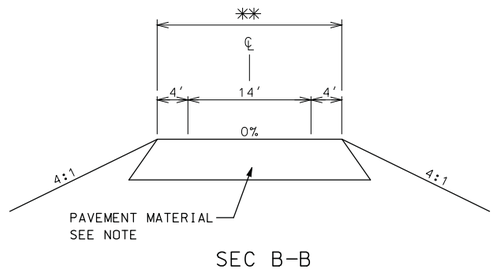
NOTE:
OPTIONAL PAVEMENTS

10" SP250C
8" PCCP

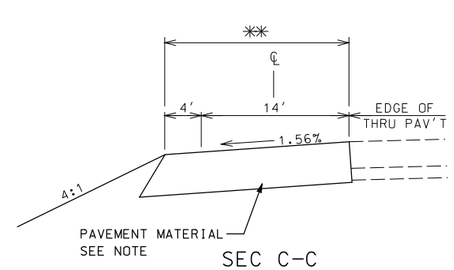
✱✱ NOTE: CROSSOVER PAV'T PAY LIMITS



SEC A-A
STA 2+82.81 TEMP CONN



SEC B-B
STA 4+01.27 TEMP CONN



SEC C-C
STA 5+19.73 TEMP CONN

SPECIAL SHEET
TEMPORARY CONNECTIONS
SHEET 14 OF 21

DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 34
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

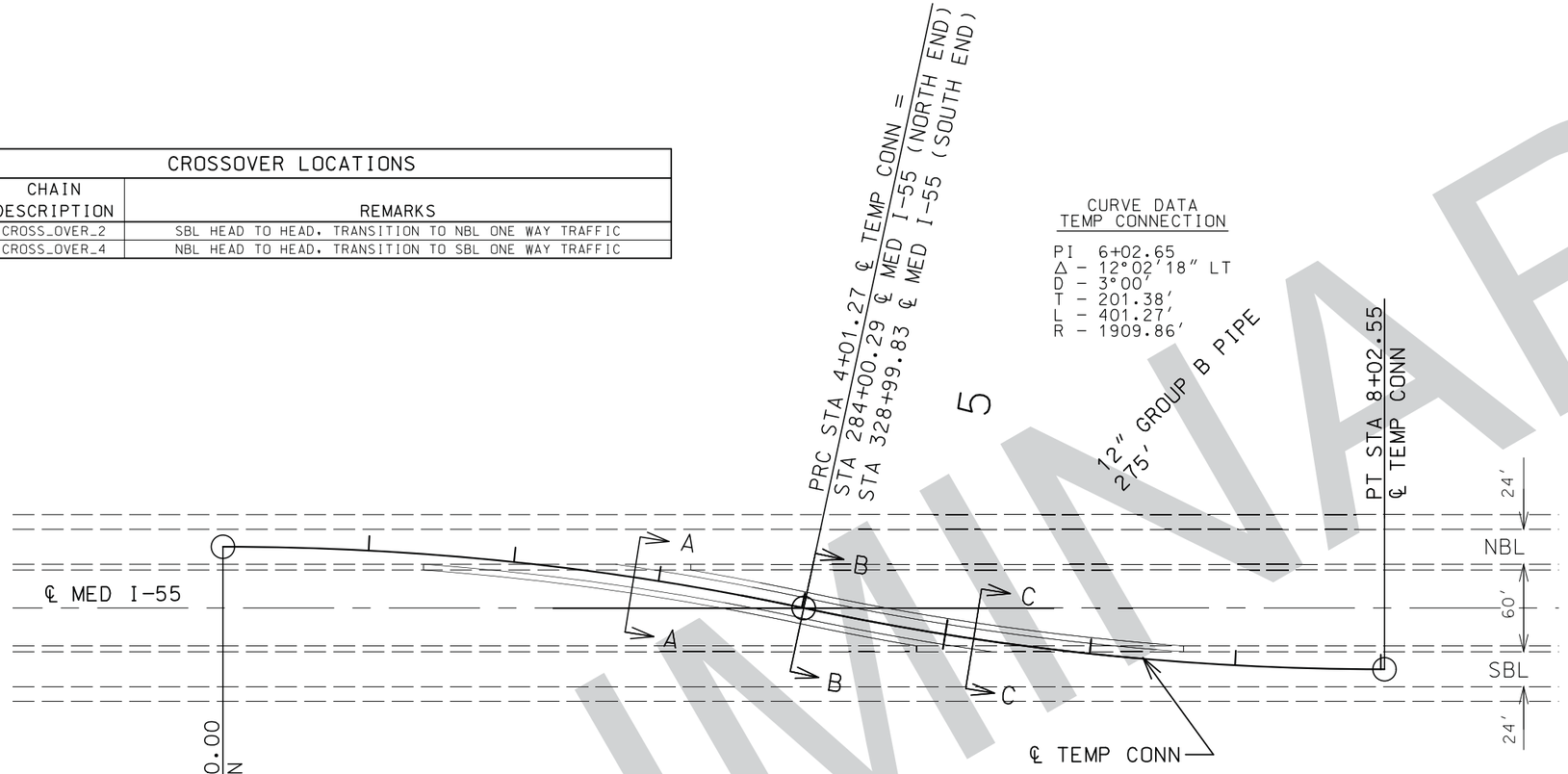
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

REV.

TYPICAL RIGHT CROSSOVER DETAILS

CROSSOVER LOCATIONS		
I-55 ℄ MED STA	CHAIN DESCRIPTION	REMARKS
284+00.29	CROSS_OVER_2	SBL HEAD TO HEAD, TRANSITION TO NBL ONE WAY TRAFFIC
328+99.83	CROSS_OVER_4	NBL HEAD TO HEAD, TRANSITION TO SBL ONE WAY TRAFFIC



CURVE DATA
TEMP CONNECTION

PI 6+02.65
Δ – 12°02'18" LT
D – 3°00'
T – 201.38'
L – 401.27'
R – 1909.86'

CURVE DATA
TEMP CONNECTION

PI 2+01.38
Δ – 12°02'18" RT
D – 3°00'
T – 201.38'
L – 401.27'
R – 1909.86'

NOTE: EXCAVATION QUANTITIES
LINEAR GRADING CL II – 8.1 STA (CONST)
LINEAR GRADING CL II – 8.1 STA (REMOVAL) ✳

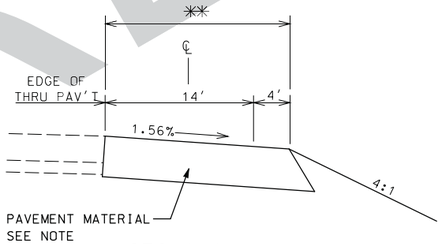
✳ WHEN CROSSOVERS ARE REMOVED DO NOT REMOVE THE PORTION OF THE CROSSOVER THAT IS WITHIN THE LIMITS OF THE SHOULDERS

TEMPORARY CONNECTION TYPICAL SECTIONS

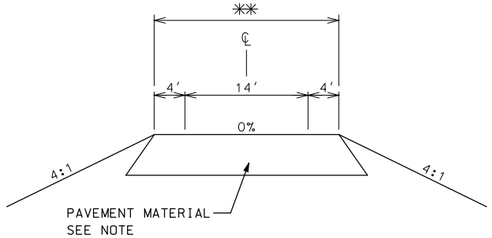
NOTE:
OPTIONAL PAVEMENTS

10" SP 250C
8" PCCP

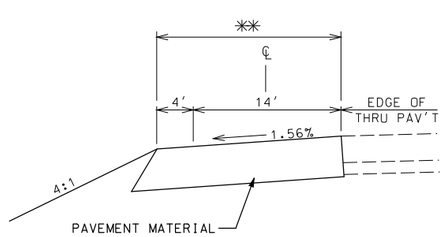
✳✳ NOTE: CROSSOVER PAV'T PAY LIMITS



SEC A–A
STA 2+82.81 TEMP CONN



SEC B–B
STA 4+01.27 TEMP CONN



SEC C–C
STA 5+19.73 TEMP CONN

SPECIAL SHEET
TEMPORARY CONNECTIONS
SHEET 15 OF 21

DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 35
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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

REV.

ROUTE 61

BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW	ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT	NON PERF PIPE FT	OUTLET PIPE LOC
36+00	46+00	8	90	145	11.25	307	60.0	97875	*	**
53+00	57+00	8	90	58	11.25	311	60.0	39150	*	**

STATION	SETTLEMENT GAUGES EA
39+00	1
42+00	1

*	**	*	**	*	**	*	**	*	**	*	**	*	**
2@20'	36+00 LT & RT	2@20'	38+00 LT & RT	2@35'	40+00 LT & RT	2@75'	43+00 LT & RT	2@50'	46+00 LT & RT	2@60'	54+00 LT & RT	2@40'	56+00 LT & RT
2@20'	37+00 LT & RT	2@25'	39+00 LT & RT	1@55'	42+00 RT	2@40'	44+00 LT & RT	2@50'		2@40'	55+00 LT & RT	1@30'	57+00 RT

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
36+00	46+00	6667	10000
53+00	57+00	2667	4000

EAST OUTER ROAD

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
119+00	124+50	2037	3056

WEST OUTER ROAD

BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW	ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT	NON PERF PIPE FT	OUTLET PIPE LOC
1+00	7+00	8	80	87	10	307	60.0	52200	*	**

STATION	SETTLEMENT GAUGES EA
3+00	1
4+50	1

*	**	*	**	*	**	*	**
2@40'	1+00 LT & RT	2@40'	3+00 LT & RT	2@30'	5+00 LT & RT	2@10'	7+00 LT & RT
2@40'	2+00 LT & RT	2@30'	4+00 LT & RT	2@20'	6+00 LT & RT		

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
1+00	7+00	3556	5333

EAST OUTER ROAD

BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW
119+00	124+50	8	50	80	6.25

NEW COUNTY ROAD

BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW	ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT	NON PERF PIPE FT	OUTLET PIPE LOC
5+50	8+00	8	80	36	10	307	60.0	21600	2@30'	5+50 LT & RT
									2@50'	6+50 LT & RT
									2@50'	8+00 LT & RT

STATION	SETTLEMENT GAUGES EA
7+00	1

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
5+50	8+00	1482	2222

RAMP 3

BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW	ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT	NON PERF PIPE FT	OUTLET PIPE LOC
1+00	6+00	8	70	73	8.75	310	60.0	38325	*	**

*	**	*	**	*	**
2@60'	1+00 LT & RT	2@50'	3+00 LT & RT	2@40'	5+00 LT & RT
2@60'	2+00 LT & RT	2@40'	4+00 LT & RT	1@20'	6+00 LT

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
1+00	6+00	2593	3889

EAST OUTER ROAD

STATION	SETTLEMENT GAUGES EA
123+00	1

STATION	SETTLEMENT GAUGES EA
2+50	1

RAMP 4

BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW	ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT	NON PERF PIPE FT	OUTLET PIPE LOC
1+00	7+50	8	70	94	8.75	310	60.0	49350	*	**

*	**	*	**	*	**	*	**
2@80'	1+00 LT & RT	2@70'	3+00 LT & RT	2@50'	5+00 LT & RT	2@30'	7+00 LT & RT
2@80'	2+00 LT & RT	2@60'	4+00 LT & RT	2@30'	6+00 LT & RT	1@20'	7+50 RT

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
1+00	7+50	3370	5056

STATION	SETTLEMENT GAUGES EA
2+50	1
5+00	1

EAST OUTER ROAD

NON PERF PIPE FT	OUTLET PIPE LOC
2@10'	119+00 LT & RT
2@20'	120+00 LT & RT
2@40'	121+00 LT & RT
2@10'	122+00 LT & RT
2@20'	123+00 LT & RT
2@40'	124+00 LT & RT

EAST OUTER ROAD

ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT
311	60.0	30000

NOTE: BORING DATA AT WICK DRAIN LOCATIONS AVAILABLE UPON REQUSET.

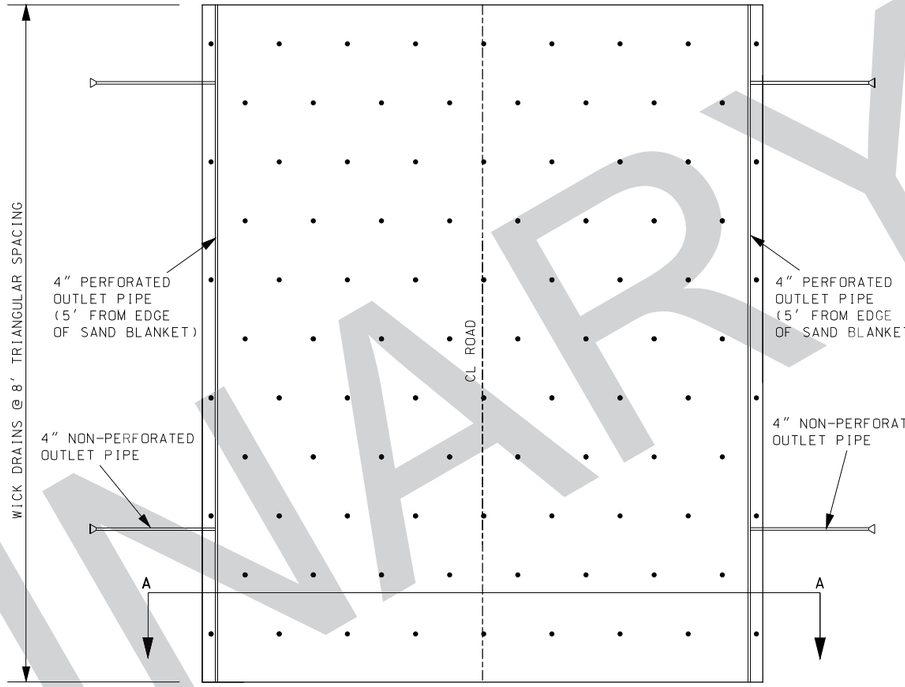
SAND BLANKET LIMITS SHALL BE EQUAL TO WICK DRAIN LIMITS.
ALL PIPE SHALL BE SLOPED TO DRAIN AND FIT FIELD CONDITIONS.

ALL LABOR, EQUIPMENT, MATERIAL OR OTHER CONSTRUCTION INVOLVED TO COMPLETE THE WORK TO BUILD WICK DRAIN DRAINAGE SYSTEM WILL BE PAID FOR AS WICK DRAIN DRAINAGE SYSTEM. EXCEPT FOR THE WICK DRAINS AND SEPARATION GEOTEXTILE.

SAND BLANKET SHALL BE PLACED BEFORE PIPES OR THE PIPE UNDERDRAINS.

UNDERDAINS AND OUTLET PIPES SHALL BE KEPT CLEAR AND OPERATIONAL. IF UNDERDRAIN OR OUTLET PIPE BECOMES DAMAGED IT SHALL BE REPAIRED TO OPERATE TO A STANDARD THAT IS ACCEPTABLE TO THE ENGINEER. ALL REPAIRS NEEDED TO RESTORE OPERATION OF THE DRAINAGE OF THE SAND BLANKET SHALL BE AT THE CONTRACTORS EXPENSE.

THE PERFORATED PIPE USED FOR THE UNDERDRAIN SHALL BE WRAPPED WITH A NONWOVEN FILTER FABRIC THAT WILL KEEP SAND OUT OF THE PERFORATED PIPE.



TYPICAL WICK DRAIN/UNDERDRAIN DETAIL PLAN VIEW

RAMP 1

BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW	ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT	NON PERF PIPE FT	OUTLET PIPE LOC
7+50	10+00	8	70	36	8.75	310	60.0	18900	2@10'	7+50 LT & RT
									2@20'	8+50 LT & RT
									2@40'	9+50 LT & RT

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
7+50	10+00	1296	1944

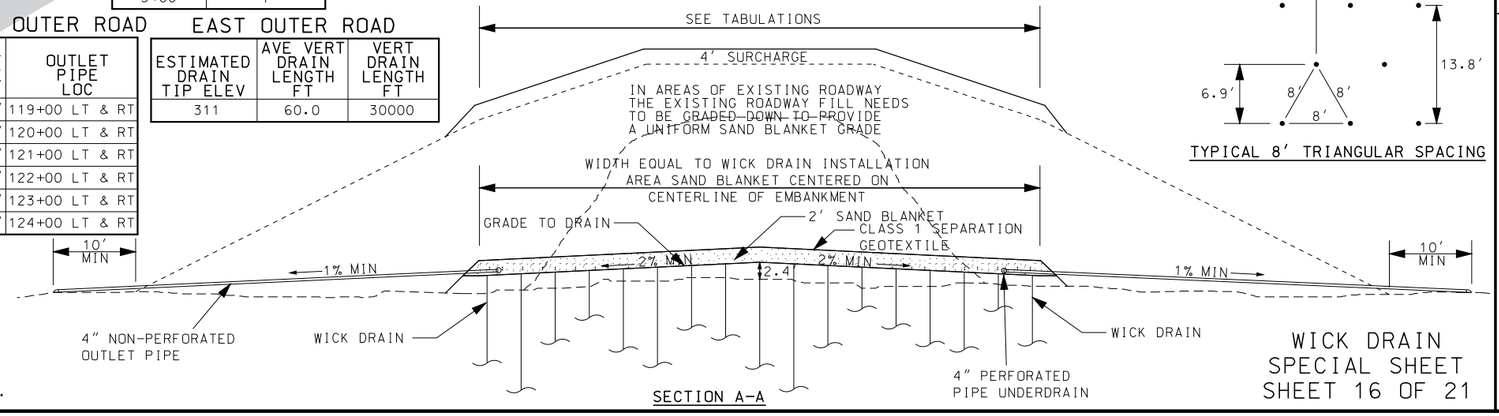
STATION	SETTLEMENT GAUGES EA
9+00	1

RAMP 2

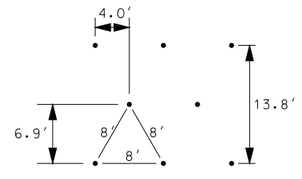
BEGIN STATION PERF PIPES	END STATION PERF PIPES	TRIANGULAR WICK SPACING FT	WIDTH FT	NO OF ROWS	NO VERT DRAINS PER ROW	ESTIMATED DRAIN TIP ELEV	AVE VERT DRAIN LENGTH FT	VERT DRAIN LENGTH FT	NON PERF PIPE FT	OUTLET PIPE LOC
7+00	9+50	8	70	36	8.75	310	60.0	18900	2@20'	7+00 LT & RT
									2@40'	8+50 LT & RT
									2@50'	9+50 LT & RT

BEGIN STATION	END STATION	SAND BLANKET CY	GEOTEXTILE SY
7+00	9+50	1296	1944

STATION	SETTLEMENT GAUGES EA
9+00	1



SECTION A-A



TYPICAL 8' TRIANGULAR SPACING

WICK DRAIN SPECIAL SHEET SHEET 16 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	36

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

REV.

EAST OUTER ROAD

BEGIN STATION	END STATION	AVERAGE WIDTH FT	BIAXIAL GEOGRID SY	CLASS 1 GEOTEXTILE SY	GRAVEL CY	PERF PIPE FT	OUTLET PIPE LOC
49+00	60+50	71	9072	18144	6048	*	**
62+50	69+00	74	5344	10688	3563	*	**

*	**	*	**	*	**	*	**
2@14'	49+00 LT & RT	2@14'	55+00 LT & RT	2@14'	60+50 LT & RT	2@14'	66+50 LT & RT
2@14'	50+00 LT & RT	2@14'	56+00 LT & RT			2@14'	67+50 LT & RT
2@14'	51+00 LT & RT	2@14'	57+00 LT & RT	2@14'	62+50 LT & RT	2@14'	68+50 LT & RT
2@14'	52+00 LT & RT	2@14'	58+00 LT & RT	2@14'	63+50 LT & RT	2@14'	69+00 LT & RT
2@14'	53+00 LT & RT	2@14'	59+00 LT & RT	2@14'	64+50 LT & RT		
1@14'	54+00 LT & RT	2@14'	60+00 LT & RT	2@14'	65+50 LT & RT		

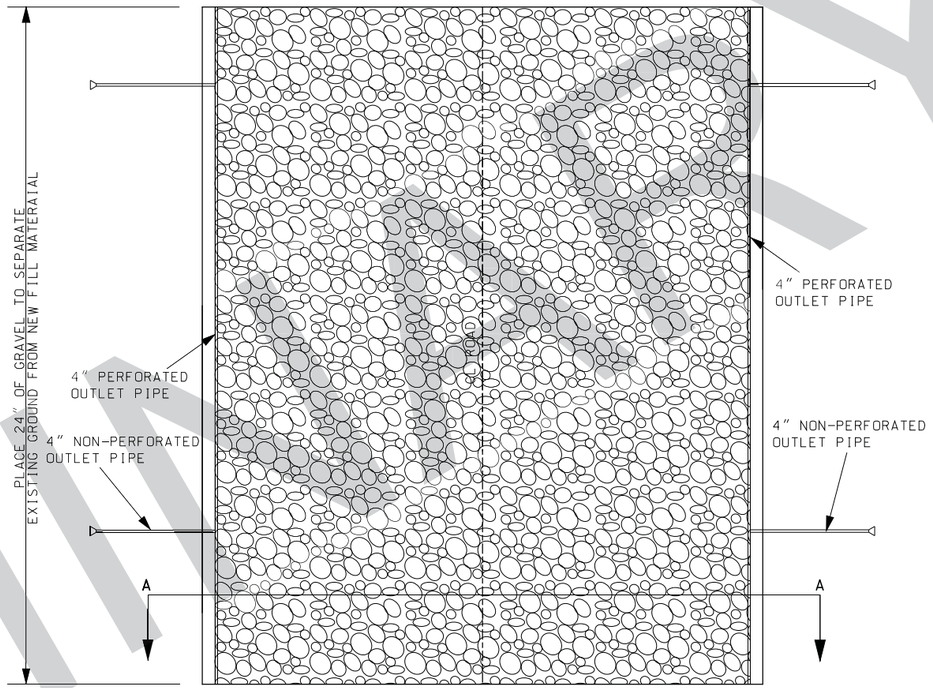
STATION	SETTLEMENT GAUGES EA
60+00	1
62+80	1

NOTE: A LAYER OF GEOTEXTILE SHALL BE PLACE ON EXISTING GROUND AND THEN A LAYER OF GEOGRID SHALL BE PLACED ON TOP OF IT. AFTER THE GEOTEXTILE AND GEOGRID ARE PLACED THE 24" OF ROCK IS TO BE PLACED ON THEM. ANOTHER LAYER OF GEOTEXTILE IS TO BE PLACED OVER THE TOP OF THE 24" ROCK. THEN ROADWAY EMBANKMENT CAN BE PLACED ONTO THE STABILIZATION TREATMENT.

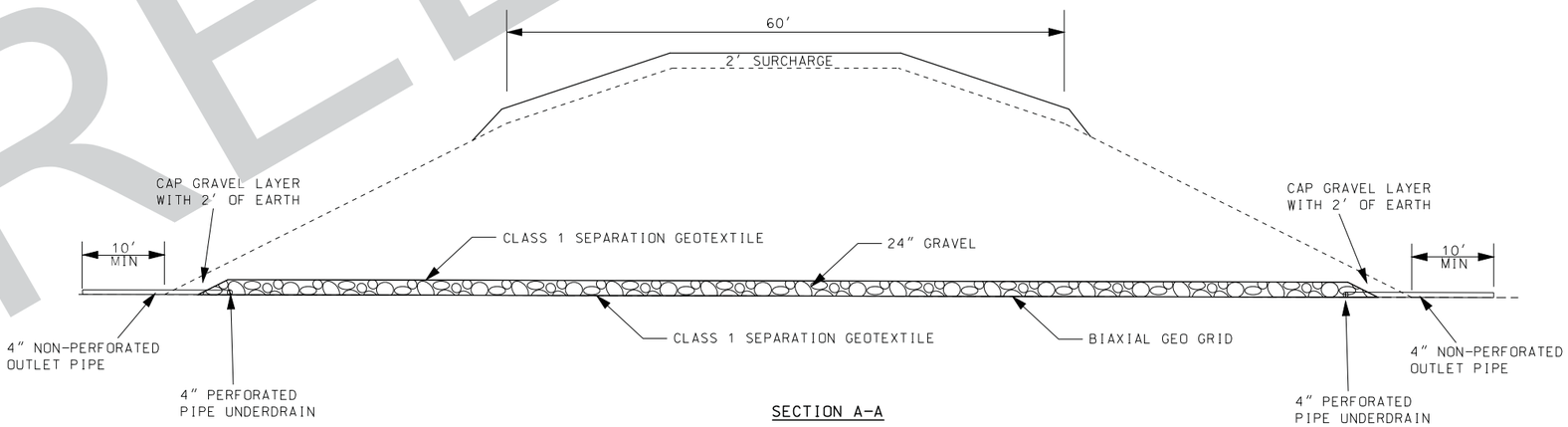
UNDERDRAINS AND OUTLET PIPES SHALL BE KEPT CLEAR AND OPERATIONAL. IF UNDERDRAIN OR OUTLET PIPE BECOMES DAMAGED IT SHALL BE REPAIRED TO OPERATE TO A STANDARD THAT IS ACCEPTABLE TO THE ENGINEER. ALL REPAIRS NEEDED TO RESTORE OPERATION OF THE DRAINAGE OF THE ROCK SHALL BE AT THE CONTRACTORS EXPENSE.

ALL LABOR, EQUIPMENT, MATERIAL OR OTHER CONSTRUCTION INVOLVED TO COMPLETE THE WORK TO BUILD THE 24" ROCK STABILIZATION WILL BE PAID FOR AS ROCK STABILIZATION. EXCEPT FOR THE GEOTEXTILE, GEOGRID, AND ROCK.

ROCK USED IN THE STABILIZATION TREATMENT SHALL BE BASED UPON THE MANUFACTURES RECOMMENDATION FOR THE TYPE OF BIAXIAL GEOGRID THAT IS APPROVED. ROCK USED WILL BE PAID FOR AS GRAVEL A CRUSHED STONE B.



TYPICAL ROCK STABILIATION DETAIL PLAN VIEW



SECTION A-A

STABILIZATION
SPECIAL SHEET
SHEET 17 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	37

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

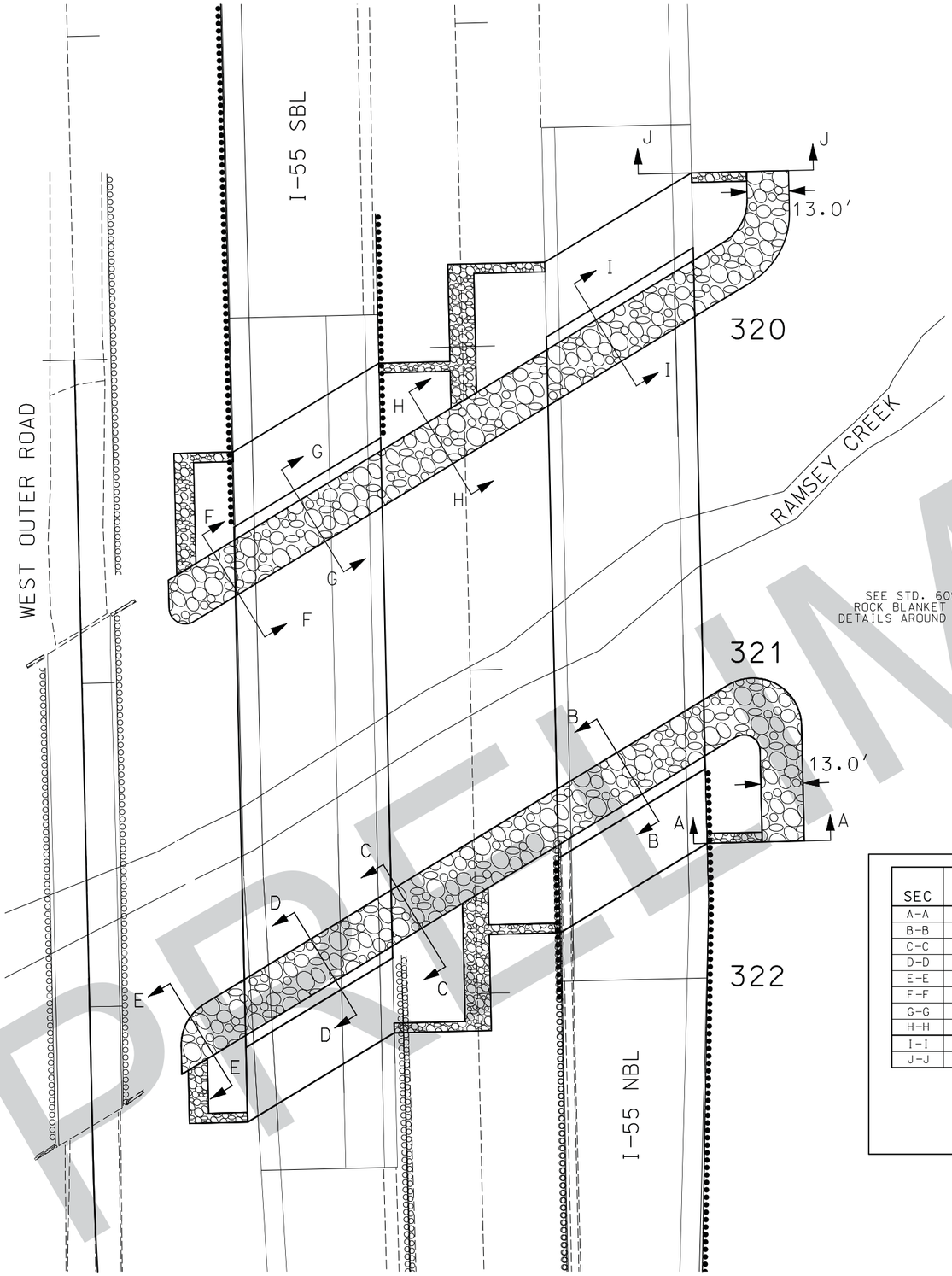
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

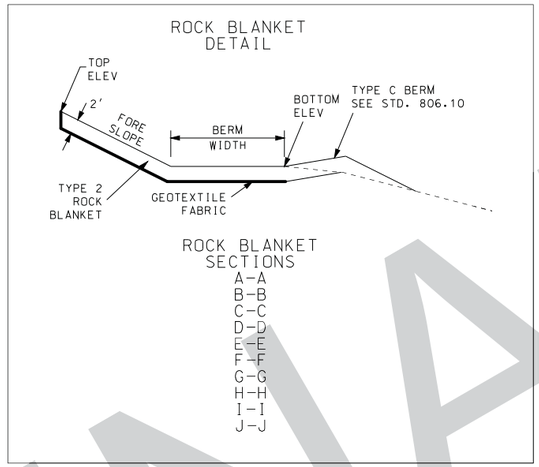
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

ROCK BLANKET I-55 OVER RAMSEY CREEK



SEE STD. 609.40 FOR ROCK BLANKET PLACEMENT DETAILS AROUND BRIDGE ENDS



DRAIN FLUME
TYPE 1 ROCK DITCH LINER WITH PERMANENT EROSION CONTROL GEOTEXTILE

2' TYPE 2 ROCK BLANKET WITH PERMANENT EROSION CONTROL GEOTEXTILE

SEC	STA	LOC	ELEV TOP	ELEV BOTTOM	ELEV BACK	ELEV	SLOPE FORE	SLOPE BACK	SLOPE	BERM WIDTH	PLAN WIDTH	SLOPE WIDTH
A-A	321+50	I-55 NB	377.0	370.0	-	-	4.0:1	-	-	-	18.0'	18.9'
B-B	321+40	I-55 NB	372.5	370.0	-	-	2.0:1	-	-	10.0'	15.0'	15.6'
C-C	321+70	I-55 MEDIAN	372.5	370.0	-	-	2.0:1	-	-	-	15.0'	15.4'
D-D	321+95	I-55 SB	372.5	370.0	-	-	2.0:1	-	-	10.0'	15.0'	15.6'
E-E	322+17	I-55 SB	372.5	370.0	-	-	2.0:1	-	-	-	15.0'	15.4'
F-F	320+68	I-55 SB	372.5	370.0	-	-	2.0:1	-	-	-	15.0'	15.4'
G-G	320+46	I-55 SB	372.5	370.0	-	-	2.0:1	-	-	10.0'	15.0'	15.6'
H-H	320+17	I-55 MEDIAN	372.5	370.0	-	-	2.0:1	-	-	-	15.0'	15.4'
I-I	319+93	I-55 NB	372.5	370.0	-	-	2.0:1	-	-	10.0'	15.0'	15.6'
J-J	319+54	I-55 NB	376.9	370.0	-	-	4.0:1	-	-	-	18.0'	18.9'

STATION/OFFSET, ELEVATIONS, AND SLOPES ARE APPROXIMATE AND MAY BE ADJUSTED TO MATCH FIELD CONDITIONS AS APPROVED BY ENGINEER.

SCALE
0 20 40 60

SPECIAL SHEET
SHEET 18 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 38
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

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

ROCK BLANKET ROUTE 61 OVER I-55

2' TYPE 2 ROCK BLANKET WITH PERMANENT EROSION CONTROL GEOTEXTILE

SEC	STA	LOC	ELEV TOP	ELEV BOTTOM		SLOPE FORE	SLOPE BACK	BERM WIDTH	PLAN WIDTH	SLOPE WIDTH
A-A	48+01	RTE 61 RT	397.9	372.2		3.0:1	–	–	77.5'	81.4'
B-B	48+30	RTE 61 RT	393.9	376.6		2.0:1	–	–	36.0'	40.0'
C-C	48+04	RTE 61 LT	393.9	375.9		2.0:1	–	–	36.0'	40.0'
D-D	47+81	RTE 61 LT	397.9	375.5		3.0:1	–	–	68.5'	71.9'
E-E	50+64	RTE 61 LT	396.7	375.3		3.0:1	–	–	62.4'	65.5'
F-F	50+37	RTE 61 LT	394.0	376.0		2.0:1	–	–	36.0'	40.0'
G-G	50+63	RTE 61 RT	394.0	375.8		2.0:1	–	–	36.0'	40.0'
H-H	50+84	RTE 61 RT	396.2	371.7		3.0:1	–	–	66.5'	69.8'

STATION/OFFSET, ELEVATIONS, AND SLOPES ARE APPROXIMATE AND MAY BE ADJUSTED TO MATCH FIELD CONDITIONS AS APPROVED BY ENGINEER.

CONCRETE SLOPE PROTECTION LEFT 12.5' X 4' STA. 49+93.3 TO STA. 48+05.7 (SEE BRIDGE PLANS)

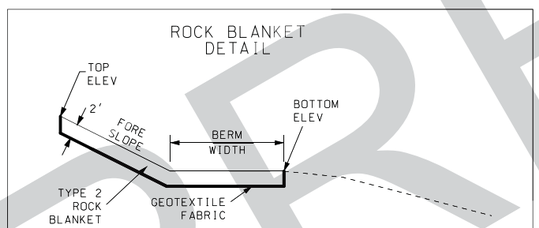
CONCRETE SLOPE PROTECTION RIGHT 14.5' X 4' STA. 48+15.5 TO STA. 48+30.0 (SEE BRIDGE PLANS)

CONCRETE SLOPE PROTECTION LEFT 14.5' X 4' STA. 50+37.0 TO STA. 50+51.3 (SEE BRIDGE PLANS)

CONCRETE SLOPE PROTECTION RIGHT 12.5' X 4' STA. 50+61.2 TO STA. 50+73.6 (SEE BRIDGE PLANS)

SEE STD. 609.40 FOR ROCK BLANKET PLACEMENT DETAILS AROUND BRIDGE ENDS

ROCK BLANKET DETAIL



ROCK BLANKET SECTIONS
A-A
B-B
C-C
D-D
E-E
F-F
G-G
H-H

SCALE
0 20 40 60

SPECIAL SHEET
SHEET 19 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 39

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

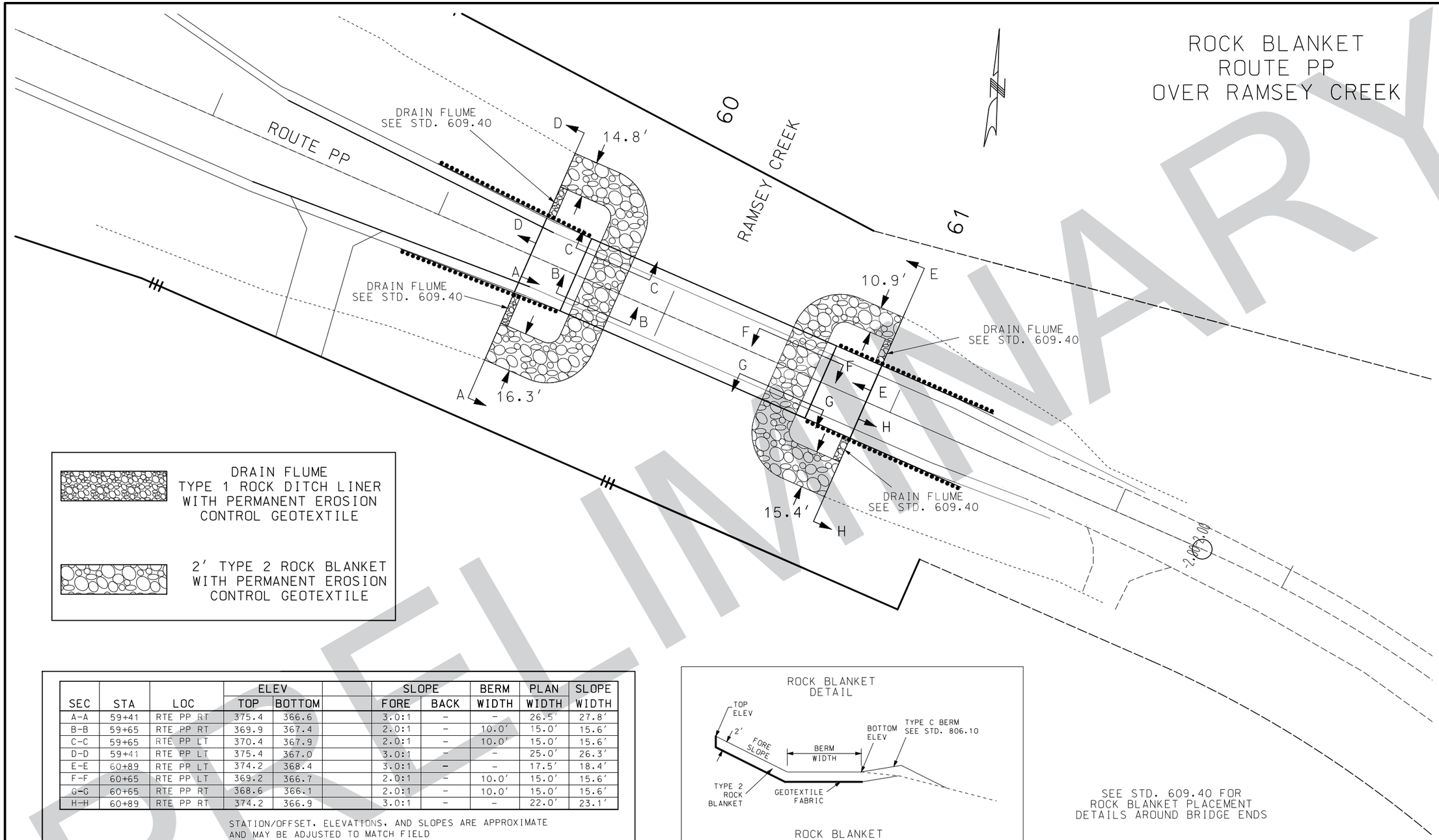
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

ROCK BLANKET
ROUTE PP
OVER RAMSEY CREEK



DRAIN FLUME
TYPE 1 ROCK DITCH LINER
WITH PERMANENT EROSION
CONTROL GEOTEXTILE

2′ TYPE 2 ROCK BLANKET
WITH PERMANENT EROSION
CONTROL GEOTEXTILE

SEC	STA	LOC	ELEV TOP	ELEV BOTTOM		SLOPE FORE	SLOPE BACK	BERM WIDTH	PLAN WIDTH	SLOPE WIDTH
A-A	59+41	RTE PP RT	375.4	366.6		3.0:1	–	–	26.5′	27.8′
B-B	59+65	RTE PP RT	369.9	367.4		2.0:1	–	10.0′	15.0′	15.6′
C-C	59+65	RTE PP LT	370.4	367.9		2.0:1	–	10.0′	15.0′	15.6′
D-D	59+41	RTE PP LT	375.4	367.0		3.0:1	–	–	25.0′	26.3′
E-E	60+89	RTE PP LT	374.2	368.4		3.0:1	–	–	17.5′	18.4′
F-F	60+65	RTE PP LT	369.2	366.7		2.0:1	–	10.0′	15.0′	15.6′
G-G	60+65	RTE PP RT	368.6	366.1		2.0:1	–	10.0′	15.0′	15.6′
H-H	60+89	RTE PP RT	374.2	366.9		3.0:1	–	–	22.0′	23.1′

STATION/OFFSET, ELEVATIONS, AND SLOPES ARE APPROXIMATE
AND MAY BE ADJUSTED TO MATCH FIELD
CONDITIONS AS APPROVED BY ENGINEER.

ROCK BLANKET
DETAIL

ROCK BLANKET
SECTIONS
A-A
B-B
C-C
D-D
E-E
F-F
G-G
H-H

SEE STD. 609.40 FOR
ROCK BLANKET PLACEMENT
DETAILS AROUND BRIDGE ENDS

SCALE
0 20 40 60

SPECIAL SHEET
SHEET 20 OF 21

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	40

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

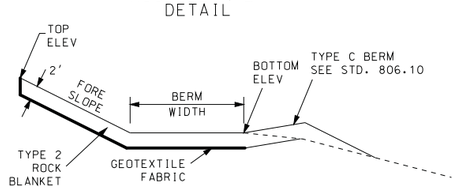
SEC	STA	LOC	ELEV TOP	ELEV BOTTOM	SLOPE FORE	SLOPE BACK	BERM WIDTH	PLAN WIDTH	SLOPE WIDTH
A–A	60+38	EAST OUTER ROAD RT	364.5	359.3	3.0:1	–	–	37.0	38.9′
B–B	60+61	EAST OUTER ROAD RT	364.5	357.0	2.0:1	–	15.0′	30.0′	31.7′
C–C	60+54	EAST OUTER ROAD LT	364.5	357.0	2.0:1	–	15.0′	30.0′	31.7′
D–D	60+29	EAST OUTER ROAD LT	369.8	349.8	3.0:1	–	–	60.0′	63.0′
E–E	62+43	EAST OUTER ROAD LT	369.0	354.2	3.0:1	–	–	66.0′	69.3′
F–F	62+19	EAST OUTER ROAD LT	364.0	359.0	2.0:1	–	15.0′	25.0′	26.1′
G–G	62+26	EAST OUTER ROAD RT	364.0	359.0	2.0:1	–	15.0′	25.0′	26.1′
H–H	62+49	EAST OUTER ROAD RT	364.0	353.7	3.0:1	–	–	66.0′	69.3′

STATION/OFFSET, ELEVATIONS, AND SLOPES ARE APPROXIMATE AND MAY BE ADJUSTED TO MATCH FIELD CONDITIONS AS APPROVED BY ENGINEER.

DRAIN FLUME
TYPE 1 ROCK DITCH LINER WITH PERMANENT EROSION CONTROL GEOTEXTILE

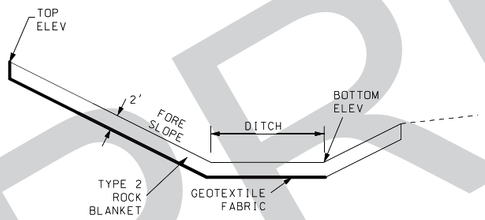
2′ TYPE 2 ROCK BLANKET WITH PERMANENT EROSION CONTROL GEOTEXTILE

ROCK BLANKET DETAIL



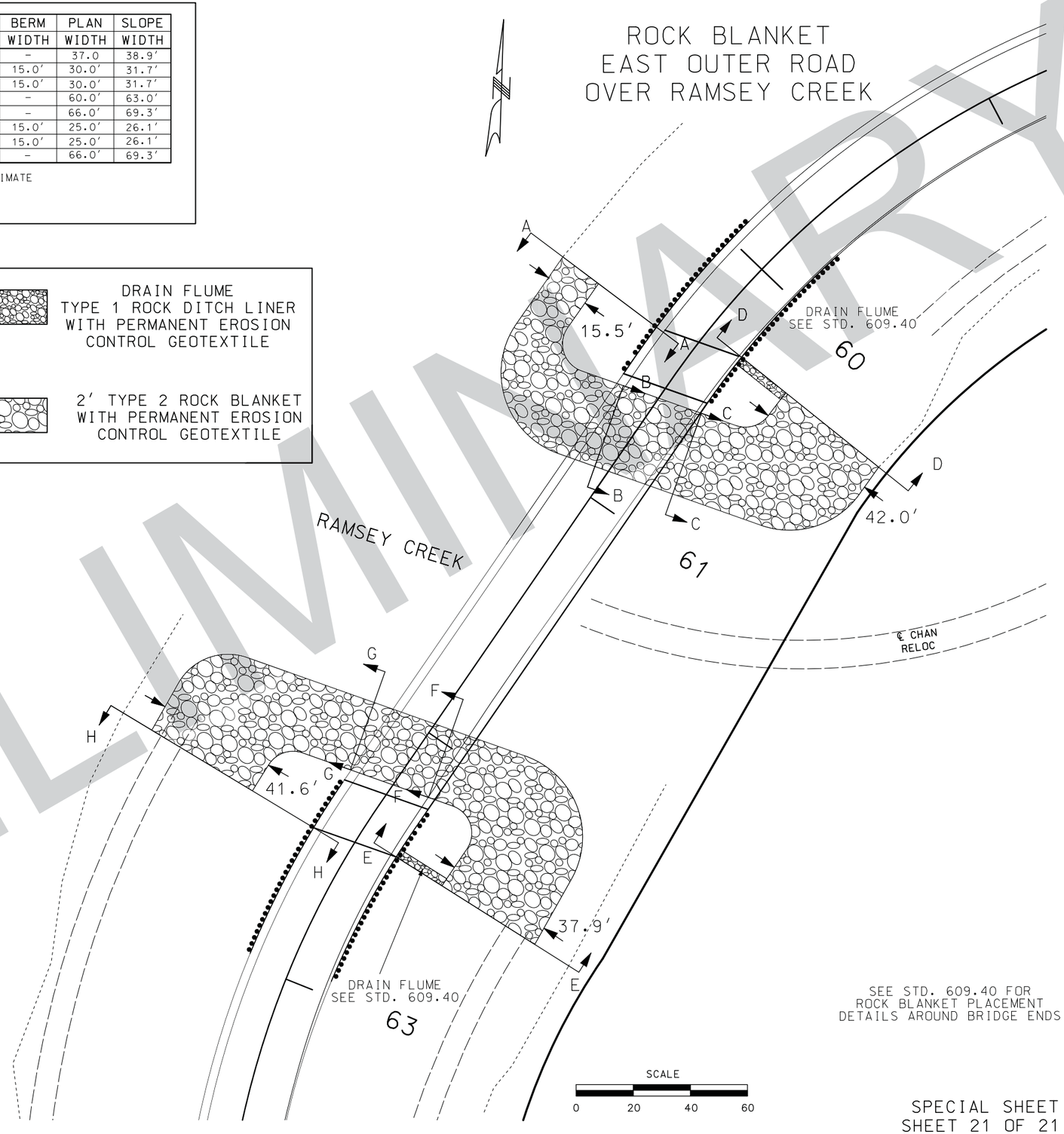
ROCK BLANKET SECTIONS
A–A
B–B
C–C
D–D
F–F
G–G

ROCK BLANKET DETAIL



ROCK BLANKET SECTIONS
E–E
H–H

ROCK BLANKET EAST OUTER ROAD OVER RAMSEY CREEK



SCALE
0 20 40 60

SEE STD. 609.40 FOR ROCK BLANKET PLACEMENT DETAILS AROUND BRIDGE ENDS

SPECIAL SHEET
SHEET 21 OF 21

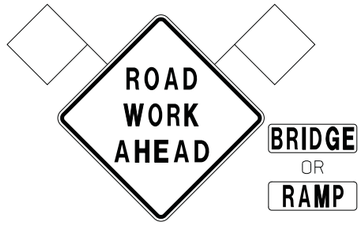
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED 2/13/2017
ROUTE I–55 | STATE MO
DISTRICT SE | SHEET NO. 41
COUNTY SCOTT
JOB NO. J0I0956
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)



W020-1

(2)

R2-1

(4)

W020-4

(7)

W020-7a

(8)

R2-1

(25A)

G020-5aP

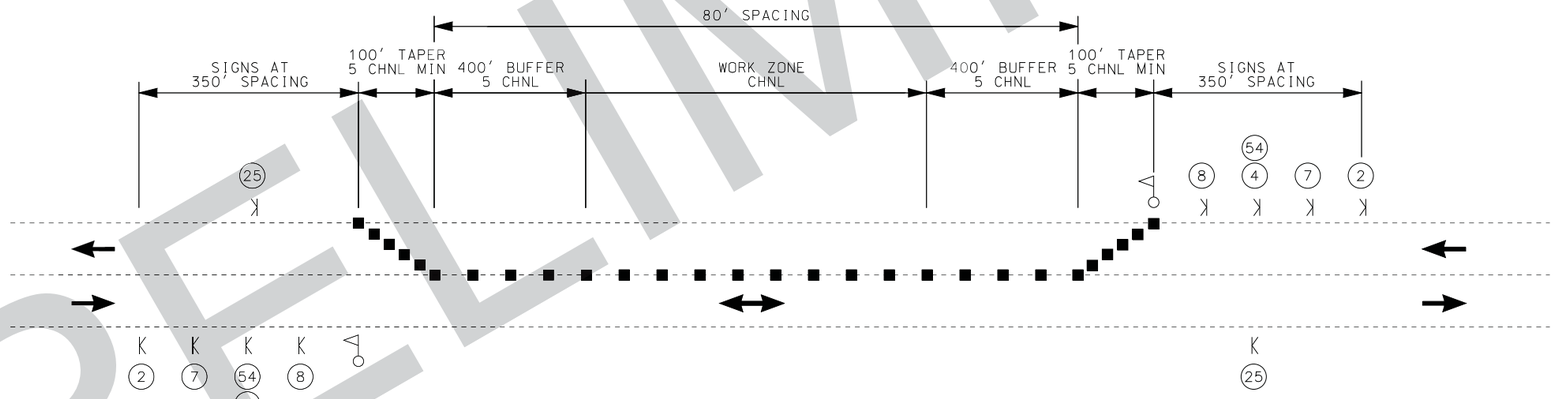
(54)

TRAFFIC CONTROL LEGEND

PORTABLE SIGN

CHANNELIZER

FLAGGER



LANE CLOSURE
RTE 61

TRAFFIC CONTROL
SHEET 1 OF 9
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	42

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

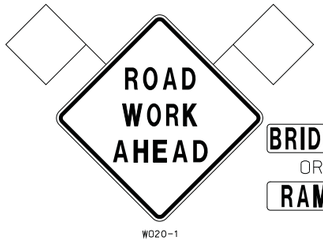
DESCRIPTION	DATE

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.

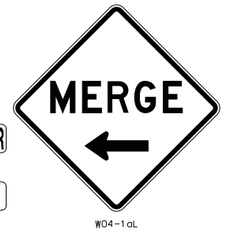


W020-1
2

R2-1
4

W020-5
5

W020-6a
6



W04-1aL
6A

W04-1aR
6B

R2-1
25A

BRIDGE
OR
RAMP

CENTER LANE
OR
LEFT LANE

CENTER
OR
LEFT

R4-1
46

R4-2
46A

CONST-3A
53

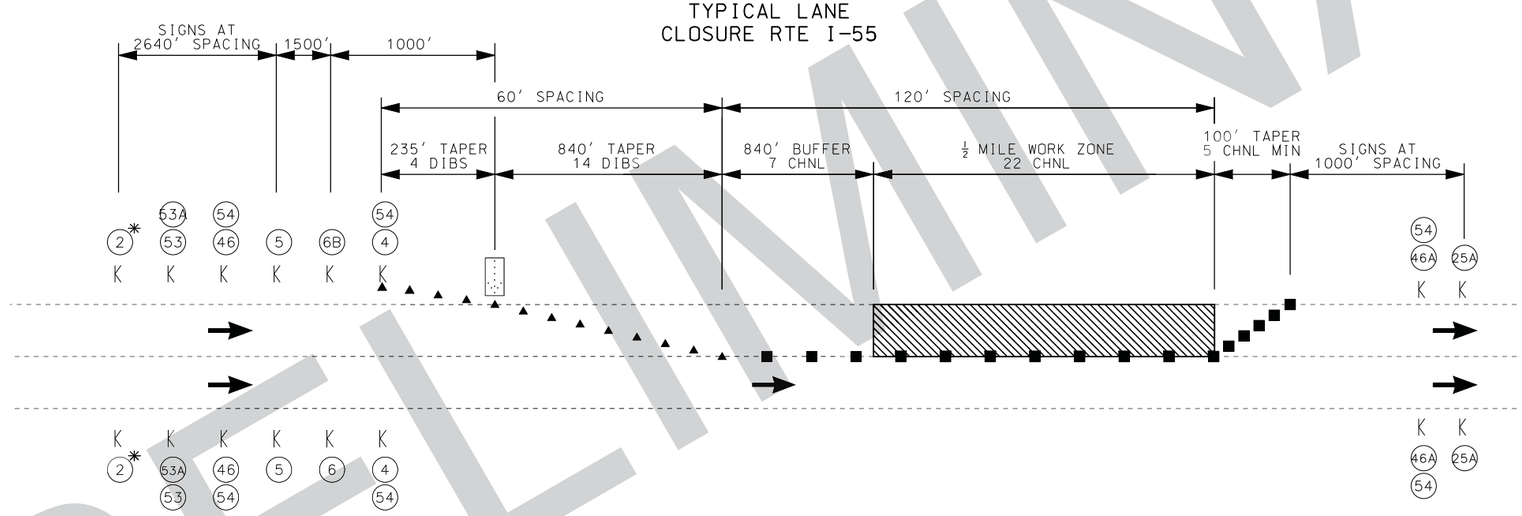
SPEEDING/PASSING
CONST-3X
53A

G020-5aP
54

TRAFFIC CONTROL LEGEND

- PORTABLE SIGN
- CHANNELIZER
- DIB (DIRECTION INDICATOR BARRICADE)
- BARRICADE
- FLASHING ARROW PANEL

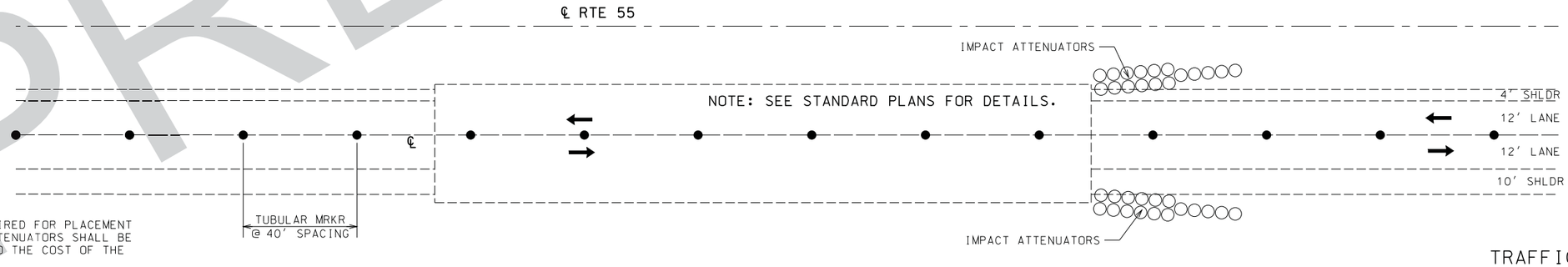
TYPICAL LANE CLOSURE RTE I-55



NOTES:

* ADVANCED WARNING RAIL SYSTEM

TYPICAL IMPACT ATTENUATOR PLACEMENT AT BRIDGE END



* NOTE: GRADING REQUIRED FOR PLACEMENT OF IMPACT ATTENUATORS SHALL BE INCIDENTAL TO THE COST OF THE ATTENUATORS

REPLACEMENT SAND BARRELS MUST BE LOCATED ON SITE.

TRAFFIC CONTROL
SHEET 2 OF 9
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	43

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

W020-1

(2)

R2-1

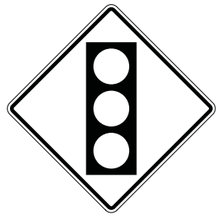
(4A)

W020-4

(7)

W03-4

(11)



W03-3

(12)

W01-4L

(15A)

W01-4R

(15B)

R2-1

(25A)

R10-6L

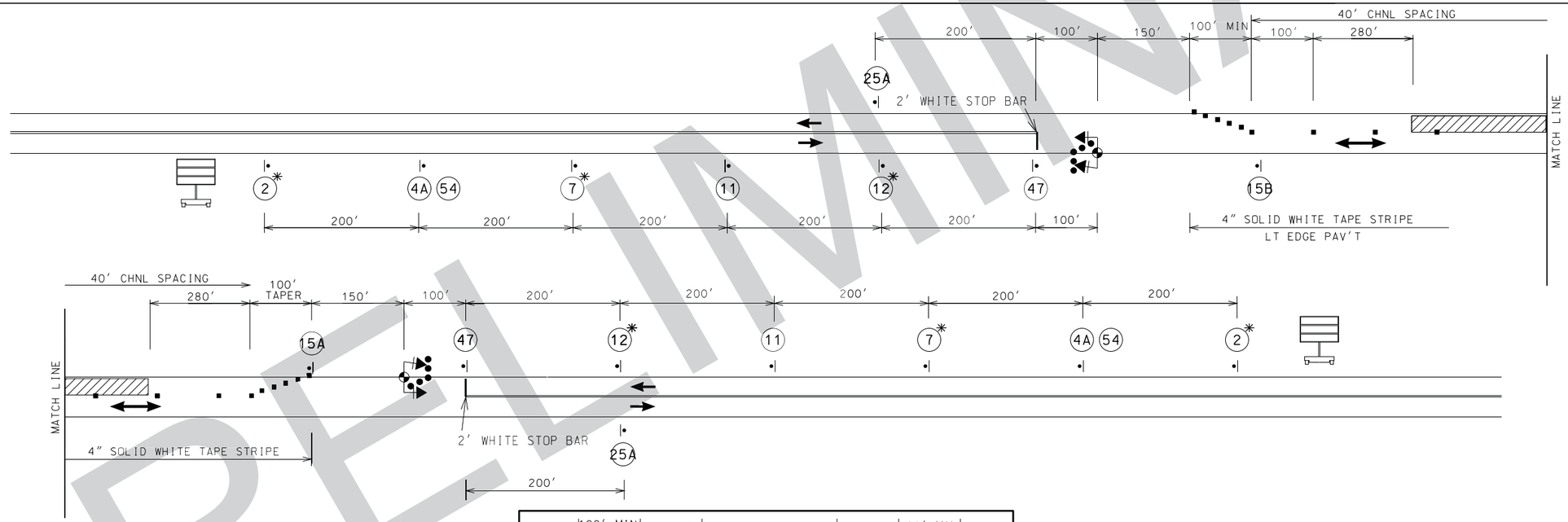
(47)

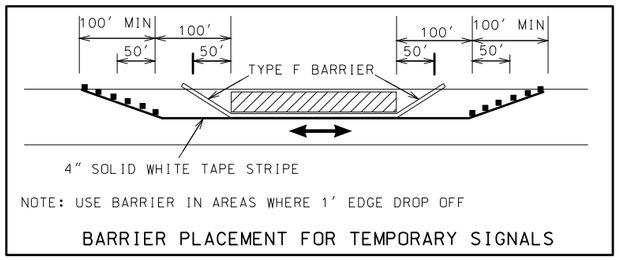
G020-5aP

(54)

TRAFFIC CONTROL LEGEND

- PORTABLE TRAFFIC SIGNAL
- SIGN (SINGLE SIDED)
- CHANNELIZER (TRIM LINE)
- CHANNELIZER (DRUM-LIKE)
- CHANGEABLE MESSGAE BOARD (LOCATION DETERMINED BY ENGINEER)
- WORK ZONE





NOTE: USE BARRIER IN AREAS WHERE 1′ EDGE DROP OFF

BARRIER PLACEMENT FOR TEMPORARY SIGNALS

NOTES:

✳ ADVANCED WARNING RAIL SYSTEM

DISTANCE OF SIGNS AND DEVICES MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS.

ANY EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.

MAXIMUIM LENGTH OF WORK ZONE SHALL BE 1300′.

TEMPORARY SIGNAL LOCATIONS SHALL BE APPROVED BY ENGINEER.

USE TEMPORARY SURFACING TO CONSTRUCT TEMPORARY WIDENING.

SEE STANDARD PLAN NUMBER 617.20D FOR TEMPORARY CONCRETE BARRIER PLACEMENT.

NO PAYMENT WILL BE MADE FOR RELOCATION OF CONSTRUCTION SIGNS.

WORK ZONE TRAFFIC SIGNALS FOR USE ON EAST OUTER ROAD

TRAFFIC CONTROL
SHEET 3 OF 9
DRAWING NOT TO SCALE. FOLLOW DIMENSIONS.

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	44

COUNTY: SCOTT

JOB NO.: J0I0956

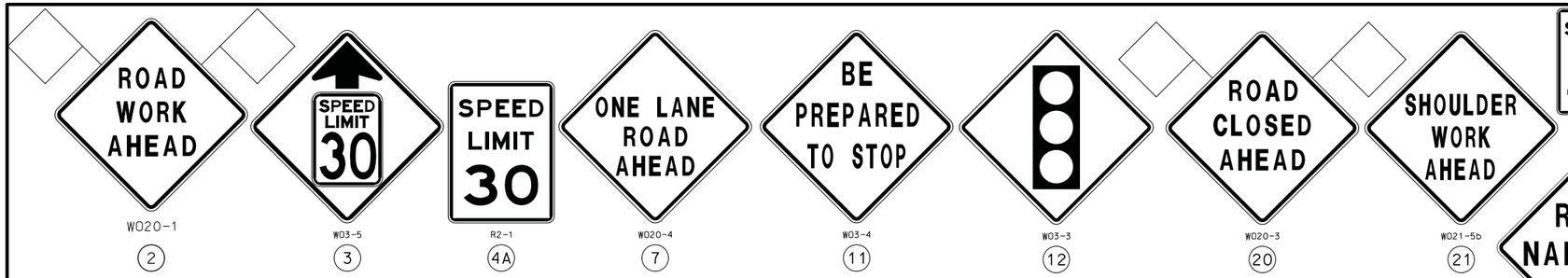
CONTRACT ID.:

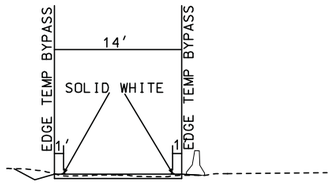
PROJECT NO.:

BRIDGE NO.:

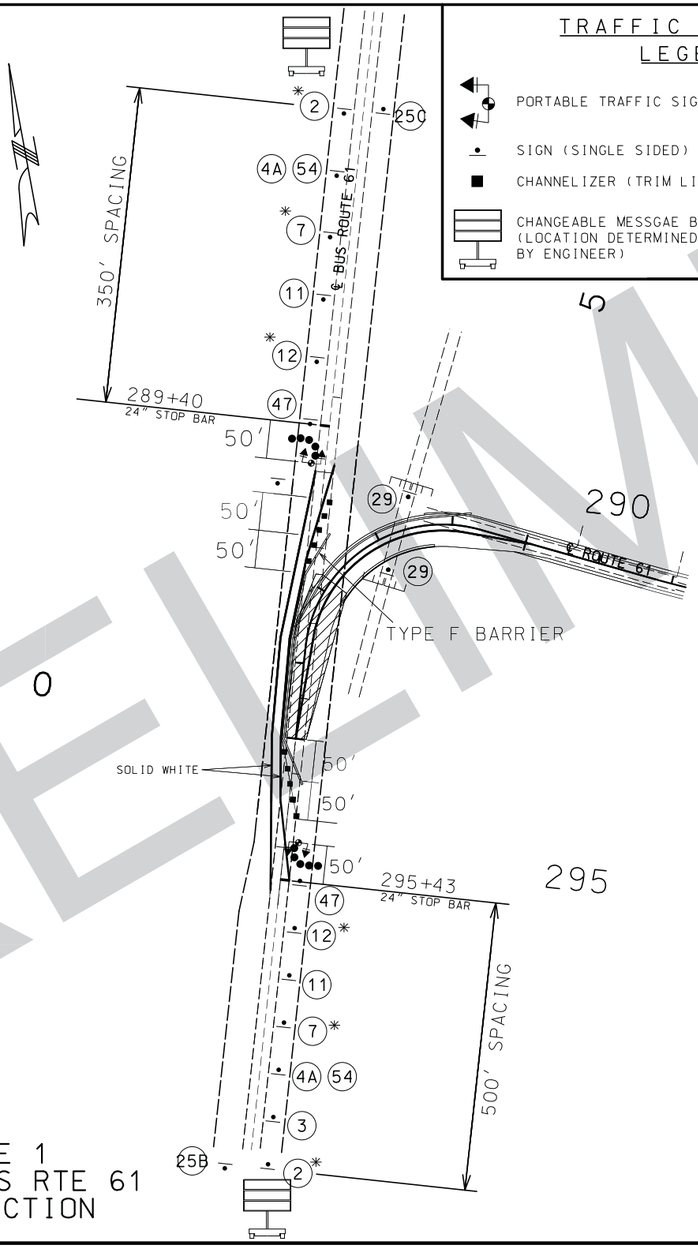
DESCRIPTION	DATE	REV.

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





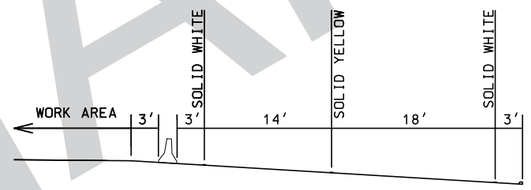
TEMPORY BYPASS



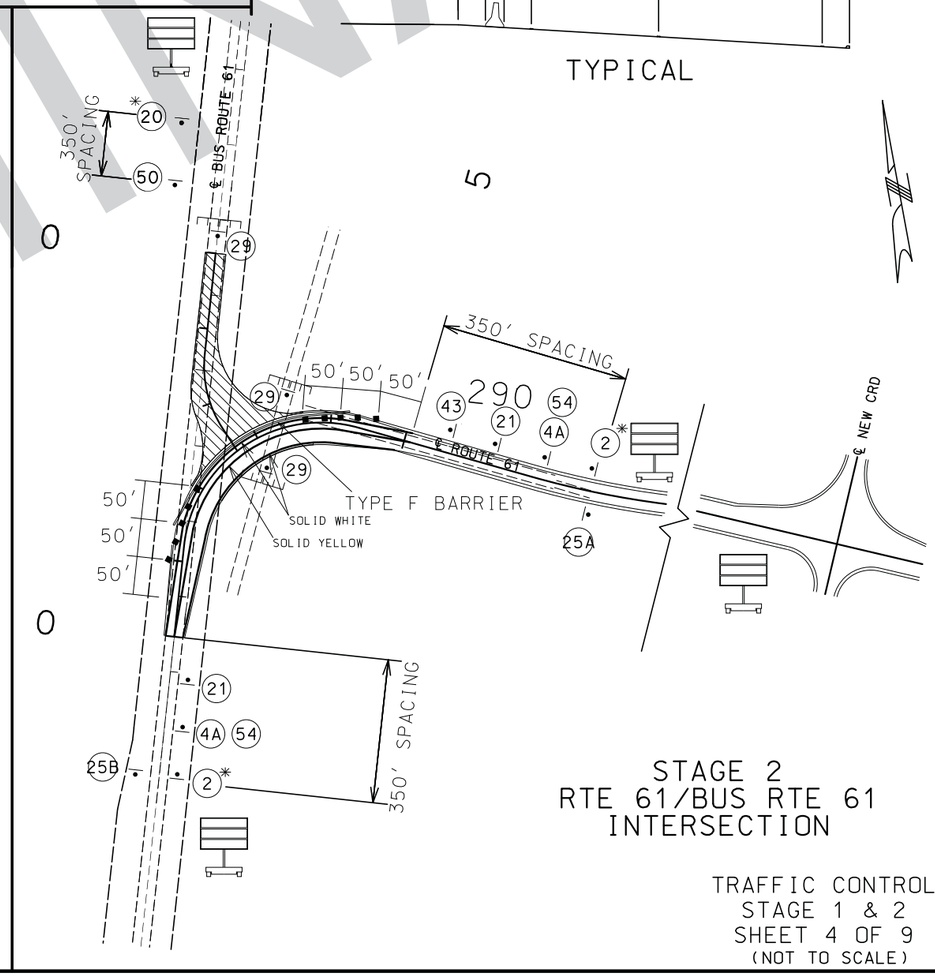
STAGE 1
RTE 61/BUS RTE 61
INTERSECTION

TRAFFIC CONTROL LEGEND

- PORTABLE TRAFFIC SIGNAL
- SIGN (SINGLE SIDED)
- CHANNELIZER (TRIM LINE)
- CHANGEABLE MESSGAE BOARD (LOCATION DETERMINED BY ENGINEER)
- WORK ZONE
- TYPE 3 MOVABLE BARRICADE
- CHANNELIZER (DRUM-LIKE)
- * ADVANCED WARNING RAIL SYSTEM



TYPICAL



STAGE 2
RTE 61/BUS RTE 61
INTERSECTION

TRAFFIC CONTROL
STAGE 1 & 2
SHEET 4 OF 9
(NOT TO SCALE)

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED: 2/13/2017

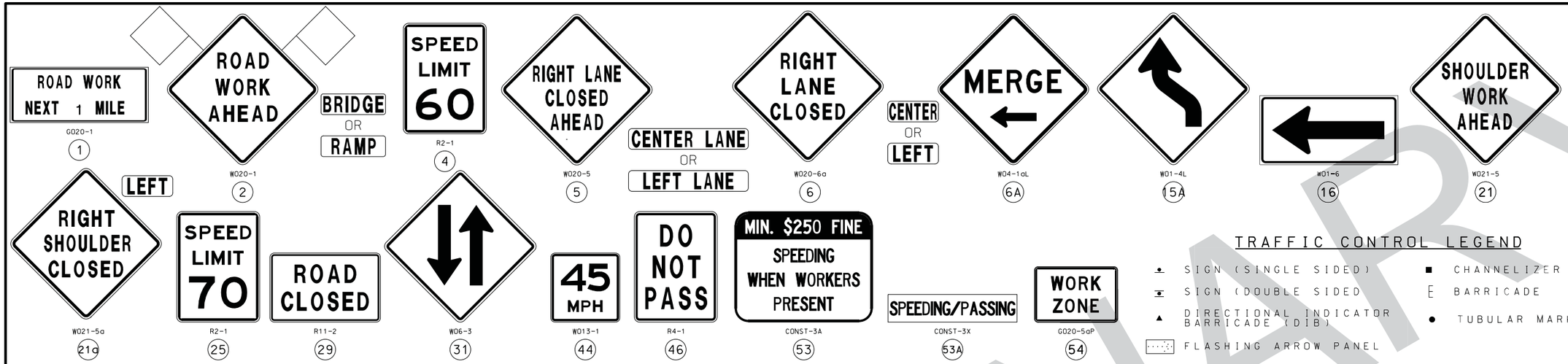
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	45

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

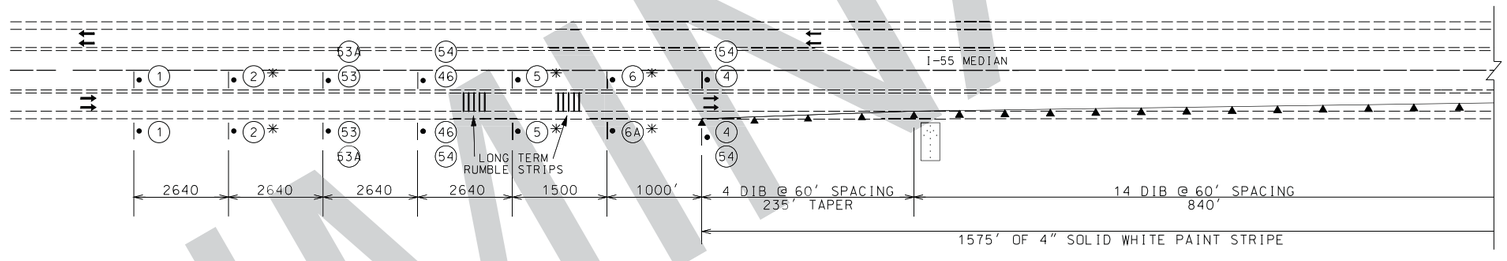
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

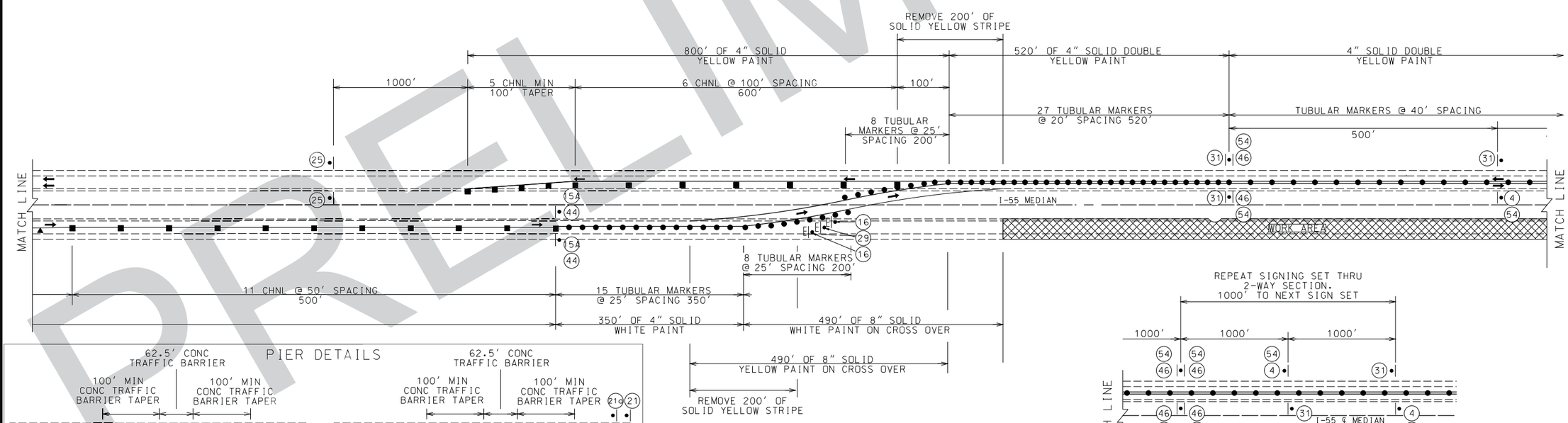


LONG TERM RUMBLE STRIPS

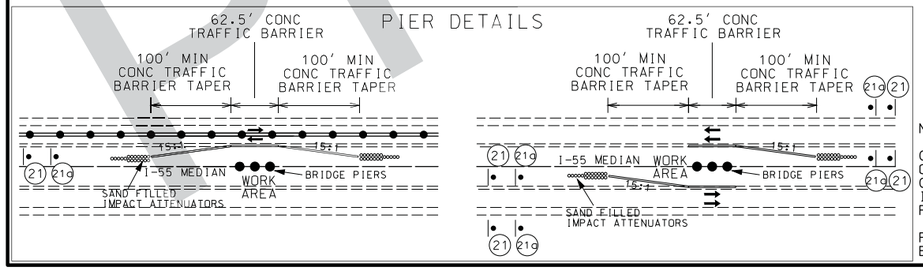
EACH LONG TERM RUMBLE STRIP LOCATION SHALL CONSIST OF 5 STRIPS PER LANE SEPARATED BY 2'-4'

NOTE:
* ADVANCED WARNING RAIL SYSTEM
** MESSAGE AND LOCATION TO BE DETERMINED BY ENGINEER





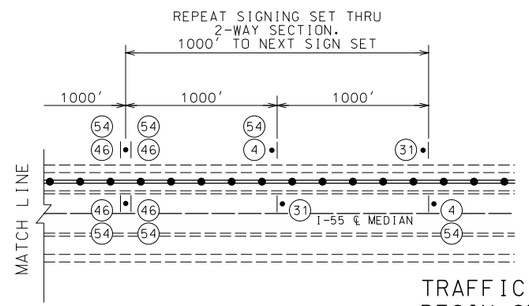
PIER DETAILS



NOTE:

GRADING REQUIRED FOR PLACEMENT OF IMPACT ATTENUATORS AND CONCRETE BARRIER SHALL BE INCIDENTAL TO THE COST OF THE PLACEMENT FOR BOTH.

REPLACEMENT SAND BARRELS MUST BE LOCATED ON SITE



TRAFFIC CONTROL
BEGIN CROSSOVER
SHEET 5 OF 9
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	46

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.:

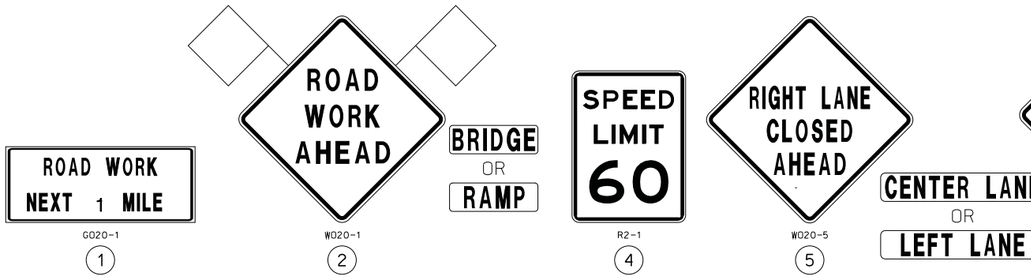
PROJECT NO.:

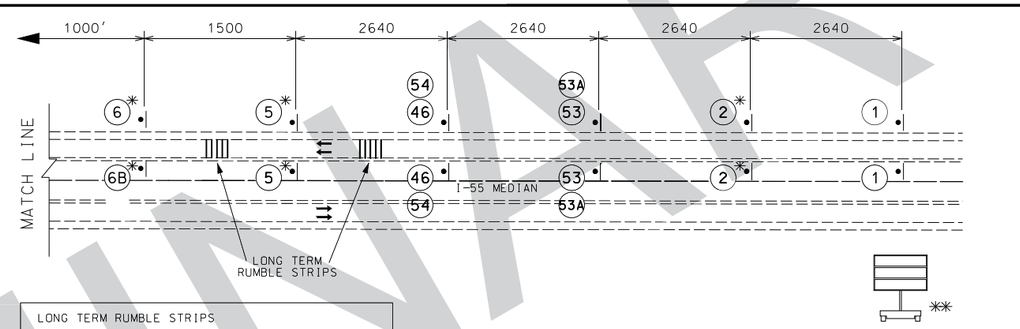
BRIDGE NO.:

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

REV.	DESCRIPTION	DATE

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

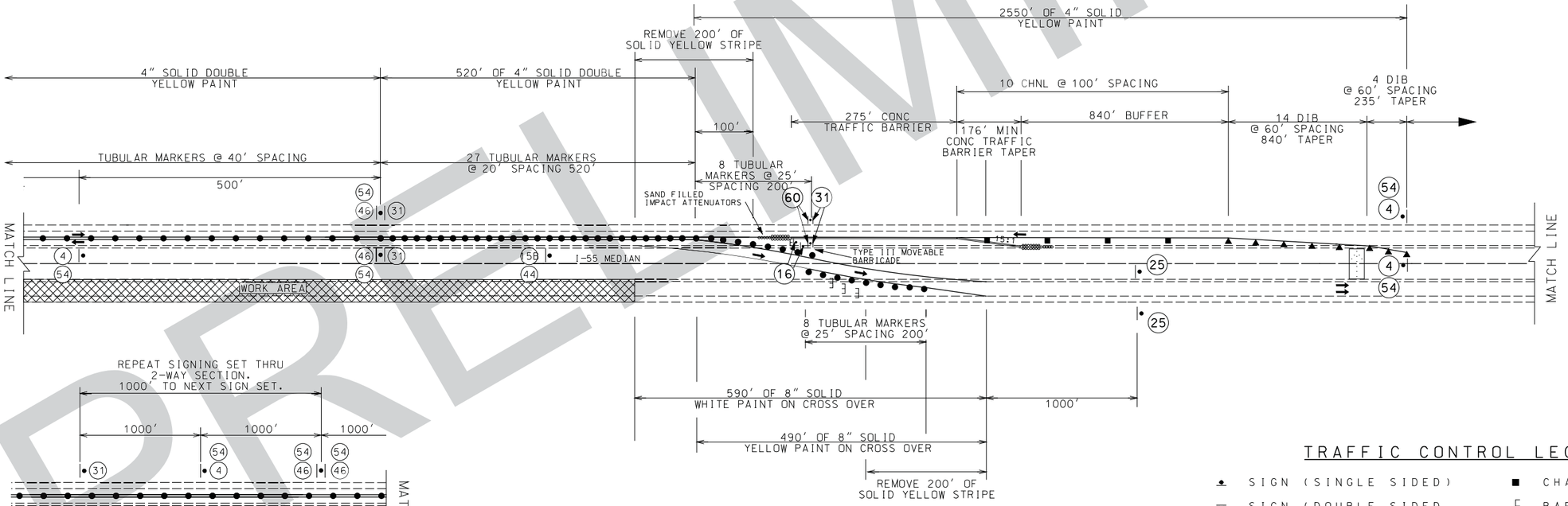




LONG TERM RUMBLE STRIPS

EACH LONG TERM RUMBLE STRIP LOCATION SHALL CONSIST OF 5 STRIPS PER LANE SEPARATED BY 2'-4"

NOTE:
* ADVANCED WARNING RAIL SYSTEM
** MESSAGE AND LOCATION TO BE DETERMINED BY ENGINEER



NOTE:

GRADING REQUIRED FOR PLACEMENT OF IMPACT ATTENUATORS AND CONCRETE BARRIER SHALL BE INCIDENTAL TO THE COST OF THE ATTENUATORS

REPLACEMENT SAND BARRELS MUST BE LOCATED ON SITE

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED
- DIRECTIONAL INDICATOR BARRICADE (DIB)
- FLASHING ARROW PANEL
- CHANNELIZER
- BARRICADE
- TUBULAR MARKERS

TRAFFIC CONTROL
END CROSSOVER
SHEET 6 OF 9
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED: 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	47

COUNTY: SCOTT

JOB NO.: J0I0956

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.

W020-2

18

W020-3a

20A

W020-3

20

R11-2

29

M04-8a

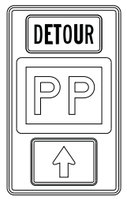
52

R11-3a

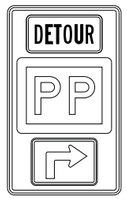
55A

R11-3a

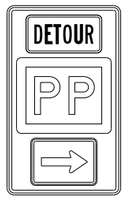
55B



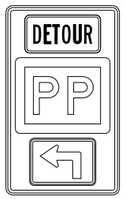
50A M1-5A M6-3



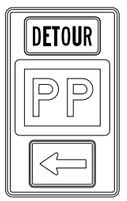
50B M1-5A M5-1R



50C M1-5A M6-1



50D M1-5A M5-1L



50E M1-5A M6-1

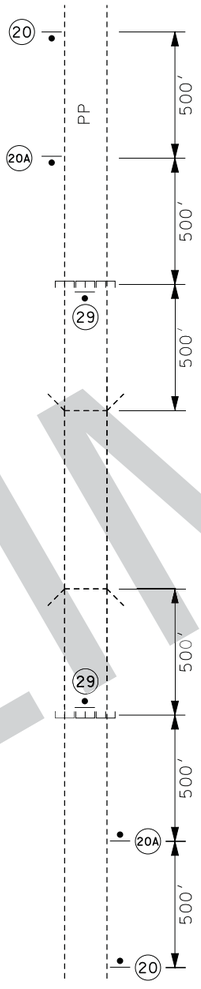
56A

56B

NOTES:
ALL SPACING AND DISTANCES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THEY MAY BE RELOCATED AS DIRECTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

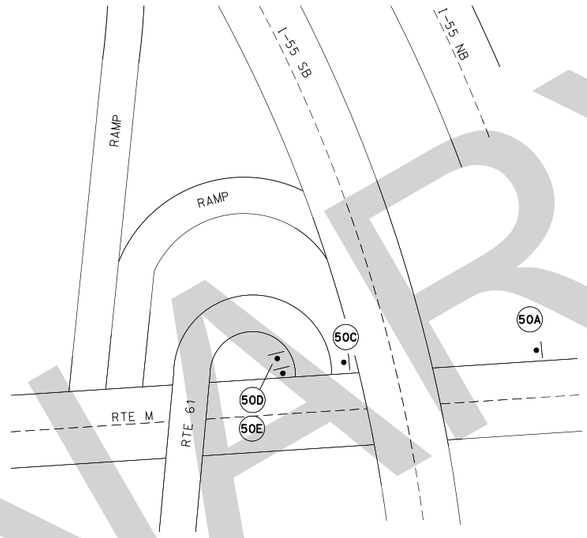
ANY EXISTING SIGNS THAT CONFLICT WITH THIS TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.

SIGN SPACING:
350' AT 40 MPH
500' AT 55 MPH
200' AT ALL OTHER AREAS

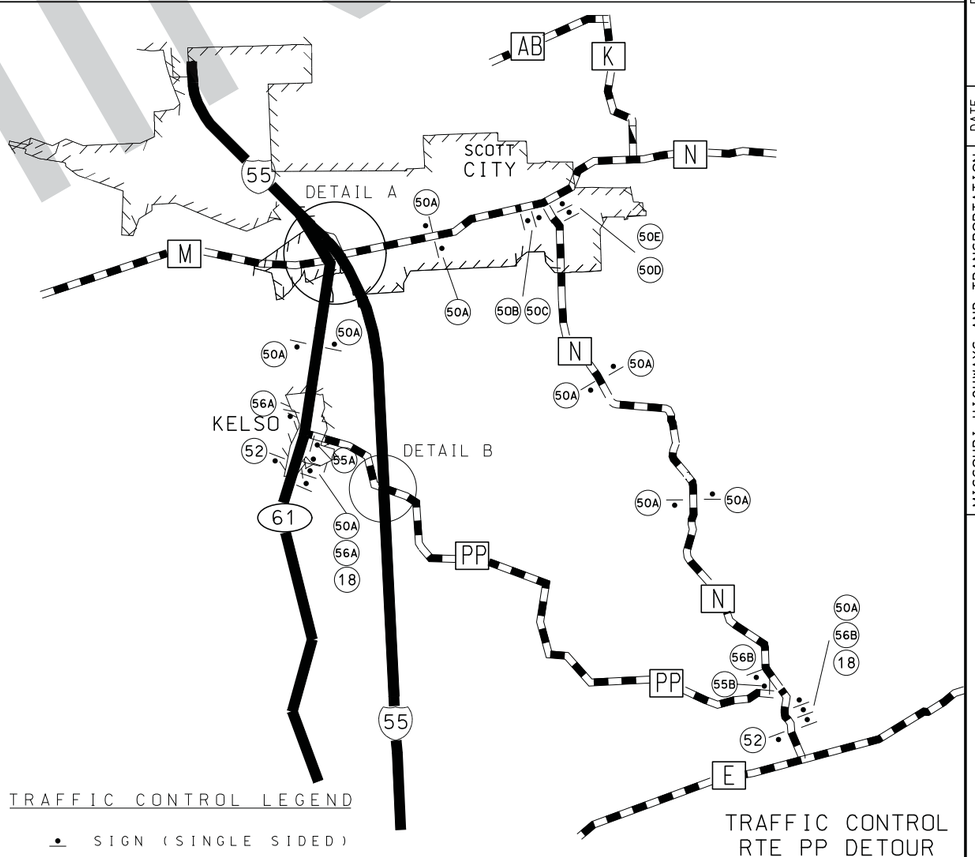


WORK ZONE NEAR BRIDGE
DETAIL B

NOTE:
USE THIS DETAIL FOR ANY NEEDED ROAD CLOSURES.



DETAIL A



TRAFFIC CONTROL LEGEND

• SIGN (SINGLE SIDED)

E BARRICADE

DETOUR ROUTE

TRAFFIC CONTROL
RTE PP DETOUR
SHEET 7 OF 9
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	48

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

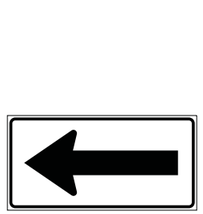
DESCRIPTION

DATE

REV.

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

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



16

18

29

51A M3-1 M1-1 M6-3

51B M3-1 M1-1 M6-2R

51C M3-1 M1-1 M5-1L

51D M3-1 M1-1 M6-1

51E M3-1 M1-1 M5-1R

51F M3-1 M1-1 M6-1

52A M3-3 M1-1 M6-3

52B M3-3 M1-1 M6-2R

52C M3-3 M1-1 M5-1L

52D M3-3 M1-1 M6-1

52F M3-3 M1-1 M6-1

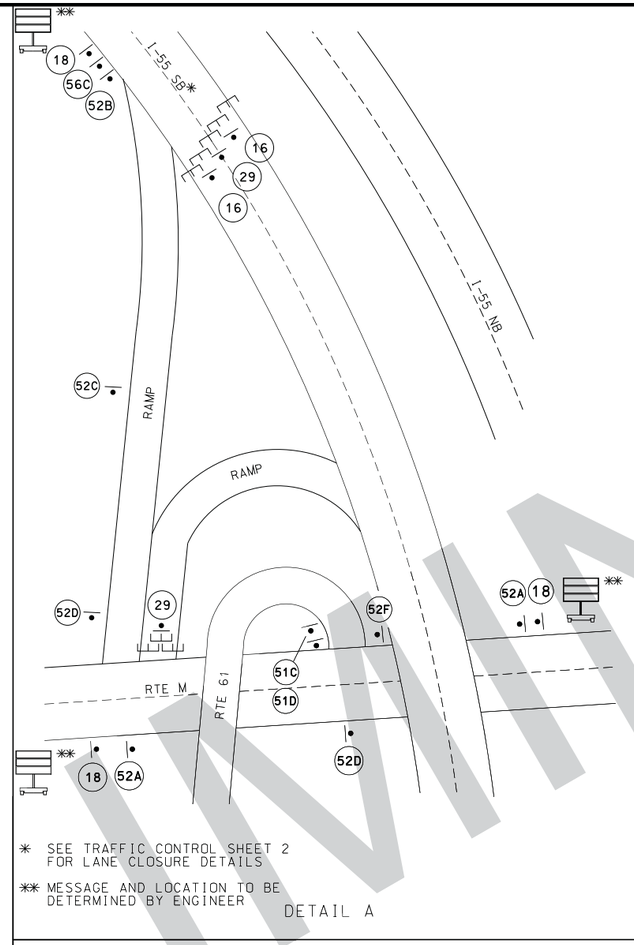
56C

56D

SIGN SPACING:
350' AT 40 MPH
500' AT 55 MPH
1000' AT 70 MPH
200' AT ALL OTHER AREAS

NOTES:
ALL SPACING AND DISTANCES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THEY MAY BE RELOCATED AS DIRECTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

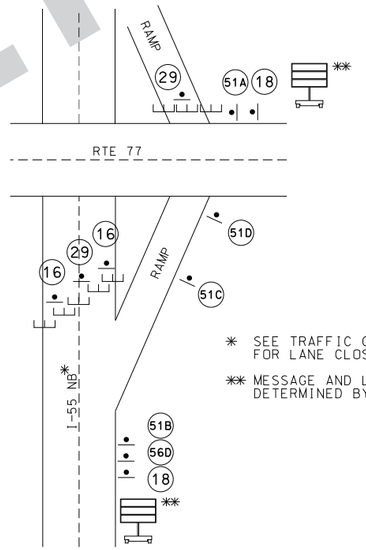
ANY EXISTING SIGNS THAT CONFLICT WITH THIS TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED.



* SEE TRAFFIC CONTROL SHEET 2 FOR LANE CLOSURE DETAILS

** MESSAGE AND LOCATION TO BE DETERMINED BY ENGINEER

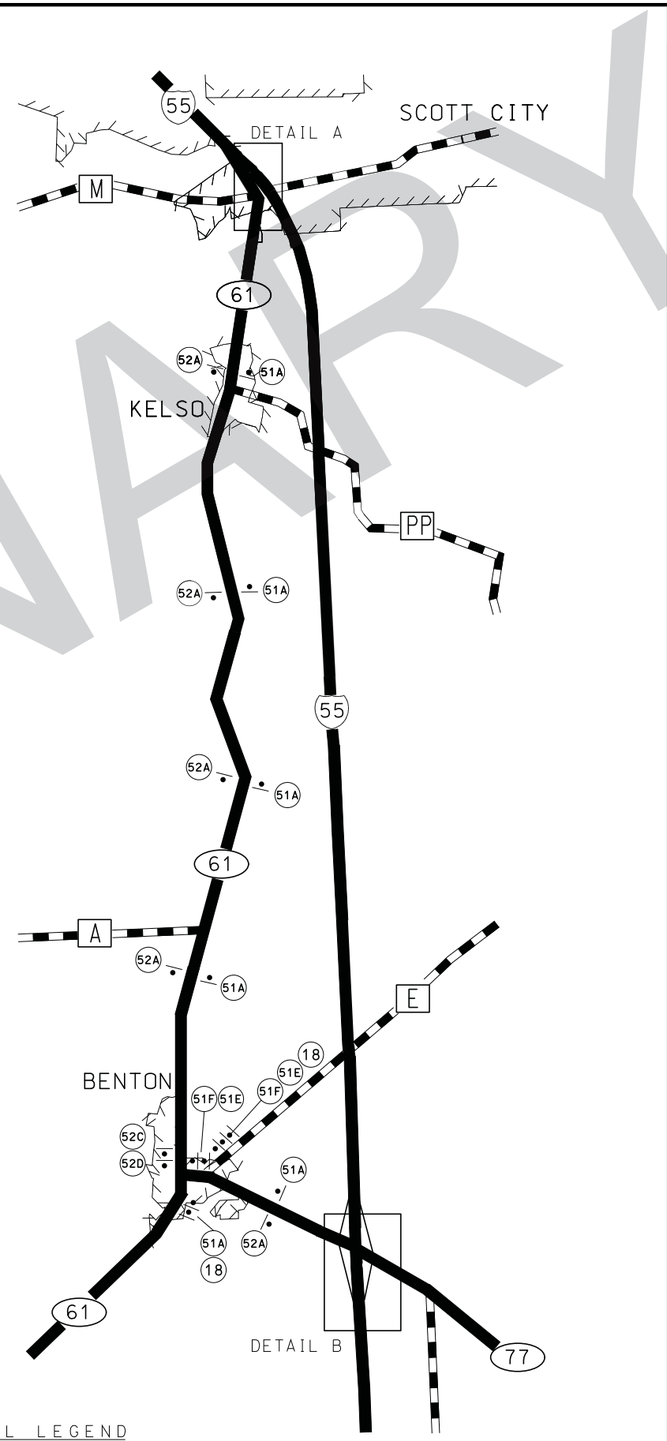
DETAIL A



* SEE TRAFFIC CONTROL SHEET 2 FOR LANE CLOSURE DETAILS

** MESSAGE AND LOCATION TO BE DETERMINED BY ENGINEER

DETAIL B



TRAFFIC CONTROL LEGEND

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

DETOUR ROUTE

TRAFFIC CONTROL
I-55 DETOUR
SHEET 8 OF 9
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	49

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

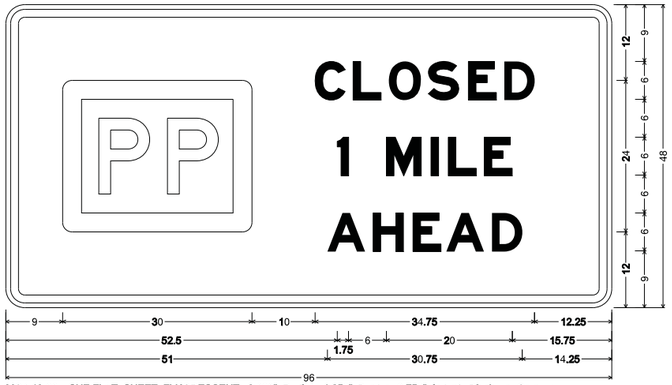
DESCRIPTION | DATE

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.

SIGN NO.	56A
STATION	
ROADWAY	



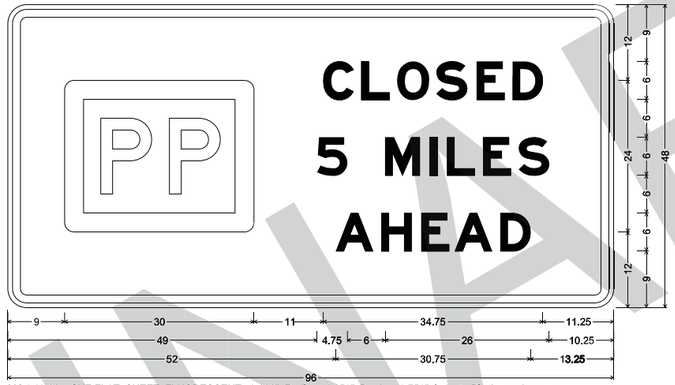
MO4-13-96 **SHF-FLAT SHEET FLUORESCENT;** 3.000" Radius, 1.250" Border, 0.750" Indent, Black on Orange;
[CLOSED] E Mod; [1 MILE] E Mod; [AHEAD] E Mod;
Table of letter and object lefts.

PP	C	L	O	S	E	D
9.000	49.000	55.000	60.750	67.000	73.250	79.000

I	M	I	L	E
52.500	60.250	67.375	70.125	75.750

A	H	E	A	D
51.000	58.125	64.500	69.750	77.000

SIGN NO.	56B
STATION	
ROADWAY	



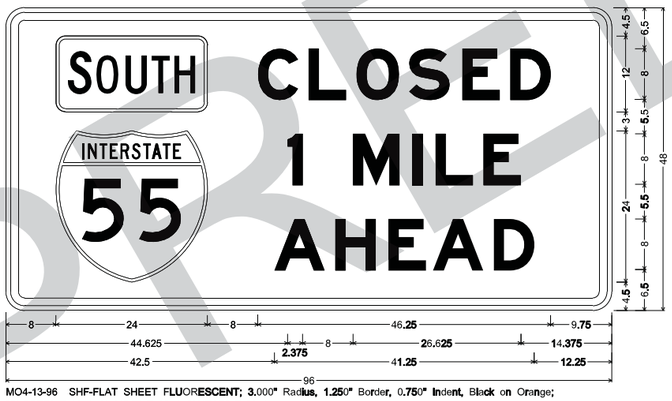
MO4-13-96 SHF-FLAT SHEET FLUORESCENT; 3.000" Radius, 1.250" Border, 0.750" Indent, Black on Orange;
[CLOSED] E Mod; [5 MILES] E Mod; [AHEAD] E Mod;
Table of letter and object lefts.

PP	C	L	O	S	E	D
9.000	50.000	56.000	61.750	68.000	74.250	80.000

S	M	1	L	E	S
49.000	59.750	66.875	69.625	75.250	81.000

A	H	E	A	D
52.000	59.125	65.500	70.750	78.000

SIGN NO.	56C
STATION	
ROADWAY	



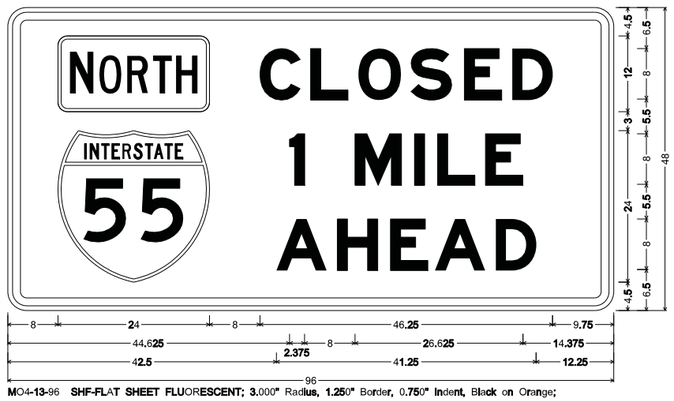
MO4-13-96 **SHF-FLAT SHEET FLUORESCENT;** 3.000" Radius, 1.250" Border, 0.750" Indent, Black on Orange;
[CLOSED] E Mod; [1 MILE] E Mod; [AHEAD] E Mod;
Table of letter and object lefts.

8.000	C 40.000	L 48.000	O 55.625	S 63.875	E 72.375	D 79.875

8.000	I 44.625	M 55.000	I 64.375	L 68.125	E 75.625

A 42.500	H 52.250	E 60.625	A 67.625	D 77.375

SIGN NO.	56D
STATION	
ROADWAY	



MO4-13-96 **SHF-FLAT SHEET FLUORESCENT;** 3.000" Radius, 1.250" Border, 0.750" Indent, Black on Orange;
[CLOSED] E Mod; [1 MILE] E Mod; [AHEAD] E Mod;
Table of letter and object lefts.

8.000	C 40.000	L 48.000	O 55.625	S 63.875	E 72.375	D 79.875

8.000	1 44.625	M 55.000	I 64.375	L 68.125	E 75.625

A 42.500	H 52.250	E 60.625	A 67.625	D 77.375

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	50

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.:

PROJECT NO.:

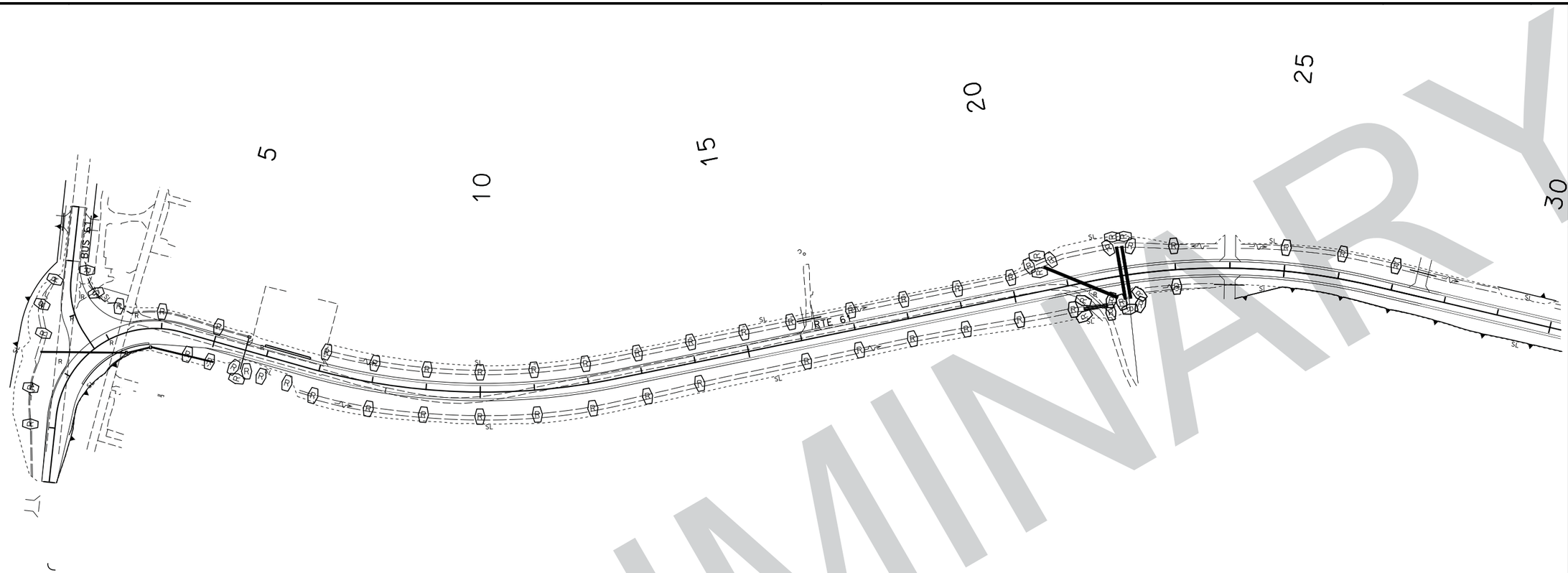
BRIDGE NO.:

DESCRIPTION	DATE

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

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

TRAFFIC CONTROL
SHEET 9 OF 9



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- FIBER REINFORCED MATRIX
- TEMPORARY BERM TYPE C
- SILT FENCE

EROSION CONTROL
SHEET 1 OF 7

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

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	51

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

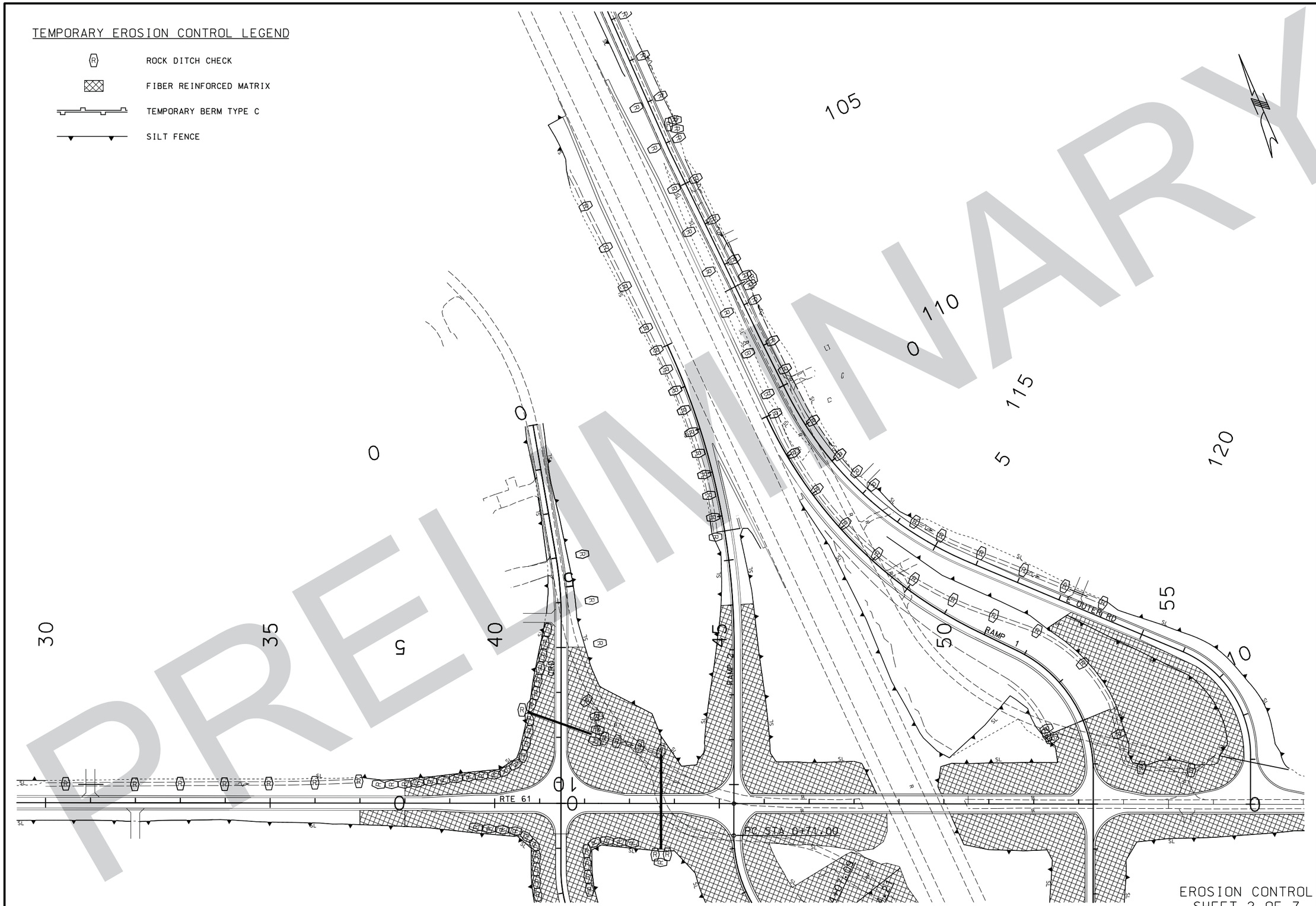
BRIDGE NO.

DESCRIPTION	DATE

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

TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- FIBER REINFORCED MATRIX
- TEMPORARY BERM TYPE C
- SILT FENCE



"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	52

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

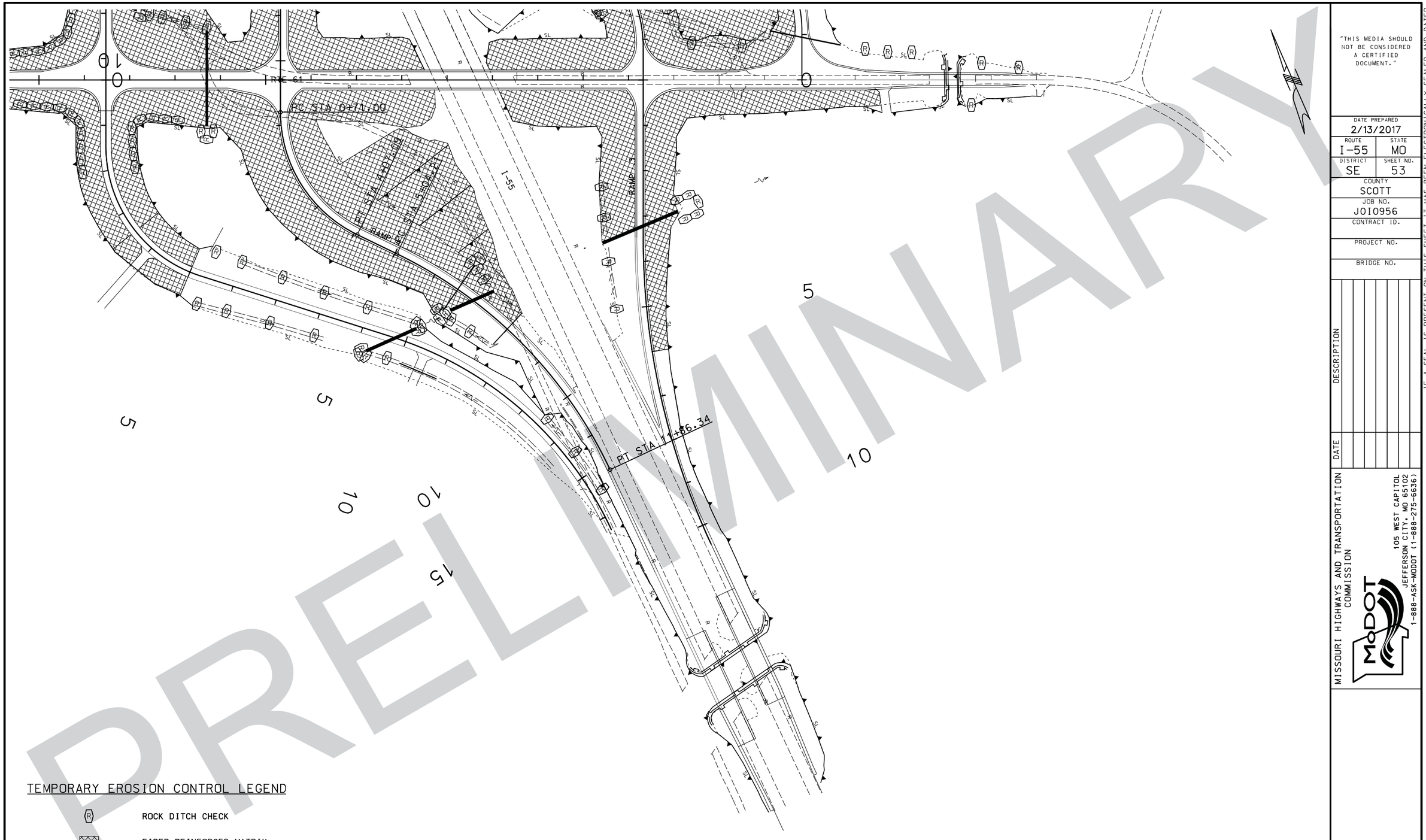
BRIDGE NO.

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.

EROSION CONTROL
SHEET 2 OF 7



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- FIBER REINFORCED MATRIX
- TEMPORARY BERM TYPE C
- SILT FENCE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED: 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	53

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION

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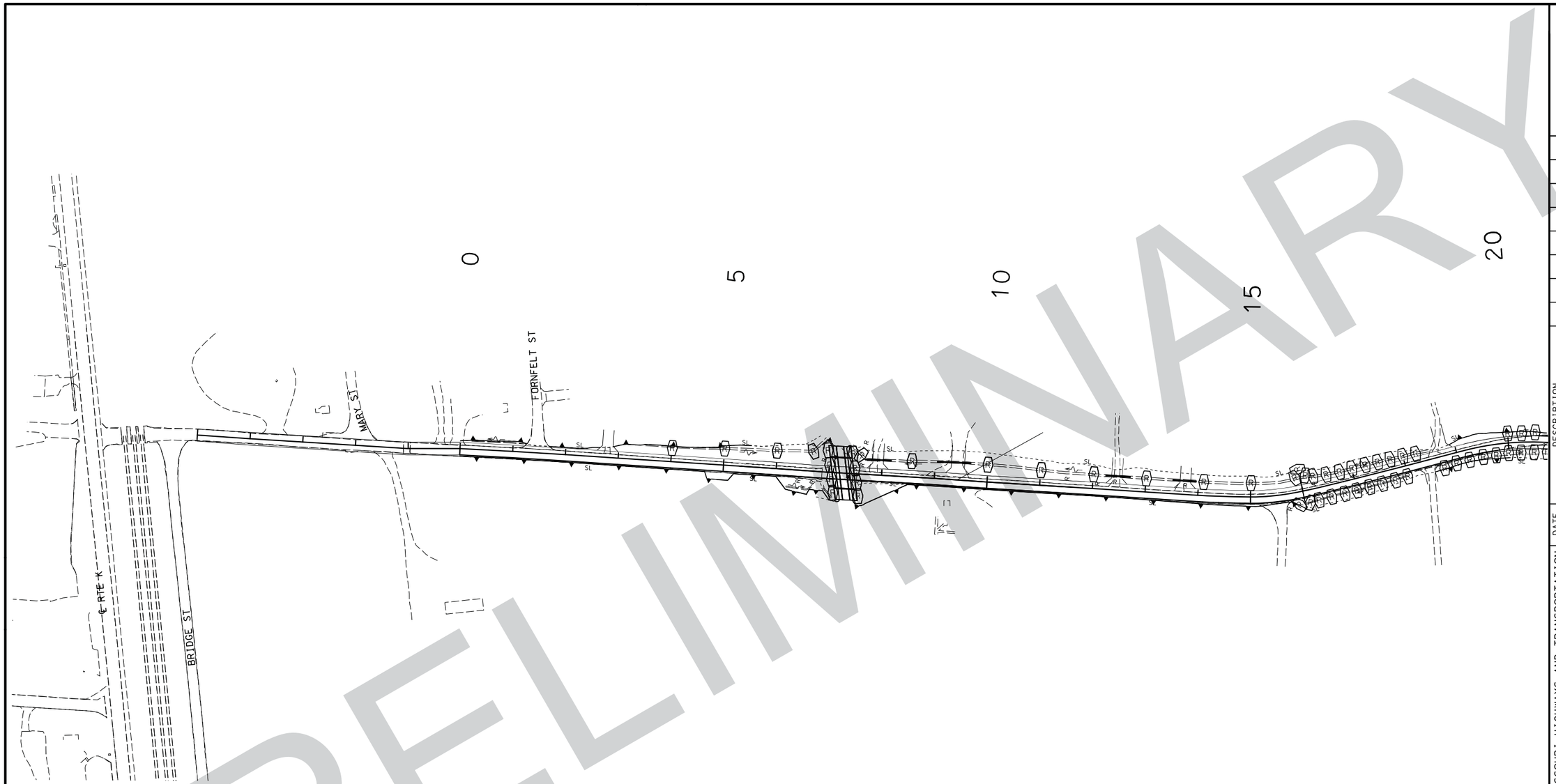
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EROSION CONTROL
SHEET 3 OF 7



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- FIBER REINFORCED MATRIX
- TEMPORARY BERM TYPE C
- SILT FENCE

EROSION CONTROL
SHEET 4 OF 7

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	54

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

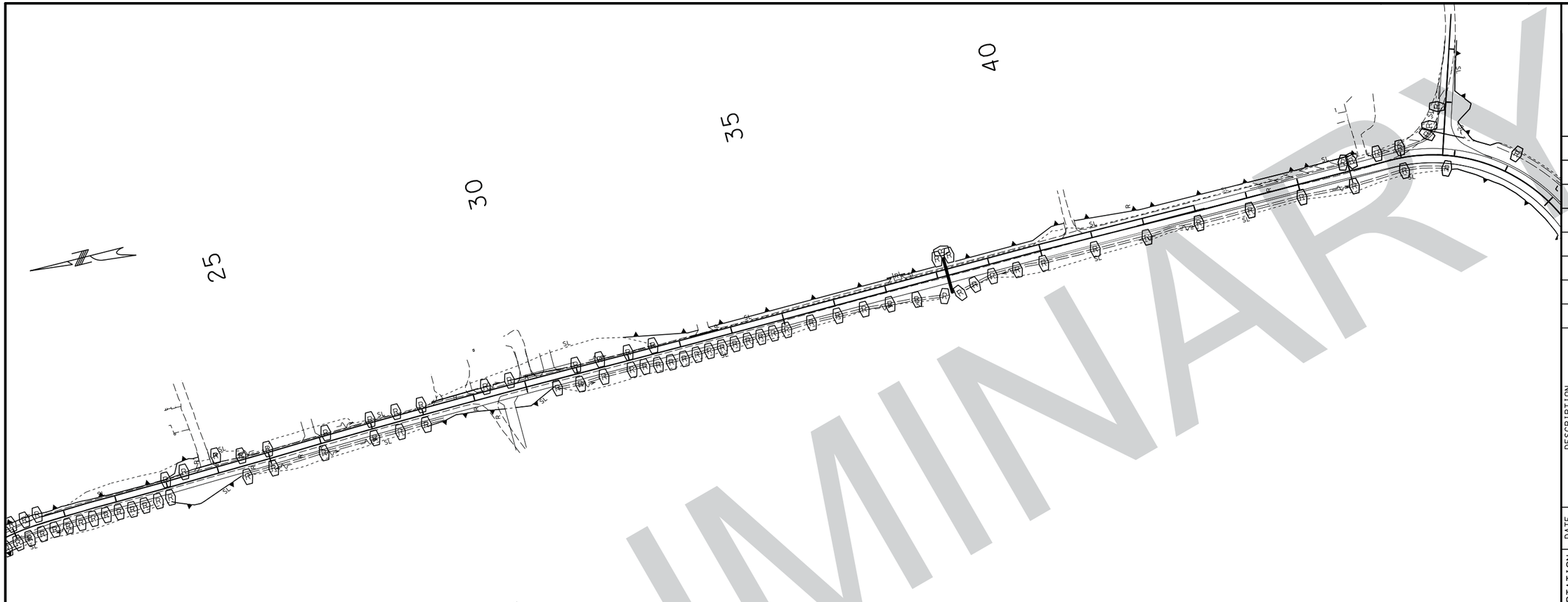
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- FIBER REINFORCED MATRIX
- TEMPORARY BERM TYPE C
- SILT FENCE

EROSION CONTROL
SHEET 5 OF 7

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	55

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

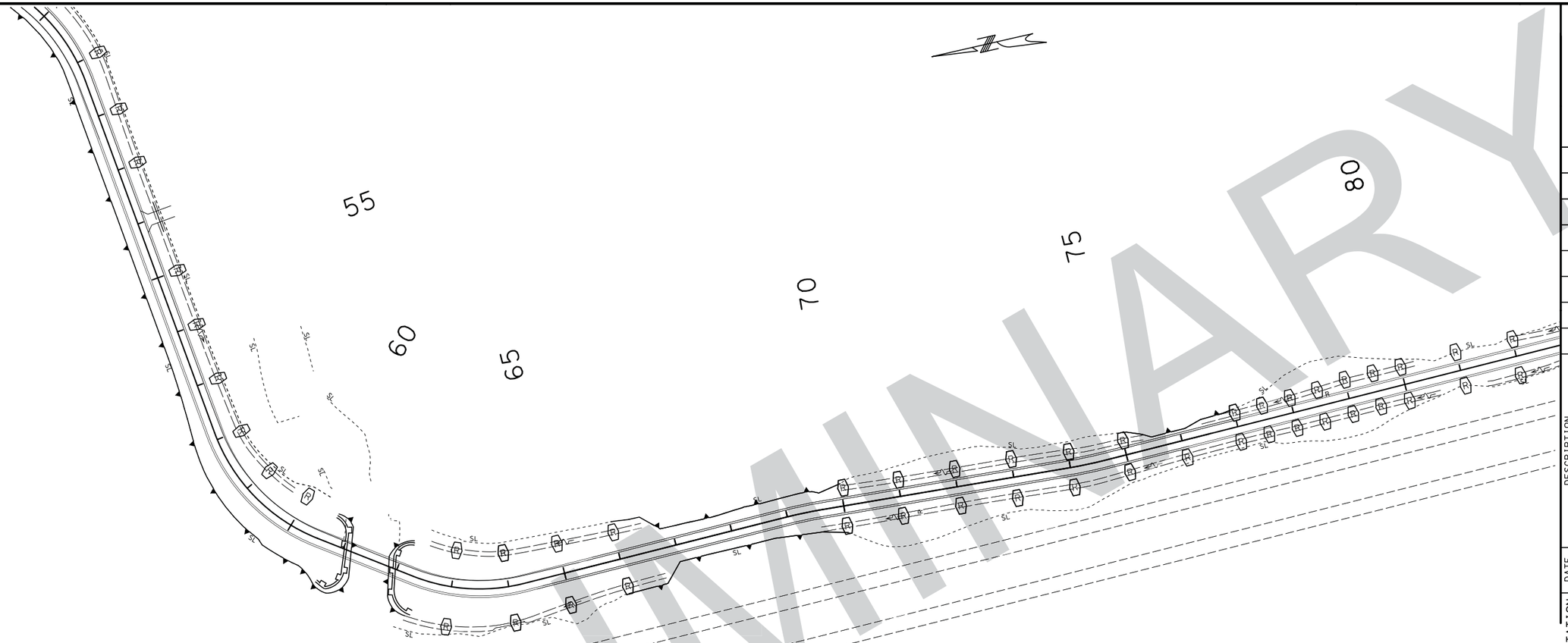
PROJECT NO.

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.



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- FIBER REINFORCED MATRIX
- TEMPORARY BERM TYPE C
- SILT FENCE

EROSION CONTROL
SHEET 6 OF 7

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	56

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

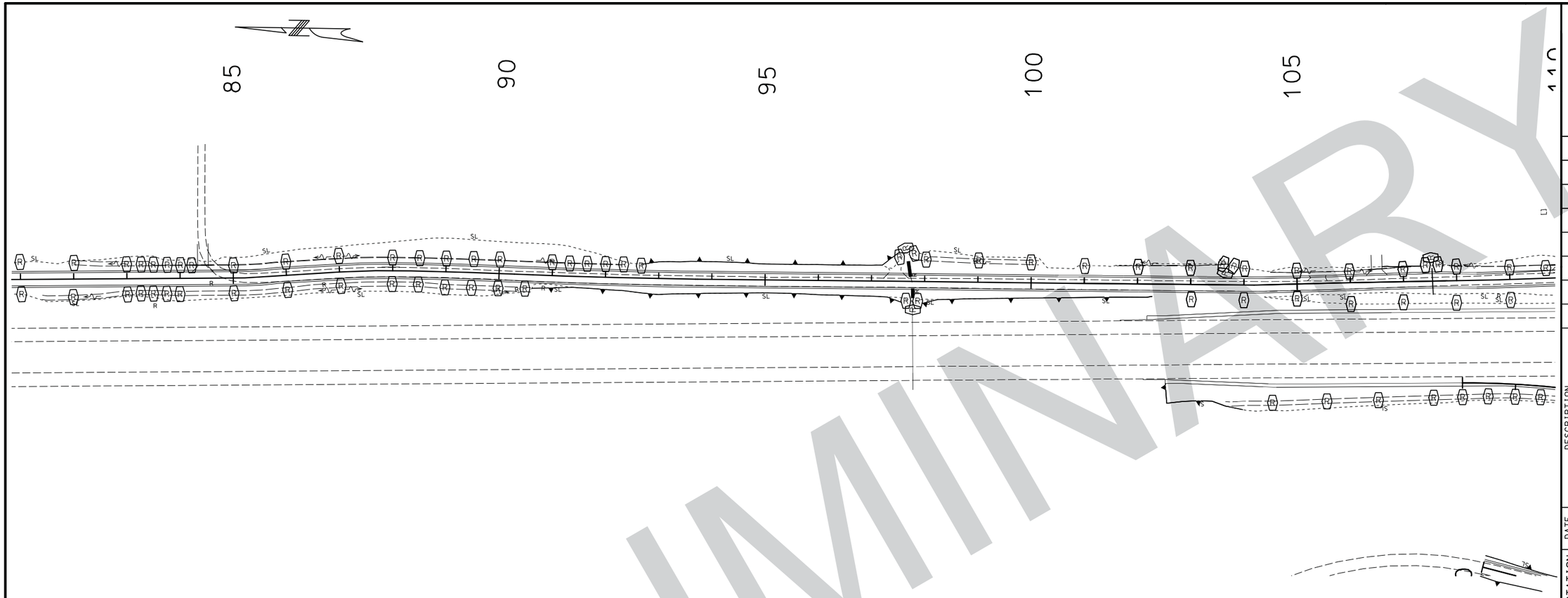
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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



TEMPORARY EROSION CONTROL LEGEND

- ROCK DITCH CHECK
- FIBER REINFORCED MATRIX
- TEMPORARY BERM TYPE C
- SILT FENCE

EROSION CONTROL
SHEET 7 OF 7

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	57

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

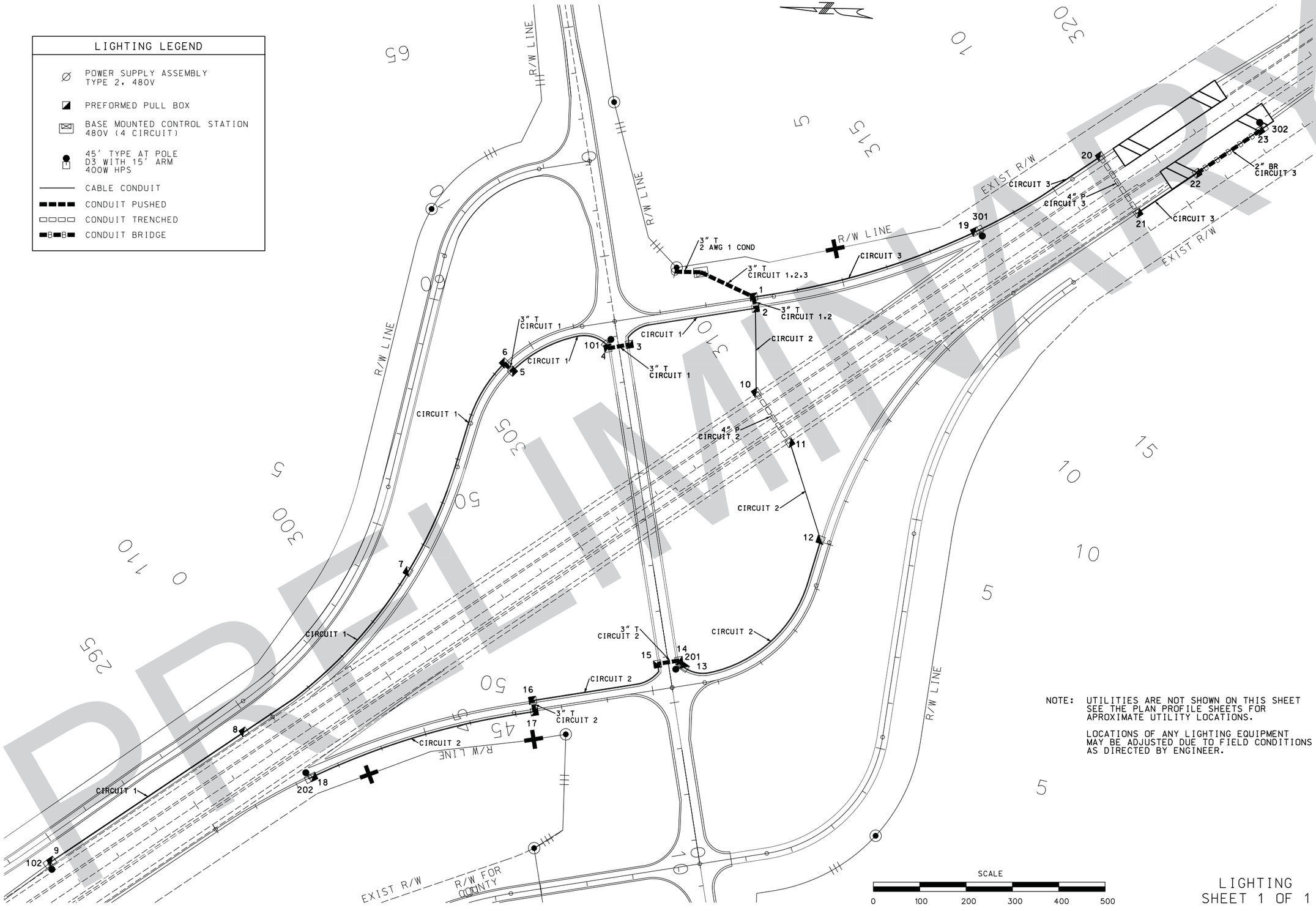
DESCRIPTION	DATE

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.

LIGHTING LEGEND

- POWER SUPPLY ASSEMBLY TYPE 2, 480V
- PREFORMED PULL BOX
- BASE MOUNTED CONTROL STATION 480V (4 CIRCUIT)
- 45' TYPE AT POLE D3 WITH 15' ARM 400W HPS
- CABLE CONDUIT
- CONDUIT PUSHED
- CONDUIT TRENCHED
- CONDUIT BRIDGE



NOTE: UTILITIES ARE NOT SHOWN ON THIS SHEET SEE THE PLAN PROFILE SHEETS FOR APROXIMATE UTILITY LOCATIONS.

LOCATIONS OF ANY LIGHTING EQUIPMENT MAY BE ADJUSTED DUE TO FIELD CONDITIONS AS DIRECTED BY ENGINEER.

LIGHTING
SHEET 1 OF 1

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

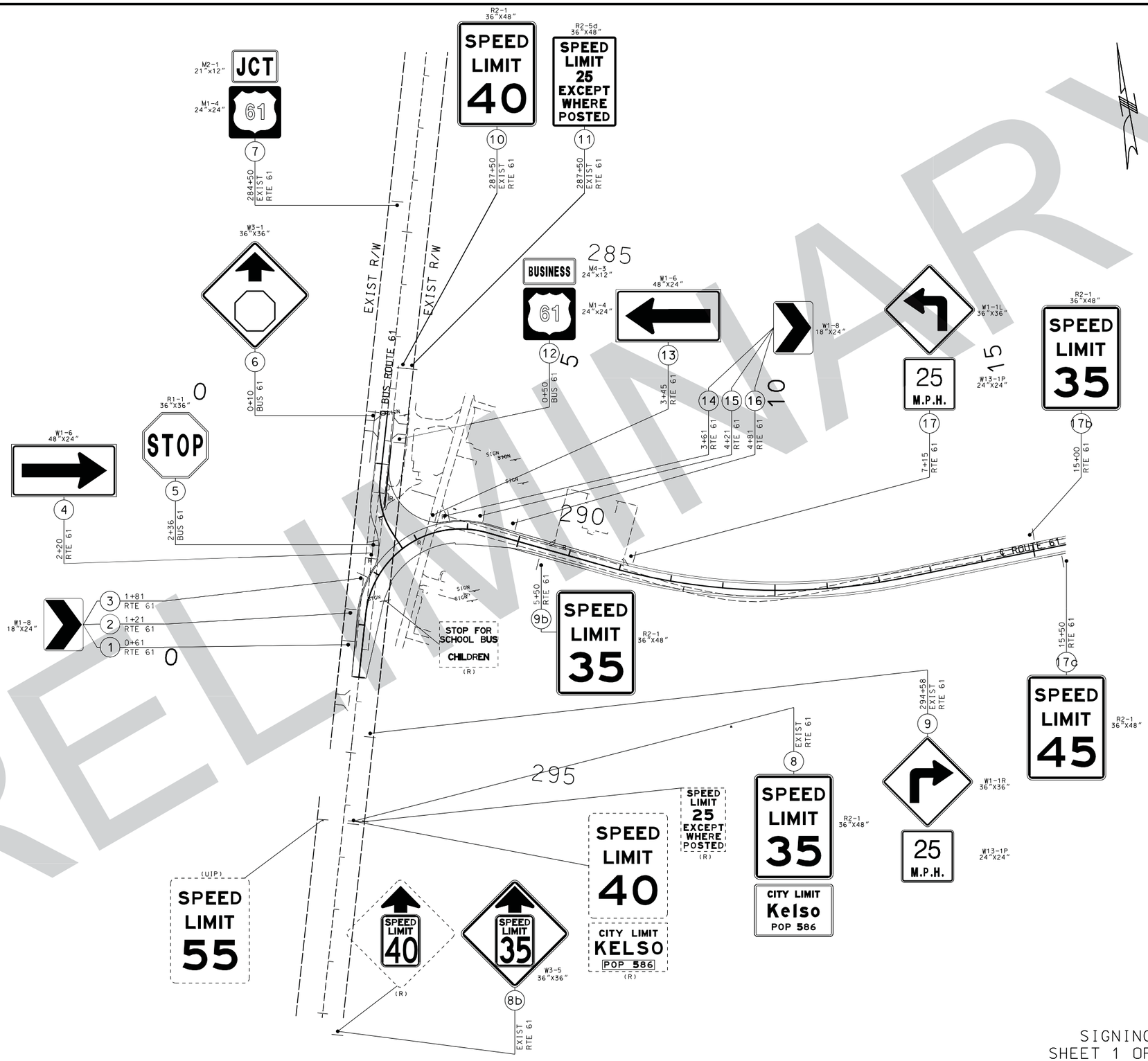
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	58

COUNTY: SCOTT
JOB NO.: J0I0956
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.



PRELIMINARY

SIGNING
SHEET 1 OF 24

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	59

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

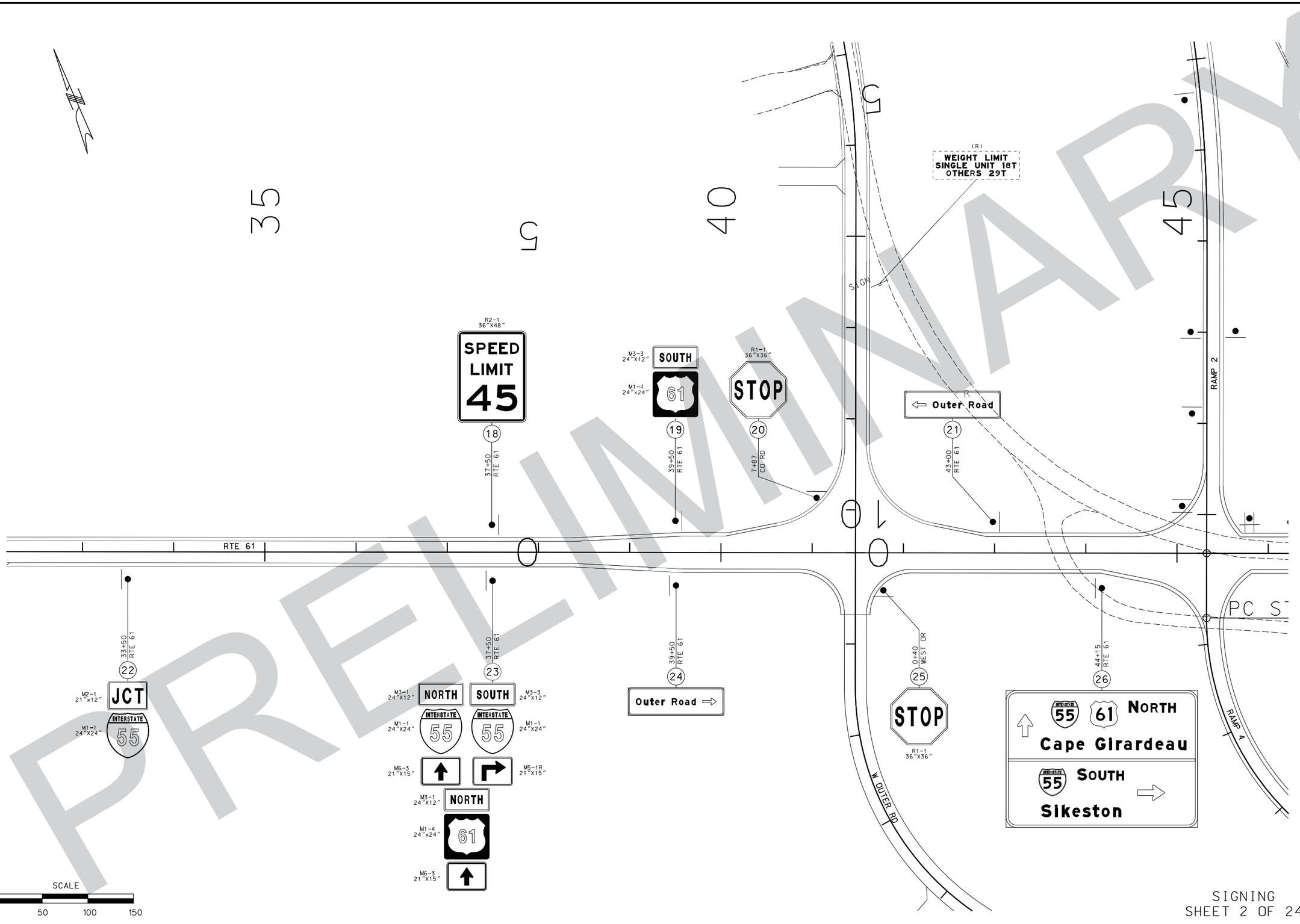
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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



SIGNING
SHEET 2 OF 24

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	60

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

NO.	DESCRIPTION	DATE

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

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

EXIT 87
SOUTH
PP 61
Scott City
Kelso
1 MILE
27 236+26 I-55

EXIT 87
28 289+06 I-55
SOUTH
PP 61
Scott City
Kelso
1 MILE

EXIT
50
M.P.H.
29 0+00 RAMP 2A
W13-2 48"X60"

EXIT 87
30 2+98 RAMP 2A

(RELOCATE FROM STA 298+99)
SOUTH
55
MILE 87 .6
31 299+70 I-55

SOUTH M3-3 24"X12"
PP M1-5a 30"X24"
61 M1-4 24"X24"
M6-1 21"X15"
35 8+90 RAMP 2A

Scott City
Kelso
32 5+45 RAMP 2A

WRONG WAY
R5-1a 42"X30"
33 8+00 RAMP 2A

ONE WAY R6-1L 54"X18"
ONE WAY R6-1R 54"X18"
BACK TO BACK
STOP R1-1 48"X48"
DO NOT ENTER R5-1 30"X30"
BACK TO BACK
36 9+91 RAMP 2A

RTE 61

PC STA 0+71.00

46+25 RTE 61
38
55 SOUTH
Sikeston

R2-1 48"X60"
SPEED LIMIT 70
283+63 I-55 39

(RELOCATE FROM STA 299+01)
NORTH
55
MILE 87 .6
299+70 I-55 40

M3-3 24"X12"
SOUTH
INTERSTATE 55
M1-1 24"X24"
M5-1L 21"X15"
41
52+00 RTE 61
SOUTH
61
M3-3 24"X12"
M1-4 24"X24"
M6-3 21"X15"

35 M.P.H.

WRONG WAY
R5-1a 42"X30"
8+00 RAMP 2A 34

ONE WAY R6-1L 54"X18"
ONE WAY R6-1R 54"X18"
BACK TO BACK
DO NOT ENTER R5-1 48"X48"
10+14 RAMP 2A 37

55 SOUTH
Sikeston
61 NORTH
Cape Girardeau
42
54+50 RTE 61

(R)
WEIGHT LIMIT
SINGLE UNIT 18T
OTHERS 29T

I-55
RAMP 1
RAMP 2
E OUTER RD

SIGNING
SHEET 3 OF 24

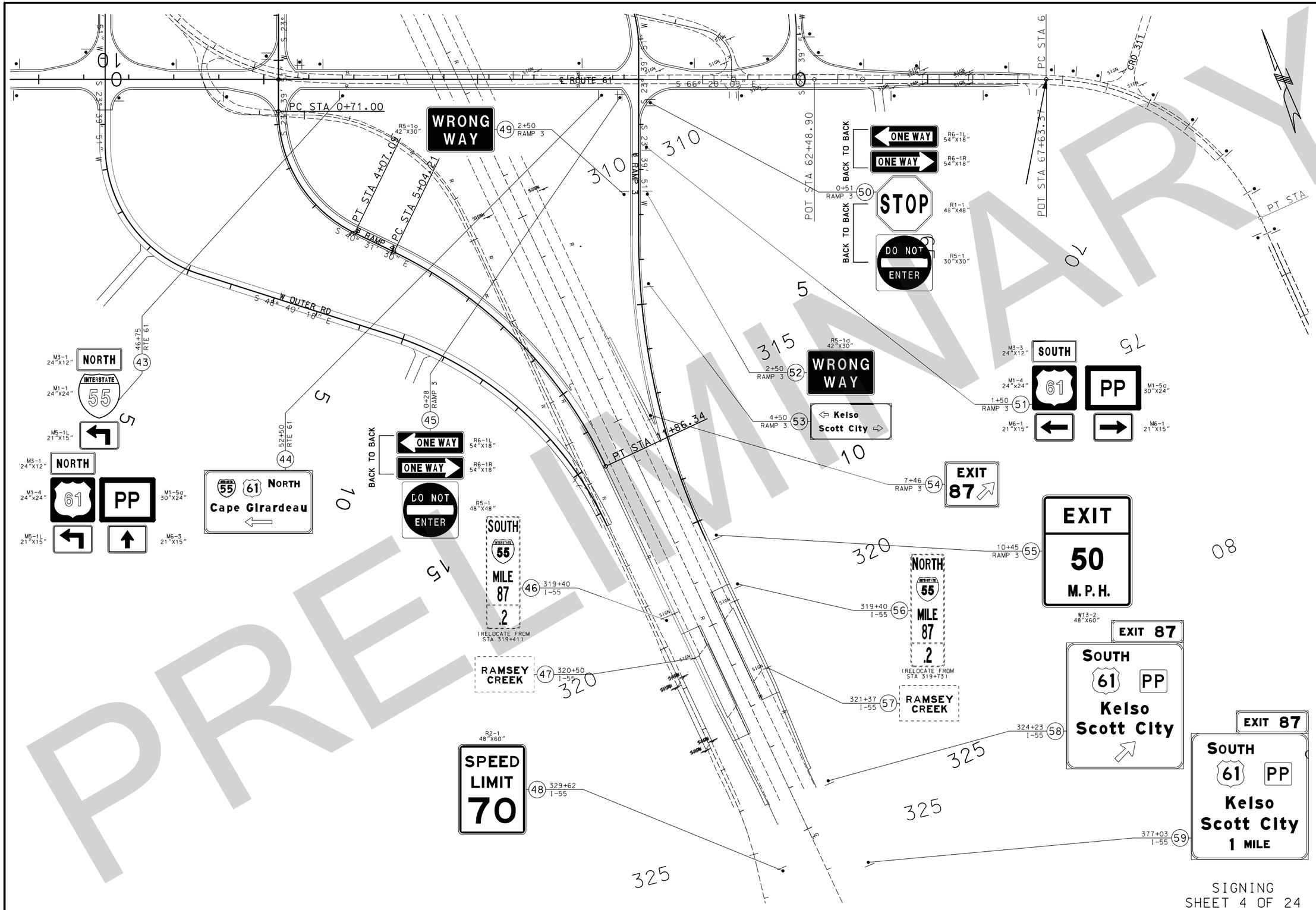
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017
ROUTE I-55
STATE MO
DISTRICT SE
SHEET NO. 61
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE

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

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



SIGNING
SHEET 4 OF 24

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	62

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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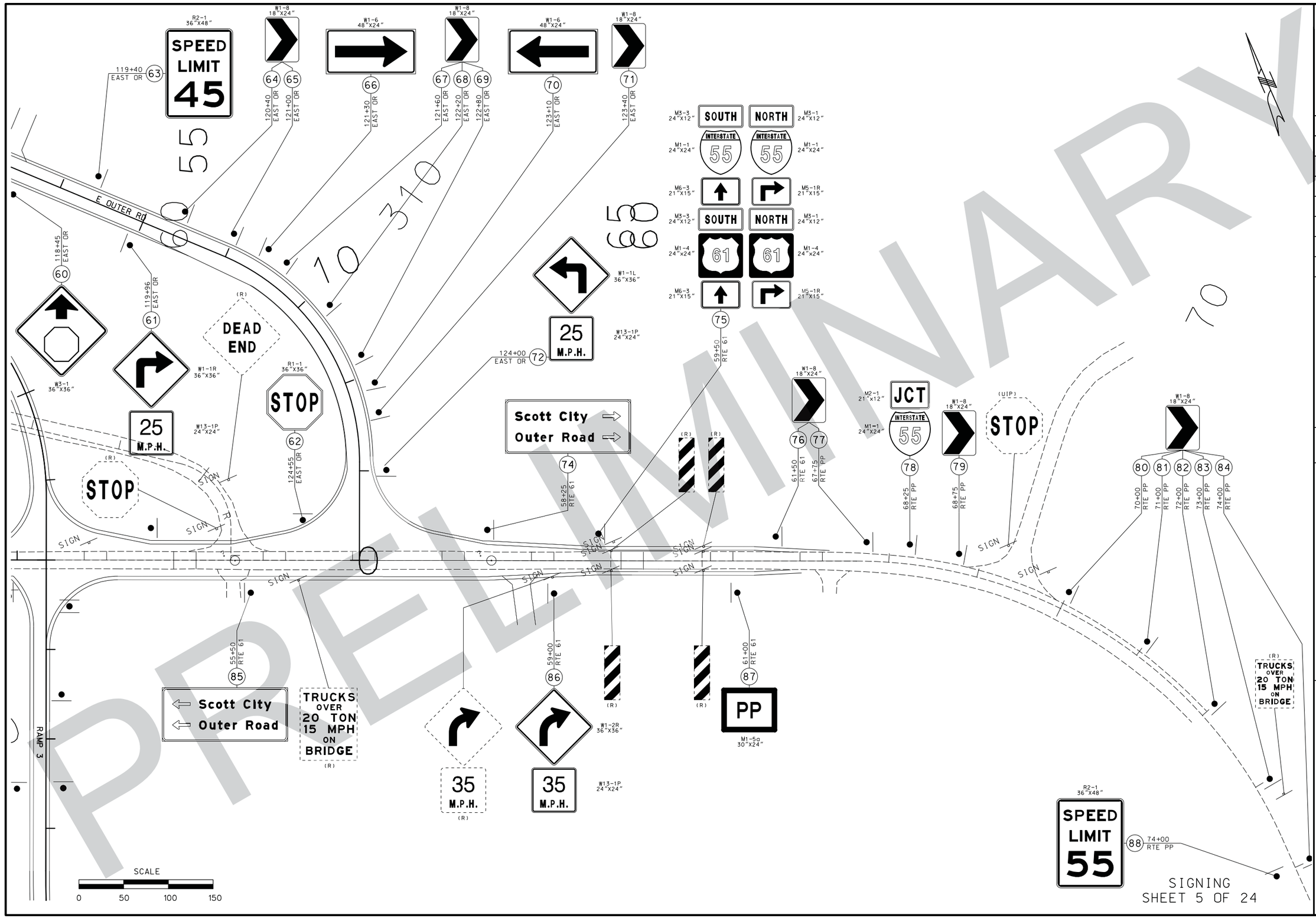
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SIGNING
SHEET 5 OF 24

PRELIMINARY

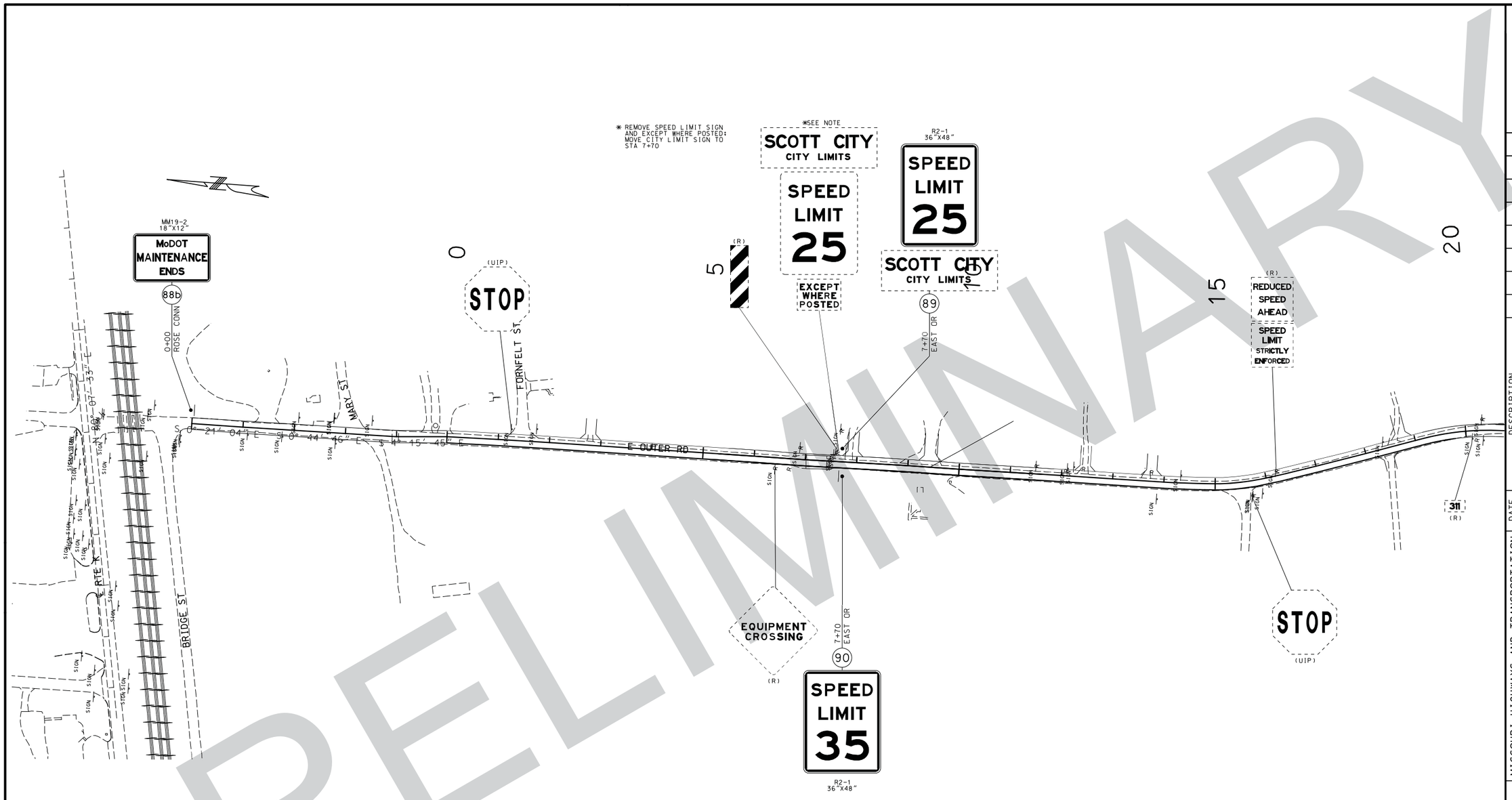
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	63
COUNTY	SCOTT
JOB NO.	J0I0956
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)



PRELIMINARY

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	64

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

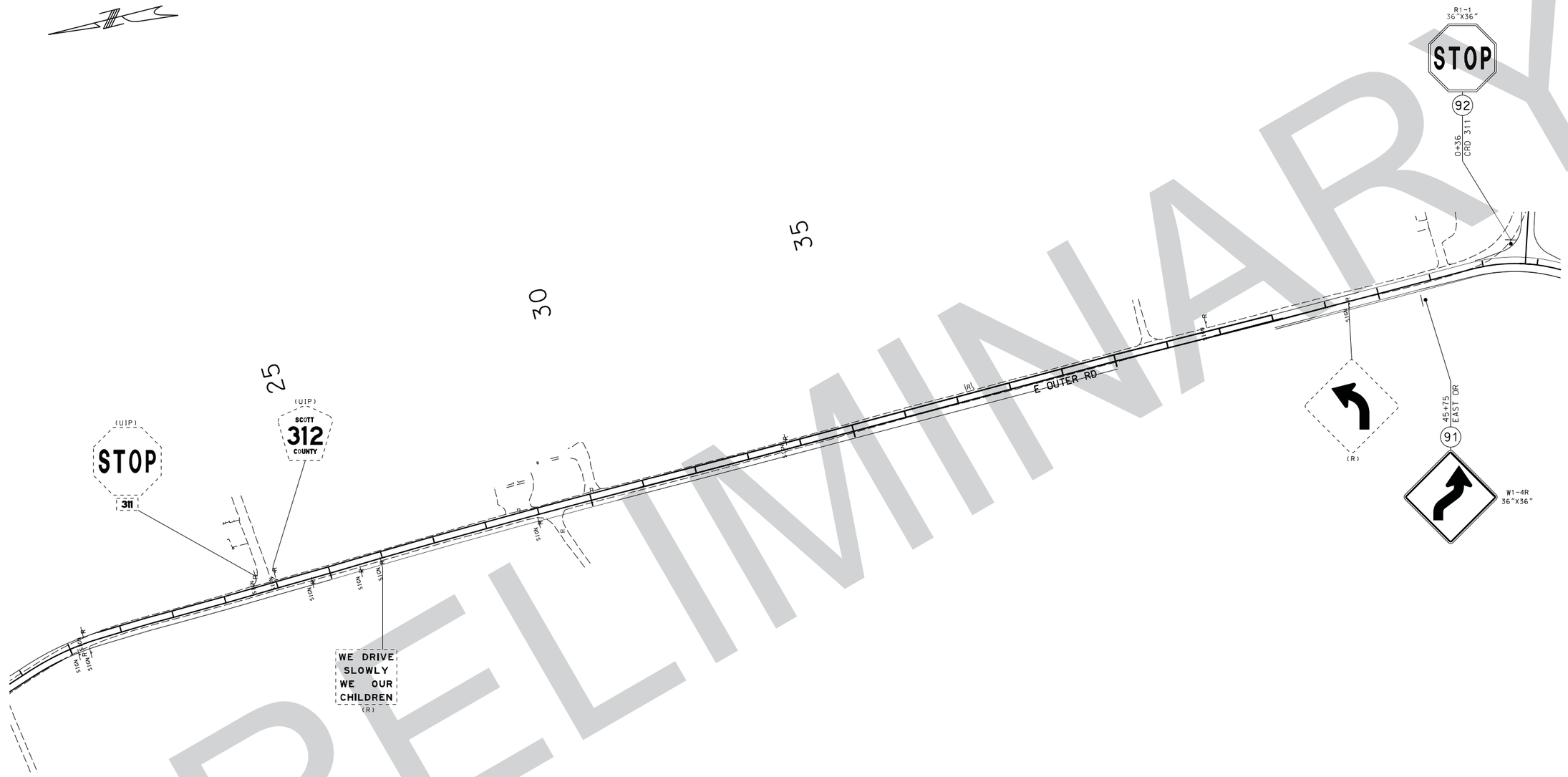
DATE	DESCRIPTION

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

SIGNING
SHEET 6 OF 24



"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	65

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

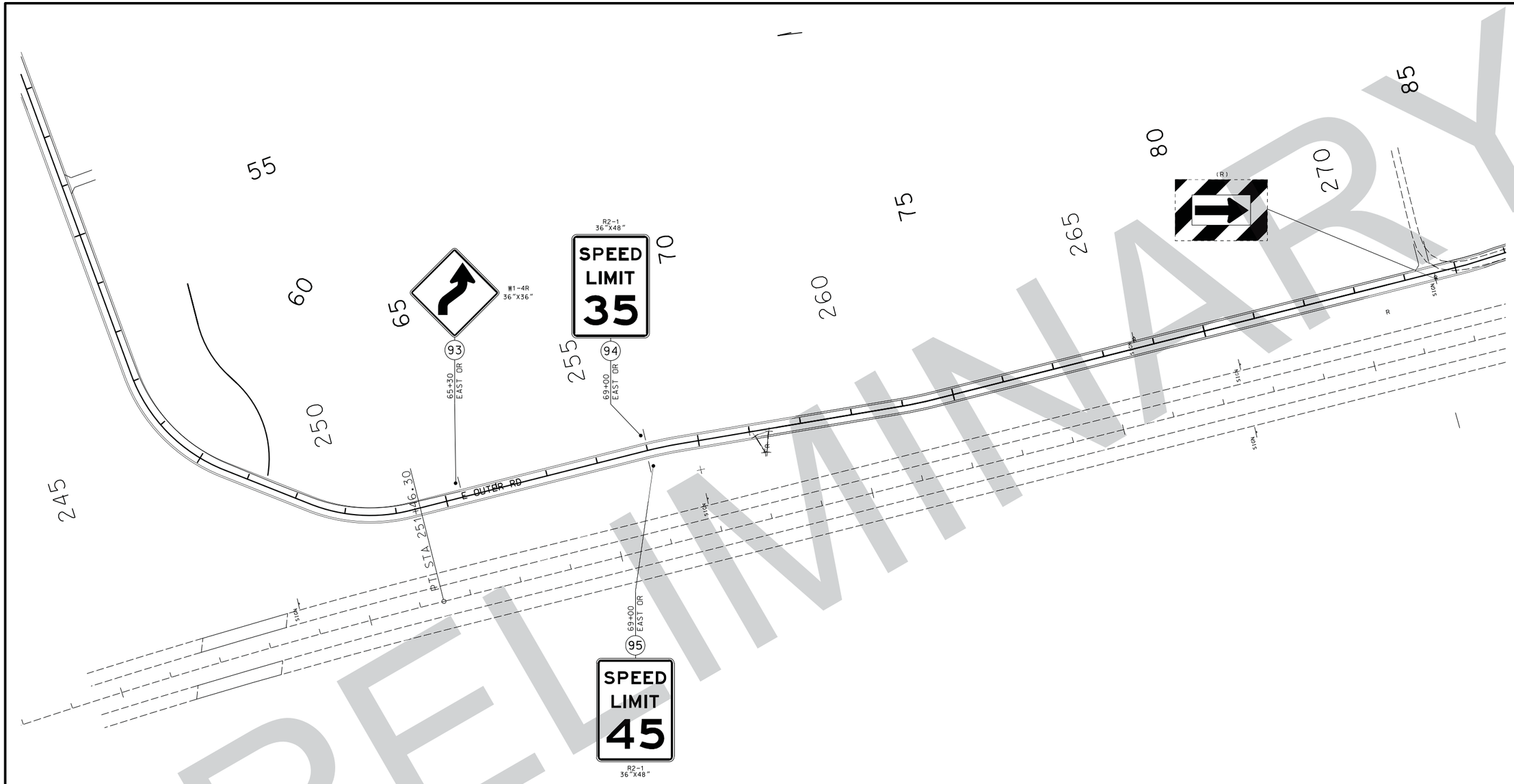
BRIDGE NO.

DATE	DESCRIPTION

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

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

SIGNING
SHEET 7 OF 24



"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	66

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

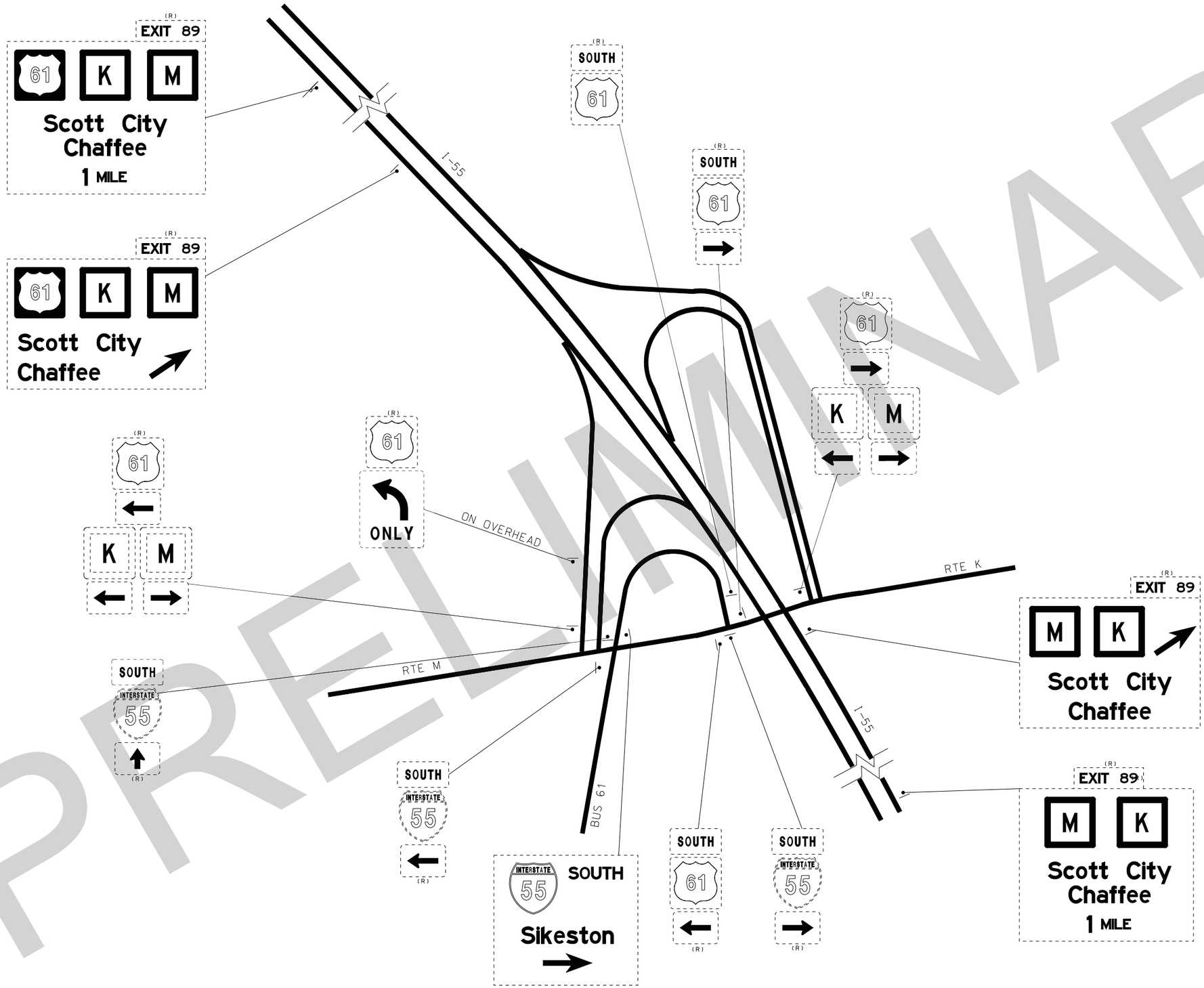
BRIDGE NO.

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

DESCRIPTION	DATE

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

SIGNING
SHEET 8 OF 24



SIGNING
SHEET 9 OF 24
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED: 2/13/2017

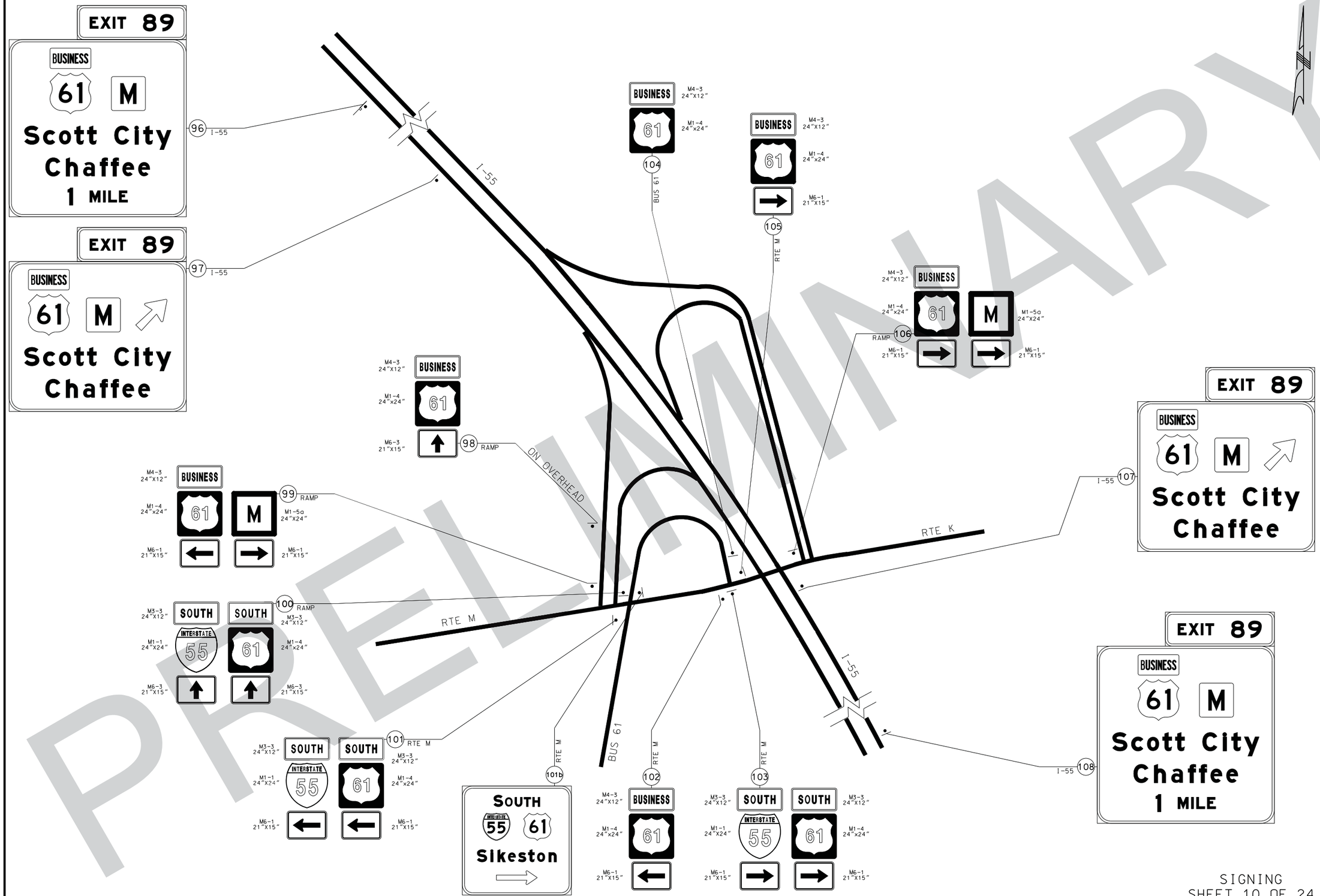
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	67

COUNTY: SCOTT
JOB NO.: J0I0956
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)

REV.



SIGNING
SHEET 10 OF 24
DRAWING NOT TO SCALE

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	68

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

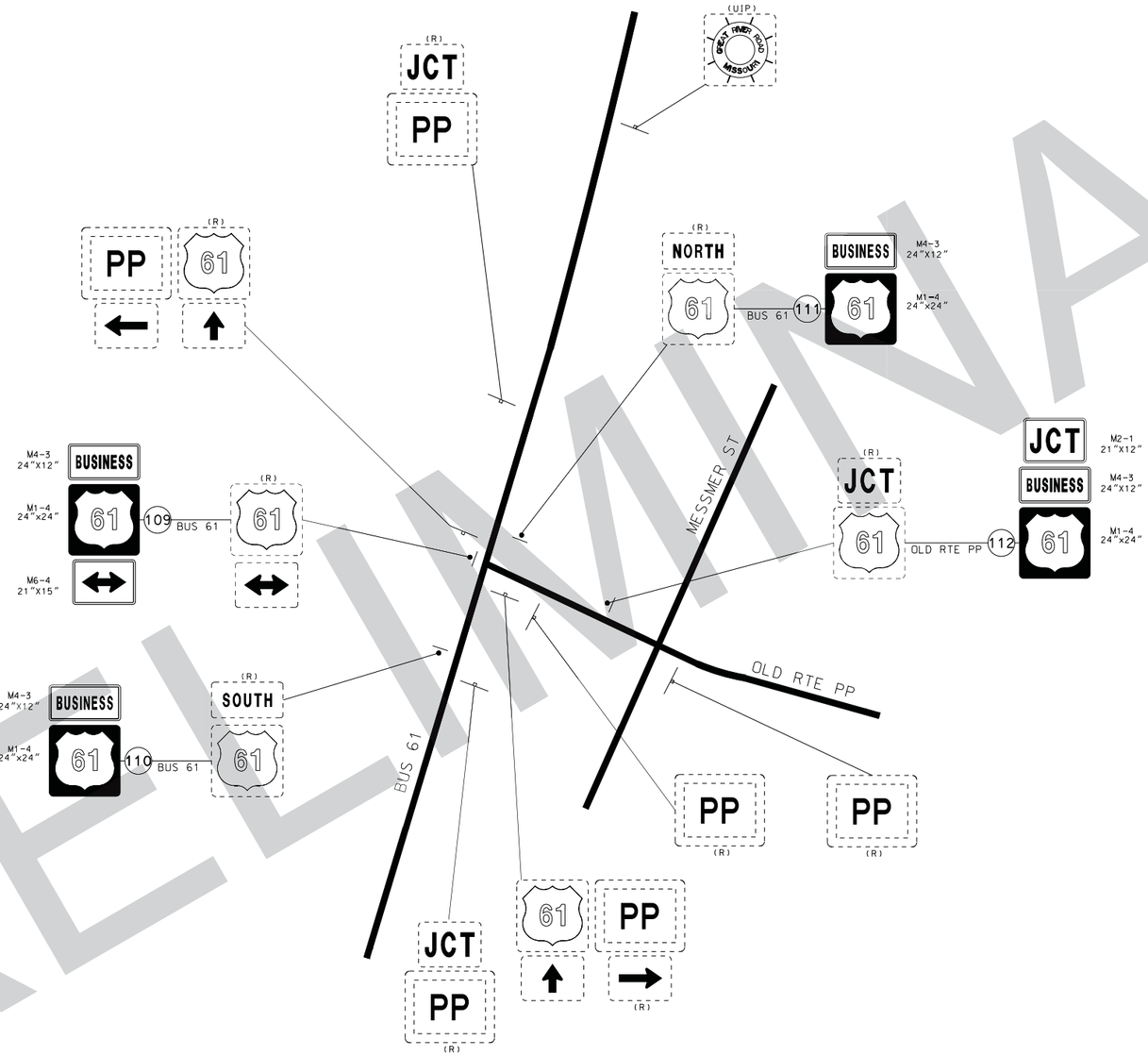
BRIDGE NO.

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.



"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	69
COUNTY	SCOTT
JOB NO.	J0I0956
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION | DATE | REV.

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

SIGNING
SHEET 11 OF 24
DRAWING NOT TO SCALE

EFFECTIVE 10-01-2016

SIGNS						PIPE POST ✳					STRUCTURAL STEEL											U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST																FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS.
											POSTS ✳						BACKING BARS 2" X ⅜" BARS @ 2.55 LBS PER LIN FT				TOTAL		2 IN							2.5 IN							BREAK-AWAY ASSEMBLY	EMBD	BOLT DOWN	
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL	NO. EACH	LGTH IN.	TOTAL LF	TOTAL LBS	ITEM NO. 9031210	ITEM NO. 9031250	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031270A	ANCHOR 7 GA. ITEM NO. 9031273	OMNI 7 GA. ITEM NO. 9031279	ANCHOR 12 GA. ITEM NO. 9031271	OMNI 12 GA. ITEM NO. 9031278	POST NO.1	POST NO.2	TOTAL ITEM NO. 9031280	2.25" INSERT ITEM NO. 9031272	ANCHOR 7 GA. ITEM NO. 9031281	OMNI 7 GA. ITEM NO. 9031282	ITEM NO. 9031241	ITEM NO. 9031010	ITEM NO. 9031020	
						IN.	LF	LF		LBS		LF	LF	LF		LBS	EACH	IN.	LF	LBS	LBS	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EACH	CU YDS	CU YDS	
1	18X24	0+61		RTE 61	1																		9.50		9.50			3.00										0.07		
2	18X24	1+21		RTE 61	1																		9.50		9.50			3.00										0.07		
3	18X24	1+81		RTE 61	1																		10.00		10.00			3.00										0.07		
4	48X24	2+20		RTE 61	1												2	32	5.33	14	14		12.25		12.25			3.00										0.07		
5	36X36	2+36		BUS 61	1																		12.25		12.25			3.00										0.07		
6	36X36	0+10		BUS 61	1																		13.00		13.00			3.00										0.07		
7	ASSEM	284+50		EX RTE 61	1																		11.75		11.75			3.00										0.07		
8	ASSEM			EX RTE 61	1																									14.75		14.75	14.75	3.00		1	0.07		
8b	ASSEM			EX RTE 61	1																		13.00		13.00			3.00										0.07		
9	ASSEM	294+58		EX RTE 61	1																									14.25		14.25		3.00			0.07		
9b	36X48	5+50		RTE 61	1																		11.75		11.75			3.00										0.07		
10	36X48	287+50		EX RTE 61	1																									12.75		12.75		3.00			0.07		
11	36X48	287+50		EX RTE 61	1																									13.00		13.00		3.00			0.07		
12	ASSEM	0+50		BUS 61	1																		12.00		12.00			3.00										0.07		
13	48X24	3+45		RTE 61	1												2	32	5.33	14	14		12.25		12.25			3.00										0.07		
14	18X24	3+61		RTE 61	1																		10.00		10.00			3.00										0.07		
15	18X24	4+21		RTE 61	1																		10.00		10.00			3.00										0.07		
16	18X24	4+81		RTE 61	1																		9.75		9.75			3.00										0.07		
17	ASSEM	7+15		RTE 61	1																									15.50		15.50		3.00			0.07		
17b	36X48	15+00		RTE 61	1																									13.75		13.75		3.00			0.07		
17c	36X48	15+50		RTE 61	1																									13.75		13.75		3.00			0.07		
18	36X48	37+50		RTE 61	2																									13.75		13.75		3.00			0.07		
19	ASSEM	39+50		RTE 61	2																		12.75		12.75			3.00										0.07		
20	36X36	7+87		CO RD	2																		14.00		14.00			3.00										0.07		
21	84X24	43+00		RTE 61	2						1	15.00	16.00		9.0	279					279																	0.32		
22	ASSEM	33+50		RTE 61	2																		12.75		12.75			3.00										0.07		
23	ASSEM	37+50		RTE 61	2	4	23.75		10.79	256							6	50	25.00	64	64																	0.36		
24	84X24	39+50		RTE 61	2						1	15.25	16.25		9.0	284					284																	0.32		
25	36X36	0+40		WEST OR	2																		14.75		14.75			3.00										0.07		
26	168X120	44+15		RTE 61	2						4	25.50	27.50		22.0	1166					1166																	2.78		
27	ASSEM	236+26		I-55	3						5	30.25	35.50		26.0	1710	1	72	6.00	15	1725																	3.04		
28	ASSEM	289+06		I-55	3						5	30.25	35.50		26.0	1710	1	72	6.00	15	1725																	3.04		
29	48X60	0+00		RAMP 2A	3	2.5	18.00	18.25	5.79	210																												0.26		
30	72X60	2+98		RAMP 2A	3						1	16.50	16.50		9.0	297					297																	0.32		
31	18X60	299+70		I-55	3																		10.25		10.25			3.00										0.07		
32	108X48	5+45		RAMP 2A	3						1	17.50	18.75		9.0	326					326																	0.32		
33	42X30	8+00		RAMP 2A	3	2.5	16.25		5.79	94																												0.13		
34	42X30	8+00		RAMP 2A	3	2.5	16.25		5.79	94																												0.13		
35	ASSEM	8+90		RAMP 2A	3	4	19.25		10.79	208							4	50	16.67	43	43																	0.36		
																	1	51	4.25	11	11																			
36	ASSEM	9+91		RAMP 2A	3	4	19.25		10.79	208							4	38	12.67	32	32																	0.36		
37	ASSEM	10+14		RAMP 2A	3	4	20.00		10.79	216							4	38	12.67	32	32																	0.36		
38	96X84	46+25		RTE 61	3						1	20.25	21.50		9.0	376					376																	0.32		
39	48X60	283+63		I-55	3	2.5	19.00	19.75	5.79	224																												0.26		
40	18X60	299+70		I-55	3																		9.75		9.75			3.00										0.07		
41	ASSEM	52+00		RTE 61	3	4	19.25		10.79	208							6	50	25.00	64	64																	0.36		
42	156X120	54+50		RTE 61	3						4	25.50	27.50		22.0	1166					1166																	2.78		
43	ASSEM	46+75		RTE 61	4	4	23.50		10.79	254							4	50	16.67	43	43																	0.36		
																	1	51	4.25	11	11																			
44	144X84	52+50		RTE 61	4						2	21.50	23.25		15.0	671					671																	1.02		
45	ASSEM	0+28		RAMP 3	4	4	20.00		10.79	216							4	38	12.67	32	32																	0.36		
46	18X60	319+40		I-55	4																		9.50		9.50			3.00										0.07		
47		320+50		I-55	4	2.5	15.25		5.79	88																												0.13		
48	48X60	329+62		I-55	4	2.5	18.00	18.50	5.79	211																												0.26		
49	42X30	2+50		RAMP 3	4	2.5	16.25		5.79	94																												0.13		
50	ASSEM	0+51		RAMP 3	4	4	19.50		10.79	210							4	38	12.67	32	32																	0.36		
51	ASSEM	1+50		RAMP 3	4	4	19.25		10.79	208							4	50	16.67	43	43																	0.36		
																	1	51	4.25	11	11																			
52	42X30	2+50		RAMP 3	4	2.5	16.25		5.79	94																												0.13		
53	108x48	4+50		RAMP 3	4						1	17.50	18.75		9.0	326					326																	0.32		
54	72X60	7+46		RAMP 3	4						1	16.50	16.50		9.0	297					297																	0.32		
55	48X60	10+45		RAMP 3	4	2.5	18.00	18.50	5.79	211																												0.26		
SUBTOTAL PG 1										3304						8608				476	9084			240.8			63.0				111.5	14.8	24.0		1	21.86		

✳ BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS

ROUND PIPE POST AND FOOTING DATA TABLE

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

POST AND FOOTING DATA TABLE

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

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 70

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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

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

SIGNS						PIPE POST ✳					STRUCTURAL STEEL												U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST																FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS.
											POSTS ✳						BACKING BARS 2" X 3/8" BARS @ 2.55 LBS PER LIN FT					TOTAL		2 IN							2.5 IN							BREAK-AWAY ASSEMBLY	EMBD	BOLT DOWN	
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220 LBS	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL	NO. EACH	LGTH IN.	TOTAL LF	TOTAL LBS	ITEM NO. 9031210 LBS	ITEM NO. 9031250 LF	POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031270A LF	ANCHOR 7 GA. ITEM NO. 9031273 LF	OMNI 7 GA. ITEM NO. 9031279 LF	ANCHOR 12 GA. ITEM NO. 9031271 LF	OMNI 12 GA. ITEM NO. 9031278 LF	POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031280 LF	2.25" INSERT ITEM NO. 9031272 LF	ANCHOR 7 GA. ITEM NO. 9031281 LF	OMNI 7 GA. ITEM NO. 9031282 LF	ITEM NO. 9031241 EACH	ITEM NO. 9031010 CU YDS	ITEM NO. 9031020 CU YDS	
						IN.	LF	LF		LBS		LF	LF	LF		LBS		IN.	LF	LBS	LBS																				
56	18X60	319+40		I-55	4																		10.00		10.00				3.00										0.07		
57		321+37		I-55	4	2.5	14.50		5.79	84																													0.13		
58	ASSEM	324+23		I-55	4						4	28.50	32.50		22.0	1342	1	72	6.00	15	1357																		2.78		
59	ASSEM	377+03		I-55	4						4	28.50	32.50		22.0	1342	1	72	6.00	15	1357																		2.78		
60	36X36	118+45		EAST OR	5																									15.25		15.25		3.00				0.07		
61	ASSEM	119+96		EAST OR	5																									16.25		16.25		3.00				0.07		
62	36X36	124+55		EAST OR	5																		14.00		14.00				3.00										0.07		
63	36X48	119+40		EAST OR	5																									15.00		15.00		3.00				0.07		
64	18X24	120+40		EAST OR	5																		10.75		10.75				3.00										0.07		
65	18X24	121+00		EAST OR	5																		10.50		10.50				3.00										0.07		
66	48X24	121+30		EAST OR	5												2	32	5.33	14	14		12.75		12.75				3.00										0.07		
67	18X24	121+60		EAST OR	5																		10.50		10.50				3.00										0.07		
68	18X24	122+20		EAST OR	5																		10.50		10.50				3.00										0.07		
69	18X24	122+80		EAST OR	5																		10.75		10.75				3.00										0.07		
70	48X24	123+10		EAST OR	5												2	32	5.33	14	14		13.00		13.00				3.00										0.07		
71	18X24	123+40		EAST OR	5																		10.75		10.75				3.00										0.07		
72	ASSEM	124+00		EAST OR	5																									15.25		15.25		3.00				0.07		
74	84X36	58+25		RTE 61	5						1	16.25	17.25		9.0	302					302																		0.32		
75	ASSEM	59+50		RTE 61	5	4	23.75		10.79	256							12	50	50	128	128																		0.36		
76	18X24	61+50		RTE 61	5																		9.75		9.75				3.00										0.07		
77	18X24	67+75		RTE PP	5																		8.75		8.75				3.00										0.07		
78	ASSEM	68+25		RTE PP	5																		11.75		11.75				3.00										0.07		
79	18X24	68+75		RTE PP	5																		8.75		8.75				3.00										0.07		
80	18X24	70+00		RTE PP	5																		8.75		8.75				3.00										0.07		
81	18X24	71+00		RTE PP	5																		8.75		8.75				3.00										0.07		
82	18X24	72+00		RTE PP	5																		8.75		8.75				3.00										0.07		
83	18X24	73+00		RTE PP	5																		8.75		8.75				3.00										0.07		
84	18X24	74+00		RTE PP	5																		8.75		8.75				3.00										0.07		
85	84X36	55+50		RTE 61	5						1	16.25	17.25		9.0	302					302																		0.32		
86	ASSEM	59+00		RTE 61	5																									15.50		15.50		3.00				0.07		
87	30X24	61+00		RTE 61	5																		11.75		11.75				3.00										0.07		
88	36X48	74+00		RTE PP	5																									13.00		13.00		3.00				0.07		
88b	18X12	0+00		ROSE CONN	6																		9.25		9.25				3.00										0.07		
89	ASSEM	7+70		EAST OR	6																									17.25		17.25	17.25	3.00			1	0.07		
90	36X48	7+70		EAST OR	6																									12.50		12.50		3.00				0.07		
91	36X36	45+75		EAST OR	7																									14.75		14.75		3.00				0.07		
92	36X36	0+36		CRD 311	7																		11.00		11.00				3.00										0.07		
93	36X36	65+30		EAST OR	8																									15.25		15.25		3.00				0.07		
94	36X48	69+00		EAST OR	8																									14.75		14.75		3.00				0.07		
95	36X48	69+00		EAST OR	8																									15.00		15.00		3.00				0.07		
96	ASSEM			I-55	10						3	26.75	28.00		18.0	986	1	72	6.00	15	1001																		1.46		
97	ASSEM			I-55	10						2	24.50	25.50		15.0	750	1	72	6.00	15	765																		1.00		
98	ASSEM			RAMP	10												1	51	4.25	11	11																				
99	ASSEM			RAMP	10	4	19.00		10.79	205							4	50	16.67	43	43																		0.36		
																	1	51	4.25	11	11																				
100	ASSEM			RAMP	10	4	19.00		10.79	205							6	50	25.00	64	64																		0.36		
101	ASSEM			RTE M	10	4	19.00		10.79	205							6	50	25.00	64	64																		0.36		
101b	96X96			RTE M	10						1	19.75	19.00		9.0	349					349																		0.30		
102	ASSEM			RTE M	10	2.5	19.00		5.79	110																													0.13		
103	ASSEM			RTE M	10	4	20.25		10.79	218							6	50	25.00	64	64																		0.36		
104	ASSEM			BUS 61	10	2.5	18.75		5.79	109																													0.13		
105	ASSEM			RTE M	10	2.5	16.75		5.79	97																													0.13		
106	ASSEM			RAMP	10	4	19.00		10.79	205							4	50	16.67	43	43																		0.36		
																	1	51	4.25	11	11																				
107	ASSEM			I-55	10						4	28.25	34.75		22.0	1386	1	72	6.00	15	1401																		2.90		
108	ASSEM			I-55	10						4	29.00	34.00		22.0	1386	1	72	6.00	15	1401																		2.90		
109	ASSEM			BUS 61	11																									13.00		13.00		3.00				0.07		
110	ASSEM			BUS 61	11																		11.75		11.75				3.00										0.07		
111	ASSEM			BUS 61	11																		12.75		12.75				3.00										0.07		
112	ASSEM			BUS 61	11																									11.00		11.00		3.00				0.07		
SUBTOTAL PG 2										1694						8145				557	8702				252.8			72.0				203.8	17.3	42.0		1	20.10		
SUBTOTAL PG 1										3304						8608				476	9084				240.8			63.0				111.5	14.8	24.0		1	21.86		
TOTAL										5000											17790				494			135				315	32	66		2	42.0		

✳ BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS

ROUND PIPE POST AND FOOTING DATA TABLE

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

POST AND FOOTING DATA TABLE

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

EFFECTIVE 10-01-2016

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 71

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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

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

SIGNING
SHEET 13 OF 24

EFFECTIVE 10-01-2016

STANDARD SIGN ASSEMBLIES

TYPE — SIGN DESCRIPTION, SIZES & NUMBER OF EACH

SIGN NUMBER	STATION	LOCATION	M1-1	M1-4	M1-5a	M1-5a	M2-1	M2-1	M3-1	M3-1	M3-3	M3-3	M4-3	M5-1L	M5-1L	M5-1R	M5-1R	M6-1	M6-1	M6-3	M6-3	M6-4	M19-2	R1-1	R1-1
			INTERSTATE 55	61	M	PP	JCT BLUE	JCT WHITE	NORTH BLUE	NORTH WHITE	SOUTH BLUE	SOUTH WHITE	BUSINESS WHITE	BLUE	WHITE	BLUE	WHITE	BLUE	WHITE	BLUE	WHITE	WHITE		STOP 36"	STOP 48"
1	0+61	RTE 61																							
2	1+21	RTE 61																							
3	1+81	RTE 61																							
4	2+20	RTE 61																							
5	2+36	BUS 61																						1	
6	0+10	BUS 61																							
7	284+50	EX RTE 61		1				1																	
8		EX RTE 61																							
8b		EX RTE 61																							
9	294+58	EX RTE 61																							
9b	5+50	RTE 61																							
10	287+50	EX RTE 61																							
11	287+50	EX RTE 61																							
12	0+50	BUS 61		1									1												
13	3+45	RTE 61																							
14	3+61	RTE 61																							
15	4+21	RTE 61																							
16	4+81	RTE 61																							
17	7+15	RTE 61																							
17b	15+00	RTE 61																							
17c	15+50	RTE 61																							
18	37+50	RTE 61																							
19	39+50	RTE 61		1								1													
20	7+87	CO RD																						1	
22	33+50	RTE 61	1				1																		
23	37+50	RTE 61	2	1					1	1	1					1				1	1				
25	0+40	WEST OR																						1	
29	0+00	RAMP 2A																							
33	8+00	RAMP 2A																							
34	8+00	RAMP 2A																							
35	8+90	RAMP 2A		1		1						1							2						
36	9+91	RAMP 2A																							1
37	10+14	RAMP 2A																							
39	283+63	I-55																							
41	52+00	RTE 61	1	1							1	1		1							1				
43	46+75	RTE 61	1	1		1			1	1				1	1						1				
45	0+28	RAMP 3																							
48	329+62	I-55																							
49	2+50	RAMP 3																							
50	0+51	RAMP 3																							1
51	1+50	RAMP 3		1		1						1							2						
52	2+50	RAMP 3																							
55	10+45	RAMP 3																							
60	118+45	EAST OR																							
61	119+96	EAST OR																							
62	124+55	EAST OR																						1	
63	119+40	EAST OR																							
64	120+40	EAST OR																							
65	121+00	EAST OR																							
66	121+30	EAST OR																							
67	121+60	EAST OR																							
68	122+20	EAST OR																							
69	122+80	EAST OR																							
70	123+10	EAST OR																							
71	123+40	EAST OR																							
72	124+00	EAST OR																							
		SUB-TOTAL PG 1	5	8	0	3	1	1	2	2	2	4	1	2	1	1	0	0	4	1	3	0	0	4	2

SIGN NUMBER	STATION	LOCATION	R2-1	R2-1	R2-1	R2-1	R2-1	R2-1	R2-5d	R5-1	R5-1	R5-1a	R6-1L	R6-1R	W1-1L	W1-1R	W1-2R	W1-4R	W1-6	W1-8	W3-1	W3-5	W13-1P	W13-1P	W13-2
			SPEED LIMIT 25	SPEED LIMIT 35	SPEED LIMIT 40	SPEED LIMIT 45	SPEED LIMIT 55	SPEED LIMIT 70	SPEED LIMIT 25 EXCEPT WHERE POSTED	DO NOT ENTER 30"	DO NOT ENTER 48"	WRONG WAY	ONE WAY	ONE WAY								35	25 M.P.H.	35 M.P.H.	EXIT 50 M.P.H.
1	0+61	RTE 61																		1					
2	1+21	RTE 61																		1					
3	1+81	RTE 61																		1					
4	2+20	RTE 61																	1						
5	2+36	BUS 61																							
6	0+10	BUS 61																			1				
7	284+50	EX RTE 61																							
8		EX RTE 61		1																					
8b		EX RTE 61																				1			
9	294+58	EX RTE 61														1							1		
9b	5+50	RTE 61		1																					
10	287+50	EX RTE 61			1																				
11	287+50	EX RTE 61							1																
12	0+50	BUS 61																							
13	3+45	RTE 61																	1						
14	3+61	RTE 61																		1					
15	4+21	RTE 61																		1					
16	4+81	RTE 61																		1					
17	7+15	RTE 61													1								1		
17b	15+00	RTE 61		1																					
17c	15+50	RTE 61				1																			
18	37+50	RTE 61				1																			
19	39+50	RTE 61																							
20	7+87	CO RD																							
22	33+50	RTE 61																							
23	37+50	RTE 61																							
25	0+40	WEST OR																							
29	0+00	RAMP 2A																							1
33	8+00	RAMP 2A										1													
34	8+00	RAMP 2A										1													
35	8+90	RAMP 2A																							
36	9+91	RAMP 2A								1			1	1											
37	10+14	RAMP 2A									1		1	1											
39	283+63	I-55						1																	
41	52+00	RTE 61																							
43	46+75	RTE 61																							
45	0+28	RAMP 3									1		1	1											
48	329+62	I-55						1																	
49	2+50	RAMP 3										1													
50	0+51	RAMP 3								1			1	1											
51	1+50	RAMP 3																							
52	2+50	RAMP 3										1													
55	10+45	RAMP 3																							1
60	118+45	EAST OR																			1				
61	119+96	EAST OR														1							1		
62	124+55	EAST OR																							
63	119+40	EAST OR				1																			
64	120+40	EAST OR																		1					
65	121+00	EAST OR																		1					
66	121+30	EAST OR																	1						
67	121+60	EAST OR																		1					
68	122+20	EAST OR																		1					
69	122+80	EAST OR																		1					
70	123+10	EAST OR																	1						
71	123+40	EAST OR																		1					
72	124+00	EAST OR													1								1		
		SUB-TOTAL PG 1	0	3	1	3	0	2	1	2	2	4	4	4	2	2	0	0	4	12	2	1	4	0	2

SIGNING
SHEET 14 OF 24

D-30

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017
ROUTE I-55 | STATE MO
DISTRICT SE | SHEET NO. 72
COUNTY SCOTT
JOB NO. J0I0956
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.

EFFECTIVE 10-01-2016

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	M1-1	M1-4	M1-5a	M1-5a	M2-1	M2-1	M3-1	M3-1	M3-3	M3-3	M4-3	M5-1L	M5-1L	M5-1R	M5-1R	M6-1	M6-1	M6-3	M6-3	M6-4	M19-2	R1-1	R1-1	R2-1	R2-1	R2-1	R2-1	R2-1	R2-1	R2-5d	R5-1	R5-1	R5-1a	R6-1L	R6-1R	W1-1L	W1-1R	W1-2R	W1-4R	W1-6	W1-8	W3-1	W3-5	W13-1P	W13-1P	W13-2
			TYPE																																															
			SIGN DESCRIPTION, SIZES & NUMBER OF EACH																																														
				61	M	PP	JCT	JCT	NORTH	NORTH	SOUTH	SOUTH	BUSINESS											STOP	STOP	SPEED LIMIT 25	SPEED LIMIT 35	SPEED LIMIT 40	SPEED LIMIT 45	SPEED LIMIT 55	SPEED LIMIT 70	SPEED LIMIT 25 EXCEPT WHEN POSTED			WRONG WAY	ONE WAY	ONE WAY								25 M.P.H.	35 M.P.H.	EXIT 50 M.P.H.	
							BLUE	WHITE	BLUE	WHITE	BLUE	WHITE	WHITE	BLUE	WHITE	BLUE	WHITE	BLUE	WHITE	BLUE	WHITE	WHITE		36"	48"							30"	48"																
75	59+50	RTE 61	2	2					1	1	1	1				1	1			1	1																											
76	61+50	RTE 61																																									1					
77	67+75	RTE PP																																									1					
78	68+25	RTE PP	1				1																																								
79	68+75	RTE PP																																									1					
80	70+00	RTE PP																																									1					
81	71+00	RTE PP																																									1					
82	72+00	RTE PP																																									1					
83	73+00	RTE PP																																									1					
84	74+00	RTE PP																																									1					
86	59+00	RTE 61																																								1				1	
87	61+00	RTE 61				1																																									
88	74+00	RTE PP																												1																	
88b	0+00	ROSE CONN																					1																								
89	7+70	EAST OR																								1																				
90	7+70	EAST OR																									1																			
91	45+75	EAST OR																																								1					
92	0+36	CRD 311																						1																						
93	65+30	EAST OR																																								1					
94	69+00	EAST OR																									1																			
95	69+00	EAST OR																											1																
98		RAMP		1									1							1																										
99		RAMP		1	1								1						2																											
100		RAMP	1	1							1	1								1	1																									
101		RTE M	1	1							1	1						1	1																										
102		RTE M		1									1						1																										
103		RTE M	1	1							1	1						1	1																										
104		BUS 61		1									1																																
105		RTE M		1									1						1																										
106		RAMP		1	1								1						2																										
109		BUS 61		1									1									1																						
110		BUS 61		1									1																																
111		BUS 61		1									1																																
112		BUS 61		1				1					1																																
		SUB-TOTAL PG 2	6	15	2	1	1	1	1	1	4	4	10	0	0	1	1	2	8	2	3	1	1	1	0	1	2	0	1	1	0	0	0	0	0	0	0	0	0	1	2	0	8	0	0	0	1	0
		SUB-TOTAL PG 1	5	8	0	3	1	1	2	2	2	4	1	2	1	1	0	0	4	1	3	0	0	4	2	0	3	1	3	0	2	1	2	2	4	4	4	2	2	0	0	4	12	2	1	4	0	2
		TOTAL	11	23	2	4	2	2	3	3	6	8	11	2	1	2	1	2	12	3	6	1	1	5	2	1	5	1	4	1	2	1	2	2	4	4	4	2	2	1	2	4	20	2	1	4	1	2

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE I-55 | STATE MO

DISTRICT SE | SHEET NO. 73

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

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

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

EFFECTIVE 10-01-2016

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET				
			SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF * ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF * ITEM NO. 9035071A
M1-1 (I-55)	STD	11	24"X24"	44.00			
M1-4 (RTE 61)	STD	23	24"X24"	92.00			
M1-5a (RTE M)	STD	2	24"X24"	8.00			
M1-5a (RTE PP)	STD	4	30"X24"	20.00			
M2-1 (BLUE)	STD	2	21"X12"	3.50			
M2-1 (WHITE)	STD	2	21"X12"	3.50			
M3-1 (BLUE)	STD	3	24"X12"	6.00			
M3-1 (WHITE)	STD	3	24"X12"	6.00			
M3-3 (BLUE)	STD	6	24"X12"	12.00			
M3-3 (WHITE)	STD	8	24"X12"	16.00			
M4-3 (WHITE)	STD	11	24"X12"	22.00			
W5-1L (BLUE)	STD	2	21"X15"	4.38			
W5-1L (WHITE)	STD	1	21"X15"	2.19			
W5-1R (BLUE)	STD	2	21"X15"	4.38			
W5-1R (WHITE)	STD	1	21"X15"	2.19			
M6-1 (BLUE)	STD	2	21"X15"	4.38			
M6-1 (WHITE)	STD	12	21"X15"	26.25			
M6-3 (BLUE)	STD	3	21"X15"	6.57			
M6-3 (WHITE)	STD	6	21"X15"	13.13			
M6-4 (WHITE)	STD	1	21"X15"	2.19			
M19-2	STD	1	18"X12"	1.50			
R1-1	STD	5	36"X36"	45.00			
R1-1	STD	2	48"X48"	32.00			
R2-1 (25 MPH)	STD	1	36"X48"	12.00			
R2-1 (35 MPH)	STD	5	36"X48"	60.00			
R2-1 (40 MPH)	STD	1	36"X48"	12.00			
R2-1 (45 MPH)	STD	4	36"X48"	48.00			
R2-1 (55 MPH)	STD	1	36"X48"	12.00			
R2-1 (70 MPH)	STD	2	48"X60"	40.00			
R2-5d (25 MPH)	STD	1	36"X48"	12.00			
R5-1	STD	2	30"X30"	12.50			
R5-1	STD	2	48"X48"	32.00			
R5-1a	STD	4	42"X30"	35.00			
R6-1L	STD	4	54"X18"	27.00			
R6-1R	STD	4	54"X18"	27.00			
W1-1L	STD	2	36"X36"		18.00		
W1-1R	STD	2	36"X36"		18.00		
W1-2R	STD	1	36"X36"		9.00		
W1-4R	STD	2	36"X36"		18.00		
W1-6	STD	4	48"X24"		32.00		
W1-8	STD	20	18"X24"		60.00		
W3-1	STD	2	36"X36"		18.00		
W3-5	STD	1	36"X36"		9.00		
W13-1P (25 MPH)	STD	4	24"X24"		16.00		
W13-1P (35 MPH)	STD	1	24"X24"		4.00		
W13-2	STD	2	48"X60"		40.00		
8 - KELSO		1	36"X24"			6.00	
21 - OUTER ROAD		1	84"X24"			14.00	
24 - OUTER ROAD		1	84"X24"			14.00	
26 - CAPE GIRARDEAU/SIKESTON		1	168"X120"			140.00	
27/28/58/59 - EXIT 87		4	96"X30"			80.00	
27 - SC/KELSO 1 MILE		1	156"X168"			182.00	
28 - SC/KELSO ARROW		1	156"X168"			182.00	
30/54 - EXIT 87		2	72"X60"			60.00	
32 - SCOTT CITY/KELSO		1	108"X48"			36.00	
38 - SIKESTON ARROW		1	96"X84"			56.00	
42 - SIKESTON/CAPE GIRARDEAU		1	156"X120"			130.00	
44 - CAPE GIRARDEAU ARROW		1	144"X84"			84.00	
53 - KELSO/SCOTT CITY		1	108"X48"			36.00	
58 - KELSO/SC ARROW		1	156"X168"			182.00	
59 - KELSO SC 1 MILE		1	156"X168"			182.00	
74 - SCOTT CITY/OUTER ROAD		1	84"X36"			21.00	
85 - SCOTT CITY/OUTER ROAD		1	84"X36"			21.00	
96/97/107/108 - EXIT 89		4	96"X30"			80.00	
96/108 - SC/CHAFFEE 1 MILE		2	156"X156"			338.00	
97/107 - SC/CHAFFEE ARROW		2	156"X132"			286.00	
101b - SIKESTON ARROW		1	96"X96"			64.00	
			TOTAL	707	242	2194	

* ORANGE, YELLOW & YELLOW/GREEN

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	74

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.:

PROJECT NO.:

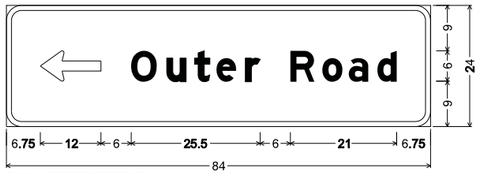
BRIDGE NO.:

DESCRIPTION	DATE

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

SIGN NO.	8
STATION	
ROADWAY	EXIST RTE 61

SIGN NO.	21
STATION	43+00
ROADWAY	RTE 61

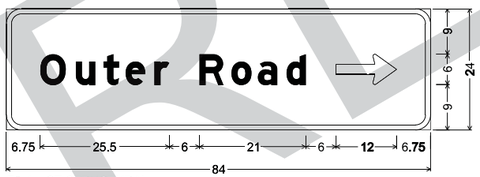


E9-1 ST-STRUCTURAL;
3.000" Radi**us, 1**.000" Border**, White** on **Green;**
Standard Arrow **Custom 12**.000" **X** 6.000" 180°;
[Outer Road**] E** Mod;
Table of **l**etter and object **l**efts.

⇦	O	u	t	e	r
6.750	24.750	31.750	37.250	41.625	47.375

R	o	a	d
56.250	62.625	67.875	73.500

SIGN NO.	24
STATION	39+50
ROADWAY	RTE 61

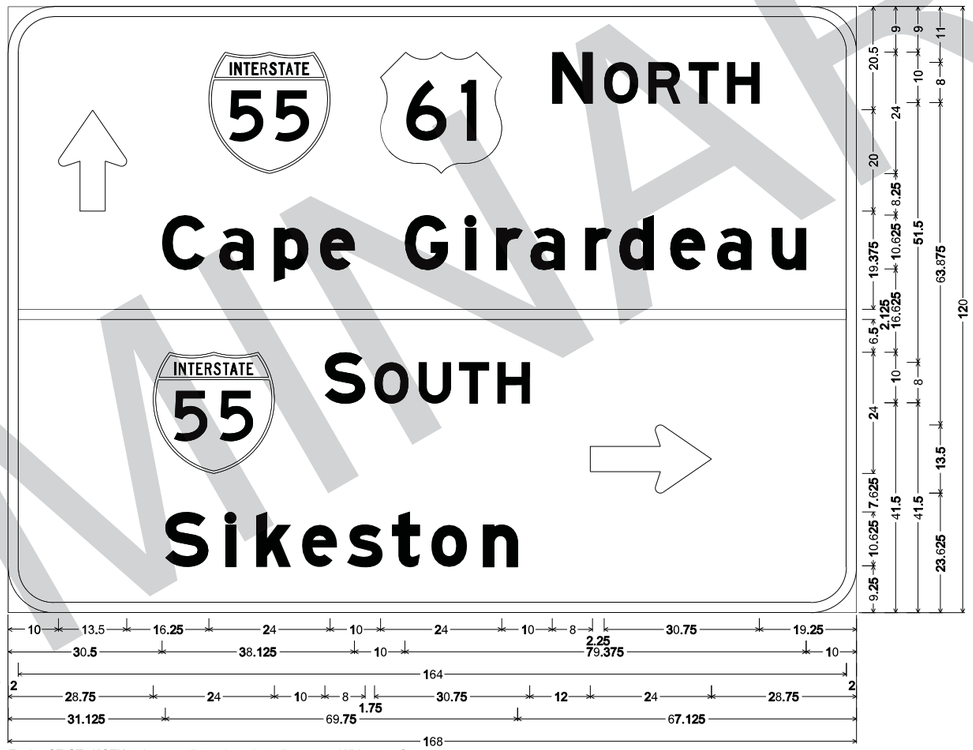


E9-1 ST-STRUCTURAL;
3.000" Radius, 1.000" Border, White on Green;
[Outer Road] E Mod; Standard Arrow **Custom 12**.000" **X** 6.000" 0°;
Table of letter and object **l**efts.

O	u	t	e	r	R	o	a	d
6.750	13.750	19.250	23.625	29.375	38.250	44.625	49.875	55.500

⇨
65.250

SIGN NO.	26
STATION	44+15
ROADWAY	RTE 61



E8-2 ST-STRUCTURAL; 9.000" Radi**us, 2**.000" Border**, White** on **Green;**
Standard Arrow **Custom 20**.000" **X 13**.500" 90°; **[NORTH] E** Mod; **[**Cape **G**irardeau**] E** Mod; **[SOUTH] E** Mod; **[S**ikeston**] E** Mod;
Standard Arrow **Custom 24**.000" **X 13**.500" 0°;
Table of **l**etter and object **l**efts.

⇧	61	61	N	O	R	T	H
10.000	39.750	73.750	107.750	118.000	126.750	134.750	142.375

C	a	p	e	G	I	r	a	r	d	e	a	u
30.500	41.750	52.625	61.750	78.625	90.625	96.625	103.375	114.250	121.000	131.125	140.375	151.250

2.000

61	S	O	U	T	H	⇨
28.750	62.750	72.500	81.250	89.375	96.875	115.250

S	I	k	e	s	t	o	n
31.125	43.000	49.125	58.250	67.250	76.125	83.875	94.125

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

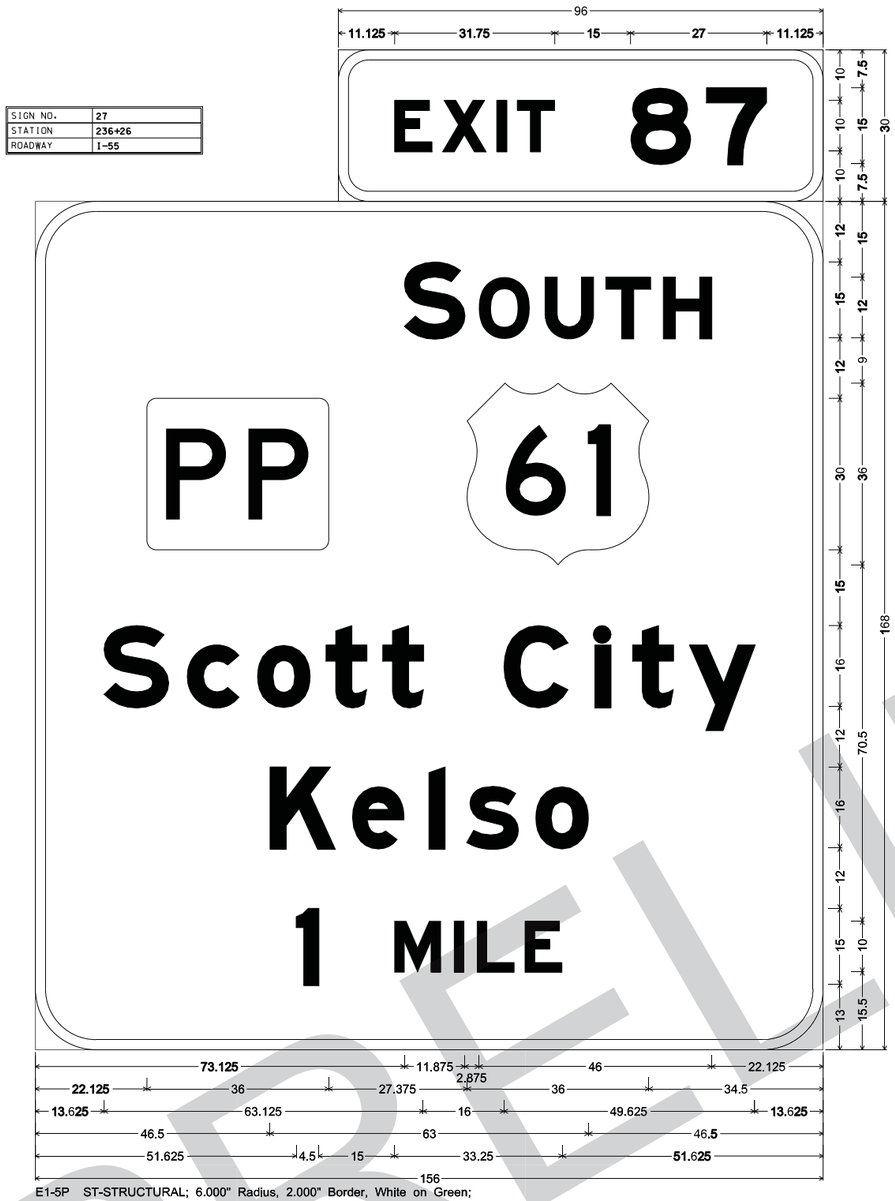
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	75

COUNTY: SCOTT
JOB NO.: J0I0956
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)

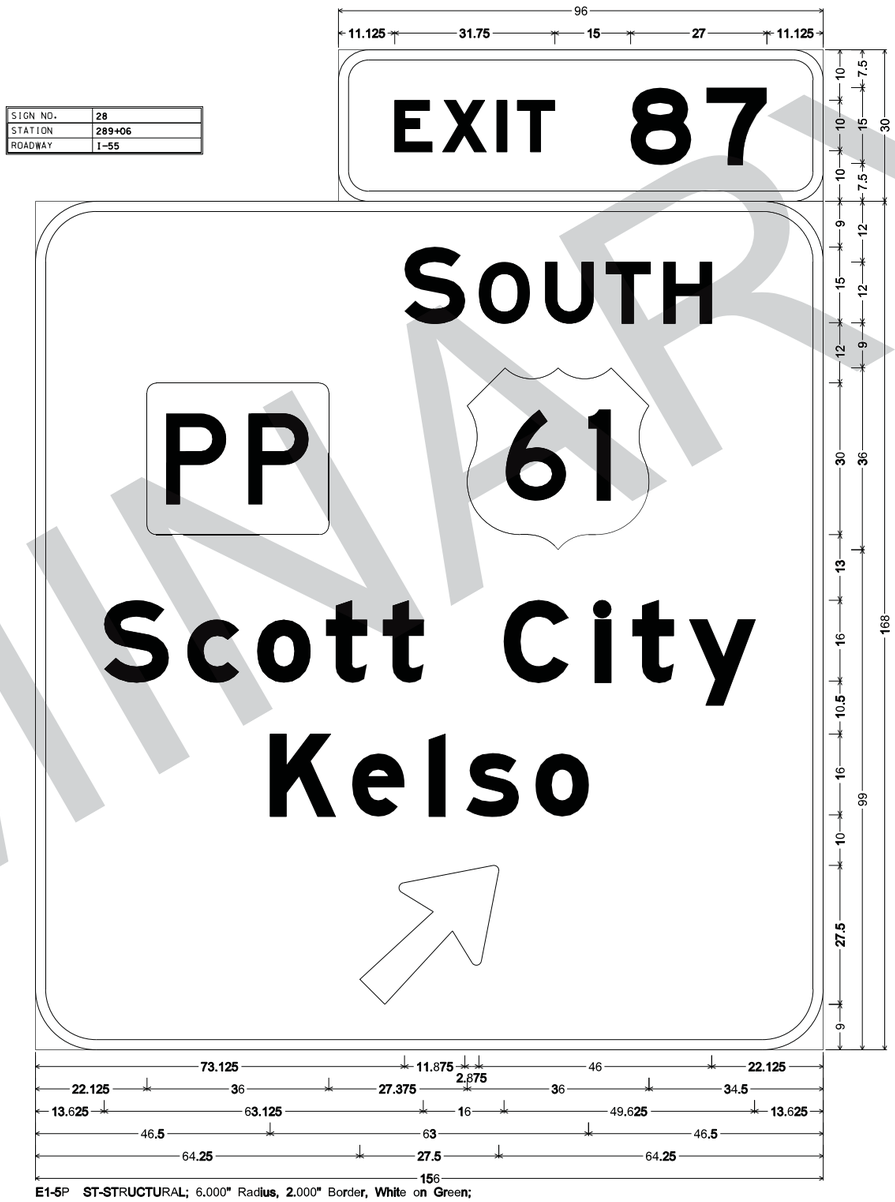
SIGN NO.	27
STATION	236+26
ROADWAY	I-55



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [87] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
[SOUTH] E Mod; Rounded Rectangle 1.875" Radius;
[Scott City] E Mod; [Kelso] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

E 11.125	X 20.625	I 31.375	T 35.375	8 57.875	7 72.875
S 73.125	O 87.875	U 100.875	T 113.000	H 124.375	
□ 22.125	61 85.500				
S 13.625	c 30.125	o 43.875	t 57.500	t 68.750	C 92.750	I 110.750	t 118.250	y 129.500
K 46.500	e 62.750	I 77.875	s 85.375	o 99.000				
I 51.625	M 71.125	I 82.875	L 87.500	E 96.875				

SIGN NO.	28
STATION	289+06
ROADWAY	I-55



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [87] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
[SOUTH] E Mod; Rounded Rectangle 1.875" Radius;
[Scott City] E Mod; [Kelso] E Mod; Arrow 160 - 35.000" 45°;
Table of letter and object lefts.

E 11.125	X 20.625	I 31.375	T 35.375	8 57.875	7 72.875
S 73.125	O 87.875	U 100.875	T 113.000	H 124.375	
□ 22.125	61 85.500				
S 13.625	c 30.125	o 43.875	t 57.500	t 68.750	C 92.750	I 110.750	t 118.250	y 129.500
K 46.500	e 62.750	I 77.875	s 85.375	o 99.000				
⇗ 64.250								

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	76

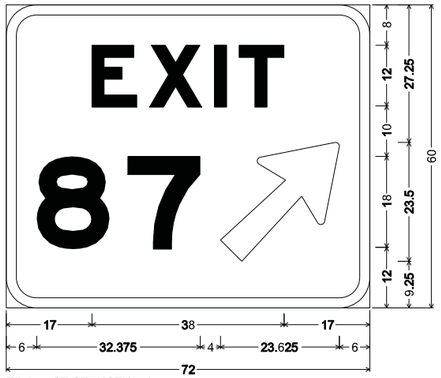
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

SIGNING
SHEET 18 OF 24

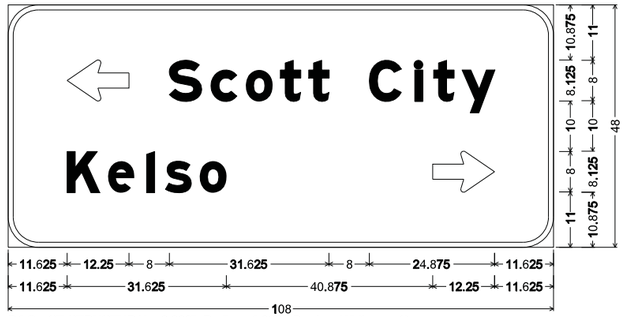
SIGN NO.	30
STATION	2+98
ROADWAY	RAMP 2A



E5-1a ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [87] E Mod; Arrow 133 - 30.000" 45°;
Table of letter and object lefts.

E	X	I	T
17.000	28.375	41.250	46.125
8	7	⇗	
6.000	24.125	42.375	

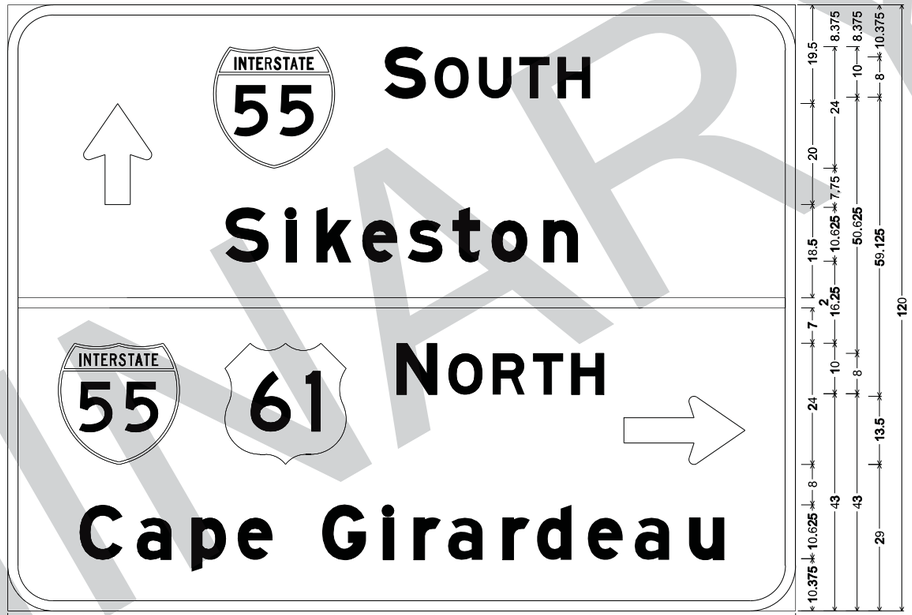
SIGN NO.	32
STATION	5+45
ROADWAY	RAMP 2A



D1-2 ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
Standard Arrow Custom 12.250" X 8.125" 180°; [Scott City] E Mod; [Kelso] E Mod;
Standard Arrow Custom 12.250" X 8.125" 0°;
Table of letter and object lefts.

⇦	S	c	o	t	t	c	l	t	y
11.625	31.875	40.125	47.125	53.875	59.500	71.500	80.500	84.250	89.875
K	e	l	s	o	⇨				
11.625	19.750	27.375	31.125	38.000	84.125				

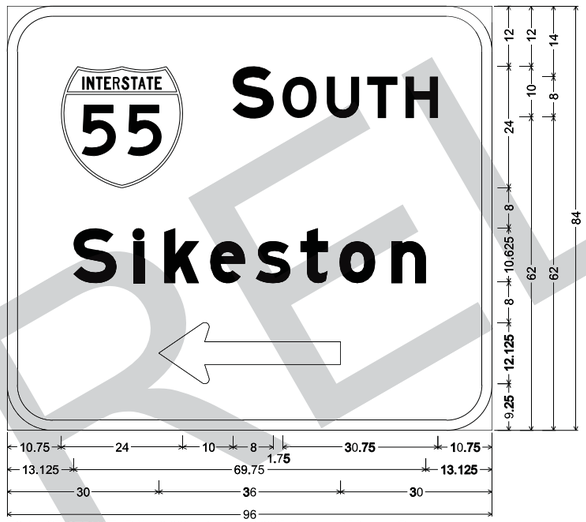
SIGN NO.	42
STATION	54+50
ROADWAY	RTE 61



E8-2 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
[ ] E Mod; Standard Arrow Custom 20.000" X 13.500" 90°; [SOUTH] E Mod; [Sikeston] E Mod; [NORTH] E Mod; [ ] D;
Standard Arrow Custom 24.000" X 13.500" 0°; [Cape Girardeau] E Mod;
Table of letter and object lefts.

⇧	55	S	O	U	T	H	
15.000	40.750	74.750	84.500	93.250	101.375	108.875	
S	I	k	e	s	t	o	n
43.125	55.000	61.125	70.250	79.250	88.125	95.875	106.125
—							
2.000							
55	61	N	O	R	T	H	
10.000	43.000	77.000	87.250	96.000	104.000	111.625	
⇨							
122.000							
C	a	p	e	G	I	r	a	r	d	e	a	u
14.250	25.500	36.375	45.500	62.375	74.375	80.375	87.125	98.000	104.750	114.875	124.125	135.000

SIGN NO.	38
STATION	46+25
ROADWAY	RTE 61



E8-1 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
[SOUTH] E Mod; [Sikeston] E Mod;
Standard Arrow Custom 36.000" X 12.125" 180°;
Table of letter and object lefts.

55	S	O	U	T	H	
10.750	44.750	54.500	63.250	71.375	78.875	
S	I	k	e	s	t	o	n
13.125	25.000	31.125	40.250	49.250	58.125	65.875	76.125
⇦							
30.000							

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	77

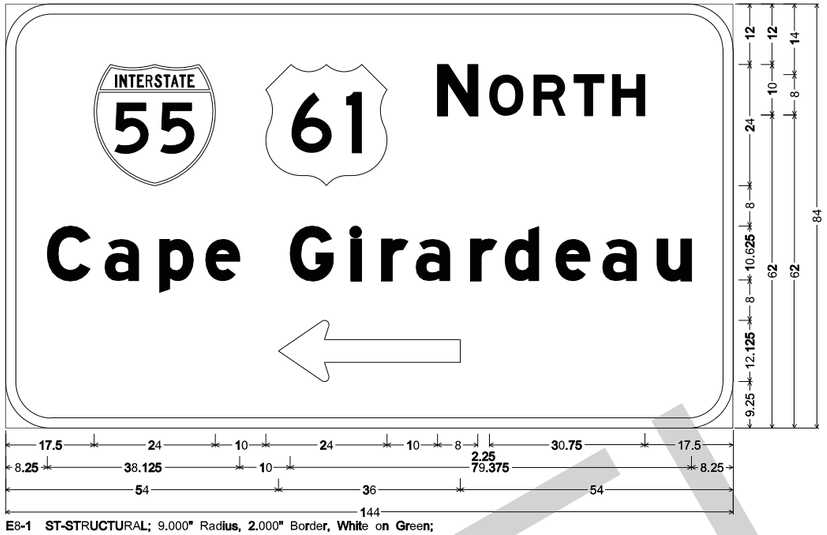
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

SIGNING
SHEET 19 OF 24

SIGN NO.	44
STATION	52+50
ROADWAY	RTE 61



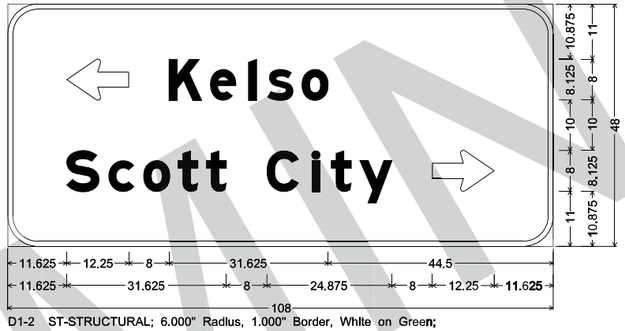
E8-1 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
[NORTH] E Mod; [Cape Girardeau] E Mod; Standard Arrow Custom 36.000" X 12.125" 180°;
Table of letter and object lefts.

55	61	N	O	R	T	H
17.500	51.500	85.500	95.750	104.500	112.500	120.125

C	a	p	e	G	l	r	a	r	d	e	a	u
8.250	19.500	30.375	39.500	56.375	68.375	74.375	81.125	92.000	98.750	108.875	118.125	129.000

⇦
54.000

SIGN NO.	53
STATION	4+50
ROADWAY	RAMP 3

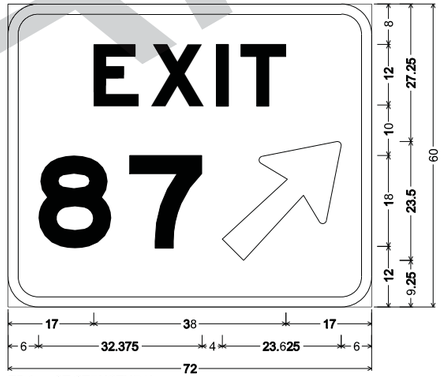


D1-2 ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
Standard Arrow Custom 12.250" X 8.125" 180°; [Kelso] E Mod; [Scott City] E Mod;
Standard Arrow Custom 12.250" X 8.125" 0°;
Table of letter and object lefts.

⇦	K	e	l	s	o
11.625	31.875	40.000	47.625	51.375	58.250

S	c	o	t	t	C	l	t	y	⇨
11.625	19.875	26.875	33.625	39.250	51.250	60.250	64.000	69.625	84.125

SIGN NO.	54
STATION	7+46
ROADWAY	RAMP 3



E5-1a ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [87] E Mod; Arrow 133 - 30.000" 45°;
Table of letter and object lefts.

E	X	I	T
17.000	28.375	41.250	46.125

8	7	⇗
6.000	24.125	42.375

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	78

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

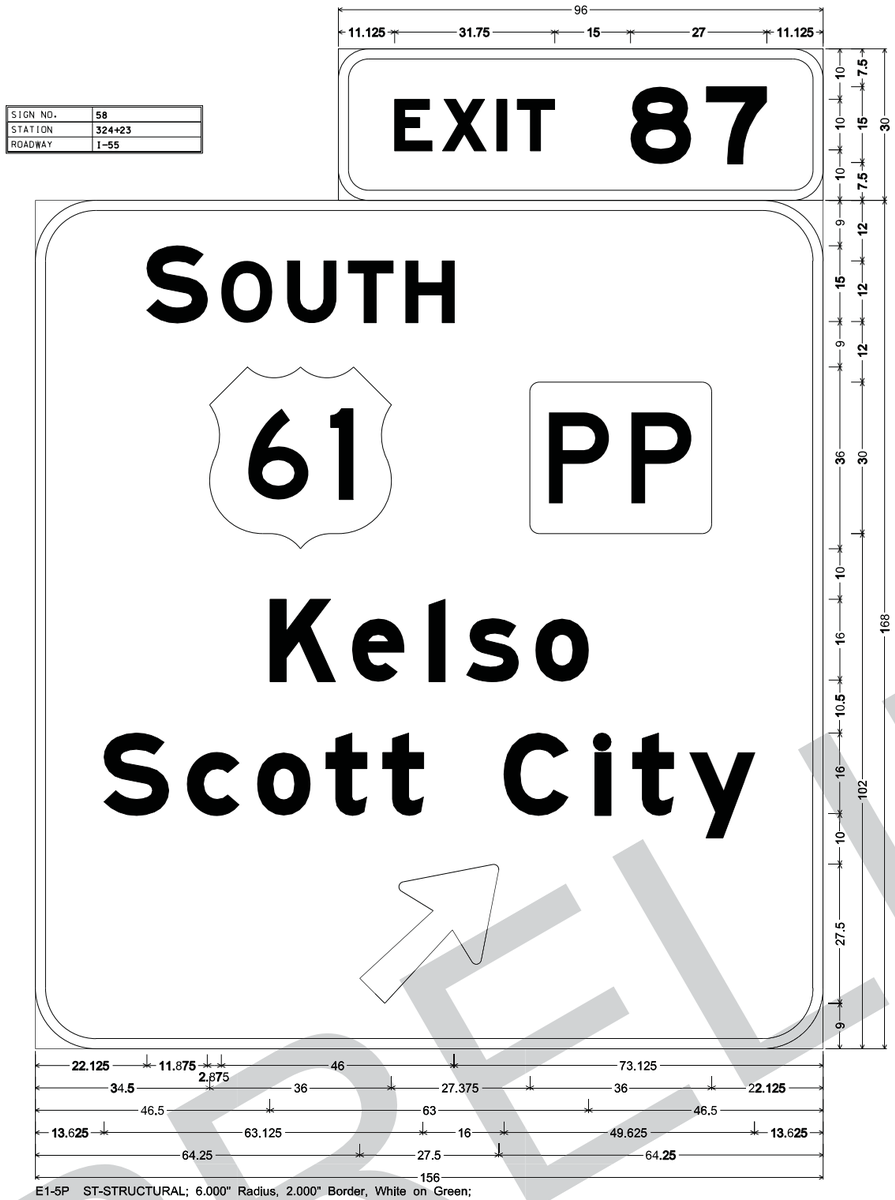
BRIDGE NO.

DESCRIPTION	DATE

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

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

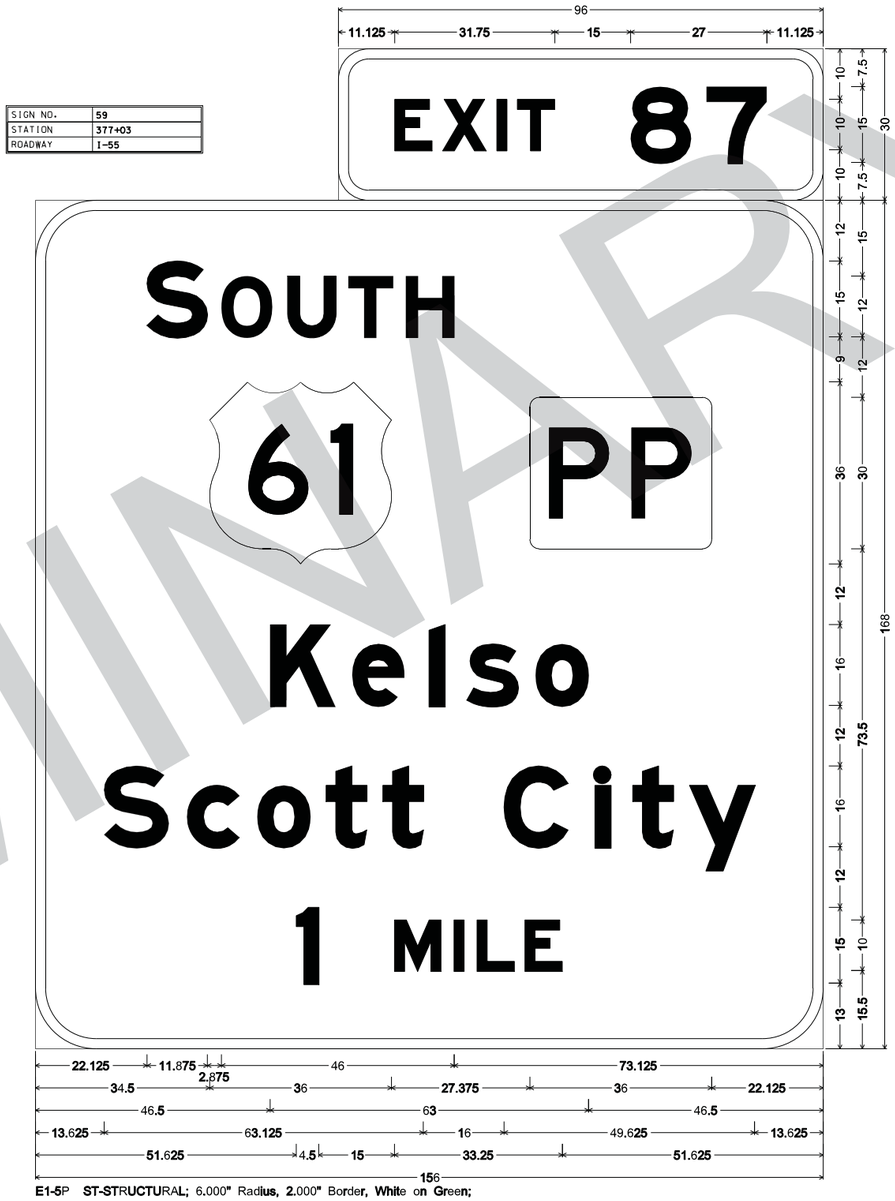
SIGN NO.	58
STATION	324+23
ROADWAY	I-55



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [87] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
[SOUTH] E Mod; Rounded Rectangle 1.875" Radius;
[Kelso] E Mod; [Scott City] E Mod; Arrow 160 - 35.000" 45°;
Table of letter and object lefts.

E 11.125	X 20.625	I 31.375	T 35.375	8 57.875	7 72.875
S 22.125	O 36.875	U 49.875	T 62.000	H 73.375	
61 34.500	□ 97.875				
K 46.500	e 62.750	l 77.875	s 85.375	o 99.000	
S 13.625	c 30.125	o 43.875	t 57.500	t 68.750	C 92.750	I 110.750	t 118.250	y 129.500
64.250								

SIGN NO.	59
STATION	377+03
ROADWAY	I-55



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [87] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
[SOUTH] E Mod; Rounded Rectangle 1.875" Radius;
[Kelso] E Mod; [Scott City] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

E 11.125	X 20.625	I 31.375	T 35.375	8 57.875	7 72.875
S 22.125	O 36.875	U 49.875	T 62.000	H 73.375	
61 34.500	□ 97.875				
K 46.500	e 62.750	l 77.875	s 85.375	o 99.000	
S 13.625	c 30.125	o 43.875	t 57.500	t 68.750	C 92.750	I 110.750	t 118.250	y 129.500
I 51.625	M 71.125	I 82.875	L 87.500	E 96.875				

SIGNING
SHEET 21 OF 24

D-31

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	79

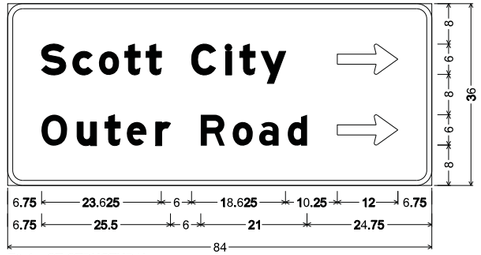
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

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

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

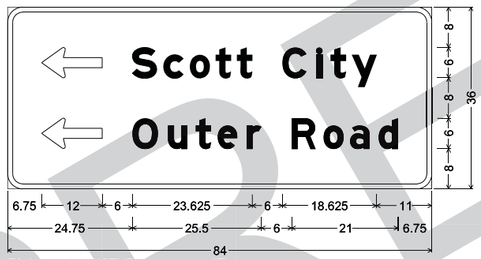
SIGN NO.	74
STATION	58+25
ROADWAY	RTE 61



E9-1 ST-STRUCTURAL;
3.000" Radius, 1.000" Border, White on Green;
[Scott City] E Mod; Standard Arrow Custom 12.000" X 6.000" 0°;
[Outer Road] E Mod; Standard Arrow Custom 12.000" X 6.000" 0°;
Table of letter and object lefts.

S 6.750	**c** 12.875	**o** 18.125	**t** 23.250	**t** 27.375	**C** 36.375	**I** 43.125	**t** 46.000	**y** 50.250	
⇨ 65.250									
O 6.750	**u** 13.750	**t** 19.250	**e** 23.625	**r** 29.375	**R** 38.250	**o** 44.625	**a** 49.875	**d** 55.500	
⇨ 65.250									

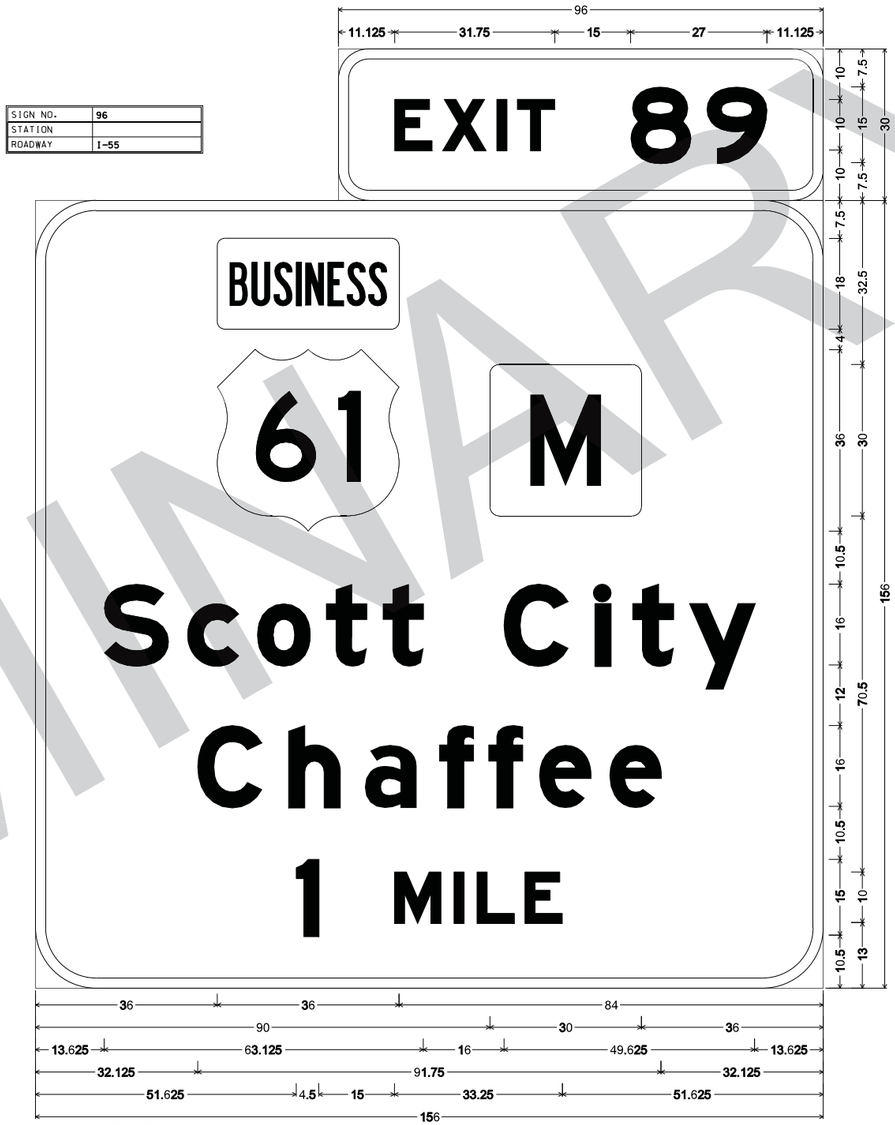
SIGN NO.	85
STATION	55+50
ROADWAY	RTE 61



E9-1 ST-STRUCTURAL;
3.000" Radius, 1.000" Border, White on Green;
Standard Arrow Custom 12.000" X 6.000" 180°; [Scott City] E Mod;
Standard Arrow Custom 12.000" X 6.000" 180°;
[Outer Road] E Mod;
Table of letter and object lefts.

⇦ 6.750	**S** 24.750	**c** 30.875	**o** 36.125	**t** 41.250	**t** 45.375	
	C 54.375	**I** 61.125	**t** 64.000	**y** 68.250		
⇦ 6.750	**O** 24.750	**u** 31.750	**t** 37.250	**e** 41.625	**r** 47.375	
	R 56.250	**o** 62.625	**a** 67.875	**d** 73.500		

SIGN NO.	96
STATION	
ROADWAY	I-55



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [89] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.500" Radius;
Rounded Rectangle 1.875" Radius;
[Scott City] E Mod; [Chaffee] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

E 11.125	**X** 20.625	**I** 31.375	**T** 35.375	**8** 57.875	**9** 72.875	
▭ 36.000						
61 36.000	▢ 90.000					
S 13.625	**c** 30.125	**o** 43.875	**t** 57.500	**t** 68.750	**C** 92.750	**I** 110.750	**t** 118.250	**y** 129.500
C 32.125	**h** 50.125	**a** 65.250	**f** 80.000	**f** 89.750	**e** 99.750	**e** 113.625		
1 51.625	**M** 71.125	**I** 82.875	**L** 87.500	**E** 96.875				

SIGNING
SHEET 22 OF 24

D-31

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	80

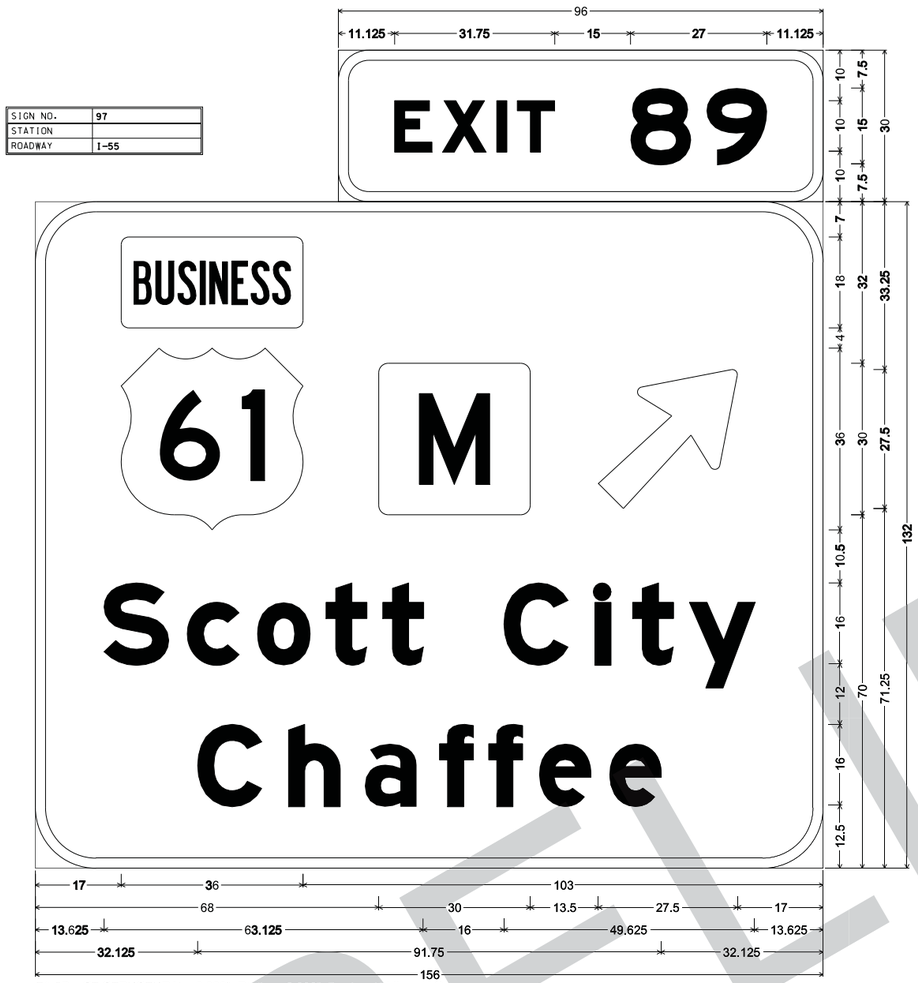
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION

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

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

SIGN NO.	97
STATION	
ROADWAY	I-55



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [89] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.500" Radius;
Rounded Rectangle 1.875" Radius;
Arrow 160 - 35.000" 45°; [Scott City] E Mod; [Chaffee] E Mod;
Table of letter and object lefts.

E 11.125	**X** 20.625	**I** 31.375	**T** 35.375	**8** 57.875	**9** 72.875

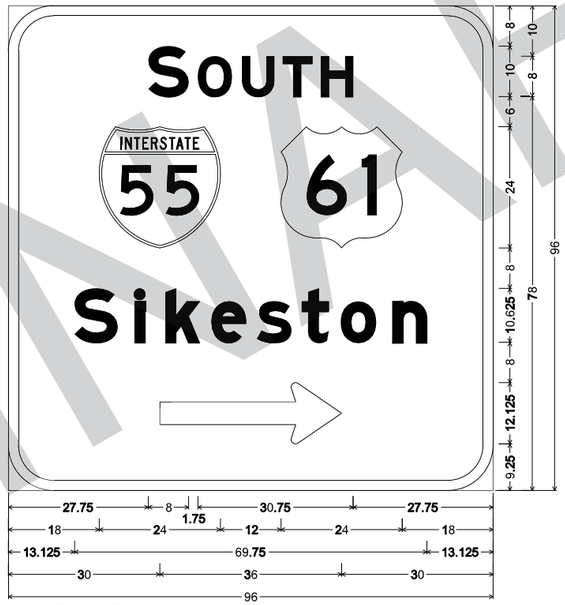
▭ 17.000

61 17.000	□ 68.000	⇗ 111.500

S 13.625	**c** 30.125	**o** 43.875	**t** 57.500	**t** 68.750	**C** 92.750	**I** 110.750	**t** 118.250	**y** 129.500

C 32.125	**h** 50.125	**a** 65.250	**f** 80.000	**f** 89.750	**e** 99.750	**e** 113.625

SIGN NO.	101B
STATION	
ROADWAY	RTE M



E8-1 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
[SOUTH] E Mod; [Sikeston] E Mod;
Standard Arrow Custom 36.000" X 12.125" 0°;
Table of letter and object lefts.

S 27.750	**O** 37.500	**U** 46.250	**T** 54.375	**H** 61.875

29 18.000	61 54.000

S 13.125	**I** 25.000	**k** 31.125	**e** 40.250	**s** 49.250	**t** 58.125	**o** 65.875	**n** 76.125

⇨ 30.000

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	81

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

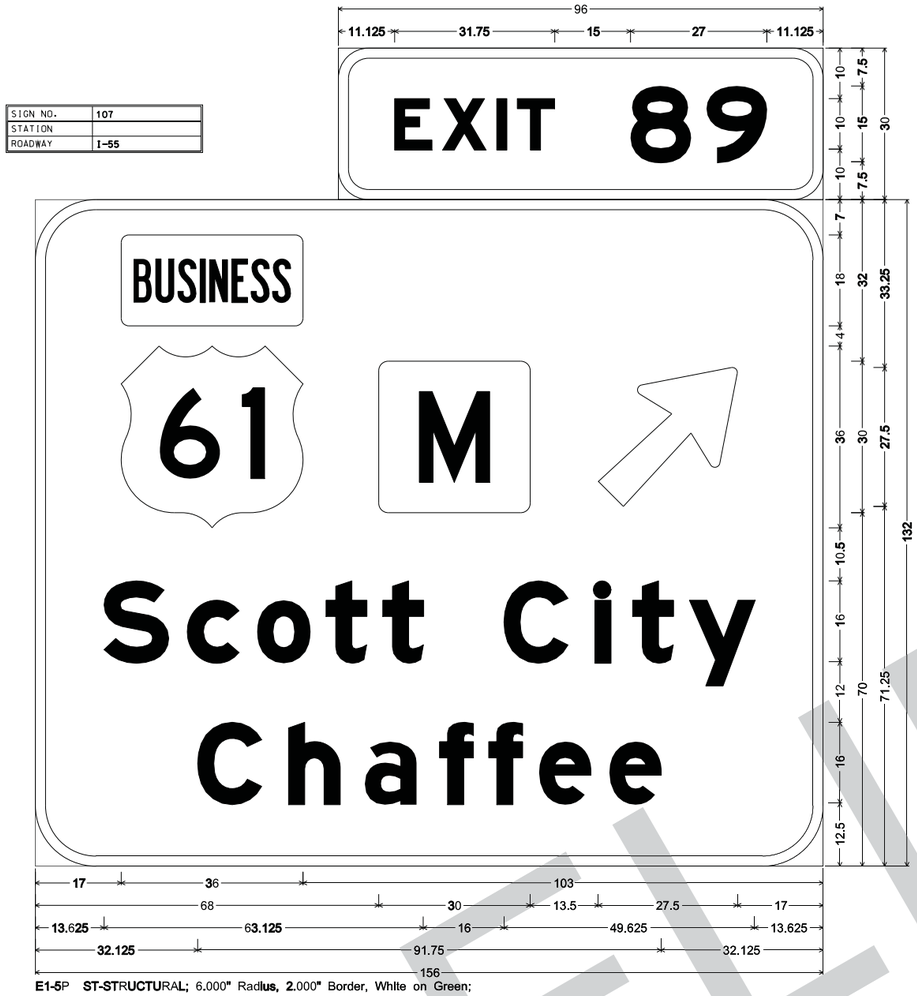
DESCRIPTION	DATE

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

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

SIGNING
SHEET 23 OF 24

SIGN NO.	107
STATION	
ROADWAY	I-55



E1-5P **ST-STRUCTURAL;** 6.000" Rad**ius, 2**.000" Border, White on Green;
[EXIT] E Mod; **[89] E M**od;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle **1.5**00" Rad**ius;**
Rounded Rectangle **1.875"** Radius;
Arrow 160 - **35**.000" 45°; [Scott City] E Mod; [Chaffee] E Mod;
Table of letter and object lefts.

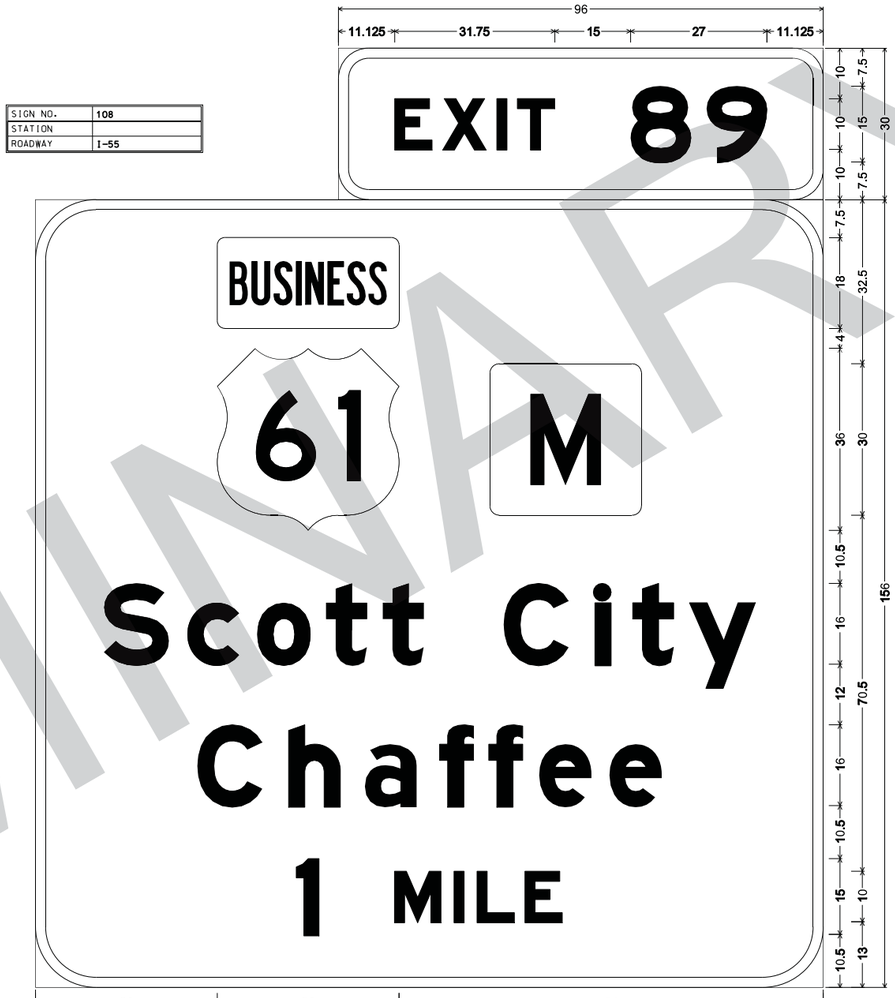
E 11.125	**X** 20.625	**I** 31.375	**T** 35.375	**8** 57.875	**9** 72.875

17.000

17.000	68.000	111.500

S 13.625	**c** 30.125	**o** 43.875	**t** 57.500	**t** 68.750	**C** 92.750	**I** 110.750	**t** 118.250	**y** 129.500	
C 32.125	**h** 50.125	**a** 65.250	**f** 80.000	**f** 89.750	**e** 99.750	**e** 113.625			

SIGN NO.	108
STATION	
ROADWAY	I-55



E1-5P **ST-STRUCTURAL;** 6.000" Rad**ius, 2**.000" Border, **White on Green;**
[EXIT] E Mod; **[89] E M**od;
E1-1 ST-STRUCTURAL; 12.000" Rad**ius, 2**.000" Border, **White on Green;**
Rounded Rectangle **1.5**00" Rad**ius;**
Rounded Rectangle **1.875"** Rad**ius;**
[Scott City] E Mod; **[Chaffee] E M**od; **[1] E M**od; **[MILE] E M**od;
Table of letter and object lefts.

E 11.125	**X** 20.625	**I** 31.375	**T** 35.375	**8** 57.875	**9** 72.875

36.000

36.000	90.000

S 13.625	**c** 30.125	**o** 43.875	**t** 57.500	**t** 68.750	**C** 92.750	**I** 110.750	**t** 118.250	**y** 129.500	
C 32.125	**h** 50.125	**a** 65.250	**f** 80.000	**f** 89.750	**e** 99.750	**e** 113.625			
1 51.625	**M** 71.125	**I** 82.875	**L** 87.500	**E** 96.875					

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	82

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE

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

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

SIGNING
SHEET 24 OF 24

PRELIMINARY

PAVEMENT MARKING
SHEET 1 OF 3

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	83

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

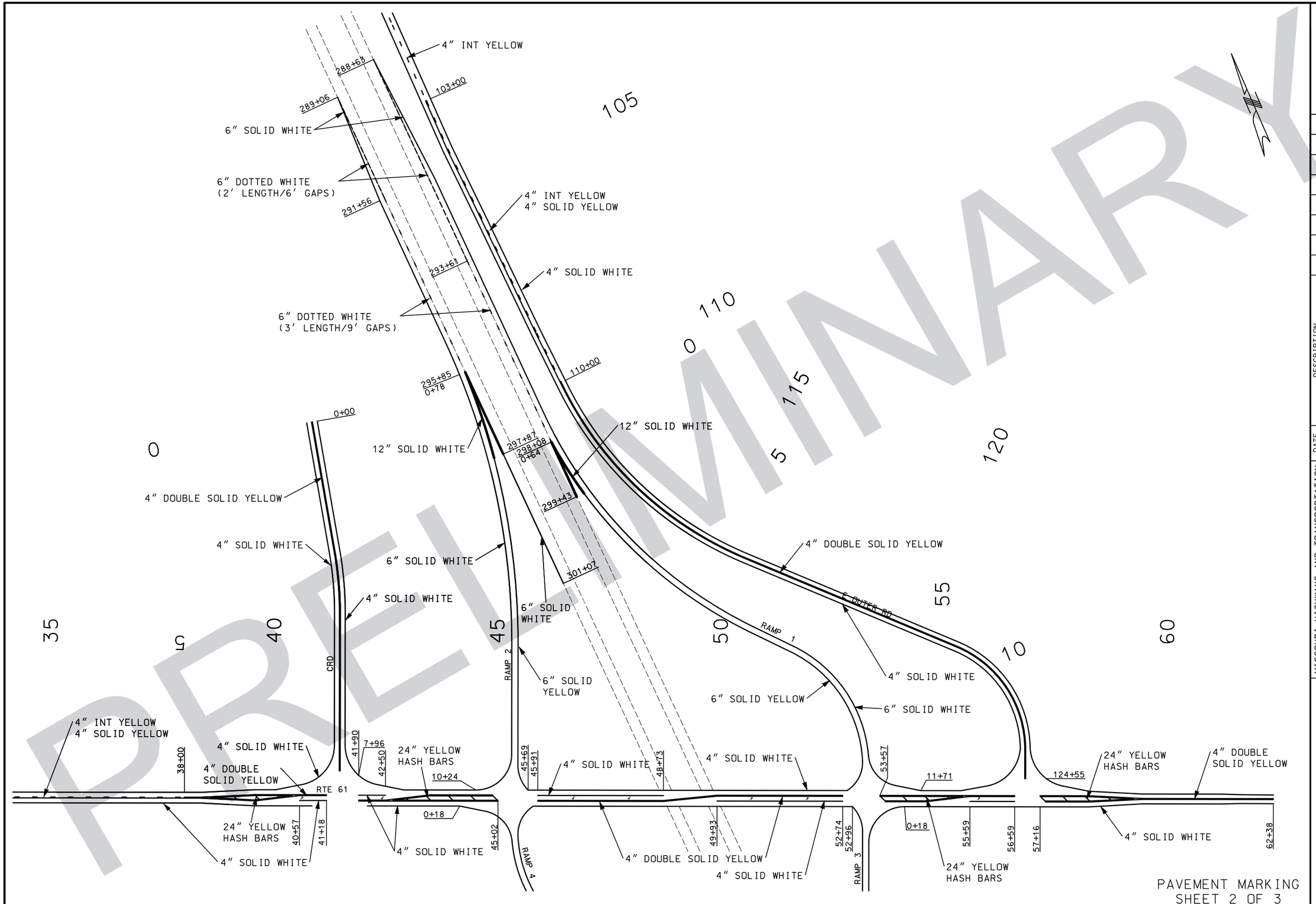
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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



PRELIMINARY

PAVEMENT MARKING
SHEET 2 OF 3

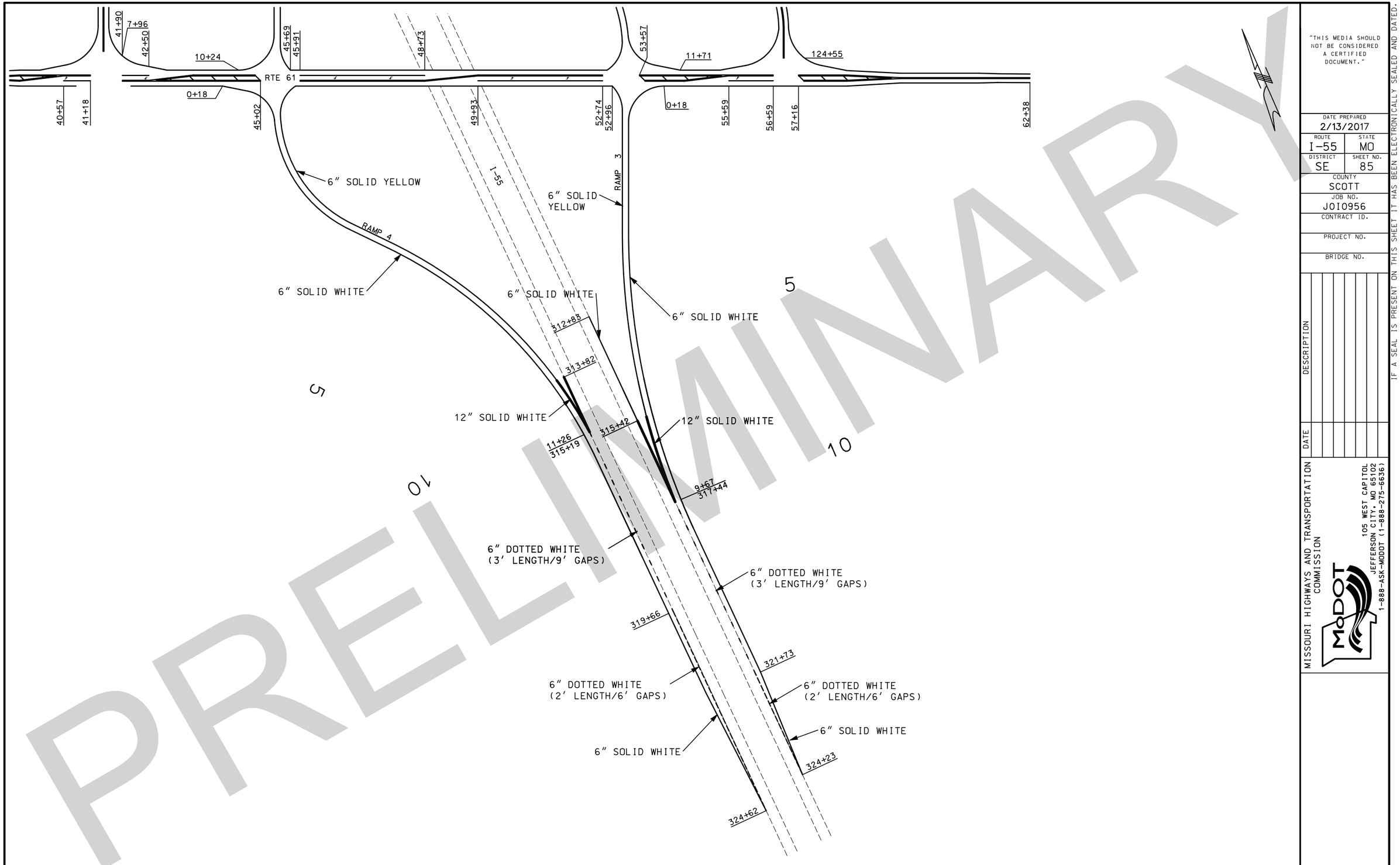
"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

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

DATE PREPARED	2/13/2017
ROUTE	I-55
STATE	MO
DISTRICT	SE
SHEET NO.	84
COUNTY	SCOTT
JOB NO.	J0I0956
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)



PAVEMENT MARKING
SHEET 3 OF 3

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/13/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	85

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

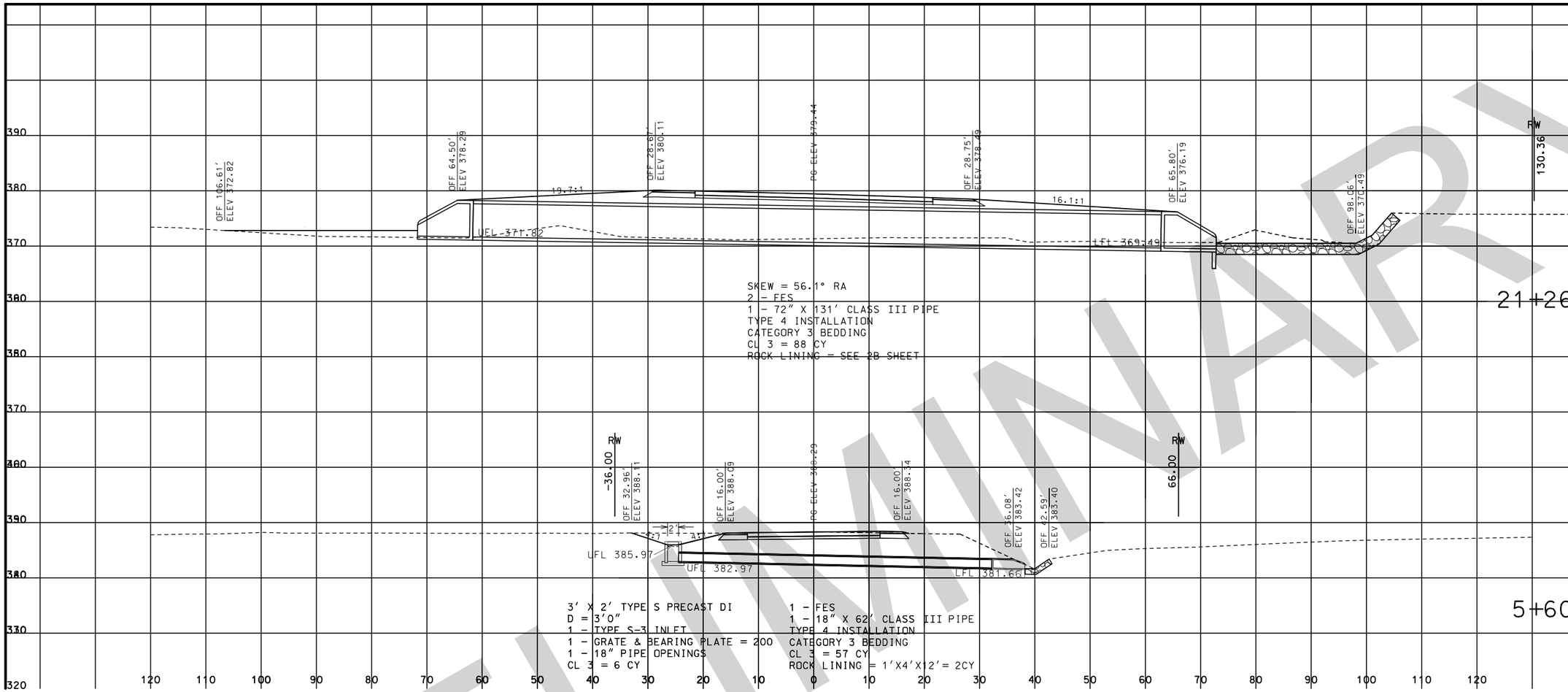
PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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



PRELIMINARY

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	86

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

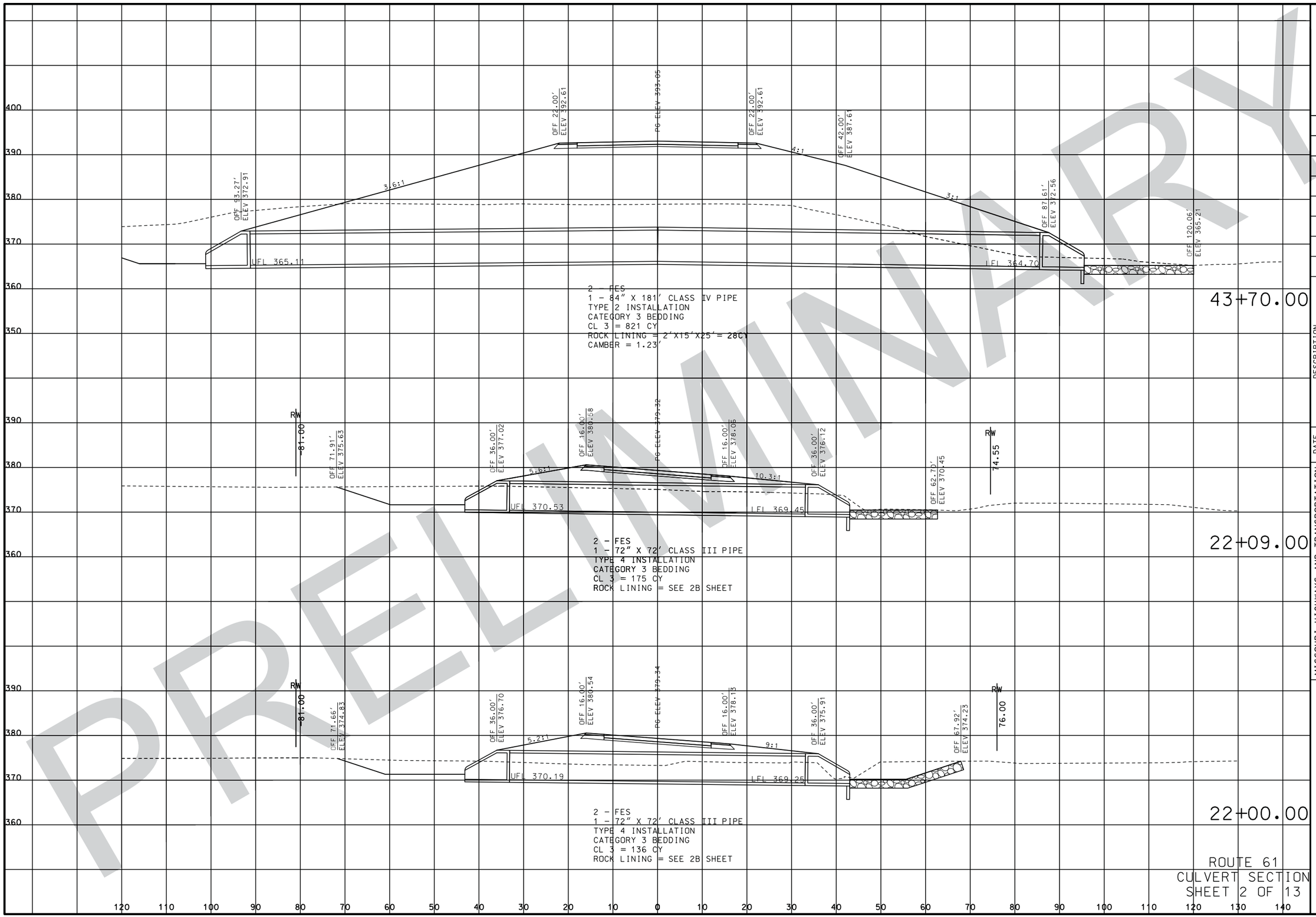
DATE

REV.

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

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

ROUTE 61
CULVERT SECTION
SHEET 1 OF 13



"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	87

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

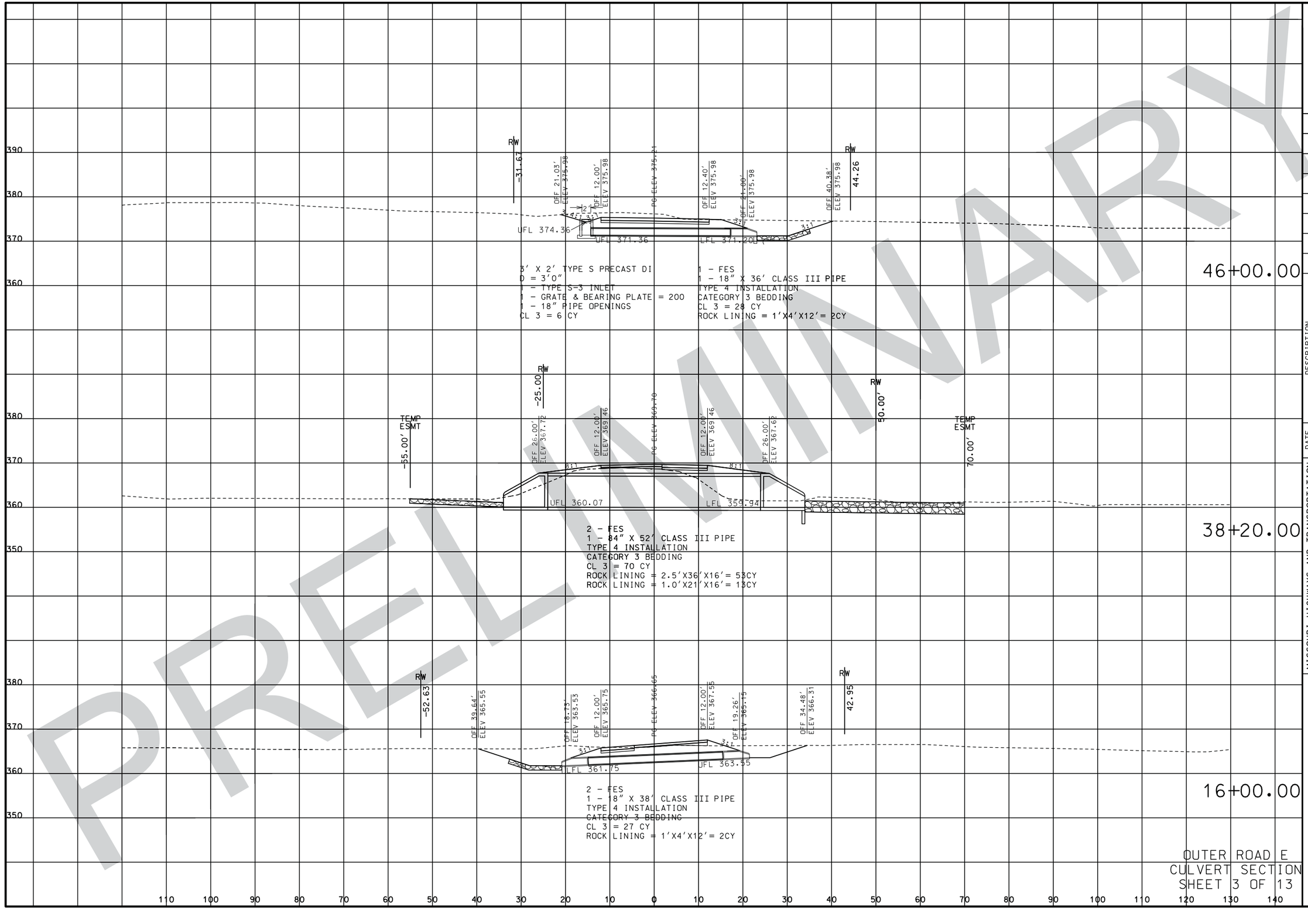
BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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

ROUTE 61
CULVERT SECTION
SHEET 2 OF 13



OUTER ROAD E
CULVERT SECTION
SHEET 3 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	88

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

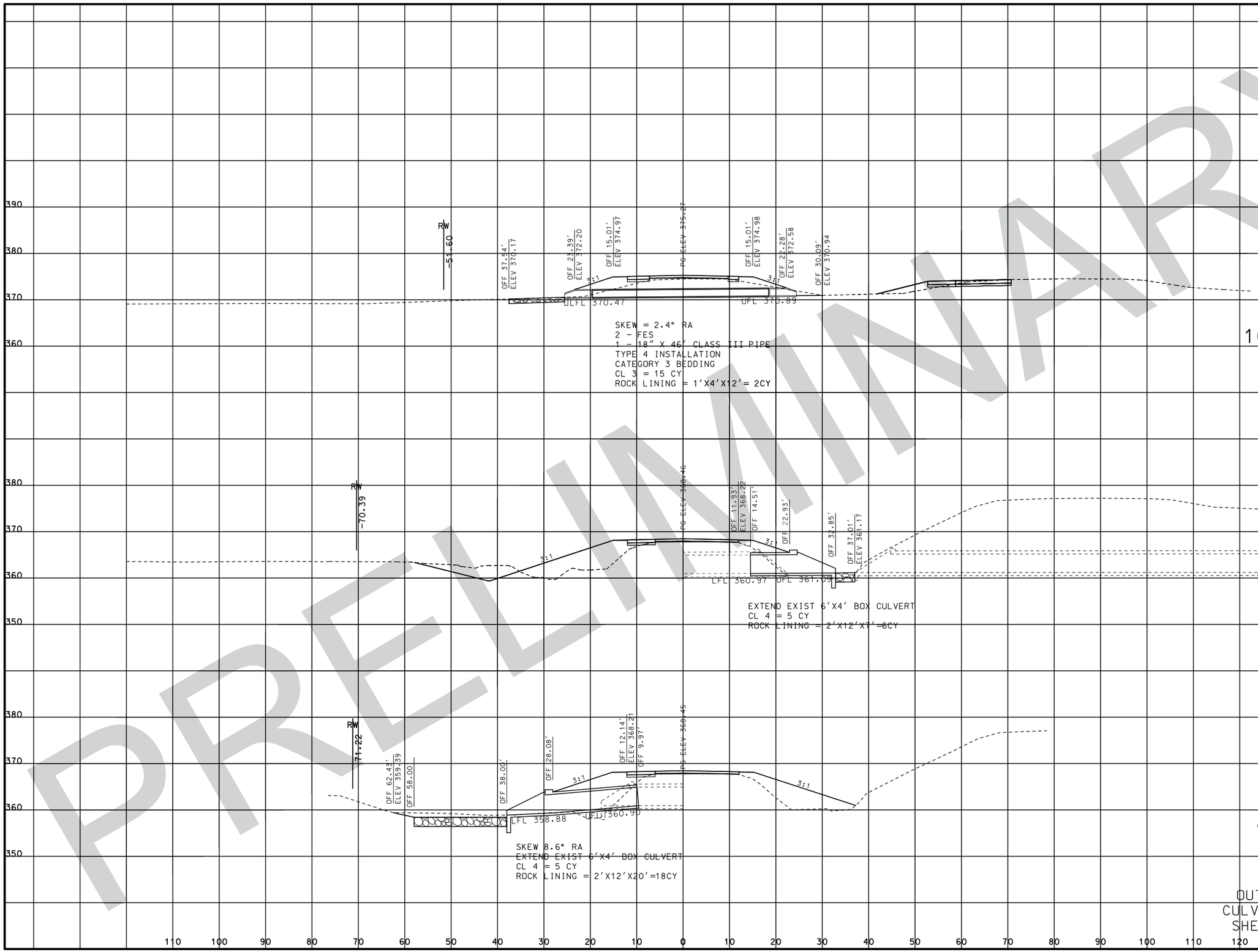
DATE

REV.

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.



OUTER ROAD E
CULVERT SECTION
SHEET 4 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	89

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

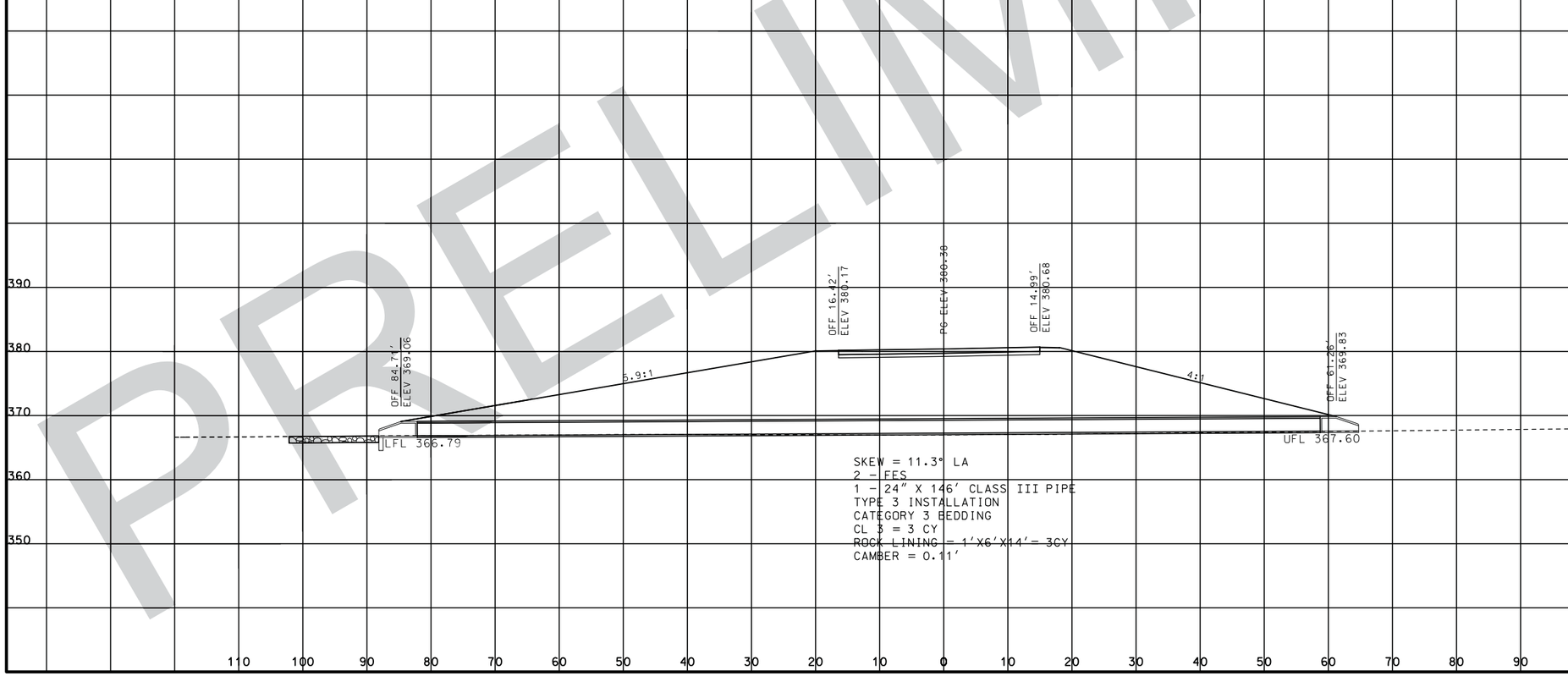
BRIDGE NO.

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.



SKEW = 11.3° LA
2 - FES
1 - 24" X 146' CLASS III PIPE
TYPE 3 INSTALLATION
CATEGORY 3 BEDDING
CL 3 = 3 CY
ROCK LINING - 1'X6'X14'- 3CY
CAMBER = 0.11'

124+06.09

OUTER ROAD E
CULVERT SECTION
SHEET 5 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	90

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

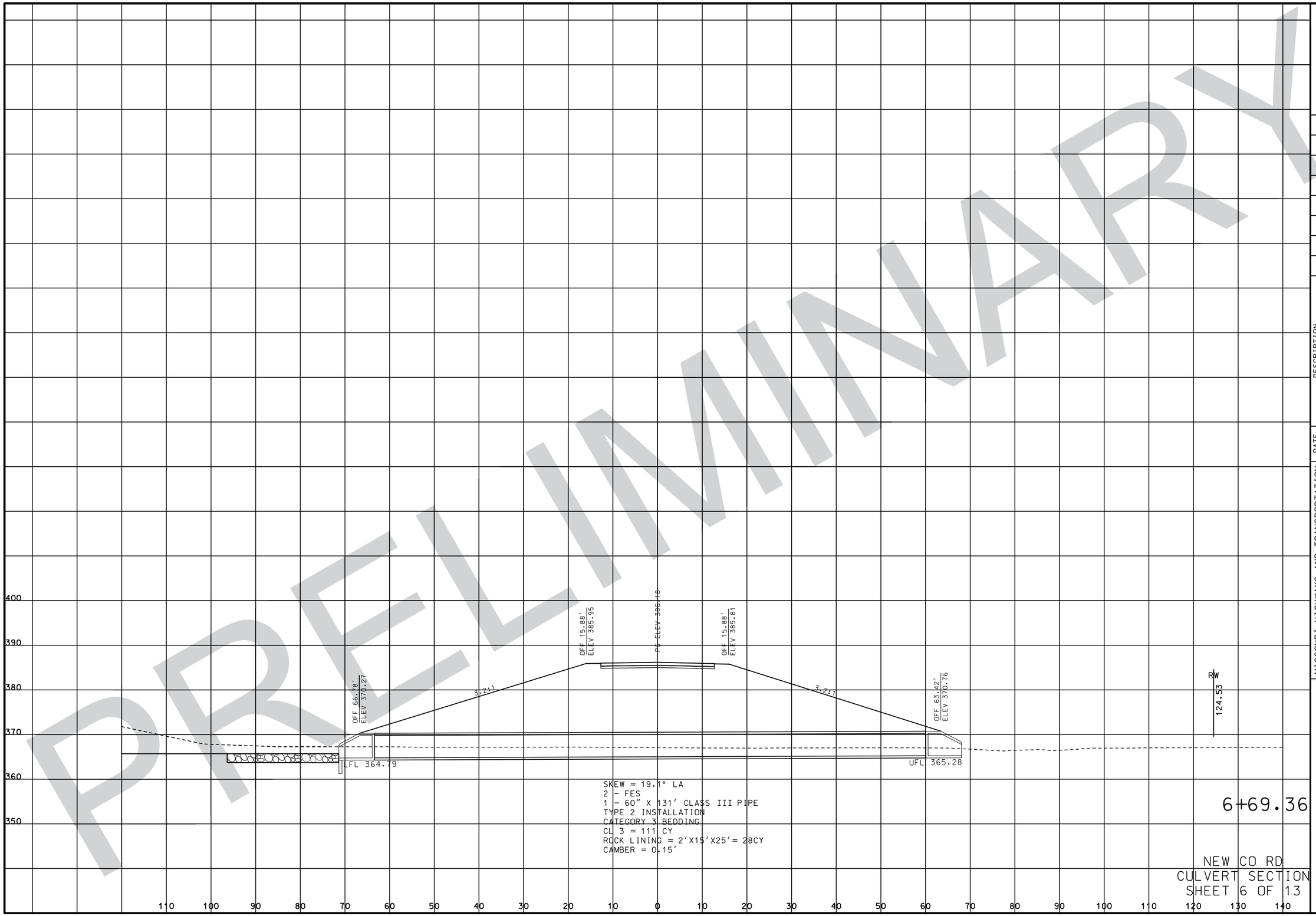
BRIDGE NO.

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.



SKEW = 19.1° LA
2 - FES
1 - 60" X 131' CLASS III PIPE
TYPE 2 INSTALLATION
CATEGORY 3 BEDDING
CL 3 = 111 CY
ROCK LINING = 2'X15'X25'= 28CY
CAMBER = 0.15'

6+69.36

NEW CO RD
CULVERT SECTION
SHEET 6 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	91

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

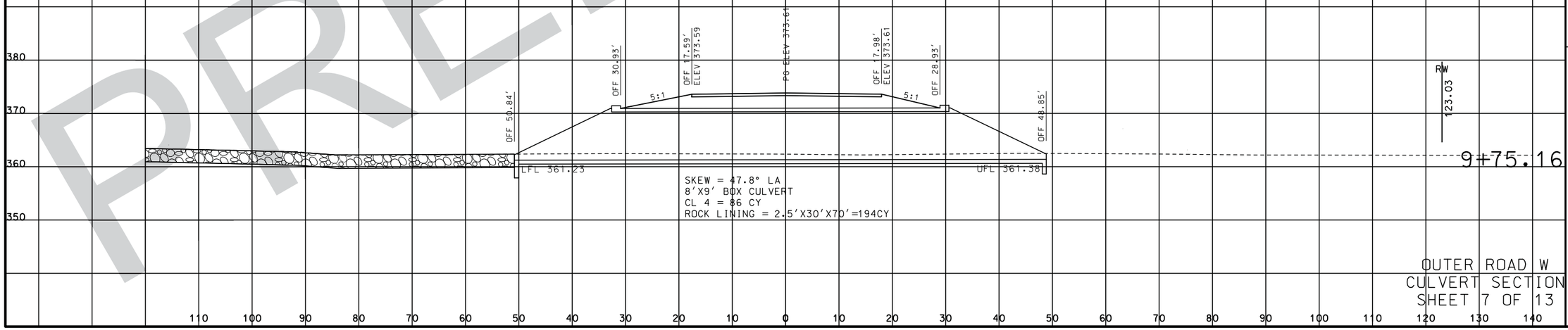
BRIDGE NO.

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.



OUTER ROAD W
CULVERT SECTION
SHEET 7 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	92

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

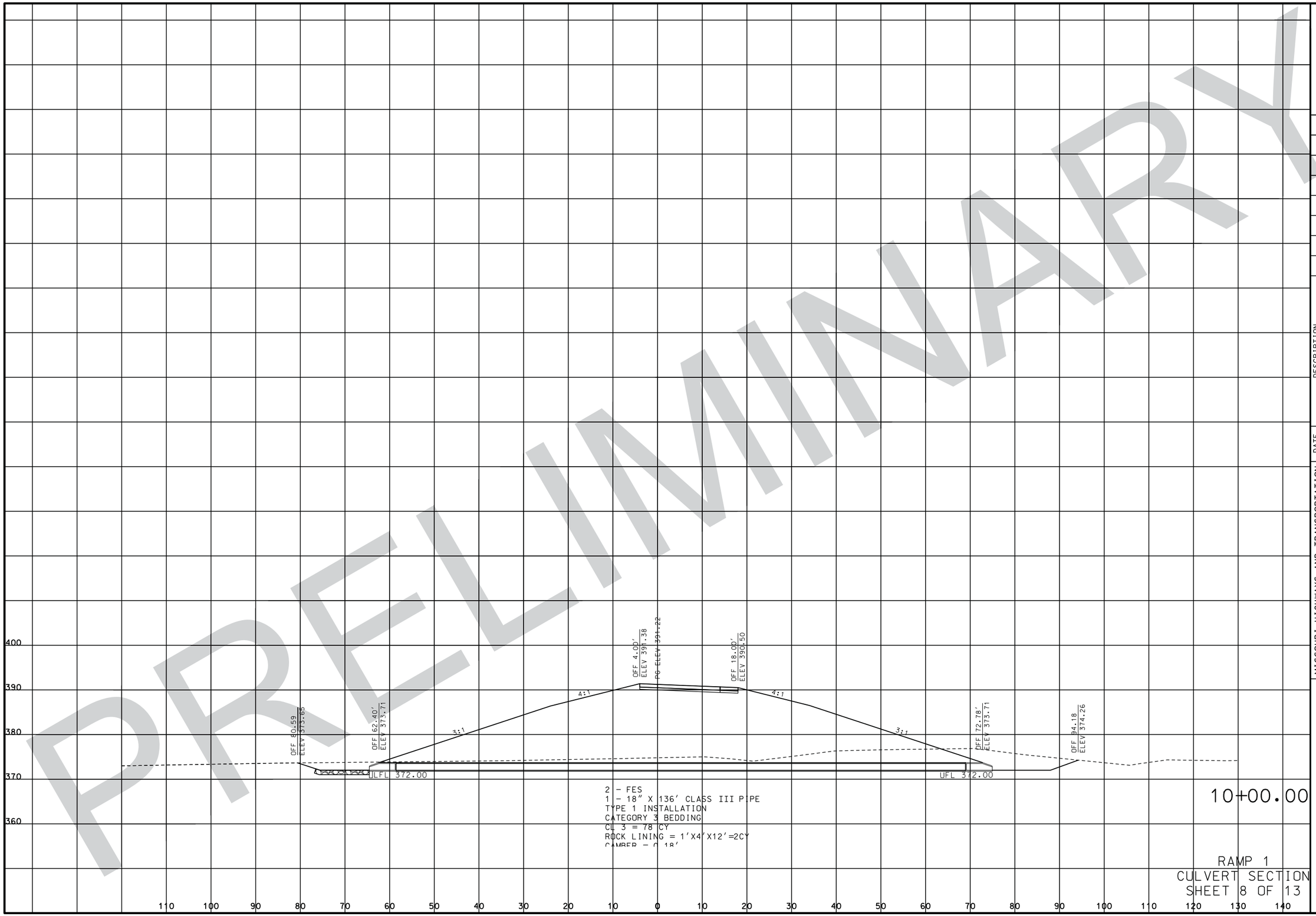
DESCRIPTION	DATE

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.



2 - FES
1 - 18" X 136' CLASS III PIPE
TYPE 1 INSTALLATION
CATEGORY 3 BEDDING
CL 3 = 78 CY
ROCK LINING = 1'X4'X12'=2CY
CAMBER = 0.18'

10+00.00

RAMP 1
CULVERT SECTION
SHEET 8 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	93

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

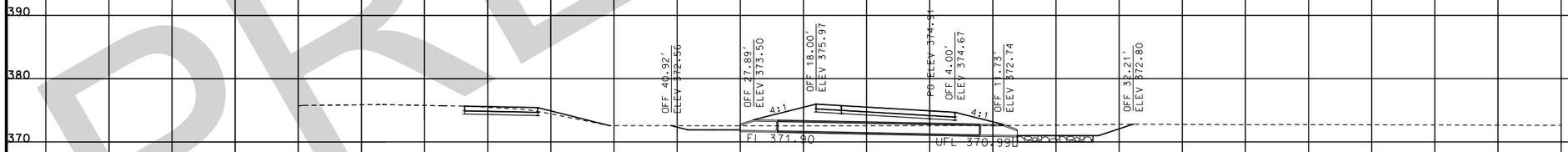
BRIDGE NO.

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.



2 - FES
1 - 18" X 40' CLASS III PIPE
TYPE 4 INSTALLATION
CATEGORY 3 BEDDING
CL 3 = 11 CY
ROCK LINING = 1'X4'X12'= 2CY

4+35.00

RAMP 2
CULVERT SECTION
SHEET 9 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	94

COUNTY
SCOTT

JOB NO.
J0I0956

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.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	95

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

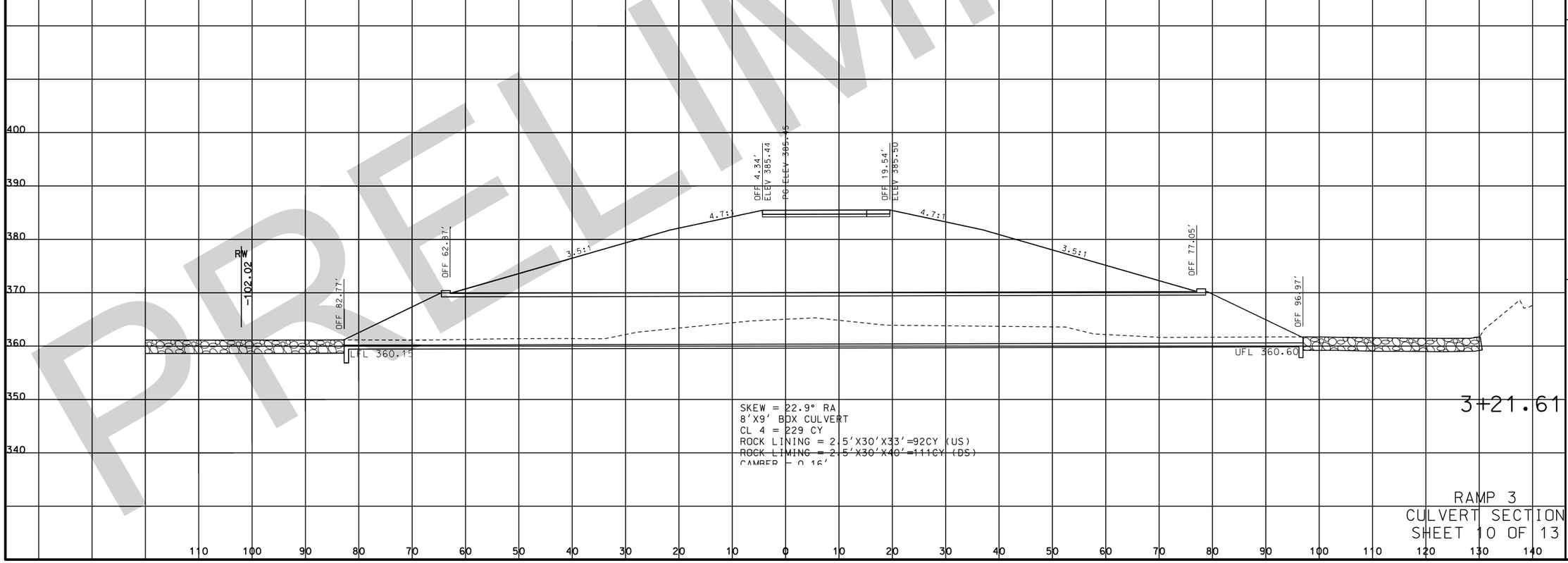
BRIDGE NO.

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.

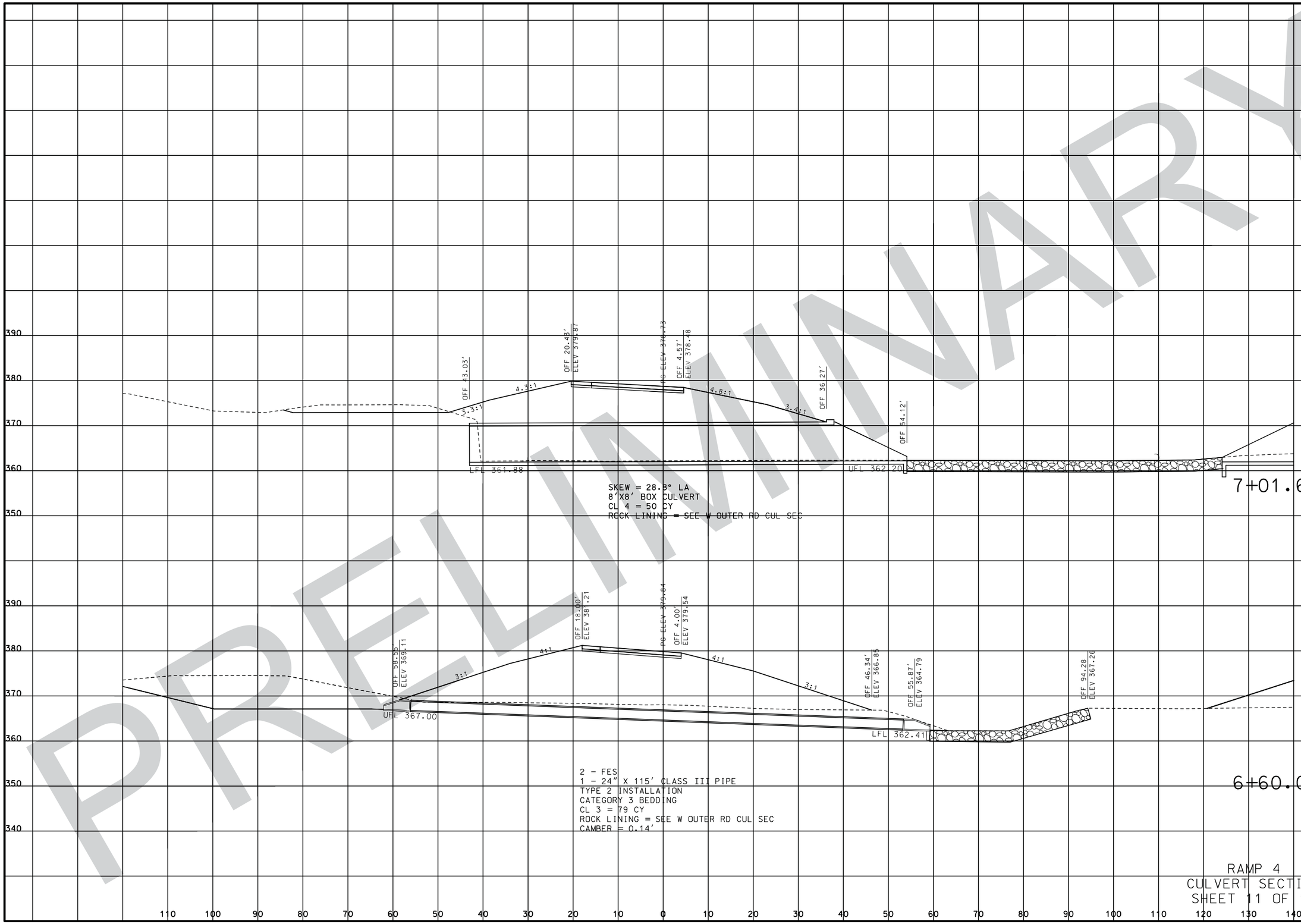
REV.



SKEW = 22.9° RA
8'X9' BOX CULVERT
CL 4 = 229 CY
ROCK LINING = 2.5'X30'X33'=92CY (US)
ROCK LIMING = 2.5'X30'X40'=111CY (DS)
CAMBER = 0.16'

3+21.61

RAMP 3
CULVERT SECTION
SHEET 10 OF 13



RAMP 4
CULVERT SECTION
SHEET 11 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	96

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

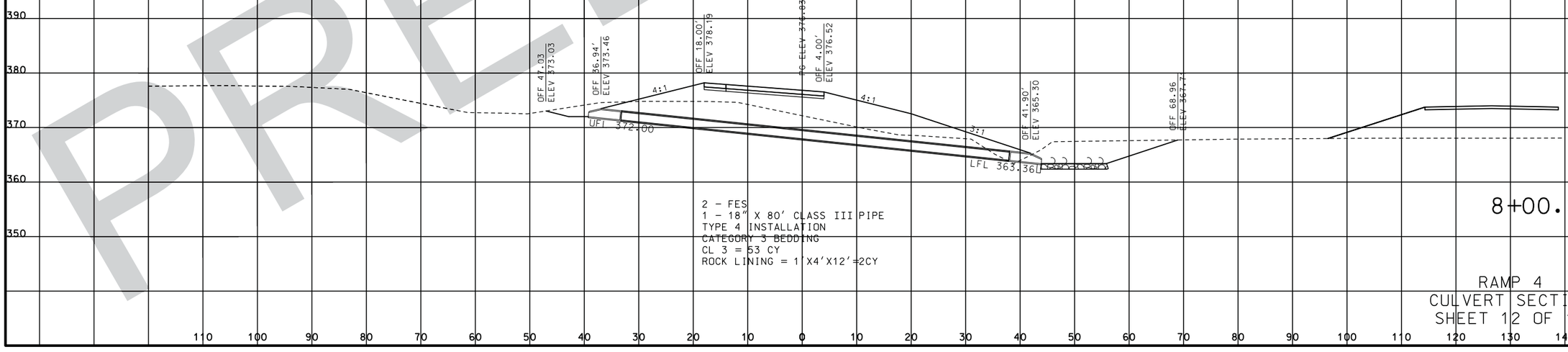
DESCRIPTION	DATE

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.



2 - FES
1 - 18" X 80' CLASS III PIPE
TYPE 4 INSTALLATION
CATEGORY 3 BEDDING
CL 3 = 53 CY
ROCK LINING = 1'X4'X12'=2CY

8+00.00

RAMP 4
CULVERT SECTION
SHEET 12 OF 13

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
SE	97

COUNTY
SCOTT

JOB NO.
J0I0956

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.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
2/10/2017

ROUTE	STATE
I-55	MO

DISTRICT	SHEET NO.
SE	98

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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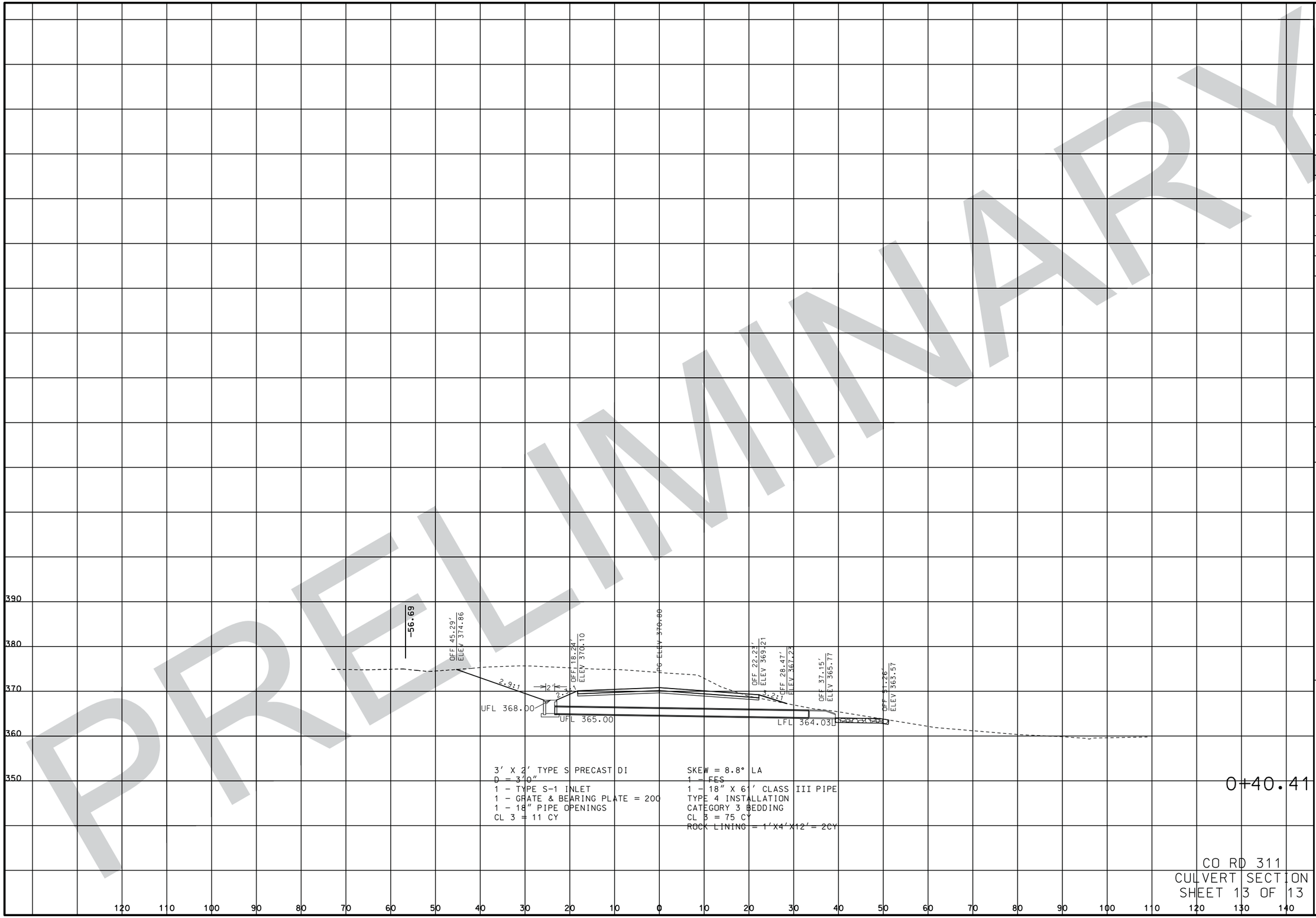
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

REV.



3' X 2' TYPE S PRECAST DI
D = 3'0"
1 - TYPE S-1 INLET
1 - GRATE & BEARING PLATE = 200
1 - 18" PIPE OPENINGS
CL 3 = 11 CY

SKEW = 8.8° LA
1 - FES
1 - 18" X 61' CLASS III PIPE
TYPE 4 INSTALLATION
CATEGORY 3 BEDDING
CL 3 = 75 CY
ROCK LINING = 1'X4'X12' = 2CY

0+40.41

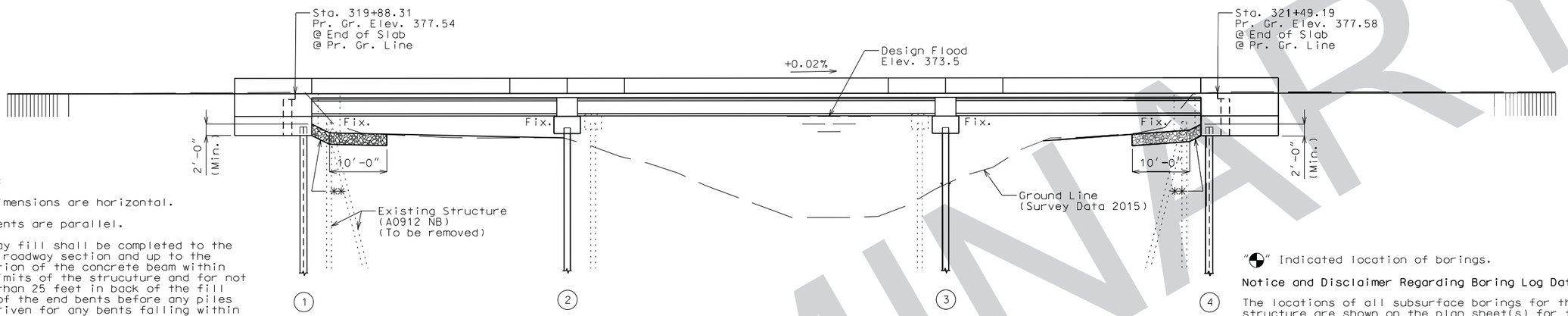
CO RD 311
CULVERT SECTION
SHEET 13 OF 13

SEC/SUR 17 TWP 29N RGE 14E

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

(46′-66′-46′) PRESTRESSED CONCRETE NU-GIRDER SPANS

✳✳ 2:1 (H:V) Slope (Normal)
2′-0″ Thick Type 2 Rock
Blanket with Permanent
Erosion Control Geotextile (Roadway Item)



GENERAL ELEVATION

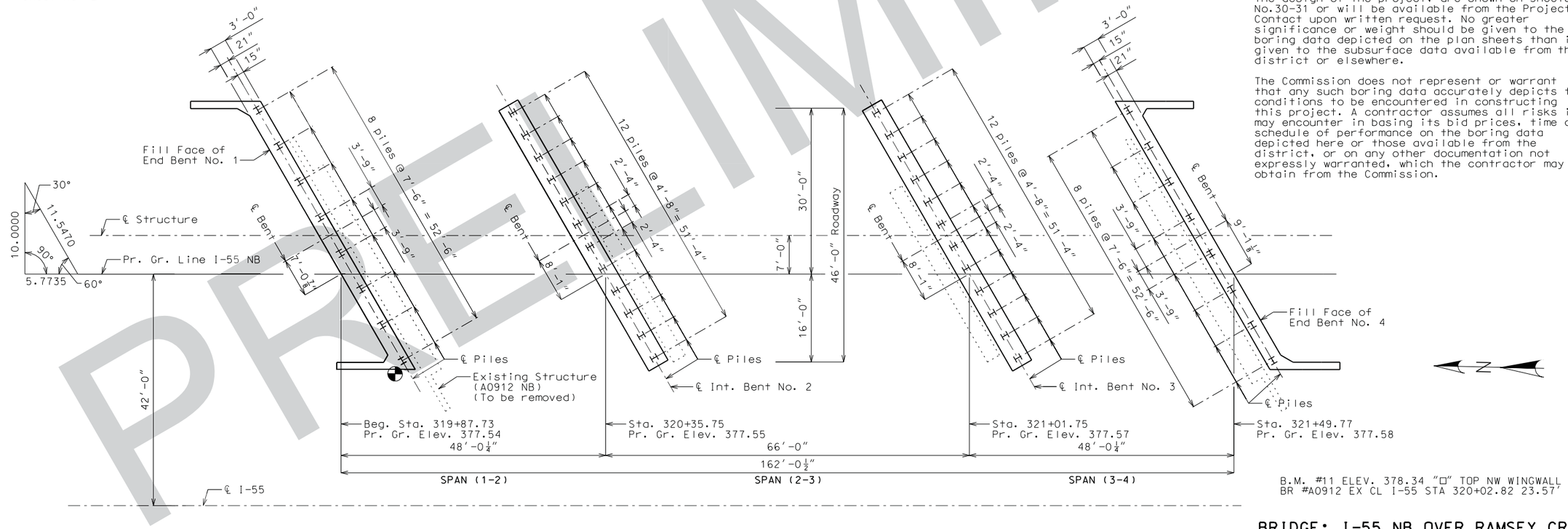
Notes:

All dimensions are horizontal.

All bents are parallel.

Roadway fill shall be completed to the final roadway section and up to the elevation of the concrete beam within the limits of the strucuture and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

For General Notes, Estimated Quantities, Foundation Data and Location Sketch, see Sheet No. 2.



PLAN

"◒" Indicated location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No.30-31 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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

B.M. #11 ELEV. 378.34 "□" TOP NW WINGWALL
BR #A0912 EX CL I-55 STA 320+02.82 23.57′ LT

BRIDGE: I-55 NB OVER RAMSEY CREEK

I-55 NB FROM ROUTE M TO ROUTE E

ABOUT 2.5 MILES SOUTH OF ROUTE M

STATION 319+87.73

STD. 609.00
STD. 617.10
STD. 706.35

Designed Aug 2016
Detailed Sept 2016
Checked Sept 2016

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

Sheet No. 1 of 31

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	1

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.: .

PROJECT NO.: .

BRIDGE NO.: A8433

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

DESCRIPTION	DATE

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

G:\13427\Micro\Bridge\Final\A8433\B_A8433_001_J0I0956_General_Plan_&_Elevation.dgn 12:21:10 PM 11/22/2016

General Notes:

Design Specifications:
2012 AASHTO LRFD Bridge Design Specifications (6th Ed.) and 2013 Interim Revisions.
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Design and Details).
Seismic Design Category = D
Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{D1} = 0.565.

Acceleration coefficent (effective peak ground acceleration coefficient), A_S = 0.675.

Design Loading:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply Supported, Non-Composite for dead load.
Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-1 Concrete (Safety Barrier Curb)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure except Prestressed Girders and Safety Barrier Curb)	f'c = 4,000 psi
Reinforcing Steel (Grade 60)	fy = 60,000 psi
Structural Carbon Steel (ASTM A709 Grade 36)	fy = 36,000 psi
Steel Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For Precast Prestressed Panel Stresses, See Sheet No. 17.
For Prestressed Girder Stresses, See Sheets No. 12-15.

Neoprene Pads:
Plain Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

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

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1½", unless otherwise shown.

Traffic Handling:
Structure to be closed during construction. See roadway plans for traffic control.

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

☐ Constant Joint Filler

☐ Variable Joint Filler

Estimated Quantities

	Item		Substr.	Superstr.	Total
	Class 1 Excavation	cu. yard	120		120
	Removal of Bridges (A0912 NB)	lump sum			1
	Bridge Approach Slab (Major Road)	sq. yard		209	209
	Galvanized Structural Steel Piles (14 in.)	linear foot	2,892		2,892
	Pile Wave Analysis	each	4		4
	Pile Point Reinforcement	each	40		40
	Class B Concrete (Substructure)	cu. yard	101.0		101.0
*	Safety Barrier Curb	linear foot		364	364
	Slab On Concrete NU-Girder	sq. yard		870	870
	NU 35, Prestressed Concrete NU-Girder	linear foot		787	787
	Reinforcing Steel (Bridges)	pound	9,000		9,000
	Fabricated Structural Carbon Steel (Misc.)	pound	1,090		1,090
	Slab Drain	each		22	22
	Vertical Drain At End Bents	each			2
	Plain Neoprene Bearing Pad	each		30	30

* Safety barrier curb shall be cast-in-place option or slip-form option.

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

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

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Steel sway bracing to be galvanized per ASTM A123. The cost of furnishing and installing galvanized steel sway bracing on piles at Intermediate Bent No. 3 will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Misc.).

Channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) to be galvanized per ASTM A123. Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) galvanized and in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

Foundation Data

Bent No.			1	2	3	4
Load Bearing Pile	Pile Type & Size		HP14x73	HP14x73	HP14x73	HP14x73
	Number	each	8	12	12	8
	Approximate Length per each	foot	69	72	73	75
	Pile Driving Verification Method		WEAP	WEAP	WEAP	WEAP
	Minimum Nominal Axial Compressive Resistance	kip	309	353	353	309
	Hammer Energy Required	ft-lb	17,370	19,860	19,860	17,370

Manufactured pile point reinforcement shall be used on all piles in this structure.

WEAP = Wave Equation Analysis of Piles.

Load Bearing Pile: Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor.

HYDROLOGIC DATA

Drainage Area = 12 (sq. mi.)
Design Flood Frequency = 100 (year)
Design Flood Discharge = 6,800 (cfs)
Design Flood (D.F.) Elev. = 373.5
Estimated Backwater = 3.2 (ft)
Average Velocity thru Opening = 7.2 (ft/sec)
Freeboard (50-year)
Freeboard = 0.4 (ft)
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency > 500 (year)
500 YR Flood Elevation = 374.9

Estimated Quantities for Slab on Concrete NU-Girder

Item		Total
Class B-2 Concrete	cu. yard	264.5
Reinforcing Steel	pound	19,010
Reinforcing Steel (Epoxy Coated)	pound	46,210

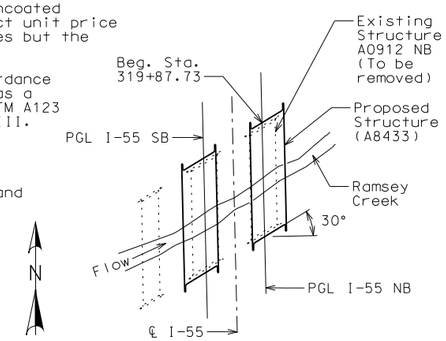
The Table of Estimated Quantities for Slab On Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and coated and uncoated 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 adjustment in the contract unit price.

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

The Estimated Quantities for Slab on Concrete NU-Girder are based on skewed precast prestressed end panels.

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

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



LOCATION SKETCH

Detailed Sept 2016
Checked Sept 2016

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

GENERAL NOTES AND QUANTITIES

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

REV.	DESCRIPTION	DATE
	. . . . .	. . . . .

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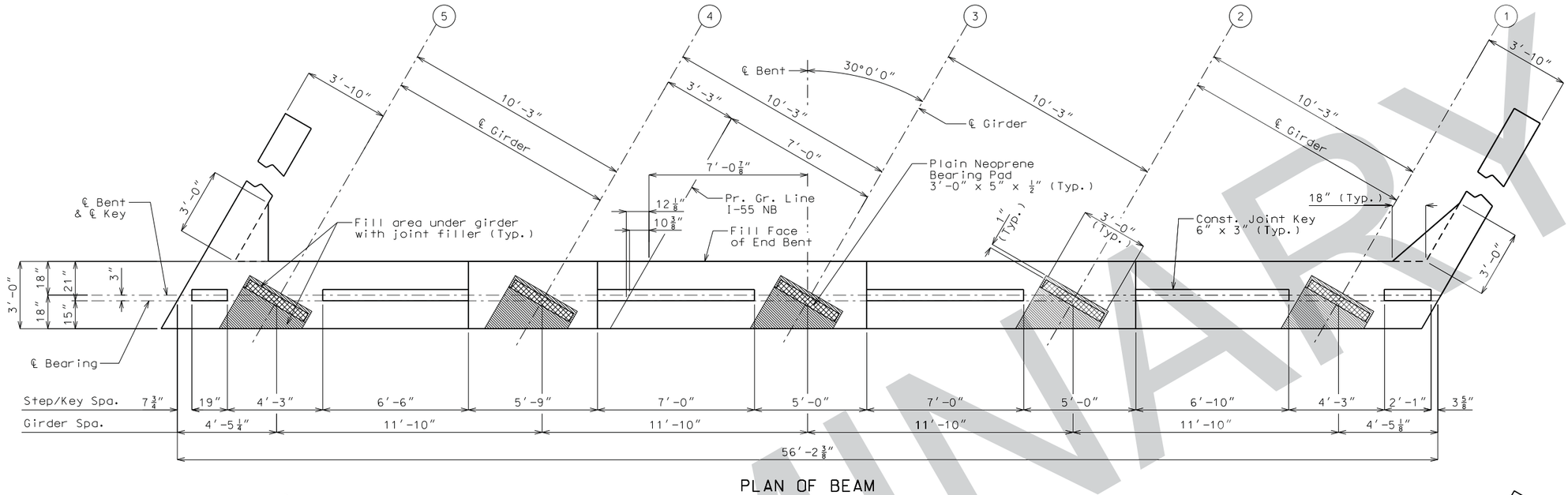
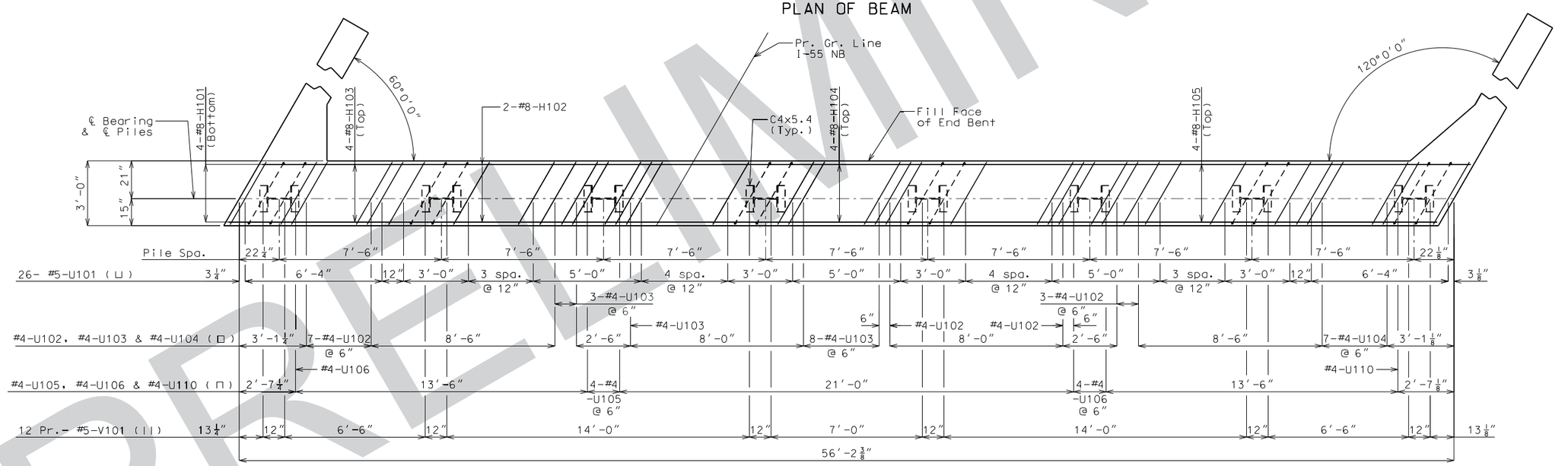
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

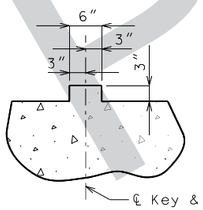


PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT

(Note: Steps and keys not shown for clarity)



SECTION THRU KEY

Notes:

For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.

For details of Vertical Drain at End Bents, see Sheet No. 6.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1½″.

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

For reinforcement of Safety Barrier Curb, see Sheets No. 22 thru 24.

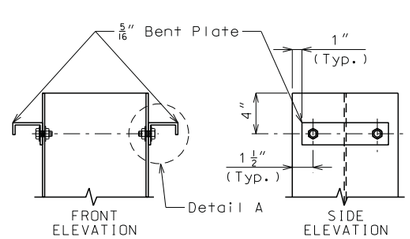
The U-bars, Pairs-V bars, & #5-H125 shall be placed parallel to Pr. Gr. Line I-55 NB.

For Substructure Quantity Table, see Sheet No. 5.

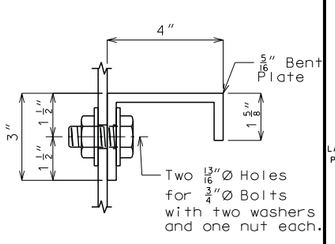
DETAILS OF END BENT NO. 1

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

Sheet No. 3 of 31



DETAILS OF PILE ANCHORS



DETAIL A

Detailed Sept 2016
Checked Sept 2016

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	3

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.: .

PROJECT NO.: .

BRIDGE NO.: A8433

DATE	DESCRIPTION
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PE-2009032976

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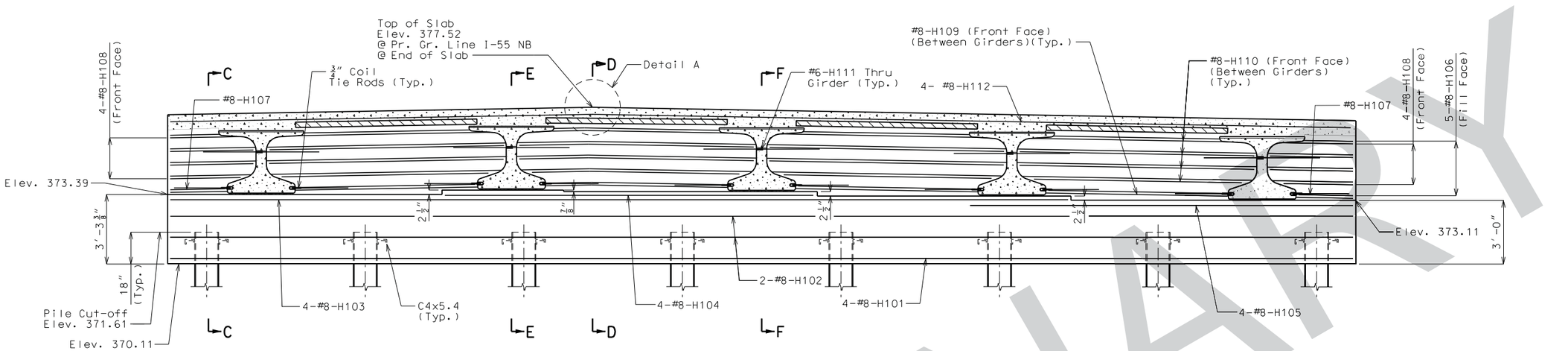

PLAN

Notes:
For details of End Bent No.1 not shown, see Sheets No. 3 & 5.

For Elevations A-A, B-B & Sections C-C, D-D, E-E & F-F, see Sheet No. 5.

For Detail A, see Sheet No. 5.

For locations of strand tie bars and coil tie rods, see Sheets No. 12 & 13.

All U-bars, pairs of V-bars and #5-H125 bars shall be placed parallel to Pr. Gr. Line I-55 NB.

Strands at the end of the girders shall be field bent or, if necessary, cut in field to maintain 1½" minimum clearance to fill face of end bent.

DETAILS OF END BENT NO. 1

Detailed Sept 2016
Checked Sept 2016

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

Sheet No. 4 of 31

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
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DATE PREPARED
11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	4

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.
.

PROJECT NO.
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BRIDGE NO.
A8433

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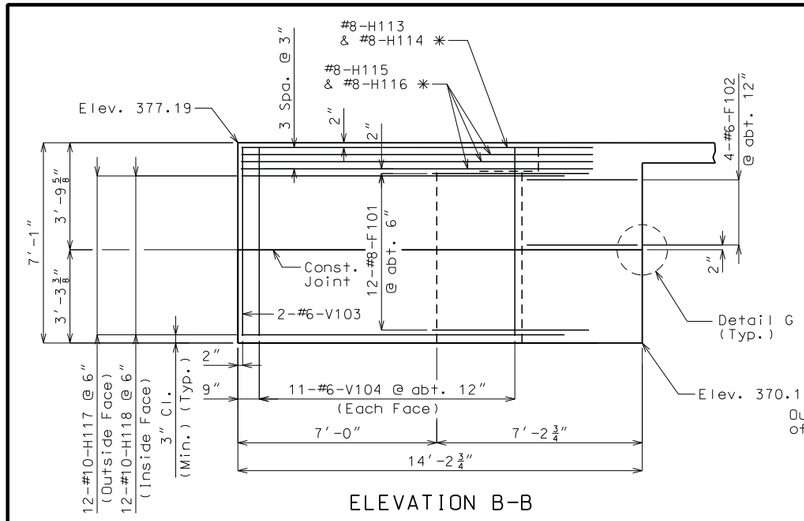
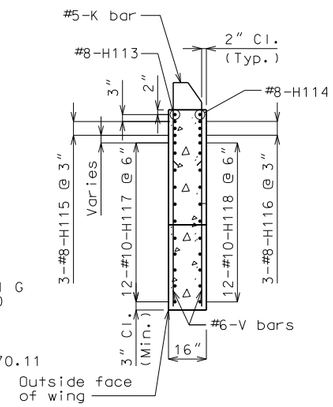
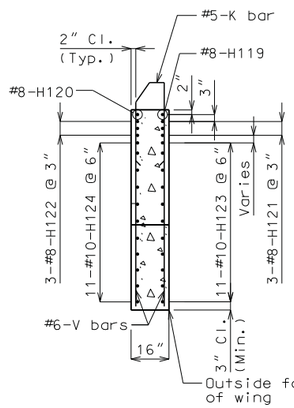


ELEVATION B-B

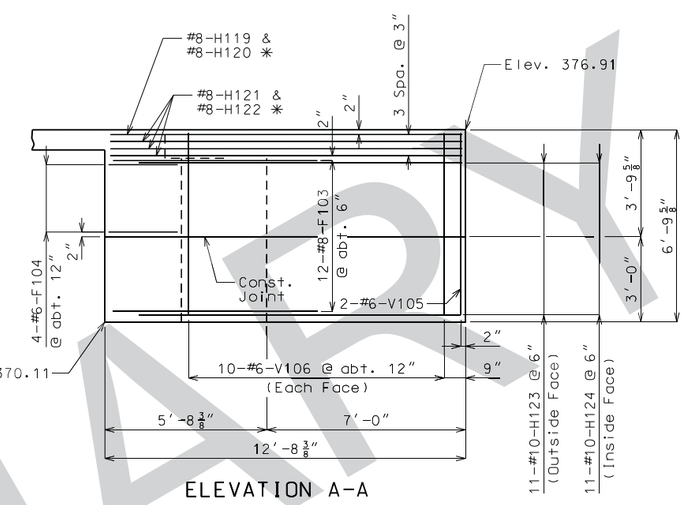


SECTION THRU
WING B-B

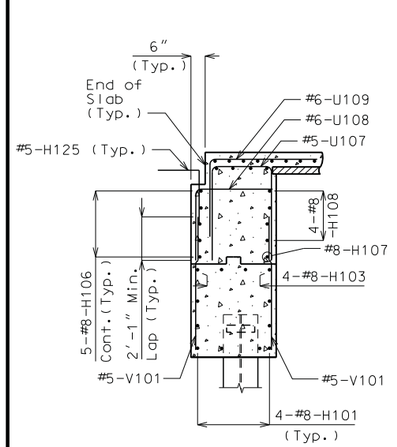


SECTION THRU
WING A-A

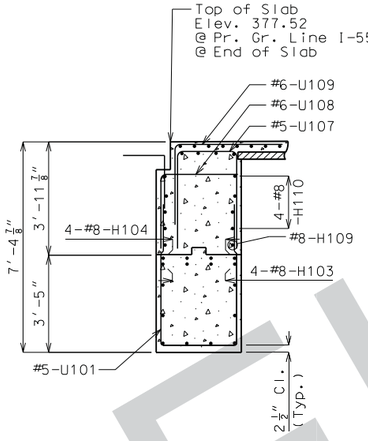
✳ Place with grade.



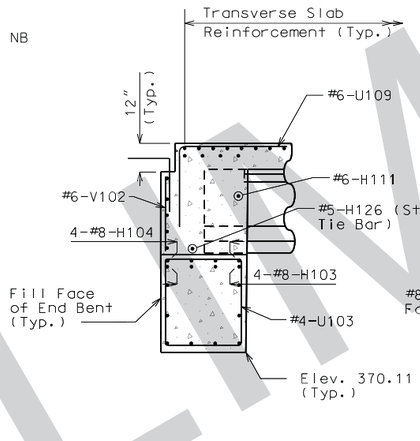
ELEVATION A-A



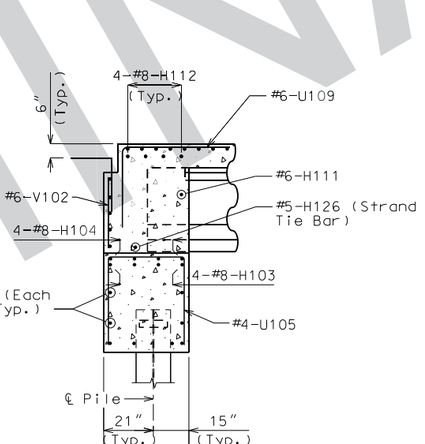
SECTION C-C



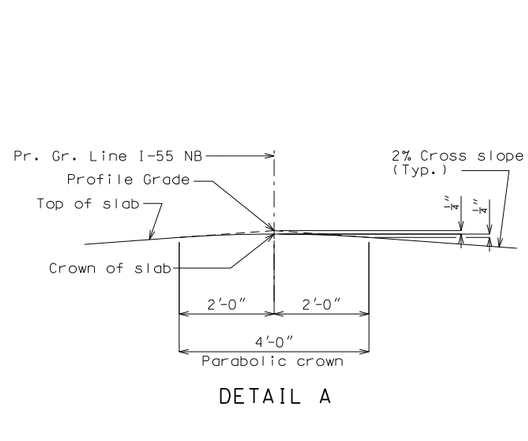
SECTION D-D



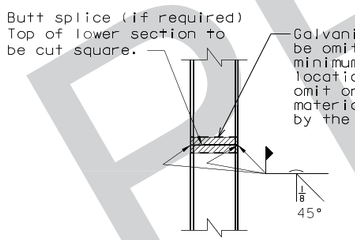
SECTION F-F



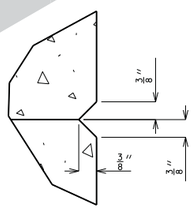
SECTION E-E



DETAIL A



DETAIL OF STEEL PILE SPLICE



DETAIL G

Notes:

For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.

For location of Elevations A-A & B-B, see Sheet No. 4.

For location of Sections C-C, D-D, E-E & F-F, see Sheet No. 4.

For location of Detail A, see Sheet No. 4.

For reinforcement of safety barrier curb, see Sheets No. 22 thru 24.

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class I Excavation	cu. yard	60
Galvanized Structural Steel Piles (14 in.)	linear foot	552
Pile Wave Analysis	each	1
Pile Point Reinforcement	each	8
Class B Concrete (Substructure)	cu. yard	24.0

Note:
These quantities are included in the Estimated Quantities shown on Sheet No. 2.

Channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) to be galvanized per ASTM A123. Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) galvanized and in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

DETAILS OF END BENT NO. 1

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 5
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

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DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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LANDSCAPE ARCHITECT 000025
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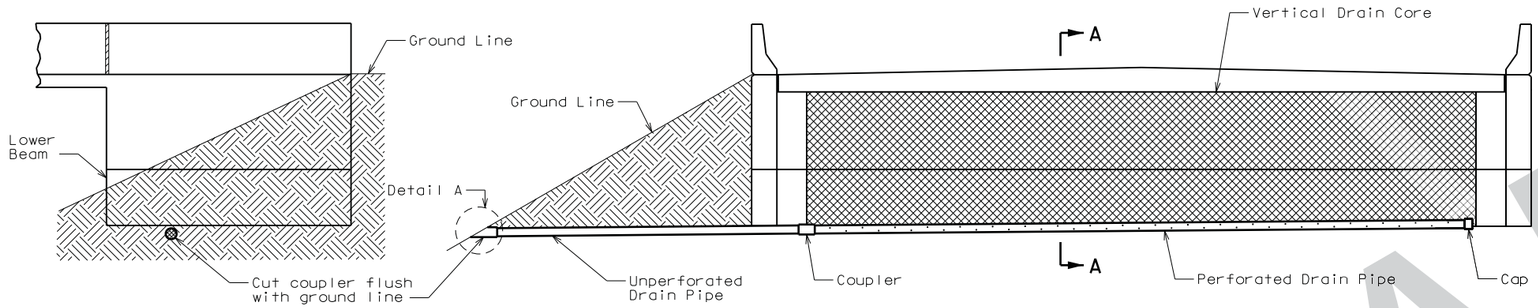
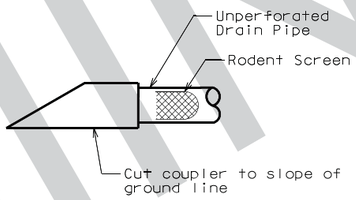
HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

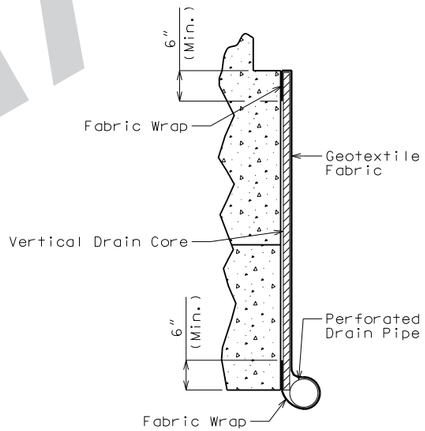


ELEVATION OF WING

ELEVATION AT END BENT



DETAIL A



PART SECTION A-A

Note:

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.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1 1/2 inches. (See Elevation at End Bent.)

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

VERTICAL DRAIN AT END BENTS

Detailed Sept 2016
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Note: This drawing is not to scale. Follow dimensions.

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HOLLY A. LEHMKUHL
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ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DESCRIPTION	DATE
.	.

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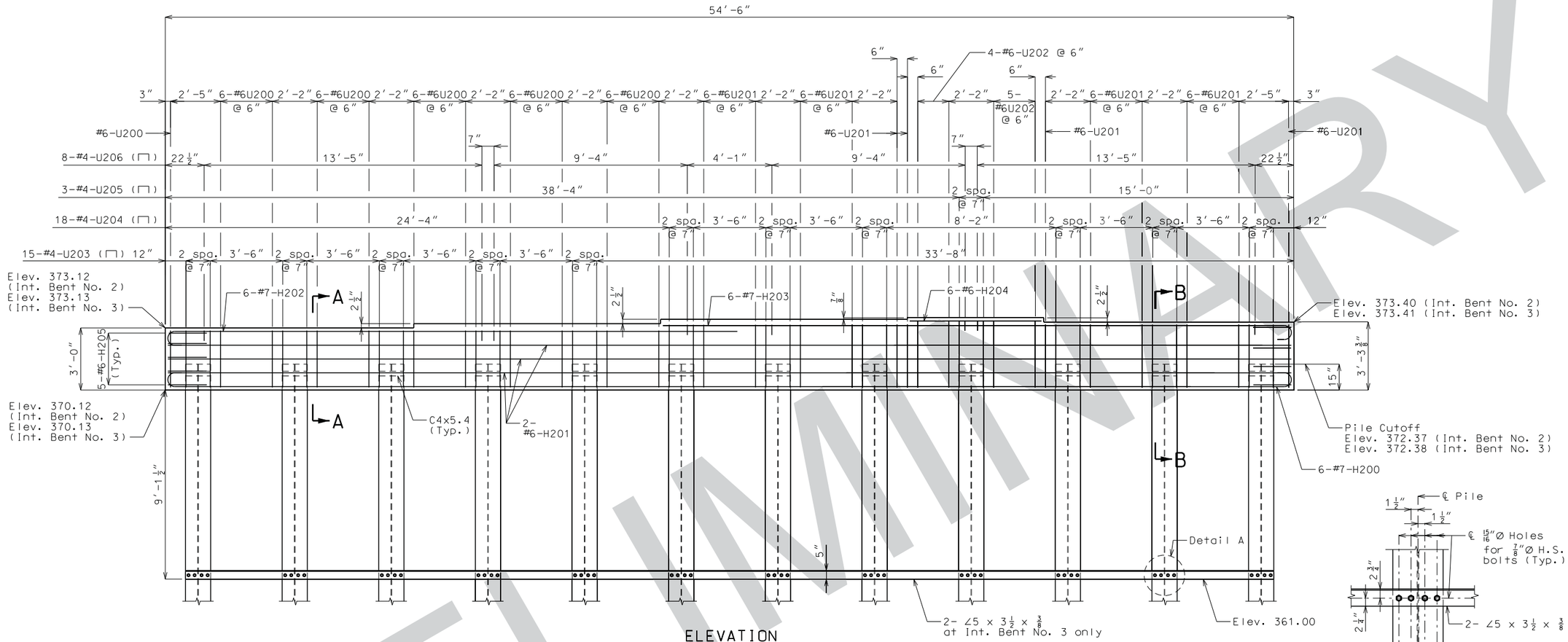
PROFESSIONAL ENGINEER
PE-2009032976

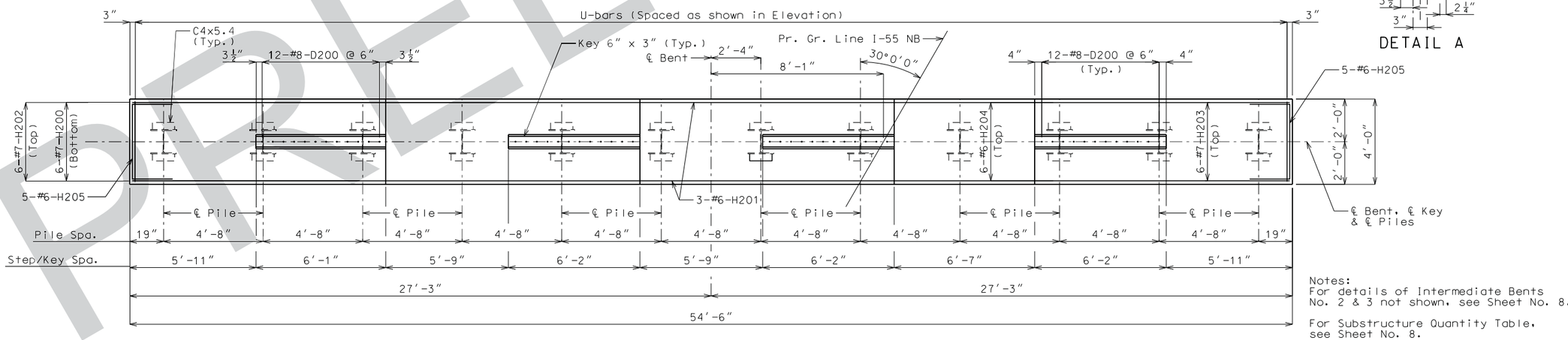
REV.



ELEVATION

(Note: Keys not shown for clarity.)

DETAIL A



PLAN OF BEAM SHOWING REINFORCING

Notes:
For details of Intermediate Bents No. 2 & 3 not shown, see Sheet No. 8.

For Substructure Quantity Table, see Sheet No. 8.

Install sway bracing for Intermediate Bent No. 3 only. Sway bracing shall be galvanized per ASTM A123.

For details of pile anchors, see Sheet No. 8.

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
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DATE PREPARED
11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	7

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.
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PROJECT NO.
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BRIDGE NO.
A8433

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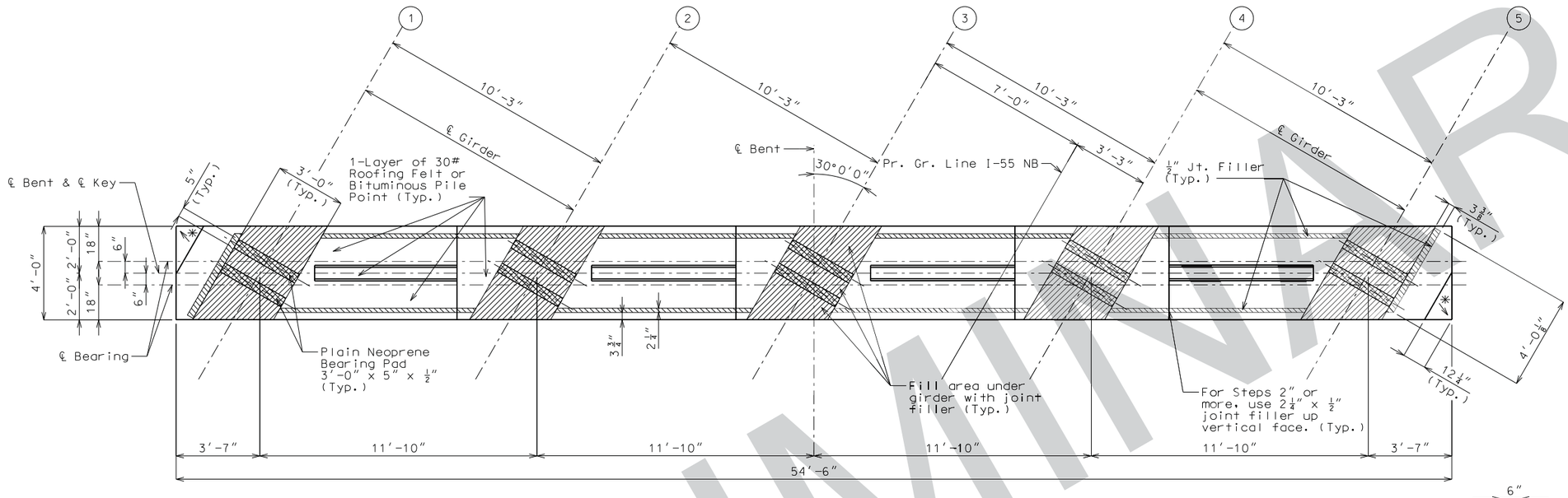
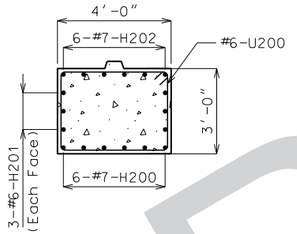
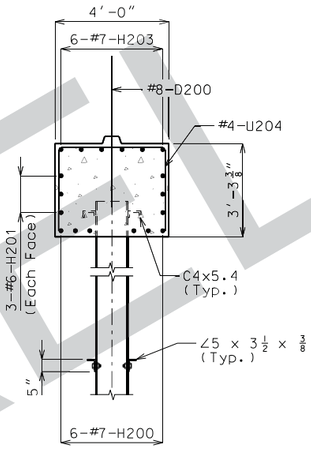


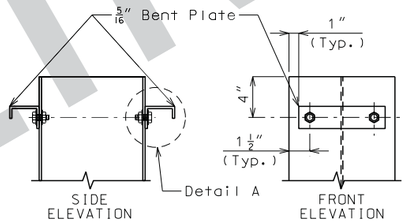
PLAN OF BEAM



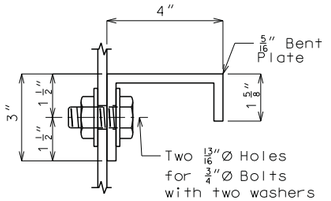
SECTION A-A



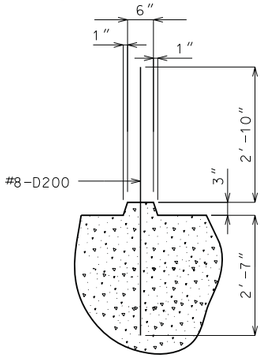
SECTION B-B



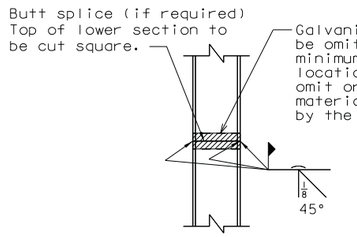
DETAILS OF PILE ANCHORS



DETAIL A



DETAIL OF KEY



DETAIL OF STEEL PILE SPLICE

Substructure Quantity Table for Int. Bents			
Item		Quantity	
		No. 2	No. 3
Galvanized Structural Steel Piles (14 in.)	lin. ft.	864	876
Pile Wave Analysis	each	1	1
Pile Point Reinforcement	each	12	12
Class B Concrete (Substructure)	cu. yard	26.5	26.5
Reinforcing Steel (Bridges)	pound	4,500	4,500
Fabricated Structural Carbon Steel (Misc.)	pound	0	1,090

Note:
These quantities are included in the Estimated Quantities Table on Sheet No. 2.

Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

Notes:

For details of Intermediate Bents No. 2 & 3 not shown, see Sheet No. 7.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1½".

Cost of Protective Coating - Concrete Bents and Piers (Epoxy) will be considered completely covered by the contract unit price for Class B Concrete (Substructure).

Detailed Sept 2016
Checked Sept 2016

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

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HOLLY A. LEHMKUHL
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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	8

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

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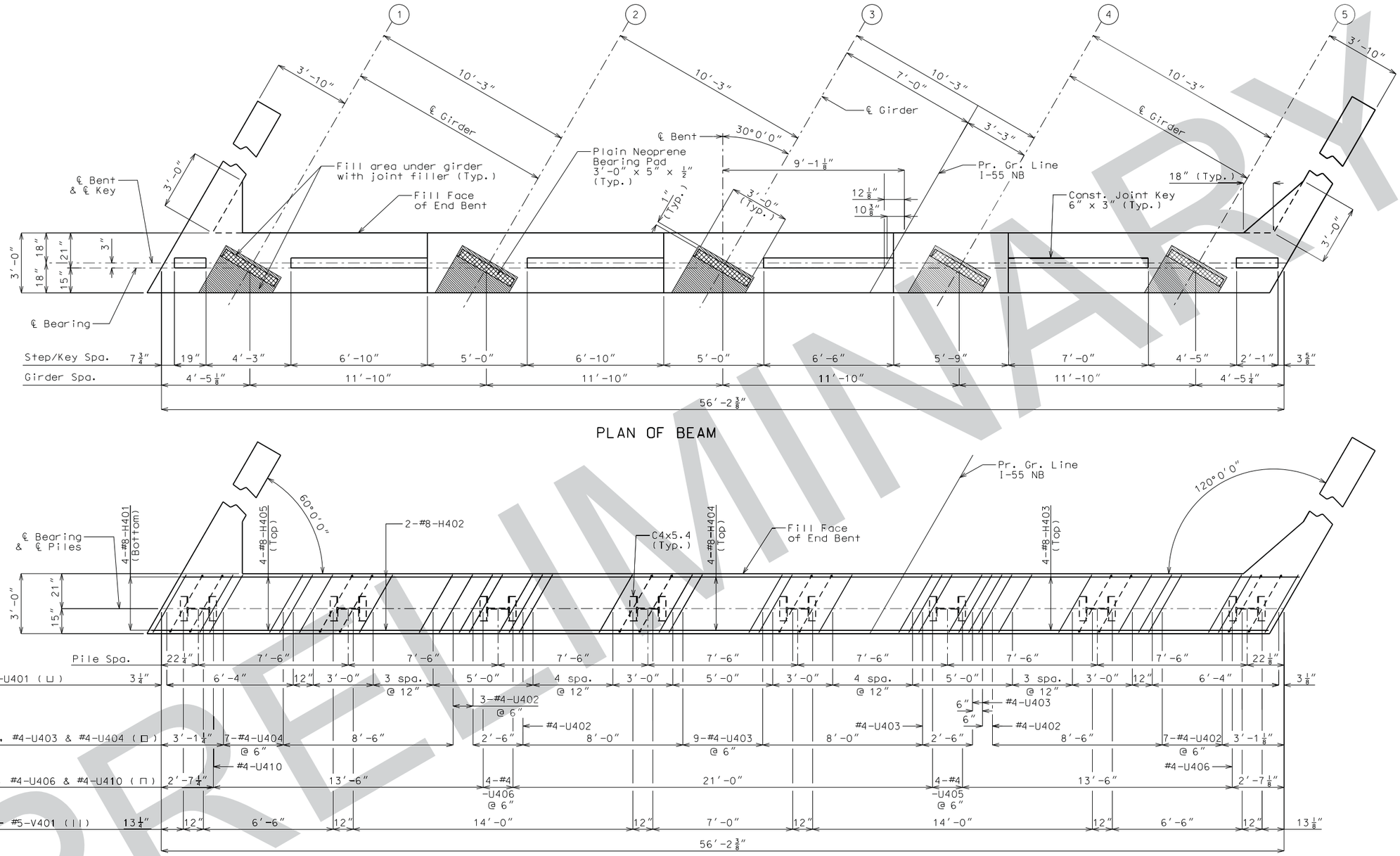
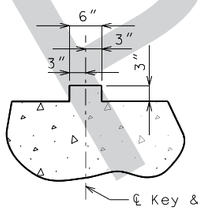


PLAN OF BEAM

PLAN OF BEAM SHOWING REINFORCEMENT

(Note: Steps and keys not shown for clarity)



SECTION THRU KEY

Notes:

For details of End Bent No. 4 not shown, see Sheets No. 10 & 11.

For details of Vertical Drain at End Bents, see Sheet No. 6.

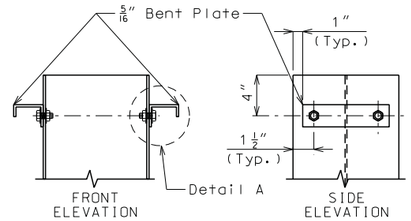
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1½".

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

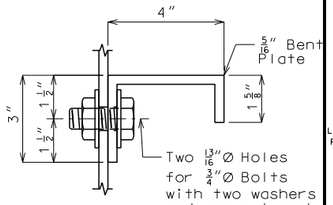
For reinforcement of Safety Barrier Curb, see Sheets No. 22 thru 24.

The U-bars, Pairs-V bars, & #5-H425 shall be placed parallel to Pr. Gr. Line I-55 NB.

For Substructure Quantity Table, see Sheet No. 11.



DETAILS OF PILE ANCHORS



DETAIL A

DETAILS OF END BENT NO. 4

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

Sheet No. 9 of 31

Detailed Sept 2016
Checked Sept 2016

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NUMBER PE-2009032976
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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	9

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8433

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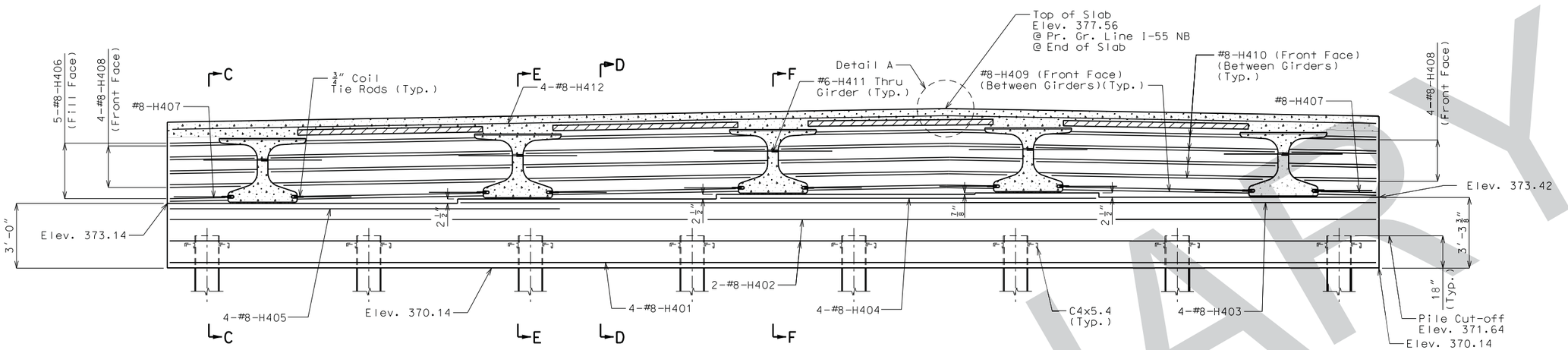
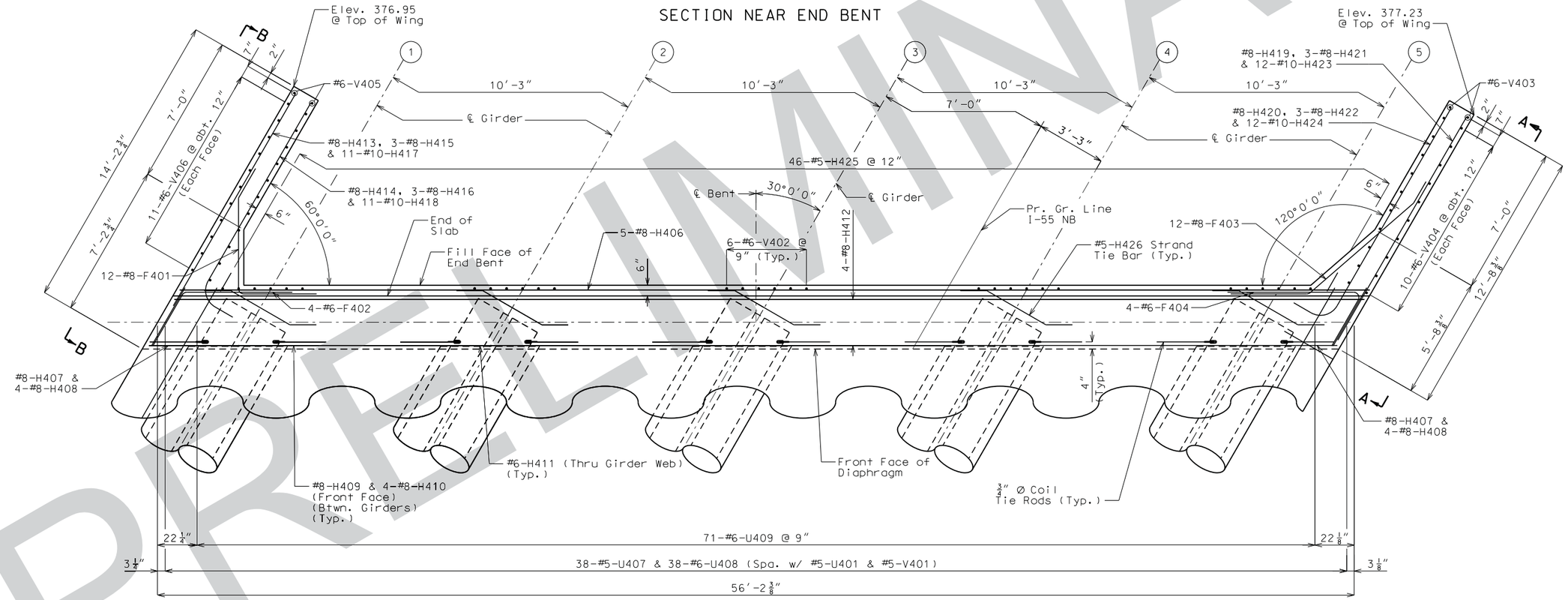


SECTION NEAR END BENT



PLAN

Notes:
For details of End Bent No.4 not shown, see Sheets No. 9 & 11.

For Elevations A-A, B-B & Sections C-C, D-D, E-E & F-F, see Sheet No. 11.

For Detail A, see Sheet No. 11.

For locations of strand tie bars and coil tie rods, see Sheets No. 12 & 13.

All U-bars, pairs of V-bars and #5-H425 bars shall be placed parallel to Pr. Gr. Line I-55 NB.

Strands at the end of the girders shall be field bent or, if necessary, cut in field to maintain 1½" minimum clearance to fill face of end bent.

DETAILS OF END BENT NO. 4

Detailed Sept 2016
Checked Sept 2016

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

Sheet No. 10 of 31

STATE OF MISSOURI
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DISTRICT	SHEET NO.
BR	10

COUNTY
SCOTT

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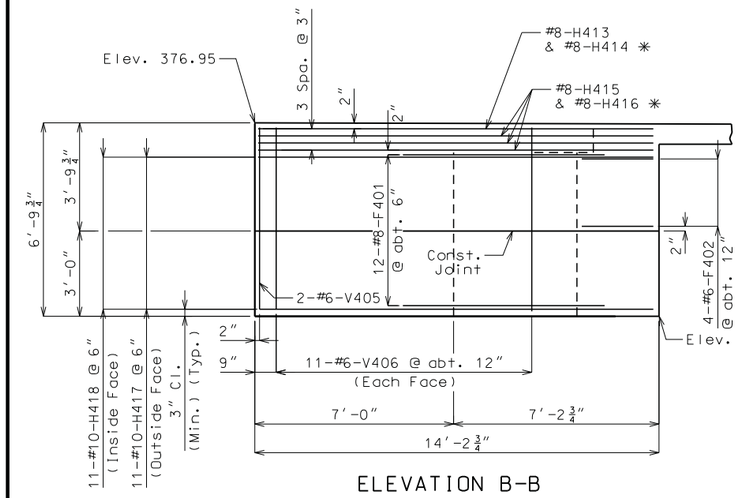
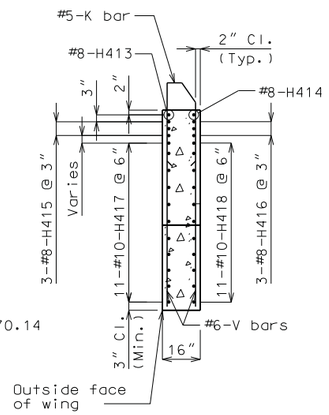
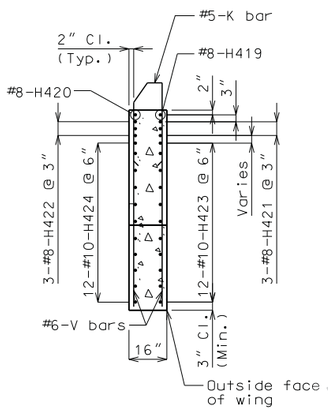


ELEVATION B-B

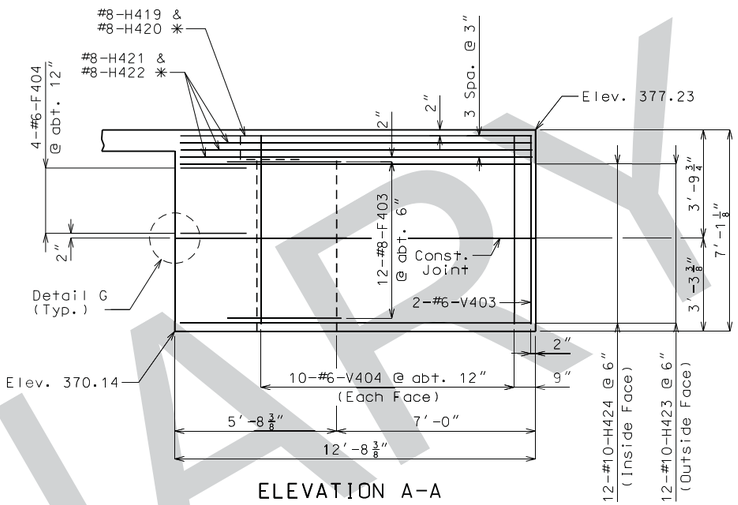


SECTION THRU WING B-B

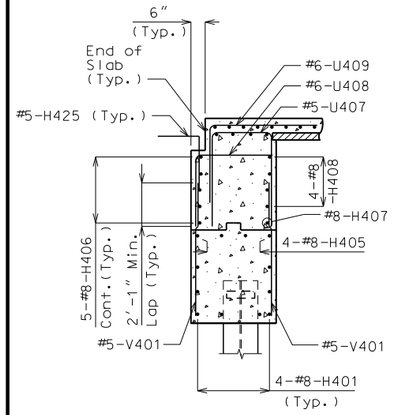


SECTION THRU WING A-A

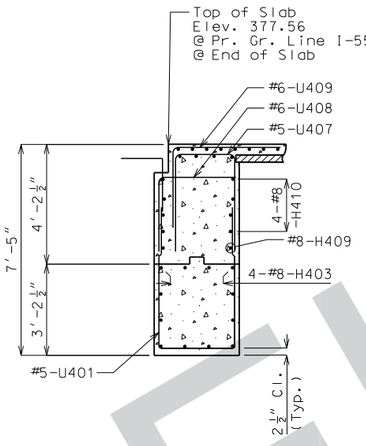
* Place with grade.



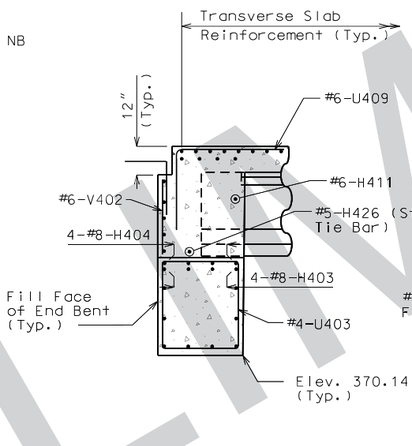
ELEVATION A-A



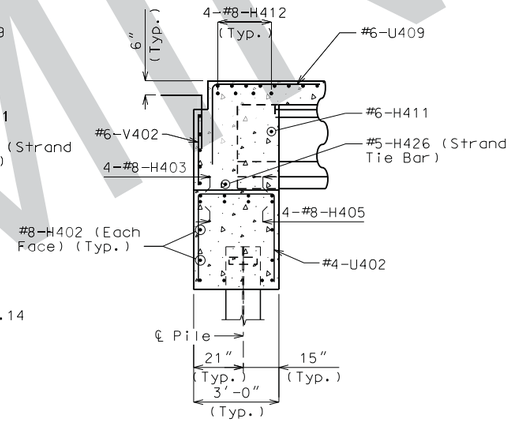
SECTION C-C



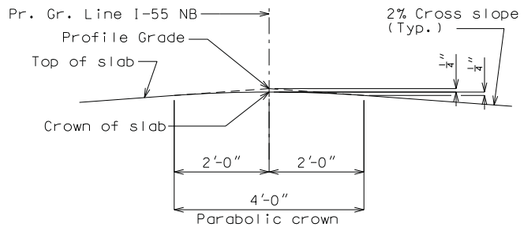
SECTION D-D



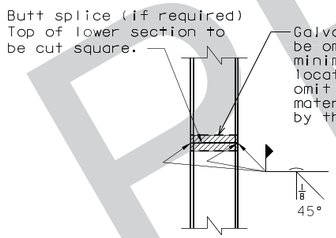
SECTION F-F



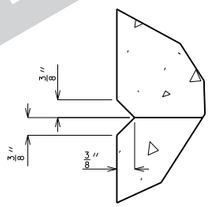
SECTION E-E



DETAIL A



DETAIL OF STEEL PILE SPLICE



DETAIL G

Notes:

For details of End Bent No. 4 not shown, see Sheets No. 9 & 10.

For location of Elevations A-A & B-B, see Sheet No. 10.

For location of Sections C-C, D-D, E-E & F-F, see Sheet No. 10.

For location of Detail A, see Sheet No. 10.

For reinforcement of safety barrier curb, see Sheets No. 22 thru 24.

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class I Excavation	cu. yard	60
Galvanized Structural Steel Piles (14 in.)	linear foot	600
Pile Wave Analysis	each	1
Pile Point Reinforcement	each	8
Class B Concrete (Substructure)	cu. yard	24.0

Note:
These quantities are included in the Estimated Quantities shown on Sheet No. 2.

Channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) to be galvanized per ASTM A123. Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) galvanized and in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

DETAILS OF END BENT NO. 4

Detailed Sept 2016
Checked Sept 2016

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

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
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DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 11
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DESCRIPTION | DATE | REV.

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

(+) indicates prestressing strand.

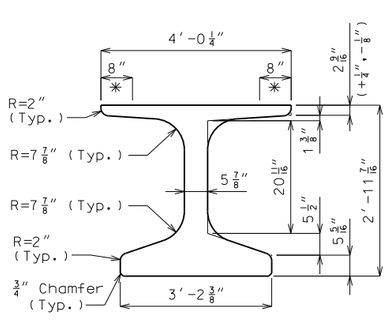
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

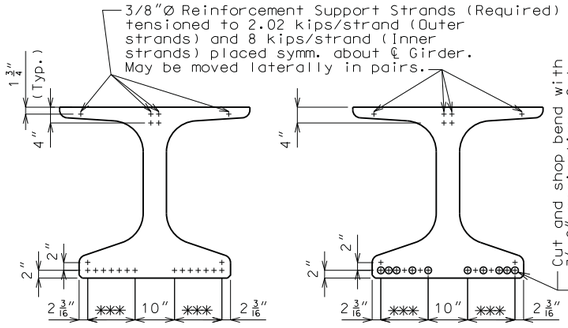
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

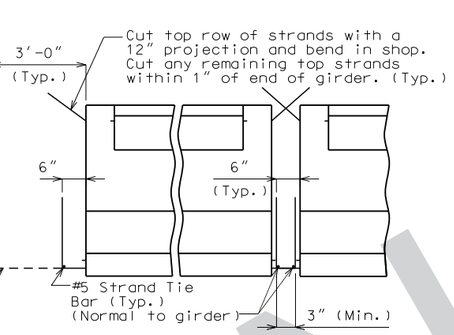


DIMENSIONS



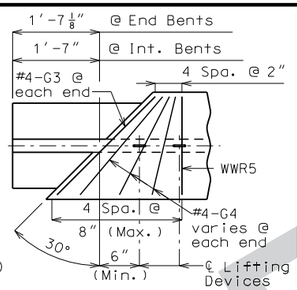
✳✳✳ 6 Spa. @ 2" ℄ GIRDER END OF GIRDER

STRAND ARRANGEMENTS



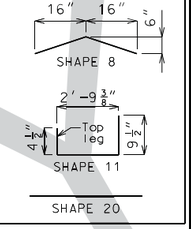
END BENT INTERMEDIATE BENT

STRAND DETAILS AT GIRDER ENDS



TOP FLANGE BLOCKOUT DETAIL

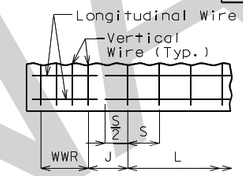
BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
68	3 G1	2'-10"	8	
16	6 G2	3'-9"	11	
2	4 G3	4'-5"	20	
6	4 G4	Varies	20	



WELDED WIRE REINFORCEMENT

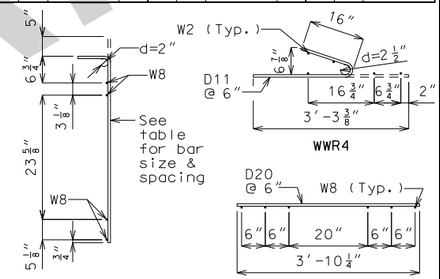
(WWR4 & WWR5 as shown in Welded Wire Bending Diagrams)

SPAN NO.	WWR1 BAR SIZE	WWR1 S1	WWR1 L1	WWR1 J1	WWR2 BAR SIZE	WWR2 S2	WWR2 L2	WWR2 J2	WWR3 BAR SIZE	WWR3 S3	WWR3 L3
1	5	3"	6'-3"	6"	5	6"	6'-6"	7¼"	5	12"	16'-0"
3	5	3"	6'-3"	6"	5	6"	6'-6"	7¼"	5	12"	16'-0"



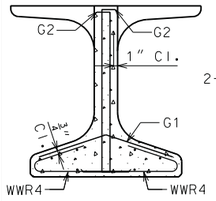
WELDED WIRE PLACEMENT DETAIL

S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats



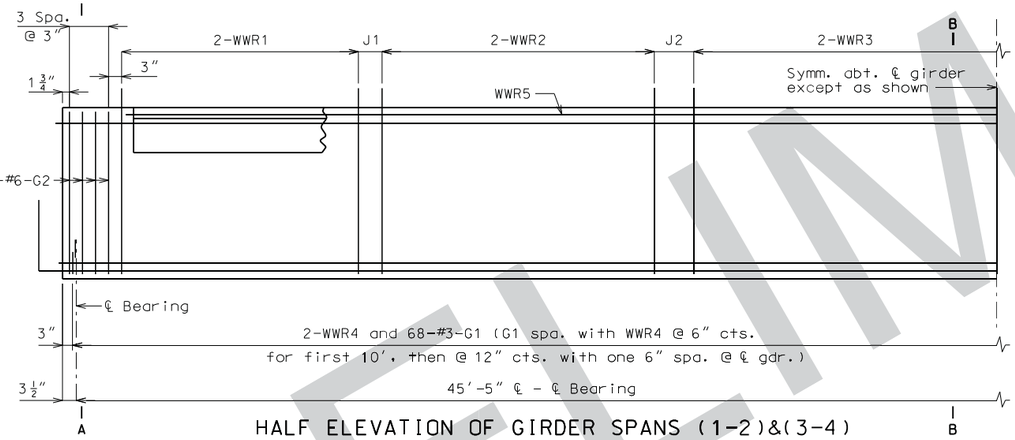
WWR1, WWR2 & WWR3 WWR5

WELDED WIRE BENDING DIAGRAMS



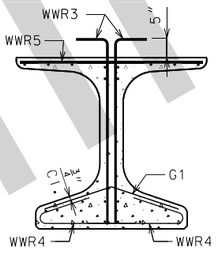
SECTION A-A

Strands not shown for clarity.



HALF ELEVATION OF GIRDER SPANS (1-2)&(3-4)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

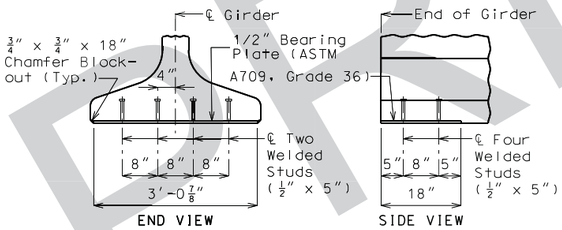
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheets No. 4, 10 & 16.

For Girder Camber Diagram, see Sheet No. 19.

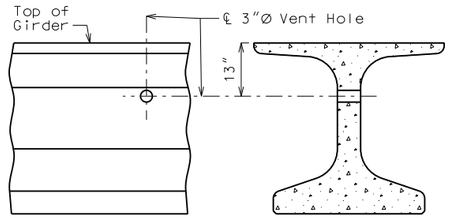
Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



BEARING PLATE DETAILS

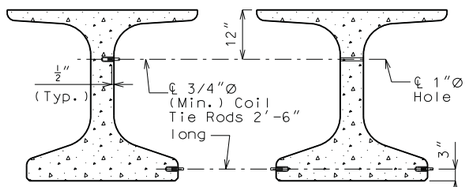
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE I-55 | STATE MO

DISTRICT BR | SHEET NO. 12

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8433

REV.	DESCRIPTION	DATE
.	.	.

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

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ARCHITECT 0021Z
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

Detailed Sept 2016
Checked Sept 2016

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

G:\13427\Micro\Bridge\Final\A8433\B_A8433_012_J0I0956_Span1&3Girders.dgn 12:21:17 PM 11/22/2016

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

(+) indicates prestressing strand.

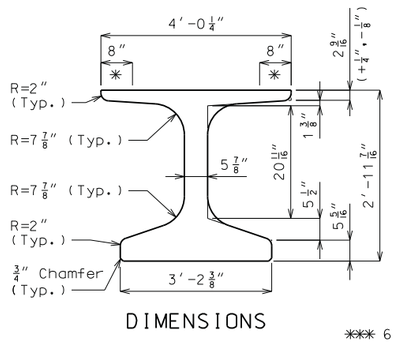
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

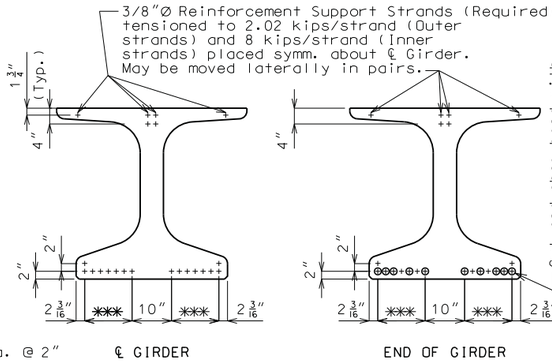
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



DIMENSIONS

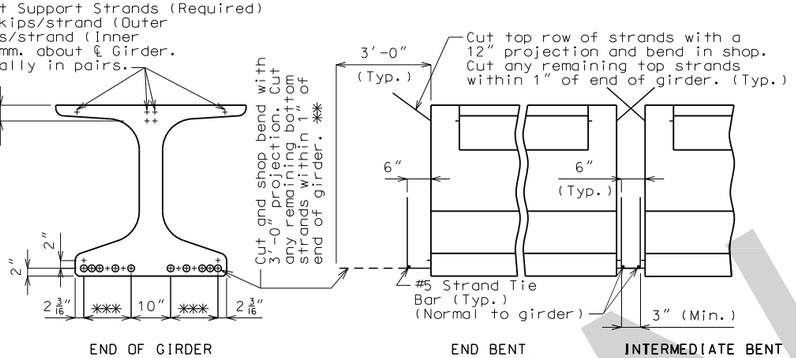


✳✳✳ 6 Spa. @ 2"

℄ GIRDER

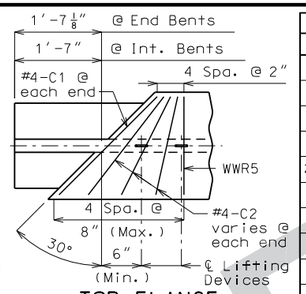
END OF GIRDER

STRAND ARRANGEMENTS



END BENT INTERMEDIATE BENT

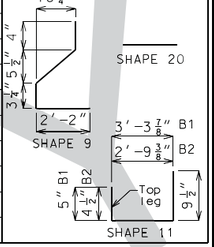
STRAND DETAILS AT GIRDER ENDS

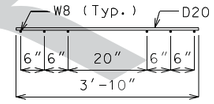


TOP FLANGE BLOCKOUT DETAIL

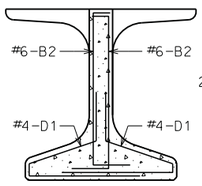
BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
194	5 B1	4'-4"	11	
16	6 B2	3'-8"	11	
2	4 C1	4'-5"	20	
6	4 C2	Varies	20	
210	4 D1	4'-0"	9	



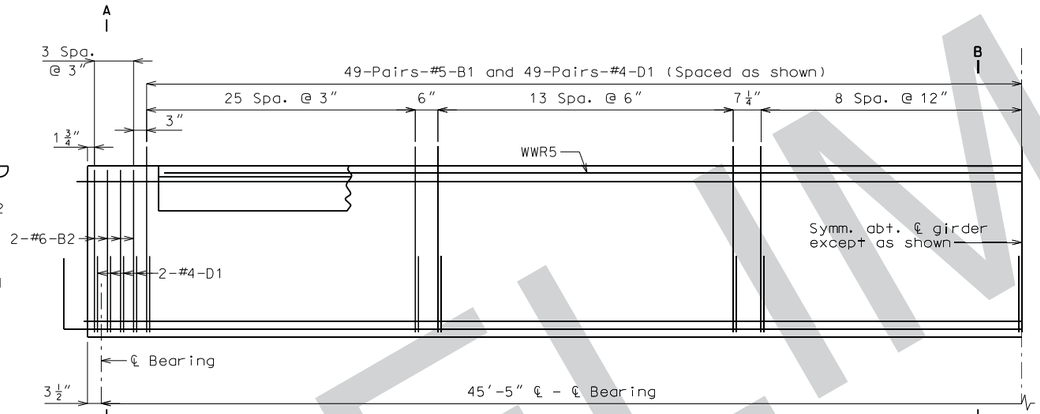


WELDED WIRE BENDING DIAGRAM



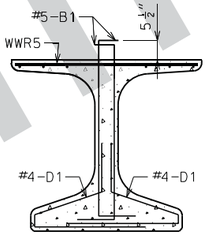
SECTION A-A

Strands not shown for clarity.



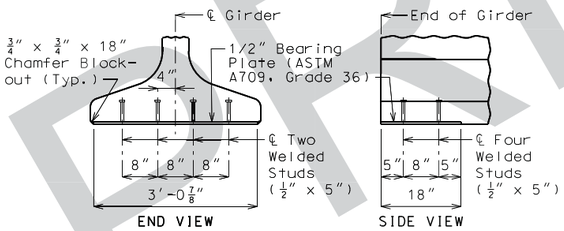
HALF ELEVATION OF GIRDER SPANS (1-2)&(3-4)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



SECTION B-B

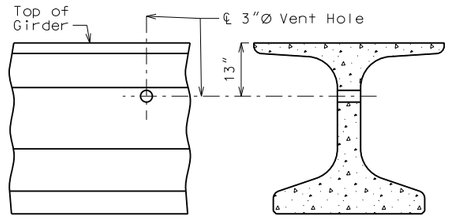
Strands not shown for clarity.



BEARING PLATE DETAILS

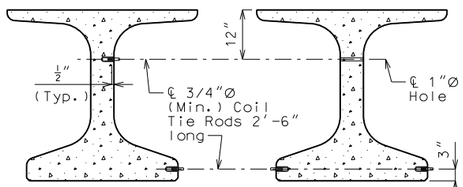
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

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

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheets No. 4, 10 & 16.

For Girder Camber Diagram, see Sheet No. 19.

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

ALTERNATE BAR REINFORCING STEEL DETAILS

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI HOLLY A. LEHMKUHL NUMBER PE-2009032976 PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE I-55 | STATE MO

DISTRICT BR | SHEET NO. 13

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8433

REV.	DESCRIPTION	DATE
	. . . . .	. . . . .

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LANDSCAPE ARCHITECT 000025
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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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

(+) indicates prestressing strand.

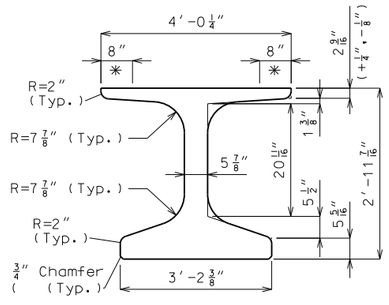
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

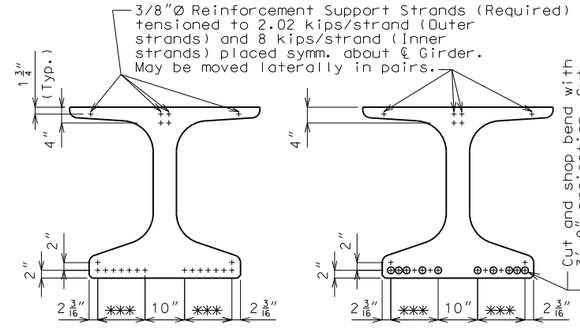
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

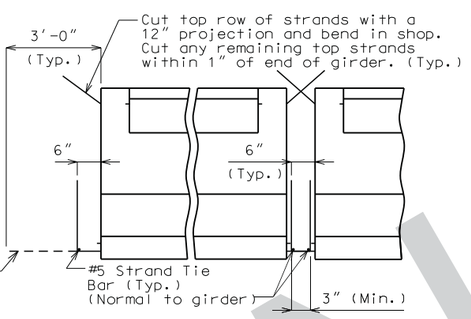


DIMENSIONS



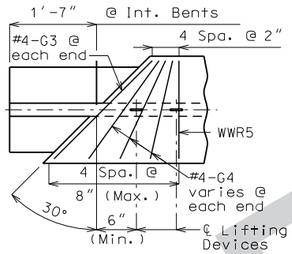
✳✳✳ 6 Spa. @ 2" ℄ GIRDER END OF GIRDER

STRAND ARRANGEMENTS



INTERMEDIATE BENT INTERMEDIATE BENT

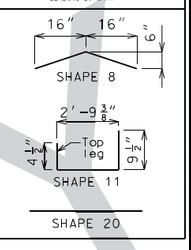
STRAND DETAILS AT GIRDER ENDS



TOP FLANGE BLOCKOUT DETAIL

BILL OF REINFORCING STEEL - EACH GIRDER

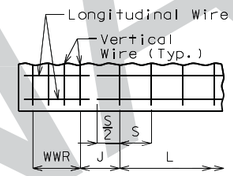
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
86	3 G1	2'-10"	8	
16	6 G2	3'-9"	11	
2	4 G3	4'-5"	20	
6	4 G4	Varies	20	



WELDED WIRE REINFORCEMENT

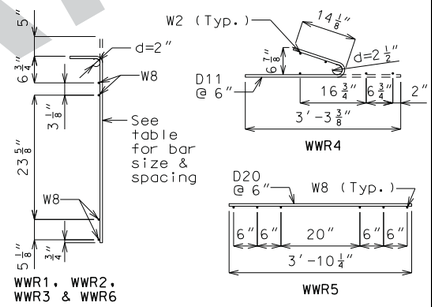
(WWR4 & WWR5 as shown in Welded Wire Bending Diagrams)

SPAN NO.	WWR1 BAR SIZE	S1	L1	J1	WWR2 BAR SIZE	S2	L2	J2	WWR3 BAR SIZE	S3	L3	J3	WWR6 BAR SIZE	S6	L6
2	5	3"	6'-3"	6"	5	6"	6'-0"	12"	5	12"	9'-0"	15¾"	5	18"	15'-0"

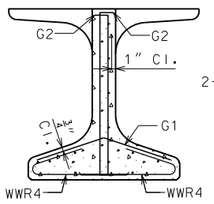


WELDED WIRE PLACEMENT DETAIL

S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats

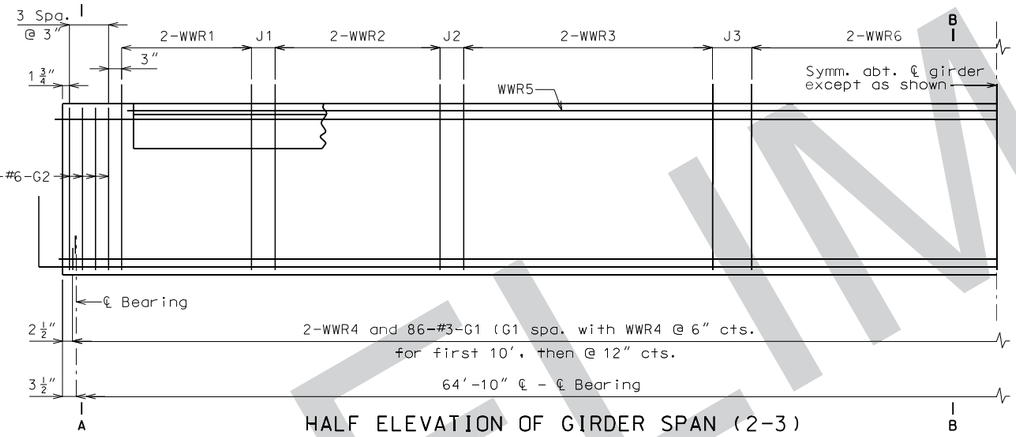


WELDED WIRE BENDING DIAGRAMS



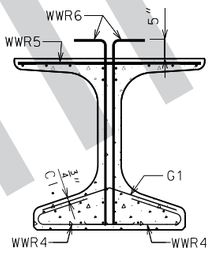
SECTION A-A

Strands not shown for clarity.



HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

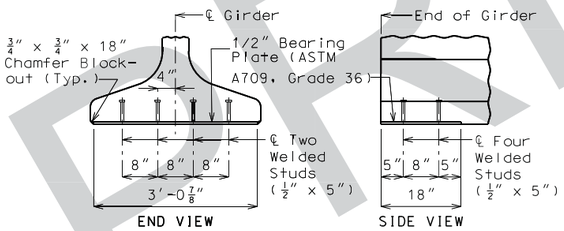
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheet No. 16.

For Girder Camber Diagram, see Sheet No. 19.

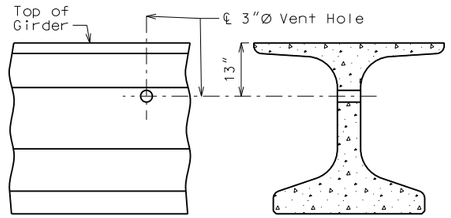
Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



BEARING PLATE DETAILS

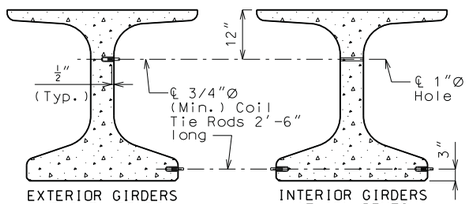
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

HOLLY A. LEHMKUHL NUMBER PE-2009032976 PROFESSIONAL ENGINEER STATE OF MISSOURI

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DATE PREPARED 11/22/2016

ROUTE I-55 | STATE MO

DISTRICT BR | SHEET NO. 14

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8433

REV.	DESCRIPTION	DATE

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

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LANDSCAPE ARCHITECT 000025
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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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Detailed Sept 2016
Checked Sept 2016

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

G:\13427\Micro\Bridge\Final\A8433\B_A8433_014_J0I0956_Span2Girders.dgn 12:21:19 PM 11/22/2016

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

(+) indicates prestressing strand.

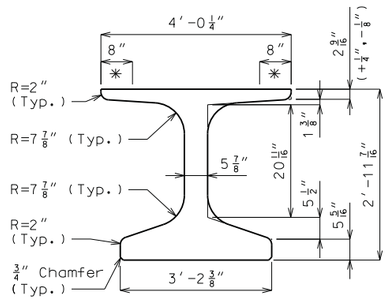
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

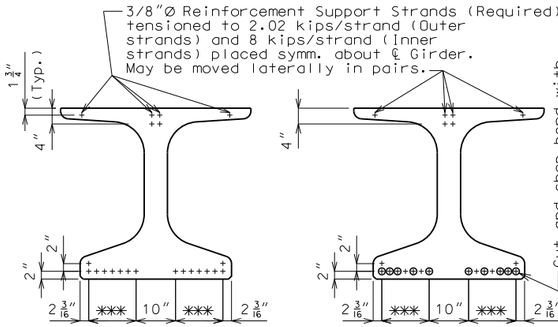
Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.

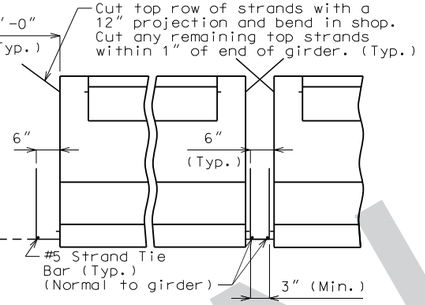


DIMENSIONS



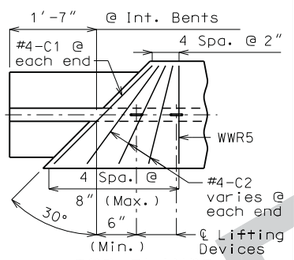
*** 6 Spa. @ 2" ℄ GIRDER END OF GIRDER

STRAND ARRANGEMENTS



INTERMEDIATE BENT INTERMEDIATE BENT

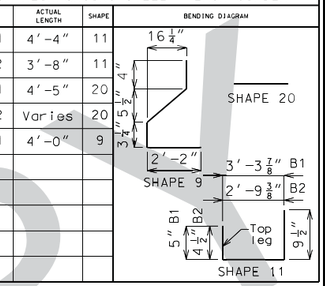
STRAND DETAILS AT GIRDER ENDS

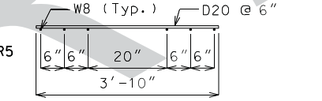


TOP FLANGE BLOCKOUT DETAIL

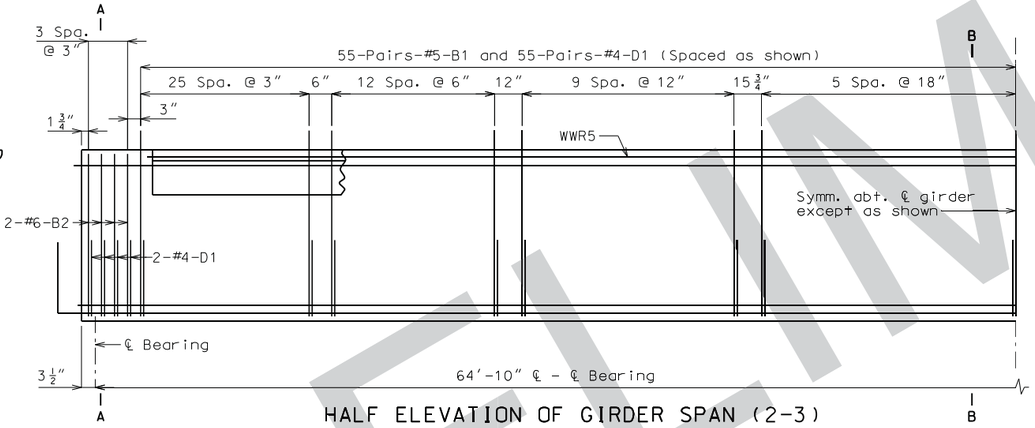
BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
218	5 B1	4'-4"	11	
16	6 B2	3'-8"	11	
2	4 C1	4'-5"	20	
6	4 C2	Varies	20	
234	4 D1	4'-0"	9	





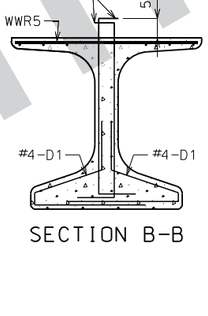
WELDED WIRE BENDING DIAGRAM



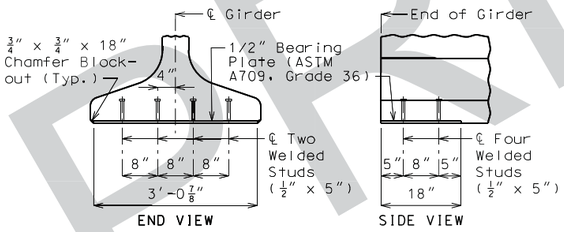
SECTION A-A
Strands not shown for clarity.

HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



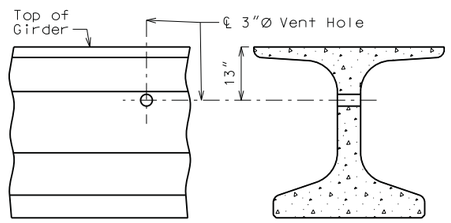
SECTION B-B



BEARING PLATE DETAILS

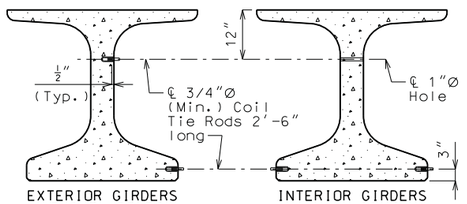
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

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

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheets No. 16.

For Girder Camber Diagram, see Sheet No. 19.

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

ALTERNATE BAR REINFORCING STEEL DETAILS

Detailed Sept 2016
Checked Sept 2016

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

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
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DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 15
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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JEFFERSON CITY, MO 65102
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LANDSCAPE ARCHITECT 000025
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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
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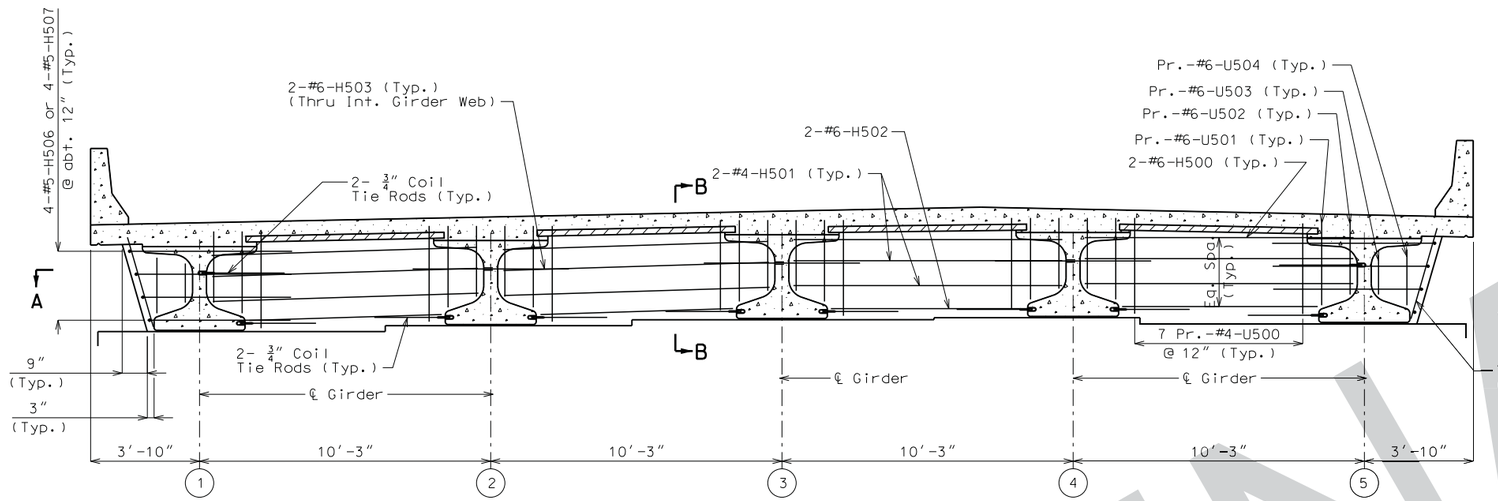
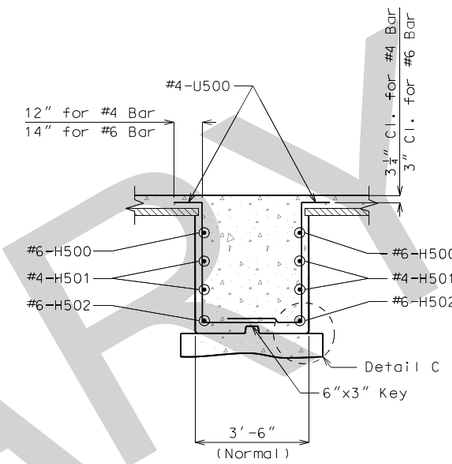
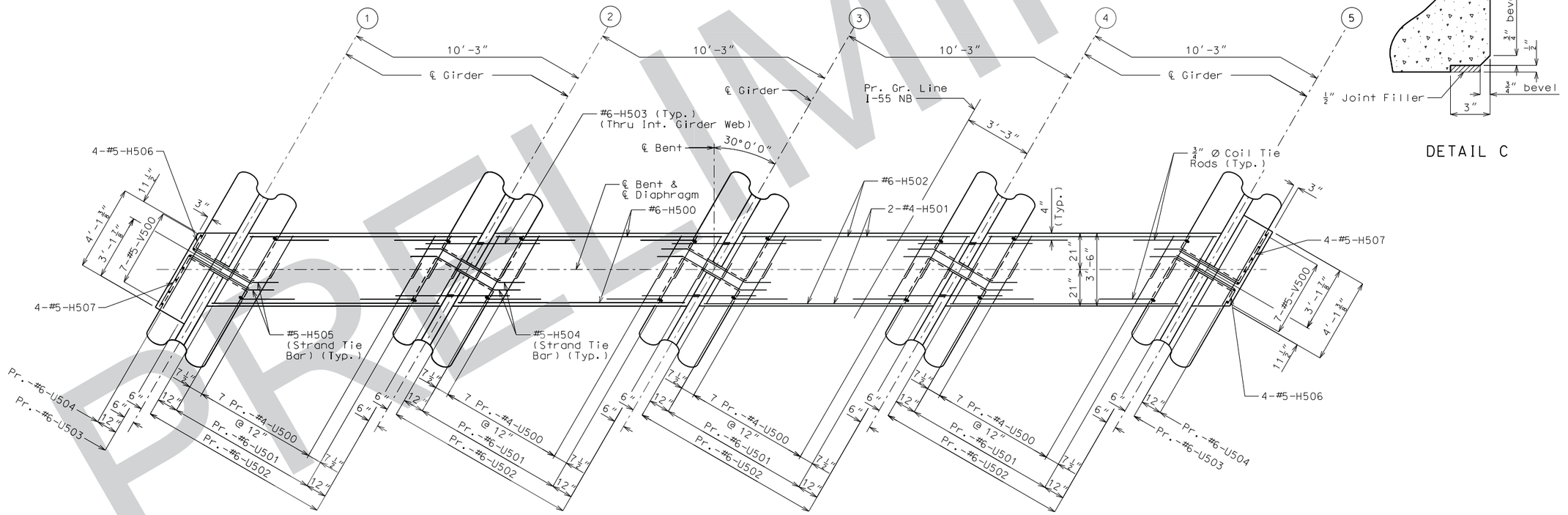


SECTION NEAR INTERMEDIATE BENT

Dimensions are normal to ℄ Structure



SECTION B-B



DETAIL C

SECTION A-A

DETAILS OF CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS NO. 2 & 3

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

Sheet No. 16 of 31

Detailed Sept 2016
Checked Sept 2016

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	16

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.: .

PROJECT NO.: .

BRIDGE NO.: A8433

DESCRIPTION	DATE
. . . . .	. . . . .

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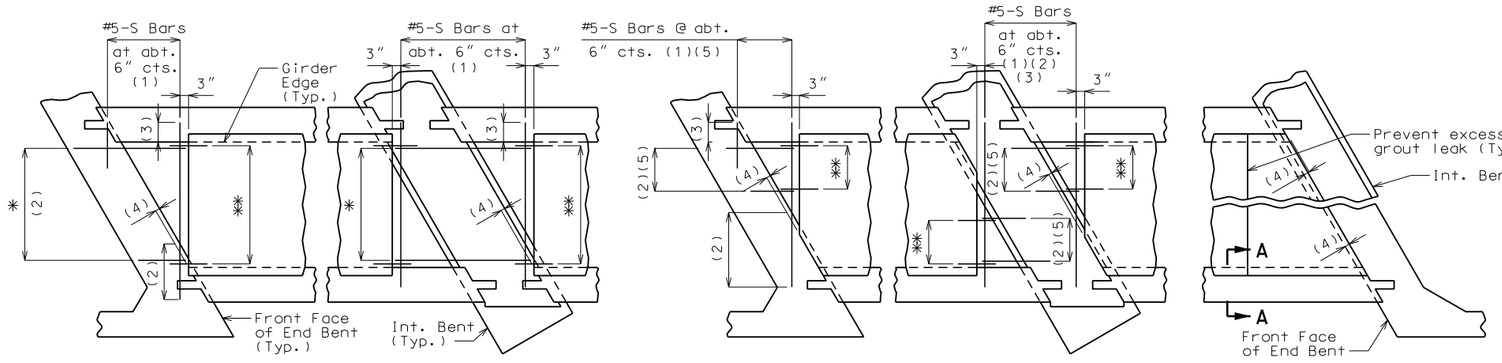
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

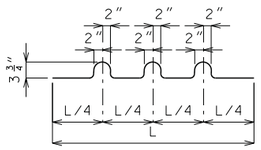
REV.



SQUARED END PANELS OR TRUNCATED END PANELS

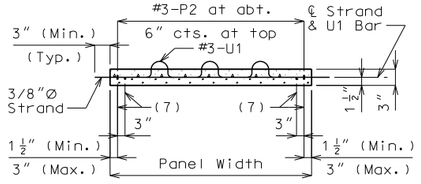
PLAN SHOWING PANELS PLACEMENT

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

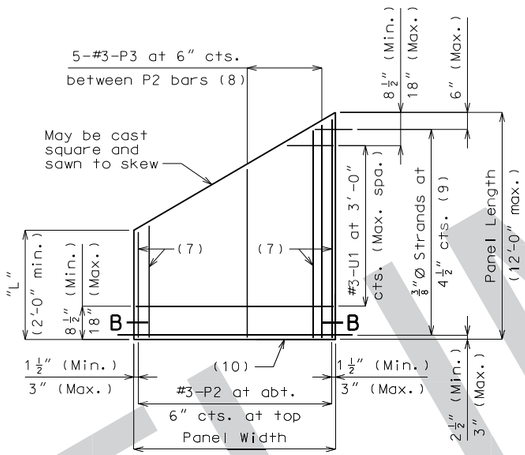


BENDING DIAGRAM FOR U1 BAR

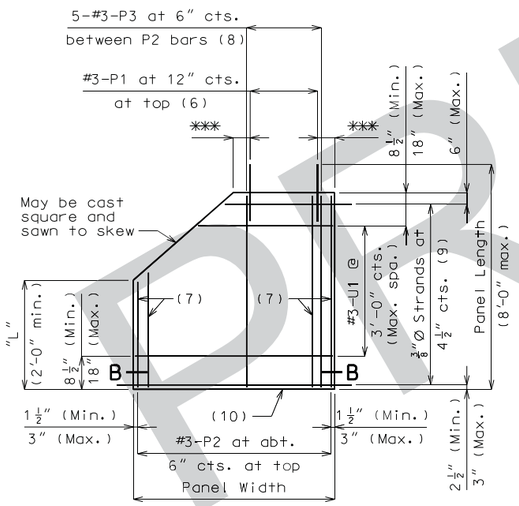
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



SECTION B-B

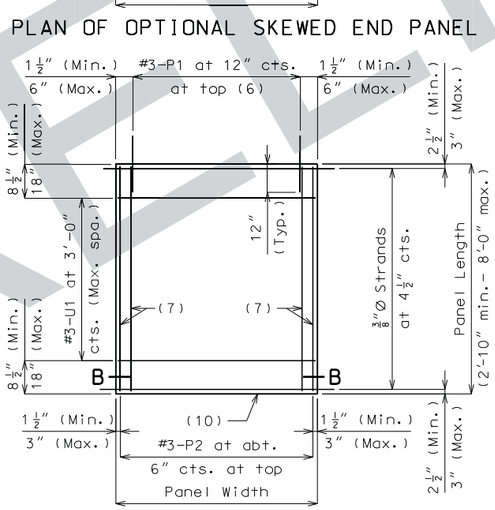


PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF OPTIONAL TRUNCATED END PANEL

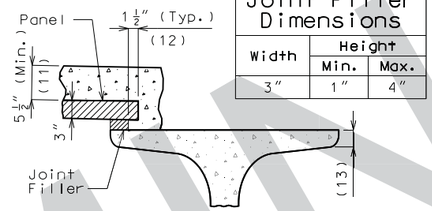
*** 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL

SKEWED END PANELS

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



SECTION A-A

Reference Notes:

Plan of Panels Placement:

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

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

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

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

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

Plans of Panels:

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

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

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

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

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

Section A-A:

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

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

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

General Notes:

Prestressed Panels:

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

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

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

Initial prestressing force = 17.2 kips/strand.

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

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

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

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

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

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

Reinforcing Steel:

All dimensions are out to out.

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

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

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

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

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

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

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

All reinforcement other than prestressing strands shall be epoxy coated.

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

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

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

Joint Filler:

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

Use Slab Haunching Diagram on Sheet No. 19 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

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

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

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

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

DETAILS OF PRESTRESSED PANELS

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
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PROFESSIONAL ENGINEER
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ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 17
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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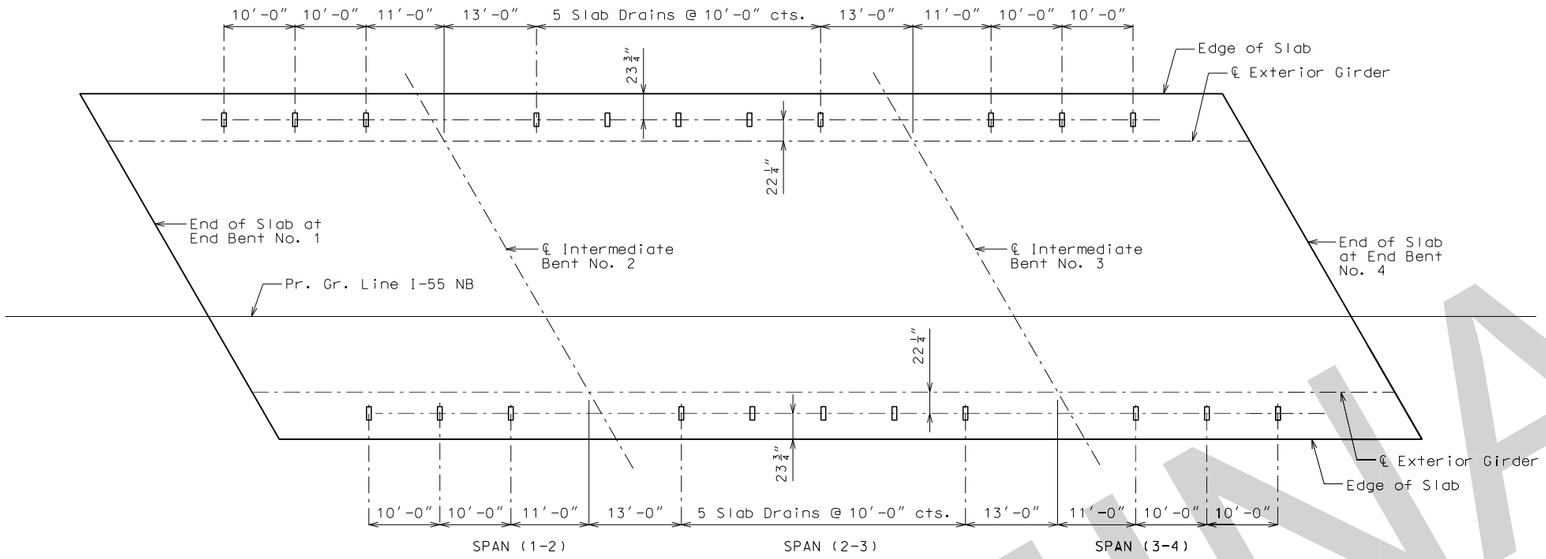
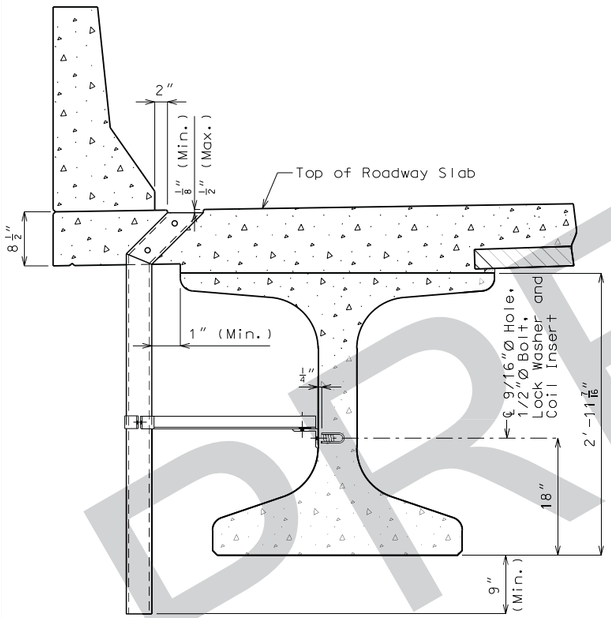
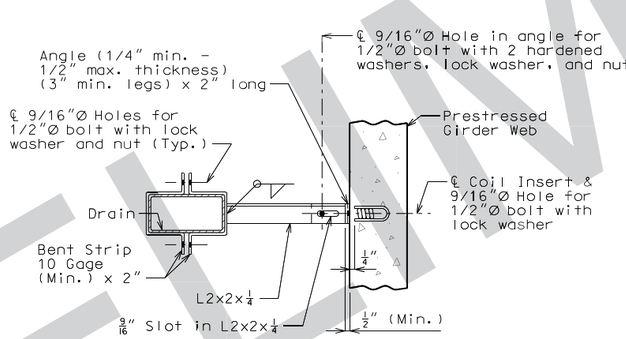


PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

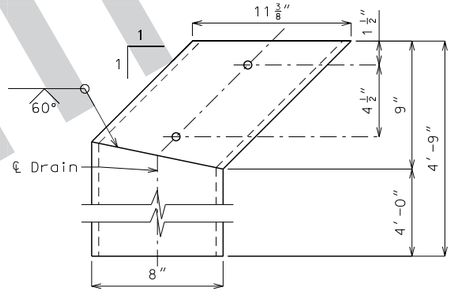


PART SECTION NEAR DRAIN

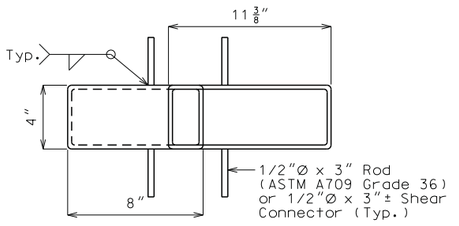


PART SECTION SHOWING BRACKET ASSEMBLY

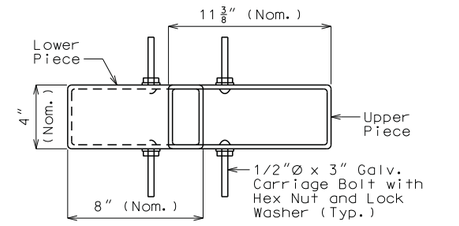
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN



PLAN OF OPTIONAL FRP DRAIN

General Notes:

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

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

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

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

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

Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

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

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

Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.

No additional payment will be made for this substitution.

SLAB DRAIN DETAILS

Detailed Sept 2016
Checked Sept 2016

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

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DISTRICT BR | SHEET NO. 18
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JOB NO. J0I0956
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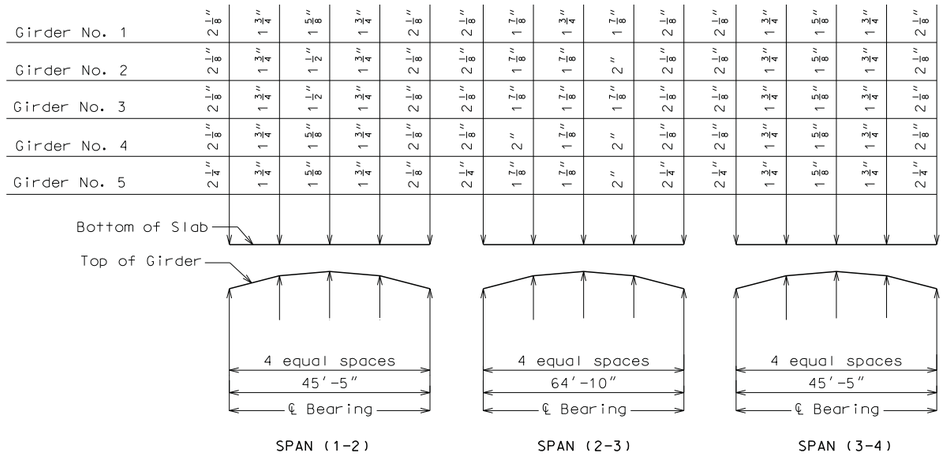
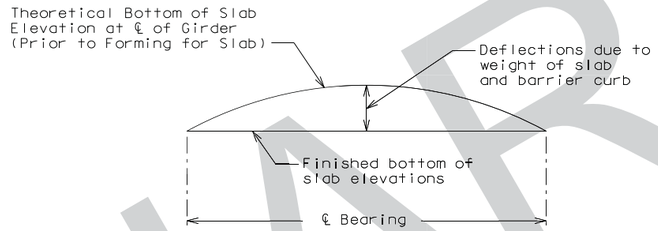


THEORETICAL SLAB HAUNCHING DIAGRAM

(At ℄ of Girder)



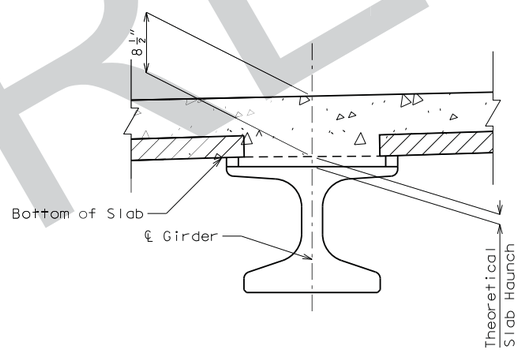
TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at ℄ of Girder (Prior to Forming for Slab) * *

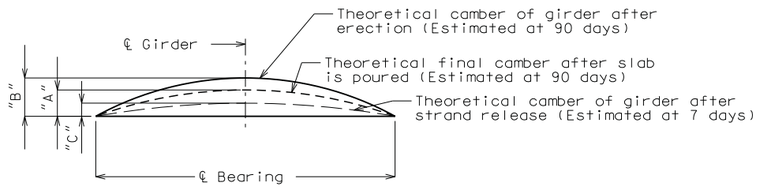
	Span (1-2) (45′-5″ ℄ brg. - ℄ brg.)					Span (2-3) (64′-10″ ℄ brg. - ℄ brg.)					Span (3-4) (45′-5″ ℄ brg. - ℄ brg.)				
	℄ brg.	.25	.50	.75	℄ brg.	℄ brg.	.25	.50	.75	℄ brg.	℄ brg.	.25	.50	.75	℄ brg.
Girder No. 1	376.28	376.25	376.30	376.26	376.29	376.29	376.27	376.36	376.28	376.31	376.31	376.27	376.33	376.28	376.32
Girder No. 2	376.49	376.46	376.51	376.46	376.50	376.50	376.49	376.58	376.49	376.51	376.51	376.48	376.53	376.49	376.52
Girder No. 3	376.70	376.67	376.72	376.67	376.71	376.71	376.69	376.78	376.70	376.72	376.72	376.69	376.74	376.69	376.73
Girder No. 4	376.77	376.74	376.79	376.75	376.78	376.78	376.77	376.86	376.78	376.80	376.80	376.76	376.82	376.77	376.80
Girder No. 5	376.57	376.54	376.59	376.54	376.58	376.58	376.56	376.65	376.57	376.59	376.59	376.56	376.61	376.56	376.60

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

THEORETICAL SLAB HAUNCH



THEORETICAL SLAB HAUNCH



	Span (1-2)			Span (2-3)			Span (3-4)		
	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"
Ext. Girder	9/16″	3/4″	7/16″	5/8″	1 1/8″	5/8″	9/16″	3/4″	7/16″
Int. Girder	9/16″			1/4″			9/16″		

GIRDER CAMBER DIAGRAM

If the camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

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

Conversion factors for girder camber

0.25 pt. = 0.7125 x 0.5 pt.

SLAB DETAILS

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

Detailed Sept 2016
Checked Sept 2016

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

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CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8433

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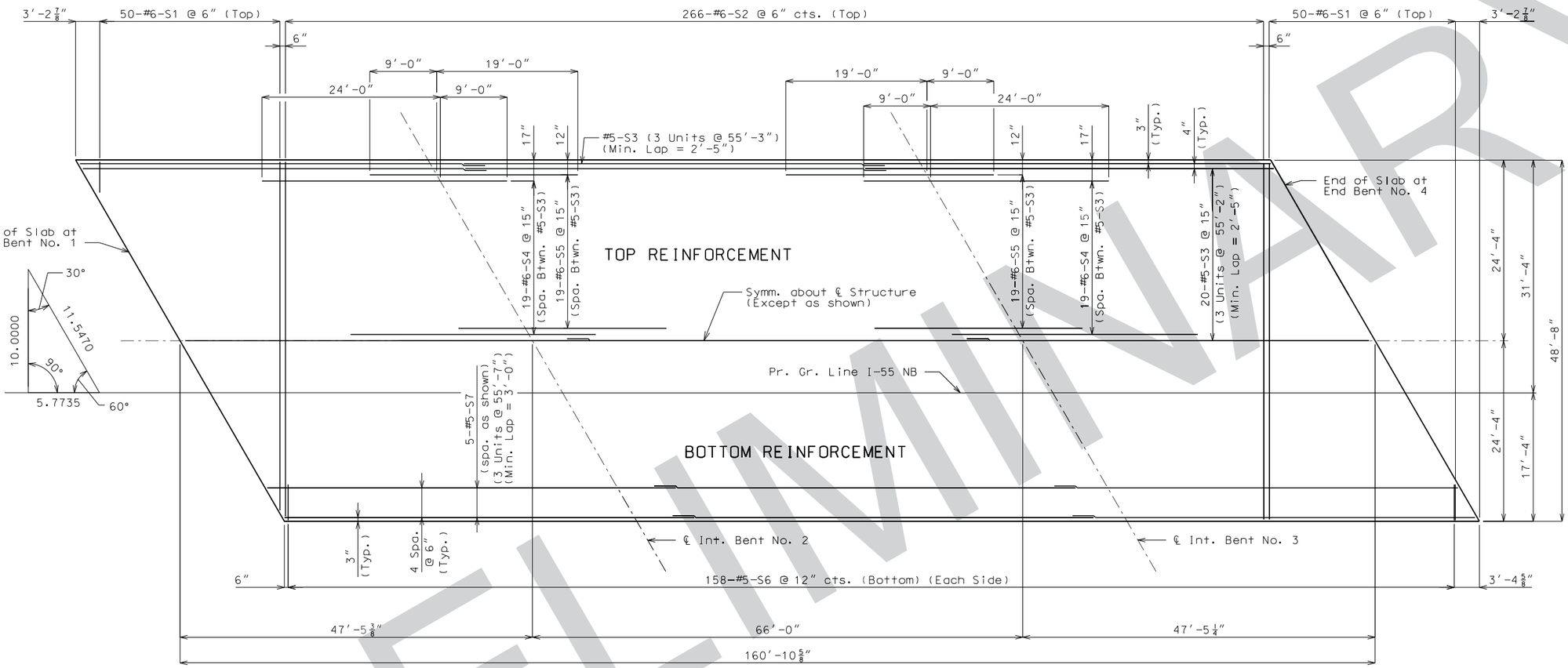
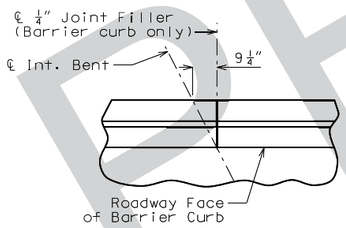
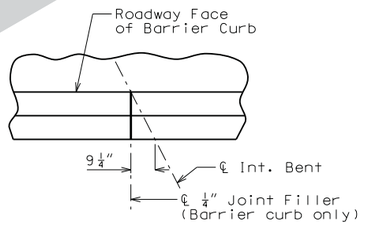




PART PLAN OF BARRIER JOINT
ON LEFT BARRIER CURB
AT INTERMEDIATE BENT



PART PLAN OF BARRIER JOINT
ON RIGHT BARRIER CURB
AT INTERMEDIATE BENT

PLAN OF SLAB SHOWING REINFORCEMENT

Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab & Slab Pouring Sequence, see Sheet No. 21.

For Slab Drain Details, see Sheet No. 18.

For Details of Safety Barrier Curb not shown, see Sheets No. 22-24.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 19.

For Details of Precast Prestressed Panels, see Sheet No. 17.

Detailed Sept 2016
Checked Sept 2016

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

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BRIDGE NO. A8433

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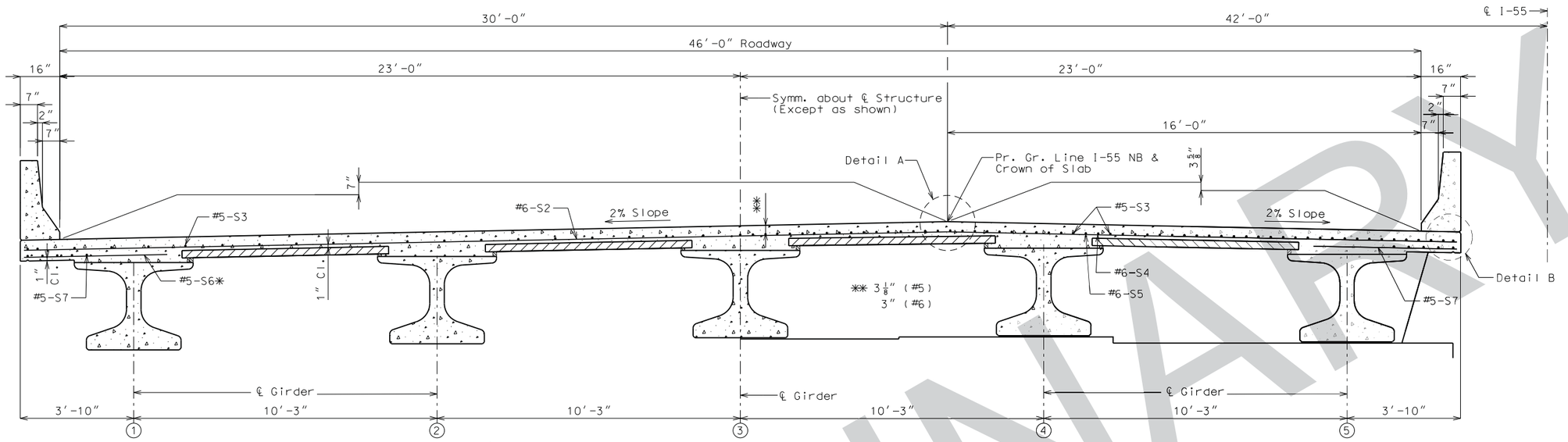
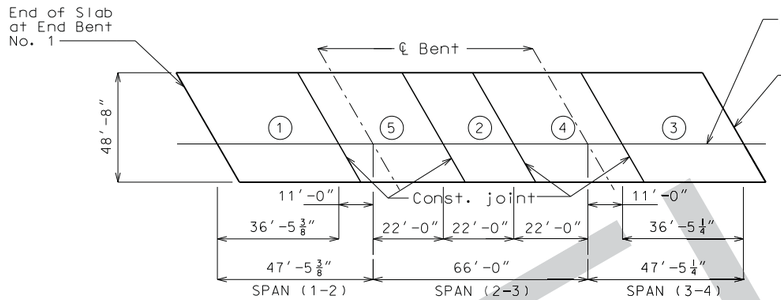


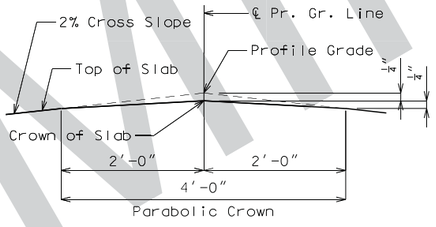
HALF SECTION NEAR ℄ SPAN

HALF SECTION NEAR INTERMEDIATE BENT

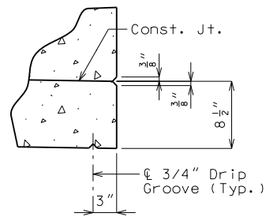
SECTION THRU SLAB

✱ Alternate bar shape available, see Safety Barrier Curb sheet.

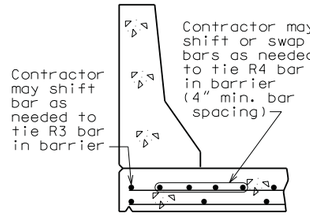




DETAIL A



DETAIL B



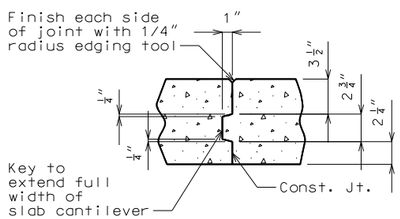
OPTIONAL SHIFTING TOP BARS AT BARRIER

	Sequence of Pours					Min. rate of pour cu. yds./hr.
	Direction					With Retarder
Basic sequence	1	2	3	4	5	25
	Either Direction					
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate "A" pours	1		5 + 2		4 + 3	25
	End to 5		1 to 4		2 to end	
Alternate "B" pours	1 + 5 + 2			4 + 3		25
	End to 4			2 to End		
Alternate "C" pours	1 + 2 + 3 + 4 + 5					25
	End to End					

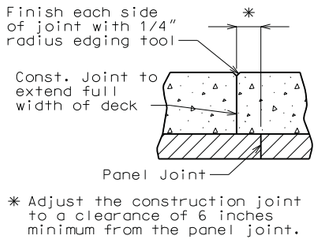
Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

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

SLAB POURING SEQUENCE



(SLAB CANTILEVER)



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

(SLAB ON PRECAST PANELS)

SLAB CONSTRUCTION JOINT DETAILS

Notes:

For details of precast prestressed panels, see Sheet No. 17 .

For details of safety barrier curb not shown, see Sheets No. 22-24 .

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 19.

For Plan of Slab Showing Reinforcement, see Sheet No. 20.

STATE OF MISSOURI
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PROFESSIONAL ENGINEER

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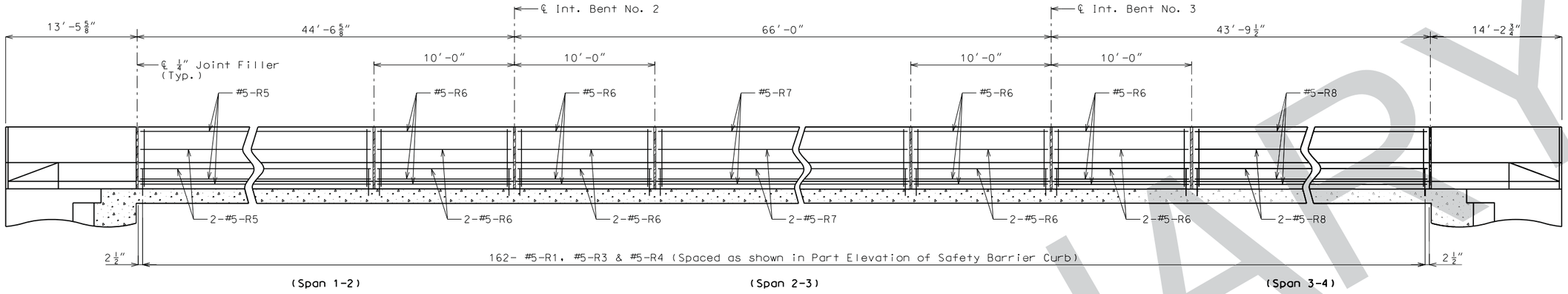
Detailed Sept 2016
Checked Sept 2016

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

SLAB DETAILS

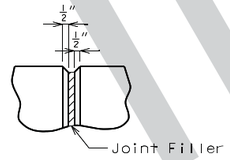
G:\13427\Micro\Bridge\Final\A8433\B_A8433_021_J0I0956_Slab Section.dgn 12:21:24 PM 11/22/2016



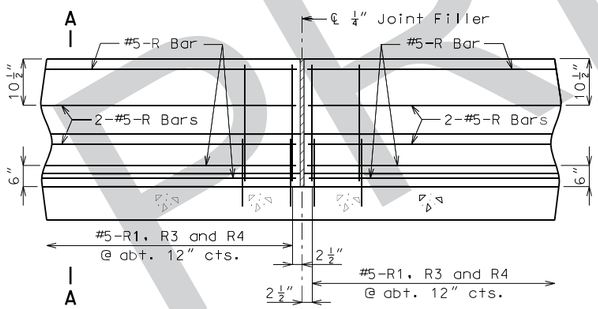
ELEVATION OF SAFETY BARRIER CURB

(Left barrier curb shown, right barrier curb similar)

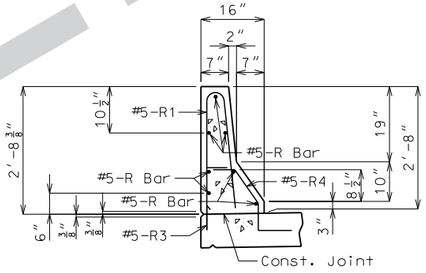
Longitudinal dimensions are horizontal.



FILLED JOINT DETAIL



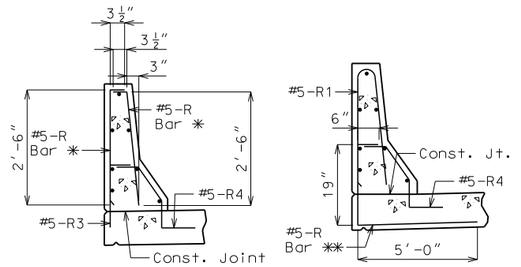
PART ELEVATION OF SAFETY BARRIER CURB
(CAST-IN-PLACE CONVENTIONAL FORMING)



SECTION A-A

Use a minimum lap of 3′-1″ for #5 horizontal safety barrier curb bars.

The cross-sectional area above the slab = 2.27 sq. ft.



R-BAR PERMISSIBLE ALTERNATE SHAPE

✱ 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.)

✱✱ The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.

General Notes

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

DETAILS OF SAFETY BARRIER CURB

Detailed Sept 2016
Checked Sept 2016

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

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

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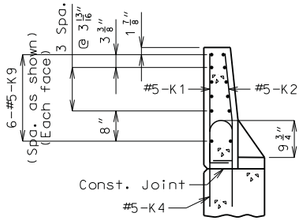
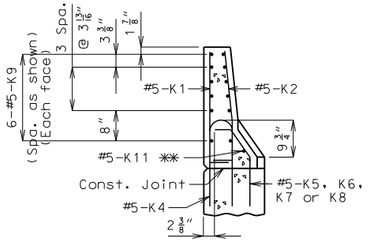
GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

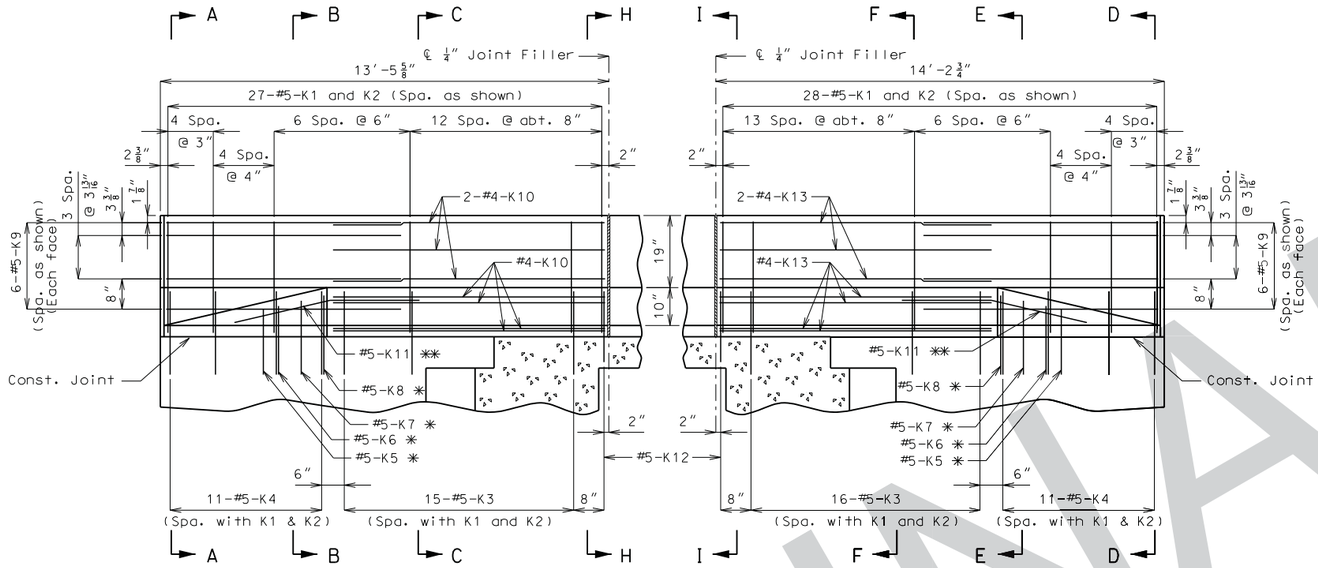
HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976



SECTION A-A



SECTION B-B

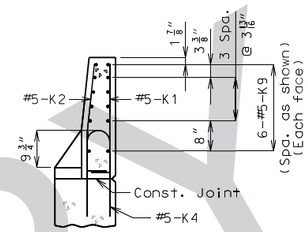


ELEVATION

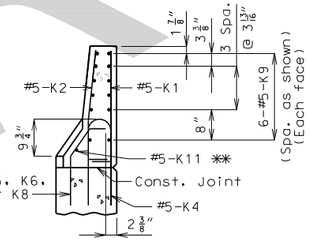
ELEVATION

* Spaced with #5-K4 bars.

** Fit bar to follow transition face of curb.



SECTION D-D



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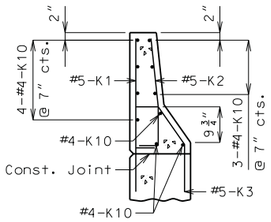
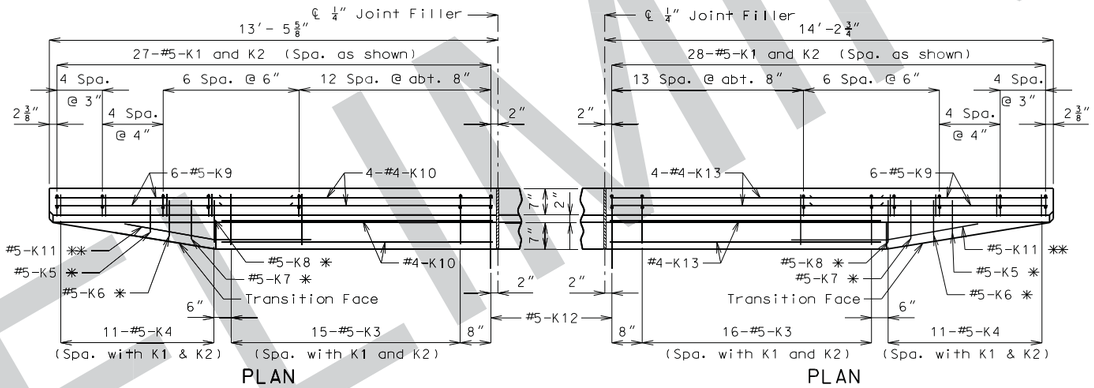
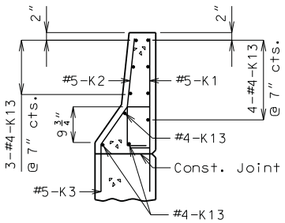


SECTION C-C

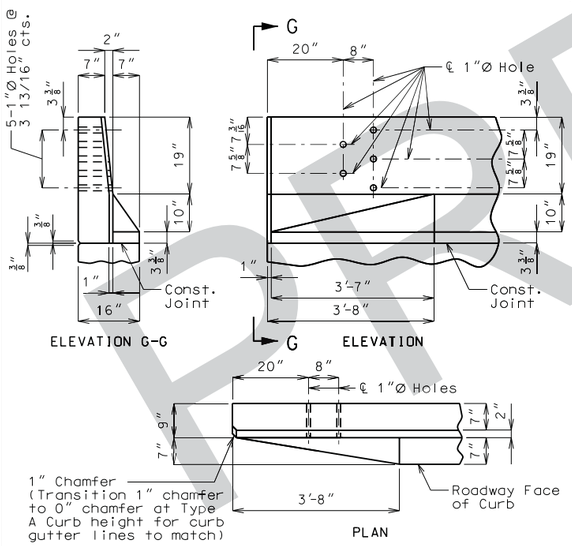


PLAN

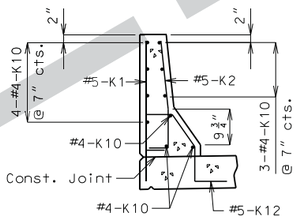
PLAN



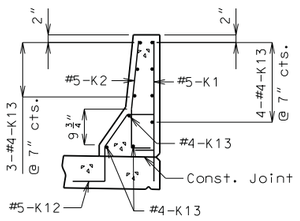
SECTION F-F



DETAILS OF GUARD RAIL ATTACHMENT



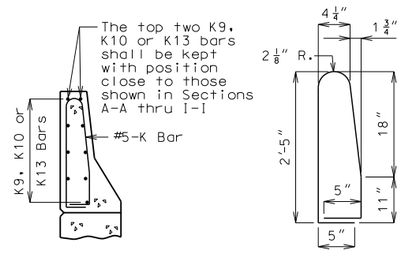
SECTION H-H



SECTION I-I

Note: Use a minimum lap of 2'-8" between K9 and K10 or K13 bars.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.



K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE

(K3 or K4 thru K8 bars not shown for clarity)

The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.

DETAILS OF SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI HOLLY A. LEHMKUHL NUMBER PE-2009032976 PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE I-55 | STATE MO

DISTRICT BR | SHEET NO. 23

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8433

REV.	DESCRIPTION	DATE
.	.	.

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

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HOLLY LEHMKUHL
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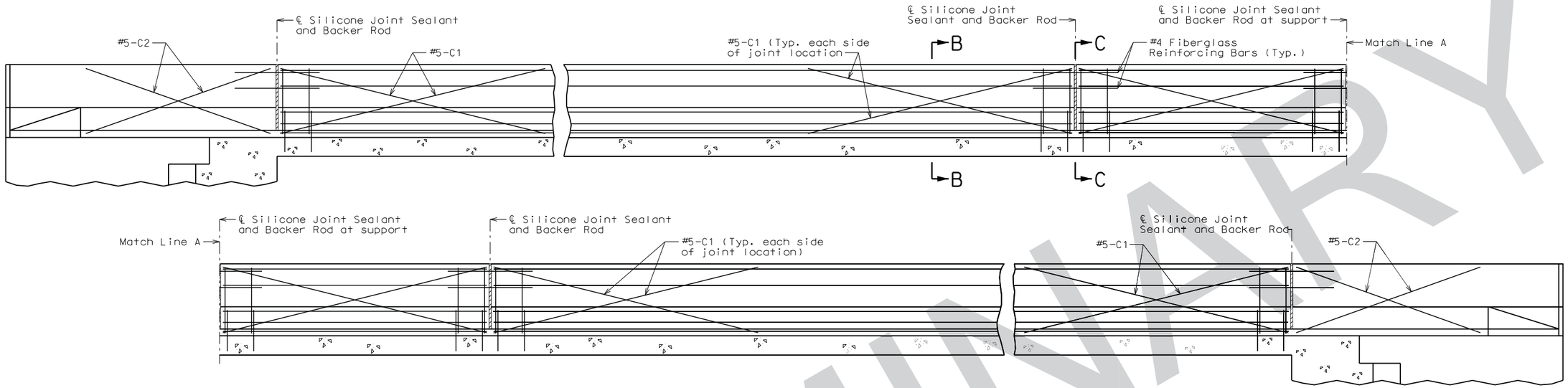
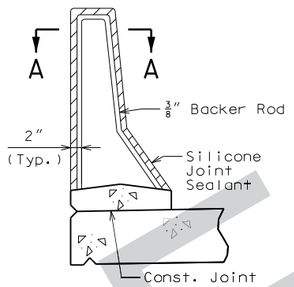
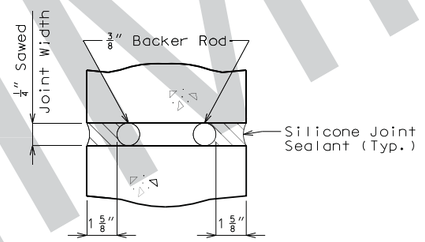


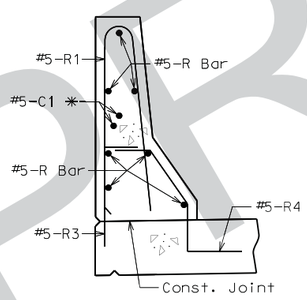
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



SECTION THRU JOINT

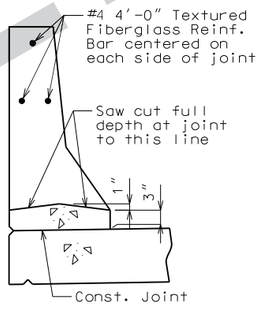


SECTION A-A



SECTION B-B

* Each side of joint location.



SECTION C-C

General Notes:

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

Joint sealant and backer rods shall be used on all slip-form barrier curbs instead of joint filler and shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C bars (slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

Cost of silicone joint sealant and backer rod, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.

OPTIONAL SLIP-FORM SAFETY BARRIER CURB

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 24
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

REV.	DESCRIPTION	DATE

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HOLLY LEHMKUHL
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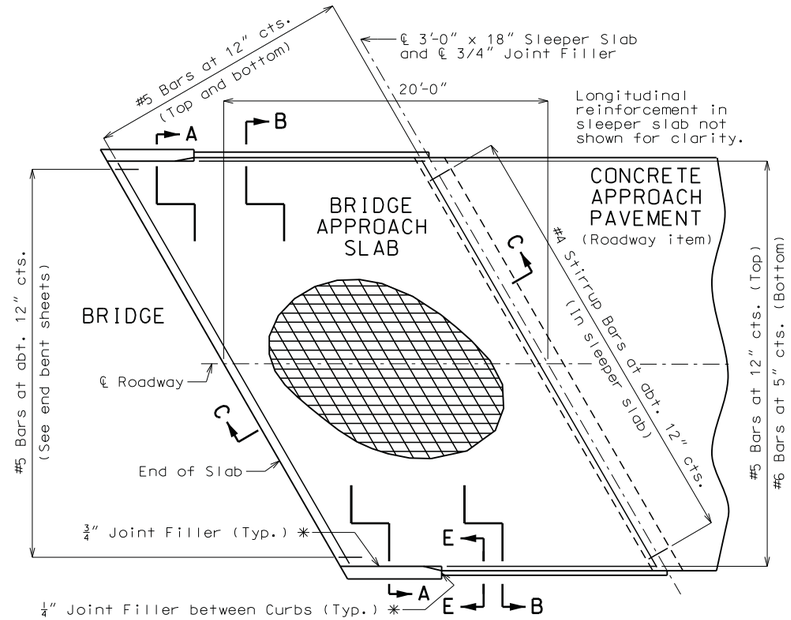
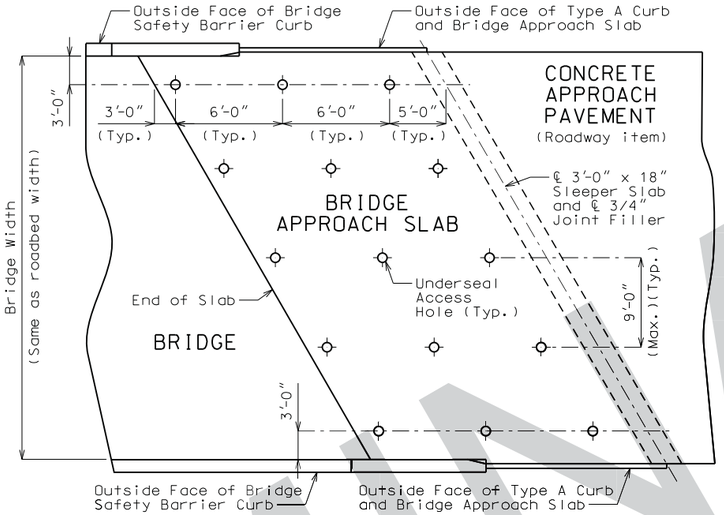


PART PLAN SHOWING REINFORCEMENT



PART PLAN SHOWING UNDERSEAL ACCESS HOLES

General Notes:

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

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

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

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29".

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

The contractor shall pour and satisfactorily finish the bridge before pouring the bridge approach slabs.

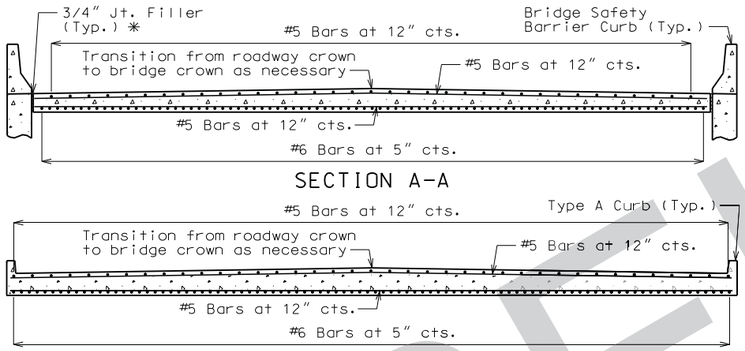
Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For Concrete Approach Pavement details, see roadway plans.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

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

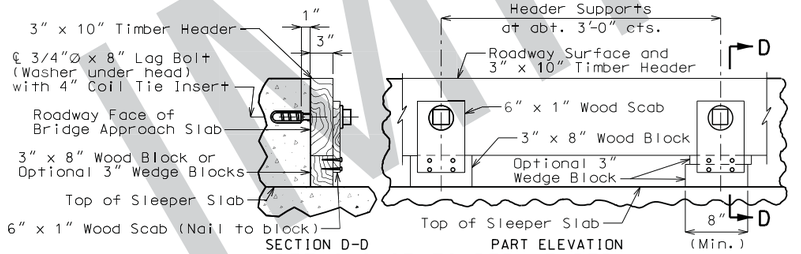
* Seal joint between vertical face of approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.



SECTION A-A

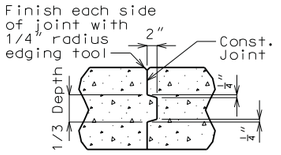
SECTION B-B

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

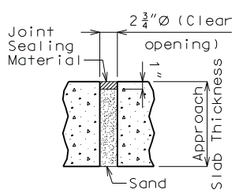


DETAILS OF TIMBER HEADER

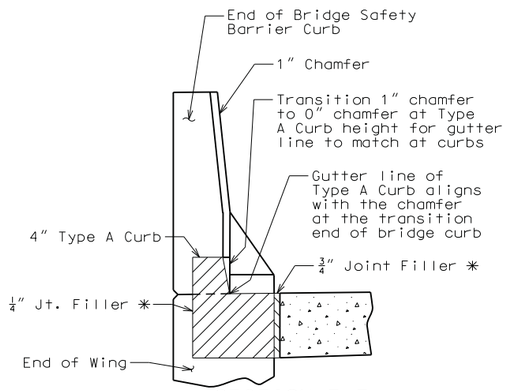
Remove timber header when concrete pavement is placed.



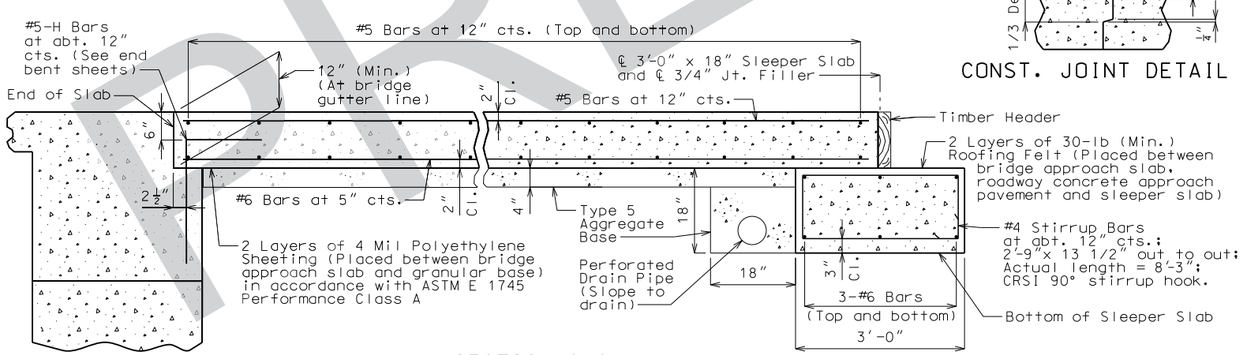
CONST. JOINT DETAIL



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



SECTION E-E
(Between curbs)



SECTION C-C

DETAILS OF BRIDGE APPROACH SLAB (MAJOR ROAD)

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
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PROFESSIONAL ENGINEER

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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	25

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
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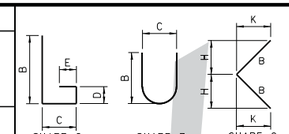
PROFESSIONAL ENGINEER
PE-2009032976

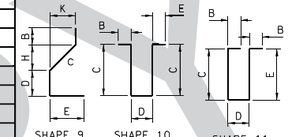
BILL OF REINFORCING

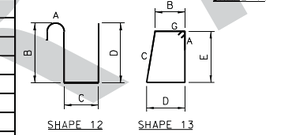
NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		SUBSTRUCTURE																
		INT. BENT NO. 2																
48	8D200	BEAM		20		X			5 8.000							5 8	5 8	726
6	7H200	BEAM		18		X			54 3.000							55 11	55 11	686
6	6H201	BEAM		20		X			54 3.000							54 3	54 3	489
6	7H202	BEAM		17		X			28 1.000							28 11	28 11	355
6	7H203	BEAM		17		X			30 4.000							31 2	31 2	382
6	6H204	BEAM		20		X			6 4.000							6 4	6 4	57
10	6H205	BEAM		10		X				22.000	3 7.500					7 4	7 0	105
31	6U200	BEAM		13	S	X			3 9.000	2 9.000	3 9.000	2 9.000				14 4	13 10	644
28	6U201	BEAM		13	S	X			3 9.000	3 0.375	3 9.000	3 0.375				14 11	14 5	606
9	6U202	BEAM		13	S	X			3 9.000	3 2.875	3 9.000	3 2.875				15 4	14 10	201
15	4U203	BEAM		10	S	X				2 9.000	3 9.000					9 3	9 1	91
18	4U204	BEAM		10	S	X				3 0.375	3 9.000					9 10	9 8	116
3	4U205	BEAM		10	S	X				3 2.875	3 9.000					10 3	10 1	20
8	4U206	BEAM		10	S	X				6.000	3 9.000					4 9	4 7	24
		INT. BENT NO. 3																
48	8D200	BEAM		20		X			5 8.000							5 8	5 8	726
6	7H200	BEAM		18		X			54 3.000							55 11	55 11	686
6	6H201	BEAM		20		X			54 3.000							54 3	54 3	489
6	7H202	BEAM		17		X			28 1.000							28 11	28 11	355
6	7H203	BEAM		17		X			30 4.000							31 2	31 2	382
6	6H204	BEAM		20		X			6 4.000							6 4	6 4	57
10	6H205	BEAM		10		X				22.000	3 7.500					7 4	7 0	105
31	6U200	BEAM		13	S	X			3 9.000	2 9.000	3 9.000	2 9.000				14 4	13 10	644
28	6U201	BEAM		13	S	X			3 9.000	3 0.375	3 9.000	3 0.375				14 11	14 5	606
9	6U202	BEAM		13	S	X			3 9.000	3 2.875	3 9.000	3 2.875				15 4	14 10	201
15	4U203	BEAM		10	S	X				2 9.000	3 9.000					9 3	9 1	91
18	4U204	BEAM		10	S	X				3 0.375	3 9.000					9 10	9 8	116
3	4U205	BEAM		10	S	X				3 2.875	3 9.000					10 3	10 1	20
8	4U206	BEAM		10	S	X				6.000	3 9.000					4 9	4 7	24

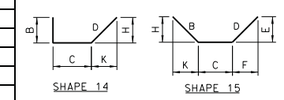
BILL OF REINFORCING

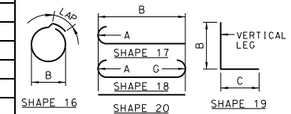
NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		SUPERSTRUCTURE																
		END BENT NO. 1																
12	8F101	WING BRACE		14					3 8.000	4 8.500	14.000			7.000	12.125	9 7	9 4	299
4	6F102	DIAPHRAGM		21					3 1.000		5 2.750			2 8.000	1 6.500	8 4	8 3	50
12	8F103	WING BRACE		15					3 8.000	6 10.750	14.000	4.625	13.250	2 4.750	2 9.250	11 9	11 8	374
4	6F104	DIAPHRAGM		21					3 1.000	6 8.000				2 8.000	1 6.500	9 9	9 4	56
4	8H101	BEAM		20					55 10.875							55 11	55 11	597
4	8H102	BEAM		20					55 10.875							55 11	55 11	597
4	8H103	BEAM		20					41 7.375							41 7	41 7	452
		INCREMENT = 5.5"					V	1	42 11.875							43 0	43 0	
4	8H104	BEAM		20					17 6.000							17 6	17 6	187
4	8H105	BEAM		20					18 11.000							18 11	18 11	202
5	8H106	DIAPHRAGM		20					55 10.875							55 11	55 11	746
2	8H107	DIAPHRAGM		20					2 3.000							2 3	2 3	12
8	8H108	DIAPHRAGM		20					3 10.000							3 10	3 10	82
4	8H109	DIAPHRAGM		20					7 10.000							7 10	7 10	84
16	8H110	DIAPHRAGM		20					10 11.000							10 11	10 11	466
5	6H111	DIAPHRAGM		20					5 6.000							5 6	5 6	41
4	8H112	DIAPHRAGM	E	20					55 10.875							55 11	55 11	597
1	8H113	WING	E	20					13 0.000							13 0	13 0	35
1	8H114	WING	E	19					16.000	10 6.000						11 10	11 8	31
3	8H115	WING		20					13 0.000							13 0	13 0	104
3	8H116	WING		19					16.000	10 6.000						11 10	11 8	93
12	10H117	WING		20					13 0.000							13 0	13 0	671
12	10H118	WING		19					22.000	10 6.000						12 4	12 0	620
1	8H119	WING	E	20					11 9.000							11 9	11 9	31
1	8H120	WING	E	19					16.000	11 9.000						13 1	12 11	34
3	8H121	WING		20					11 9.000							11 9	11 9	94
3	8H122	WING		19					16.000	11 9.000						13 1	12 11	103
11	10H123	WING		20					11 9.000							11 9	11 9	556
11	10H124	WING		19					22.000	12 3.000						14 1	13 9	651
46	5H125	DIAPHRAGM	E	19					2 0.000	15.000						3 3	3 2	152
5	5H126	STRAND TIE BAR		23					15.000	3 3.000	15.000	7.500	13.000	7.500	13.000	5 9	5 9	30
26	5U101	BEAM		10	S					5 6.000	3 2.000					14 2	14 0	380
12	4U102	BEAM		13	S				3 2.000	2 10.500	3 2.000	2 10.500				12 10	12 7	101
12	4U103	BEAM		13	S				3 2.000	3 1.000	3 2.000	3 1.000				13 3	13 0	104
7	4U104	BEAM		13	S				3 2.000	2 8.000	3 2.000	2 8.000				12 5	12 2	57
4	4U105	BEAM		10	S					3 1.000	3 2.000					9 4	9 2	24
5	4U106	BEAM		10	S					2 10.500	3 2.000					8 11	8 9	29
38	5U107	DIAPHRAGM	E	10	S					3 4.000	2 7.125					9 3	9 1	360
38	6U108	DIAPHRAGM		19	S				2 7.000	3 2.000						5 9	5 7	319
71	6U109	DIAPHRAGM	E	19	S				3 0.000	4 10.000						7 10	7 8	818
1	4U110	DIAPHRAGM		10	S					2 8.000	3 2.000					8 6	8 4	6
24	5V101	BEAM		20					5 6.000							5 6	5 6	138
30	6V102	DIAPHRAGM		20					2 7.000							2 7	2 7	116
2	6V103	WING		20					6 8.500							6 9	6 9	20
22	6V104	WING		20					6 8.500							6 9	6 9	223
2	6V105	WING		20					6 5.125							6 5	6 5	19
20	6V106	WING		20					6 5.125							6 5	6 5	193

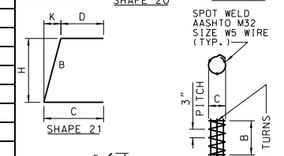


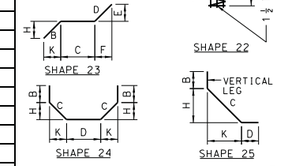


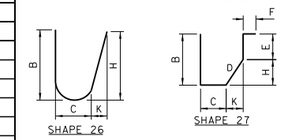


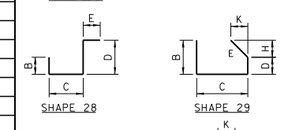


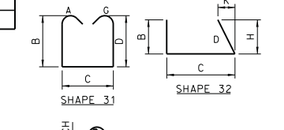


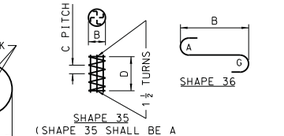




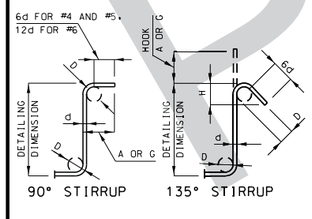






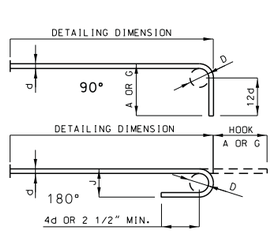


BENDING DIAGRAMS



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

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



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 26
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DESCRIPTION	DATE
.	.

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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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

REVISED NOV. 2002
IN ACCORDANCE WITH MHTC STD.

Detailed Sept 2016
Checked Sept 2016

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

Sheet No. 26 of 31

REV.

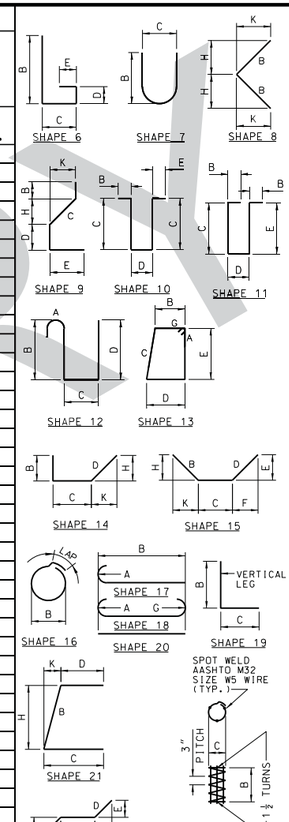
G:\13427\Micro\Bridge\Final\A8433\B_A8433_026_J0I0956_Barbill_1(New).dgn 12:21:27 PM 11/22/2016

BILL OF REINFORCING

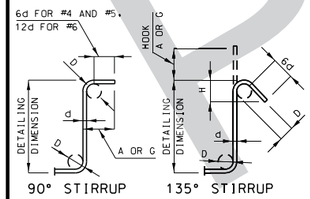
NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		END BENT NO. 4																
12	8F401	WING BRACE		14					3 8.000	4 8.500	14.000			7.000	12.125	9 7	9 4	299
4	6F402	DIAPHRAGM		21					3 1.000		5 2.750			2 8.000	1 6.500	8 4	8 3	50
12	8F403	WING BRACE		15					3 8.000	6 10.750	14.000	4.625	13.250	2 4.750	2 9.250	11 9	11 8	374
4	6F404	DIAPHRAGM		21					3 1.000	6 8.000				2 8.000	1 6.500	9 9	9 4	56
4	8H401	BEAM		20					55 10.875							55 11	55 11	597
4	8H402	BEAM		20					55 10.875							55 11	55 11	597
4	8H403	BEAM		20					42 0.750							42 1	42 1	457
		INCREMENT = 5.5"					V	1	43 5.250							43 5	43 5	
4	8H404	BEAM		20					17 0.000							17 0	17 0	182
4	8H405	BEAM		20					18 11.000							18 11	18 11	202
5	8H406	DIAPHRAGM		20					55 10.875							55 11	55 11	746
2	8H407	DIAPHRAGM		20					2 3.000							2 3	2 3	12
8	8H408	DIAPHRAGM		20					3 10.000							3 10	3 10	82
4	8H409	DIAPHRAGM		20					7 10.000							7 10	7 10	84
16	8H410	DIAPHRAGM		20					10 11.000							10 11	10 11	466
5	6H411	DIAPHRAGM		20					5 6.000							5 6	5 6	41
4	8H412	DIAPHRAGM	E	20					55 10.875							55 11	55 11	597
1	8H413	WING	E	20					13 0.000							13 0	13 0	35
1	8H414	WING	E	19					16.000	10 6.000						11 10	11 8	31
3	8H415	WING		20					13 0.000							13 0	13 0	104
3	8H416	WING		19					16.000	10 6.000						11 10	11 8	93
11	10H417	WING		20					13 0.000							13 0	13 0	615
11	10H418	WING		19					22.000	10 6.000						12 4	12 0	568
1	8H419	WING	E	20					11 9.000							11 9	11 9	31
1	8H420	WING	E	19					16.000	11 9.000						13 1	12 11	34
3	8H421	WING		20					11 9.000							11 9	11 9	94
3	8H422	WING		19					16.000	11 9.000						13 1	12 11	103
12	10H423	WING		20					11 9.000							11 9	11 9	607
12	10H424	WING		19					22.000	12 3.000						14 1	13 9	710
46	5H425	DIAPHRAGM	E	19					2 0.000	15.000						3 3	3 2	152
5	5H426	STRAND TIE BAR		23					15.000	3 3.000	15.000	7.500	13.000	7.500	13.000	5 9	5 9	30
26	5U401	BEAM		10	S					5 6.000	3 2.000					14 2	14 0	380
12	4U402	BEAM		13	S				3 2.000	2 10.500	3 2.000	2 10.500				12 10	12 7	101
12	4U403	BEAM		13	S				3 2.000	3 1.000	3 2.000	3 1.000				13 3	13 0	104
7	4U404	BEAM		13	S				3 2.000	2 8.000	3 2.000	2 8.000				12 5	12 2	57
4	4U405	BEAM		10	S					3 1.000	3 2.000					9 4	9 2	24
5	4U406	BEAM		10	S					2 10.500	3 2.000					8 11	8 9	29
38	5U407	DIAPHRAGM	E	10	S					3 4.000	2 7.125					9 3	9 1	360
38	6U408	DIAPHRAGM		19	S				2 7.000	3 2.000						5 9	5 7	319
71	6U409	DIAPHRAGM	E	19	S				3 0.000	4 10.000						7 10	7 8	818
1	4U410	DIAPHRAGM		10	S					2 8.000	3 2.000					8 6	8 4	6
24	5V401	BEAM		20					5 6.000							5 6	5 6	138
30	6V402	DIAPHRAGM		20					2 7.000							2 7	2 7	116
2	6V403	WING		20					6 8.500							6 9	6 9	20
20	6V404	WING		20					6 8.500							6 9	6 9	203
2	6V405	WING		20					6 5.125							6 5	6 5	19
22	6V406	WING		20					6 5.125							6 5	6 5	212

BILL OF REINFORCING

NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		INT. BENT DIA																
16	6H500	DIAPHRAGM		20					10 11.000							10 11	10 11	262
32	4H501	DIAPHRAGM		20					10 11.000							10 11	10 11	233
16	6H502	DIAPHRAGM		20					7 10.000							7 10	7 10	188
12	6H503	DIAPHRAGM		20					5 6.000							5 6	5 6	99
12	5H504	STRAND TIE BAR		23					15.000	3 3.000	15.000	7.500	13.000	7.500	13.000	5 9	5 9	72
8	5H505	STRAND TIE BAR		23					15.000	3 3.000				7.500	13.000	4 6	4 6	38
16	5H506	DIAPHRAGM		28	S					8.500	4 4.000					5 1	4 11	82
16	5H507	DIAPHRAGM		28	S					2 11.500	4 4.000					7 4	7 2	120
112	4U500	DIAPHRAGM	E	28	S					2 10.000	3 2.125	12.000				7 0	6 10	511
32	6U501	DIAPHRAGM	E	28	S					3 4.000	2 11.375	14.000				7 5	7 2	344
32	6U502	DIAPHRAGM	E	28	S					3 4.000	2 7.125	14.000				7 1	6 9	324
8	6U503	DIAPHRAGM		28	S					3 6.500	1 5.000					5 0	4 10	58
8	6U504	DIAPHRAGM		28	S					3 3.125	1 11.750					5 3	5 1	61
28	5V500	DIAPHRAGM	E	20					3 7.000							3 7	3 7	105
		SLAB																
100	6S1	SLAB	E	20			V	2	5 2.875							5 3	5 3	3968
		INCREMENT =10.375							47 7.250							47 7	47 7	
266	6S2	SLAB	E	20					48 5.000							48 5	48 5	19344
123	5S3	SLAB	E	20					55 3.000							55 3	55 3	7088
76	6S4	SLAB	E	20					33 0.000							33 0	33 0	3767
76	6S5	SLAB	E	20					28 0.000							28 0	28 0	3196
316	5S6	SLAB	E	20					5 2.000							5 2	5 2	1703
30	5S7	SLAB	E	20					55 7.000							55 7	55 7	1739

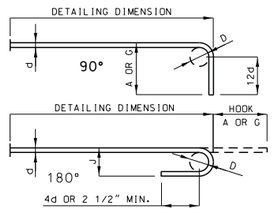


BENDING DIAGRAMS



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

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



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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 2016
Checked Sept 2016

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

REVISED NOV. 2002
IN ACCORDANCE WITH MHTC STD.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	27

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.
.

PROJECT NO.
.

BRIDGE NO.
A8433

NO.	DESCRIPTION	DATE
.	.	.
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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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

BILL OF REINFORCING

NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		BARRIER CURBS																
110	5K1	SAFETY BARRIER	E	19	S				2 5.000	5.125						2 10	2 9	316
110	5K2	SAFETY BARRIER	E	14	S				5.125	11.125	18.000			2.000	17.875	2 10	2 9	316
62	5K3	SAFETY BARRIER	E	27	S				3 4.125	5.125	12.000	2 6.250		9.875	6.875	7 4	7 2	463
44	5K4	SAFETY BARRIER	E	7					3 4.125	6.000						7 0	6 11	317
4	5K5	SAFETY BARRIER	E	25	S				2 10.625	6.750	4.375			5.500	4.000	3 10	3 9	16
4	5K6	SAFETY BARRIER	E	25	S				2 9.625	7.875	4.375			6.500	4.500	3 10	3 9	16
4	5K7	SAFETY BARRIER	E	25	S				2 8.250	9.625	4.375			7.875	5.500	3 10	3 10	16
4	5K8	SAFETY BARRIER	E	25	S				2 6.875	11.250	4.375			9.250	6.500	3 11	3 10	16
48	5K9	SAFETY BARRIER	E	20					6 2.500							6 3	6 3	313
20	4K10	SAFETY BARRIER	E	20					9 8.125							9 8	9 8	129
4	5K11	SAFETY BARRIER	E	8					2 2.125					2 2.000	2.375	4 4	4 4	18
4	5K12	SAFETY BARRIER	E	27	S				17.000	5.125	12.000	7.125	12.000	9.875	6.375	4 5	4 2	17
20	4K13	SAFETY BARRIER	E	20					10 5.250							10 5	10 5	139
324	5R1	SAFETY BARRIER	E	26					2 6.000	4.250				2 6.000	3.000	5 3	5 2	1746
324	5R3	SAFETY BARRIER	E	19	S				17.000	6.000						23	22	620
324	5R4	SAFETY BARRIER	E	27	S					6.000	11.250	7.000	12.000	9.250	6.375	3 0	2 10	957
14	5R5	SAFETY BARRIER	E	20					34 3.625							34 4	34 4	501
56	5R6	SAFETY BARRIER	E	20					9 9.000							9 9	9 9	569
14	5R7	SAFETY BARRIER	E	20					45 9.000							45 9	45 9	668
14	5R8	SAFETY BARRIER	E	20					33 6.500							33 7	33 7	490
		SLIP FORM																
		BARRIER CURB																
40	5C1	SLIP FORM	E	20					10 0.000							10 0	10 0	417
8	5C2	SLIP FORM	E	20					9 10.000							9 10	9 10	82

BILL OF REINFORCING

NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		TOTALS																
	4																	1377
	4		E															779
	5																	1408
	5		E															19533
	6																	6945
	6		E															32579
	7																	2846
	7		E															0
	8																	10436
	8		E															1456
	10																	4998
		TOTAL																28010
		TOTAL	E															54347
		SLAB ON GIRDER																
	4																	875
	4		E															511
	5																	1408
	5		E															11659
	6																	2741
	6		E															32579
	7																	0
	7		E															0
	8																	8984
	8		E															1456
	10																	4998
		TOTAL																19006
		TOTAL	E															46205
		REINFORCING																
		STEEL (BRIDGES)																
	4																	502
	5																	0
	6																	4204
	7																	2846
	8																	1452
	9																	0
		TOTAL																9004
		BARRIER CURB																
	4		E															268
	5		E															7375
		TOTAL	E															7643
		SLIP FORM																
		BARRIER CURB																
	5		E															499
		TOTAL	E															499

SHAPE 6 SHAPE 7 SHAPE 8

SHAPE 9 SHAPE 10 SHAPE 11

SHAPE 12 SHAPE 13

SHAPE 14 SHAPE 15

SHAPE 16 SHAPE 17 SHAPE 18 SHAPE 19 SHAPE 20

SHAPE 21 SHAPE 22

SHAPE 23 SHAPE 24 SHAPE 25

SHAPE 26 SHAPE 27

SHAPE 28 SHAPE 29

SHAPE 31 SHAPE 32

SHAPE 30 SHAPE 33 SHAPE 34 SHAPE 35 SHAPE 36

(SHAPE 35 SHALL BE A DEFORMED OR PLAIN SPIRAL BAR OR WIRE.)

BENDING DIAGRAMS

6d FOR #4 AND #5.
12d FOR #6

90° STIRRUP 135° STIRRUP

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

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

DETAILING DIMENSION

90°

180°

4d OR 2 1/2" MIN.

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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60.000 PSI.

REVISED NOV. 2002
IN ACCORDANCE WITH MHTC STD.

Detailed Sept 2016
Checked Sept 2016

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

Sheet No. 28 of 31

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 28
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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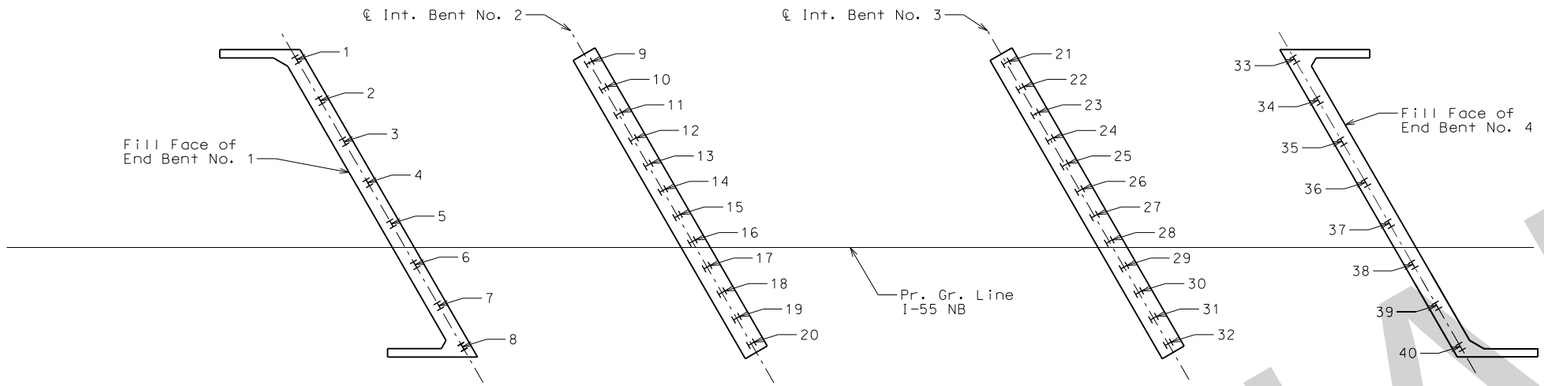

PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
8			
			Int. Bent No. 2
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
19			
20			
			Int. Bent No. 3
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
			End Bent No. 4
33			
34			
35			
36			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
37			
38			
39			
40			

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

This sheet to be completed by MoDOT construction personnel.

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DESCRIPTION	DATE
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ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

Surface Elevation: 377.0 | Completion Date: 4/14/2016
Datum: NAVD88 | Station: 319+97.53 | Offset: 24 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV) 0.5 1.0 1.5 2.0 2.5 / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % PL 10 20 30 40 50 LL
	FILL: brown, silty clay		4-5-8	SS1	
5	Stiff, gray, silty CLAY - (CL)				
			6-5-6	SS2	
10					
			0-0-0	SS3	
15	becoming very soft				
			0-0-1	SS4	
20					
	becoming medium stiff		85	ST5	
25					
				ST6	
30					
	interlayered with very loose, fine sand with silt 84.7 percent finer than No. 200 sieve		0-1-1	SS7	
35					
			1-2-3	SS8	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 I-55 SCOTT CITY GPJ 00 CLONE ME GPJ 7/29/16

GROUNDWATER DATA

ENCOUNTERED AT 15 FEET ▽

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 50 FEET
TPD DRILLER LAD LOGGER
CME 55TRK DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 88 %

REMARKS:
Bridge A8433, North abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8433-B-4

Project No. J026274.01

Surface Elevation: 377.0 | Completion Date: 4/14/2016
Datum: NAVD88 | Station: 319+97.53 | Offset: 24 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV) 0.5 1.0 1.5 2.0 2.5 / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % PL 10 20 30 40 50 LL
	Stiff, gray, silty CLAY - (CL) *(continued)*		92	ST9	
45					
			4-5-6	SS10	
50	Medium stiff to soft, gray CLAY - (CH)				
			3-3-4	SS11	86
55					
			3-3-4	SS12	
60					
			100	ST13	
65					
			1-1-3	SS14	
70					
	trace sand, 94.4 percent finer than No. 200 sieve		50/1"	SS15	
75	Moderately hard, gray, aphanitic, thin to medium bedded, slightly weathered to fresh DOLOMITE and dolomitic LIMESTONE vertical fracture		100% 92%	NQ1	
			100% 100%	NQ2	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 I-55 SCOTT CITY GPJ 00 CLONE ME GPJ 7/29/16

GROUNDWATER DATA

ENCOUNTERED AT 15 FEET ▽

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 50 FEET
TPD DRILLER LAD LOGGER
CME 55TRK DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 88 %

REMARKS:
Bridge A8433, North abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8433-B-4

Project No. J026274.01

BORING DATA

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

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

Detailed Sept 2016
Checked Sept 2016

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY SCOTT
JOB NO. J010956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DESCRIPTION	DATE
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105 WEST CAPITOL
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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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Surface Elevation: 377.0 | Completion Date: 4/14/2016
Datum: NAVD88 | Station: 319+97.53 | Offset: 24 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
	Moderately hard, gray, aphanitic, thin to medium bedded, slightly weathered to fresh DOLOMITE and dolomitic LIMESTONE *(continued)* thick bedded		100% 94%	NQ3
85	Boring terminated at 84.0 feet.			
90				
95				
100				
105				
110				
115				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
▲ N-VALUE (BLOWS PER FOOT)
(ASTM D 1586)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 7/29/16

GROUNDWATER DATA

ENCOUNTERED AT 15 FEET ▼

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 50 FEET
TPD DRILLER LAD LOGGER
CME 55TRK DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 88 %

REMARKS:
Bridge A8433, North abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC
FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8433-B-4

Project No. J026274.01

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

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DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 31
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8433

DATE	DESCRIPTION
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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

BORING DATA

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

Detailed Sept 2016
Checked Sept 2016

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

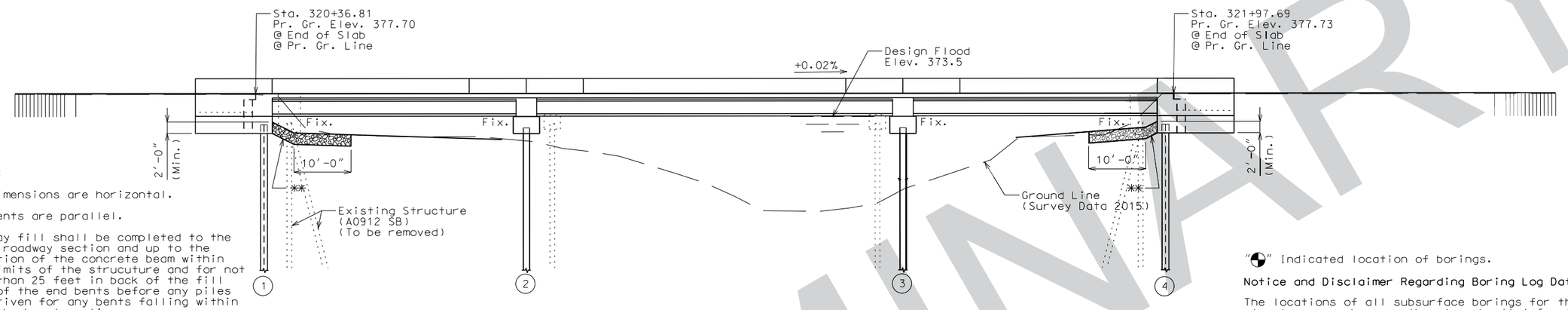
G:\13427\Micro\Bridge\Final\A8433\B_A8433_031_J0I0956_Boring 2.dgn 12:22:15 PM 11/22/2016

SEC/SUR 17 TWP 29N RGE 14E

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

(46'-66'-46') PRESTRESSED CONCRETE NU-GIRDER SPANS

** 2:1 (H:V) Slope (Normal)
2'-0" Thick Type 2 Rock
Blanket with Permanent
Erosion Control Geotextile (Roadway Item)



GENERAL ELEVATION

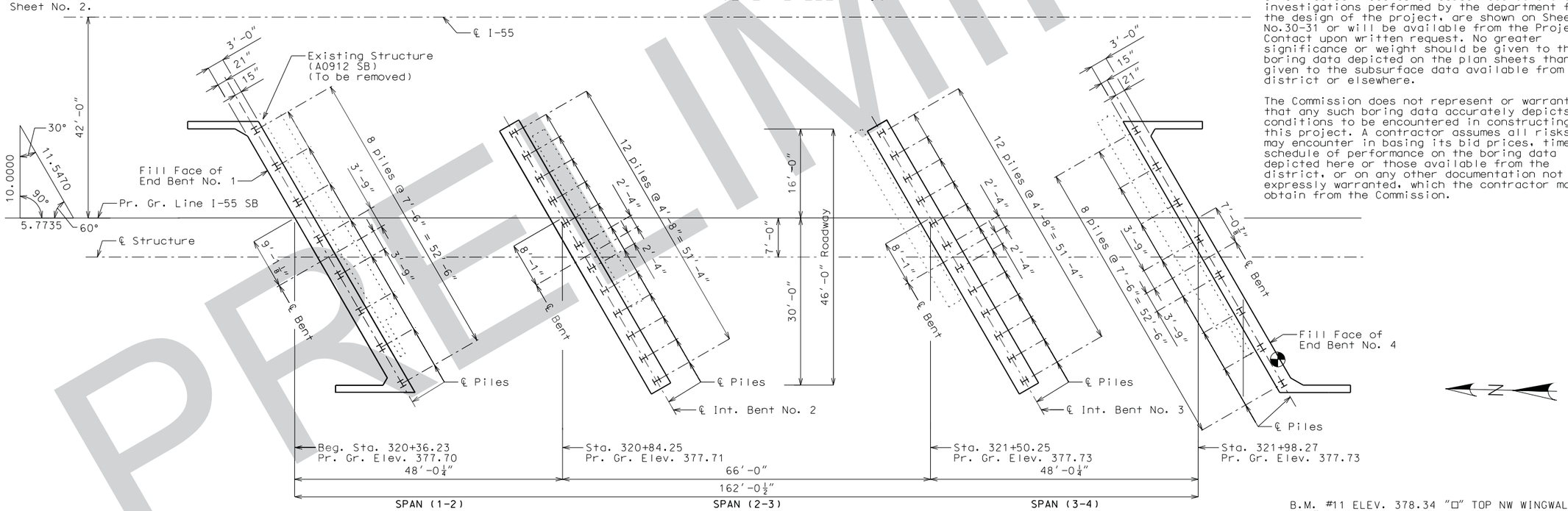
Notes:

All dimensions are horizontal.

All bents are parallel.

Roadway fill shall be completed to the final roadway section and up to the elevation of the concrete beam within the limits of the strucuture and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

For General Notes, Estimated Quantities, Foundation Data and Location Sketch, see Sheet No. 2.



PLAN

"⌖" Indicated location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheets No.30-31 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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

B.M. #11 ELEV. 378.34 "□" TOP NW WINGWALL
BR #A0912 EX CL I-55 STA 320+02.82 23.57' LT

BRIDGE: I-55 SB OVER RAMSEY CREEK

I-55 SB FROM ROUTE M TO ROUTE E

ABOUT 2.5 MILES SOUTH OF ROUTE M

STATION 320+36.23

STD. 609.00
STD. 617.10
STD. 706.35

Designed Aug 2016
Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	1

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.: .

PROJECT NO.: .

BRIDGE NO.: A8434

DESCRIPTION	DATE	REV.
. . . . .	. . . . .	.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

General Notes:

Design Specifications:
2012 AASHTO LRFD Bridge Design Specifications (6th Ed.) and 2013 Interim Revisions.
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Design and Details).
Seismic Design Category = D
Design earthquake response spectral acceleration coefficient at 1.0 second period, S_{D1} = 0.565.

Acceleration coefficent (effective peak ground acceleration coefficient), A_S = 0.675.

Design Loading:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply Supported, Non-Composite for dead load.
Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-1 Concrete (Safety Barrier Curb)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure except Prestressed Girders and Safety Barrier Curb)	f'c = 4,000 psi
Reinforcing Steel (Grade 60)	fy = 60,000 psi
Structural Carbon Steel (ASTM A709 Grade 36)	fy = 36,000 psi
Steel Pile (ASTM A709 Grade 50)	fy = 50,000 psi

For Precast Prestressed Panel Stresses, See Sheet No. 17.
For Prestressed Girder Stresses, See Sheets No. 12-15.

Neoprene Pads:
Plain Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

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

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1½", unless otherwise shown.

Traffic Handling:
Structure to be closed during construction. See roadway plans for traffic control.

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

☐ Constant Joint Filler

☐ Variable Joint Filler

Estimated Quantities

	Item		Substr.	Superstr.	Total
	Class 1 Excavation	cu. yard	120		120
	Removal of Bridges (A0912 SB)	lump sum			1
	Bridge Approach Slab (Major Road)	sq. yard		209	209
	Galvanized Structural Steel Piles (14 in.)	linear foot	2,892		2,892
	Pile Wave Analysis	each	4		4
	Pile Point Reinforcement	each	40		40
	Class B Concrete (Substructure)	cu. yard	101.0		101.0
*	Safety Barrier Curb	linear foot		364	364
	Slab On Concrete NU-Girder	sq. yard		870	870
	NU 35, Prestressed Concrete NU-Girder	linear foot		787	787
	Reinforcing Steel (Bridges)	pound	9,000		9,000
	Conduit System on Structure	lump sum			1
	Fabricated Structural Carbon Steel (Misc.)	pound	1,090		1,090
	Slab Drain	each		22	22
	Vertical Drain At End Bents	each			2
	Plain Neoprene Bearing Pad	each		30	30

* Safety barrier curb shall be cast-in-place option or slip-form option.

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

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

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Steel sway bracing to be galvanized per ASTM A123. The cost of furnishing and installing galvanized steel sway bracing on piles at Intermediate Bent No. 3 will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Misc.).

Channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) to be galvanized per ASTM A123. Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) galvanized and in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

Foundation Data

Bent No.			1	2	3	4
Load Bearing Pile	Pile Type & Size		HP14x73	HP14x73	HP14x73	HP14x73
	Number	each	8	12	12	8
	Approximate Length per each	foot	69	72	73	75
	Pile Driving Verification Method		WEAP	WEAP	WEAP	WEAP
	Minimum Nominal Axial Compressive Resistance	kip	309	353	353	309
	Hammer Energy Required	ft-lb	17,370	19,860	19,860	17,370

Manufactured pile point reinforcement shall be used on all piles in this structure.

WEAP = Wave Equation Analysis of Piles.

Load Bearing Pile: Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor.

HYDROLOGIC DATA

Drainage Area = 12 (sq. mi.)
Design Flood Frequency = 100 (year)
Design Flood Discharge = 6,800 (cfs)
Design Flood (D.F.) Elev. = 373.5
Estimated Backwater = 3.2 (ft)
Average Velocity thru Opening = 7.2 (ft/sec)
Freeboard (50-year)
Freeboard = 0.4 (ft)
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency > 500 (year)
500 YR Flood Elevation = 374.9

Estimated Quantities for Slab on Concrete NU-Girder

Item		Total
Class B-2 Concrete	cu. yard	264.5
Reinforcing Steel	pound	19,010
Reinforcing Steel (Epoxy Coated)	pound	46,210

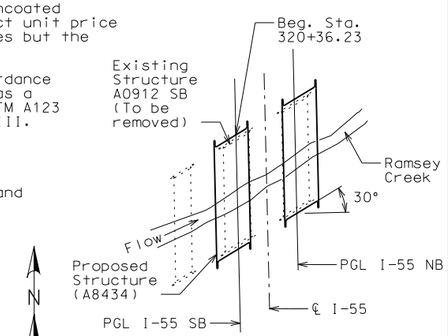
The Table of Estimated Quantities for Slab On Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and coated and uncoated 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 adjustment in the contract unit price.

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

The Estimated Quantities for Slab on Concrete NU-Girder are based on skewed precast prestressed end panels.

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

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



LOCATION SKETCH

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED 12/19/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DESCRIPTION	DATE

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

GBA architects engineers
9801 Renner Boulevard
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ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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Detailed Sept 2016
Checked Sept 2016

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

GENERAL NOTES AND QUANTITIES

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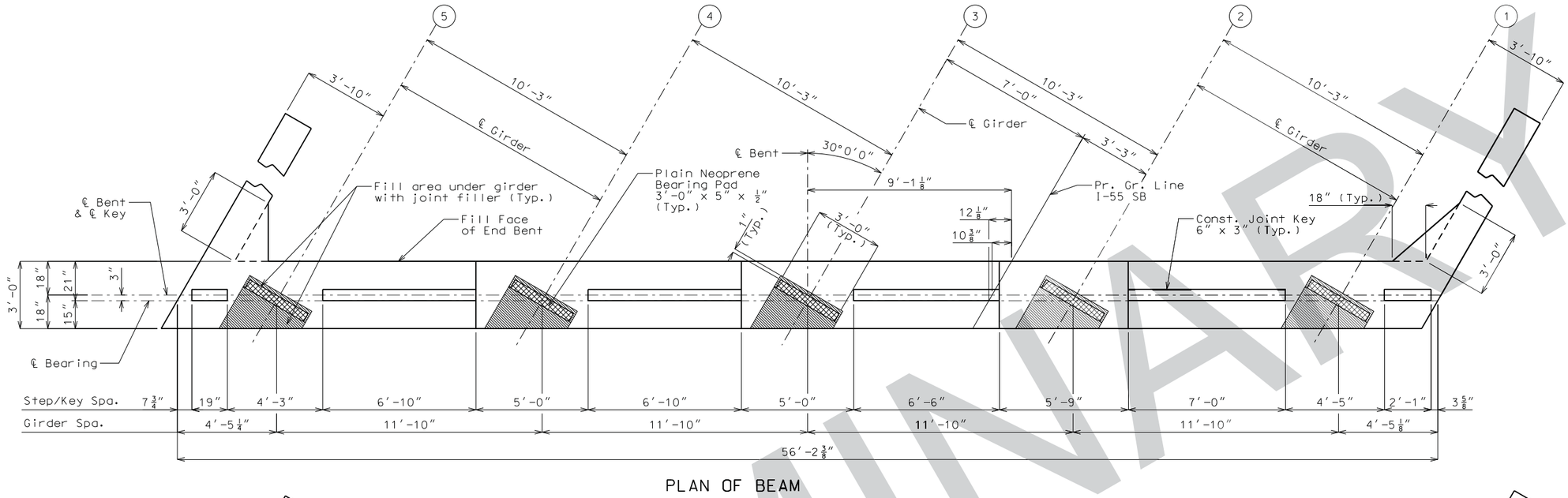
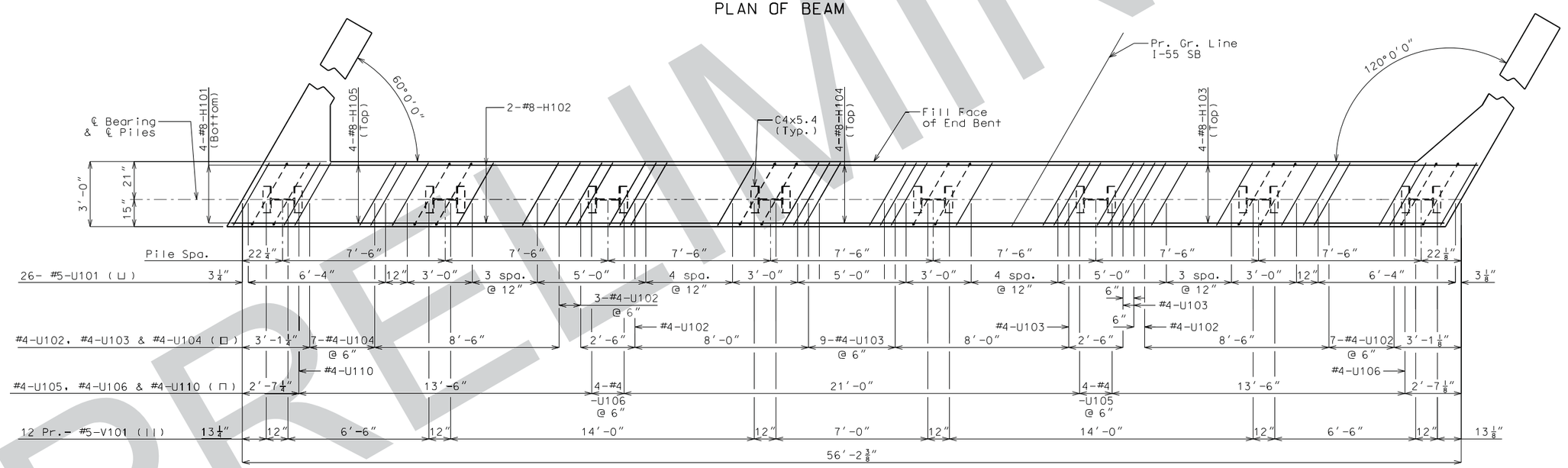
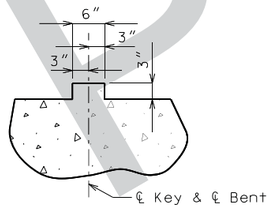


PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
(Note: Steps and keys not shown for clarity)



SECTION THRU KEY

Notes:

For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.

For details of Vertical Drain at End Bents, see Sheet No. 6.

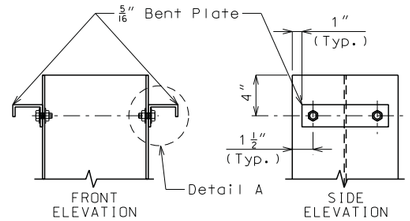
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1½".

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

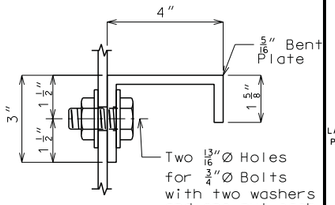
For reinforcement of Safety Barrier Curb, see Sheets No. 22 thru 24.

The U-bars, Pairs-V bars, & #5-H125 shall be placed parallel to Pr. Gr. Line I-55 SB.

For Substructure Quantity Table, see Sheet No. 5.



DETAILS OF PILE ANCHORS



DETAIL A

DETAILS OF END BENT NO. 1

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

Sheet No. 3 of 31

Detailed Sept 2016
Checked Sept 2016

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	3

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8434

DATE	DESCRIPTION
.	.

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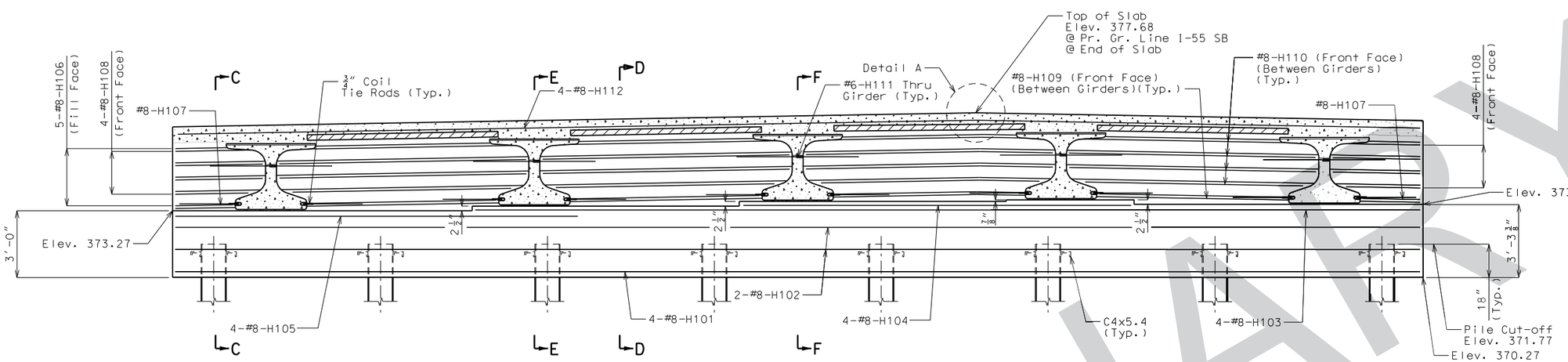
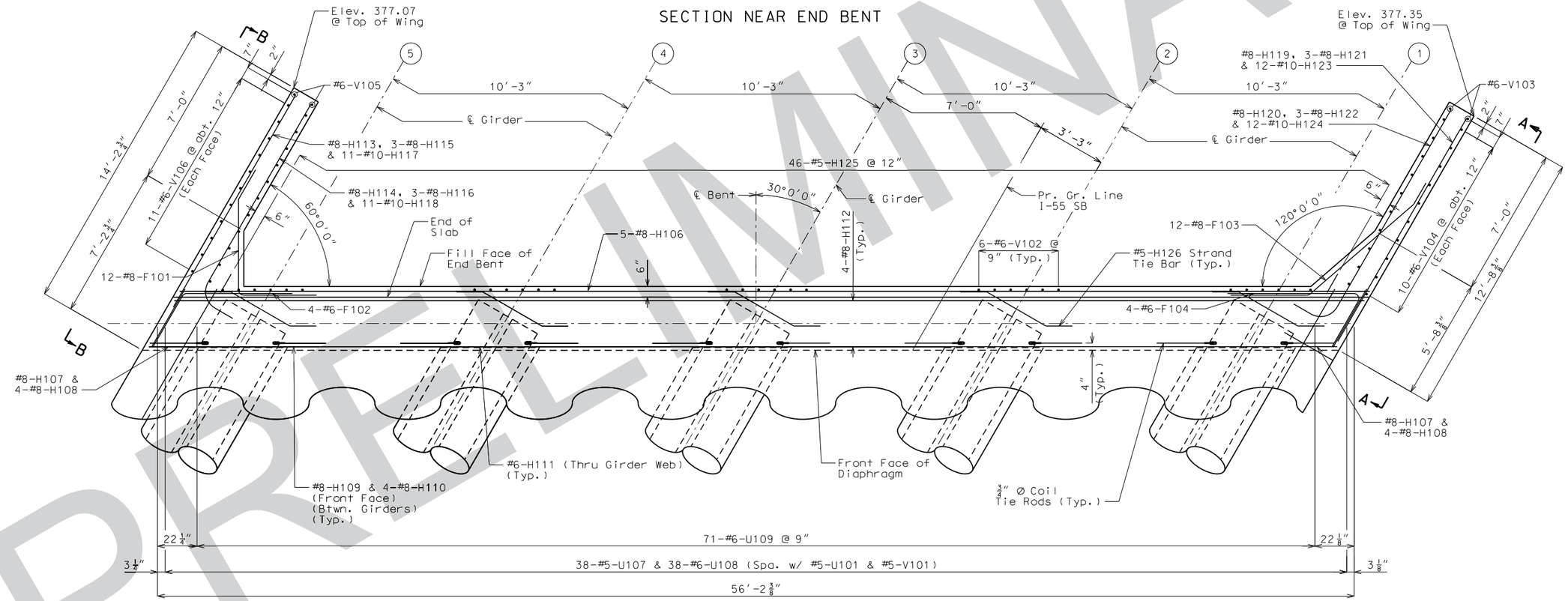


SECTION NEAR END BENT



PLAN

Notes:
For details of End Bent No.1 not shown, see Sheets No. 3 & 5.

For Elevations A-A, B-B & Sections C-C, D-D, E-E & F-F, see Sheet No. 5.

For Detail A, see Sheet No. 5.

For locations of strand tie bars and coil tie rods, see Sheets No. 12 & 13.

All U-bars, pairs of V-bars and #5-H125 bars shall be placed parallel to Pr. Gr. Line I-55 SB.

Strands at the end of the girders shall be field bent or, if necessary, cut in field to maintain 1½" minimum clearance to fill face of end bent.

DETAILS OF END BENT NO. 1

Detailed Sept 2016
Checked Sept 2016

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

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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8434

DATE	DESCRIPTION
.	.

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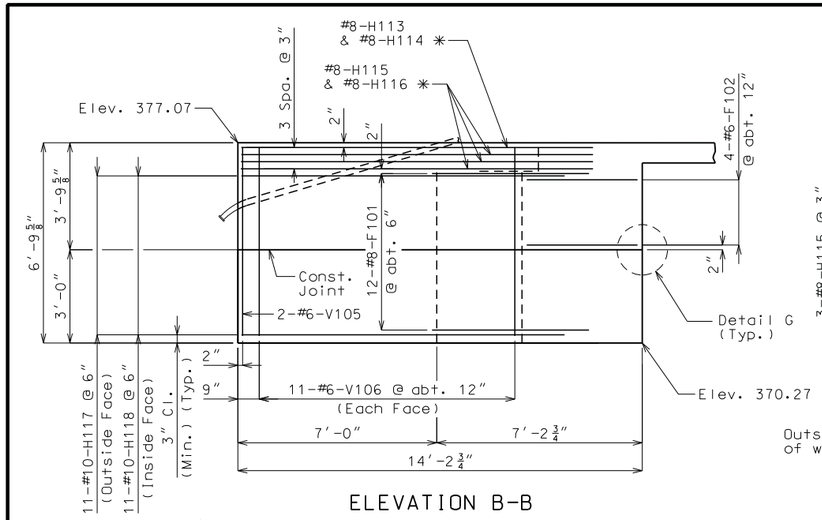
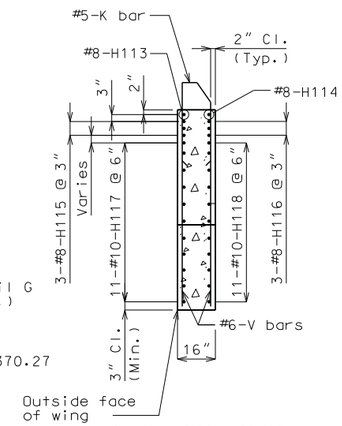
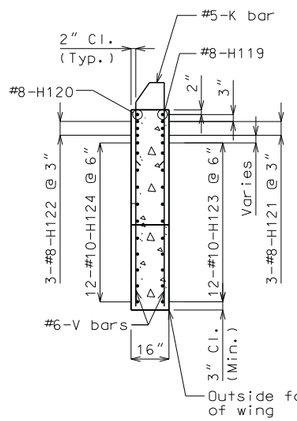


ELEVATION B-B

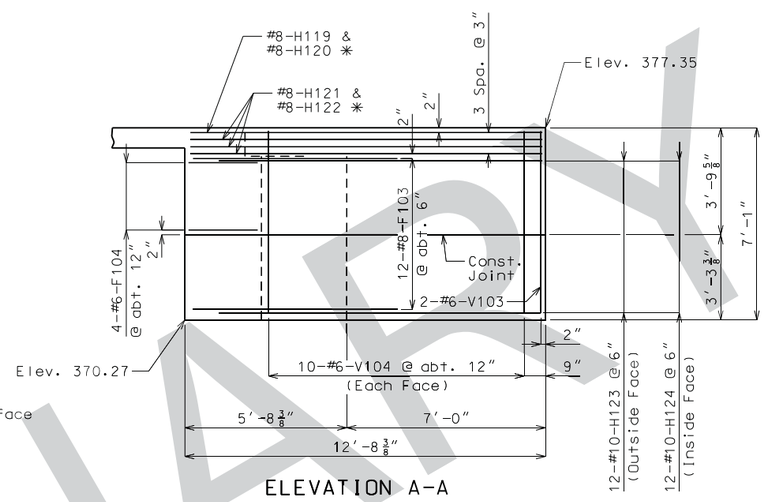


SECTION THRU
WING B-B



SECTION THRU
WING A-A

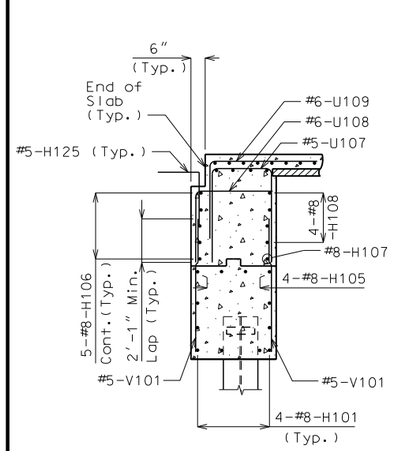
✳ Place with grade.



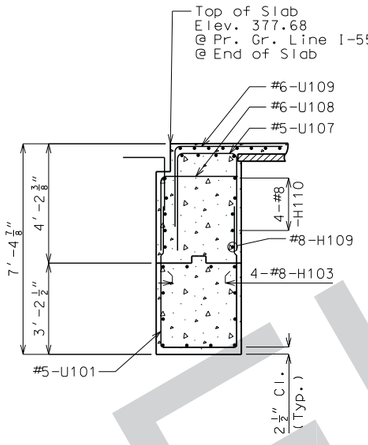
ELEVATION A-A

Note:

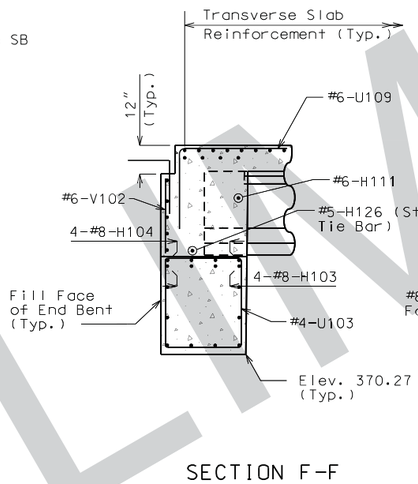
See Sheet No. 22 for Conduit details.



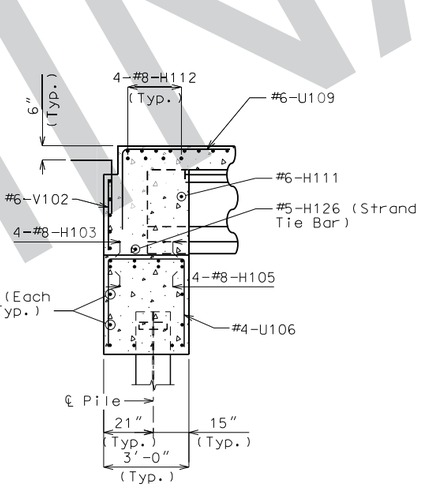
SECTION C-C



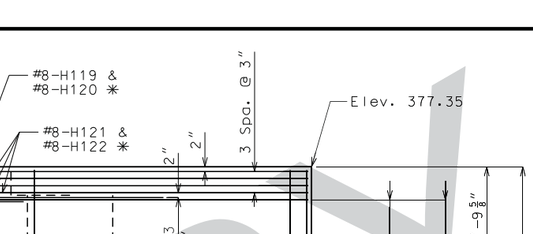
SECTION D-D



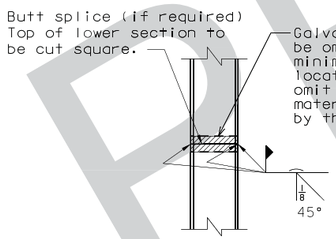
SECTION F-F



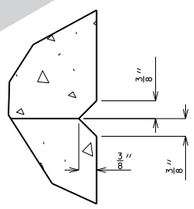
SECTION E-E



DETAIL A



DETAIL OF STEEL PILE SPLICE



DETAIL G

Notes:

For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.

For location of Elevations A-A & B-B, see Sheet No. 4.

For location of Sections C-C, D-D, E-E & F-F, see Sheet No. 4.

For location of Detail A, see Sheet No. 4.

For reinforcement of safety barrier curb, see Sheets No. 22 thru 24.

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class I Excavation	cu. yard	60
Galvanized Structural Steel Piles (14 in.)	linear foot	552
Pile Wave Analysis	each	1
Pile Point Reinforcement	each	8
Class B Concrete (Substructure)	cu. yard	24.0

Notes:

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

Channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) to be galvanized per ASTM A123. Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) galvanized and in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

DETAILS OF END BENT NO. 1

Detailed Sept 2016
Checked Sept 2016

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

Sheet No. 5 of 31

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
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DATE PREPARED
12/19/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	5

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.
.

PROJECT NO.
.

BRIDGE NO.
A8434

DESCRIPTION

DATE

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HOLLY LEHMKUHL
PROFESSIONAL
ENGINEER
PE-2009032976

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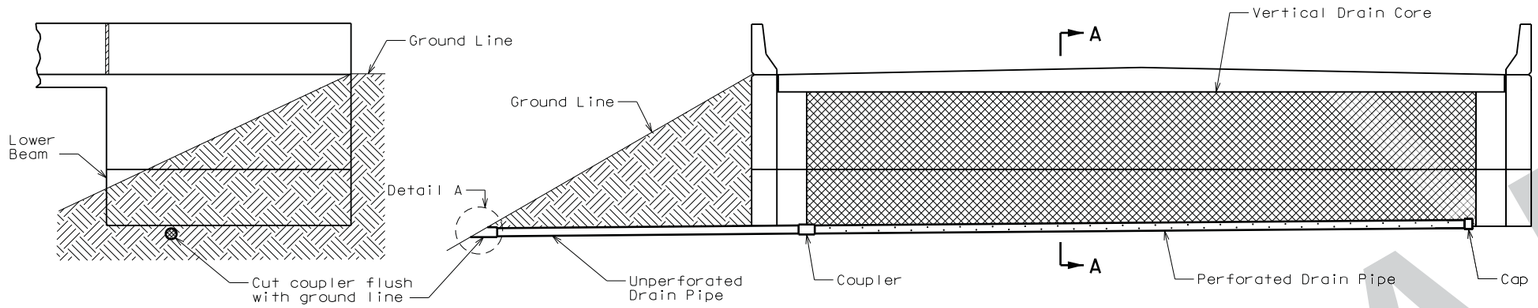
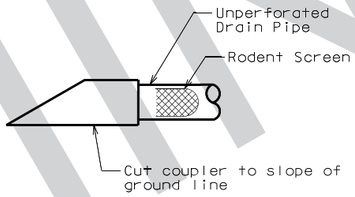
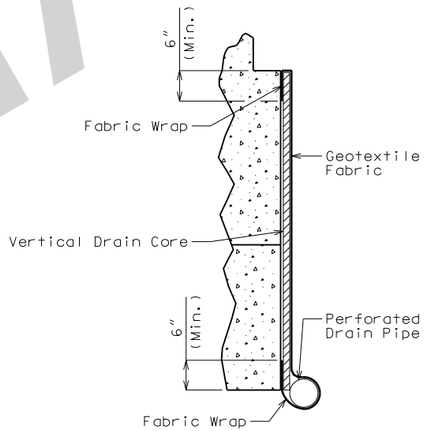


ELEVATION OF WING

ELEVATION AT END BENT



DETAIL A



PART SECTION A-A

Note:

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.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1 1/2 inches. (See Elevation at End Bent.)

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

VERTICAL DRAIN AT END BENTS

Detailed Sept 2016
Checked Sept 2016

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

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

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DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	6

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8434

DESCRIPTION	DATE
.	.

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ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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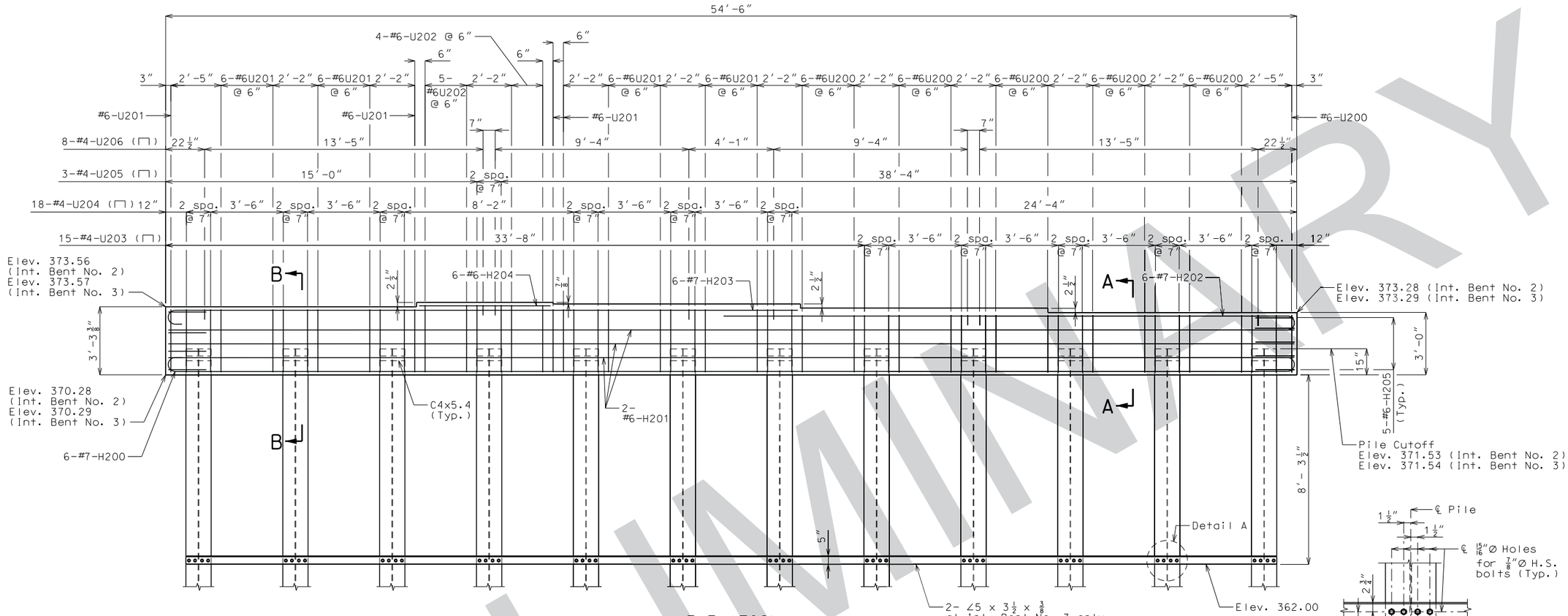
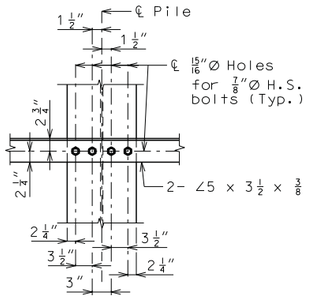
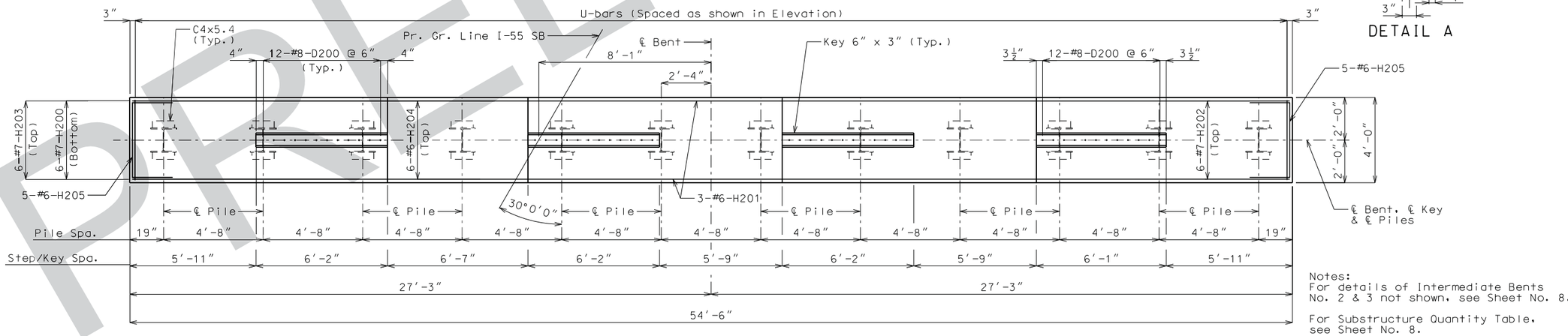


ELEVATION
(Note: Keys not shown for clarity.)



DETAIL A



PLAN OF BEAM SHOWING REINFORCING

Notes:
For details of Intermediate Bents No. 2 & 3 not shown, see Sheet No. 8.

For Substructure Quantity Table, see Sheet No. 8.

Install sway bracing for Intermediate Bent No. 3 only. Sway bracing shall be galvanized per ASTM A123.

For details of pile anchors, see Sheet No. 8.

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	7

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DESCRIPTION	DATE
.	.
.	.
.	.
.	.
.	.
.	.
.	.
.	.

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105 WEST CAPITOL
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LANDSCAPE ARCHITECT 000025
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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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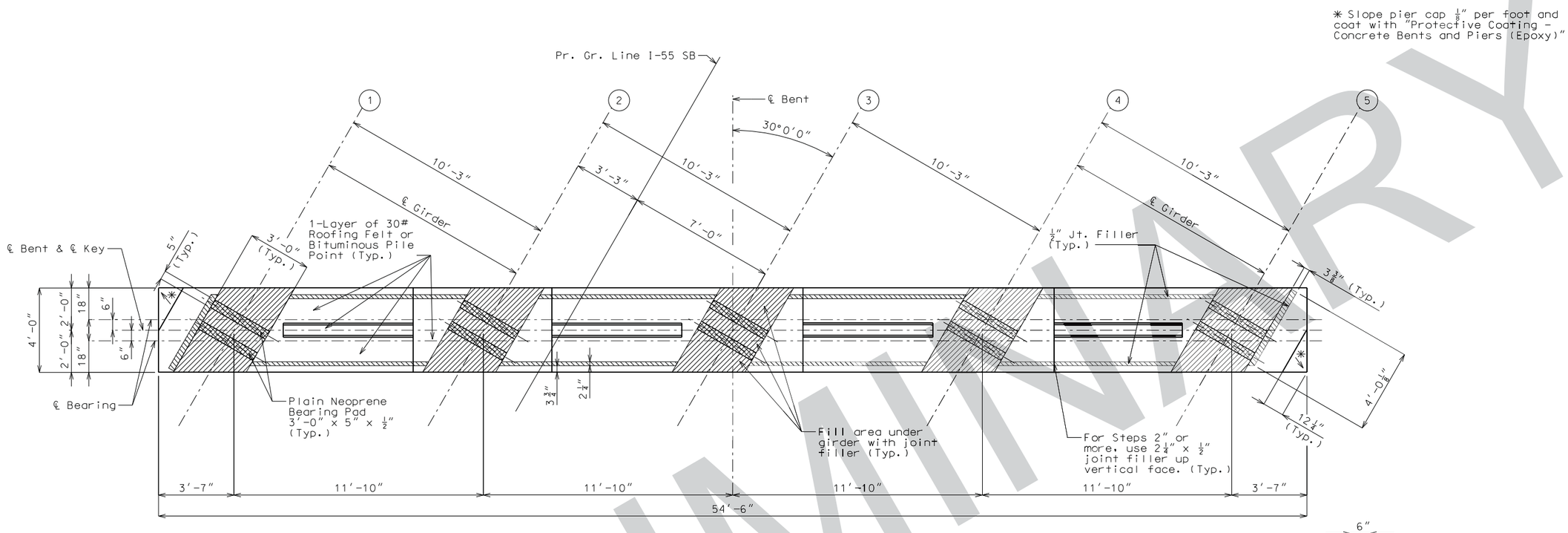
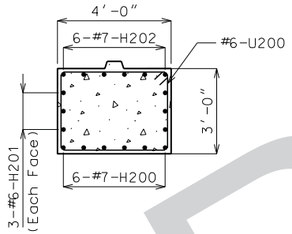
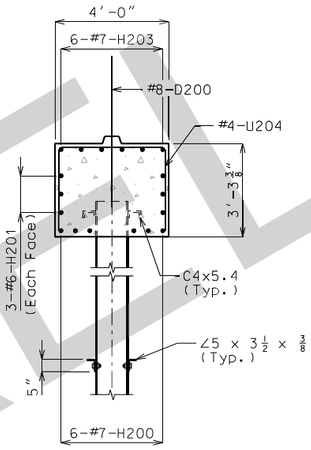
REV.



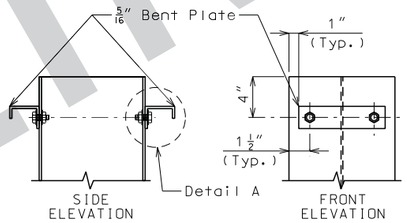
PLAN OF BEAM



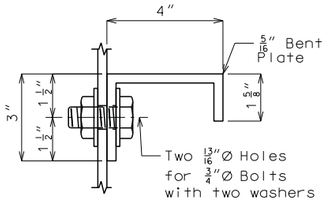
SECTION A-A



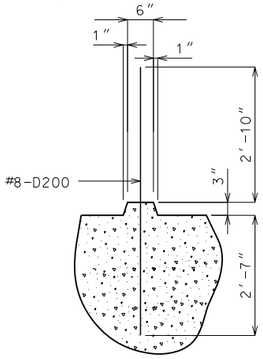
SECTION B-B



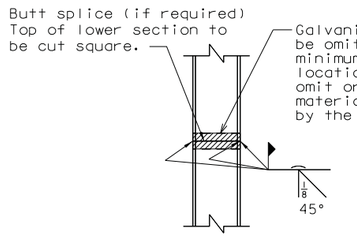
DETAILS OF PILE ANCHORS



DETAIL A



DETAIL OF KEY



DETAIL OF STEEL PILE SPLICE

Substructure Quantity Table for Int. Bents			
Item		Quantity	
		No. 2	No. 3
Galvanized Structural Steel Piles (14 in.)	lin. ft.	864	876
Pile Wave Analysis	each	1	1
Pile Point Reinforcement	each	12	12
Class B Concrete (Substructure)	cu. yard	26.5	26.5
Reinforcing Steel (Bridges)	pound	4,500	4,500
Fabricated Structural Carbon Steel (Misc.)	pound	0	1,090

Note:
These quantities are included in the Estimated Quantities Table on Sheet No. 2.

Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

Notes:

For details of Intermediate Bents No. 2 & 3 not shown, see Sheet No. 7.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1½".

Cost of Protective Coating - Concrete Bents and Piers (Epoxy) will be considered completely covered by the contract unit price for Class B Concrete (Substructure).

Detailed Sept 2016
Checked Sept 2016

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

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

Sheet No. 8 of 31

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.
.

PROJECT NO.
.

BRIDGE NO.
A8434

DESCRIPTION	DATE
. . . . .	. . . . .

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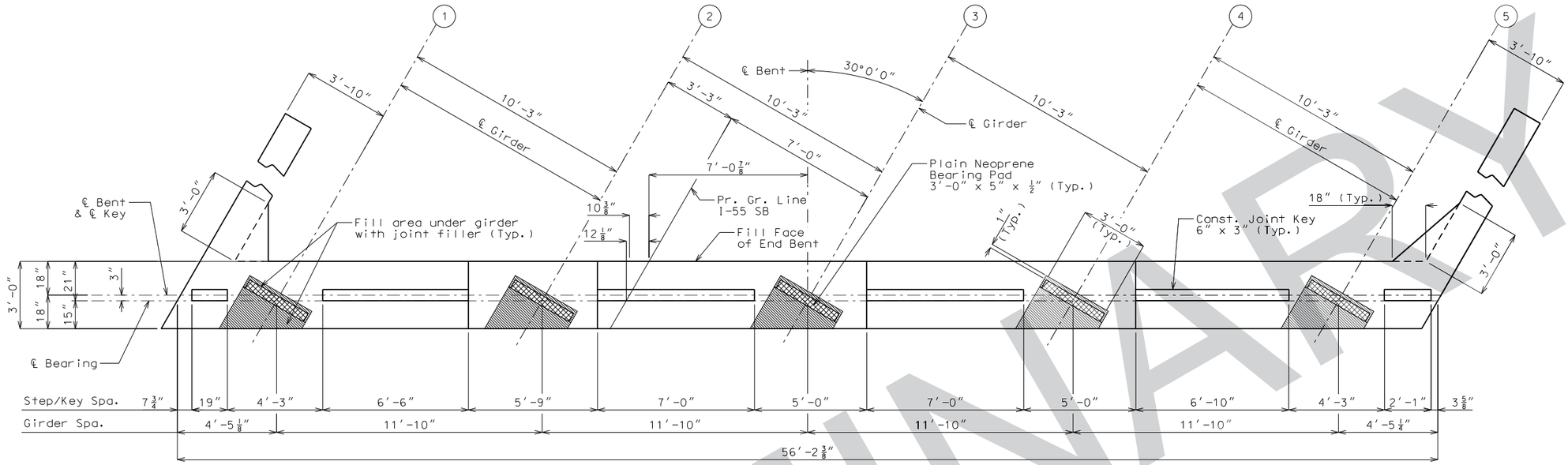
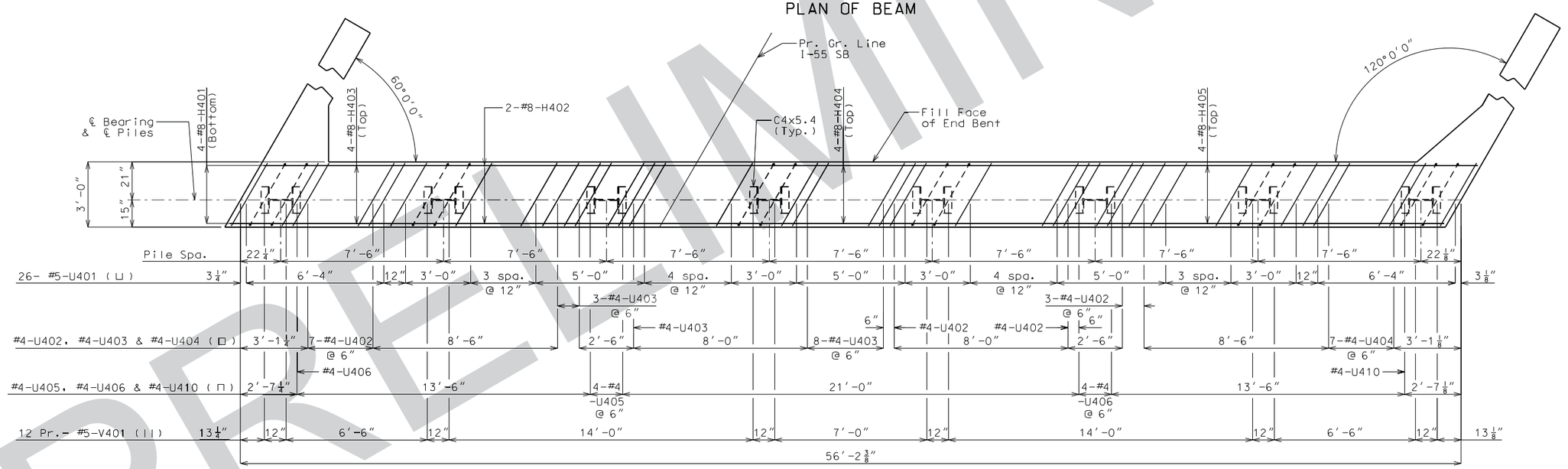
HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

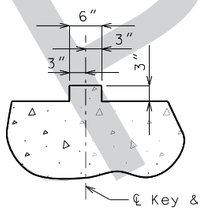
G:\13427\Micro\Bridge\Final\A8434\B_A8434_008_J0I0956_Int Bent No 2 & 3.dgn 11:30:50 AM 11/22/2016



PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
(Note: Steps and keys not shown for clarity)



SECTION THRU KEY

Notes:

For details of End Bent No. 4 not shown, see Sheets No. 10 & 11.

For details of Vertical Drain at End Bents, see Sheet No. 6.

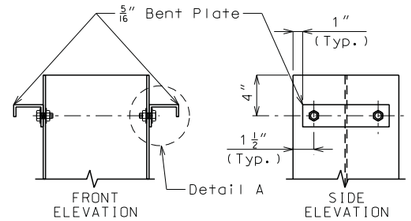
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1½".

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

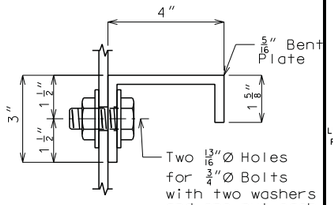
For reinforcement of Safety Barrier Curb, see Sheets No. 22 thru 24.

The U-bars, Pairs-V bars, & #5-H425 shall be placed parallel to Pr. Gr. Line I-55 SB.

For Substructure Quantity Table, see Sheet No. 11.



DETAILS OF PILE ANCHORS



DETAIL A

DETAILS OF END BENT NO. 4

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

Sheet No. 9 of 31

Detailed Sept 2016
Checked Sept 2016

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	9

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8434

DATE	DESCRIPTION
.	.

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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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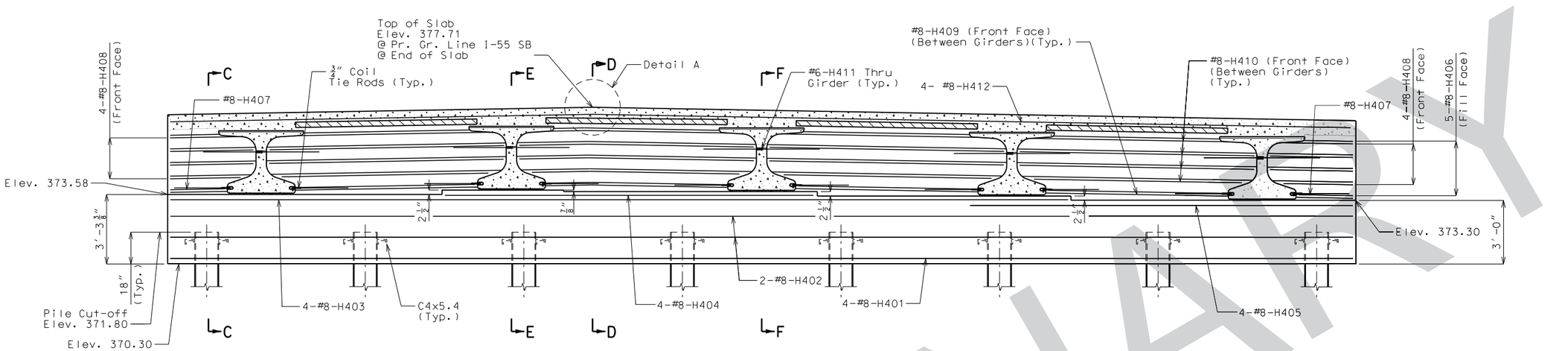
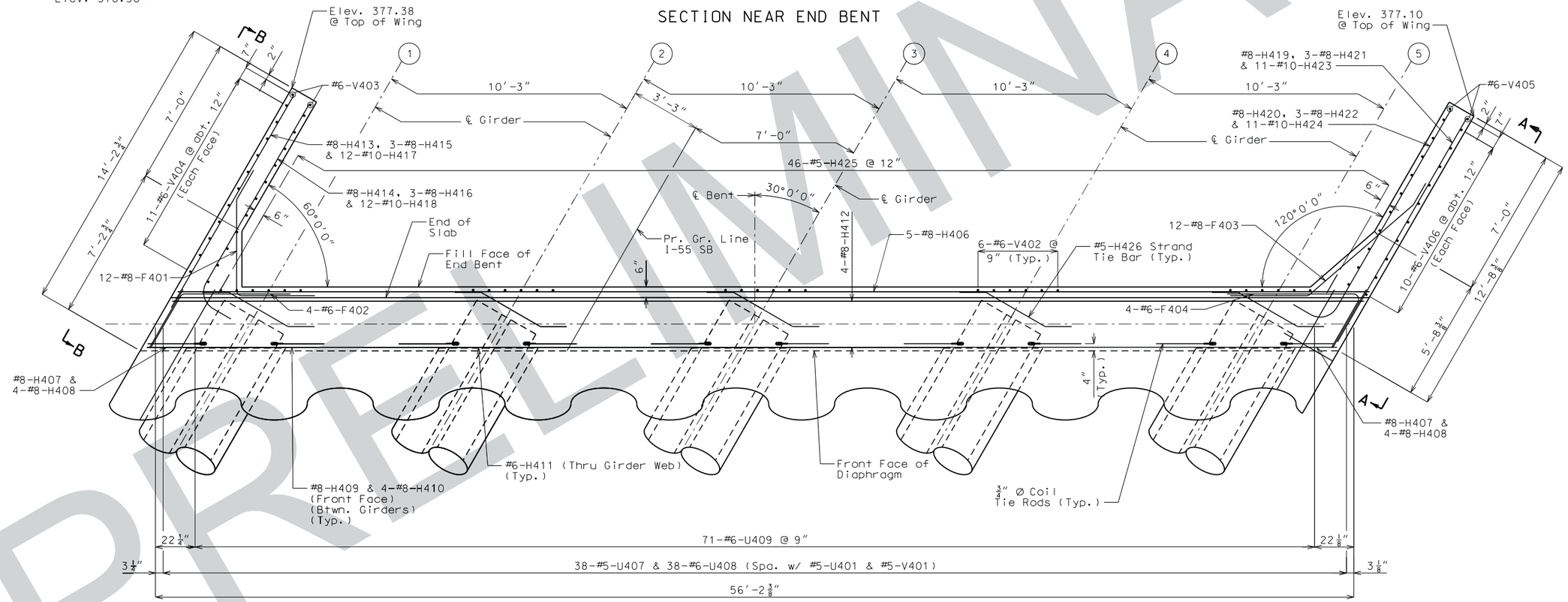


SECTION NEAR END BENT



PLAN

Notes:
For details of End Bent No. 4 not shown, see Sheets No. 9 & 11.

For Elevations A-A, B-B & Sections C-C, D-D, E-E & F-F, see Sheet No. 11.

For Detail A, see Sheet No. 11.

For locations of strand tie bars and coil tie rods, see Sheets No. 12 & 13.

All U-bars, pairs of V-bars and #5-H425 bars shall be placed parallel to Pr. Gr. Line I-55 SB.

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

DETAILS OF END BENT NO. 4

Detailed Sept 2016
Checked Sept 2016

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

Sheet No. 10 of 31

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 10
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

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DESCRIPTION	DATE	REV.
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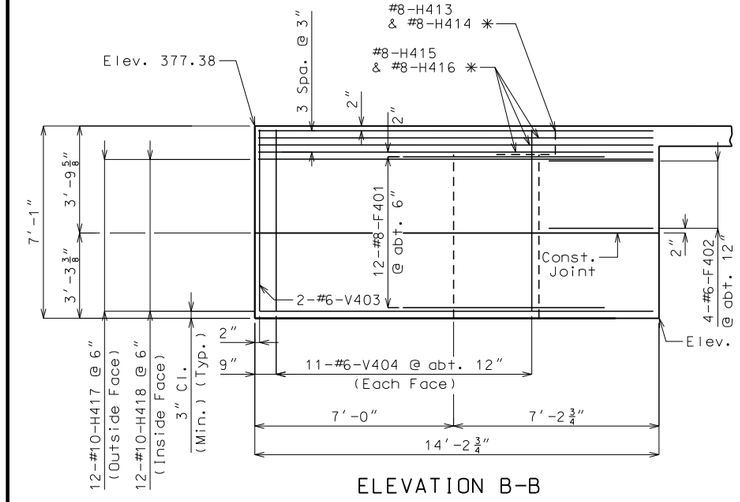
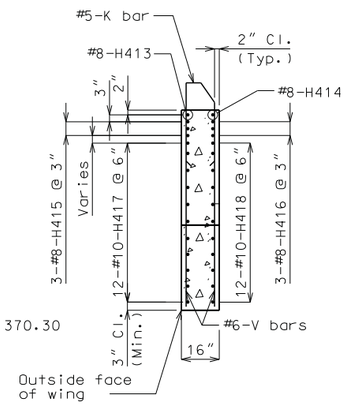
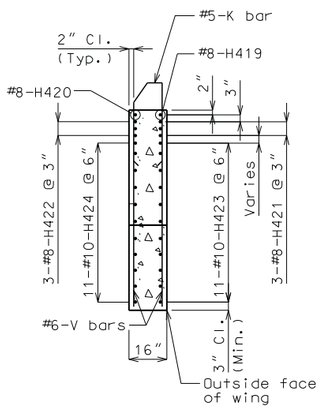
HOLLY LEHMKUHL
PROFESSIONAL
ENGINEER
PE-2009032976



ELEVATION B-B

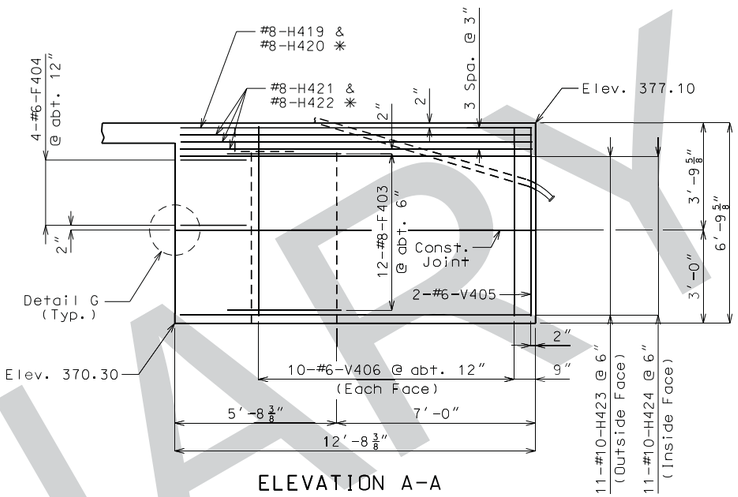


SECTION THRU WING B-B



SECTION THRU WING A-A

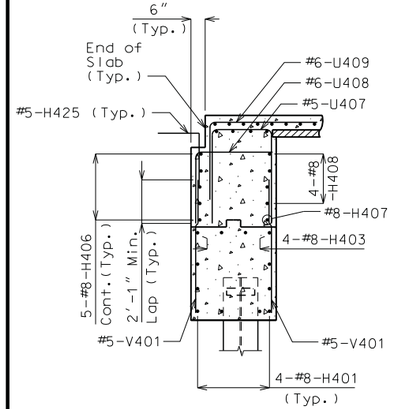
✳ Place with grade.



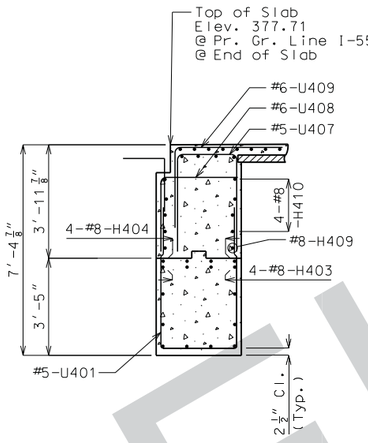
ELEVATION A-A

Note:

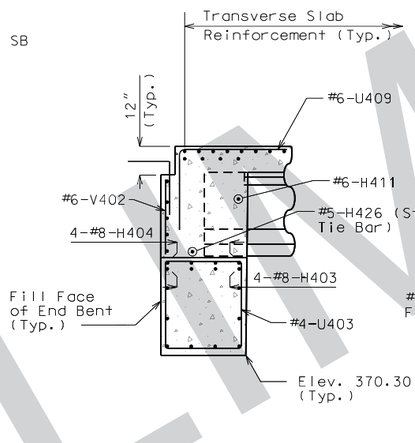
See Sheet No. 22 for Conduit details.



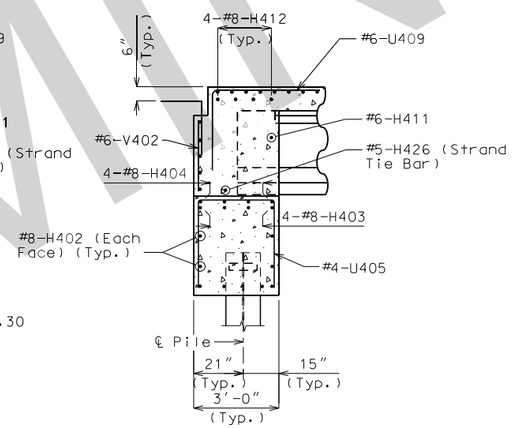
SECTION C-C



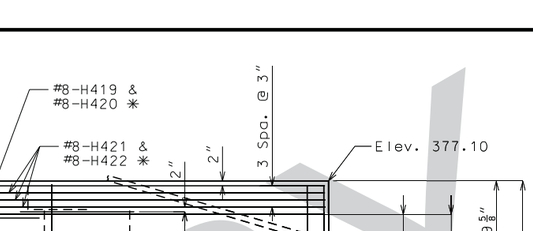
SECTION D-D



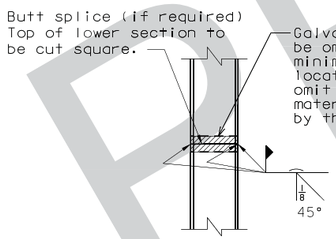
SECTION F-F



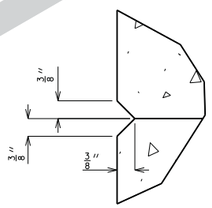
SECTION E-E



DETAIL A



DETAIL OF STEEL PILE SPLICE



DETAIL G

Notes:

For details of End Bent No. 4 not shown, see Sheets No. 9 & 10.

For location of Elevations A-A & B-B, see Sheet No. 10.

For location of Sections C-C, D-D, E-E & F-F, see Sheet No. 10.

For location of Detail A, see Sheet No. 10.

For reinforcement of safety barrier curb, see Sheets No. 22 thru 24.

Substructure Quantity Table for Bent No. 4		
Item		Quantity
Class I Excavation	cu. yard	60
Galvanized Structural Steel Piles (14 in.)	linear foot	600
Pile Wave Analysis	each	1
Pile Point Reinforcement	each	8
Class B Concrete (Substructure)	cu. yard	24.0

Notes:

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

Channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) to be galvanized per ASTM A123. Cost of channel shear connectors (Pile Anchors) C4x5.4 (ASTM A709 Grade 36) galvanized and in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

DETAILS OF END BENT NO. 4

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 12/19/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	11

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DESCRIPTION | DATE | REV.

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JEFFERSON CITY, MO 65102
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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

G:\13427\Micro\Bridge\Final\A8434\B_A8434_011_J0I0956_End_Bent_No._4.dgn 4:30:48 PM 12/19/2016

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

(+) indicates prestressing strand.

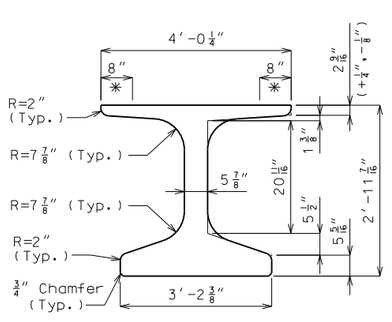
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

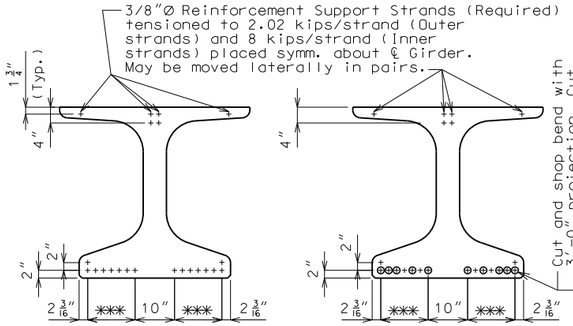
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



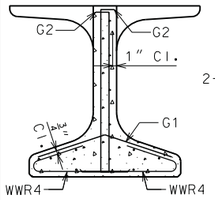
DIMENSIONS



✳✳✳ 6 Spa. @ 2" ℄ GIRDER END OF GIRDER END BENT INTERMEDIATE BENT

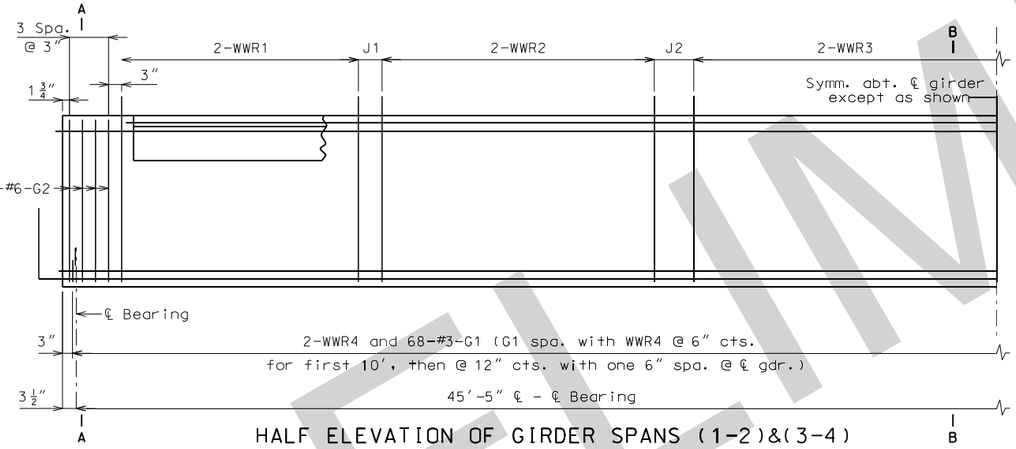
STRAND ARRANGEMENTS

STRAND DETAILS AT GIRDER ENDS



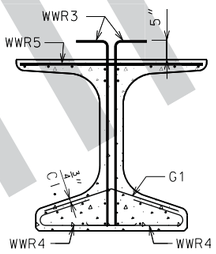
SECTION A-A

Strands not shown for clarity.



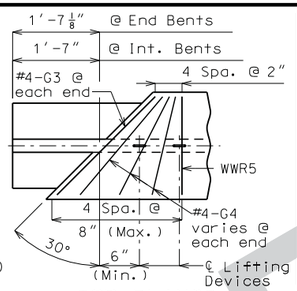
HALF ELEVATION OF GIRDER SPANS (1-2)&(3-4)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



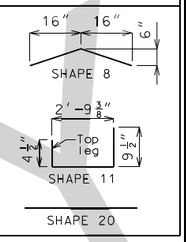
SECTION B-B

Strands not shown for clarity.



TOP FLANGE BLOCKOUT DETAIL

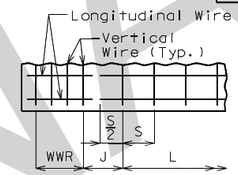
BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
68	3 G1	2'-10"	8	
16	6 G2	3'-9"	11	
2	4 G3	4'-5"	20	
6	4 G4	Varies	20	



WELDED WIRE REINFORCEMENT

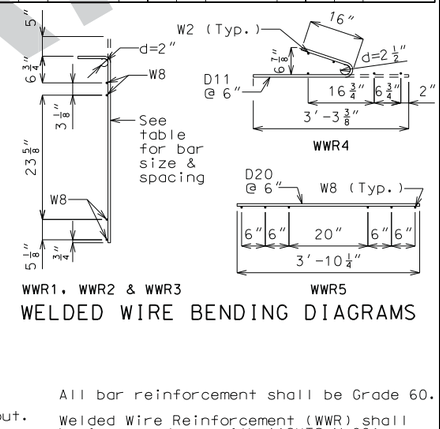
(WWR4 & WWR5 as shown in Welded Wire Bending Diagrams)

SPAN NO.	WWR1 BAR SIZE	WWR1 S1	WWR1 L1	WWR1 J1	WWR2 BAR SIZE	WWR2 S2	WWR2 L2	WWR2 J2	WWR3 BAR SIZE	WWR3 S3	WWR3 L3
1	5	3"	6'-3"	6"	5	6"	6'-6"	7¼"	5	12"	16'-0"
3	5	3"	6'-3"	6"	5	6"	6'-6"	7¼"	5	12"	16'-0"



WELDED WIRE PLACEMENT DETAIL

S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats



WWR1, WWR2 & WWR3

WELDED WIRE BENDING DIAGRAMS

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

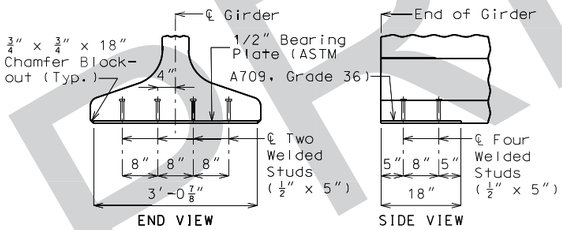
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheets No. 4, 10 & 16.

For Girder Camber Diagram, see Sheet No. 19.

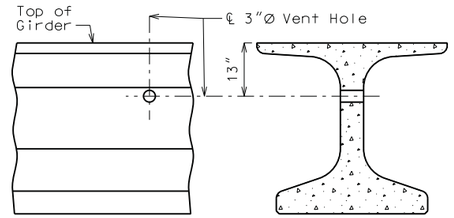
Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



BEARING PLATE DETAILS

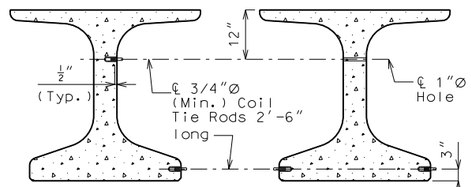
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE I-55 | STATE MO

DISTRICT BR | SHEET NO. 12

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID. .

PROJECT NO. .

BRIDGE NO. A8434

REV.	DESCRIPTION	DATE
.	.	.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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PRO. ENGINEER 000133
ARCHITECT 0021Z
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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

Detailed Sept 2016
Checked Sept 2016

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

G:\13427\Micro\Bridge\Final\A8434\B_A8434_012_J0I0956_Span1&3Girders.dgn 11:30:53 AM 11/22/2016

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

(+) indicates prestressing strand.

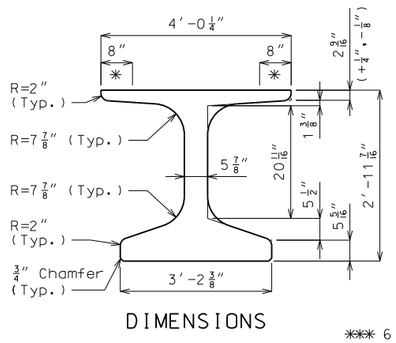
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

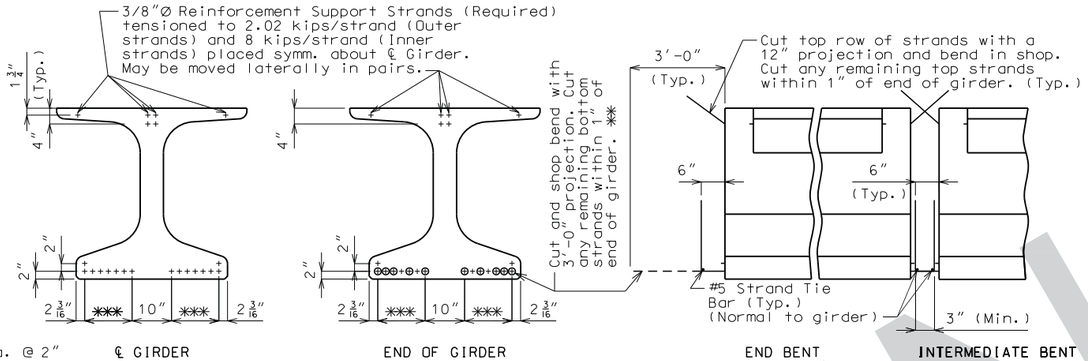
Fabricator shall be responsible for location and design of lifting devices.

✱ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✱✱ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.



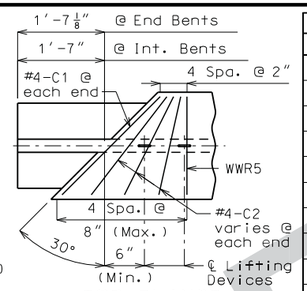
DIMENSIONS



✱✱✱ 6 Spa. @ 2" ℄ GIRDER END OF GIRDER END BENT INTERMEDIATE BENT

STRAND ARRANGEMENTS

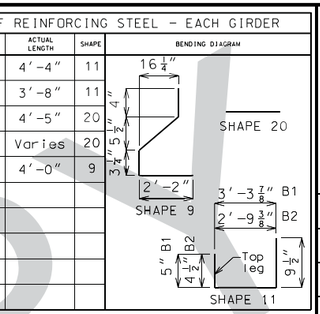
STRAND DETAILS AT GIRDER ENDS

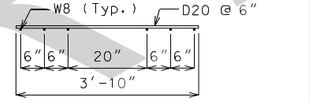


TOP FLANGE BLOCKOUT DETAIL

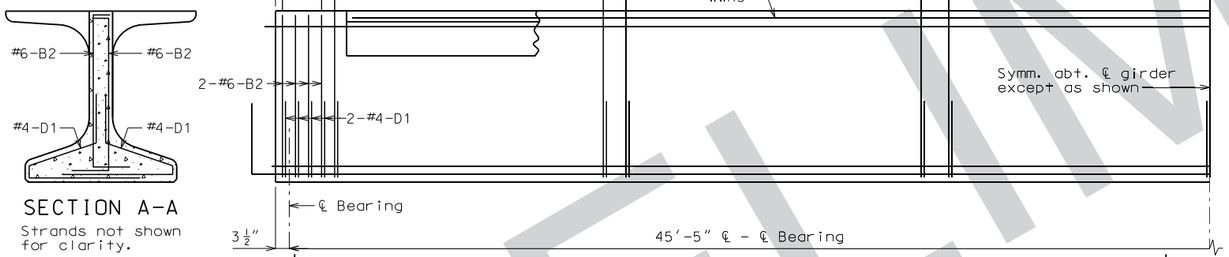
BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
194	5 B1	4'-4"	11	
16	6 B2	3'-8"	11	
2	4 C1	4'-5"	20	
6	4 C2	Varies	20	
210	4 D1	4'-0"	9	





WELDED WIRE BENDING DIAGRAM

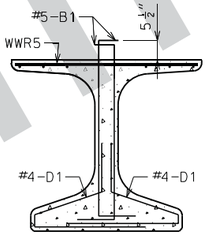


HALF ELEVATION OF GIRDER SPANS (1-2)&(3-4)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.

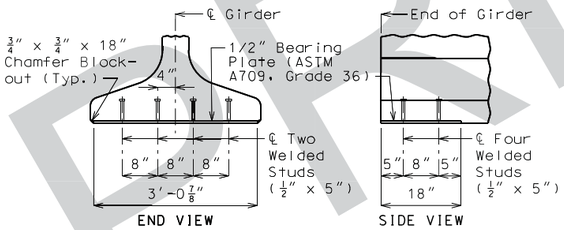
SECTION A-A

Strands not shown for clarity.



SECTION B-B

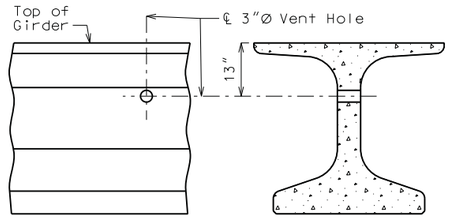
Strands not shown for clarity.



BEARING PLATE DETAILS

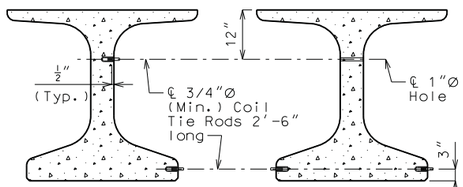
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

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

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheets No. 4, 10 & 16.

For Girder Camber Diagram, see Sheet No. 19.

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

ALTERNATE BAR REINFORCING STEEL DETAILS

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI HOLLY A. LEHMKUHL NUMBER PE-2009032976 PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 13
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

REV.	DESCRIPTION	DATE

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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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

(+) indicates prestressing strand.

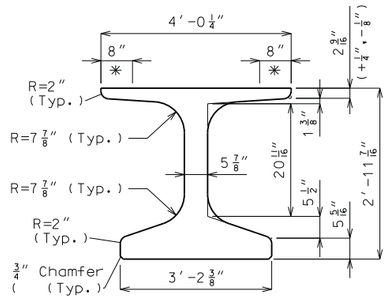
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

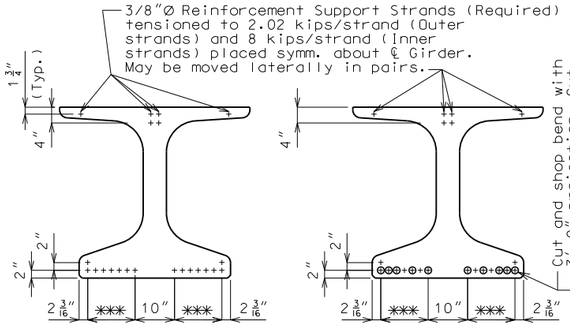
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.



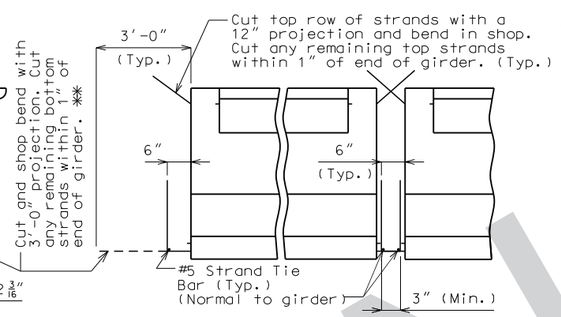
DIMENSIONS



✳✳✳ 6 Spa. @ 2" ℄ GIRDER

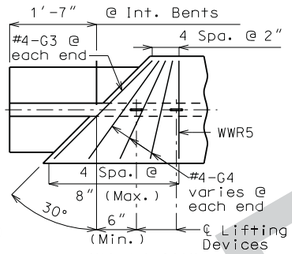
END OF GIRDER

STRAND ARRANGEMENTS



INTERMEDIATE BENT INTERMEDIATE BENT

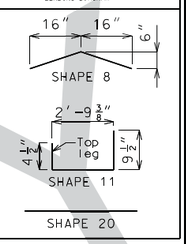
STRAND DETAILS AT GIRDER ENDS



TOP FLANGE BLOCKOUT DETAIL

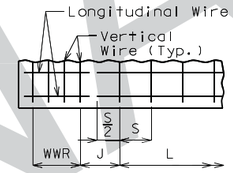
BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
86	3 G1	2'-10"	8	
16	6 G2	3'-9"	11	
2	4 G3	4'-5"	20	
6	4 G4	Varies	20	



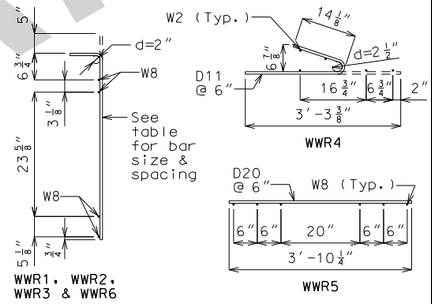
WELDED WIRE REINFORCEMENT
(WWR4 & WWR5 as shown in Welded Wire Bending Diagrams)

SPAN NO.	WWR1 BAR SIZE	S1	L1	J1	WWR2 BAR SIZE	S2	L2	J2	WWR3 BAR SIZE	S3	L3	J3	WWR6 BAR SIZE	S6	L6
2	5	3"	6'-3"	6"	5	6"	6'-0"	12"	5	12"	9'-0"	15¾"	5	18"	15'-0"

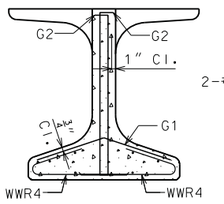


WELDED WIRE PLACEMENT DETAIL

S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats

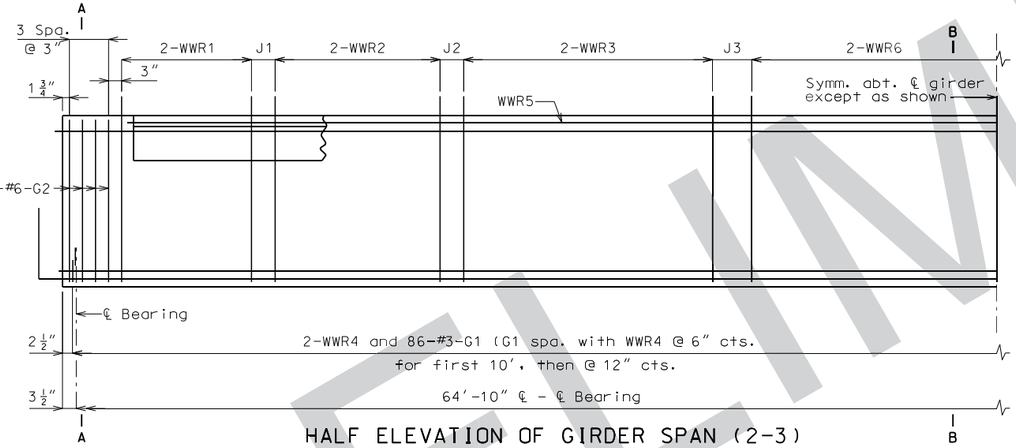


WELDED WIRE BENDING DIAGRAMS



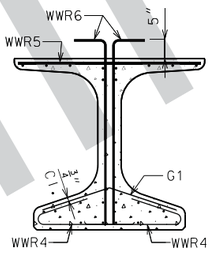
SECTION A-A

Strands not shown for clarity.



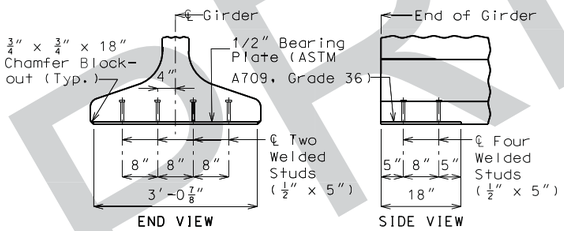
HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



SECTION B-B

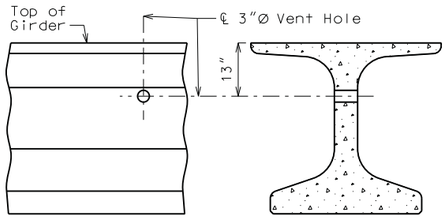
Strands not shown for clarity.



BEARING PLATE DETAILS

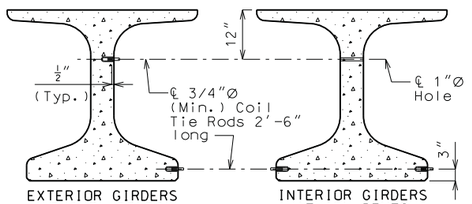
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheet No. 16.

For Girder Camber Diagram, see Sheet No. 19.

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 14
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DESCRIPTION	DATE

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REV.

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

(+) indicates prestressing strand.

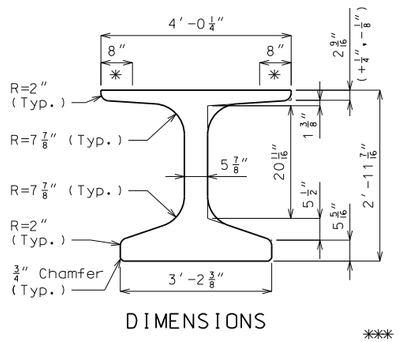
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

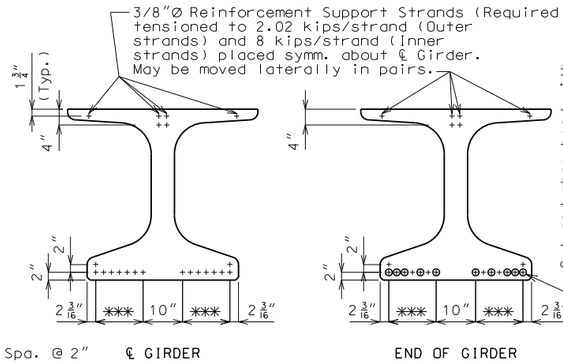
Fabricator shall be responsible for location and design of lifting devices.

* Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

** At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands. No additional payment will be made if additional strand tie bars are required.



DIMENSIONS

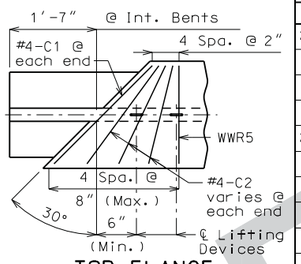


*** 6 Spa. @ 2" ℄ GIRDER END OF GIRDER

STRAND ARRANGEMENTS

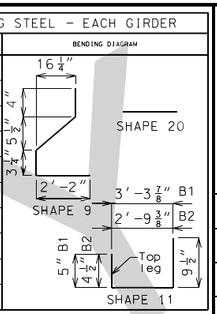
INTERMEDIATE BENT INTERMEDIATE BENT

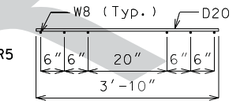
STRAND DETAILS AT GIRDER ENDS



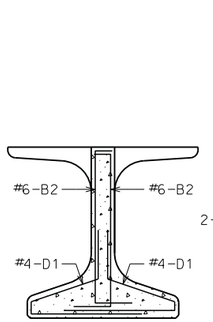
TOP FLANGE BLOCKOUT DETAIL

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
218	5 B1	4'-4"	11	
16	6 B2	3'-8"	11	
2	4 C1	4'-5"	20	
6	4 C2	Varies	20	
234	4 D1	4'-0"	9	



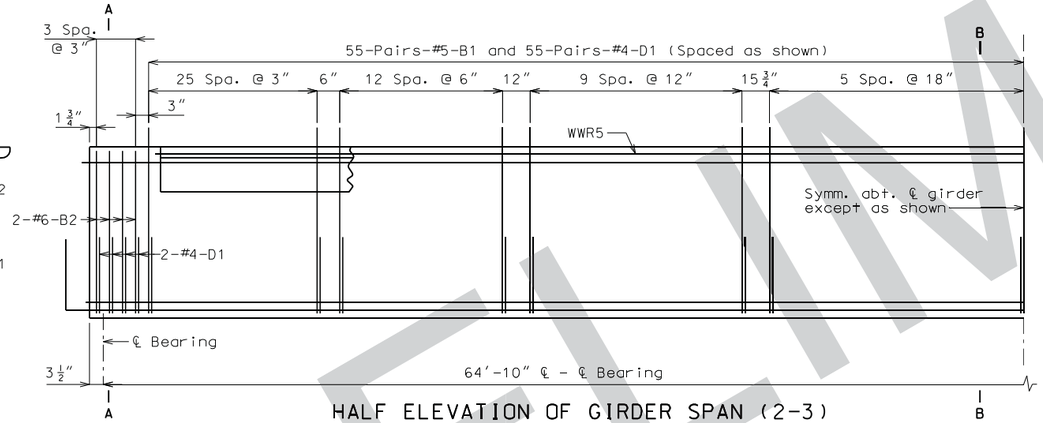


WELDED WIRE BENDING DIAGRAM



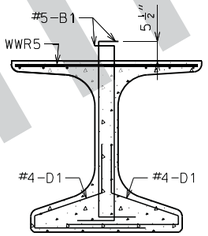
SECTION A-A

Strands not shown for clarity.

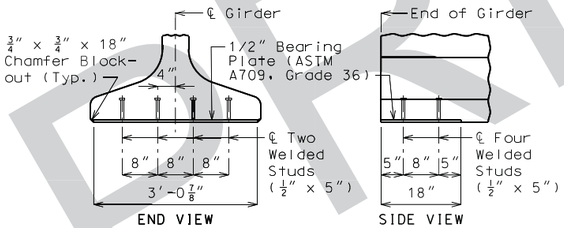


HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



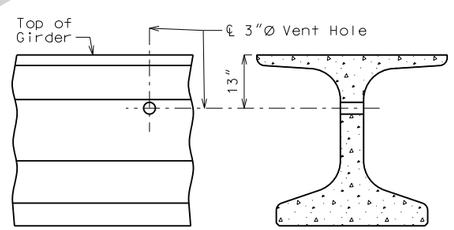
SECTION B-B



BEARING PLATE DETAILS

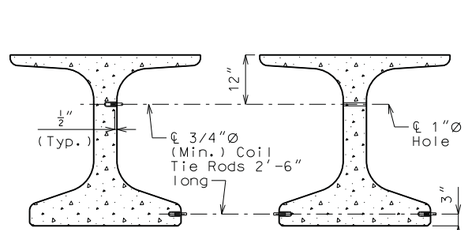
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

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

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 18.

For location of coil ties and #6 bars, see Sheets No. 16.

For Girder Camber Diagram, see Sheet No. 19.

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

ALTERNATE BAR REINFORCING STEEL DETAILS

Detailed Sept 2016
Checked Sept 2016

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

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CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

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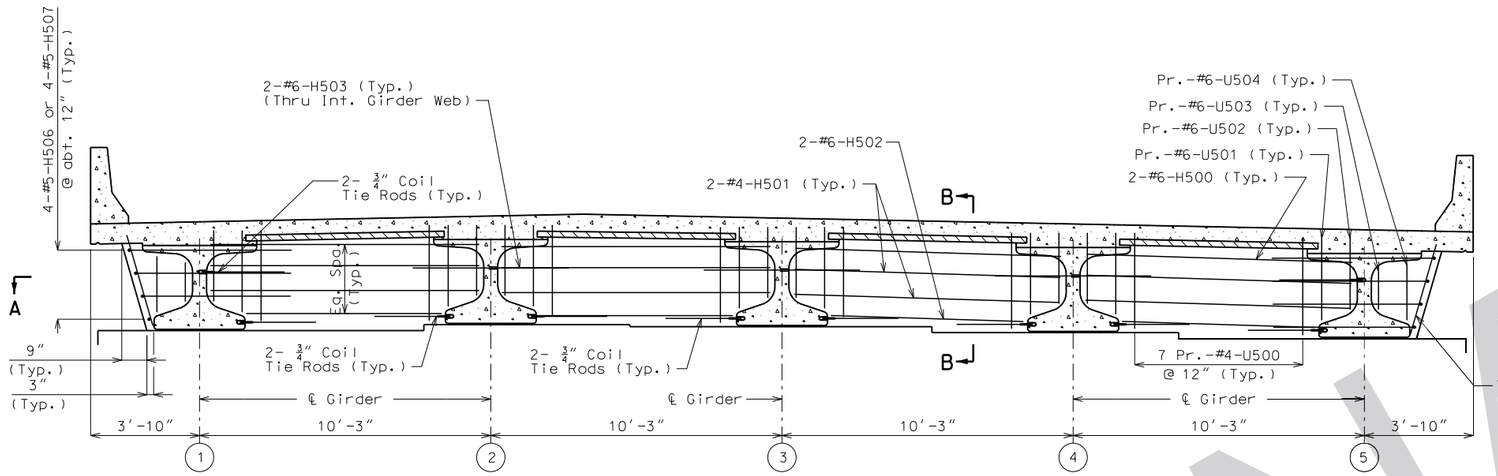
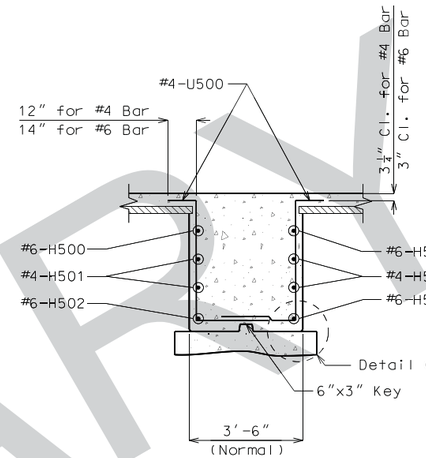
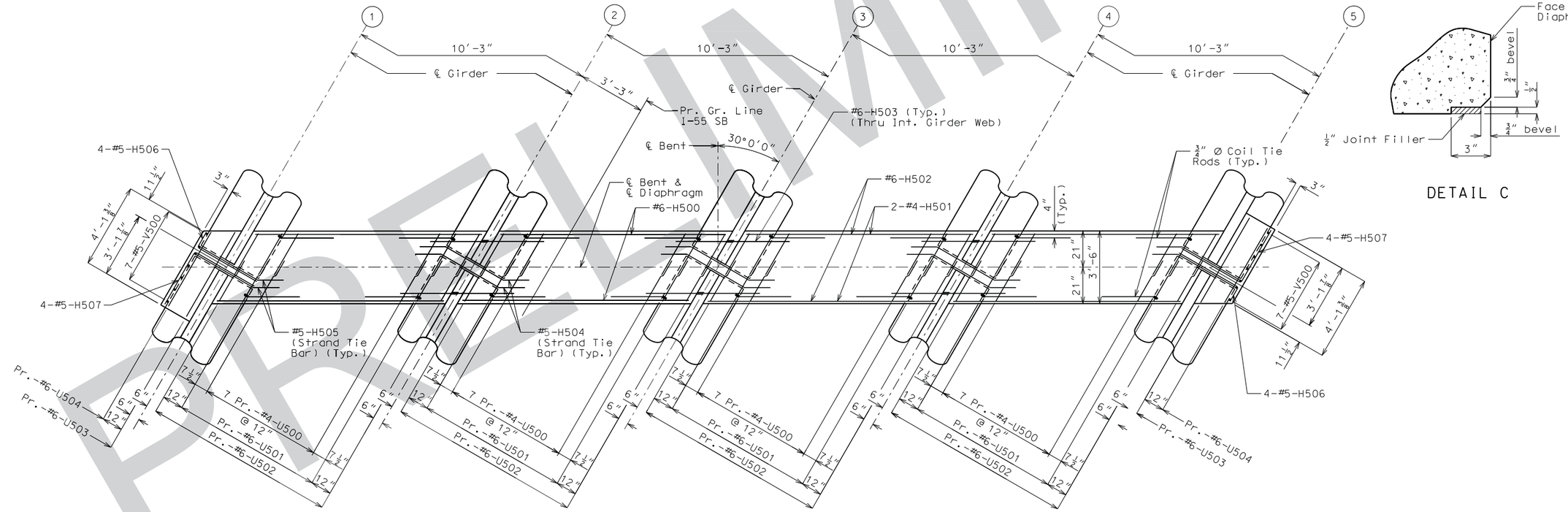


SECTION NEAR INTERMEDIATE BENT

Dimensions are normal to ℄ Structure



SECTION B-B



SECTION A-A

DETAIL C

DETAILS OF CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS NO. 2 & 3

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

Sheet No. 16 of 31

Detailed Sept 2016
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DISTRICT	SHEET NO.
BR	16

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8434

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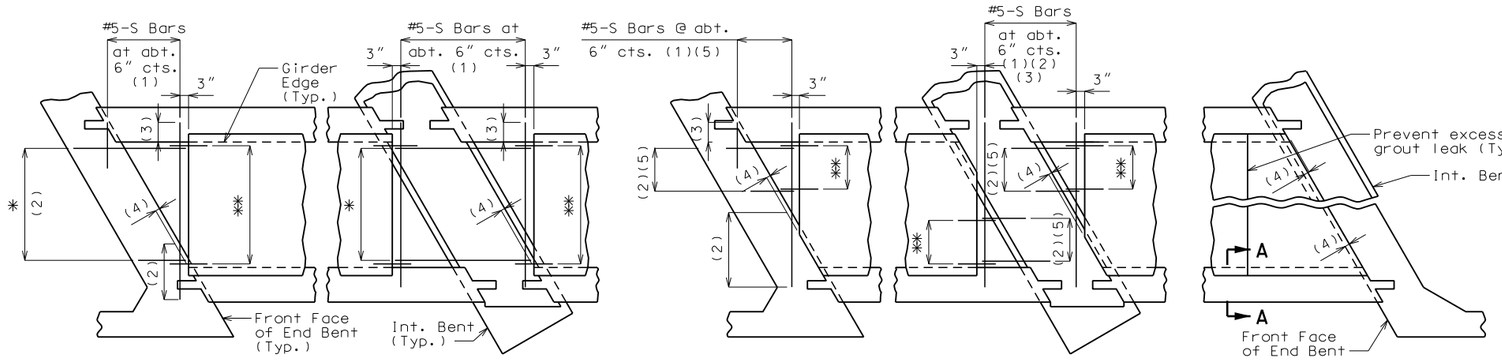
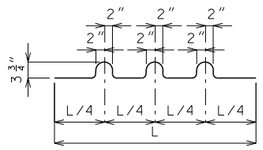
G:\13427\Micro\Bridge\Final\A8434\B_A8434_016_J0I0956_Int Diaphragm.dgn 11:30:56 AM 11/22/2016



SQUARED END PANELS OR TRUNCATED END PANELS

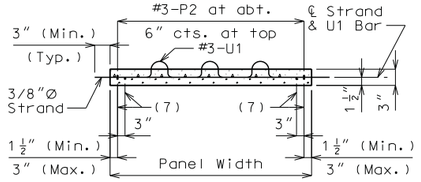
PLAN SHOWING PANELS PLACEMENT

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

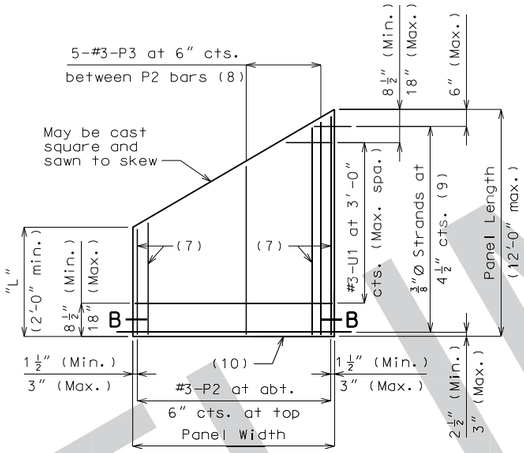


BENDING DIAGRAM FOR U1 BAR

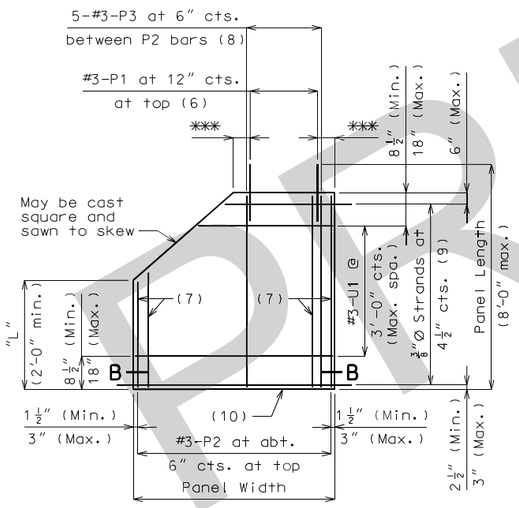
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



SECTION B-B

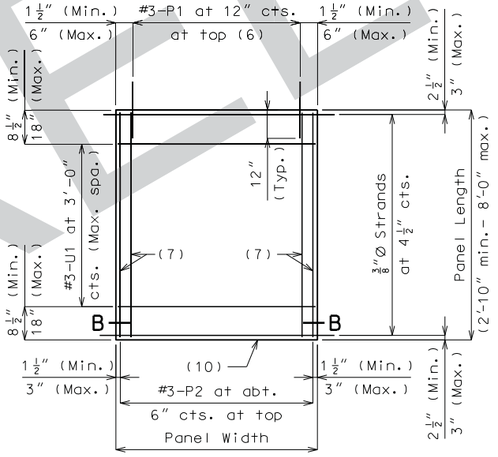


PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF OPTIONAL TRUNCATED END PANEL

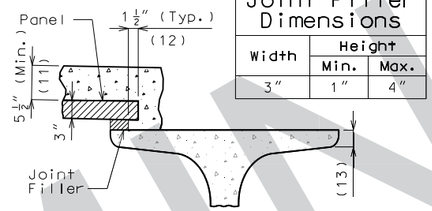
✱✱✱ 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL

SKEWED END PANELS

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



SECTION A-A

Reference Notes:

Plan of Panels Placement:

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

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

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

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

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

Plans of Panels:

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

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

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

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

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

Section A-A:

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

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

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

General Notes:

Prestressed Panels:

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

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

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

Initial prestressing force = 17.2 kips/strand.

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

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

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

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

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

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

Reinforcing Steel:

All dimensions are out to out.

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

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

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

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

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

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

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

All reinforcement other than prestressing strands shall be epoxy coated.

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

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

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

Joint Filler:

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

Use Slab Haunching Diagram on Sheet No. 19 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

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

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

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

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

DETAILS OF PRESTRESSED PANELS

Detailed Sept 2016
Checked Sept 2016

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

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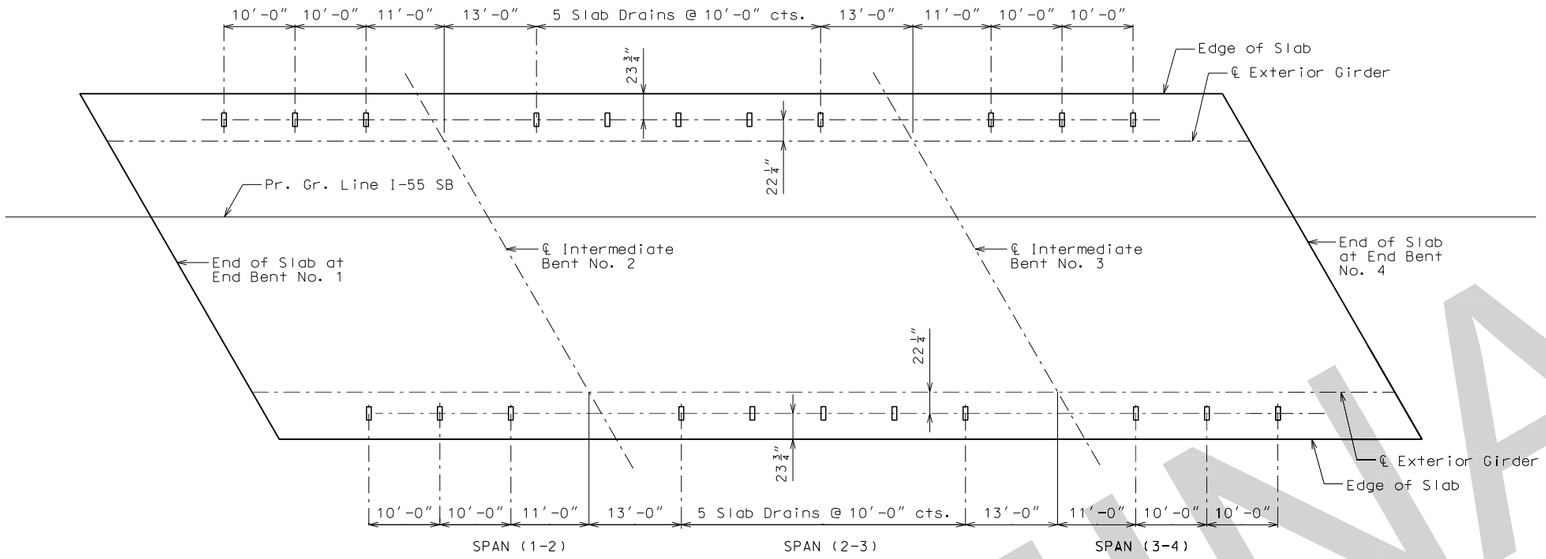
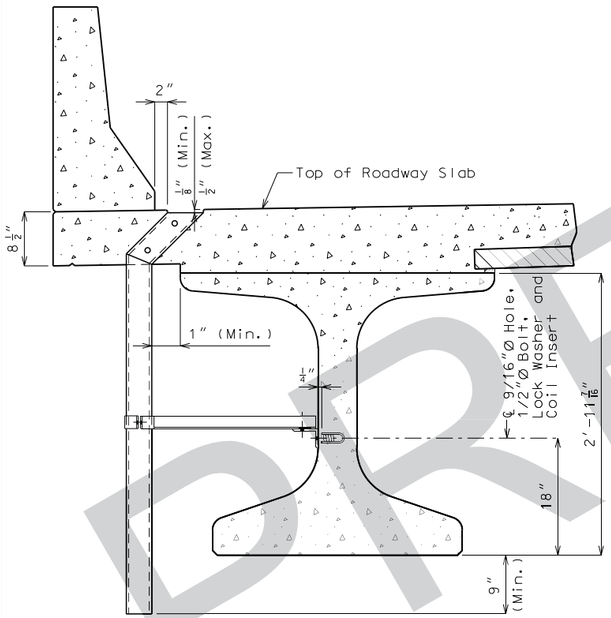
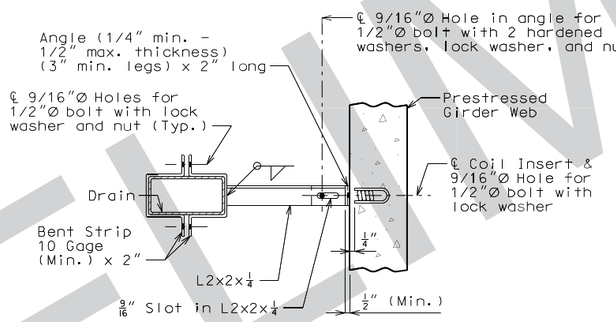


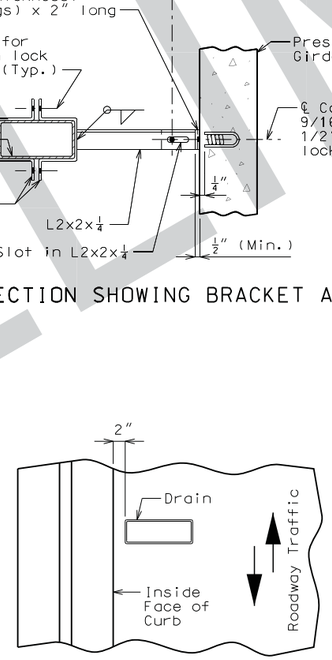
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



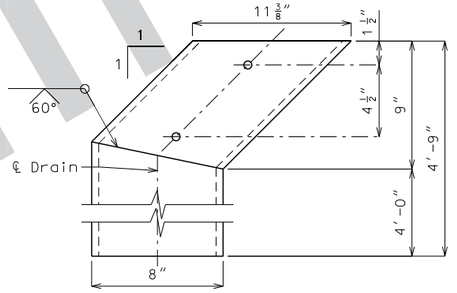
PART SECTION NEAR DRAIN



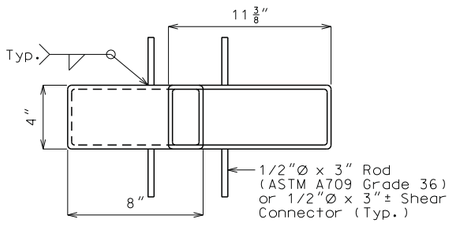
PART SECTION SHOWING BRACKET ASSEMBLY



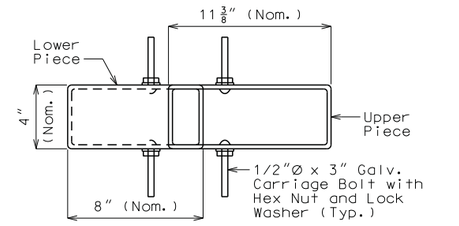
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN



PLAN OF OPTIONAL FRP DRAIN

General Notes:

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

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

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

Reinforcing steel shall be shifted to clear drains.

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

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

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

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

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

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

Notes for Steel Drain:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

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

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

Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.

No additional payment will be made for this substitution.

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HOLLY A. LEHMKUHL
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ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 18
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

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HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

SLAB DRAIN DETAILS

Detailed Sept 2016
Checked Sept 2016

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

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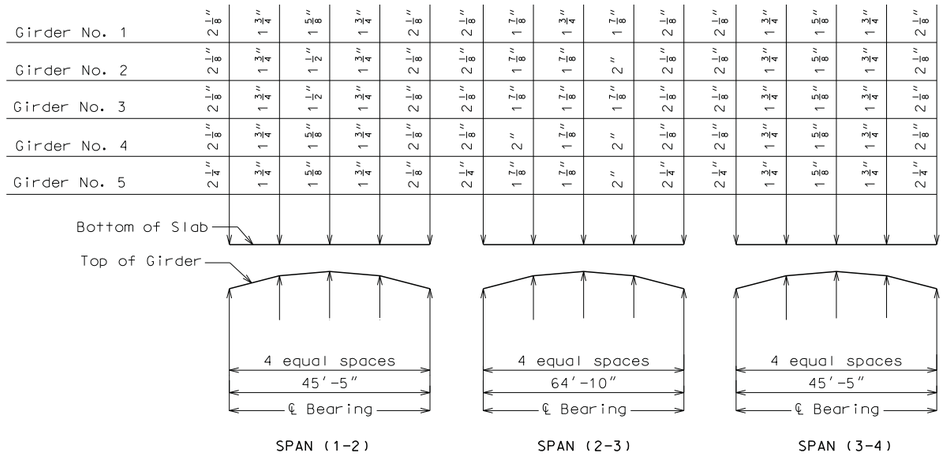
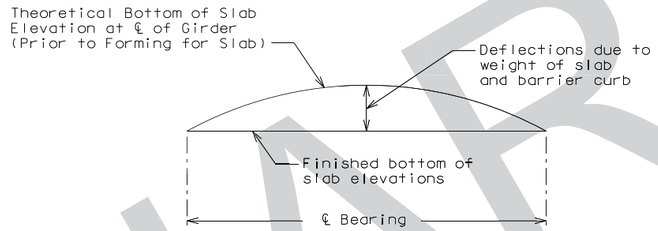


THEORETICAL SLAB HAUNCHING DIAGRAM

(At ℄ of Girder)



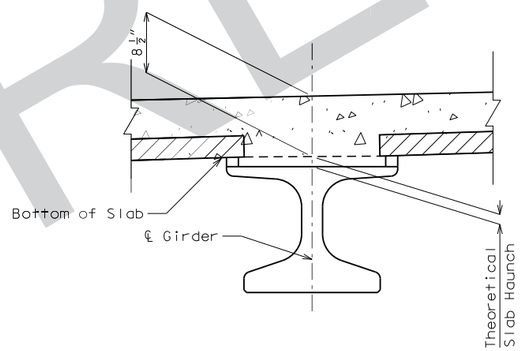
TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at ℄ of Girder (Prior to Forming for Slab) * *

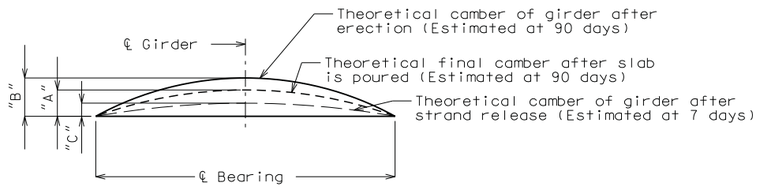
	Span (1-2) (45′-5″ ℄ brg. - ℄ brg.)					Span (2-3) (64′-10″ ℄ brg. - ℄ brg.)					Span (3-4) (45′-5″ ℄ brg. - ℄ brg.)				
	℄ brg.	.25	.50	.75	℄ brg.	℄ brg.	.25	.50	.75	℄ brg.	℄ brg.	.25	.50	.75	℄ brg.
Girder No. 1	376.72	376.69	376.74	376.69	376.73	376.73	376.71	376.80	376.72	376.75	376.75	376.71	376.76	376.72	376.75
Girder No. 2	376.93	376.90	376.95	376.90	376.94	376.94	376.92	377.01	376.93	376.95	376.95	376.92	376.97	376.92	376.96
Girder No. 3	376.86	376.82	376.88	376.83	376.86	376.86	376.85	376.94	376.86	376.88	376.88	376.85	376.90	376.85	376.89
Girder No. 4	376.65	376.62	376.67	376.62	376.66	376.66	376.65	376.74	376.65	376.67	376.67	376.64	376.69	376.65	376.68
Girder No. 5	376.45	376.41	376.47	376.42	376.46	376.46	376.44	376.52	376.44	376.47	376.47	376.44	376.49	376.44	376.48

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

THEORETICAL SLAB HAUNCH



THEORETICAL SLAB HAUNCH



	Span (1-2)			Span (2-3)			Span (3-4)		
	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"
Ext. Girder	9/16″	3/4″	7/16″	5/8″	1 1/8″	5/8″	9/16″	3/4″	7/16″
Int. Girder	9/16″			1/4″			9/16″		

GIRDER CAMBER DIAGRAM

If the camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

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

Conversion factors for girder camber

0.25 pt. = 0.7125 x 0.5 pt.

SLAB DETAILS

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

Detailed Sept 2016
Checked Sept 2016

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

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COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

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PROFESSIONAL ENGINEER
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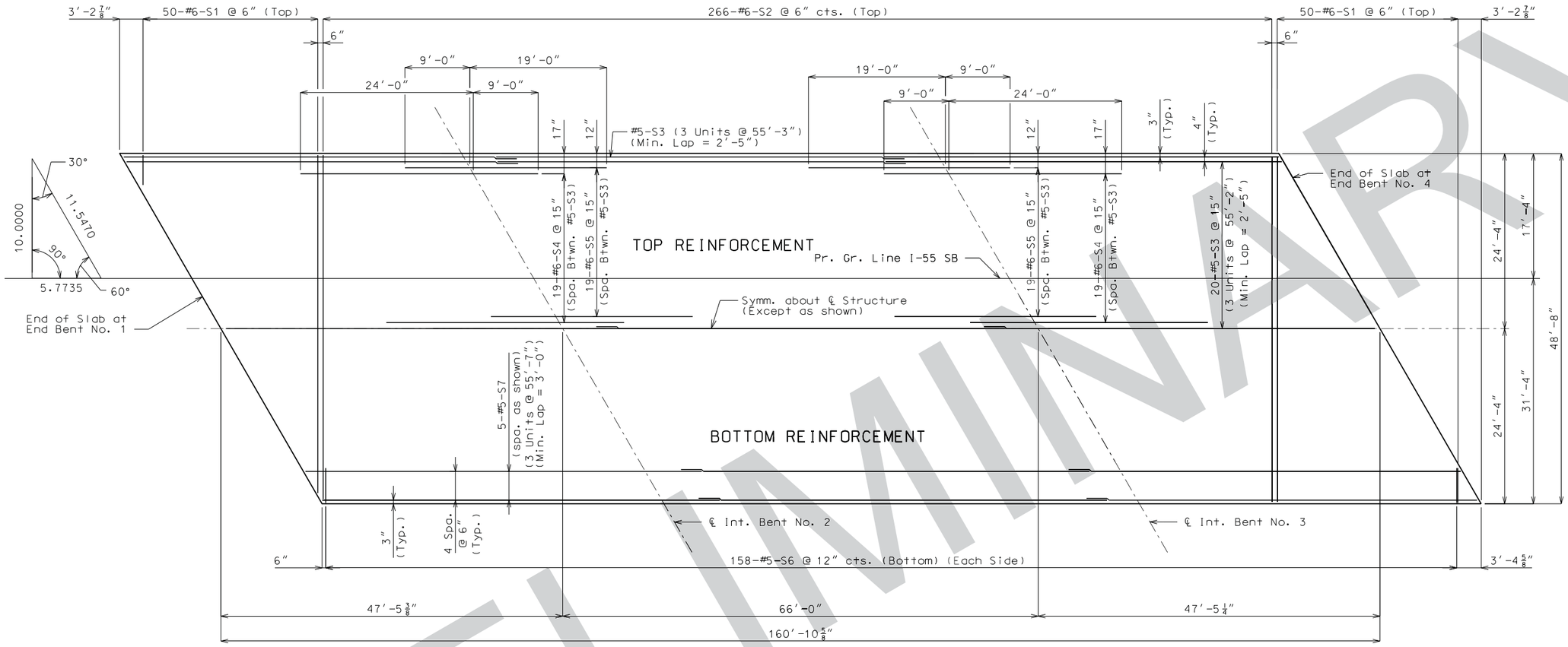
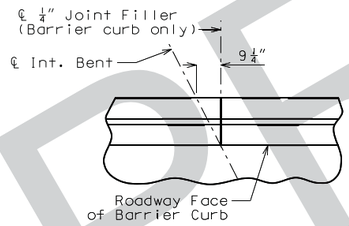
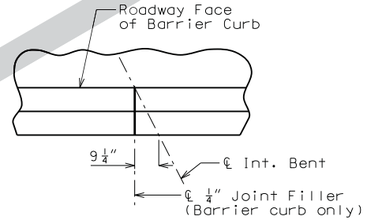




PART PLAN OF BARRIER JOINT ON LEFT BARRIER CURB AT INTERMEDIATE BENT



PART PLAN OF BARRIER JOINT ON RIGHT BARRIER CURB AT INTERMEDIATE BENT

Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab & Slab Pouring Sequence, see Sheet No. 21.

For Slab Drain Details, see Sheet No. 18.

For Details of Safety Barrier Curb not shown, see Sheets No. 22-24.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 19.

For Details of Precast Prestressed Panels, see Sheet No. 17.

PLAN OF SLAB SHOWING REINFORCEMENT

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

Sheet No. 20 of 31

Detailed Sept 2016
Checked Sept 2016

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HOLLY A. LEHMKUHL
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BR	20

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.: .
PROJECT NO.: .
BRIDGE NO.: A8434

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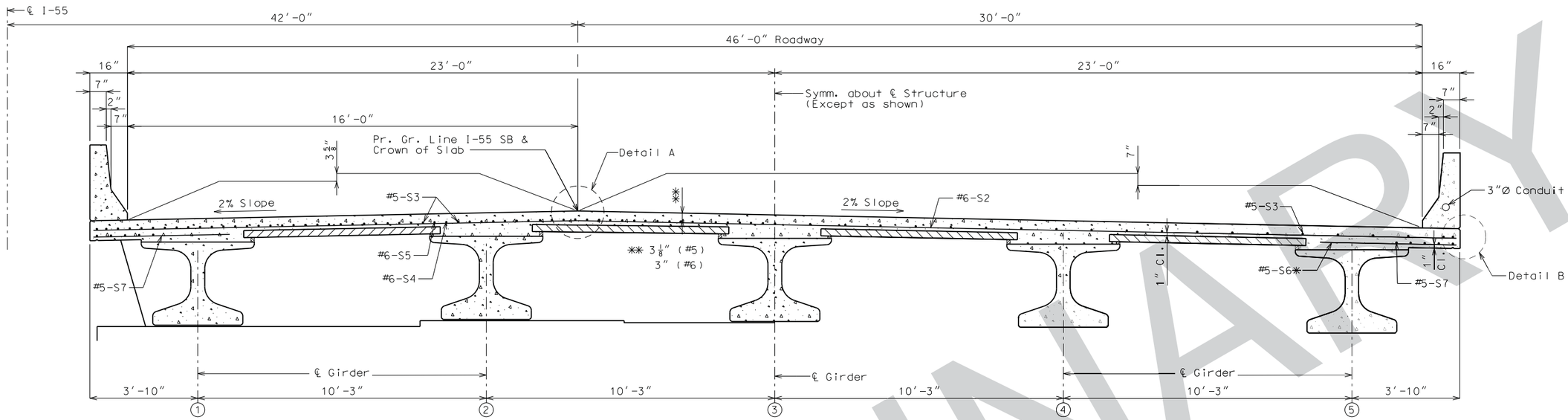
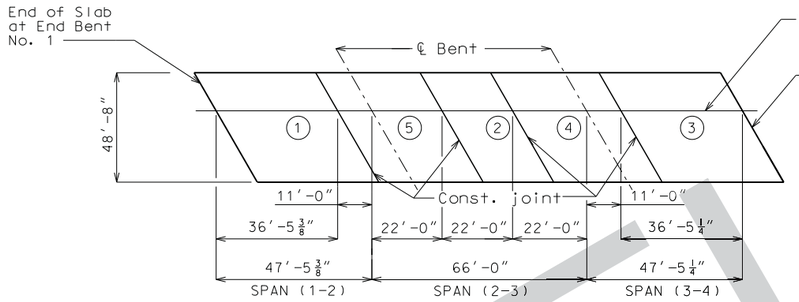


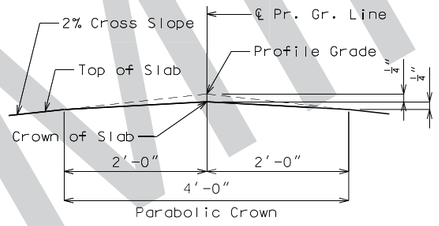
HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB

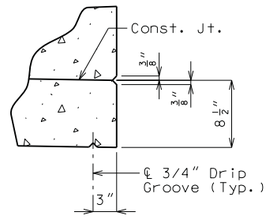
HALF SECTION NEAR ℄ SPAN

* Alternate bar shape available, see Safety Barrier Curb sheet.

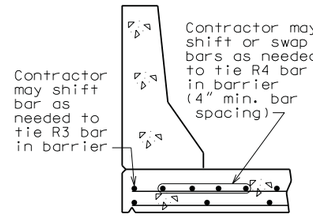




DETAIL A



DETAIL B



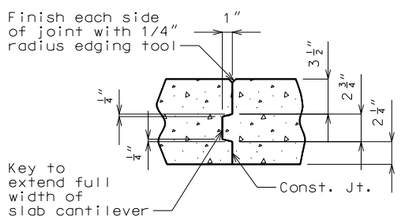
OPTIONAL SHIFTING TOP BARS AT BARRIER

	Sequence of Pours					Min. rate of pour cu. yds./hr.
	Direction					With Retarder
Basic sequence	1	2	3	4	5	25
	Either Direction					
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate "A" pours	1		5 + 2		4 + 3	25
	End to 5		1 to 4		2 to end	
Alternate "B" pours	1 + 5 + 2			4 + 3		25
	End to 4			2 to End		
Alternate "C" pours	1 + 2 + 3 + 4 + 5					25
	End to End					

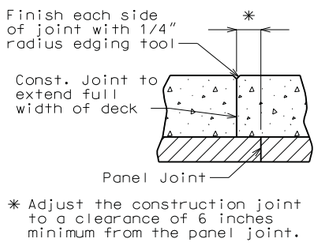
Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

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

SLAB POURING SEQUENCE



(SLAB CANTILEVER)



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

(SLAB ON PRECAST PANELS)

SLAB CONSTRUCTION JOINT DETAILS

Notes:

For details of precast prestressed panels, see Sheet No. 17 .

For details of safety barrier curb not shown, see Sheets No. 22-24 .

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 19.

For Plan of Slab Showing Reinforcement, see Sheet No. 20.

Detailed Sept 2016
Checked Sept 2016

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

SLAB DETAILS

Sheet No. 21 of 31

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HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
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PROJECT NO. .
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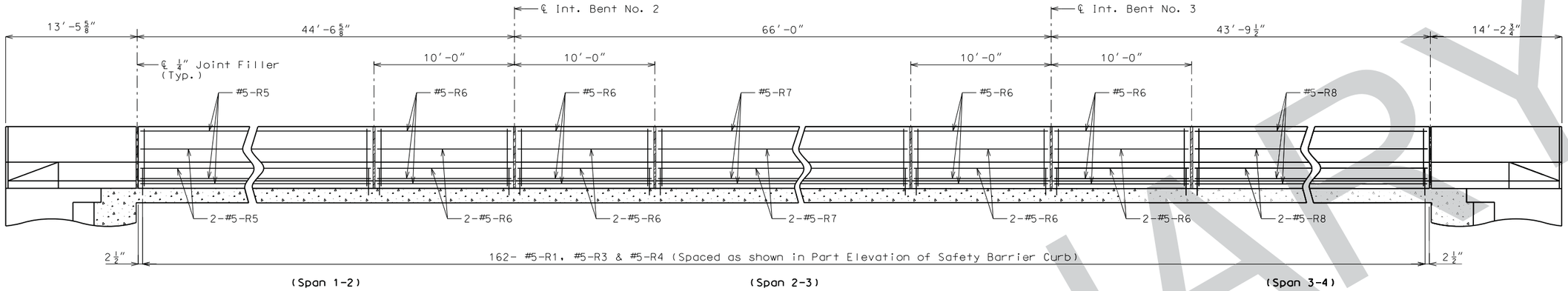
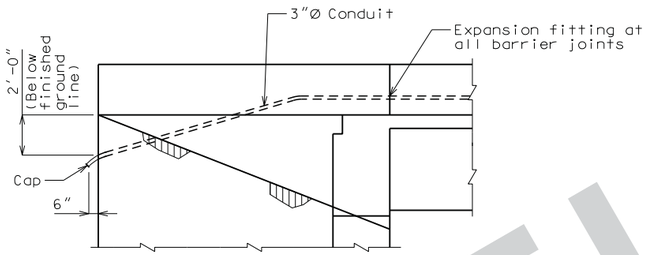


ELEVATION OF SAFETY BARRIER CURB

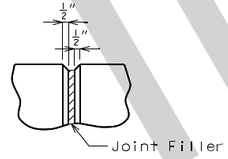
(Left barrier curb shown, right barrier curb similar)

Longitudinal dimensions are horizontal.

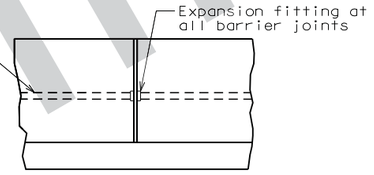
(Conduit not shown for clarity)



SECTION AT RIGHT BARRIER CURB AT END BENTS

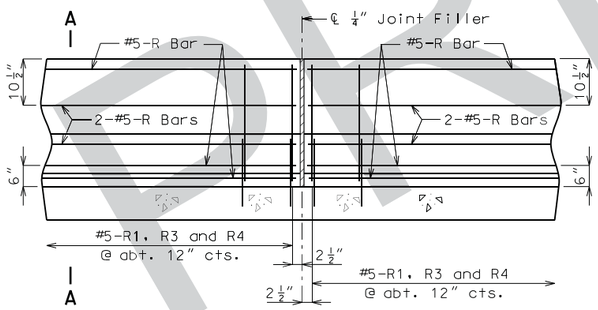


FILLED JOINT DETAIL



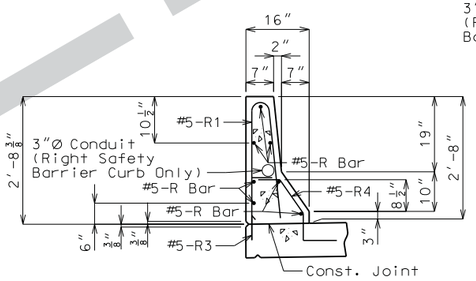
EXPANSION FITTING DETAIL

(Right Safety Barrier Curb only)



PART ELEVATION OF SAFETY BARRIER CURB (CAST-IN-PLACE CONVENTIONAL FORMING)

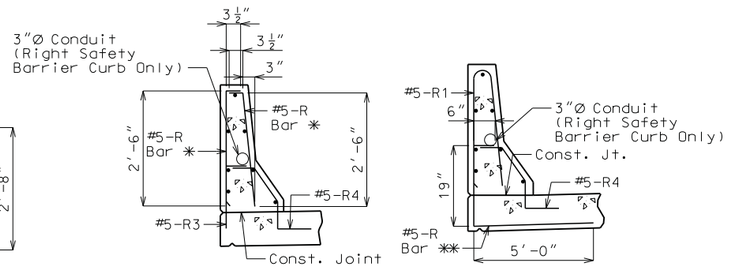
(Conduit not shown for clarity)



SECTION A-A

Use a minimum lap of 3′-1″ for #5 horizontal safety barrier curb bars.

The cross-sectional area above the slab = 2.27 sq. ft.



R-BAR PERMISSIBLE ALTERNATE SHAPE

✳ 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.)

✳✳ The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.

Conduit System Notes:
Payment for furnishing and installing Conduit System, complete-in-place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3″ minimum cover in concrete. Each section of conduit shall bear the Underwriter's Laboratories, Inc. (UL) label.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total expansion movement of 1 inch at filled joints using a maximum temperature range of 120 F and a maximum temperature of 110 F.

General Notes

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

DETAILS OF SAFETY BARRIER CURB

Detailed Sept 2016
Checked Sept 2016

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

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ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 22
COUNTY SCOTT
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CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

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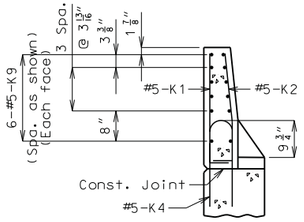
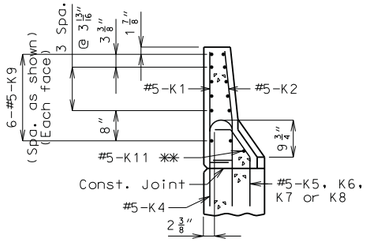
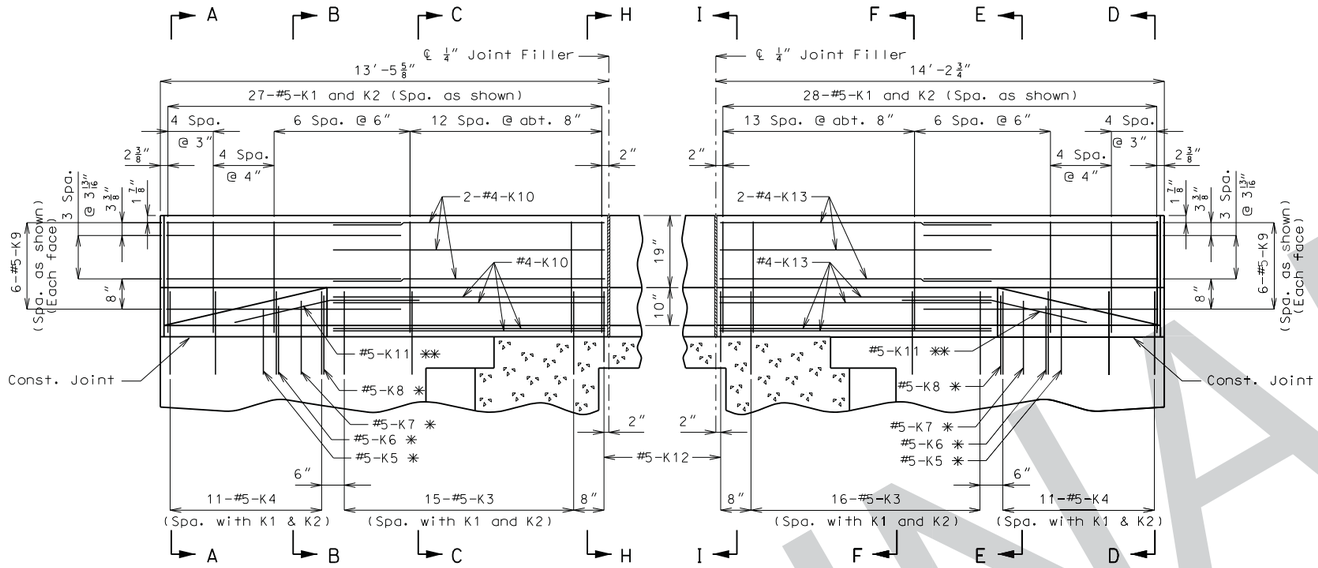


SECTION A-A



SECTION B-B

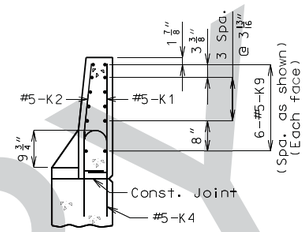


ELEVATION

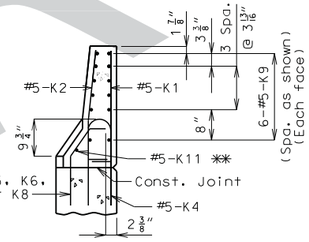
ELEVATION

* Spaced with #5-K4 bars.

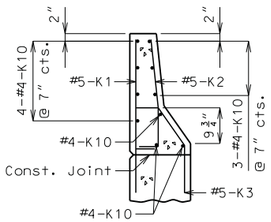
** Fit bar to follow transition face of curb.



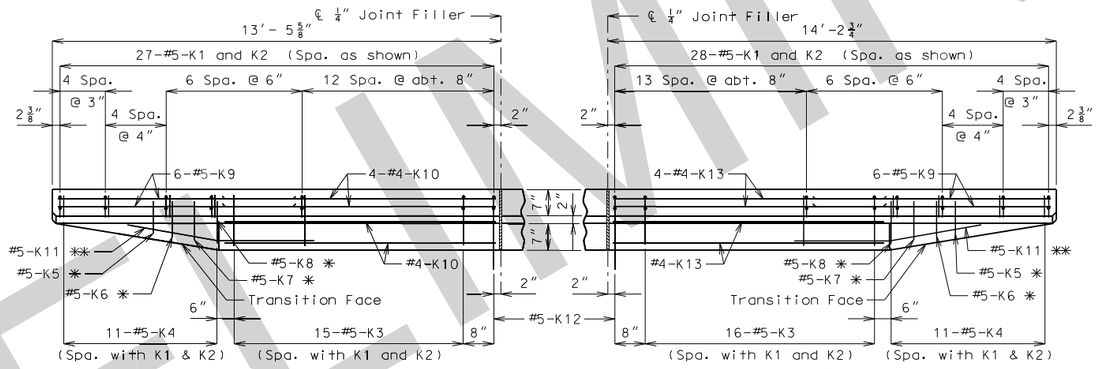
SECTION D-D



SECTION E-E

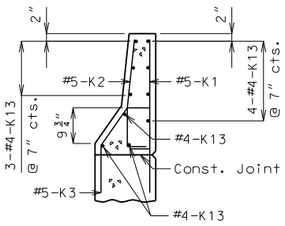


SECTION C-C

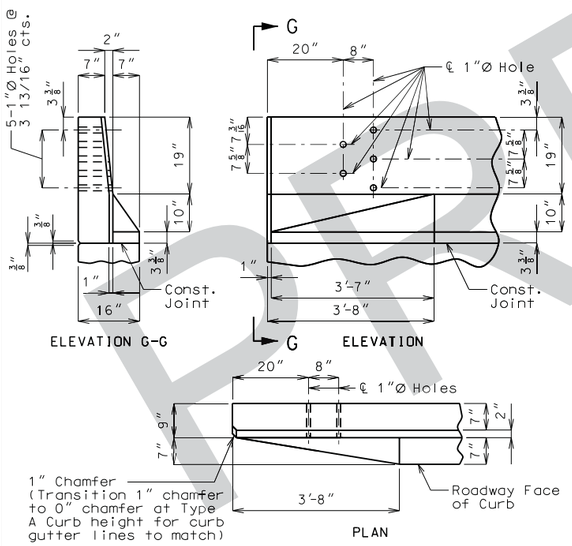


PLAN

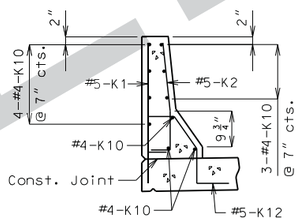
PLAN



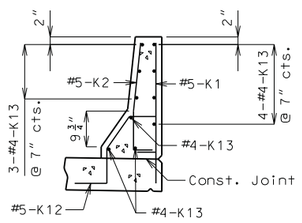
SECTION F-F



DETAILS OF GUARD RAIL ATTACHMENT



SECTION H-H



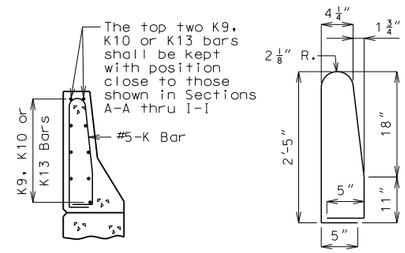
SECTION I-I

Note: Use a minimum lap of 2'-8" between K9 and K10 or K13 bars.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

DETAILS OF SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)



K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE

(K3 or K4 thru K8 bars not shown for clarity)

The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 23
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DESCRIPTION	DATE
.	.

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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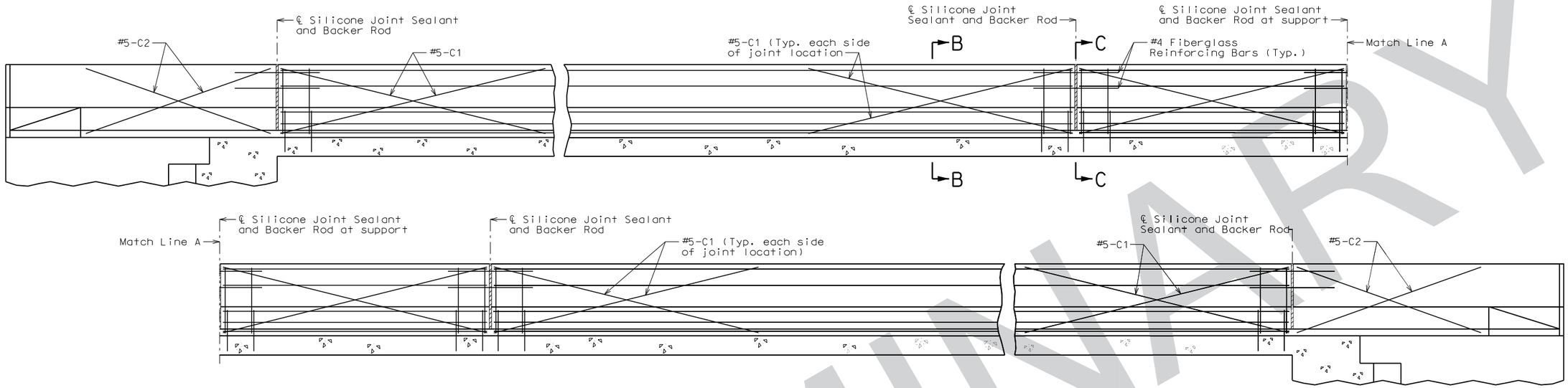
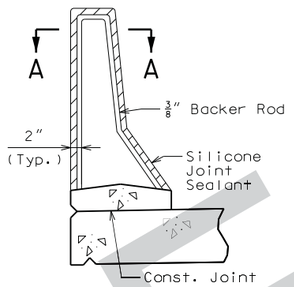
GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

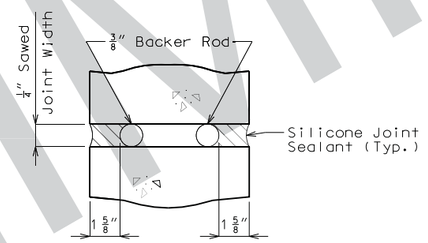
REV.



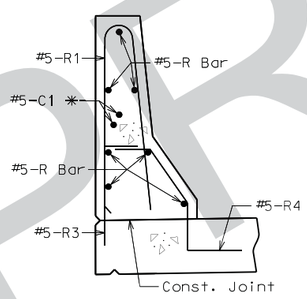
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



SECTION THRU JOINT

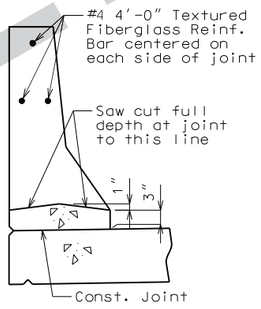


SECTION A-A



SECTION B-B

* Each side of joint location.



SECTION C-C

General Notes:

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

Joint sealant and backer rods shall be used on all slip-form barrier curbs instead of joint filler and shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C bars (slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

Cost of silicone joint sealant and backer rod, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.

OPTIONAL SLIP-FORM SAFETY BARRIER CURB

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
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PROFESSIONAL ENGINEER
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DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 24
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

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REV.	DESCRIPTION	DATE
.	.	.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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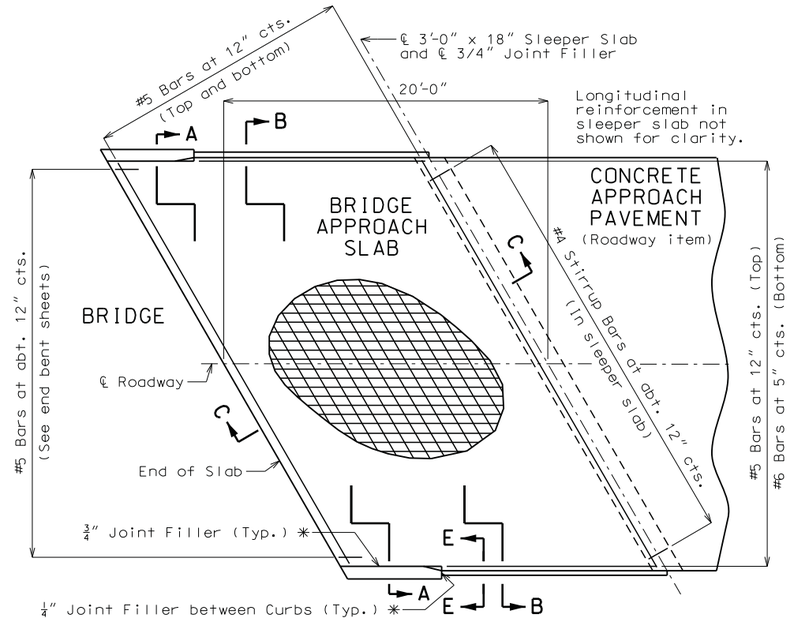
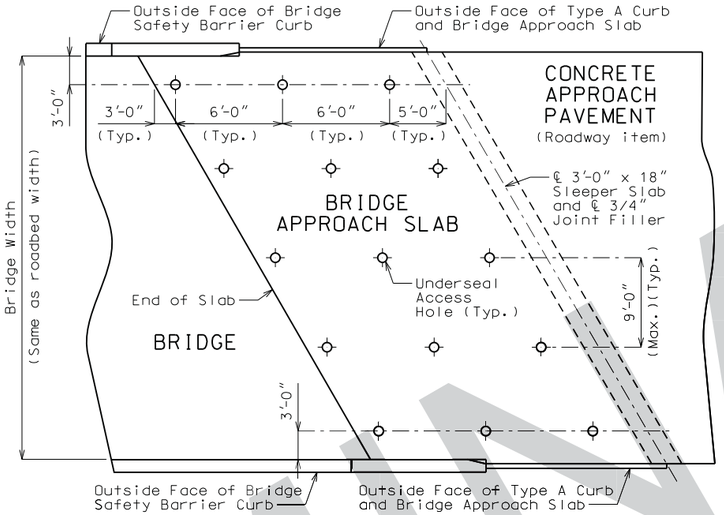
ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

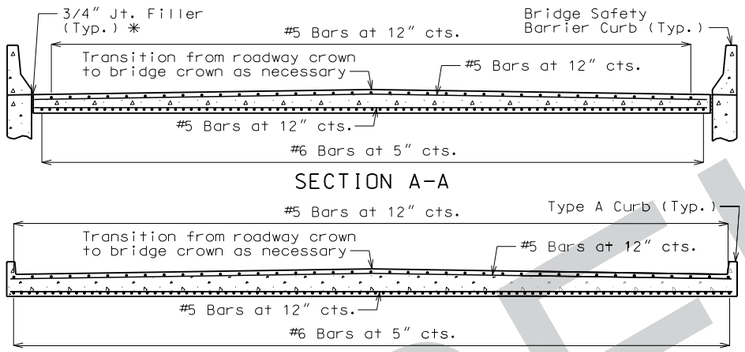
HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976



PART PLAN SHOWING REINFORCEMENT



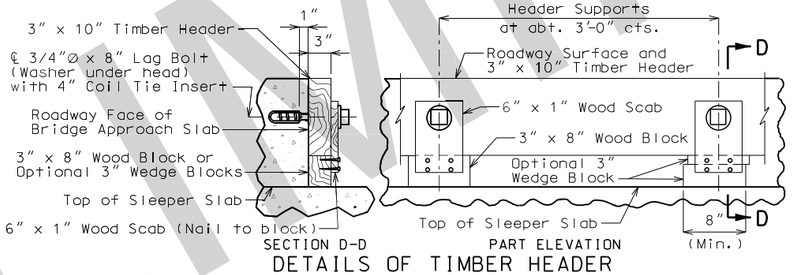
PART PLAN SHOWING UNDERSEAL ACCESS HOLES



SECTION A-A

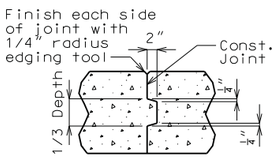
SECTION B-B

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

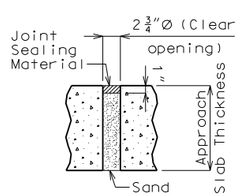


DETAILS OF TIMBER HEADER

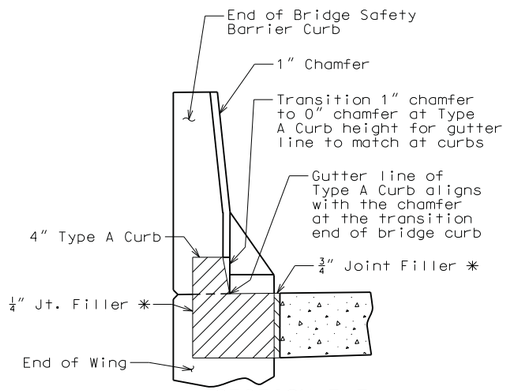
Remove timber header when concrete pavement is placed.



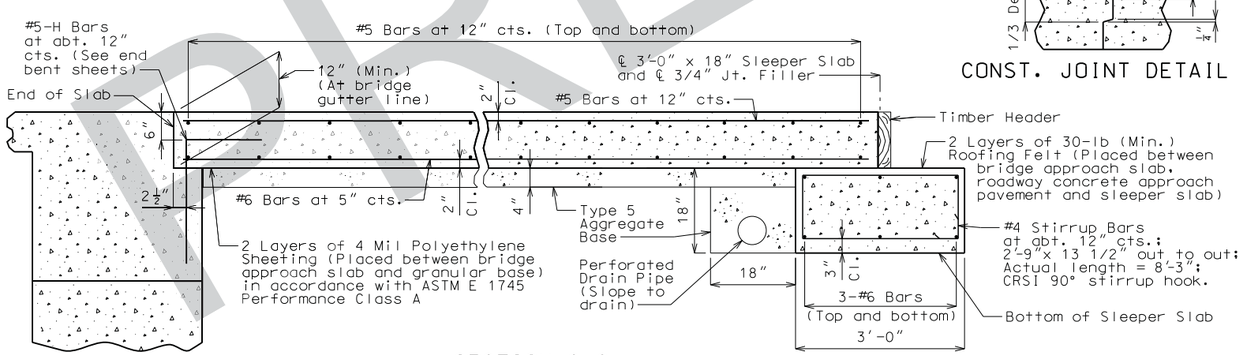
CONST. JOINT DETAIL



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



SECTION E-E
(Between curbs)



SECTION C-C

DETAILS OF BRIDGE APPROACH SLAB (MAJOR ROAD)

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

Sheet No. 25 of 31

Detailed Sept 2016
Checked Sept 2016

General Notes:

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

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

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

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29".

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

The contractor shall pour and satisfactorily finish the bridge before pouring the bridge approach slabs.

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

For Concrete Approach Pavement details, see roadway plans.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

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

* Seal joint between vertical face of approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	25

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8434

DESCRIPTION	DATE	REV.

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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

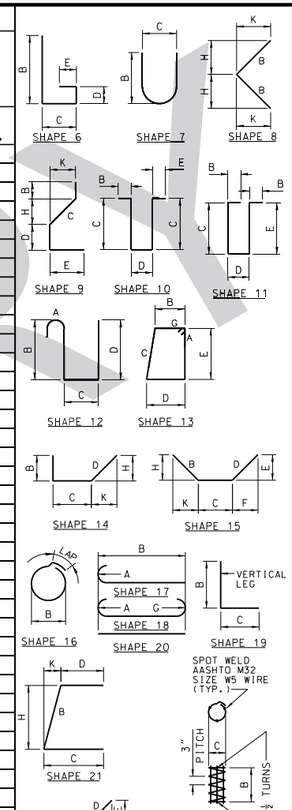
HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

BILL OF REINFORCING

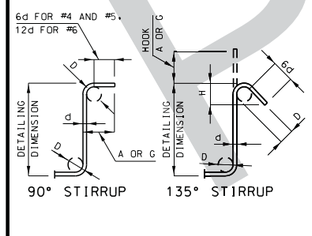
NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		SUBSTRUCTURE																
		INT. BENT NO. 2																
48	8D200	BEAM		20		X			5 8.000							5 8	5 8	726
6	7H200	BEAM		18		X			54 3.000							55 11	55 11	686
6	6H201	BEAM		20		X			54 3.000							54 3	54 3	489
6	7H202	BEAM		17		X			28 1.000							28 11	28 11	355
6	7H203	BEAM		17		X			30 4.000							31 2	31 2	382
6	6H204	BEAM		20		X			6 4.000							6 4	6 4	57
10	6H205	BEAM		10		X				22.000	3 7.500					7 4	7 0	105
31	6U200	BEAM		13	S	X			3 9.000	2 9.000	3 9.000	2 9.000				14 4	13 10	644
28	6U201	BEAM		13	S	X			3 9.000	3 0.375	3 9.000	3 0.375				14 11	14 5	606
9	6U202	BEAM		13	S	X			3 9.000	3 2.875	3 9.000	3 2.875				15 4	14 10	201
15	4U203	BEAM		10	S	X				2 9.000	3 9.000					9 3	9 1	91
18	4U204	BEAM		10	S	X				3 0.375	3 9.000					9 10	9 8	116
3	4U205	BEAM		10	S	X				3 2.875	3 9.000					10 3	10 1	20
8	4U206	BEAM		10	S	X				6.000	3 9.000					4 9	4 7	24
		INT. BENT NO. 3																
48	8D200	BEAM		20		X			5 8.000							5 8	5 8	726
6	7H200	BEAM		18		X			54 3.000							55 11	55 11	686
6	6H201	BEAM		20		X			54 3.000							54 3	54 3	489
6	7H202	BEAM		17		X			28 1.000							28 11	28 11	355
6	7H203	BEAM		17		X			30 4.000							31 2	31 2	382
6	6H204	BEAM		20		X			6 4.000							6 4	6 4	57
10	6H205	BEAM		10		X				22.000	3 7.500					7 4	7 0	105
31	6U200	BEAM		13	S	X			3 9.000	2 9.000	3 9.000	2 9.000				14 4	13 10	644
28	6U201	BEAM		13	S	X			3 9.000	3 0.375	3 9.000	3 0.375				14 11	14 5	606
9	6U202	BEAM		13	S	X			3 9.000	3 2.875	3 9.000	3 2.875				15 4	14 10	201
15	4U203	BEAM		10	S	X				2 9.000	3 9.000					9 3	9 1	91
18	4U204	BEAM		10	S	X				3 0.375	3 9.000					9 10	9 8	116
3	4U205	BEAM		10	S	X				3 2.875	3 9.000					10 3	10 1	20
8	4U206	BEAM		10	S	X				6.000	3 9.000					4 9	4 7	24

BILL OF REINFORCING

NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		SUPERSTRUCTURE																
		END BENT NO. 1																
12	8F101	WING BRACE		14					3 8.000	4 8.500	14.000			7.000	12.125	9 7	9 4	299
4	6F102	DIAPHRAGM		21					3 1.000		5 2.750			2 8.000	1 6.500	8 4	8 3	50
12	8F103	WING BRACE		15					3 8.000	6 10.750	14.000	4.625	13.250	2 4.750	2 9.250	11 9	11 8	374
4	6F104	DIAPHRAGM		21					3 1.000	6 8.000				2 8.000	1 6.500	9 9	9 4	56
4	8H101	BEAM		20					55 10.875							55 11	55 11	597
4	8H102	BEAM		20					55 10.875							55 11	55 11	597
4	8H103	BEAM		20					42 0.750							42 1	42 1	457
		INCREMENT = 5.5"					V	1	43 5.250							43 5	43 5	
4	8H104	BEAM		20					17 0.000							17 0	17 0	182
4	8H105	BEAM		20					18 11.000							18 11	18 11	202
5	8H106	DIAPHRAGM		20					55 10.875							55 11	55 11	746
2	8H107	DIAPHRAGM		20					2 3.000							2 3	2 3	12
8	8H108	DIAPHRAGM		20					3 10.000							3 10	3 10	82
4	8H109	DIAPHRAGM		20					7 10.000							7 10	7 10	84
16	8H110	DIAPHRAGM		20					10 11.000							10 11	10 11	466
5	6H111	DIAPHRAGM		20					5 6.000							5 6	5 6	41
4	8H112	DIAPHRAGM	E	20					55 10.875							55 11	55 11	597
1	8H113	WING	E	20					13 0.000							13 0	13 0	35
1	8H114	WING	E	19						16.000	10 6.000					11 10	11 8	31
3	8H115	WING		20					13 0.000							13 0	13 0	104
3	8H116	WING		19						16.000	10 6.000					11 10	11 8	93
11	10H117	WING		20					13 0.000							13 0	13 0	615
11	10H118	WING		19						22.000	10 6.000					12 4	12 0	568
1	8H119	WING	E	20					11 9.000							11 9	11 9	31
1	8H120	WING	E	19						16.000	11 9.000					13 1	12 11	34
3	8H121	WING		20					11 9.000							11 9	11 9	94
3	8H122	WING		19						16.000	11 9.000					13 1	12 11	103
12	10H123	WING		20					11 9.000							11 9	11 9	607
12	10H124	WING		19						22.000	12 3.000					14 1	13 9	710
46	5H125	DIAPHRAGM	E	19					2 0.000	15.000						3 3	3 2	152
5	5H126	STRAND TIE BAR		23					15.000	3 3.000	15.000	7.500	13.000	7.500	13.000	5 9	5 9	30
26	5U101	BEAM		10	S					5 6.000	3 2.000					14 2	14 0	380
12	4U102	BEAM		13	S				3 2.000	2 10.500	3 2.000	2 10.500				12 10	12 7	101
12	4U103	BEAM		13	S				3 2.000	3 1.000	3 2.000	3 1.000				13 3	13 0	104
7	4U104	BEAM		13	S				3 2.000	2 8.000	3 2.000	2 8.000				12 5	12 2	57
4	4U105	BEAM		10	S					3 1.000	3 2.000					9 4	9 2	24
5	4U106	BEAM		10	S					2 10.500	3 2.000					8 11	8 9	29
38	5U107	DIAPHRAGM	E	10	S					3 4.000	2 7.125					9 3	9 1	360
38	6U108	DIAPHRAGM		19	S				2 7.000	3 2.000						5 9	5 7	319
71	6U109	DIAPHRAGM	E	19	S				3 0.000	4 10.000						7 10	7 8	818
1	4U110	DIAPHRAGM		10	S					2 8.000	3 2.000					8 6	8 4	6
24	5V101	BEAM		20					5 6.000							5 6	5 6	138
30	6V102	DIAPHRAGM		20					2 7.000							2 7	2 7	116
2	6V103	WING		20					6 8.500							6 9	6 9	20
20	6V104	WING		20					6 8.500							6 9	6 9	203
2	6V105	WING		20					6 5.125							6 5	6 5	19
22	6V106	WING		20					6 5.125							6 5	6 5	212

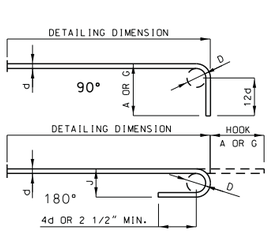


BENDING DIAGRAMS



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

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



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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.

REVISED NOV. 2002
IN ACCORDANCE WITH MHTC STD.

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/22/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	26

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.
.

PROJECT NO.
.

BRIDGE NO.
A8434

DESCRIPTION	DATE
. . . . .	. . . . .

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

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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL
ENGINEER
PE-2009032976

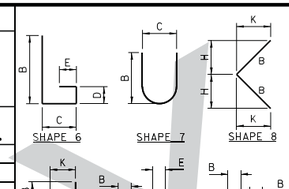
REV.

BILL OF REINFORCING

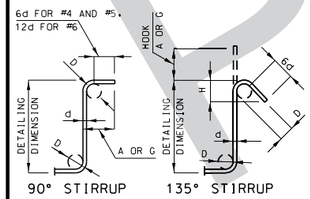
NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		END BENT NO. 4																
12	8F401	WING BRACE		14					3 8.000	4 8.500	14.000			7.000	12.125	9 7	9 4	299
4	6F402	DIAPHRAGM		21					3 1.000		5 2.750			2 8.000	1 6.500	8 4	8 3	50
12	8F403	WING BRACE		15					3 8.000	6 10.750	14.000	4.625	13.250	2 4.750	2 9.250	11 9	11 8	374
4	6F404	DIAPHRAGM		21					3 1.000	6 8.000				2 8.000	1 6.500	9 9	9 4	56
4	8H401	BEAM		20					55 10.875							55 11	55 11	597
4	8H402	BEAM		20					55 10.875							55 11	55 11	597
4	8H403	BEAM		20					41 7.375							41 7	41 7	452
		INCREMENT = 5.5"					V	1	42 11.875							43 0	43 0	
4	8H404	BEAM		20					17 6.000							17 6	17 6	187
4	8H405	BEAM		20					18 11.000							18 11	18 11	202
5	8H406	DIAPHRAGM		20					55 10.875							55 11	55 11	746
2	8H407	DIAPHRAGM		20					2 3.000							2 3	2 3	12
8	8H408	DIAPHRAGM		20					3 10.000							3 10	3 10	82
4	8H409	DIAPHRAGM		20					7 10.000							7 10	7 10	84
16	8H410	DIAPHRAGM		20					10 11.000							10 11	10 11	466
5	6H411	DIAPHRAGM		20					5 6.000							5 6	5 6	41
4	8H412	DIAPHRAGM	E	20					55 10.875							55 11	55 11	597
1	8H413	WING	E	20					13 0.000							13 0	13 0	35
1	8H414	WING	E	19					16.000	10 6.000						11 10	11 8	31
3	8H415	WING		20					13 0.000							13 0	13 0	104
3	8H416	WING		19					16.000	10 6.000						11 10	11 8	93
12	10H417	WING		20					13 0.000							13 0	13 0	671
12	10H418	WING		19					22.000	10 6.000						12 4	12 0	620
1	8H419	WING	E	20					11 9.000							11 9	11 9	31
1	8H420	WING	E	19					16.000	11 9.000						13 1	12 11	34
3	8H421	WING		20					11 9.000							11 9	11 9	94
3	8H422	WING		19					16.000	11 9.000						13 1	12 11	103
11	10H423	WING		20					11 9.000							11 9	11 9	556
11	10H424	WING		19					22.000	12 3.000						14 1	13 9	651
46	5H425	DIAPHRAGM	E	19					2 0.000	15.000						3 3	3 2	152
5	5H426	STRAND TIE BAR		23					15.000	3 3.000	15.000	7.500	13.000	7.500	13.000	5 9	5 9	30
26	5U401	BEAM		10	S					5 6.000	3 2.000					14 2	14 0	380
12	4U402	BEAM		13	S				3 2.000	2 10.500	3 2.000	2 10.500				12 10	12 7	101
12	4U403	BEAM		13	S				3 2.000	3 1.000	3 2.000	3 1.000				13 3	13 0	104
7	4U404	BEAM		13	S				3 2.000	2 8.000	3 2.000	2 8.000				12 5	12 2	57
4	4U405	BEAM		10	S					3 1.000	3 2.000					9 4	9 2	24
5	4U406	BEAM		10	S					2 10.500	3 2.000					8 11	8 9	29
38	5U407	DIAPHRAGM	E	10	S					3 4.000	2 7.125					9 3	9 1	360
38	6U408	DIAPHRAGM		19	S				2 7.000	3 2.000						5 9	5 7	319
71	6U409	DIAPHRAGM	E	19	S				3 0.000	4 10.000						7 10	7 8	818
1	4U410	DIAPHRAGM		10	S					2 8.000	3 2.000					8 6	8 4	6
24	5V401	BEAM		20					5 6.000							5 6	5 6	138
30	6V402	DIAPHRAGM		20					2 7.000							2 7	2 7	116
2	6V403	WING		20					6 8.500							6 9	6 9	20
22	6V404	WING		20					6 8.500							6 9	6 9	223
2	6V405	WING		20					6 5.125							6 5	6 5	19
20	6V406	WING		20					6 5.125							6 5	6 5	193

BILL OF REINFORCING

NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		INT. BENT DIA																
16	6H500	DIAPHRAGM		20					10 11.000							10 11	10 11	262
32	4H501	DIAPHRAGM		20					10 11.000							10 11	10 11	233
16	6H502	DIAPHRAGM		20					7 10.000							7 10	7 10	188
12	6H503	DIAPHRAGM		20					5 6.000							5 6	5 6	99
12	5H504	STRAND TIE BAR		23					15.000	3 3.000	15.000	7.500	13.000	7.500	13.000	5 9	5 9	72
8	5H505	STRAND TIE BAR		23					15.000	3 3.000				7.500	13.000	4 6	4 6	38
16	5H506	DIAPHRAGM		28	S					8.500	4 4.000					5 1	4 11	82
16	5H507	DIAPHRAGM		28	S					2 11.500	4 4.000					7 4	7 2	120
112	4U500	DIAPHRAGM	E	28	S					2 10.000	3 2.125	12.000				7 0	6 10	511
32	6U501	DIAPHRAGM	E	28	S					3 4.000	2 11.375	14.000				7 5	7 2	344
32	6U502	DIAPHRAGM	E	28	S					3 4.000	2 7.125	14.000				7 1	6 9	324
8	6U503	DIAPHRAGM		28	S					3 6.500	1 5.000					5 0	4 10	58
8	6U504	DIAPHRAGM		28	S					3 3.125	1 11.750					5 3	5 1	61
28	5V500	DIAPHRAGM	E	20						3 7.000						3 7	3 7	105
		SLAB																
100	6S1	SLAB	E	20			V	2	5 2.875							5 3	5 3	3968
		INCREMENT =10.375							47 7.250							47 7	47 7	
266	6S2	SLAB	E	20					48 5.000							48 5	48 5	19344
123	5S3	SLAB	E	20					55 3.000							55 3	55 3	7088
76	6S4	SLAB	E	20					33 0.000							33 0	33 0	3767
76	6S5	SLAB	E	20					28 0.000							28 0	28 0	3196
316	5S6	SLAB	E	20					5 2.000							5 2	5 2	1703
30	5S7	SLAB	E	20					55 7.000							55 7	55 7	1739

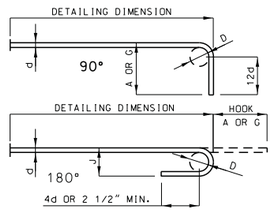


BENDING DIAGRAMS



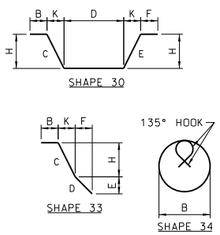
STIRRUP HOOK DIMENSIONS				
GRADES 40 – 50 – 60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	
		HOOK A OR G	HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

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



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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 2016
Checked Sept 2016

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

Sheet No. 27 of 31

REVISED NOV. 2002
IN ACCORDANCE WITH MHTC STD.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 27
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

REV.	DESCRIPTION	DATE
.	.	.

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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

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

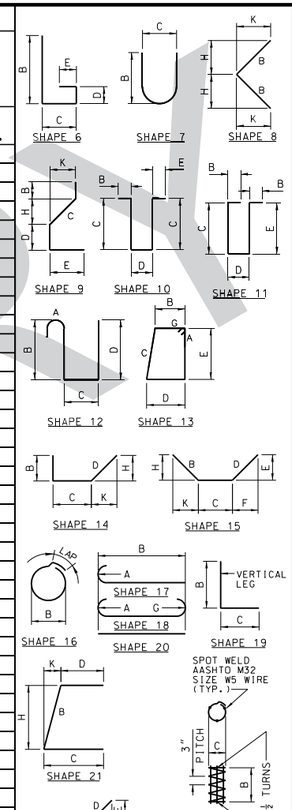
G:\13427\Micro\Bridge\Final\A8434\B_A8434_027_J0I0956_Barbill_2(New).dgn 11:31:04 AM 11/22/2016

BILL OF REINFORCING

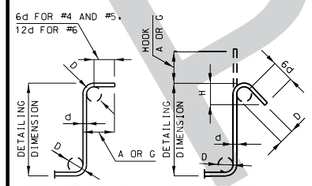
NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		BARRIER CURBS																
110	5K1	SAFETY BARRIER	E	19	S				2 5.000	5.125						2 10	2 9	316
110	5K2	SAFETY BARRIER	E	14	S				5.125	11.125	18.000			2.000	17.875	2 10	2 9	316
62	5K3	SAFETY BARRIER	E	27	S				3 4.125	5.125	12.000	2 6.250		9.875	6.875	7 4	7 2	463
44	5K4	SAFETY BARRIER	E	7					3 4.125	6.000						7 0	6 11	317
4	5K5	SAFETY BARRIER	E	25	S				2 10.625	6.750	4.375			5.500	4.000	3 10	3 9	16
4	5K6	SAFETY BARRIER	E	25	S				2 9.625	7.875	4.375			6.500	4.500	3 10	3 9	16
4	5K7	SAFETY BARRIER	E	25	S				2 8.250	9.625	4.375			7.875	5.500	3 10	3 10	16
4	5K8	SAFETY BARRIER	E	25	S				2 6.875	11.250	4.375			9.250	6.500	3 11	3 10	16
48	5K9	SAFETY BARRIER	E	20					6 2.500							6 3	6 3	313
20	4K10	SAFETY BARRIER	E	20					9 8.125							9 8	9 8	129
4	5K11	SAFETY BARRIER	E	8					2 2.125					2 2.000	2.375	4 4	4 4	18
4	5K12	SAFETY BARRIER	E	27	S				17.000	5.125	12.000	7.125	12.000	9.875	6.375	4 5	4 2	17
20	4K13	SAFETY BARRIER	E	20					10 5.250							10 5	10 5	139
324	5R1	SAFETY BARRIER	E	26					2 6.000	4.250				2 6.000	3.000	5 3	5 2	1746
324	5R3	SAFETY BARRIER	E	19	S				17.000	6.000						23	22	620
324	5R4	SAFETY BARRIER	E	27	S					6.000	11.250	7.000	12.000	9.250	6.375	3 0	2 10	957
14	5R5	SAFETY BARRIER	E	20					34 3.625							34 4	34 4	501
56	5R6	SAFETY BARRIER	E	20					9 9.000							9 9	9 9	569
14	5R7	SAFETY BARRIER	E	20					45 9.000							45 9	45 9	668
14	5R8	SAFETY BARRIER	E	20					33 6.500							33 7	33 7	490
		SLIP FORM																
		BARRIER CURB																
40	5C1	SLIP FORM	E	20					10 0.000							10 0	10 0	417
8	5C2	SLIP FORM	E	20					9 10.000							9 10	9 10	82

BILL OF REINFORCING

NO. REQD.	MARK NO. SIZE MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
		TOTALS																
	4																	1377
	4		E															779
	5																	1408
	5		E															19533
	6																	6945
	6		E															32579
	7																	2846
	7		E															0
	8																	10436
	8		E															1456
	10																	4998
		TOTAL																28010
		TOTAL	E															54347
		SLAB ON GIRDER																
	4																	875
	4		E															511
	5																	1408
	5		E															11659
	6																	2741
	6		E															32579
	7																	0
	7		E															0
	8																	8984
	8		E															1456
	10																	4998
		TOTAL																19006
		TOTAL	E															46205
		REINFORCING																
		STEEL (BRIDGES)																
	4																	502
	5																	0
	6																	4204
	7																	2846
	8																	1452
	9																	0
		TOTAL																9004
		BARRIER CURB																
	4		E															268
	5		E															7375
		TOTAL	E															7643
		SLIP FORM																
		BARRIER CURB																
	5		E															499
		TOTAL	E															499

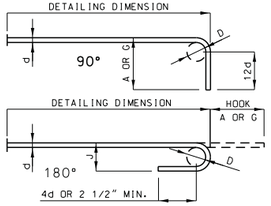


BENDING DIAGRAMS



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

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



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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60.000 PSI.

Detailed Sept 2016
Checked Sept 2016

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

REVISED NOV. 2002
IN ACCORDANCE WITH MHTC STD.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 28
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

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

GBA architects engineers
9801 Renner Boulevard
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GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

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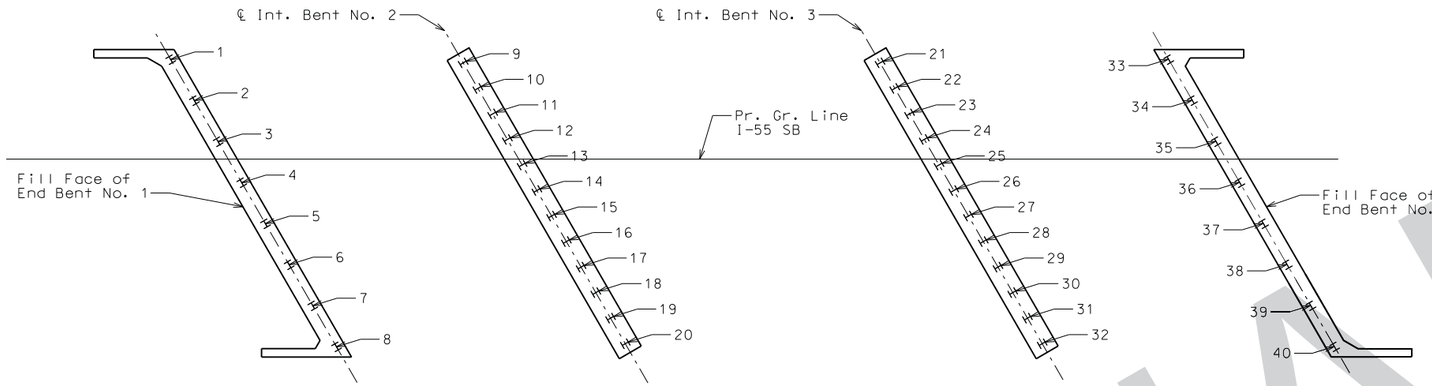

PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
8			
			Int. Bent No. 2
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
19			
20			
			Int. Bent No. 3
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
			End Bent No. 4
33			
34			
35			
36			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
37			
38			
39			
40			

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

This sheet to be completed by MoDOT construction personnel.

Detailed Sept 2016
Checked Sept 2016

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

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DESCRIPTION | DATE

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

GBA architects engineers
9801 Renner Boulevard
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GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

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

Surface Elevation: 376.3 | Completion Date: 4/13/2016
Datum: NAVD88 | Station: 320+46.53 | Offset: 61 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, O - QU/2, □ - SV) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL, LL)
	Very stiff to soft, brown and gray, silty CLAY, trace sand - (CL)			
		2-5-6	SS1	
		103	ST2	
		1-2-2	SS3	
		0-2-2	SS4	
		95	ST5	
		1-1-3	SS6	
		0-1-2	SS7	
		0-1-1	SS8	
	87.6 percent finer than No. 200 sieve			
	Medium stiff to very soft, gray CLAY - (CH)	91	ST9	

GROUNDWATER DATA
ENCOUNTERED AT 15 FEET

DRILLING DATA
AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 40 FEET
TPD DRILLER LAD LOGGER
CME 55TRK DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 88 %

REMARKS:
Bridge A8434, South abutment
Rough drilling 72 to 79 feet.

Drawn by: AGB Date: 5/9/2016 | Checked by: AWR Date: 7/29/2016 | App'vd. by: CKK Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8434-B-1

Project No. J026274.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 I-55 SCOTT CITY GPJ 00 CLONE ME GPJ 7/29/16

Surface Elevation: 376.3 | Completion Date: 4/13/2016
Datum: NAVD88 | Station: 320+46.53 | Offset: 61 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, O - QU/2, □ - SV) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL, LL)
	Medium stiff to very soft, gray CLAY - (CH) *(continued)*	0-1-2	SS10	
	Medium stiff to very soft, gray, silty CLAY - (CL)	0-0-1	SS11	
		97	ST12	
		0-0-0	SS13	
	with gravel	1-2-2	SS14	
			ST15	
	Dense, gray, fine to coarse GRAVEL with sand and silt - GW-GM			
	8.4 percent finer than No. 200 sieve	10-14-17	SS16	
		50/1" 88%	SS17	

GROUNDWATER DATA
ENCOUNTERED AT 15 FEET

DRILLING DATA
AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 40 FEET
TPD DRILLER LAD LOGGER
CME 55TRK DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 88 %

REMARKS:
Bridge A8434, South abutment
Rough drilling 72 to 79 feet.

Drawn by: AGB Date: 5/9/2016 | Checked by: AWR Date: 7/29/2016 | App'vd. by: CKK Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8434-B-1

Project No. J026274.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 I-55 SCOTT CITY GPJ 00 CLONE ME GPJ 7/29/16

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY SCOTT
JOB NO. J010956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DATE	DESCRIPTION
.	.

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

BORING DATA

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

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

Detailed Sept 2016
Checked Sept 2016

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Surface Elevation: 376.3 | Completion Date: 4/13/2016
Datum: NAVD88 | Station: 320+46.53 | Offset: 61 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES
	Moderately hard, gray, aphanitic, thin to medium bedded, slightly weathered DOLOMITE and dolomitic LIMESTONE *(continued)*		66%	NQ1
			100% 99%	NQ2
85	7-inch vertical joint			
			100% 100%	NQ3
	7.5-inch vertical joint			
90	Boring terminated at 89.0 feet.			
95				
100				
105				
110				
115				

SHEAR STRENGTH, tsf
Δ - UU/2 ○ - QU/2 □ - SV
0.5 1.0 1.5 2.0 2.5

STANDARD PENETRATION RESISTANCE
▲ N-VALUE (BLOWS PER FOOT)
(ASTM D 1586)

WATER CONTENT, %
PL 10 20 30 40 50 LL

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 7/29/16

GROUNDWATER DATA

ENCOUNTERED AT 15 FEET ▼

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 40 FEET
TPD DRILLER LAD LOGGER
CME 55TRK DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 88 %

REMARKS:
Bridge A8434, South abutment
Rough drilling 72 to 79 feet.

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC
FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8434-B-1

Project No. J026274.01

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 31
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8434

DATE	DESCRIPTION
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LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

BORING DATA

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

Detailed Sept 2016
Checked Sept 2016

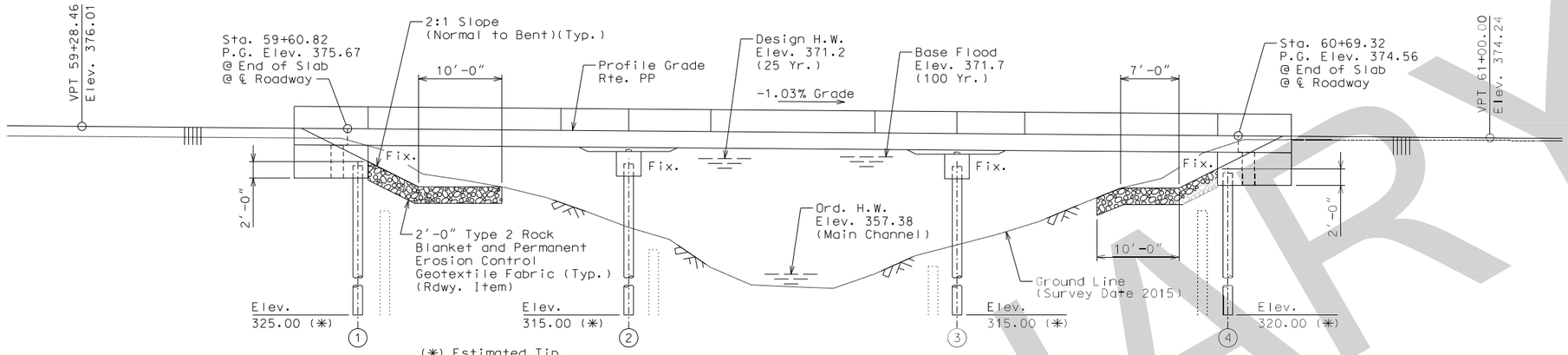
Note: This drawing is not to scale. Follow dimensions.

G:\13427\Micro\Bridge\Final\A8434\B_A8434_031_J0I0956_Boring 2.dgn 11:31:50 AM 11/22/2016

SEC/SUR 17 TWP 29N RGE 14E

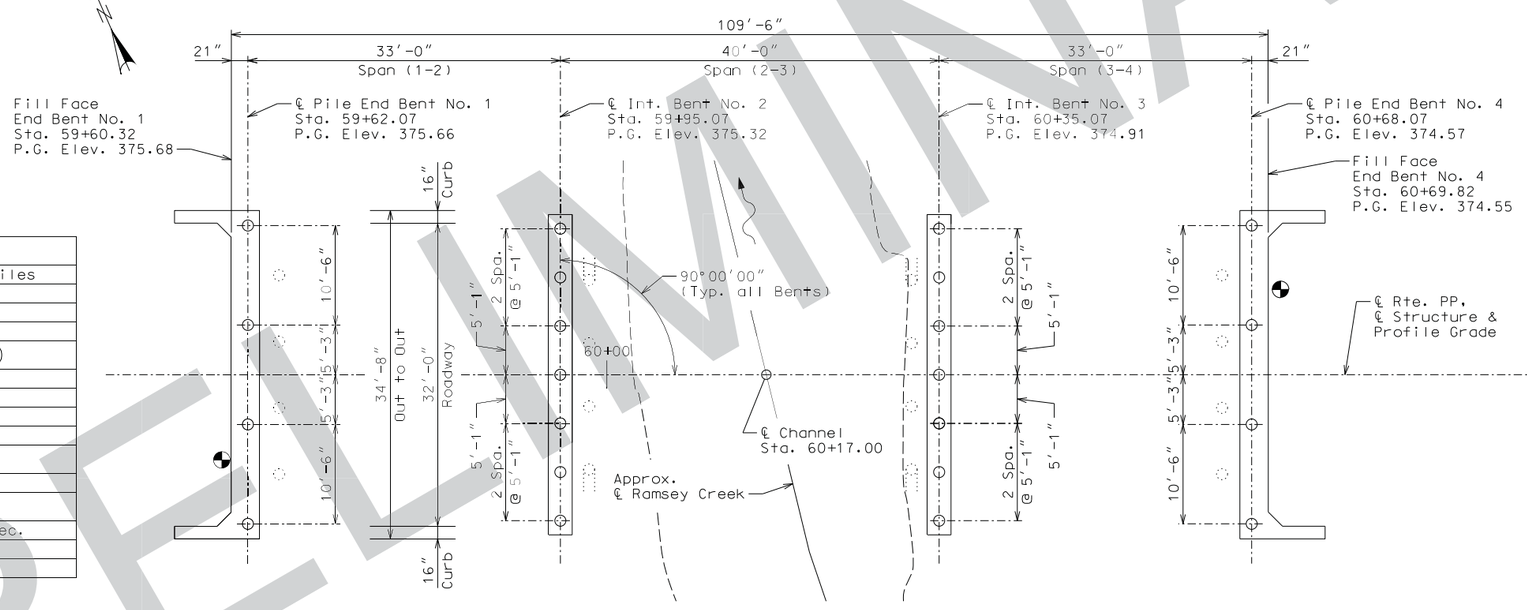
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

(33′-40′-33′) CONTINUOUS CONCRETE SOLID SLAB SPANS

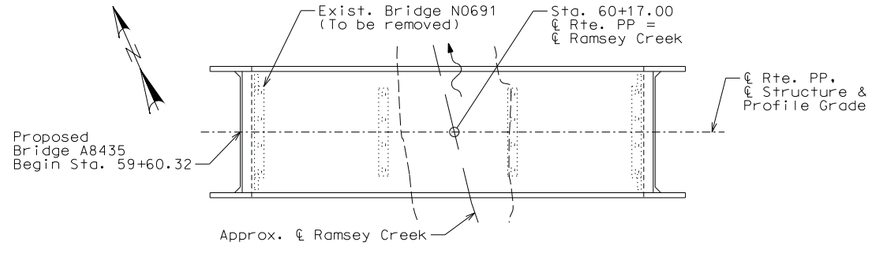


(*) Estimated Tip Elevation

GENERAL ELEVATION



PLAN



LOCATION SKETCH

HYDROLOGIC DATA	
Drainage Area	= 12.0 (Rolling) sq. miles
Design Flood Frequency	= 25 years
Design Flood Discharge	= 5,300 cu. ft./sec.
Design Flood (D.F.) Elevation	= 371.2
BASE FLOOD DATA (100 year)	
Base Flood Elevation	= 371.7
Base Flood Discharge	= 7,200 cu. ft./sec.
Estimated Backwater	= 1.8 feet
Average Velocity thru Opening	= 8.1 ft./sec.
FREEBOARD	
Freeboard = 1.3 feet	
ROADWAY OVERTOPPING	
Overtopping Flood Discharge	= 3,600 cu. ft./sec.
Overtopping Flood Frequency	= 6 years
OT Flood Elevation = 370.3	

Notes:

All dimensions are horizontal.

All Bents are parallel.

"◓" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 22 thru 25 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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

B.M. #7
STA. 59+64.63, 10.82′ LT
ELEV. 374.49
"□" NW CORNER BR # N0691
NEW RTE 61

B.M. #11
STA. 320+02.82, 23.57′ LT
ELEV. 378.34
"□" TOP NW WINGWALL BR #A0912
EX CL 1-55

BRIDGE: ROUTE PP OVER RAMSEY CREEK

ROUTE PP FROM ROUTE 61 TO ROUTE N
ABOUT 0.1 MILES EAST OF ROUTE 61
BEGINNING STA. 59+60.32 (ROUTE PP)

STD. 609.00	
STD. 617.10	
STD. 706.35	

GENERAL ELEVATION AND PLAN

Detailed: Aug. 2016
Checked: Aug. 2016

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

Sheet No. 1 of 25

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8435

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

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ESTIMATED QUANTITIES

Item	Unit	Substr.	Superstr.	Total
Class 1 Excavation	Cu. Yd.	60		60
Removal of Bridges (N0691)	Lump Sum			1
Bridge Approach Slab (Minor Road)	Sq. Yd.		149	149
Galvanized Cast-In-Place Concrete Piles (14 in.)	Lin. Ft.	1197		1197
Dynamic Pile Testing	Each	4		4
Dynamic Pile Restrike Testing	Each	4		4
Class B-1 Concrete (Substructure)	Cu. Yd.	33.0		33.0
Class B-2 Concrete (Superstructure Solid Slab)	Cu. Yd.		255.1	255.1
* Safety Barrier Curb	Lin. Ft.		243	243
Reinforcing Steel (Bridges)	Lb.		5450	5450
Reinforcing Steel (Epoxy Coated)	Lb.		46,330	46,330
Vertical Drain at End Bents	Each		2	2

* Safety Barrier Curb shall be Cast-In-Place option or Slip-Form option.

ESTIMATED QUANTITIES:

CONCRETE:

All concrete above the construction joint in the end bents is included with the Superstructure Quantities.

All reinforcement in the end bents is included with the Superstructure Quantities.

All concrete in the intermediate bent caps is included with the Superstructure Quantities.

All reinforcement in the intermediate bent caps is included with the Superstructure Quantities.

All reinforcement in cast-in-place piling at end bents is included in the Superstructure quantities.

All reinforcement in cast-in-place piling at intermediate bents is included in the Superstructure quantities for intermediate bents.

GENERAL NOTES:

DESIGN SPECIFICATIONS:
2012 - AASHTO LRFD 6th Ed. and 2013 Interims
2011 AASHTO GUIDE SPECIFICATIONS for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = D

DESIGN LOADING:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth 120 lb/cf., Equivalent Fluid Pressure 45 lb/cf

DESIGN UNIT STRESSES:

Class B-1 Concrete (Substructure)	f'c = 4,000 psi.
Class B-1 Concrete (Safety Barrier Curb)	f'c = 4,000 psi.
Class B-1 Concrete (Pipe Pile)	f'c = 4,000 psi.
Class B-2 Concrete (Superstructure except Safety Barrier Curb)	f'c = 4,000 psi.
Reinforcing Steel (Grade 60)	fy = 60,000 psi.
Steel Pipe Pile (ASTM A252 Grade 2)	fy = 35,000 psi.

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

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

TRAFFIC HANDLING:
Structure to be closed during construction.

MISCELLANEOUS:
Outline of old work is indicated by light dashed lines.
Heavy lines indicate new work.

FOUNDATION DATA

BENT NO.		1	2	3	4
Load Bearing Pile	Pile Type and Size	C.I.P. 14"	C.I.P. 14"	C.I.P. 14"	C.I.P. 14"
	CIP Type	Foundation	Foundation	Foundation	Foundation
	CIP Standard Plan	-	-	-	-
	Number ea.	4	7	7	4
	Approximate Length ft.	47	58	57	51
	Pile Driving Verification Method	DT	DT	DT	DT
	Minimum Nominal Axial Compressive Resistance kip	292	235	235	292
	Minimum Tip Penetration (Elev.) ft.	336	334	332	330
	Criteria for Minimum Tip Penetration	Penetration anticipated soft Geotechnical Layers	Penetration anticipated soft Geotechnical Layers	Penetration anticipated soft Geotechnical Layers	Penetration anticipated soft Geotechnical Layers
	Hammer Energy Required ft.-lbs.	8000	9470	9470	8300

Notes:

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor.

DT = Dynamic Testing

GENERAL NOTES AND SUMMARY OF ESTIMATED QUANTITIES

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	2

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8435

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
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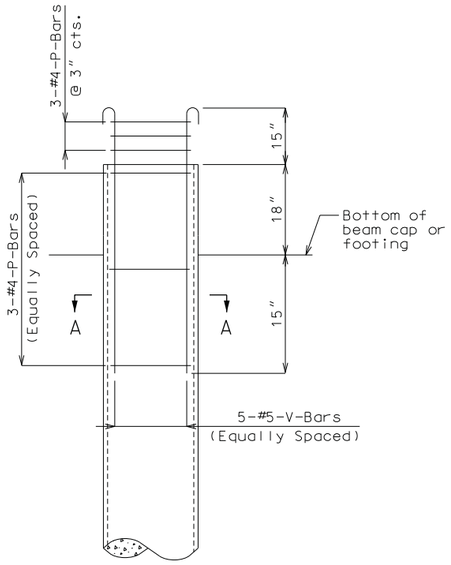
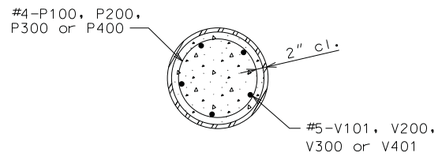
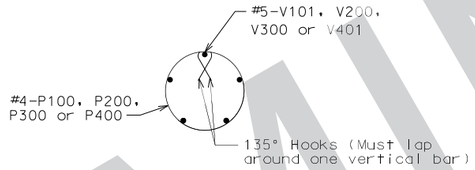
Certificate of Authority: 000856

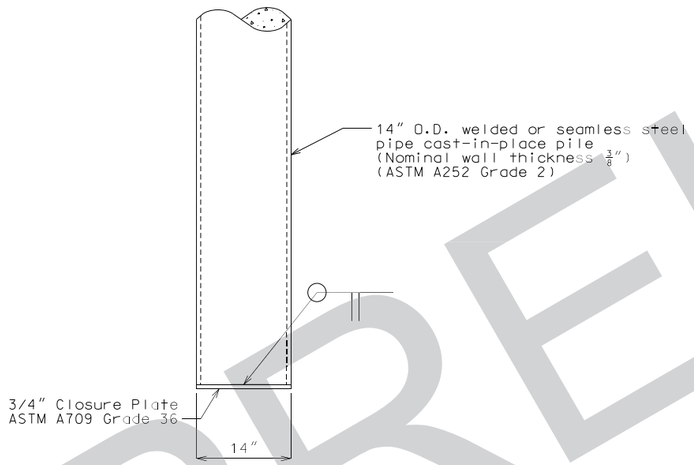




SECTION A-A



DETAIL OF SEISMIC STIRRUP BAR



WELDED OR SEAMLESS STEEL PIPE CAST-IN-PLACE PILE

Notes:

All concrete for cast-in-place piles shall be Class B-1.

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

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

Splice details for cast-in-place concrete piles shall be in accordance with the manufacturer's recommendations.

All splices of shells for cast-in-place concrete piles shall be made watertight and to the full strength of the shell above and below the splice to permit hard driving without damage. All shells damaged during driving shall be replaced without cost to the State. Shell sections used for splicing shall be at least 5'-0" in length. The splice at the tapered section shall be at least 3'-0" below the streambed for intermediate trestle type bents.

CAST-IN-PLACE PILE DETAILS

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	3

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

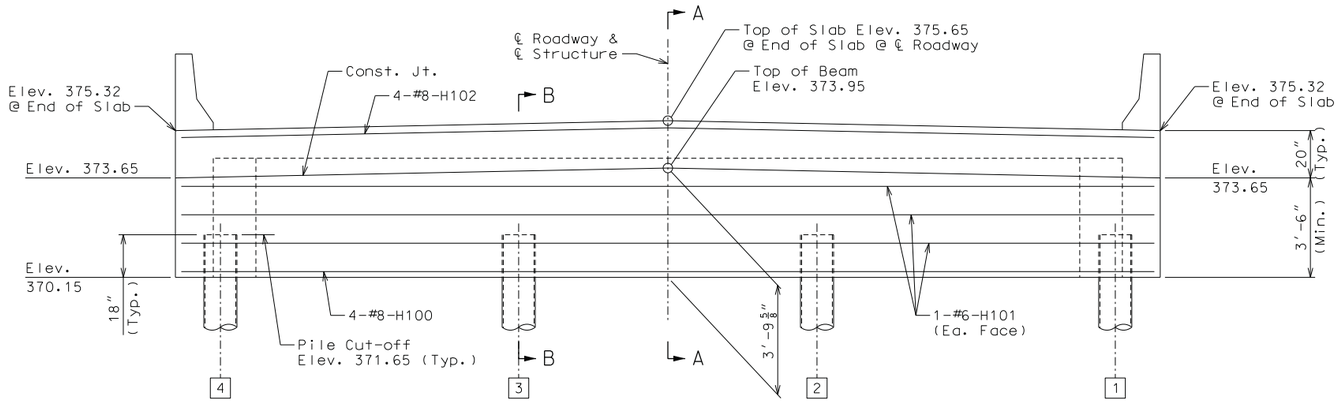
DESCRIPTION	DATE

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

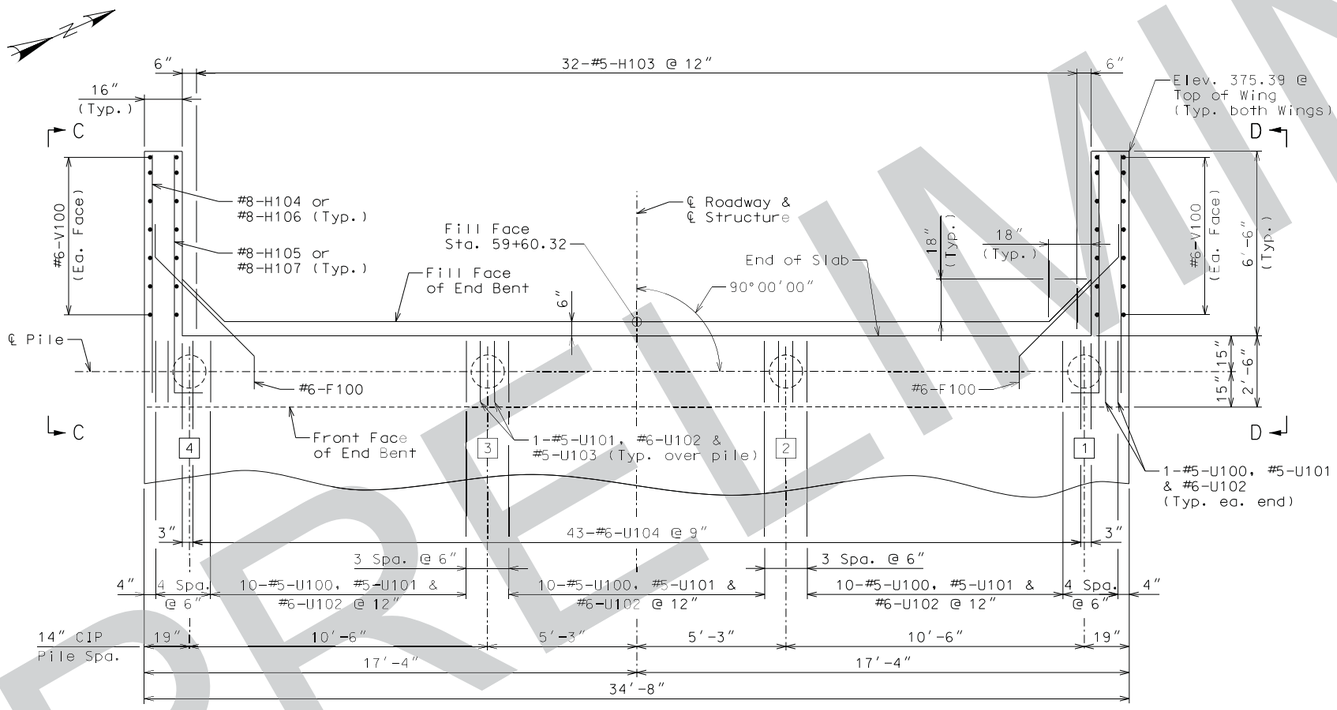
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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



ELEVATION
(Looking Back Station)



PLAN

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 1

ITEM		QUANTITY
Class 1 Excavation	Cu. Yd.	30
Galvanized Cast-In-Place Concrete Piles (14 in.)	Lin. Ft.	188
Dynamic Pile Testing	Ea.	1
Dynamic Pile Restrike Testing	Ea.	1
Class B-1 Concrete (Substructure)	Cu. Yd.	16.5

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

Notes:

For Sections A-A & B-B and Elevations C-C & D-D, see Sheet No. 5.

All concrete above the construction joint is included with the Superstructure quantities.

All reinforcement in the End Bent is included with the Superstructure quantities.

Slab reinforcement not shown for clarity.

1 - Denotes pile number.

END BENT NO. 1 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

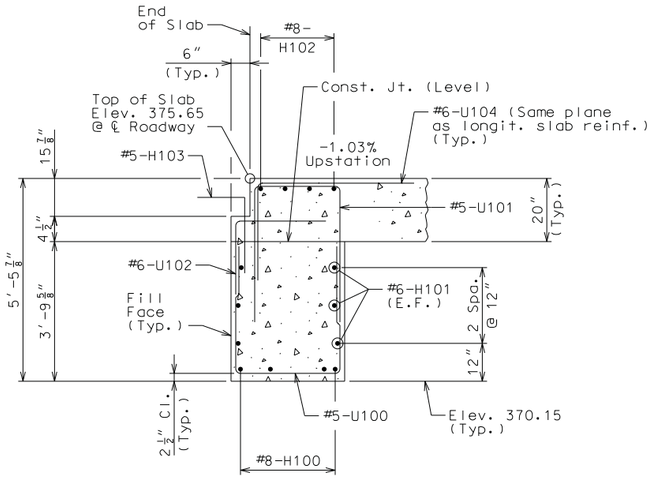
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

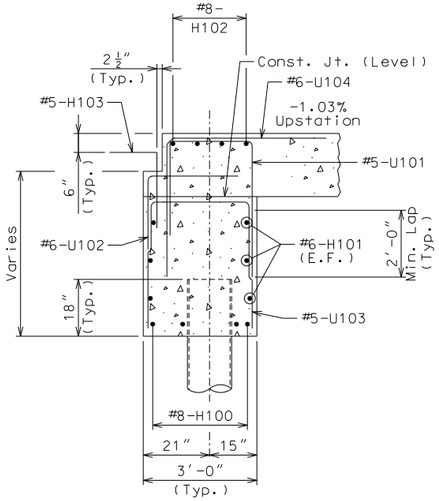
DESCRIPTION	DATE

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

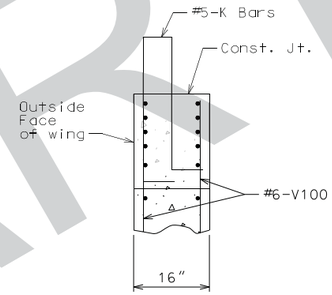
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



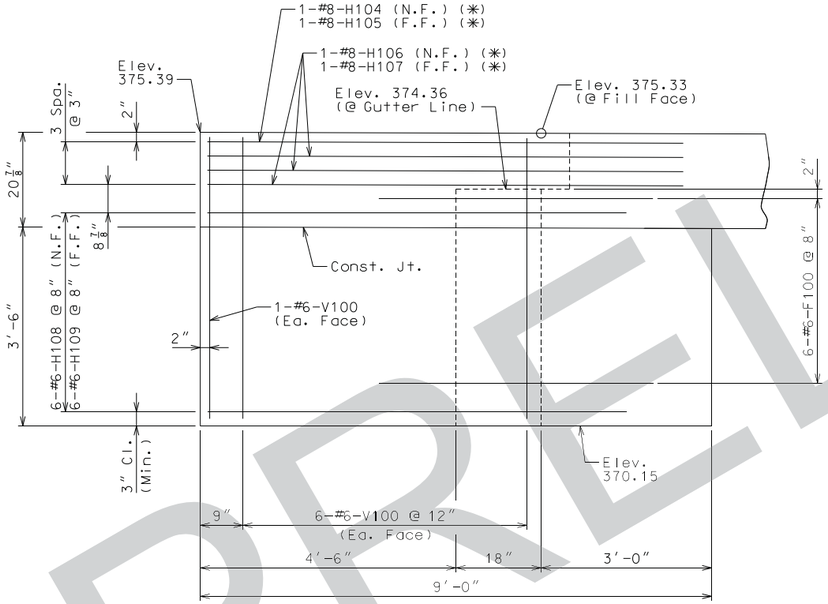
SECTION A-A



SECTION B-B

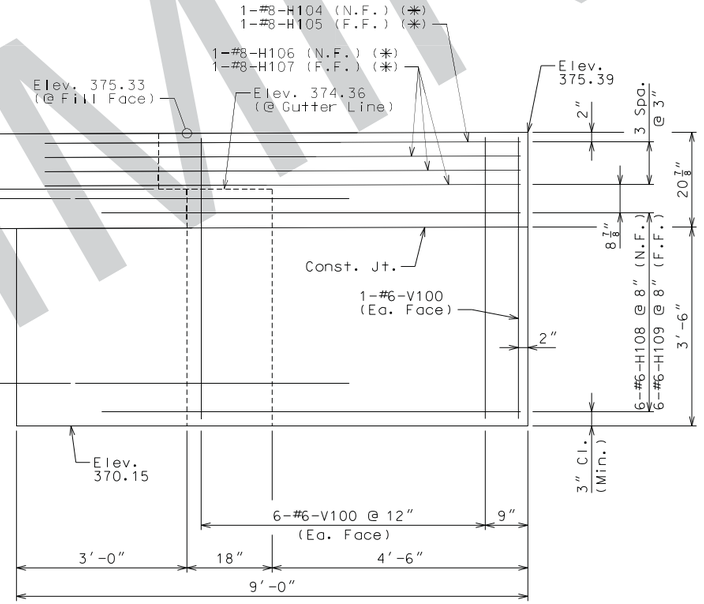


PART SECTION THRU END OF LEFT OR RIGHT WING



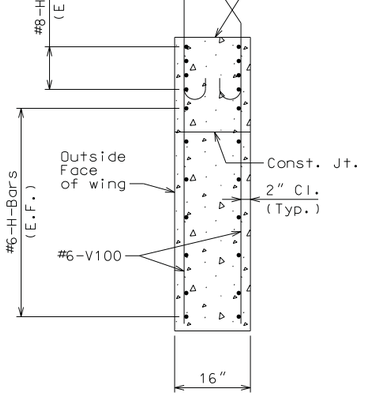
ELEVATION C-C

(*) Place with grade



ELEVATION D-D

(*) Place with grade



PART SECTION THRU LEFT OR RIGHT WING

Note: All dimensions and elevations given at outside face of wing.

Notes:

For location of Sections A-A & B-B and Elevations C-C & D-D, see Sheet No. 4.

For details and reinforcement of Barrier Curb at End Bent, see Sheet No. 16.

For details of Cast-In-Place Pile reinforcement, see Sheet No. 3.

N.F. indicates Near Face.

F.F. indicates Far Face.

END BENT NO. 1 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	5

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

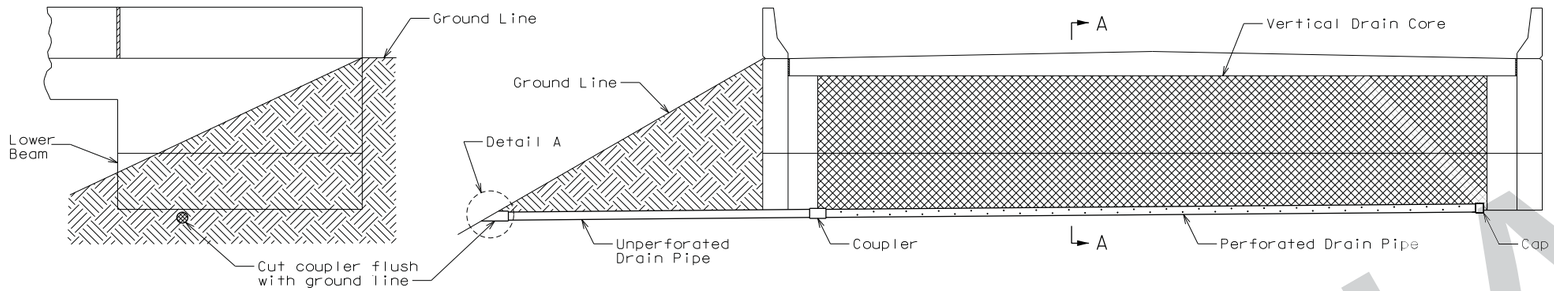
PROJECT NO.

BRIDGE NO.
A8435

DATE	DESCRIPTION

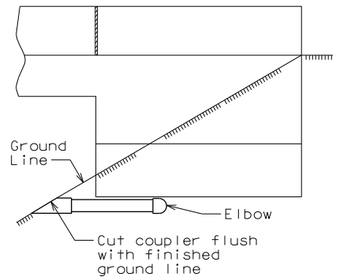
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

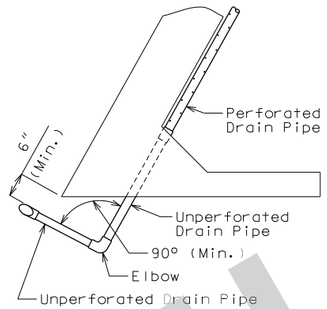


ELEVATION OF WING

ELEVATION AT END BENT

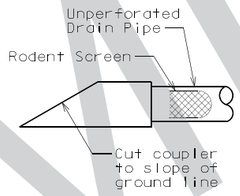


ELEVATION OF WING

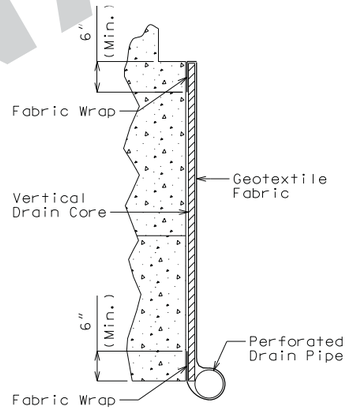


PART PLAN

OPTIONAL TURNED DRAIN
(Only if rock is encountered at outside of wing)



DETAIL A



PART SECTION A-A

Note:

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.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1 1/2 inches. (See Elevation at End Bent.)

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

VERTICAL DRAIN AT END BENTS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	6

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

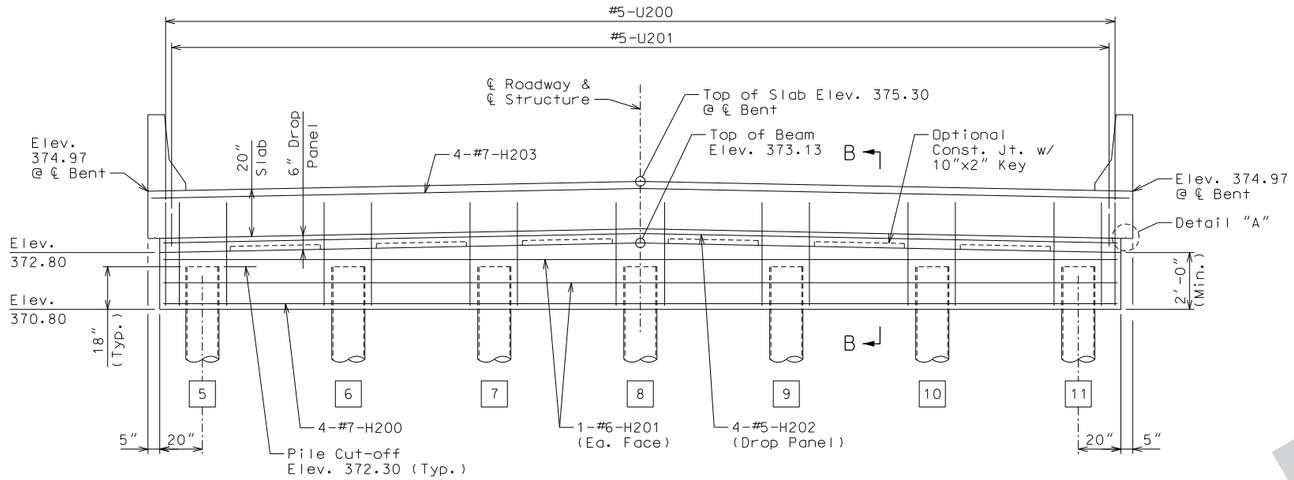
PROJECT NO.

BRIDGE NO.
A8435

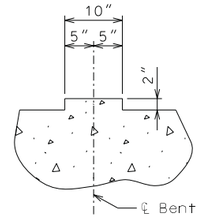
DESCRIPTION	DATE

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

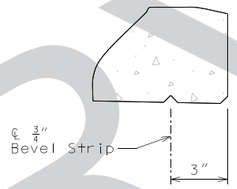
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



ELEVATION



TYPICAL SECTION
THRU OPTIONAL KEY



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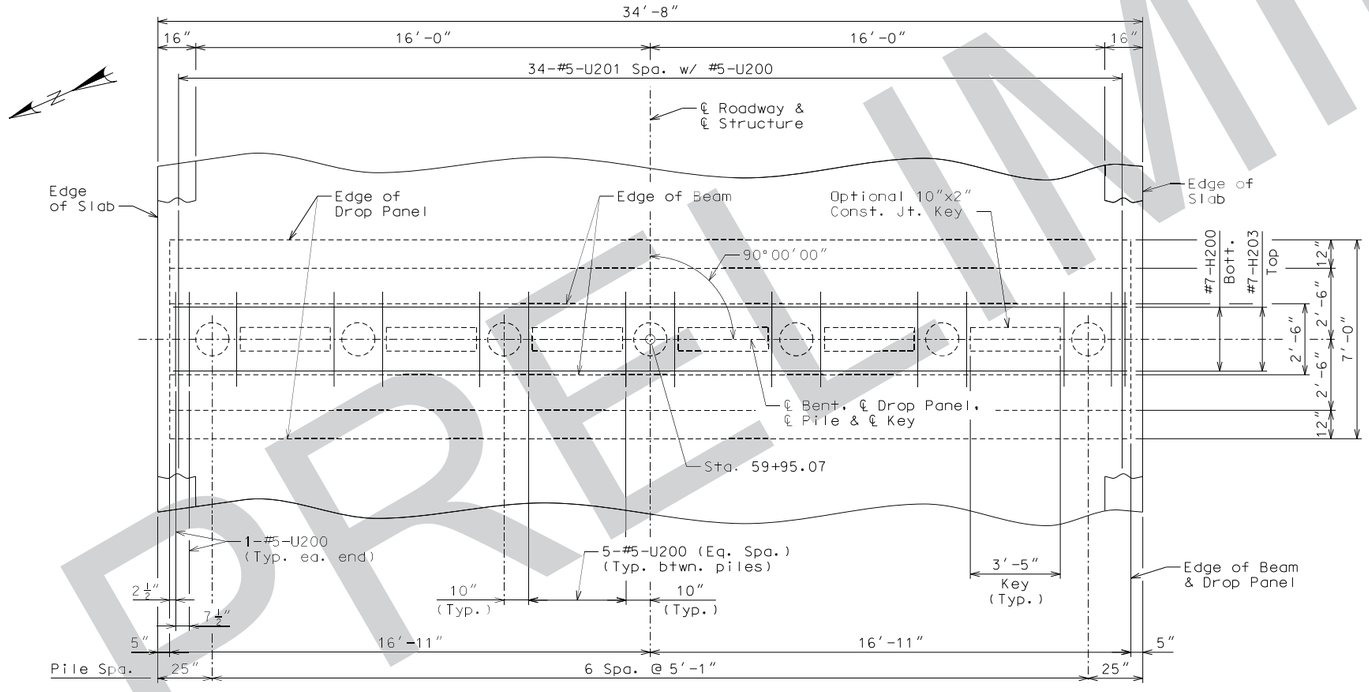
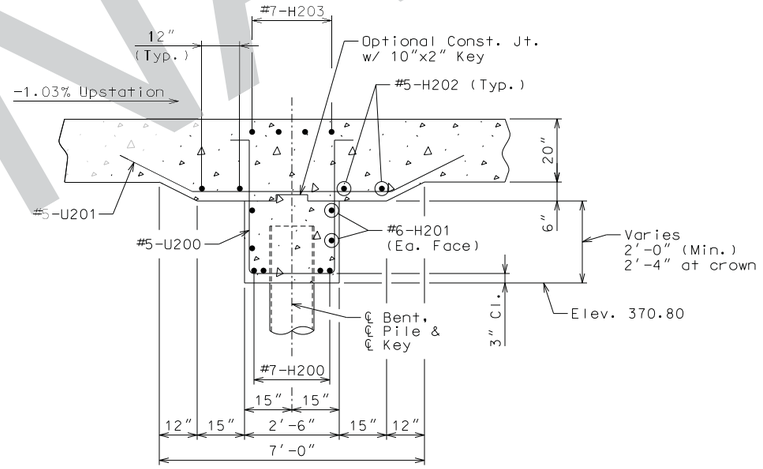


PLAN



SECTION B-B

SUBSTRUCTURE QUANTITY TABLE FOR INTERMEDIATE BENT NO. 2

ITEM		QUANTITY
Galvanized Cast-In-Place Concrete Piles (14 in.)	Lin. Ft.	406
Dynamic Pile Testing	Ea.	1
Dynamic Pile Restrike Testing	Ea.	1

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

Notes:

Concrete in the Intermediate Bent Cap shall be Class B-2 and is included with the Superstructure Quantities.

All reinforcement in the Intermediate Bent Cap is included with the Superstructure Quantities.

Slab reinforcement not shown for clarity.

For details of Cast-In-Place Pile reinforcement, see Sheet No. 3.

5 - Denotes pile number.

INTERMEDIATE BENT NO. 2 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

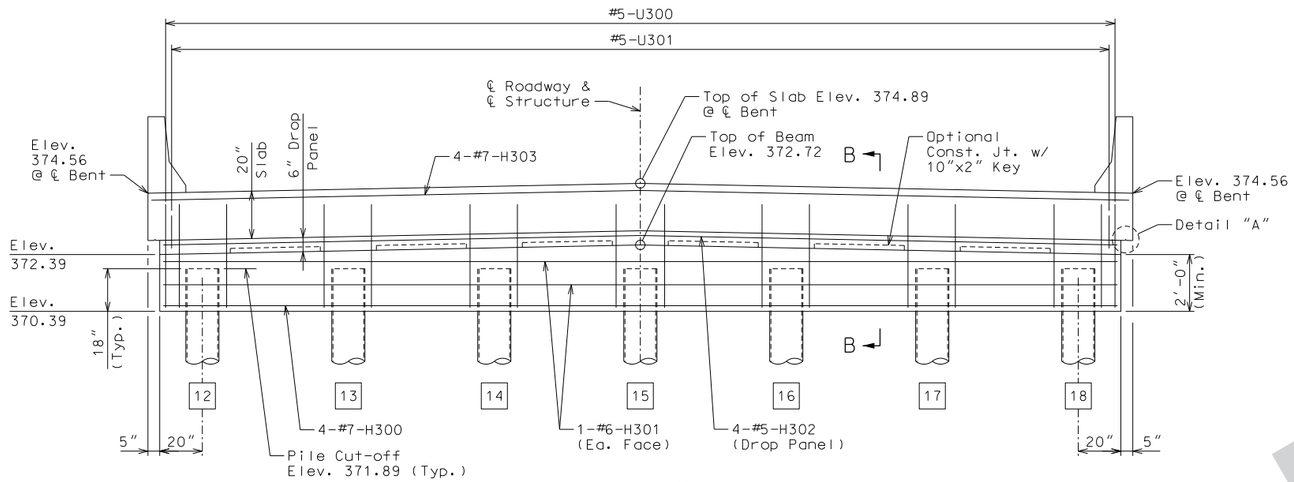
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	7

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

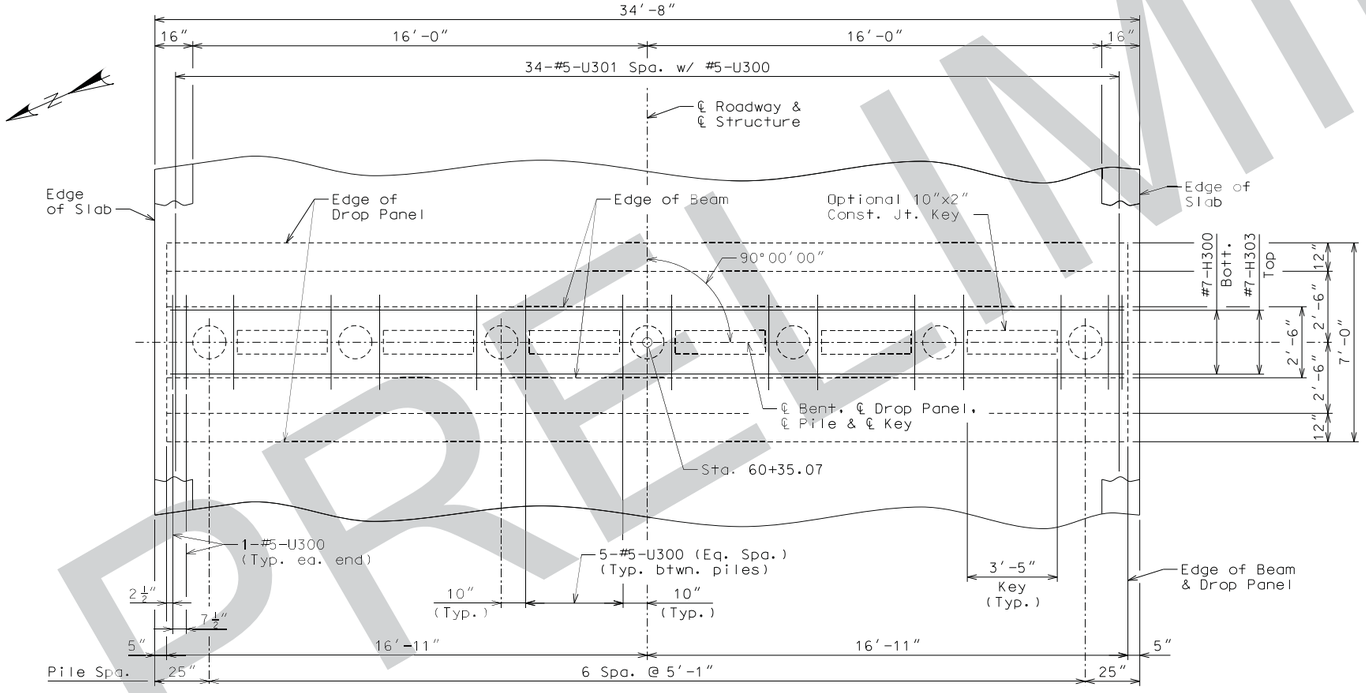
DESCRIPTION | DATE

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

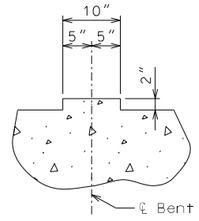
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



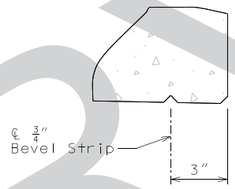
ELEVATION



PLAN



TYPICAL SECTION THRU OPTIONAL KEY



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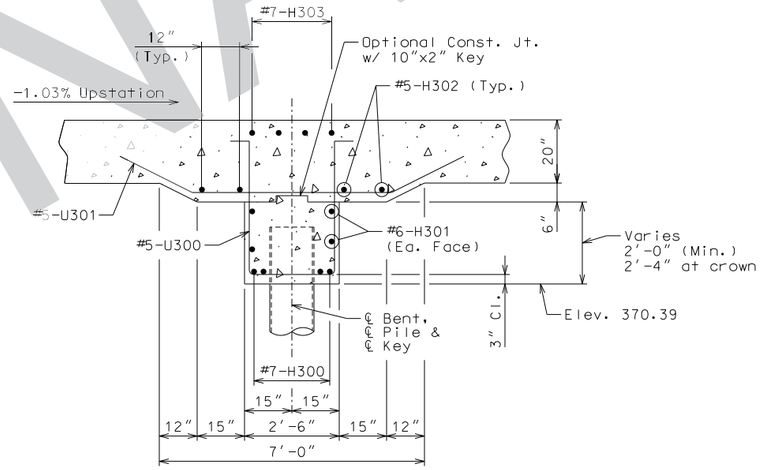


SECTION B-B

SUBSTRUCTURE QUANTITY TABLE FOR INTERMEDIATE BENT NO. 3

ITEM		QUANTITY
Galvanized Cast-In-Place Concrete Piles (14 in.)	Lin. Ft.	399
Dynamic Pile Testing	Ea.	1
Dynamic Pile Restrike Testing	Ea.	1

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

Notes:

Concrete in the Intermediate Bent Cap shall be Class B-2 and is included with the Superstructure Quantities.

All reinforcement in the Intermediate Bent Cap is included with the Superstructure Quantities.

Slab reinforcement not shown for clarity.

For details of Cast-In-Place Pile reinforcement, see Sheet No. 3.

12 - Denotes pile number.

INTERMEDIATE BENT NO. 3 DETAILS

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	8

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8435

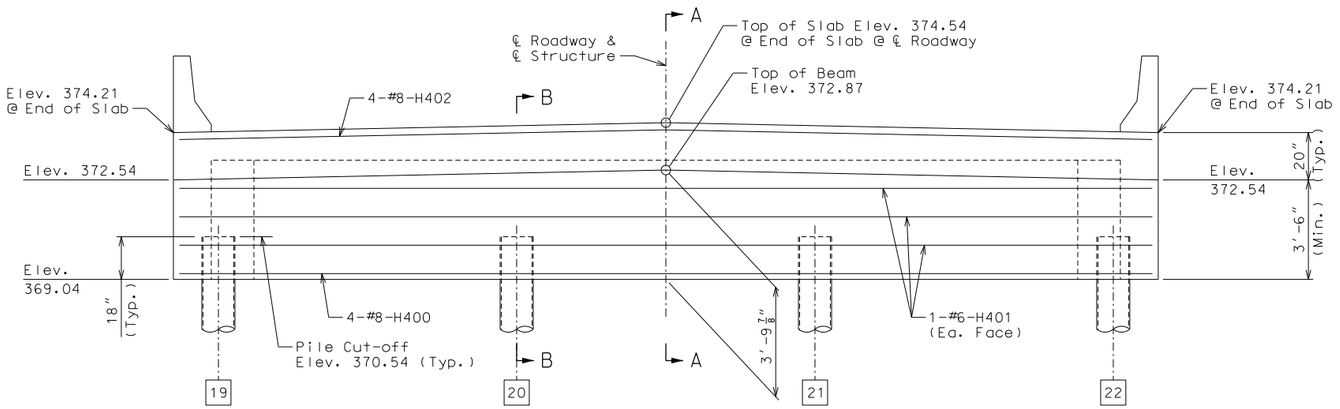
DESCRIPTION | DATE

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

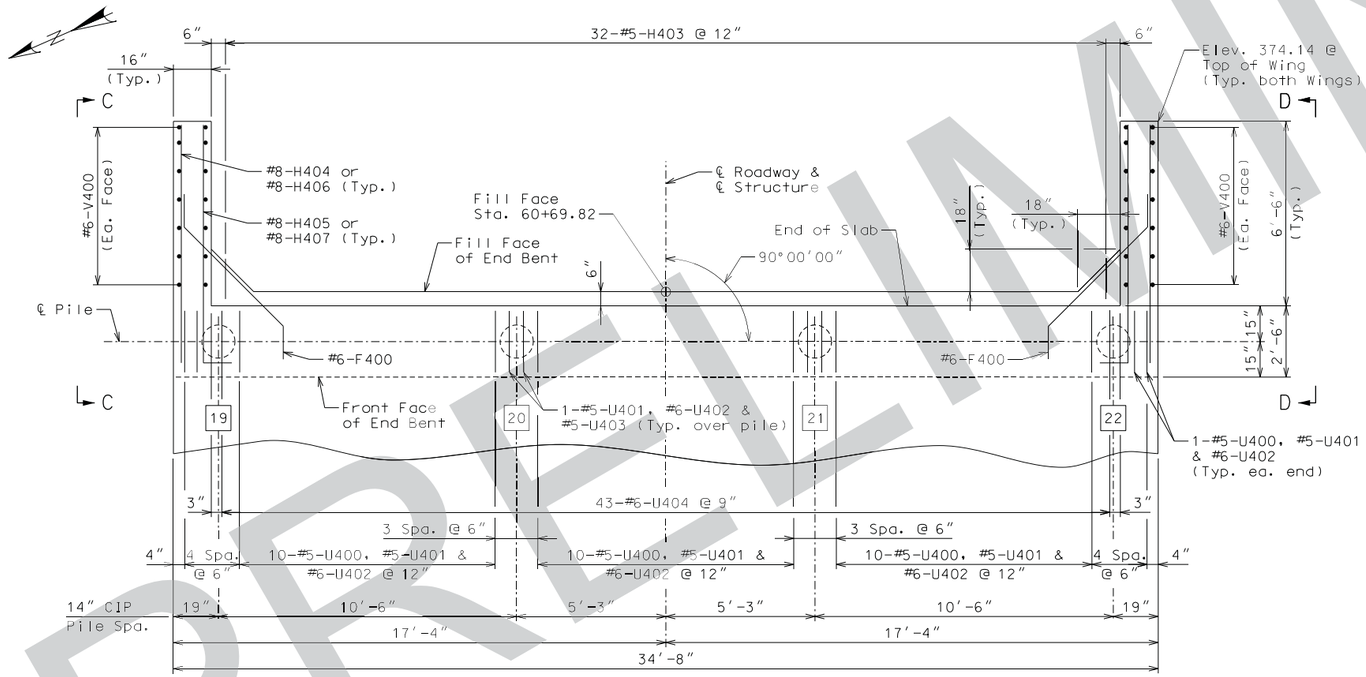
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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



ELEVATION
(Looking Ahead Station)



PLAN

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 4

ITEM		QUANTITY
Class 1 Excavation	Cu. Yd.	30
Galvanized Cast-In-Place Concrete Piles (14 in.)	Lin. Ft.	204
Dynamic Pile Testing	Ea.	1
Dynamic Pile Restrike Testing	Ea.	1
Class B-1 Concrete (Substructure)	Cu. Yd.	16.5

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

Notes:

For Sections A-A & B-B and Elevations C-C & D-D, see Sheet No. 10.

All concrete above the construction joint is included with the Superstructure quantities.

All reinforcement in the End Bent is included with the Superstructure quantities.

Slab reinforcement not shown for clarity.

19 - Denotes pile number.

END BENT NO. 4 DETAILS

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

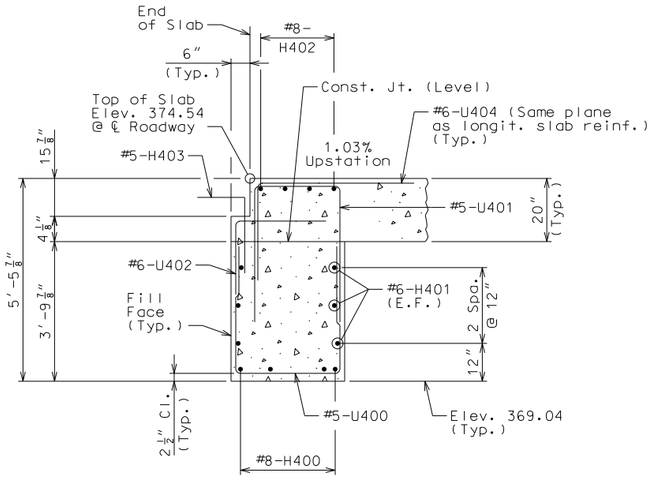
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	9

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

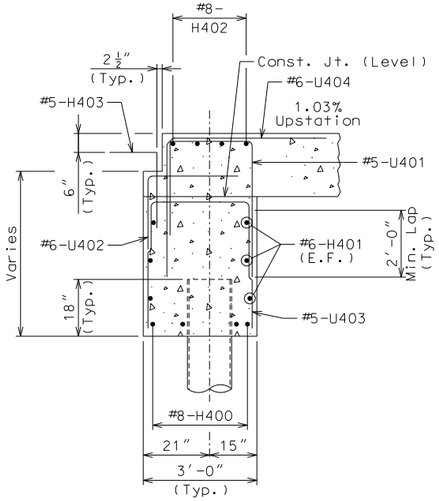
DESCRIPTION	DATE

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

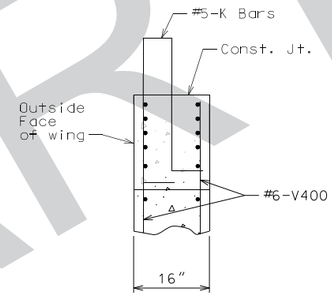
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



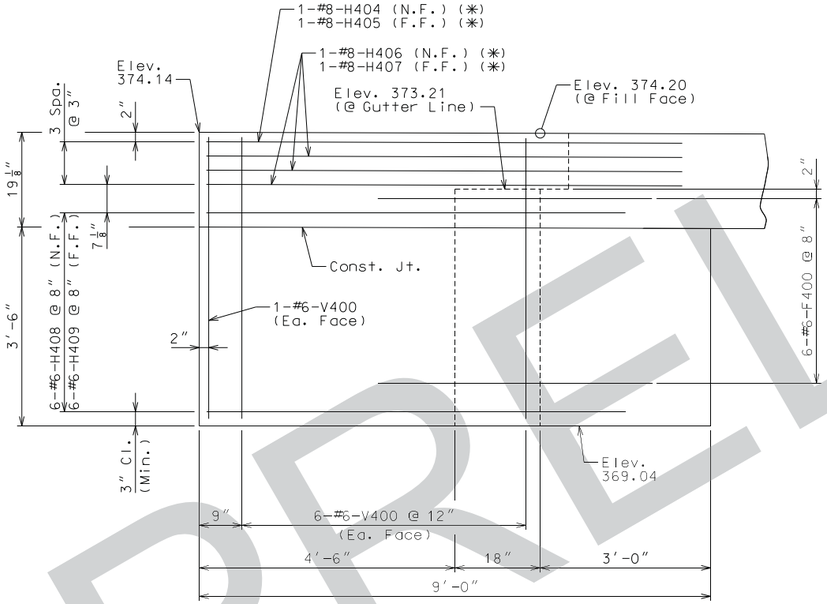
SECTION A-A



SECTION B-B

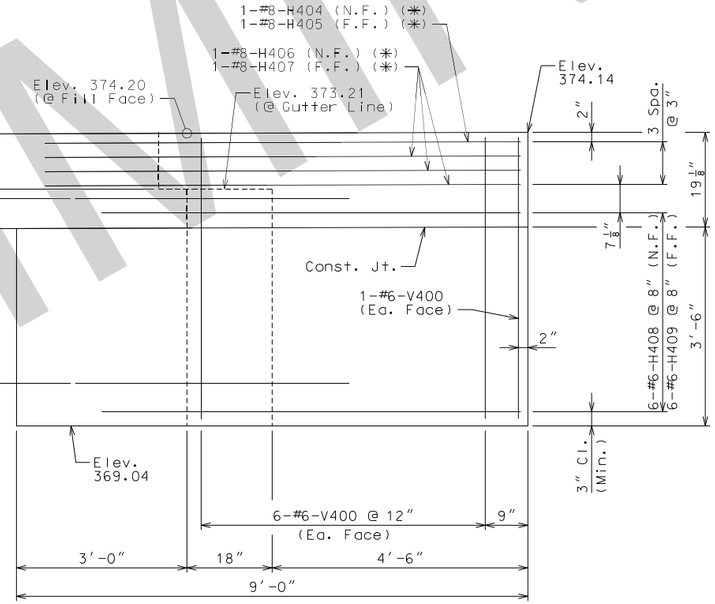


PART SECTION THRU END OF LEFT OR RIGHT WING



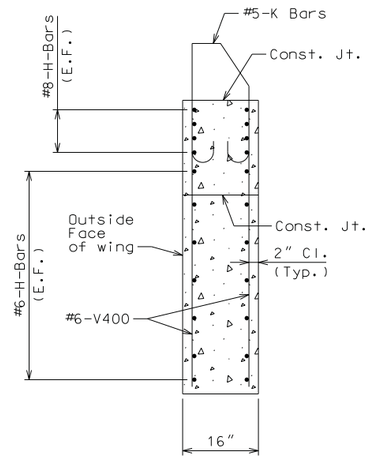
ELEVATION C-C

(*) Place with grade



ELEVATION D-D

(*) Place with grade



PART SECTION THRU LEFT OR RIGHT WING

Note: All dimensions and elevations given at outside face of wing.

Notes:

For location of Sections A-A & B-B and Elevations C-C & D-D, see Sheet No. 9.

For details and reinforcement of Barrier Curb at End Bent, see Sheet no. 16.

For details of Cast-In-Place Pile reinforcement, see Sheet No. 3.

N.F. indicates Near Face.

F.F. indicates Far Face.

END BENT NO. 4 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	10

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

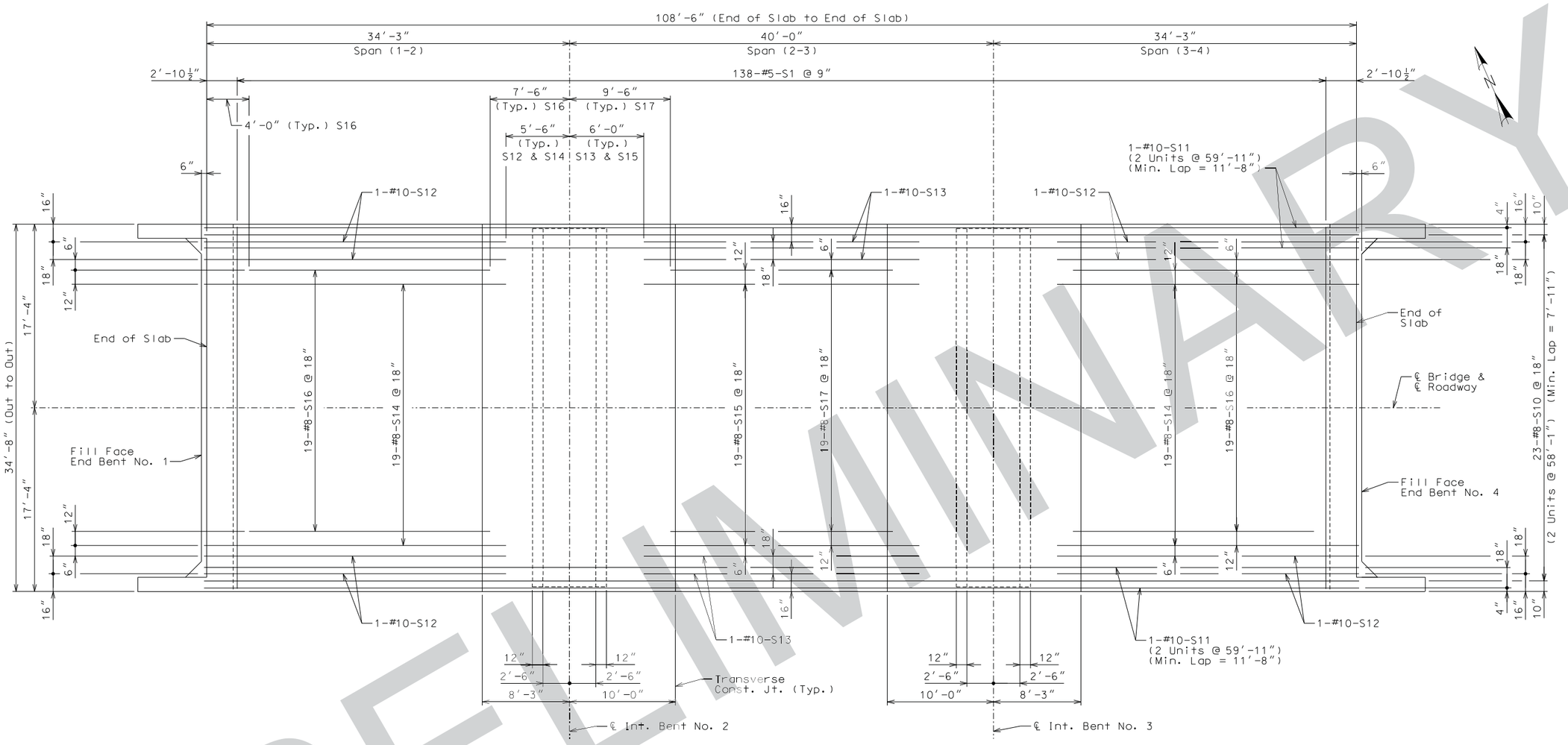
PROJECT NO.

BRIDGE NO.
A8435

DATE	DESCRIPTION

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



PLAN

Notes:

Longitudinal dimensions are horizontal.

For Theoretical Bottom of Slab Elevations (prior to forming for slab), see Sheet No. 14.

For details of reinforcement in drop panels, see Sheets No. 7 & 8.

For details and reinforcement of Safety Barrier Curbs, see Sheet No. 15.

For Plan of Slab showing Top Reinforcement, see Sheet No. 12.

For reinforcement in End Bents, see Sheets No. 4 & 5 and 9 & 10.

Reinforcement may be shifted 2" in field to avoid conflict with construction joints.

The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the roadway slab at the rate of not less than 43 cubic yards per hour. The contractor shall observe the transverse construction joints shown on the plans, unless the contractor is equipped to pour and satisfactorily finish the roadway slab at a rate which permits a continuous pouring through some or all joints as approved by the engineer.

PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	11

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

DESCRIPTION	DATE

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

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401 S. 18th Street
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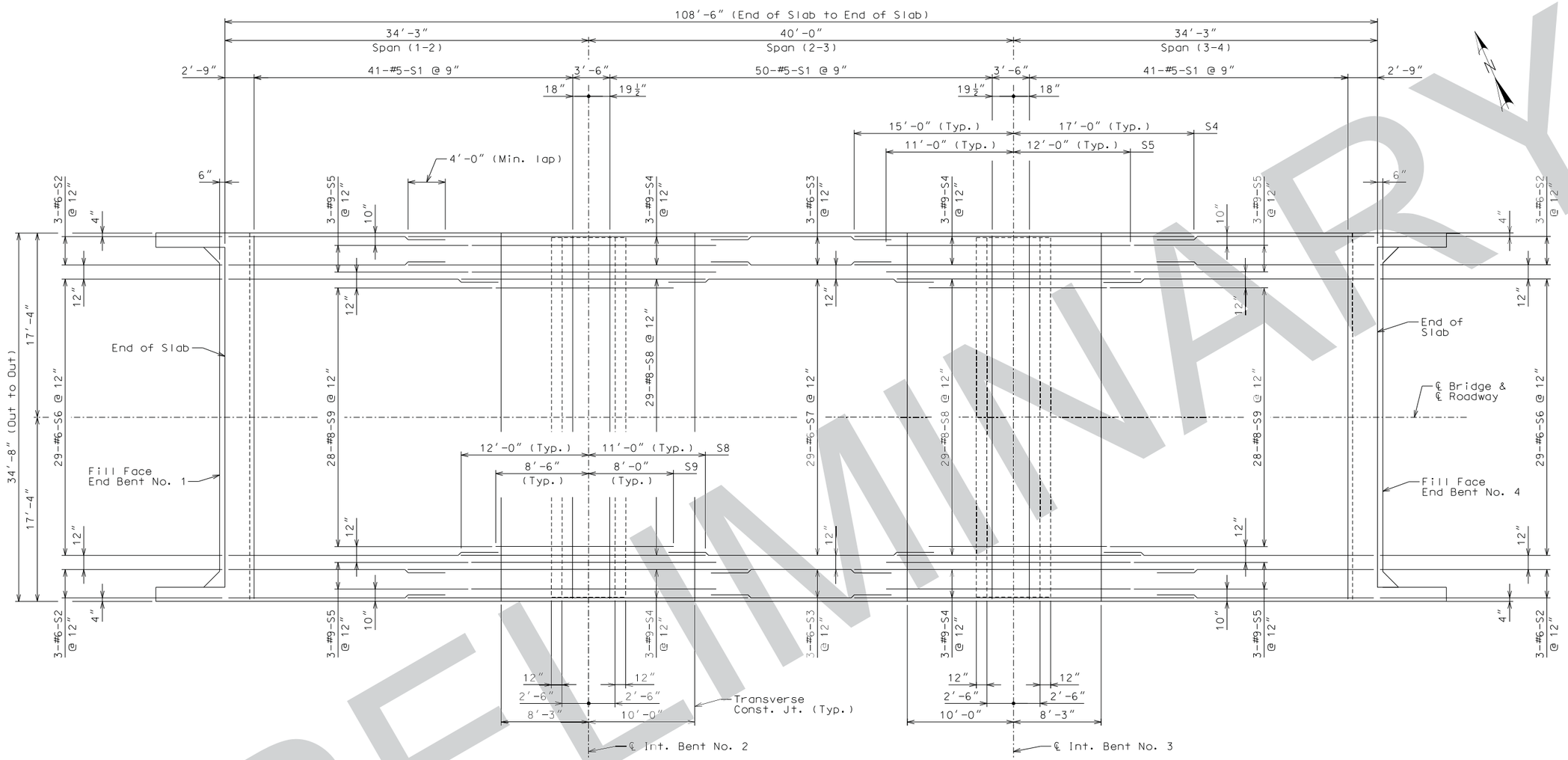

PLAN

Notes:

Longitudinal dimensions are horizontal.

For Theoretical Bottom of Slab Elevations (prior to forming for slab), see Sheet No. 14.

For details of reinforcement in drop panels, see Sheets No. 7 & 8.

For details and reinforcement of Safety Barrier Curbs, see Sheet No. 15.

For Plan of Slab showing Bottom Reinforcement, see Sheet No. 11.

For reinforcement in End Bents, see Sheets No. 4 & 5 and 9 & 10.

Reinforcement may be shifted 2″ in field to avoid conflict with construction joints.

The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the roadway slab at the rate of not less than 43 cubic yards per hour. The contractor shall observe the transverse construction joints shown on the plans, unless the contractor is equipped to pour and satisfactorily finish the roadway slab at a rate which permits a continuous pouring through some or all joints as approved by the engineer.

PLAN OF SLAB SHOWING TOP REINFORCEMENT

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED: 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	12

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
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St. Louis, MO 63103-2267
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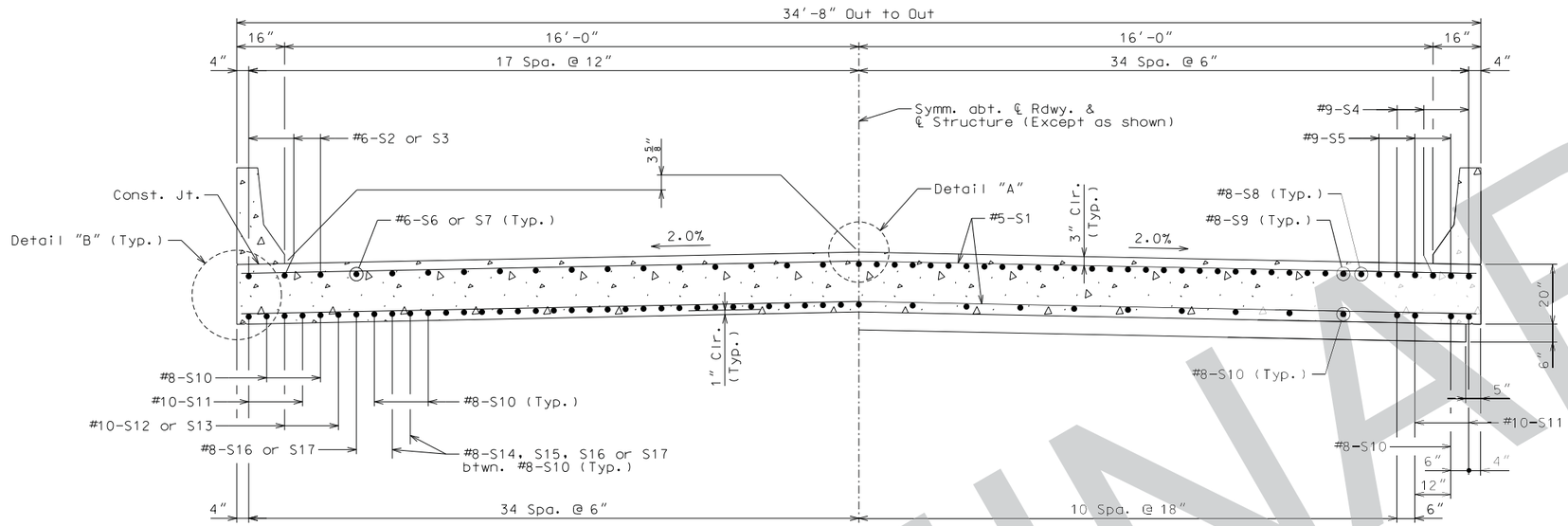
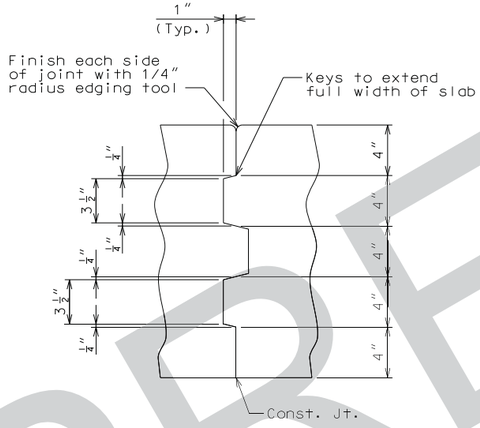
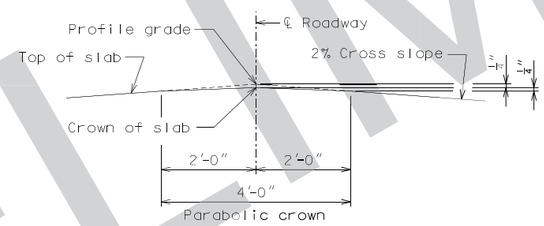


HALF SECTION NEAR CENTER SPAN

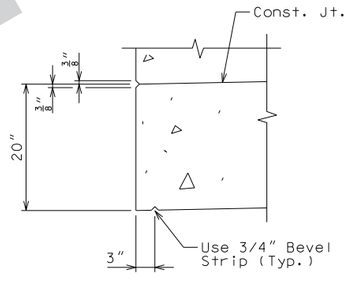
HALF SECTION NEAR INT. BENT



SLAB CONSTRUCTION JOINT DETAIL



DETAIL "A"



DETAIL "B"

Notes:

Longitudinal dimensions are horizontal.

For Theoretical Bottom of Slab Elevations (prior to forming for slab), see Sheet No. 14.

For details of reinforcement in drop panels, see Sheets No. 7 & 8.

For details and reinforcement of Safety Barrier Curbs, see Sheet No. 15.

For Plan of Slab showing Bottom Reinforcement, see Sheet No. 11.

For Plan of Slab showing Top Reinforcement, see Sheet No. 12.

Reinforcement may be shifted 2" in field to avoid conflict with construction joints.

The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the roadway slab at the rate of not less than 43 cubic yards per hour. The contractor shall observe the transverse construction joints shown on the plans, unless the contractor is equipped to pour and satisfactorily finish the roadway slab at a rate which permits a continuous pouring through some or all joints as approved by the engineer.

TYPICAL SLAB SECTION AND DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	13

COUNTY
SCOTT

JOB NO.
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PROJECT NO.

BRIDGE NO.
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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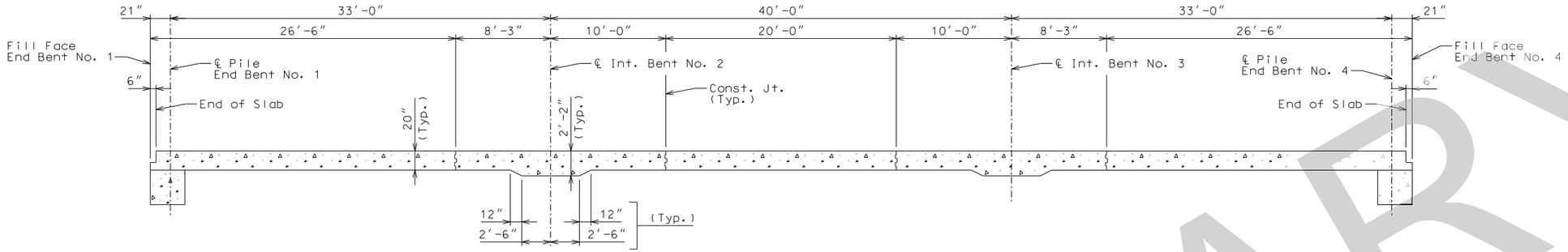
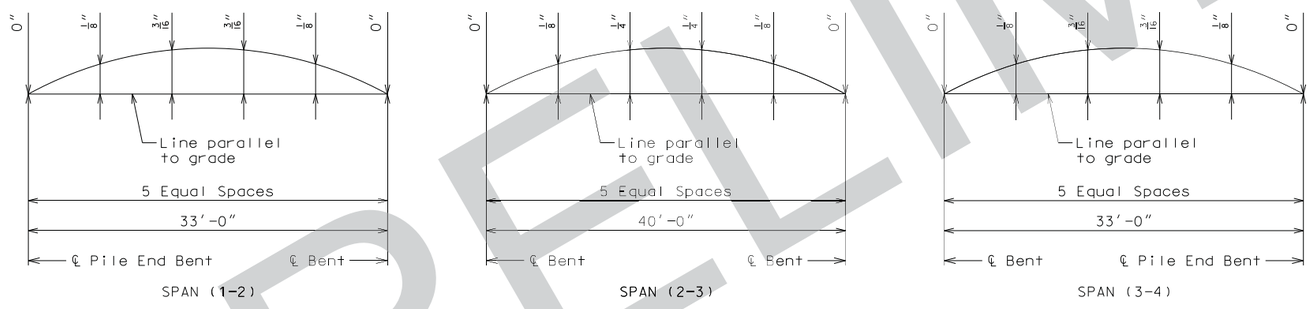


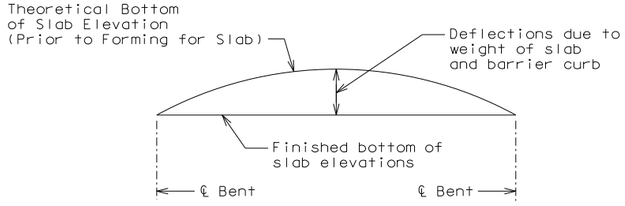
LONGITUDINAL SECTION

Theoretical Bottom of Slab Elevations (Prior to Forming for Slab) **																	
	Span (1-2) (33'-0" ℄ Pile End Bent - ℄ Bent)					Span (2-3) (40'-0" ℄ Bent - ℄ Bent)						Span (3-4) (33'-0" ℄ Bent - ℄ Pile End Bent)					
	℄ Pile End Bent	.2	.4	.6	.8	℄ Bent	.2	.4	.6	.8	℄ Bent	.2	.4	.6	.8	℄ Pile End Bent
At Left and Right Edge	373.65	373.59	373.53	373.46	373.39	373.31	373.24	373.16	373.08	372.99	372.90	372.84	372.77	372.71	372.64	372.56
At ℄ Roadway	373.97	373.92	373.85	373.79	373.71	373.63	373.56	373.49	373.40	373.31	373.22	373.16	373.10	373.03	372.96	372.88

** Elevations are based on a constant slab thickness of 20" and include allowance for theoretical dead load deflections due to weight of slab and barrier curb.



CAMBER DIAGRAM



TYPICAL SLAB ELEVATIONS DIAGRAM

Notes:

For Typical Section, see Sheet No. 13.

All longitudinal dimensions shown are horizontal.

SLAB DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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GREGORY LOUIS KUNTZ
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PROFESSIONAL ENGINEER

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DISTRICT	SHEET NO.
BR	14

COUNTY
SCOTT

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J0I0956

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PROJECT NO.

BRIDGE NO.
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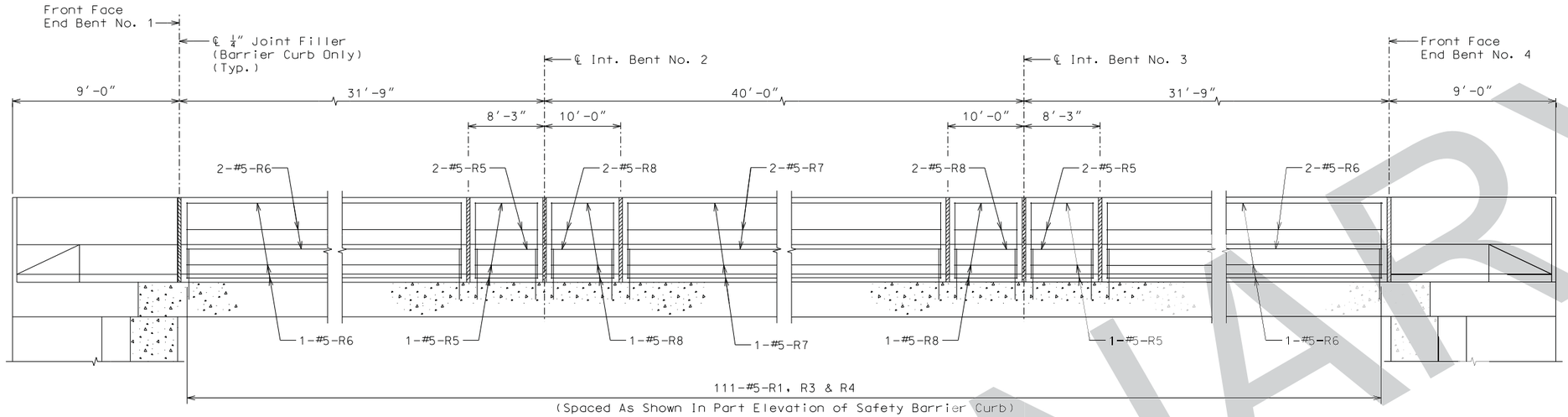
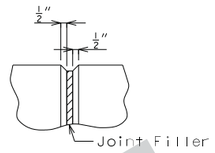
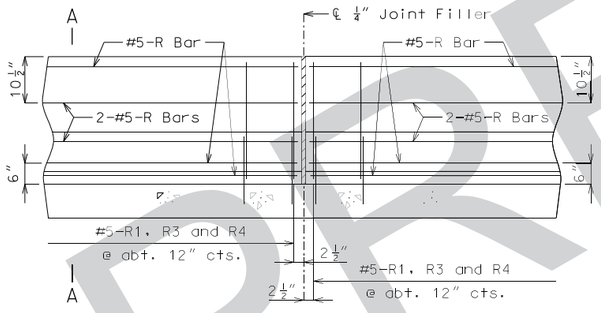


ELEVATION OF SAFETY BARRIER CURB

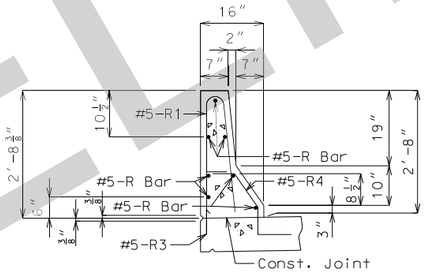
(Left barrier curb shown, right barrier curb similar)
Longitudinal dimensions are horizontal.



FILLED JOINT DETAIL



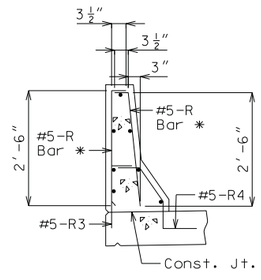
PART ELEVATION OF SAFETY BARRIER CURB
(CAST-IN-PLACE CONVENTIONAL FORMING)



SECTION A-A

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

The cross-sectional area above the slab = 2.27 sq. ft.



R-BAR PERMISSIBLE ALTERNATE SHAPE

✱ 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.)

General Notes

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

SAFETY BARRIER CURB DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

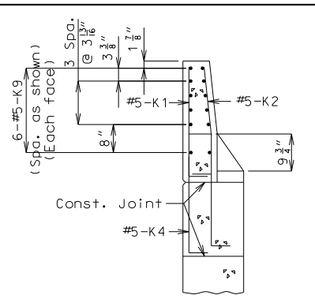
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	15

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

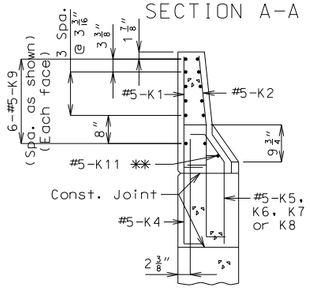
NO.	DESCRIPTION	DATE

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

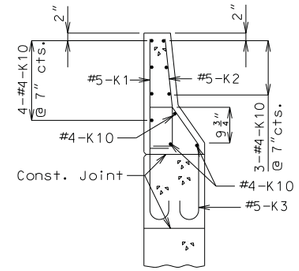
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



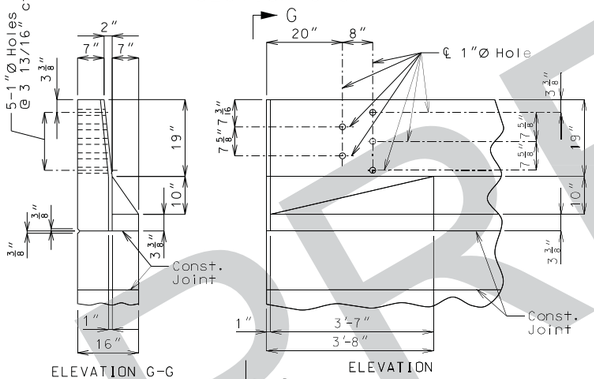
SECTION A-A



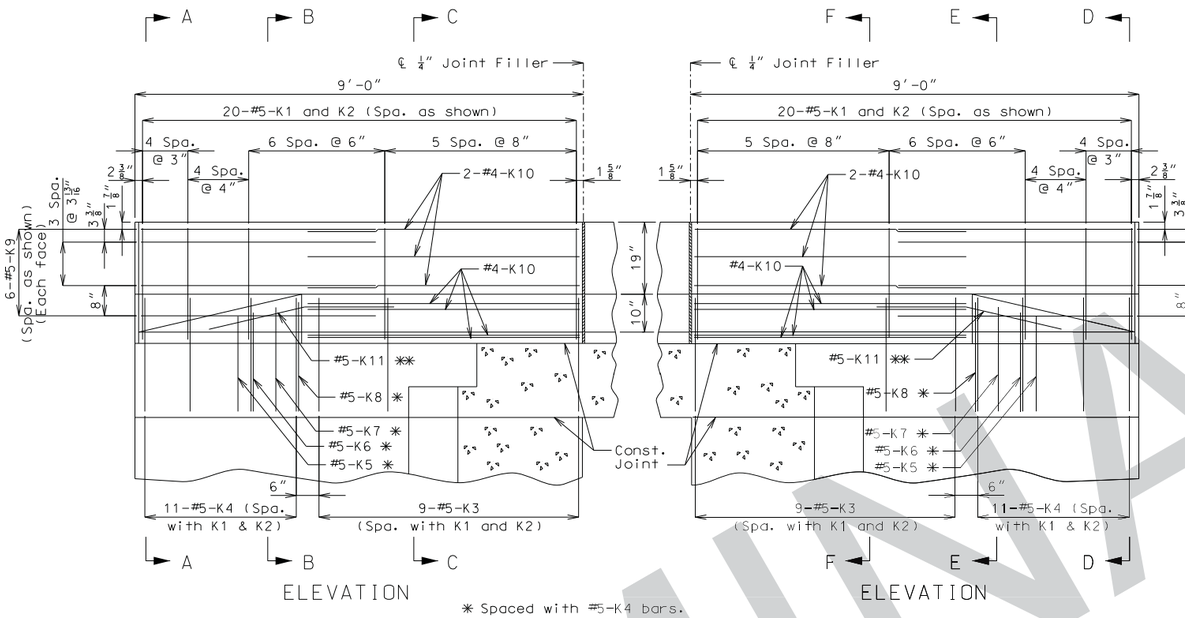
SECTION B-B



SECTION C-C

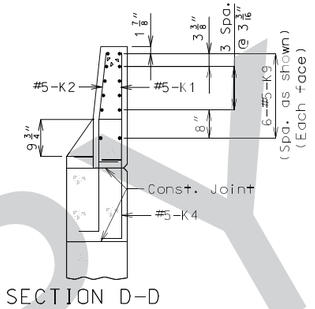


DETAILS OF GUARD RAIL ATTACHMENT

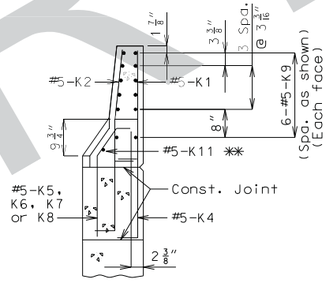


ELEVATION

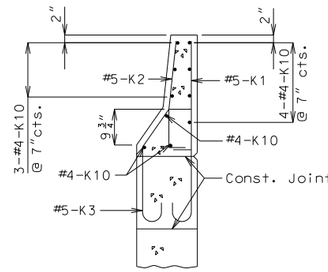
ELEVATION



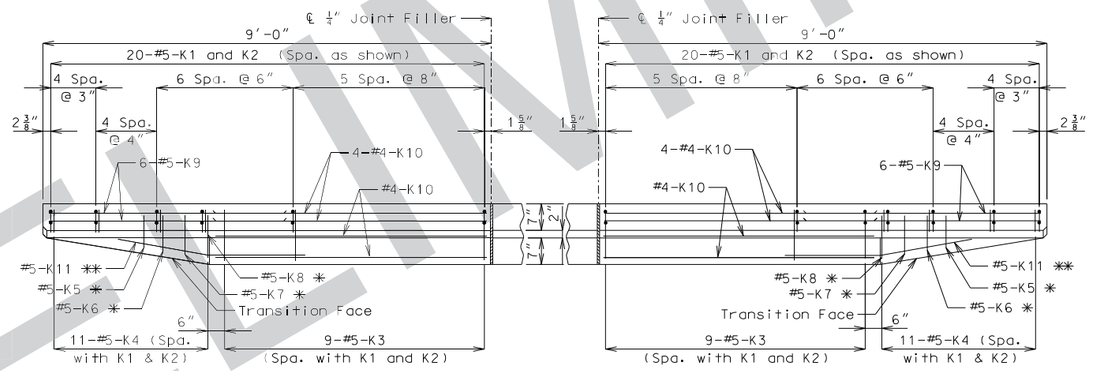
SECTION D-D



SECTION E-E



SECTION F-F



PLAN

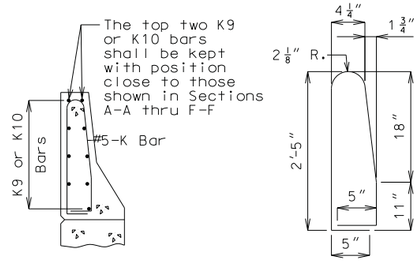
PLAN

Note: Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

(Left barrier curb shown, right barrier curb similar)

DETAILS OF SAFETY BARRIER CURB AT END BENTS



K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE

(K3 or K4 thru K8 bars not shown for clarity)

The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	16

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

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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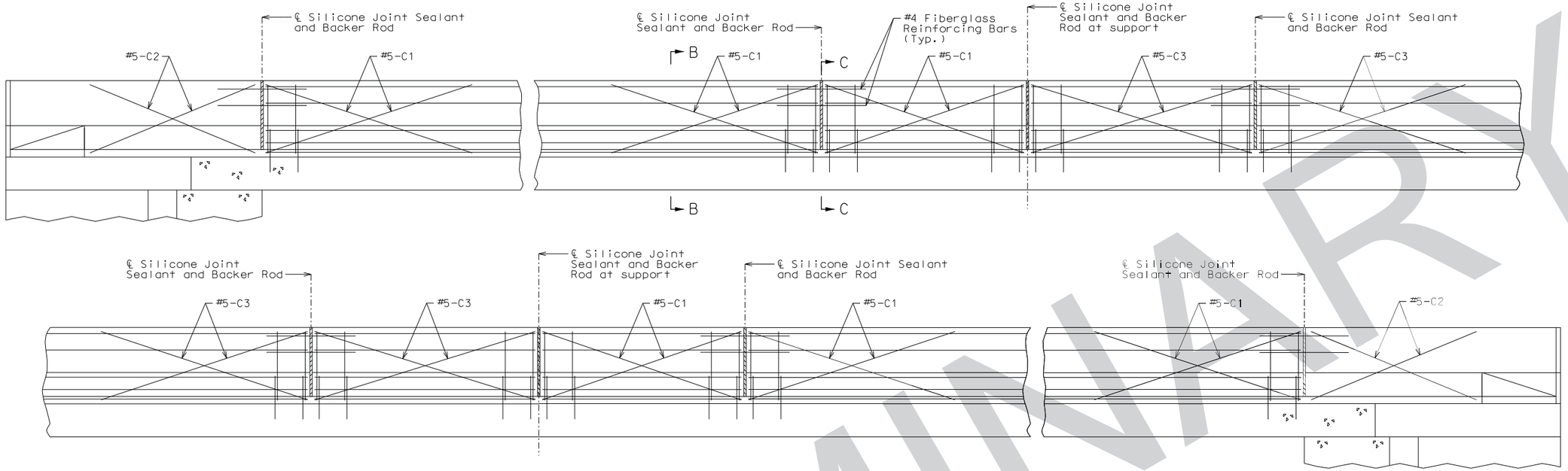
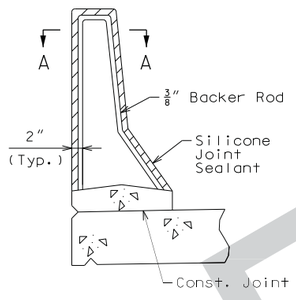
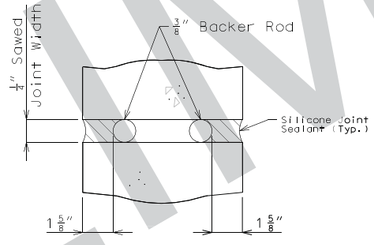


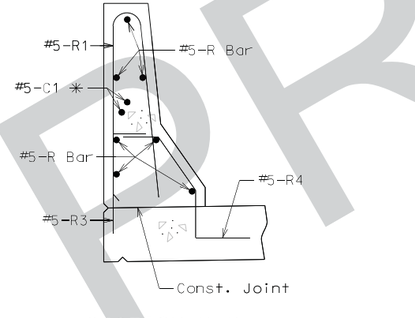
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



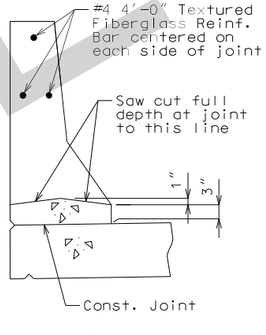
SECTION THRU JOINT



SECTION A-A



SECTION B-B
✳ Each side of joint location.



SECTION C-C

OPTIONAL SLIP-FORM SAFETY BARRIER CURB

General Notes:

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

Joint sealant and backer rods shall be used on all slip-form barrier curbs instead of joint filler and shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with slip-form option.

For slip-form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C bars (slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

Cost of silicone joint sealant and backer rod, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.

STATE OF MISSOURI
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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	17

COUNTY: SCOTT
JOB NO.: J0I0956
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PROJECT NO.:
BRIDGE NO.: A8435

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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

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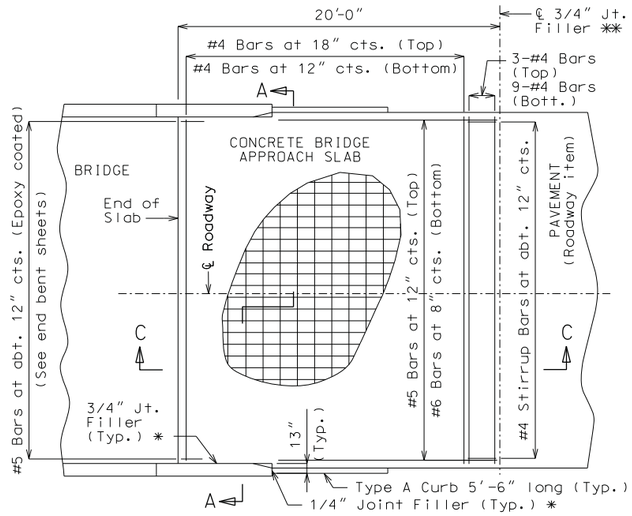
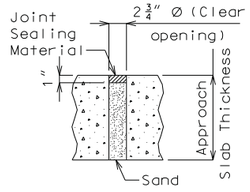
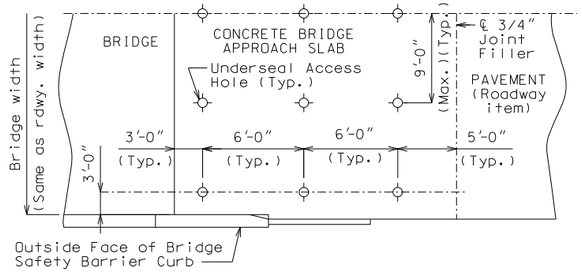


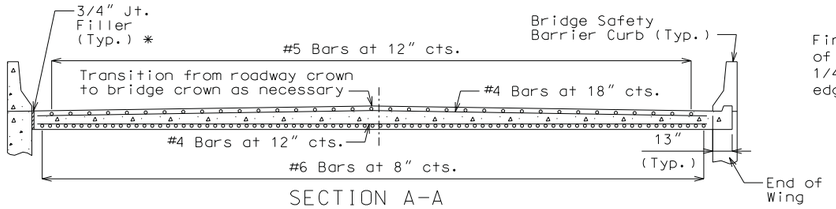
PART PLAN OF SQUARED STRUCTURE



TYPICAL UNDERSEAL ACCESS HOLE DETAIL

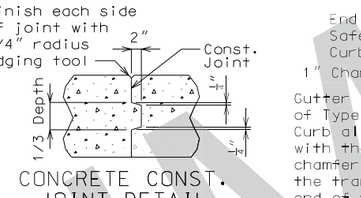


PART PLAN SHOWING UNDERSEAL ACCESS HOLES
(Squared structure shown)

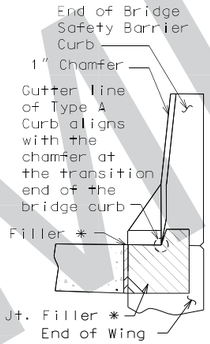


SECTION A-A

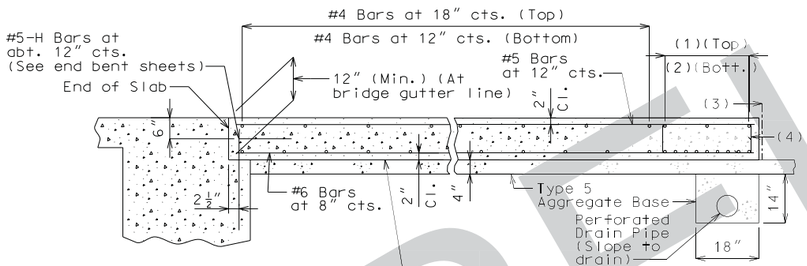
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



CONCRETE CONST. JOINT DETAIL
(If required)



4" TYPE A CURB



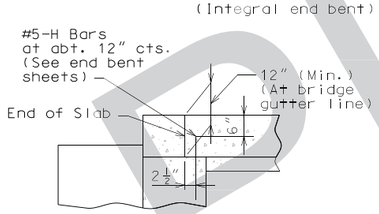
SECTION C-C
(Integral end bent)

(1) 3-#4 Bars

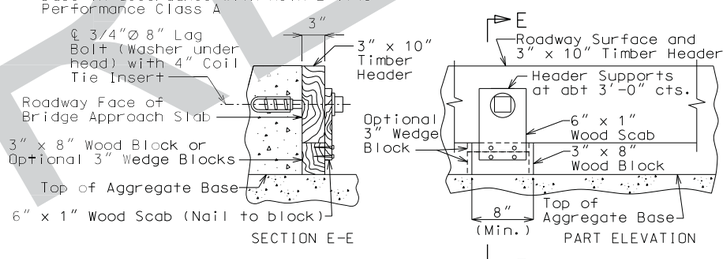
(2) 9-#4 Bars

(3) ℄ 3/4" Jt. Filler **

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



PART SECTION C-C
(Non-integral end bent)



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

OPTIONAL CONCRETE SLAB

General Notes:

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

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

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

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

☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

Notes For Concrete Slab Only:

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

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

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

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

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23".

Mechanical bar splices shall be in accordance with Sec 710.

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

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

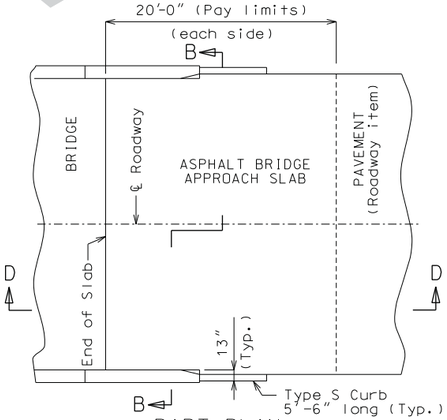
See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

* Seal joint between vertical face of bridge approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

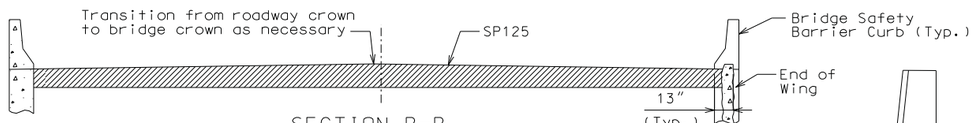
** Except not allowed with asphalt pavment.

Notes For Asphalt Slab Only:

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

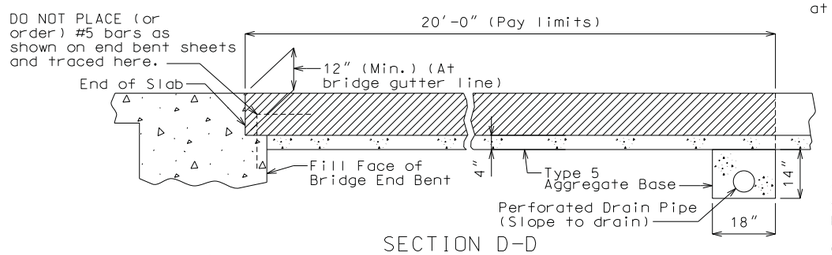


PART PLAN
(Squared structure shown, skewed structure similar)

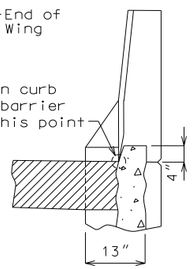


SECTION B-B

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



SECTION D-D
(Integral end bent shown, non-integral end bent similar)



4" TYPE S CURB
See Missouri Standard Plans Drawing 609.00 for details of Type S Curb.

OPTIONAL ASPHALT SLAB (EXCEPT NOT ALLOWED WITH CONCRETE PAVEMENT)

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	18

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8435

DESCRIPTION	DATE

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Certificate of Authority: 000856

APPROACH SLAB DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

Sheet No. 18 of 25

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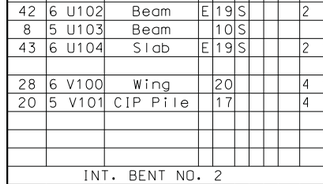
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUBSTRUCTURE																									
			END BENT NO. 1																									
12	6	F100	Brace	E	9					14	000	4	11.000	14.000						3	6.000	3	6.000	7	3	7	3	131
4	8	H100	Beam		20					34	5.000													34	5	34	5	368
6	6	H101	Beam		20					34	5.000													34	5	34	5	310
4	8	H102	Beam	E	20					34	5.000													34	5	34	5	368
32	5	H103	Beam	E	19					2	0.000		15.000											3	3	3	1	103
2	8	H104	Wing	E	20					8	4.000													8	4	8	4	45
2	8	H105	Wing	E	19						16.000	8	4.500											9	9	9	7	51
6	8	H106	Wing		20					8	4.000													8	4	8	4	134
6	8	H107	Wing		19						16.000	8	4.500											9	9	9	7	154
12	6	H108	Wing		20					7	5.000													7	5	7	5	134
12	6	H109	Wing		19						12.000	7	4.500											8	5	8	3	149
24	4	P100	CIP Pile		34	S					10.000													3	4	3	3	52
34	5	U100	Beam		10	S						3	2.000	2	9.000									9	1	8	11	316
42	5	U101	Beam	E	10	S						3	6.500	2	3.000									9	4	9	2	402
42	6	U102	Beam	E	19	S				2	8.000	2	9.000											5	5	5	3	331
8	5	U103	Beam		10	S						3	2.000	2	9.000									9	1	8	11	74
43	6	U104	Slab	E	19	S				2	11.000	4	6.500											7	6	7	4	474
28	6	V100	Wing		20					4	11.000													4	11	4	11	207
20	5	V101	CIP Pile		17					4	0.000													4	7	4	7	96
			INT. BENT NO. 2																									
4	7	H200	Beam		20					33	7.000													33	7	33	7	275
4	6	H201	Beam		20					33	7.000													33	7	33	7	202
4	5	H202	Drp Panel	E	20					33	7.000													33	7	33	7	140
4	7	H203	Slab	E	20					34	5.000													34	5	34	5	281
42	4	P200	CIP Pile		34	S					10.000													3	4	3	3	91
34	5	U200	Beam	E	10	S					6.000	3	5.750	2	3.000	6.000								10	3	9	10	349
34	5	U201	Drp Panel	E	15	S				2	4.500	5	0.000	2	4.500	11.250	2	1.375	11.250	2	1.375			9	9	9	9	346
35	5	V200	CIP Pile		17					4	0.000													4	7	4	7	167
			INT. BENT NO. 3																									
4	7	H300	Beam		20					33	7.000													33	7	33	7	275
4	6	H301	Beam		20					33	7.000													33	7	33	7	202
4	5	H302	Drp Panel	E	20					33	7.000													33	7	33	7	140
4	7	H303	Slab	E	20					34	5.000													34	5	34	5	281
42	4	P300	CIP Pile		34	S					10.000													3	4	3	3	91
34	5	U300	Beam	E	10	S					6.000	3	5.750	2	3.000	6.000								10	3	9	10	349
34	5	U301	Drp Panel	E	15	S				2	4.500	5	0.000	2	4.500	11.250	2	1.375	11.250	2	1.375			9	9	9	9	346
35	5	V300	CIP Pile		17					4	0.000													4	7	4	7	167

BILL OF REINFORCING STEEL

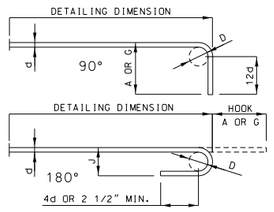
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUBSTRUCTURE (CONT.)																									
			END BENT NO. 4																									
12	6	F400	Brace	E	9					14	000	4	11.000	14.000						3	6.000	3	6.000	7	3	7	3	131
4	8	H400	Beam		20					34	5.000													34	5	34	5	368
6	6	H401	Beam		20					34	5.000													34	5	34	5	310
4	8	H402	Beam	E	20					34	5.000													34	5	34	5	368
32	5	H403	Beam	E	19					2	0.000		15.000											3	3	3	1	103
2	8	H404	Wing	E	20					8	4.000													8	4	8	4	45
2	8	H405	Wing	E	19						16.000	8	4.500											9	9	9	7	51
6	8	H406	Wing		20					8	4.000													8	4	8	4	134
6	8	H407	Wing		19						16.000	8	4.500											9	9	9	7	154
12	6	H408	Wing		20					7	5.000													7	5	7	5	134
12	6	H409	Wing		19						12.000	7	4.500											8	5	8	3	149
24	4	P400	CIP Pile		34	S					10.000													3	4	3	3	52
34	5	U400	Beam		10	S						3	2.000	2	9.000									9	1	8	11	316
42	5	U401	Beam	E	10	S						3	6.500	2	3.000									9	4	9	2	402
42	6	U402	Beam	E	19	S				2	8.000	2	9.000											5	5	5	3	331
8	5	U403	Beam		10	S						3	2.000	2	9.000									9	1	8	11	74
43	6	U404	Slab	E	19	S				2	11.000	4	6.500											7	6	7	4	474
28	6	V400	Wing		20					4	10.000													4	10	4	10	203
20	5	V401	CIP Pile		17					4	0.000													4	7	4	7	96
			SUPERSTRUCTURE																									
			SLAB																									
270	5	S1	Slab	E	20					34	5.000													34	5	34	5	9692
12	6	S2	Slab	E	20					21	2.000													21	2	21	2	382
6	6	S3	Slab	E	20					18	0.000													18	0	18	0	162
12	9	S4	Slab	E	20					32	0.000													32	0	32	0	1306
12	9	S5	Slab	E	20					23	0.000													23	0	23	0	938
58	6	S6	Slab	E	20					26	2.000													26	2	26	2	2280
29	6	S7	Slab	E	20					26	0.000													26	0	26	0	1133
58	8	S8	Slab	E	20					23	0.000													23	0	23	0	3562
56	8	S9	Slab	E	20					16	6.000													16	6	16	6	2467
46	8	S10	Slab	E	20					58	1.000													58	1	58	1	7134
8	10	S11	Slab	E	20					59	11.000													59	11	59	11	2063
8	10	S12	Slab	E	20					28	8.000													28	8	28	8	987
4	10	S13	Slab	E	20					28	0.000													28	0	28	0	482
38	8	S14	Slab	E	20					28	8.000													28	8	28	8	2909
19	8	S15	Slab	E	20					28	0.000													28	0	28	0	1420
38	8	S16	Slab	E	20					22	9.000													22	9	22	9	2308
19	8	S17	Slab	E	20					21	0.000													21	0	21	0	1065



90° STIRRUP 135° STIRRUP

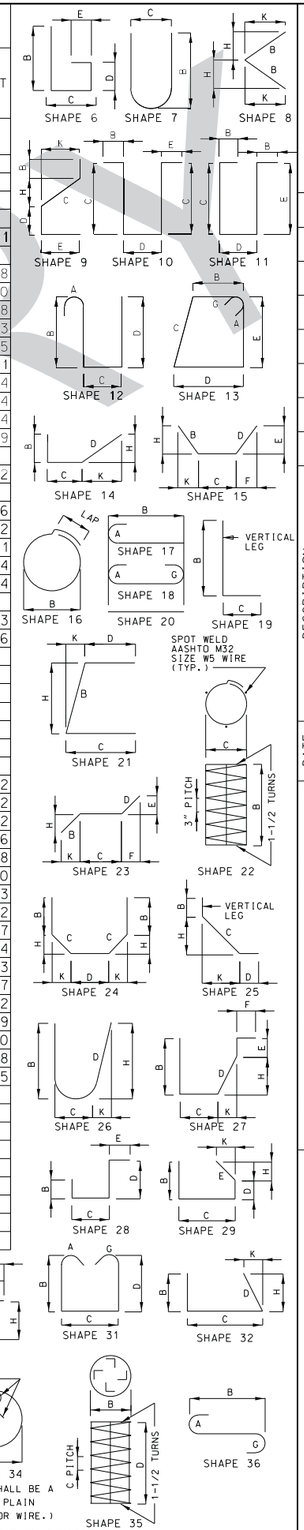
STIRRUP HOOK DIMENSIONS GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK HOOK A OR G	135° HOOK HOOK A OR G	135° HOOK APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

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



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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60.000 PSI.



BENDING DIAGRAMS

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	19

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8435

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

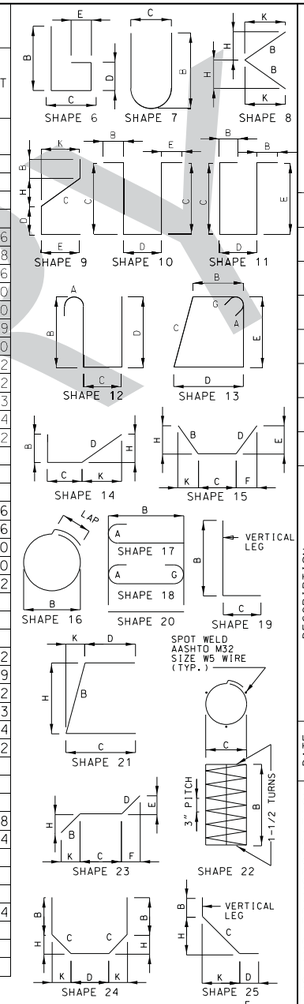
c:\pwworking\oma\d2187463\B_A8435_19_J0I0956.dgn 8:23:24 AM 11/14/2016

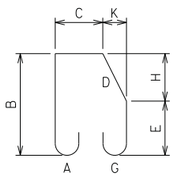
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRR-UP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
SUPERSTRUCTURE (CONT.)																												
BARRIER CURB																												
24	5	C1	Slip Form	E	20				8	4.000														8	4	8	4	209
8	5	C2	Slip Form	E	20				5	9.000														5	9	5	9	48
16	5	C3	Slip Form	E	20				10	0.000														10	0	10	0	167
80	5	K1	Barr.Curb	E	19	S			2	5.000	5.125													2	10	2	9	229
80	5	K2	Barr.Curb	E	14	S				5.125	11.125	18.000						2.000	17.875					2	10	2	9	229
36	5	K3	Barr.Curb	E	37	S			2	7.750	5.125	12.000	22.000					9.875	6.875					12	0	11	10	449
44	5	K4	Barr.Curb	E	11					7.000	2 7.750	6.000	2 6.250											6	10	6	2	283
4	5	K5	Barr.Curb	E	27	S				10.000	2 2.250	6.750	4.375					4.000	5.500					3	11	3	9	16
4	5	K6	Barr.Curb	E	27	S				10.000	2 1.250	7.875	4.375					4.500	6.500					4	0	3	10	16
4	5	K7	Barr.Curb	E	27	S				10.000	23.875	9.625	4.375					5.500	7.875					4	0	3	10	16
4	5	K8	Barr.Curb	E	27	S				10.000	22.500	11.250	4.375					6.500	9.250					4	0	3	10	16
48	5	K9	Barr.Curb	E	20				6	2.000														6	2	6	2	309
40	4	K10	Barr.Curb	E	20				5	2.000														5	2	5	2	138
4	5	K11	Barr.Curb	E	8				2	2.125										2	2.000	2.375		4	4	4	4	18
222	5	R1	Barr.Curb	E	26	S			2	6.000	4.250									2	6.000	3.000		5	3	5	3	1216
222	5	R3	Barr.Curb	E	19	S				17.000	6.000													1	11	1	10	425
222	5	R4	Barr.Curb	E	27	S					6.000	11.250	7.000	12.000	9.250	6.375								3	0	2	10	656
28	5	R5	Barr.Curb	E	20				8	0.000														8	0	8	0	234
28	5	R6	Barr.Curb	E	20				23	3.000														23	3	23	3	679
14	5	R7	Barr.Curb	E	20				19	9.000														19	9	19	9	288
28	5	R8	Barr.Curb	E	20				9	9.000														9	9	9	9	285

BILL OF REINFORCING STEEL

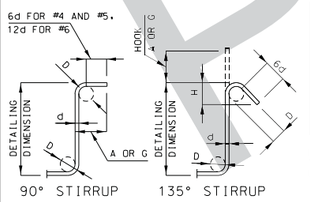
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRR-UP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
BAR SIZE SUMMARY																												
TOTALS																												
	4																											286
	4			E																								138
	5																											1306
	5			E																								18160
	6																											2000
	6			E																								5829
	7																											550
	7			E																								562
	8																											1312
	8			E																								21793
	9			E																								2244
	10			E																								3532
REINFORCING STEEL (BRIDGES)																												
	4																											286
	5																											1306
	6																											2000
	7																											550
	8																											1312
REINFORCING STEEL (EPOXY COATED)																												
	5			E																								12372
	6			E																								5829
	7			E																								562
	8			E																								21793
	9			E																								2244
	10			E																								3532
BARRIER CURB																												
	4			E																								138
	5			E																								5364
SLIP-FORM OPTION																												
	5			E																								424





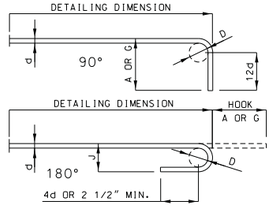
SHAPE 37

SPECIAL BAR K3



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

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



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

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

BENDING DIAGRAMS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

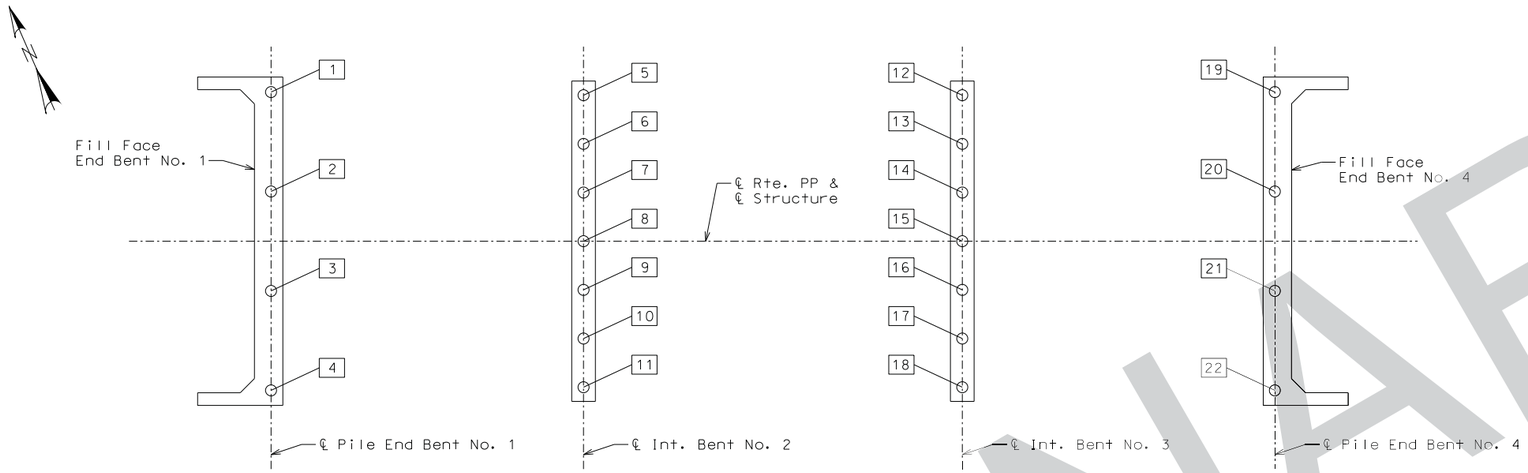
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	20

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8435

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



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

As-Built Pile Data - End Bent No. 1

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
1					
2					
3					
4					

As-Built Pile Data - Int. Bent No. 2

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
5					
6					
7					
8					
9					
10					
11					

As-Built Pile Data - Int. Bent No. 3

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
12					
13					
14					
15					
16					
17					
18					

As-Built Pile Data - End Bent No. 4

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
19					
20					
21					
22					

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

AS-BUILT PILE DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 21
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8435

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 373.6 | Completion Date: 4/8/2016
Datum: NAVD88 | Station: 59+59.07 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Asphalt pavement				
	Medium stiff, gray SILT - ML				
5			4-5-3	SS1	
	Medium stiff, gray CLAY - (CH)		92	ST2	
10					
	Soft to stiff, gray, silty CLAY - (CL)		1-2-2	SS3	
15			97	ST4	
20					
			1-1-1	SS5	
25					
			1-1-2	SS6	
30					
	trace sand		1-1-2	SS7	
35					
	Dense, gray, fine, SILTY SAND with gravel - SM				
	12.1 percent finer than No. 200 sieve		31-16-16	SS8	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 55 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, West abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 4/15/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8435-B-101

Project No. J026274.01

Surface Elevation: 373.6 | Completion Date: 4/8/2016
Datum: NAVD88 | Station: 59+59.07 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Dense, gray, fine, SILTY SAND with gravel - SM *(continued)*				
45	18.4 percent finer than No. 200 sieve		20-22-40	SS9	62
50			12-15-33	SS10	
55					
60	becoming sand trace silt - SP-SM 9.2 percent finer than No. 200 sieve		17-21-26	SS11	
65			13-16-22	SS12	
70			17-20-22	SS13	
75			12-28-25	SS14	
			10-17-21	SS15	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 55 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, West abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 4/15/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8435-B-101

Project No. J026274.01

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 22
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8435

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 373.6 | Completion Date: 4/8/2016
Datum: NAVD88 | Station: 59+59.07 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Dense, gray, fine, SILTY SAND with gravel - SM *(continued)*				
85			21-25-28	SS16	▲
90			27-27-26	SS17	▲
			12-13-10	SS18	▲ ●
95	Medium stiff to stiff, brown, silty CLAY - CL				
100			2-3-3	SS19	▲ ●
105	no sampler recovery		3-5-4	SS20	▲
	Soft, gray, silty CLAY with sand - CL		0-1-1	SS21	▲ ●
110			50/5"	SS22	●
115	hard, sandy		3-1-3	SS23	▲ ●

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET ▽

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 55 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, West abutment

Drawn by: AGB | Checked by: AWR | App'vd. by: CKK
Date: 4/15/2016 | Date: 7/29/2016 | Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8435-B-101

Project No. J026274.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

Surface Elevation: 373.6 | Completion Date: 4/8/2016
Datum: NAVD88 | Station: 59+59.07 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Soft, gray, silty CLAY with sand - CL *(continued)*				
125	Hard, gray, medium bedded, slightly weathered to fresh LIMESTONE		50/5"	SS24	
			100%/0%	NQ1	
	Core loss		68% 30%	NQ2	
130	Moderately hard, gray and tan, thick bedded, moderately to highly weathered LIMESTONE				
	Core loss		14% 0%	NQ3	
135	Soft, tan, thin bedded, highly weathered LIMESTONE				
	Boring terminated at 134.5 feet.				
140					
145					
150					
155					

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET ▽

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 55 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, West abutment

Drawn by: AGB | Checked by: AWR | App'vd. by: CKK
Date: 4/15/2016 | Date: 7/29/2016 | Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8435-B-101

Project No. J026274.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	23

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 373.7 | Completion Date: 4/13/2016
Datum: NAVD88 | Station: 60+71.05 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV) 0.5 1.0 1.5 2.0 2.5 / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % PL 10 20 30 40 50 LL
	Asphalt pavement			
	FILL: gray, silty clay with gravel	1-5-6	SS1	
5				
		1-0-1	SS2	
10				
	Medium stiff to soft, gray and brown, silty CLAY - (CL)	2-2-3	SS3	
15				
		1-1-2	SS4	
20				
		1-1-2	SS5	
25				
		100	ST6	
30				
	Loose, brown, fine, SILTY SAND - SM	1-0-1	SS7	
35	48.4 percent passing the No. 200 sieve			
	Soft, gray, silty CLAY - CL	1-1-1	SS8	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ .00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC
FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8435-B-401

Project No. J026274.01

Surface Elevation: 373.7 | Completion Date: 4/13/2016
Datum: NAVD88 | Station: 60+71.05 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV) 0.5 1.0 1.5 2.0 2.5 / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % PL 10 20 30 40 50 LL
	Soft, gray, silty CLAY - CL *(continued)*			
	Medium dense to dense, brown, fine SAND with silt - SP-SM			
45	11.0 percent finer than No. 200 sieve	14-17-11	SS9	
50		20-22-20	SS10	
55		10-11-15	SS11	
60	11.6 percent finer than No. 200 sieve	7-13-12	SS12	
65	very dense	15-23-29	SS13	
70		12-19-26	SS14	
75	Very stiff to medium stiff, brown and yellow CLAY with sand - (CH)	3-8-9	SS15	
		2-4-3	SS16	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ .00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC
FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8435-B-401

Project No. J026274.01

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

Sheet No. 24 of 25

c:\pwworking\oma\d2187463\B_A8435_24_J0I0956.dgn 8:30:45 AM 11/14/2016

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	24

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8435

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 373.7 | Completion Date: 4/13/2016
Datum: NAVD88 | Station: 60+71.05 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (△ - UU/2, ○ - QU/2, ▯ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Very stiff to medium stiff, brown and yellow CLAY with sand - (CH) *(continued)*				
85			4-4-6	SS17	
90			2-2-4	SS18	
			6-11-19	SS19	
95			2-3-4	SS20	
100					
105	becoming soft to medium stiff		2-2-2	SS21	
110			1-3-4	SS22	
115			0-1-1	SS23	
	Soft, yellow, highly weathered SANDSTONE		4-42-23	SS24	65 ▲

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002.WL J026274.01 I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET ▽

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

CME GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8435-B-401

Project No. J026274.01

Surface Elevation: 373.7 | Completion Date: 4/13/2016
Datum: NAVD88 | Station: 60+71.05 | Offset: 09 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (△ - UU/2, ○ - QU/2, ▯ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Soft, yellow, highly weathered SANDSTONE *(continued)*				
125	clayey		8-12-17	SS25	
130	Soft, tan, completely weathered LIMESTONE		20-19-10	SS26	
135	Very stiff, brown CLAY - CH		7-9-6	SS27	
140	Gray, highly weathered LIMESTONE Split-spoon refusal at 138.8 feet.		50/3"	SS28	
145					
150					
155					

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002.WL J026274.01 I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 17 FEET ▽

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8435, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

CME GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8435-B-401

Project No. J026274.01

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

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STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	25

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8435

DESCRIPTION | DATE

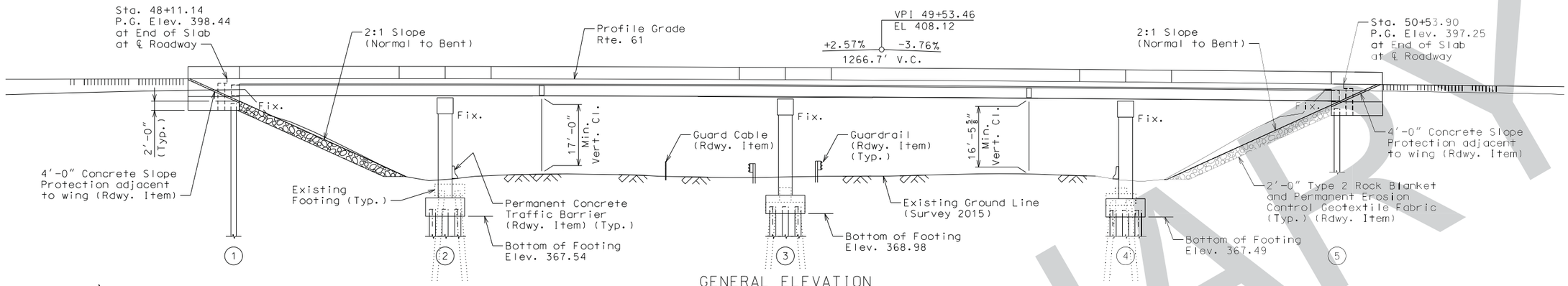
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

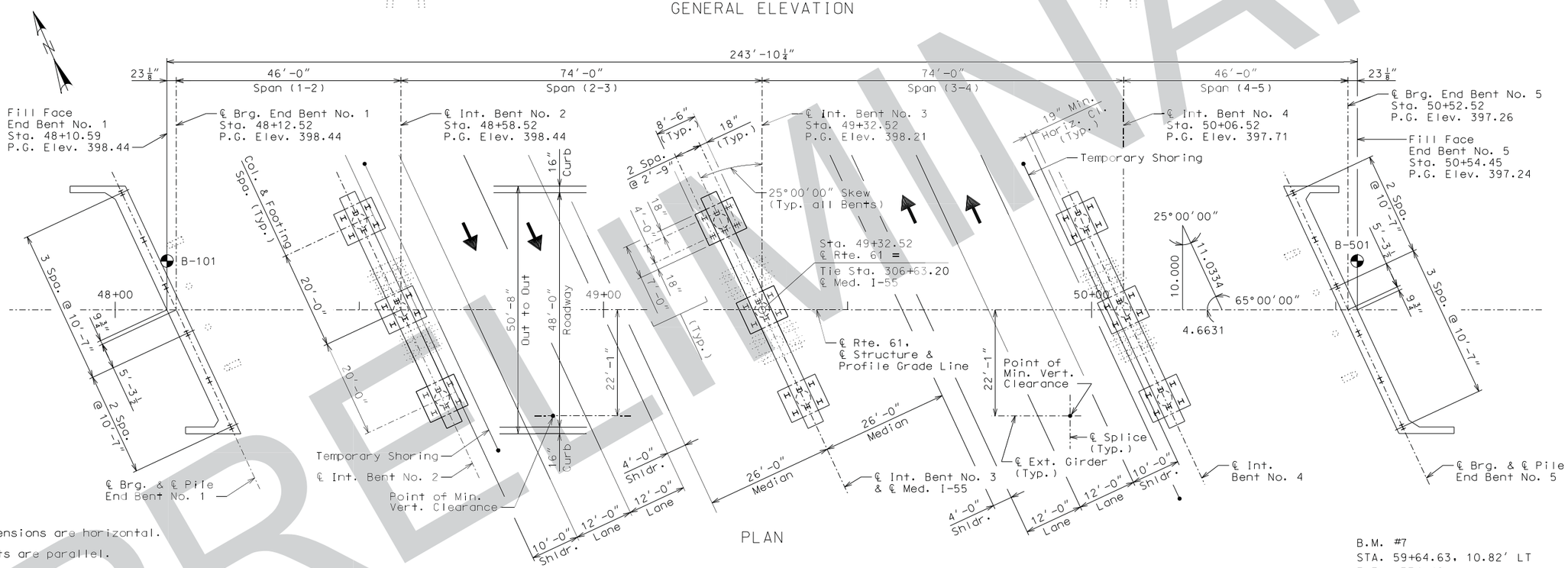
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

(46′-74′-74′-46′) CONTINUOUS COMPOSITE PLATE GIRDER SPANS

SEC/SUR 17 TWP 29N RGE 14E



GENERAL ELEVATION



PLAN

Notes:

All dimensions are horizontal.

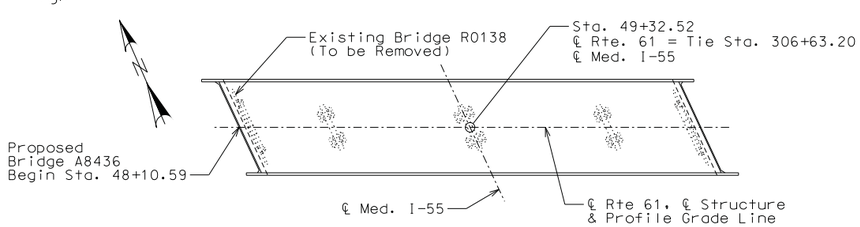
All Bents are parallel.

"⊕" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 35 thru 38 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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



LOCATION SKETCH

B.M. #7
STA. 59+64.63, 10.82′ LT
ELEV. 374.49
"□" NW CORNER BR # NO691
NEW RTE 61

B.M. #11
STA. 320+02.82, 23.57′ LT
ELEV. 378.34
"□" TOP NW WINGWALL BR #A0912
EX CL 1-55

BRIDGE: ROUTE 61 OVER I-55

ROUTE 61 FROM ROUTE M TO ROUTE PP

ABOUT 0.1 MILES WEST OF ROUTE PP

TIE STA. 306+63.20

STD. 609.00
STD. 611.60
STD. 617.10
STD. 706.35

GENERAL ELEVATION AND PLAN

Detailed: Aug. 2016
Checked: Aug. 2016

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STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8436

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
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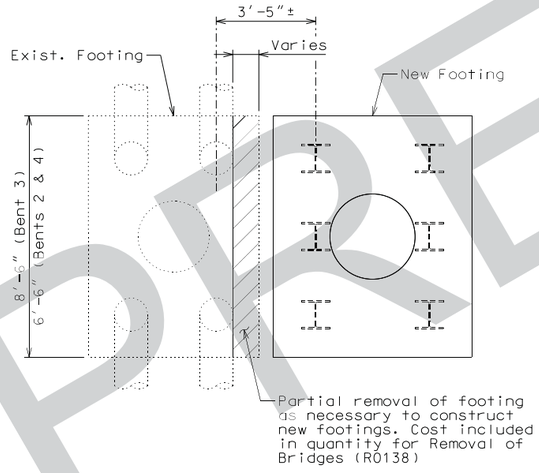
314-425-8300
Certificate of Authority: 000856

ESTIMATED QUANTITIES

Item	Unit	Substr.	Superstr.	Total
Class 1 Excavation	Cu. Yd.	430		430
Temporary Shoring	Lump Sum	1		1
Removal of Bridges (R0138)	Lump Sum			1
Bridge Approach Slab (Minor Road)	Sq. Yd.		219	219
Galvanized Structural Steel Piles (12 in.)	Lin. Ft.	5568		5568
Pile Point Reinforcement	Each	66		66
Class B Concrete (Substructure)	Cu. Yd.	252.3		252.3
Slab on Steel	Sq. Yd.		1367	1367
* Safety Barrier Curb	Lin. Ft.		520	520
Reinforcing Steel (Bridges)	Lb.	33,570		33,570
Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50	Lb.		240,970	240,970
Slab Drain	Each		16	16
Intermediate Field Coat (System G)	Sq. Ft.		14,300	14,300
Finish Field Coat (System G)	Sq. Ft.		2400	2400
Vertical Drain at End Bents	Each			2
Plain Neoprene Bearing Pad	Each		6	6
Laminated Neoprene Bearing Pad (Tapered)	Each		6	6
Laminated Neoprene Bearing Pad Assembly	Each		18	18

* Safety Barrier Curb shall be cast-in-place option or slip-form option.

Cost of Bent Plate Pile Anchors (ASTM A709 Grade 36) in place will be considered completely covered by the contract unit price for "Galvanized Structural Steel Piles (12 in.)".



PARTIAL REMOVAL OF EXISTING FOOTINGS

ESTIMATED QUANTITIES FOR SLAB ON STEEL

Item		Total
Class B-2 Concrete	Cu. Yds.	282.4
Reinforcing Steel	Lbs.	9050
Reinforcing Steel (Epoxy Coated)	Lbs.	69,770

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

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC4 and a finish Type I, II or III.

The Estimated Quantities for Slab on Steel are based on skewed precast prestressed end panels.

The Prestressed Panel quantities are not included in the Table of Estimated Quantities for Slab on Steel.

ESTIMATED QUANTITIES:

CONCRETE:

All concrete between the upper and lower construction joints in the end bents is included in the Estimated Quantities for Slab on Steel.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Steel.

GENERAL NOTES:

DESIGN SPECIFICATIONS:
2012-AASHTO LRFD 6th Edition and 2013 Interims
2011 AASHTO GUIDE SPECIFICATIONS for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = D

DESIGN LOADING:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf (minimum)
Downdrag from seismic liquefaction = 0.8 ksf per pile above elevation 341.00

DESIGN UNIT STRESSES:
Class B Concrete (Substructure) f'c = 3,000 psi
Class B-1 Concrete (Safety Barrier Curb) f'c = 4,000 psi
Class B-2 Concrete (Superstructure Except Safety Barrier Curb) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi
Structural Steel (ASTM A709 Grade 50) fy = 50,000 psi
Steel Pile (ASTM A709 Grade 50) fy = 50,000 psi
For Precast Prestressed Panel Stresses, see Sheet No. 30.

NEOPRENE BEARING PADS:
Plain and Laminated Neoprene Bearing Pads (Tapered) shall be 60 durometer and shall be in accordance with Sec 716.

FABRICATED STEEL CONNECTIONS:
Field Connections shall be made with 3/4" diameter high strength bolts and 13/16" diameter holes, except as noted.

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

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

TRAFFIC HANDLING:
A minimum vertical clearance of 15'-6" from crown of existing lanes (I-55) and a minimum 28' opening in each direction shall be maintained during construction. Route 61 at structure location is to be closed to traffic during construction.

PROTECTIVE COATINGS:
Protective Coating: System G in accordance with Sec 1081.

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price for the Fabricated Structural Steel. Tint of prime coat for System G shall be similar to the color of the field coat to be used.

Field Coat: The color of the field coat(s) shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract unit price per sq. foot for "Intermediate Field Coat (System G)". The cost of the finished field coat will be considered completely covered by the contract unit price per sq. foot for "Finish Field Coat (System G)".

MISCELLANEOUS:
High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

FOUNDATION DATA

Bent No.			1	2	3	4	5
Load Bearing Pile	Pile Type and Size		HP12x53	HP12x53	HP12x53	HP12x53	HP12x53
	Number	ea.	6	18	18	18	6
	Approximate Length per each	ft.	102	75	72	88	121
	Pile Driving Verification Method		DF	DF	DF	DF	DF
	Minimum Nominal Axial Compressive Resistance	kip	431	443	414	443	431
	Hammer Energy Required	ft-lbs	19,200	14,200	13,250	14,200	19,200

Notes:

Load Bearing Pile: Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor
Manufactured pile point reinforcement shall be used on all piles in this structure at Bent No's. 1, 2, 3, 4 & 5.

DF = FHWA-modified Gates Dynamic Formula

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8436

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

GENERAL NOTES AND SUMMARY OF ESTIMATED QUANTITIES

Detailed: Aug. 2016
Checked: Aug. 2016

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

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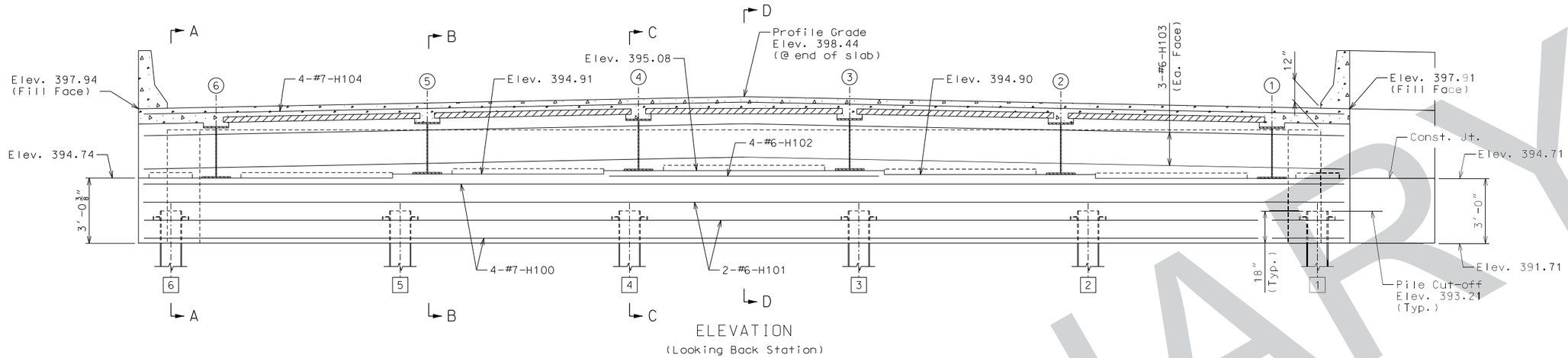
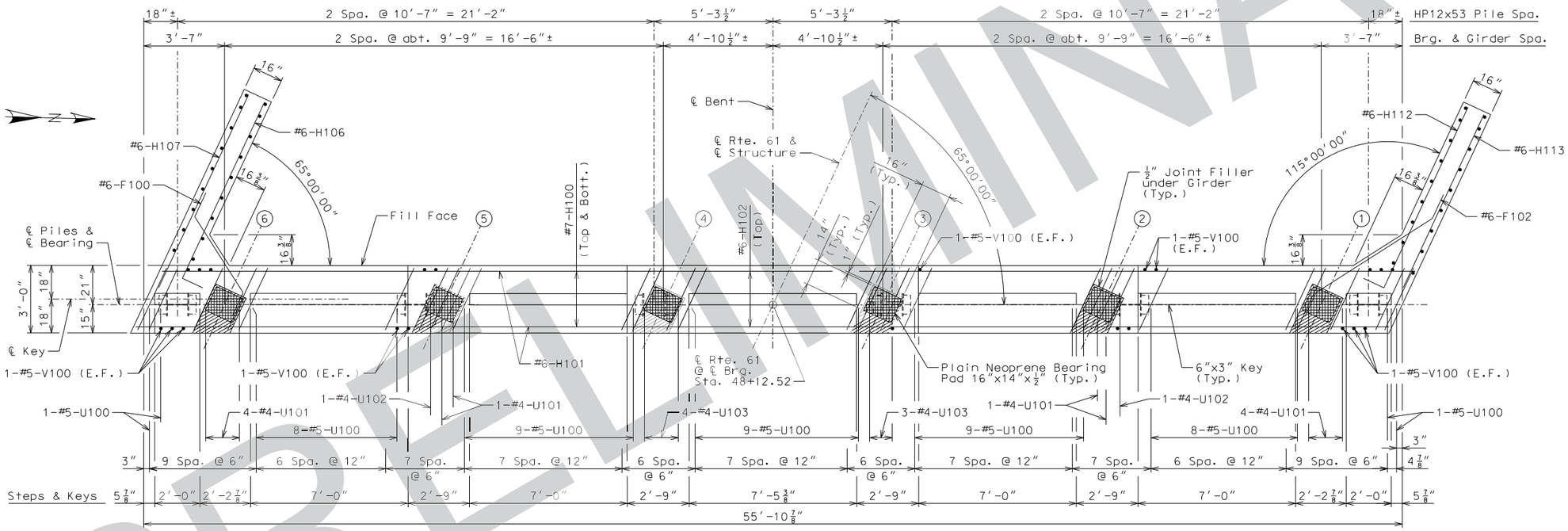


ELEVATION

(Looking Back Station)



PLAN OF BEAM

(Horizontal dimensions are measured along ℄ Piles and ℄ Brg.)

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 1		
ITEM		QUANTITY
Class 1 Excavation	Cu. Yd.	50
Galvanized Structural Steel Pile (12 in.)	Lin. Ft.	612
Pile Point Reinforcement	Each	6
Class B Concrete (Substructure)	Cu. Yd.	22.4

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

Notes:

For Sections A-A thru D-D, see Sheet No. 4.

For Key details, see Sheet No. 4.

Reinforcing Steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".

The U-bars, Pairs V-bars and #5-H105 bars shall be placed parallel to centerline of roadway.

The #6-F100 and #6-F102 bars shall be bent in the field to clear girders.

Concrete diaphragms at the integral end bents shall be poured a minimum of 12 hours before the slab is poured.

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

(1) - Denotes girder number.

[1] - Denotes pile number.

E.F. denotes Each Face.

END BENT NO. 1 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	3

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A8436

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
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St. Louis, MO 63103-2267
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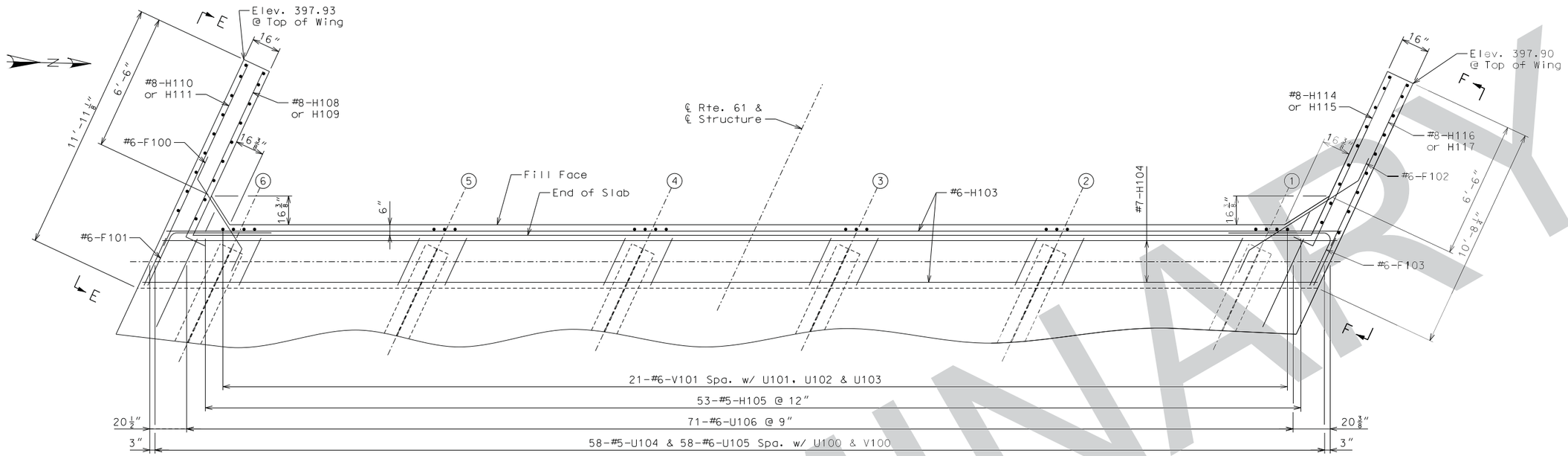
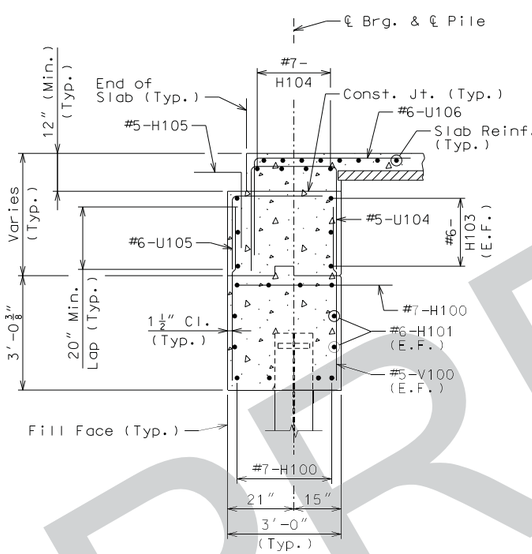
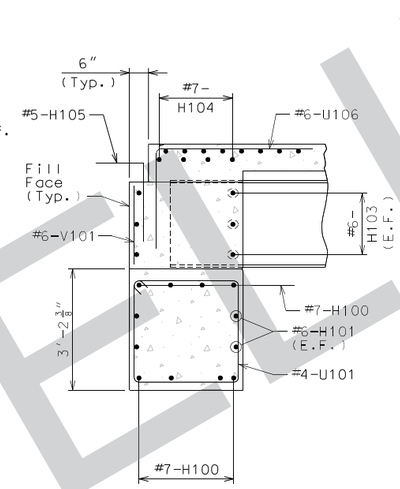


PLAN

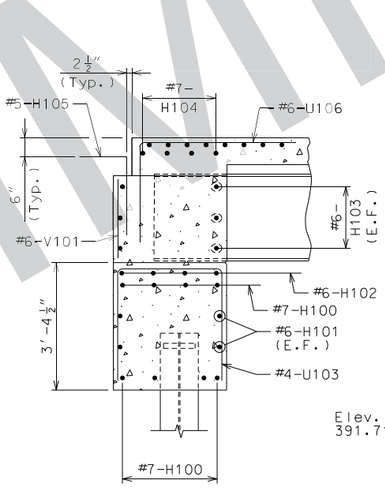
(Horizontal dimensions are measured along ℄ Bent)



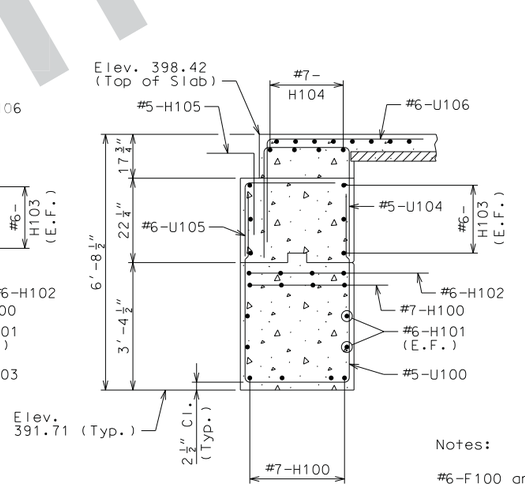
SECTION A-A



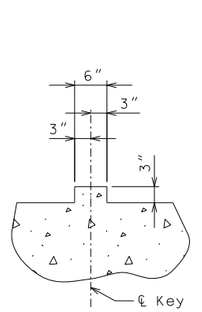
SECTION B-B



SECTION C-C



SECTION D-D



TYPICAL SECTION
THRU KEY

Notes:

#6-F100 and #6-F102 bars shall be bent in the field to clear girders.

The U-bars, pairs of V-bars and #5-H105 bars shall be placed parallel to centerline of roadway.

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

For Elevations E-E & F-F, see Sheet No. 5.

For Pile Splice Details, see Sheet No. 5.

For details and reinforcement of Barrier Curbs at End Bent, see Sheet No. 27.

E.F. Denotes Each Face.

(1) - Denotes girder number.

END BENT NO. 1 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
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DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION / DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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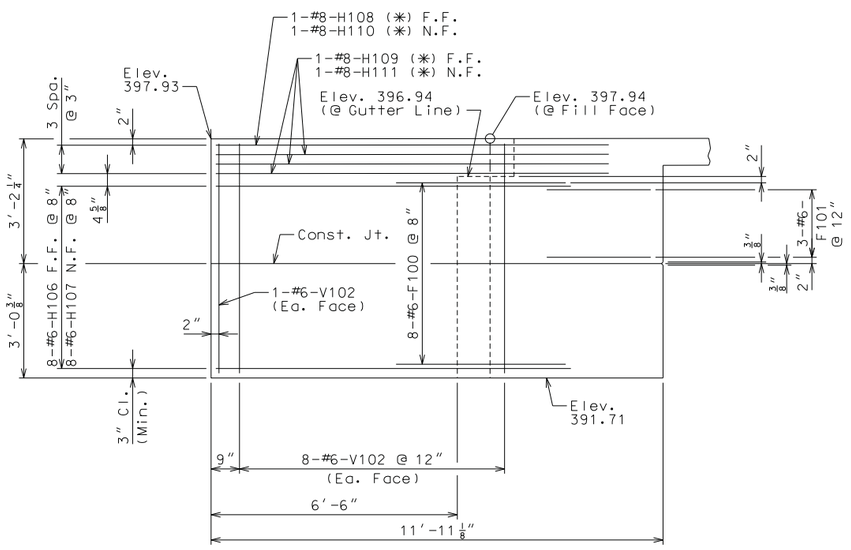
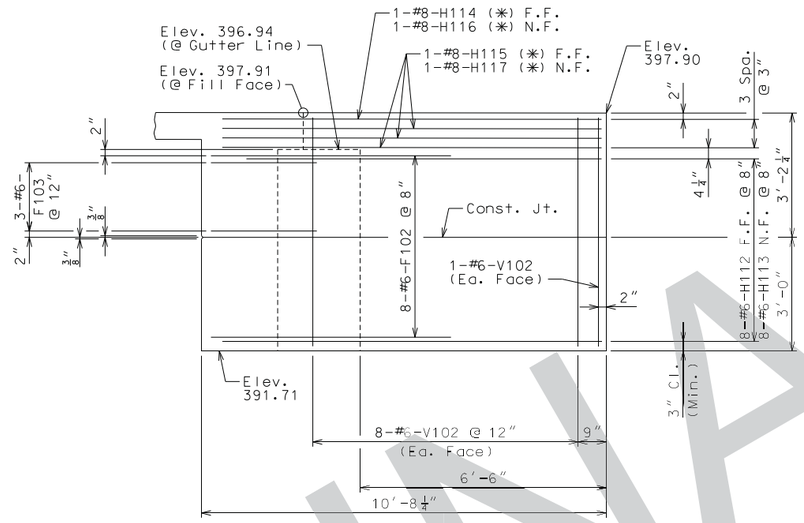
314-425-8300
Certificate of Authority: 000856



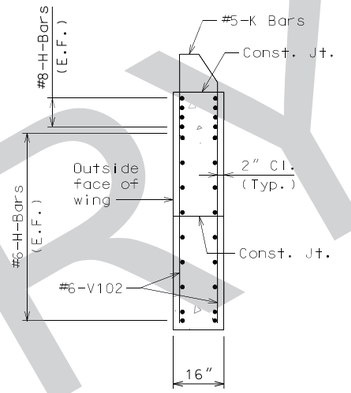
ELEVATION E-E

(*) Place with grade

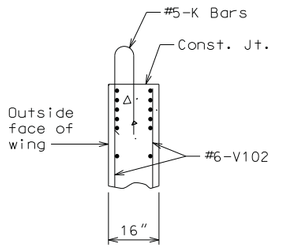


ELEVATION F-F

(*) Place with grade



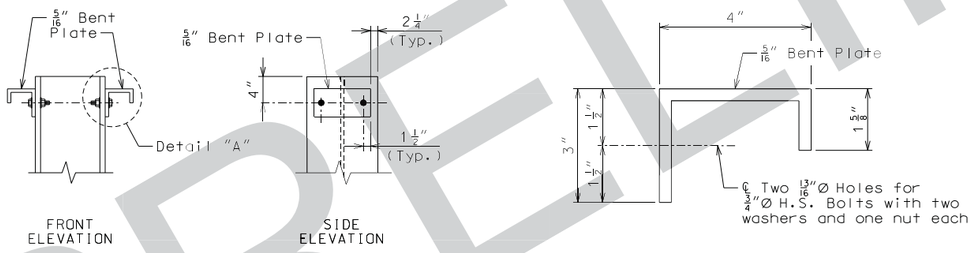
PART SECTION THRU LEFT OR RIGHT WING



PART SECTION THRU END OF LEFT OR RIGHT WING

Note: All dimensions and elevations given at outside face of wing.

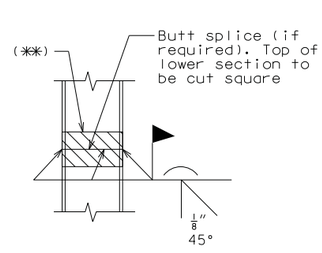
The #6-F100 and #6-F102 bars shall be bent in the field to clear girders.



DETAILS OF PILE ANCHORS

Cost of bent plate pile anchors (ASTM A709 Grade 36) in place to be included in contract unit price for galvanized structural steel piles (12 in.)

DETAIL "A"



STEEL PILE SPLICE

(**) Galvanization material shall be removed for a minimum of 2" around weld locations. The method used for removing galvanizing material shall be as approved by the engineer.

Galvanizing shall be repaired per Special Provisions.

Notes:

For location of Elevations E-E & F-F, see Sheet No. 4.

For details and reinforcement of Barrier Curb at End Bent, see Sheet No. 27.

N.F. indicates Near Face.

F.F. indicates Far Face.

END BENT NO. 1 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

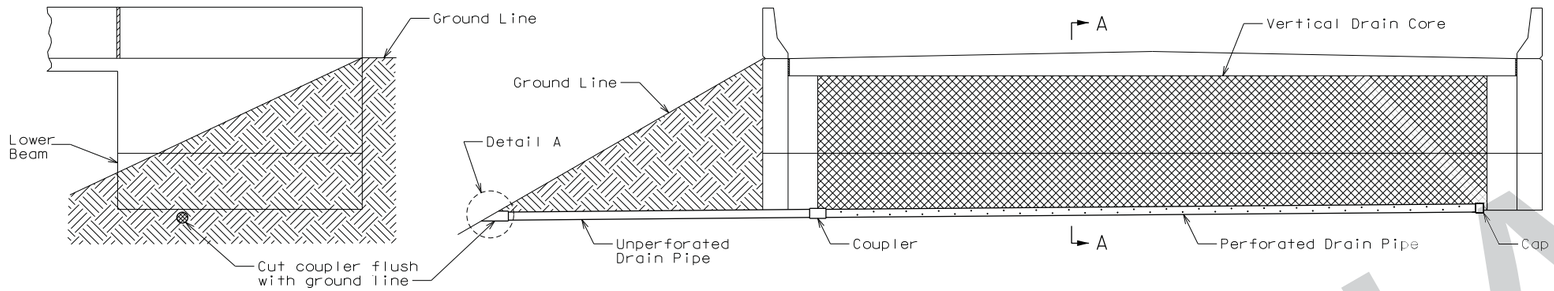
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	5

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

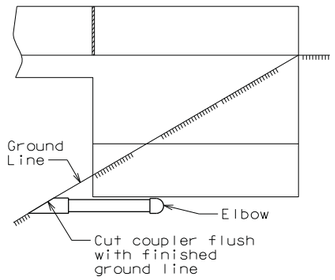
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

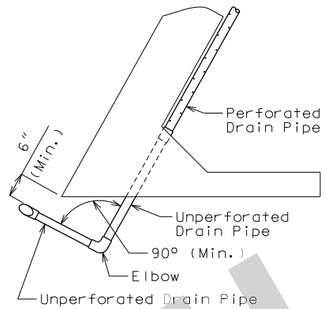


ELEVATION OF WING

ELEVATION AT END BENT

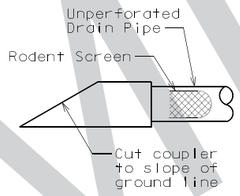


ELEVATION OF WING

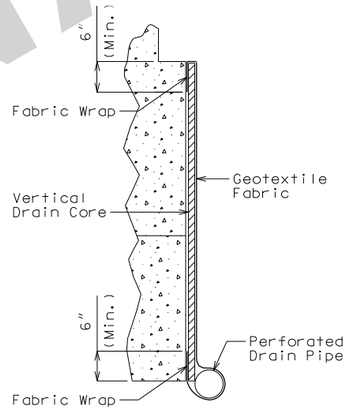


PART PLAN

OPTIONAL TURNED DRAIN
(Only if rock is encountered at outside of wing)



DETAIL A



PART SECTION A-A

Note:
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.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1 1/2 inches. (See Elevation at End Bent.)

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

VERTICAL DRAIN AT END BENTS

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	6

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

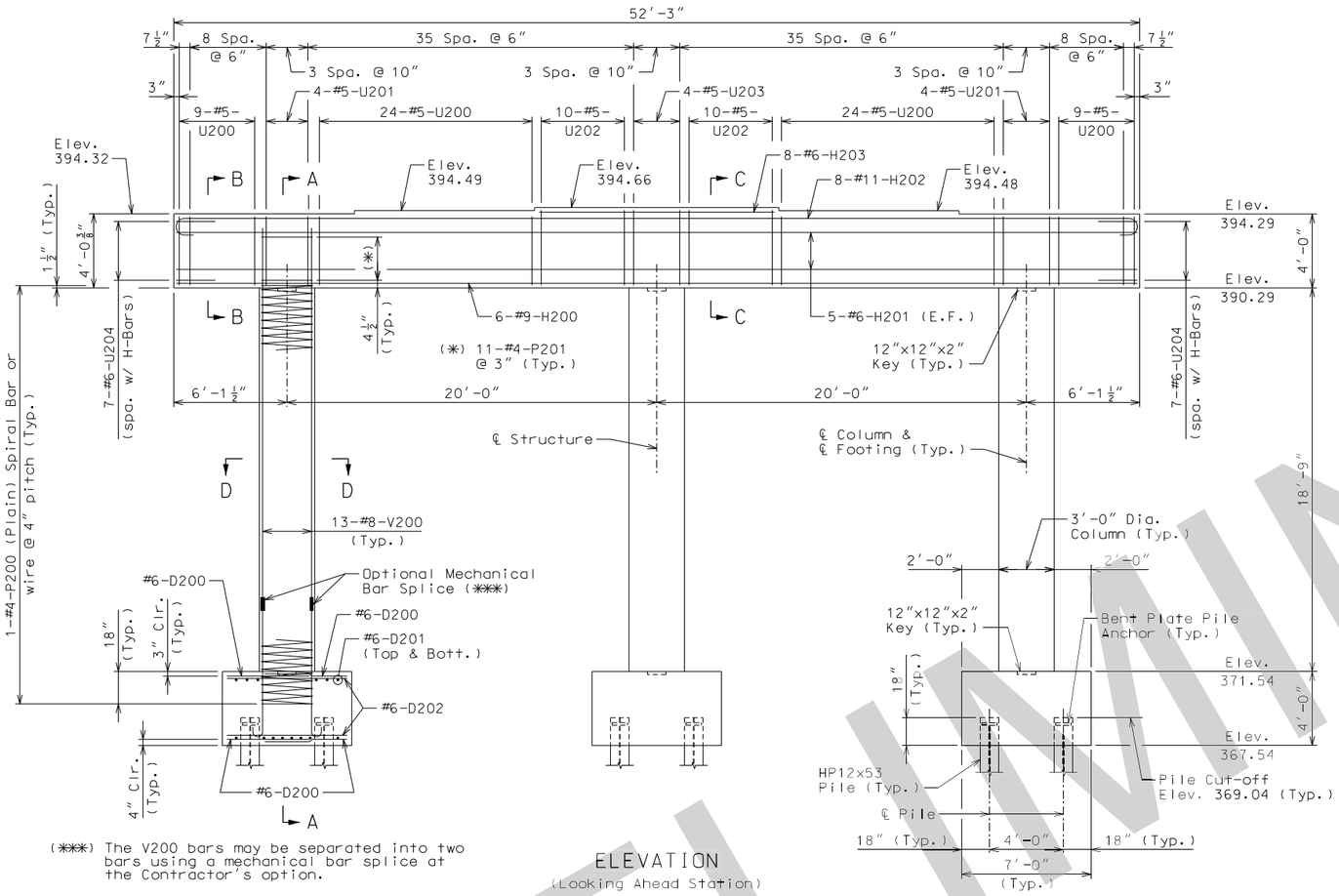
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

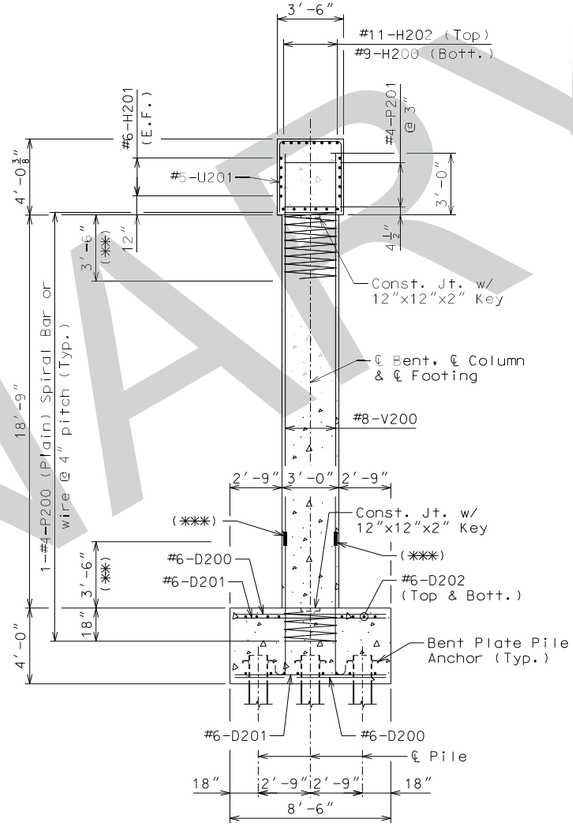
Note: This drawing is not to scale. Follow dimensions.

c:\pwworking\oma\d2187466\B_A8436_06_J0I0956.dgn 9:14:28 AM 11/14/2016



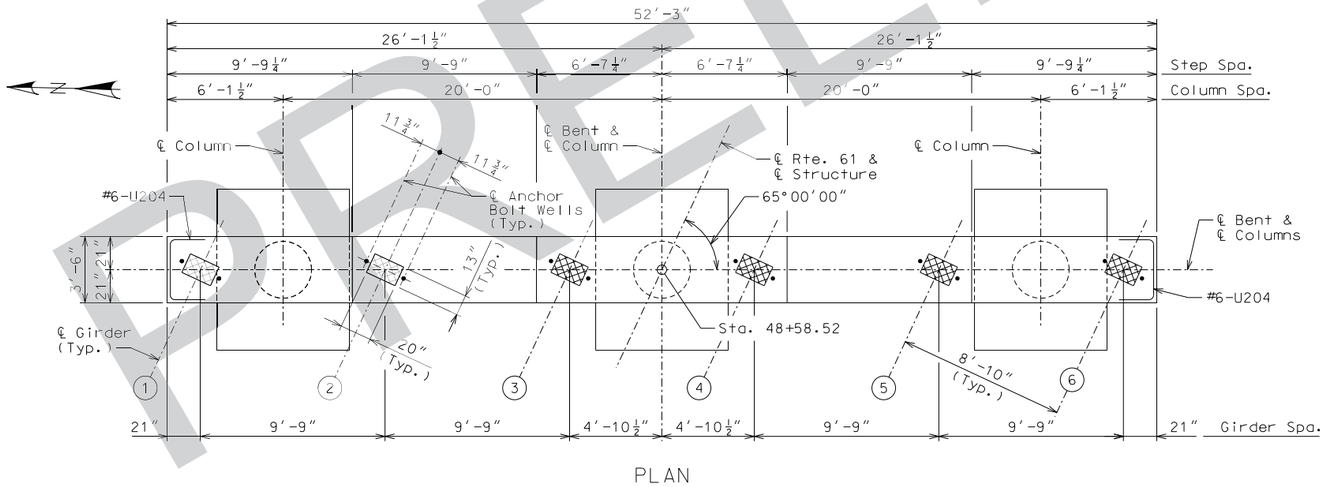
(***) The V200 bars may be separated into two bars using a mechanical bar splice at the Contractor's option.

ELEVATION
(Looking Ahead Station)



SECTION A-A

(**) Lapping of spiral reinforcement in this region is not permitted



PLAN

SUBSTRUCTURE QUANTITY TABLE FOR INTERMEDIATE BENT NO. 2

ITEM		QUANTITY
Class 1 Excavation	Cu. Yd.	115
Galvanized Structural Steel Pile (12 in.)	Lin. Ft.	1350
Pile Point Reinforcement	Ea.	18
Class B Concrete (Substructure)	Cu. Yd.	69.4
Reinforcing Steel (Bridges)	Lbs.	11,320

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

Notes:

For Sections B-B thru D-D, see Sheet No. 8.

For Bearing Assembly and Anchor Rod details, see Sheet No. 16.

E.F. denotes Each Face.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2″.

INTERMEDIATE BENT NO. 2 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

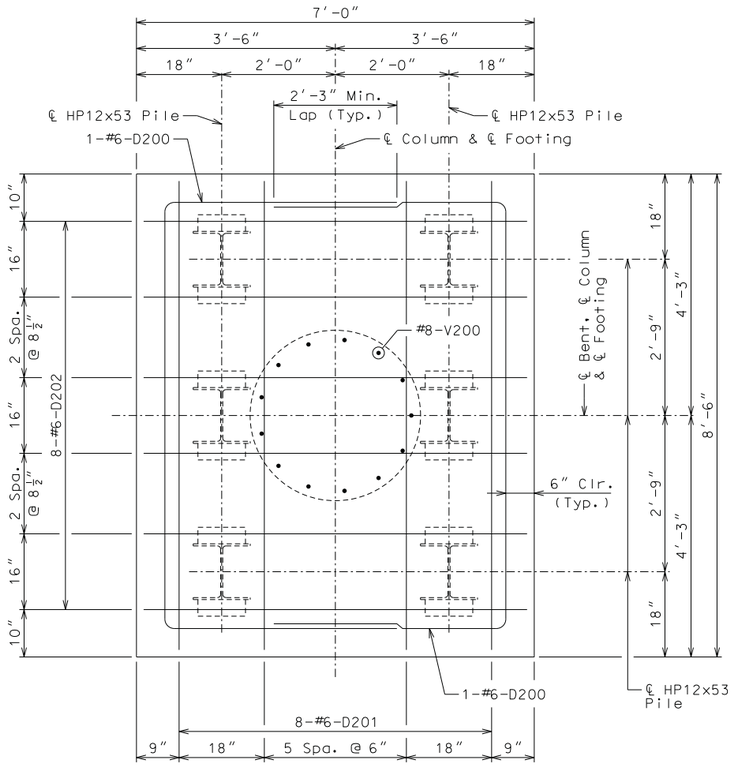
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	7

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

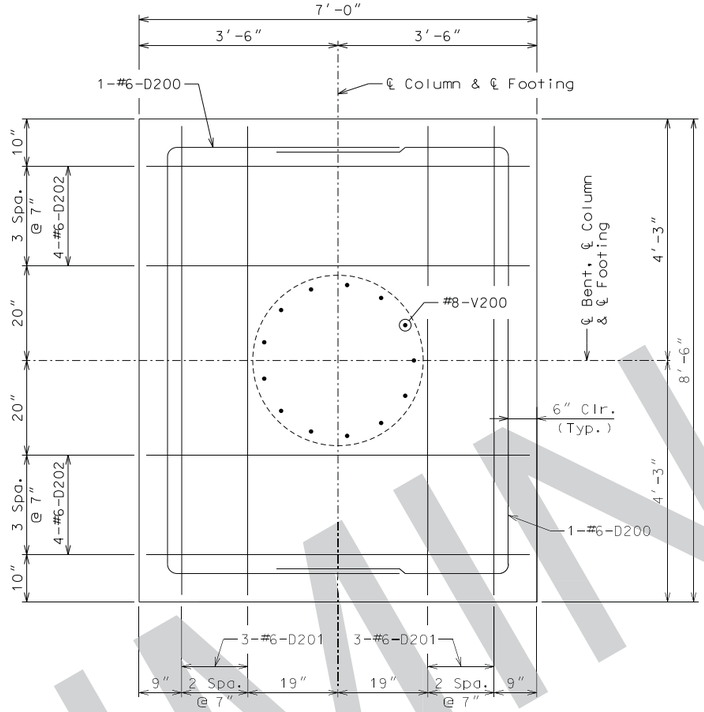
DESCRIPTION | DATE

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

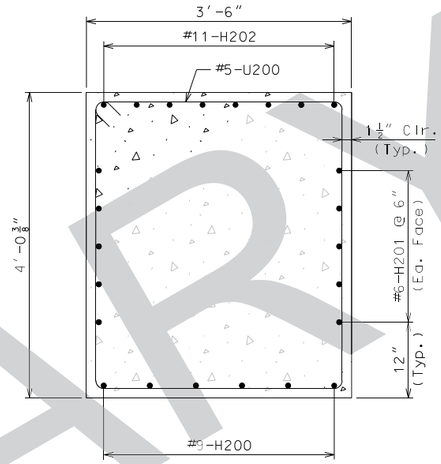
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



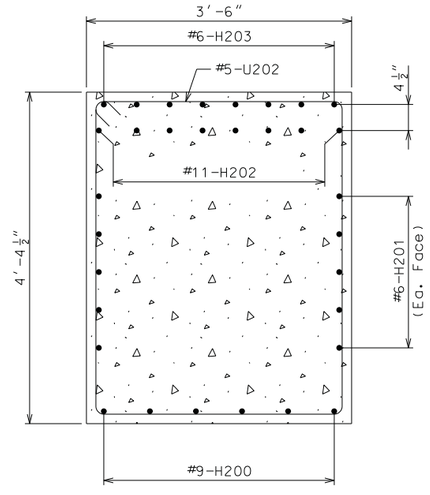
PLAN OF FOOTING
(Bottom Reinforcing)



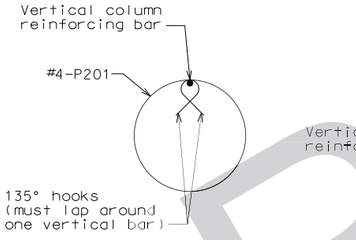
PLAN OF FOOTING
(Top Reinforcing)



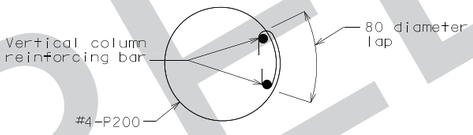
SECTION B-B



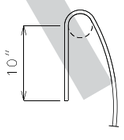
SECTION C-C



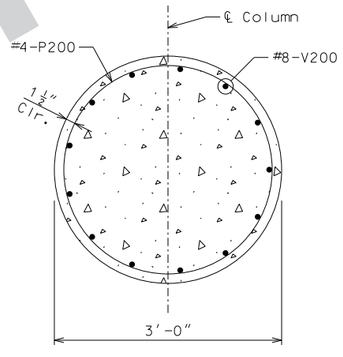
DETAIL OF SEISMIC STIRRUP BAR



ANCHOR SPLICES IN SPIRAL AROUND VERTICAL BAR



DETAILS OF 135° SEISMIC SPIRAL TIE HOOK



SECTION D-D

Notes:

For location of Sections B-B, C-C and D-D, see Sheet No. 7.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

For Anchor Bolt Well details, see Sheet No. 16.

For Bent Plate Pile Anchor and Steel Pile Splice details, see Sheet No. 5.

Hooks for V200 bars shall be shifted to clear piles by at least 1 1/2".

INTERMEDIATE BENT NO. 2 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	8

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

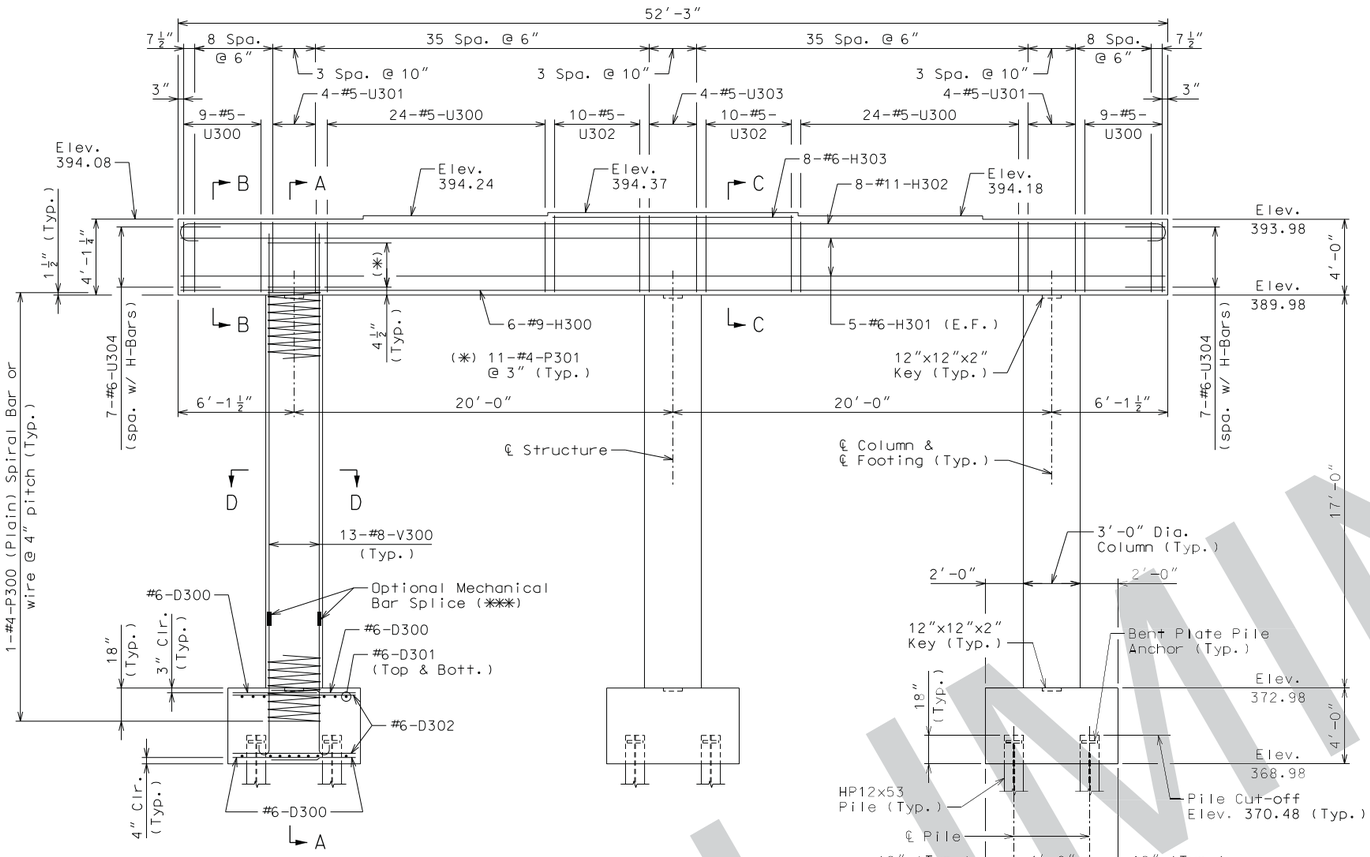
BRIDGE NO.
A8436

DESCRIPTION

DATE

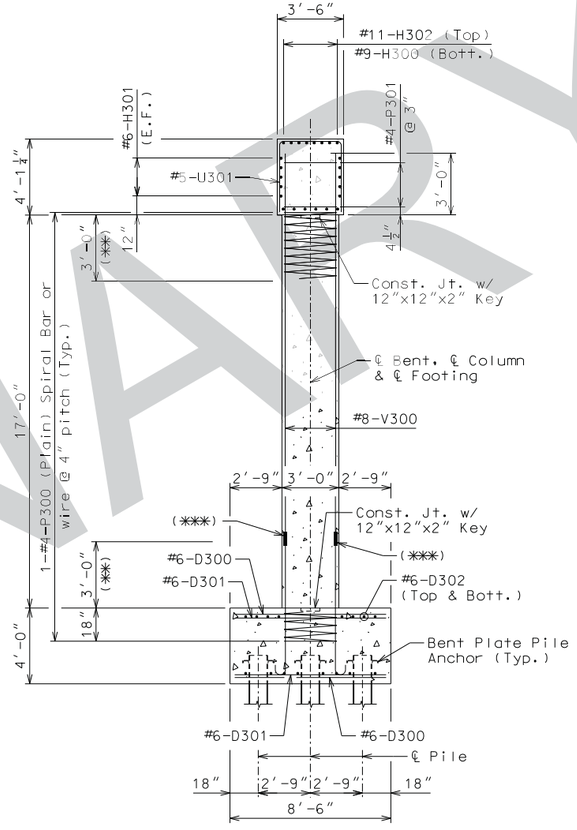
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



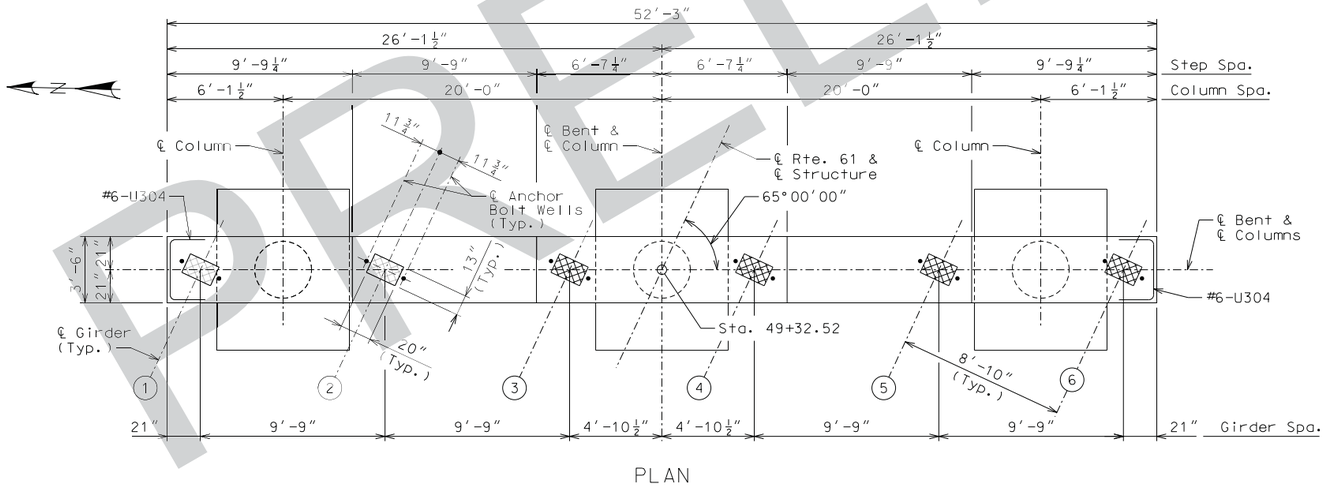
(***) The V300 bars may be separated into two bars using a mechanical bar splice at the Contractor's option.

ELEVATION
(Looking Ahead Station)



SECTION A-A

(**) Lapping of spiral reinforcement in this region is not permitted



PLAN

SUBSTRUCTURE QUANTITY TABLE FOR INTERMEDIATE BENT NO. 3

ITEM		QUANTITY
Class 1 Excavation	Cu. Yd.	100
Galvanized Structural Steel Pile (12 in.)	Lin. Ft.	1296
Pile Point Reinforcement	Ea.	18
Class B Concrete (Substructure)	Cu. Yd.	68.3
Reinforcing Steel (Bridges)	Lbs.	11,050

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

Notes:

For Sections B-B thru D-D, see Sheet No. 10.

For Bearing Assembly and Anchor Rod details, see Sheet No. 16.

E.F. denotes Each Face.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

INTERMEDIATE BENT NO. 3 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	9

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

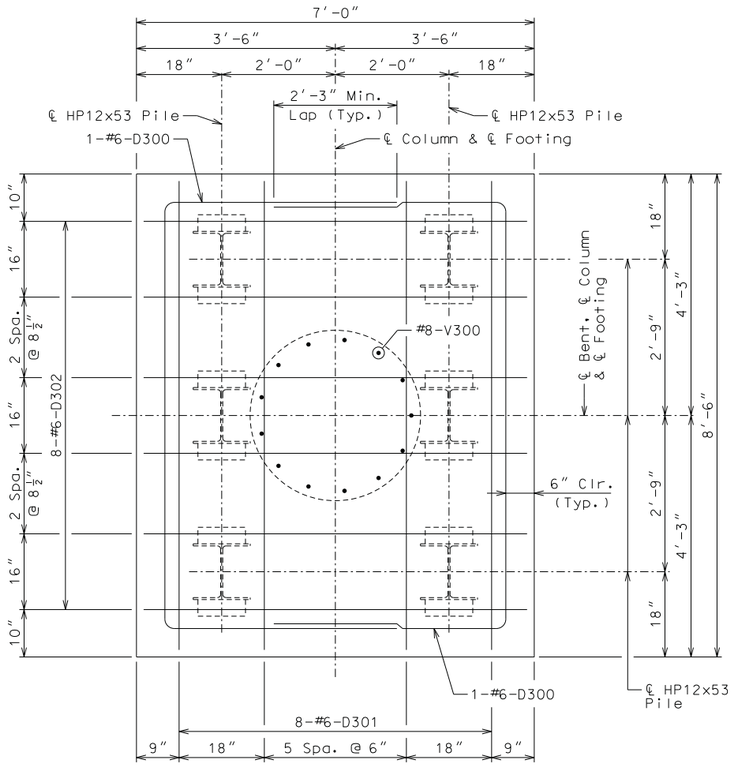
PROJECT NO.

BRIDGE NO. A8436

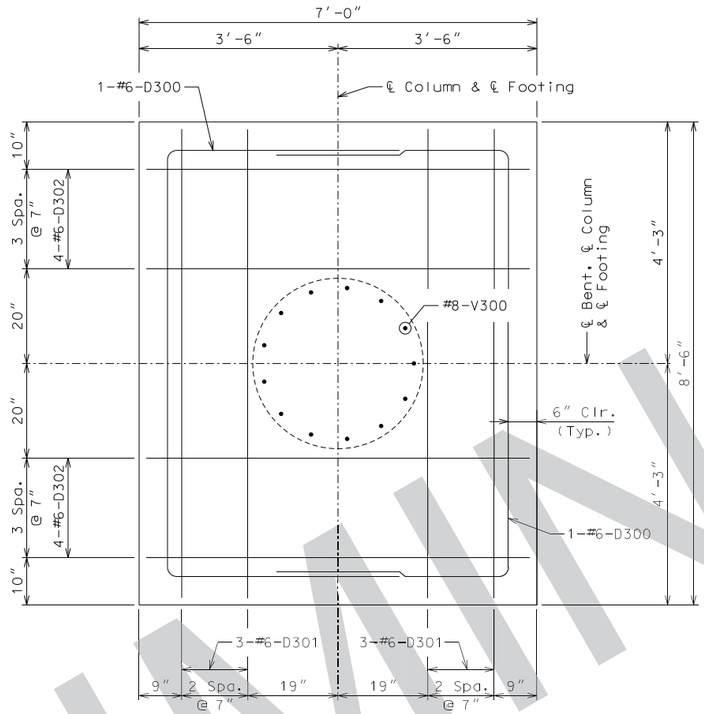
NO.	DESCRIPTION	DATE

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

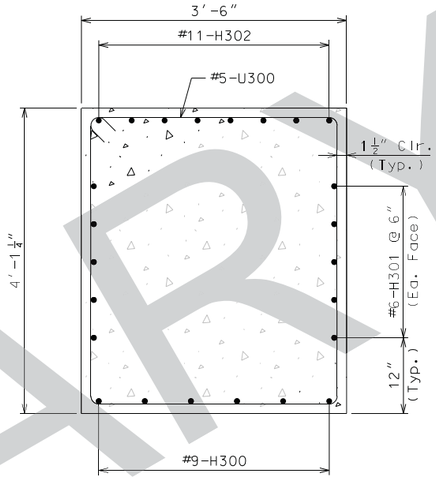
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



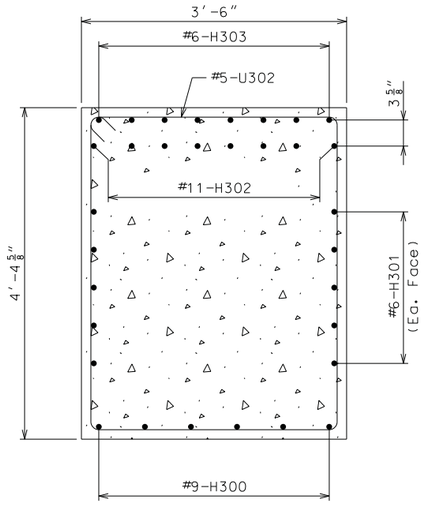
PLAN OF FOOTING
(Bottom Reinforcing)



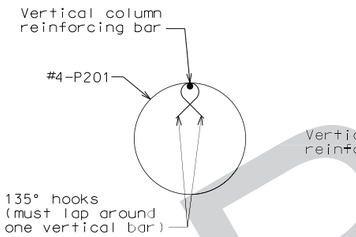
PLAN OF FOOTING
(Top Reinforcing)



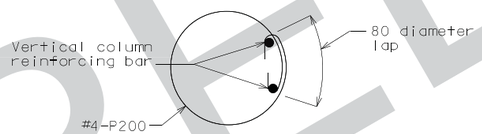
SECTION B-B



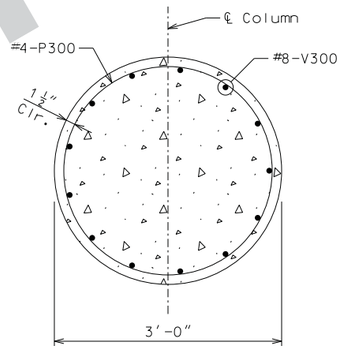
SECTION C-C



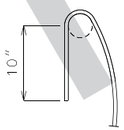
DETAIL OF SEISMIC STIRRUP BAR



ANCHOR SPLICES IN SPIRAL AROUND VERTICAL BAR



SECTION D-D



DETAILS OF 135° SEISMIC SPIRAL TIE HOOK

Notes:

For location of Sections B-B, C-C and D-D, see Sheet No. 9.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

For Anchor Bolt Well details, see Sheet No. 16.

For Bent Plate Pile Anchor and Steel Pile Splice details, see Sheet No. 5.

Hooks for V300 bars shall be shifted to clear piles by at least 1 1/2".

INTERMEDIATE BENT NO. 3 DETAILS

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	10

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

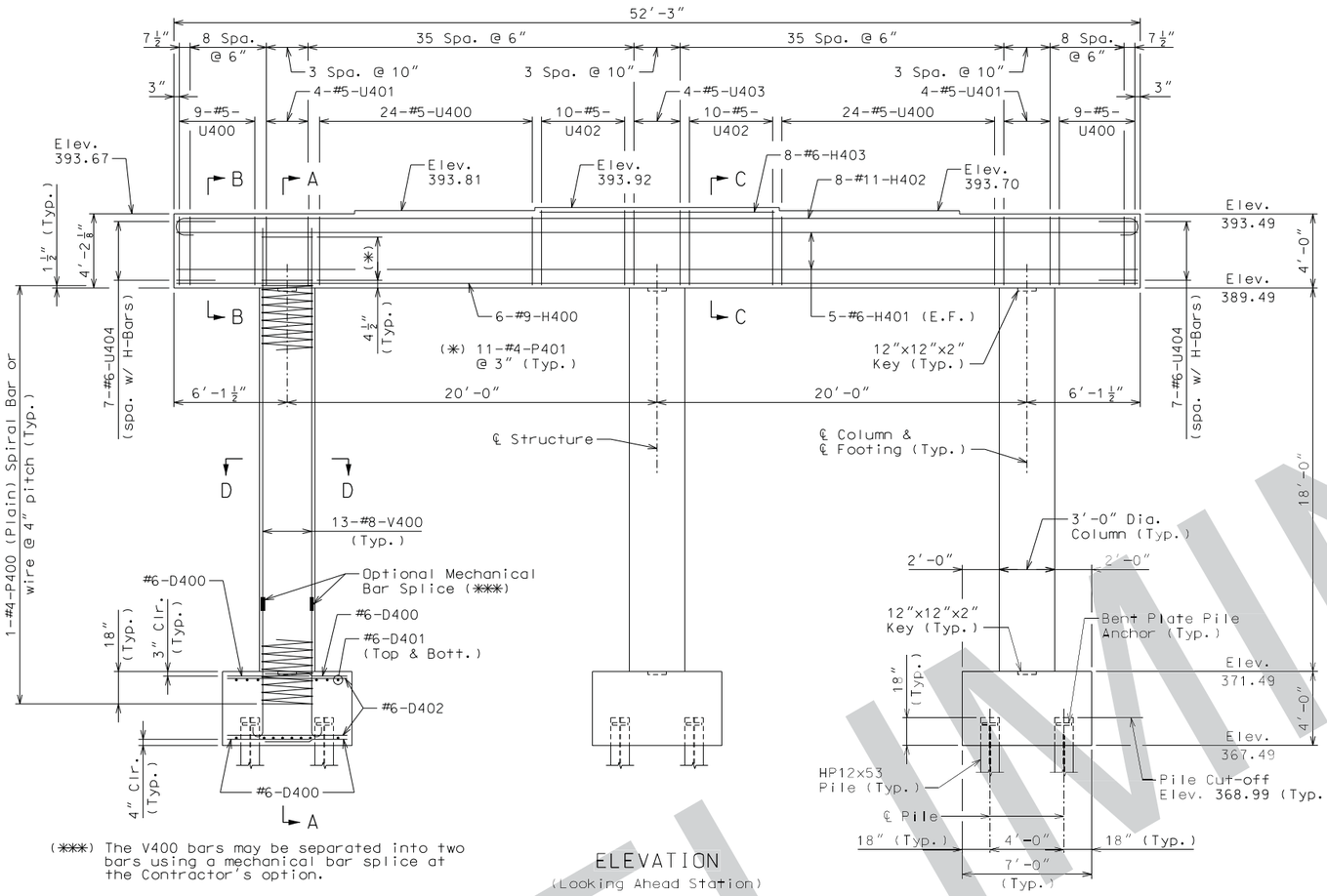
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

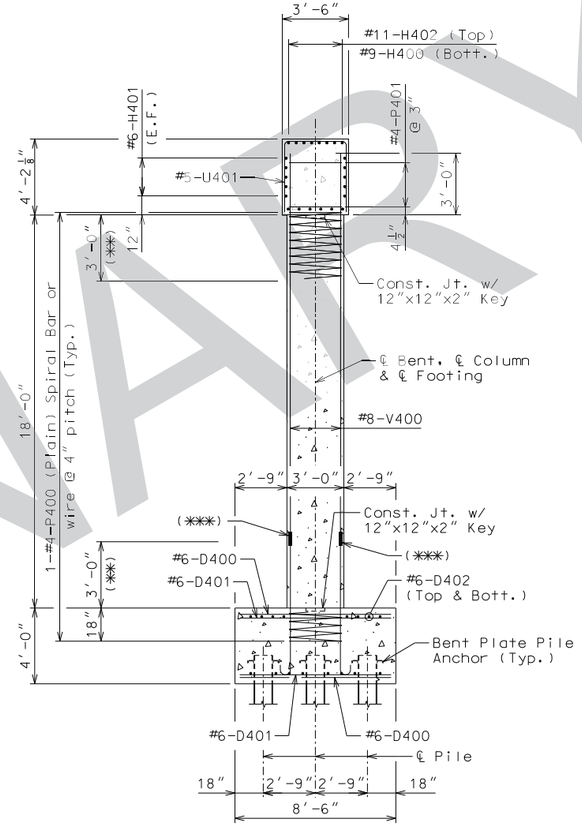
Note: This drawing is not to scale. Follow dimensions.

c:\pwworking\oma\d2187466\B_A8436_10_J0I0956.dgn 9:17:58 AM 11/14/2016



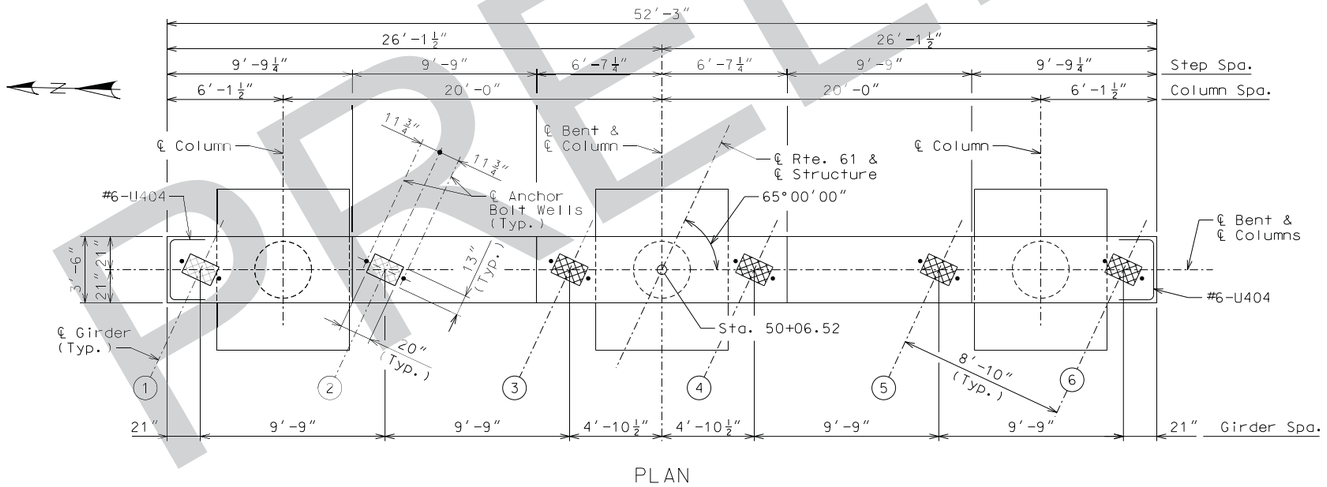
(✱✱✱) The V400 bars may be separated into two bars using a mechanical bar splice at the Contractor's option.

ELEVATION
(Looking Ahead Station)



SECTION A-A

(✱✱) Lapping of spiral reinforcement in this region is not permitted



PLAN

SUBSTRUCTURE QUANTITY TABLE FOR INTERMEDIATE BENT NO. 4		
ITEM		QUANTITY
Class 1 Excavation	Cu. Yd.	115
Galvanized Structural Steel Pile (12 in.)	Lin. Ft.	1584
Pile Point Reinforcement	Ea.	18
Class B Concrete (Substructure)	Cu. Yd.	69.3
Reinforcing Steel (Bridges)	Lbs.	11,200

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

Notes:

For Sections B-B thru D-D, see Sheet No. 12.

For Bearing Assembly and Anchor Rod details, see Sheet No. 16.

E.F. denotes Each Face.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

INTERMEDIATE BENT NO. 4 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

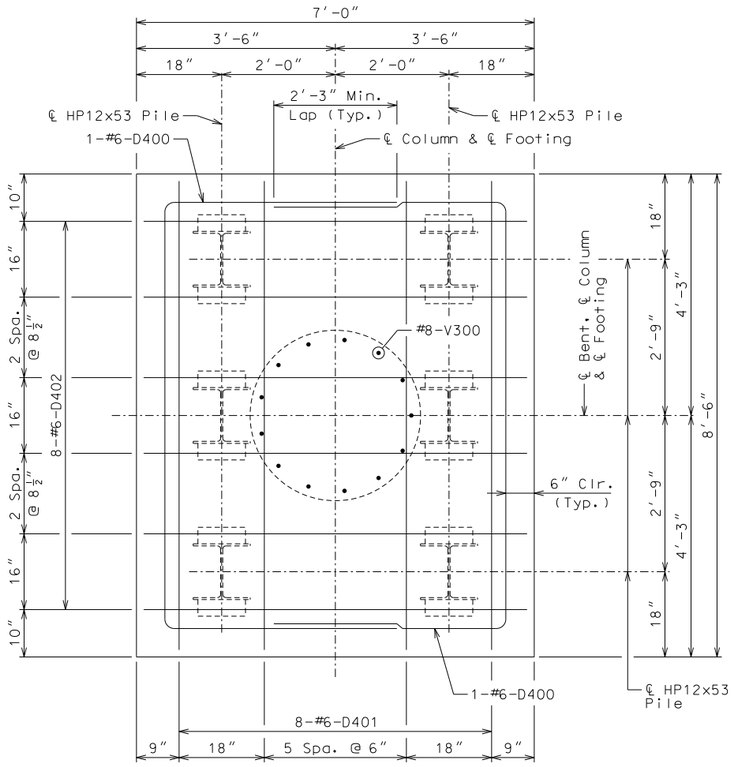
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	11

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

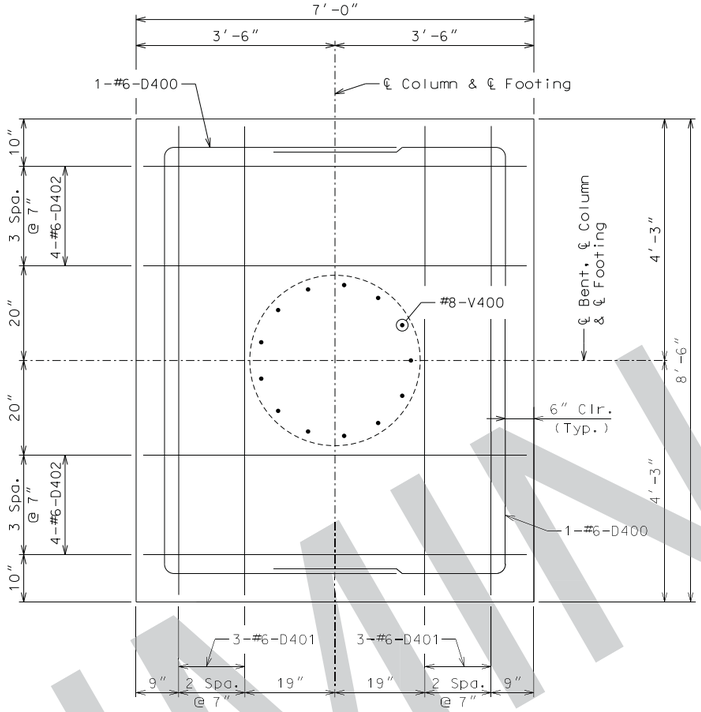
DESCRIPTION | DATE

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

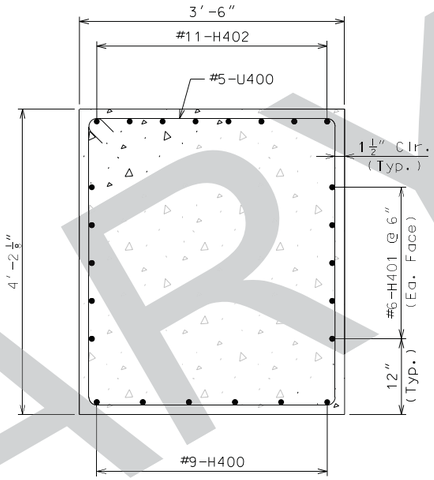
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



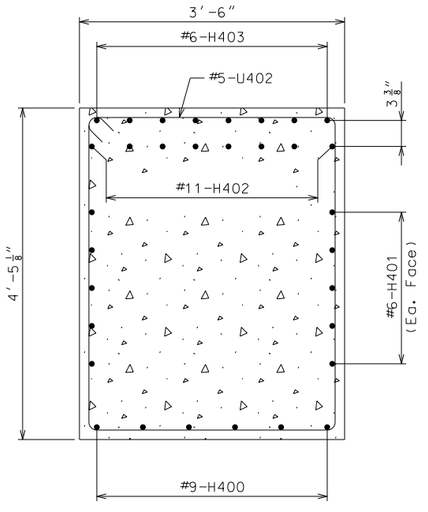
PLAN OF FOOTING
(Bottom Reinforcing)



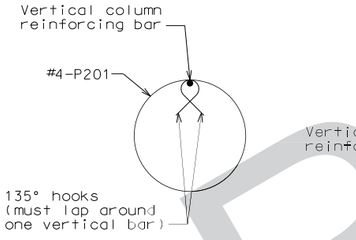
PLAN OF FOOTING
(Top Reinforcing)



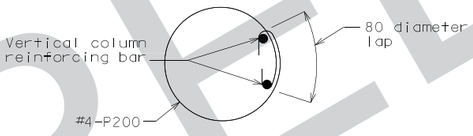
SECTION B-B



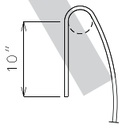
SECTION C-C



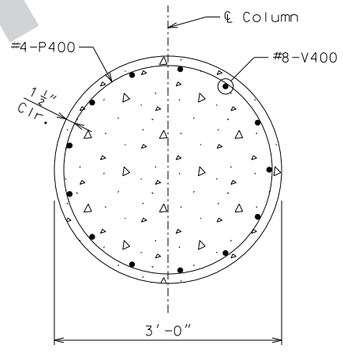
DETAIL OF SEISMIC STIRRUP BAR



ANCHOR SPLICES IN SPIRAL AROUND VERTICAL BAR



DETAILS OF 135° SEISMIC SPIRAL TIE HOOK



SECTION D-D

Notes:

For location of Sections B-B, C-C and D-D, see Sheet No. 11.

Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2".

For Anchor Bolt Well details, see Sheet No. 16.

For Bent Plate Pile Anchor and Steel Pile Splice details, see Sheet No. 5.

Hooks for V400 bars shall be shifted to clear piles by at least 1 1/2".

INTERMEDIATE BENT NO. 4 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	12

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8436

DESCRIPTION

DATE

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

HDR Engineering, Inc.
401 S. 18th Street
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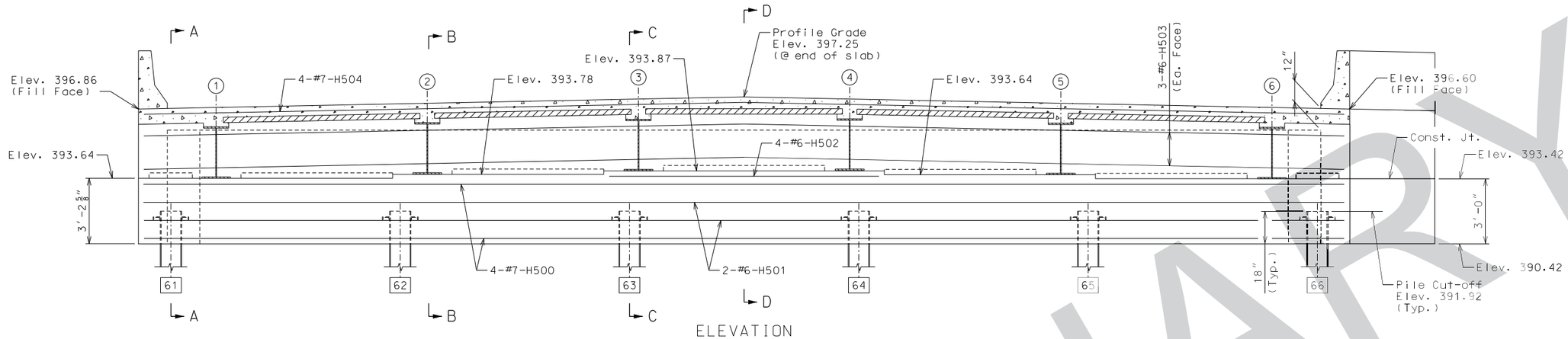
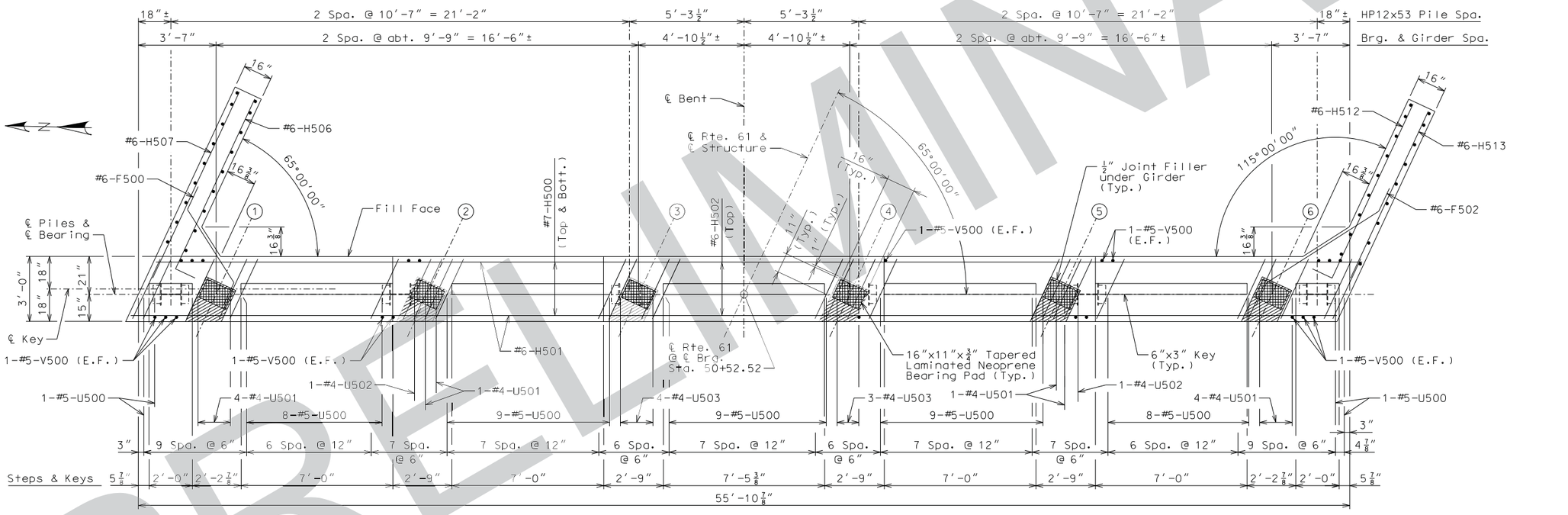


ELEVATION

(Looking Ahead Station)



PLAN OF BEAM

(Horizontal dimensions are measured along ℄ Piles and ℄ Brg.)

SUBSTRUCTURE QUANTITY TABLE FOR END BENT NO. 5		
ITEM		QUANTITY
Class 1 Excavation	Cu. Yd.	50
Galvanized Structural Steel Pile (12 in.)	Lin. Ft.	726
Pile Point Reinforcement	Each	6
Class B Concrete (Substructure)	Cu. Yd.	22.9

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

Notes:

For Sections A-A thru D-D, see Sheet No. 14.

For Key details, see Sheet No. 14.

Reinforcing Steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".

The U-bars, Pairs V-bars and #5-H505 bars shall be placed parallel to centerline of roadway.

The #6-F500 and #6-F502 bars shall be bent in the field to clear girders.

Concrete diaphragms at the integral end bents shall be poured a minimum of 12 hours before the slab is poured.

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

(1) - Denotes girder number.

61 - Denotes pile number.

E.F. denotes Each Face.

END BENT NO. 5 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	13

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

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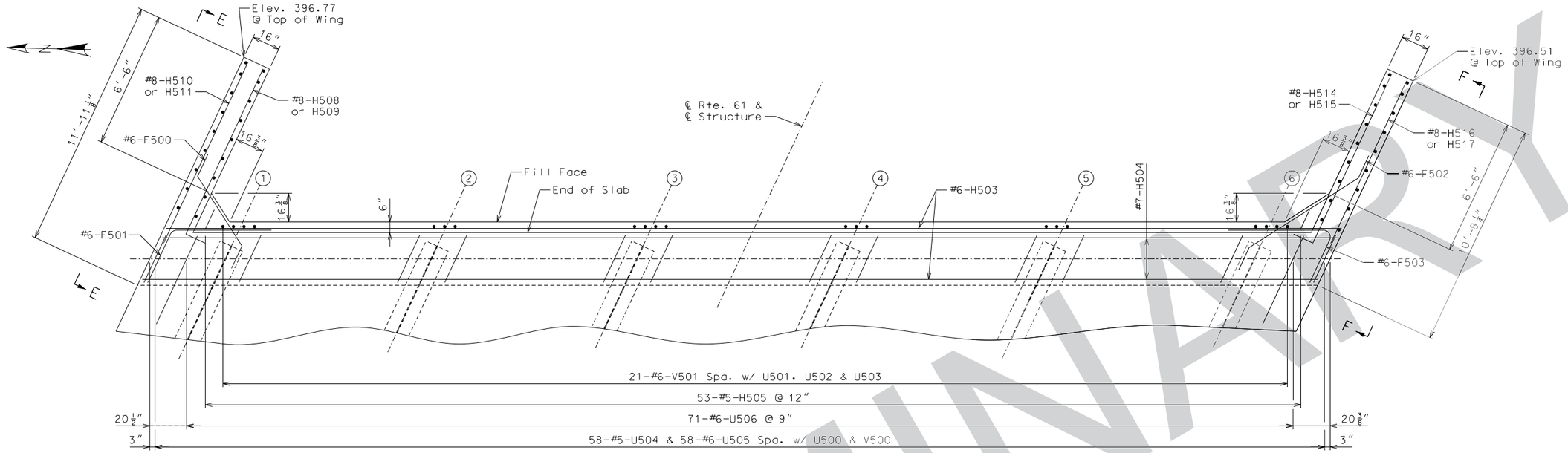
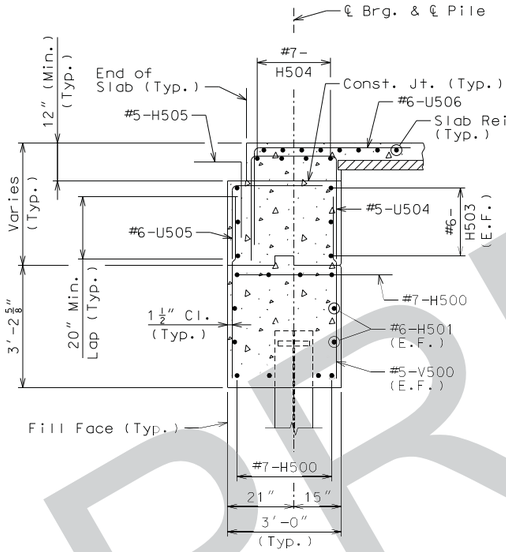
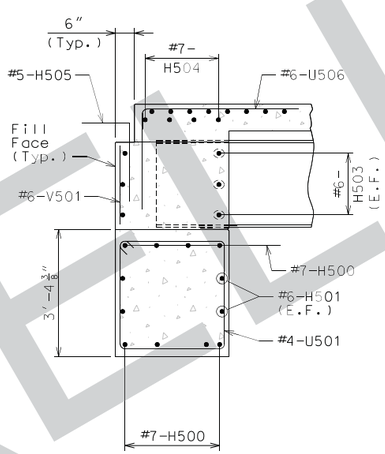


PLAN

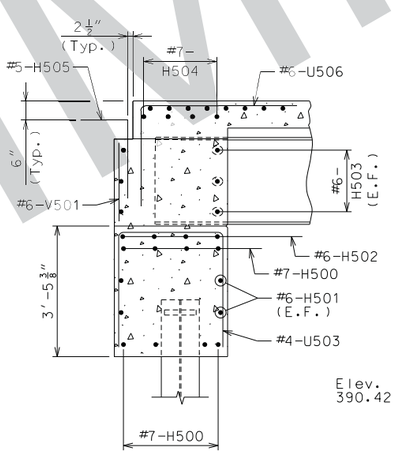
(Horizontal dimensions are measured along ℄ Bent)



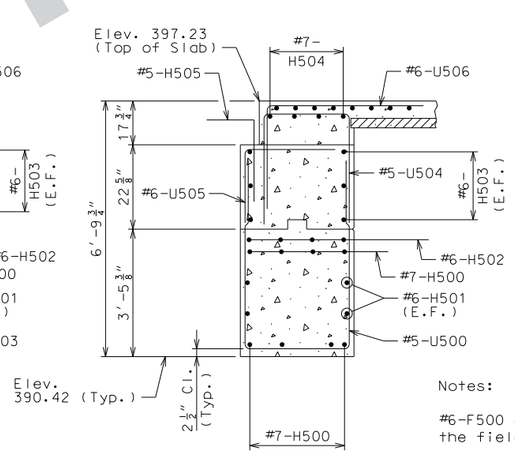
SECTION A-A



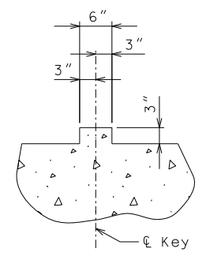
SECTION B-B



SECTION C-C



SECTION D-D



TYPICAL SECTION
THRU KEY

Notes:

#6-F500 and #6-F502 bars shall be bent in the field to clear girders.

The U-bars, pairs of V-bars and #5-H505 bars shall be placed parallel to centerline of roadway.

For location of Sections A-A, B-B, C-C & D-D, see Sheet No. 13.

For Elevations E-E & F-F, see Sheet No. 15.

For Pile Splice Details, see Sheet No. 15.

For details and reinforcement of Barrier Curbs at End Bent, see Sheet No. 27.

E.F. Denotes Each Face.

① - Denotes girder number.

END BENT NO. 5 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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BR	14
COUNTY	SCOTT
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CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A8436

DESCRIPTION | DATE

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JEFFERSON CITY, MO 65102
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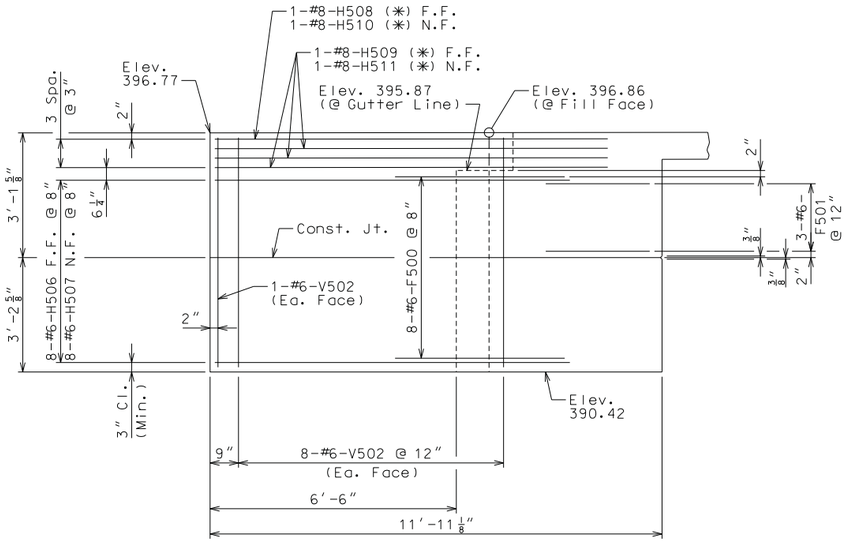
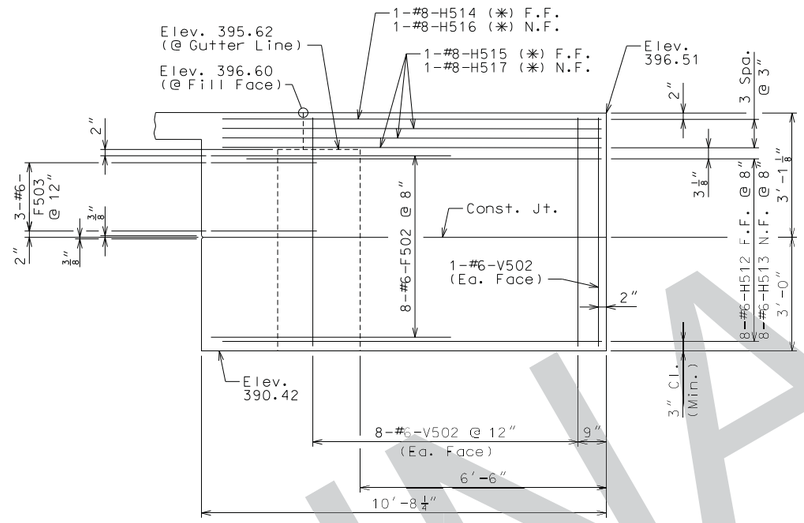


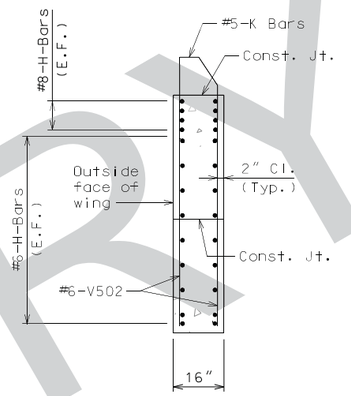
ELEVATION E-E

(*) Place with grade

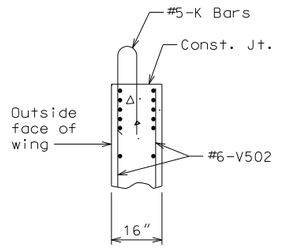


ELEVATION F-F

(*) Place with grade



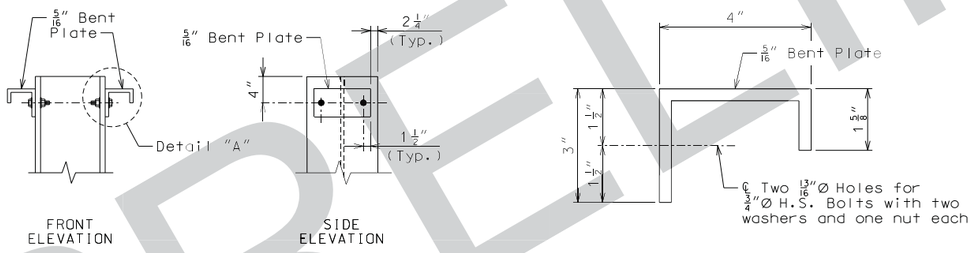
PART SECTION THRU LEFT OR RIGHT WING



PART SECTION THRU END OF LEFT OR RIGHT WING

Note: All dimensions and elevations given at outside face of wing.

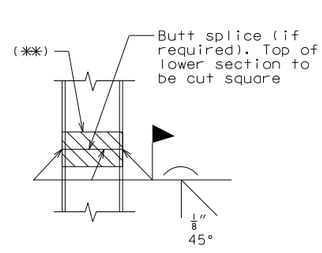
The #6-F500 and #6-F502 bars shall be bent in the field to clear girders.



DETAILS OF PILE ANCHORS

Cost of bent plate pile anchors (ASTM A709 Grade 36) in place to be included in contract unit price for galvanized structural steel piles (12 in.)

DETAIL "A"



STEEL PILE SPLICE

(**) Galvanization material shall be removed for a minimum of 2" around weld locations. The method used for removing galvanizing material shall be as approved by the engineer.

Galvanizing shall be repaired per Special Provisions.

Notes:

For location of Elevations E-E & F-F, see Sheet No. 14.

For details and reinforcement of Barrier Curb at End Bent, see Sheet No. 27.

N.F. indicates Near Face.

F.F. indicates Far Face.

END BENT NO. 5 DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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STATE OF MISSOURI
GREGORY LOUIS KUNTZ
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PROFESSIONAL ENGINEER

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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	15

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8436

DESCRIPTION | DATE

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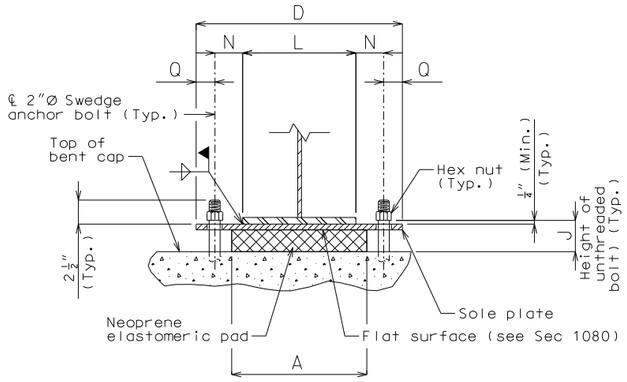
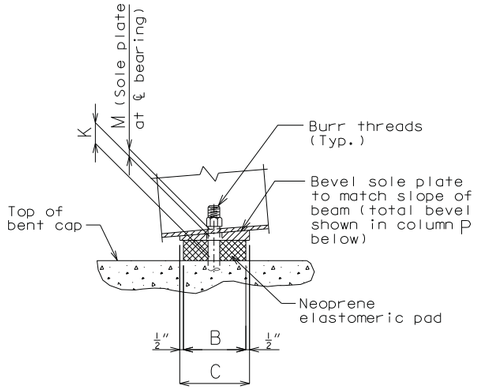
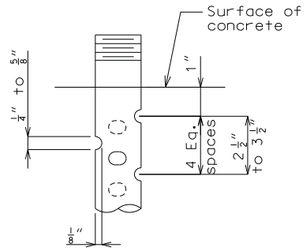


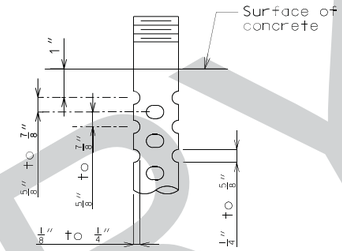
END VIEW



SIDE VIEW

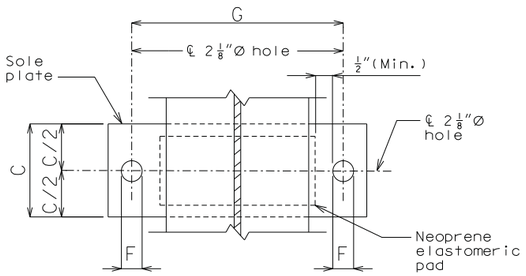


DETAIL OF 3/4"Ø THRU 2 1/2"Ø ANCHOR BOLTS

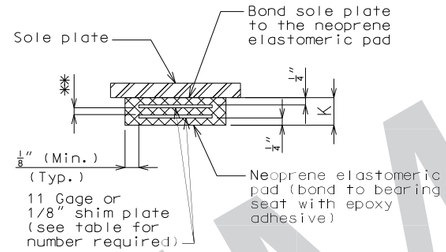


OPTIONAL DETAIL OF 1 3/8"Ø THRU 2 1/2"Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS

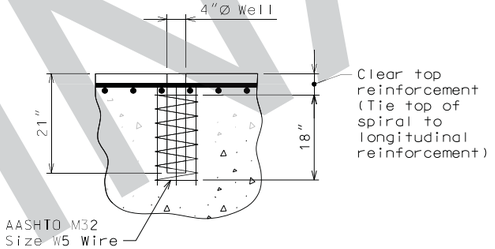


PART PLAN

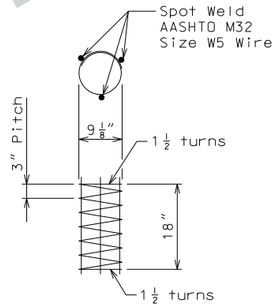


✱✱ Layers of 1/2" elastomer alternating with 11 gage or 1/8" shim plate

NEOPRENE ELASTOMERIC PAD



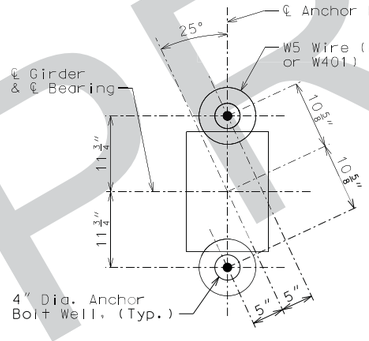
DETAIL OF ANCHOR BOLT WELLS



DETAIL OF SPIRAL REINFORCEMENT

FIXED BEARINGS														
BENT NO.	A	B	C	D	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES ✱	NUMBER REQUIRED
2	20"	13"	14"	29½"	2⅛"	23½"	5½"	3¾"	16"	1½"	3¼"	0"	3"	6	6
3	20"	13"	14"	29½"	2⅛"	23½"	5½"	3¾"	16"	1½"	3¼"	⅛"	3"	6	6
4	20"	13"	14"	29½"	2⅛"	23½"	5½"	3¾"	16"	1½"	3¼"	⅛"	3"	6	6
														TOTAL BEARINGS	18

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



ANCHOR BOLT LAYOUT
(Bents 2, 3 and 4)

GENERAL NOTES:

Anchor bolts shall be 2"Ø ASTM F1554 Grade 55 swedged bolts and shall extend 18" into the concrete with ASTM A563 Grade A Hex or Heavy Hex nuts. Actual manufacturer's certified mill test reports(chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.

All structural steel for the anchor bolts and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

Neoprene Elastomeric Pads shall be 60 Durometer.

Structural steel for sole plate shall be ASTM A709 Grade 50 and shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).

Laminated Neoprene Bearing Pad Assembly shall be in accordance with Sec 716.

DETAILS OF LAMINATED NEOPRENE BEARING PAD ASSEMBLY

STATE OF MISSOURI
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DISTRICT	SHEET NO.
BR	16

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

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105 WEST CAPITOL
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Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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

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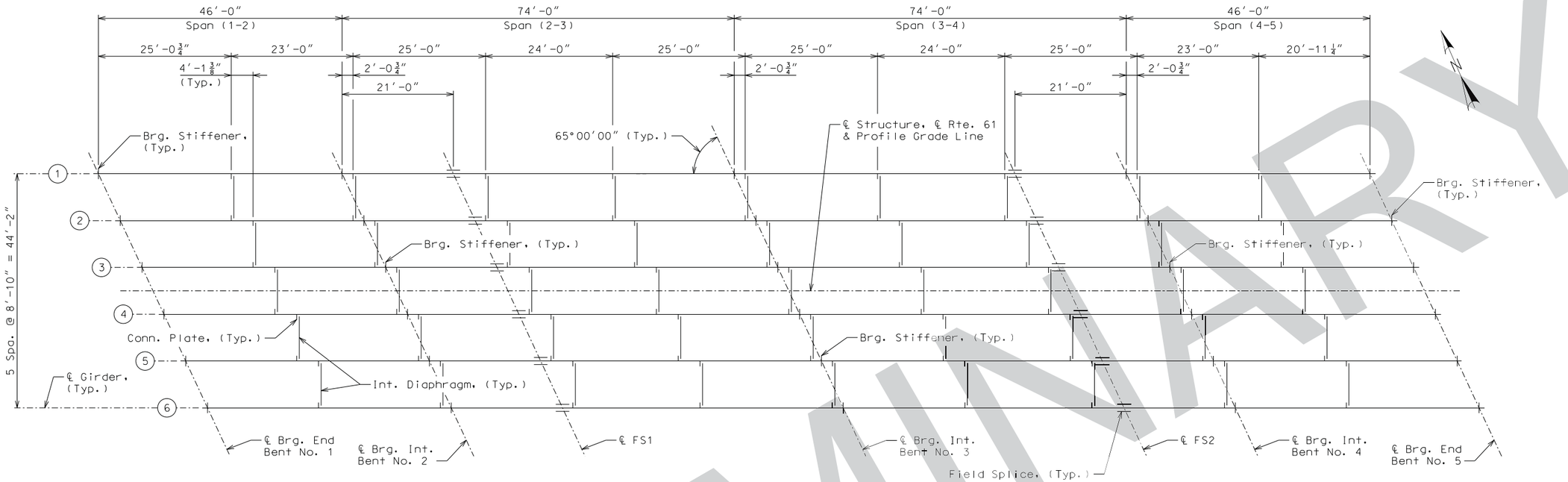
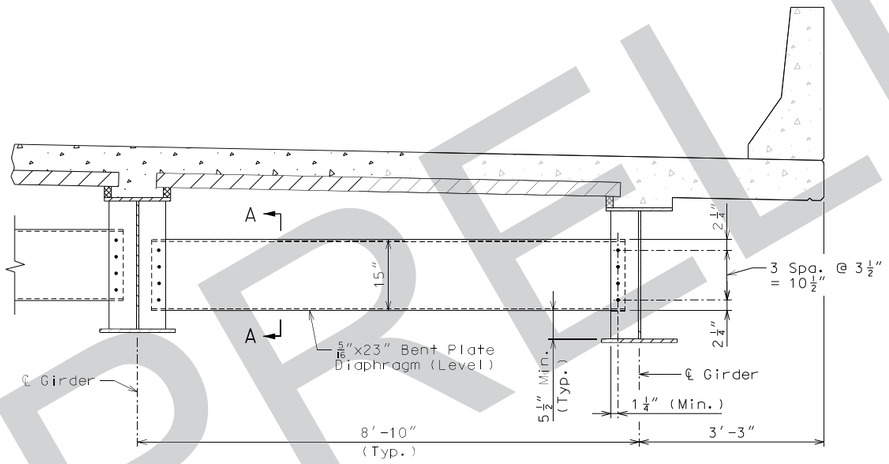
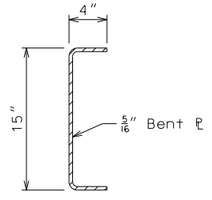


PLAN



TYPICAL PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



SECTION A-A

Notes:

(1) - denotes Girder Number.

All bolted diaphragm connections shall be 3/4″ diameter A325 High Strength Bolts with 13/16″ diameter holes.

Diaphragm members shall be ASTM A709 Grade 50.

At the contractor's option, holes in the diaphragm plate of non slab bearing diaphragms may be made 3/16″ larger than the nominal diameter of the bolt. A hardened washer shall be used under the bolt head and nut when this option is used. Holes in the girder diaphragm connection plate or transverse web stiffener shall be standard size.

Longitudinal dimensions are horizontal dimensions from ℄ Brg. to ℄ Brg.

Longitudinal dimensions are to ℄ stiffener or connection plate.

For Bearing Details, see Sheet No. 16.

For Elevation of Structural Steel, see Sheet No. 18.

For Field Splice Details, see Sheet No. 19.

For Connection Plate and Bearing Stiffener Details, see Sheet No. 20.

FS - denotes Field Splice.

For Miscellaneous Structural Steel Details, see Sheet No. 20.

PLAN OF STRUCTURAL STEEL

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
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COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8436

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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

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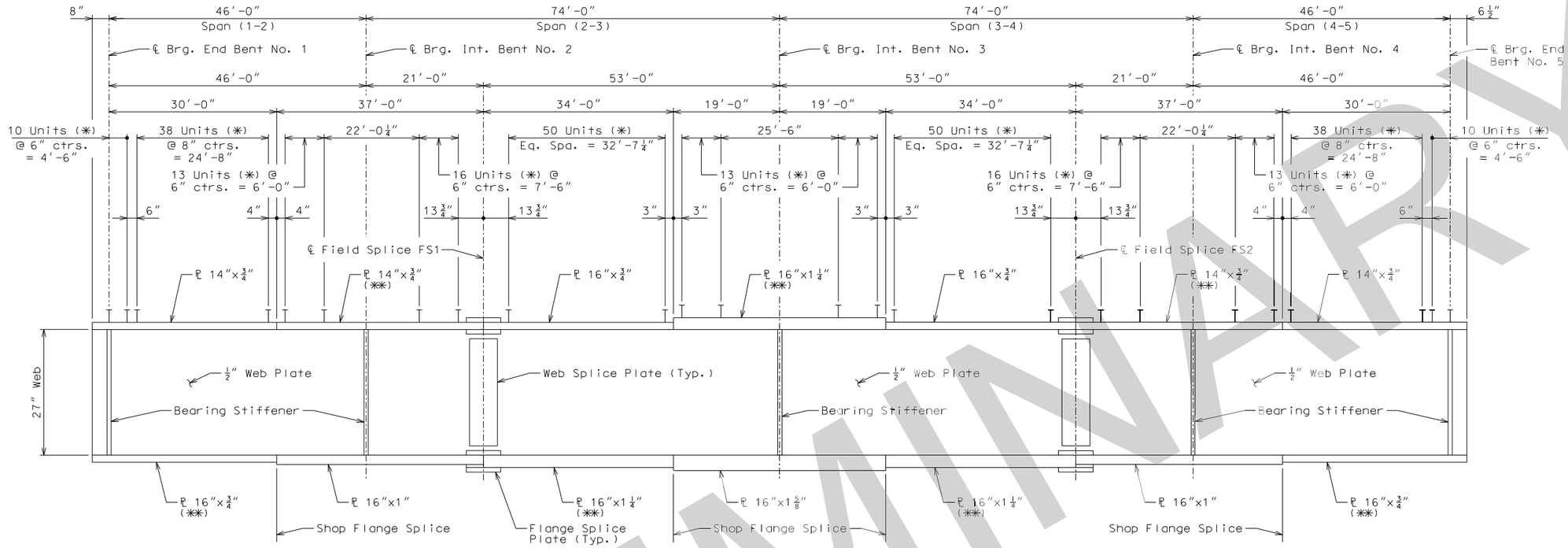
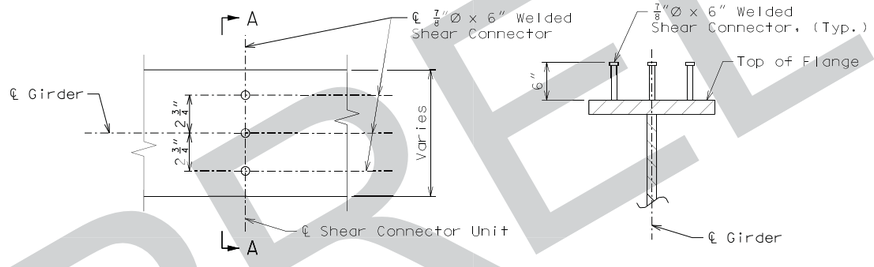


(*) 3 studs per Unit

GIRDER ELEVATION



PLAN

SECTION A-A
(3 Studs/Unit)

DETAILS OF SHEAR CONNECTORS

Weight of 5840 pounds of shear connectors for the girders is included in the weight of Fabricated Structural Low Alloy Steel (Plate Girder) A709, Grade 50.

Shear connectors shall be in accordance with Sec 712, 1037 and 1080.

Notes:

By approval of the engineer, the contractor may omit any shop flange splice by extending the heavier flange plate and providing approved modifications of details at field flange splices and elsewhere as required. All cost of any required design, plan revisions or re-checking of shop drawings shall be borne by contractor. Payweight in any case will be based on material shown on design plans.

(**) Indicates flange plates subject to Notch Toughness Requirements.

All web plates shall be subject to Notch Toughness Requirements.

The flange and web splice plates shall be subject to Notch Toughness Requirements, when notch toughness is required for flanges on both sides of splice.

Longitudinal dimensions are horizontal dimensions from ℄ Brg. to ℄ Brg., see Partial Longitudinal Sections, Sheet No. 20.

Fabricated Structural Steel shall be ASTM A709 Grade 50.

Plate Girders shall be fabricated to conform to the Camber Diagram shown on Sheet No. 22.

For Bearing Details, see Sheet No. 16.

For Field Splice Details, see Sheet No. 19.

For Intermediate Diaphragm Details, see Sheet No. 17.

For Connection Plate and Bearing Stiffener Details, see Sheet No. 20.

For Miscellaneous Structural Steel Details, see Sheet No. 20.

For location of slab drain attachment holes, see Slab Drain details, Sheet No. 25.

ELEVATION OF STRUCTURAL STEEL

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	18

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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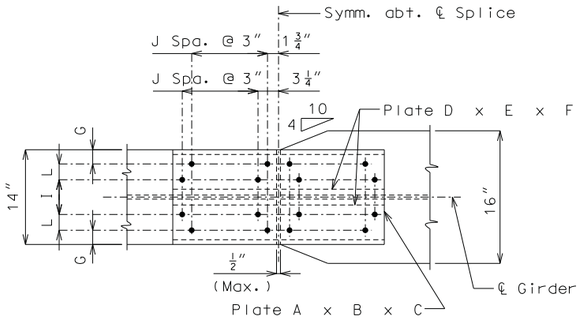
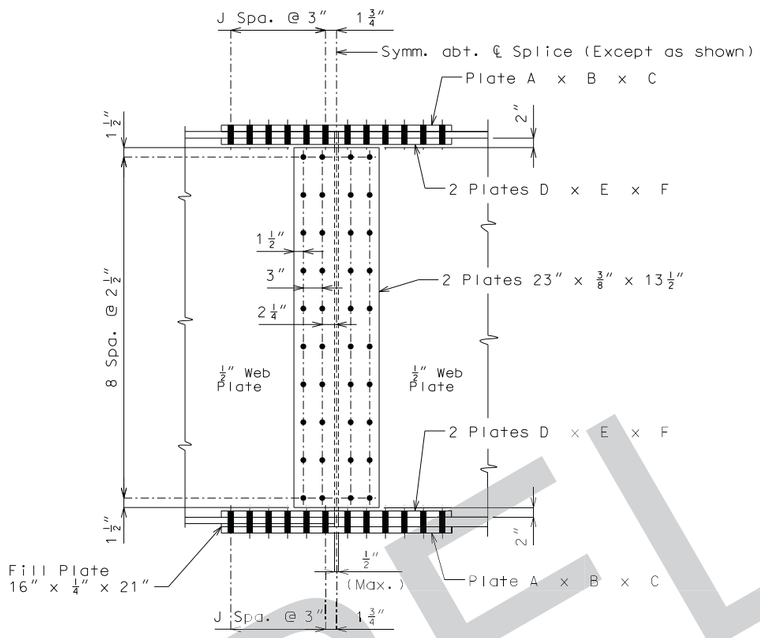
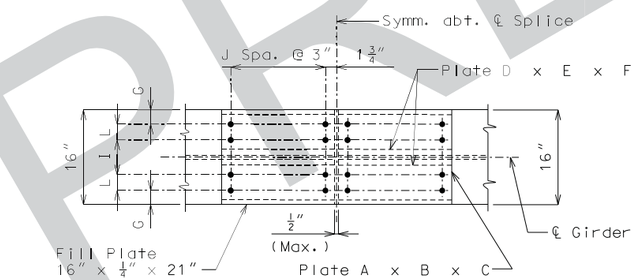


PLAN OF BOLTED FIELD SPLICE – TOP FLANGE
(FS1 & FS2)

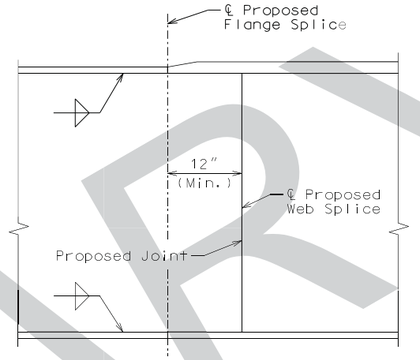
TABLE OF DIMENSIONS – FIELD SPLICE										
LOCATION	A	B	C	D	E	F	G	I	J	L
FS1 & FS2 (Top)	14″	½″	21½″	5½″	⅝″	21½″	2″	5″	2	2½″
FS1 & FS2 (Bottom)	16″	⅝″	3′-6½″	7″	¾″	3′-6½″	2″	6″	6	3″



ELEVATION OF BOLTED FIELD SPLICE

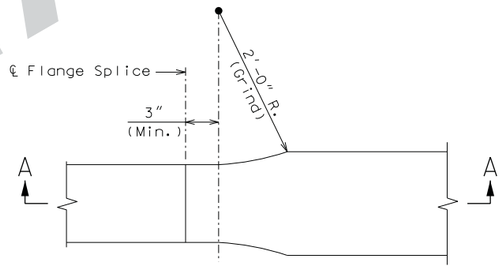


PLAN OF BOLTED FIELD SPLICE – BOTTOM FLANGE
(FS1 & FS2)

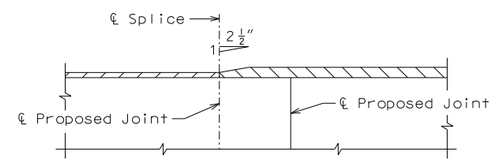


WELDED SHOP WEB SPLICE

Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional welded shop web and flange splices.



PLAN
(2′-0″ Radius Transition)



SECTION A–A
Welded Shop Flange Splice

Notes:

Use 7/8″Ø high strength bolts with 15/16″Ø holes.

Contact surfaces shall be in accordance with Sec 1081 for surface preparation.

SPLICE DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

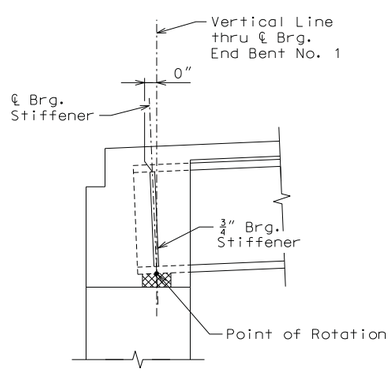
STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 19
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8436

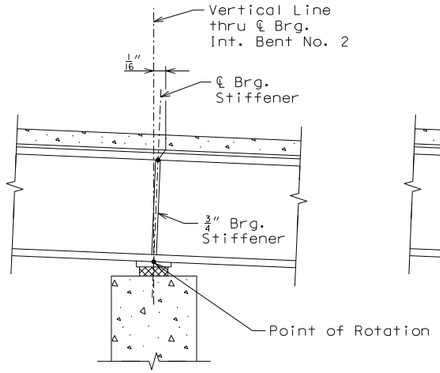
DESCRIPTION | DATE

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

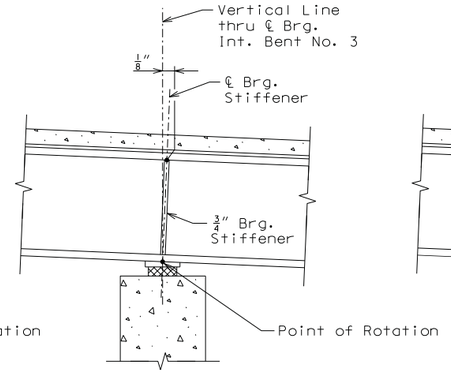
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



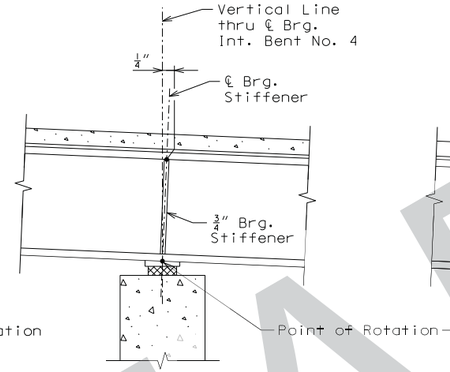
End Bent No. 1



Int. Bent No. 2



Int. Bent No. 3



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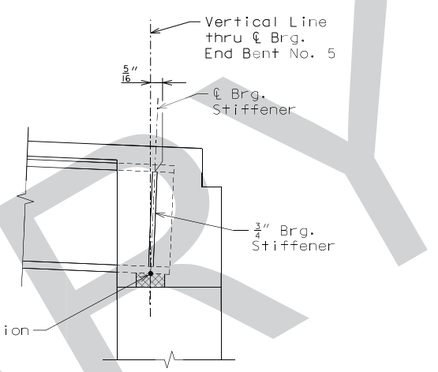
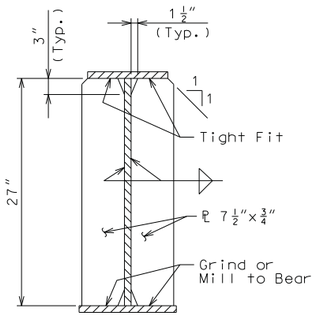
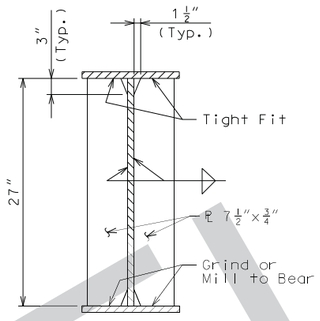


End Bent No. 5

PARTIAL LONGITUDINAL SECTIONS

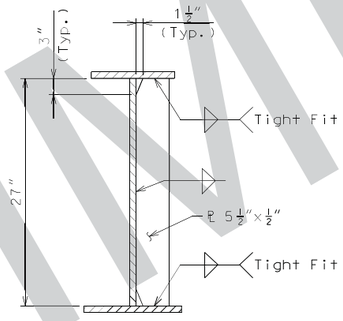


END BENT NO. 1, INT. BENT NO. 2, INT. BENT NO. 4 AND END BENT NO. 5

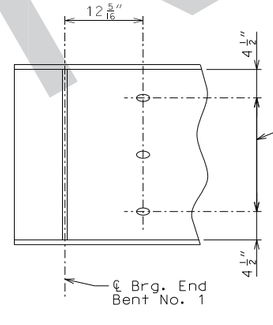


INT. BENT NO. 3

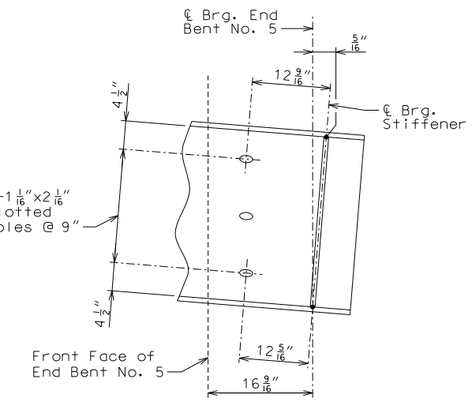
BEARING STIFFENERS



INTERMEDIATE DIAPHRAGM CONNECTION PLATE



(At End Bent No. 1)



(At End Bent No. 5)

SECTION AT END OF GIRDER

Notes:

All bearing stiffeners and connection plates shall be ASTM A709 Grade 50.

For Plan of Structural Steel, see Sheet No. 17.

For Elevation of Structural Steel, see Sheet No. 18.

For Diaphragm Details, see Sheet No. 17.

MISCELLANEOUS STRUCTURAL STEEL DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED: 11/14/2016

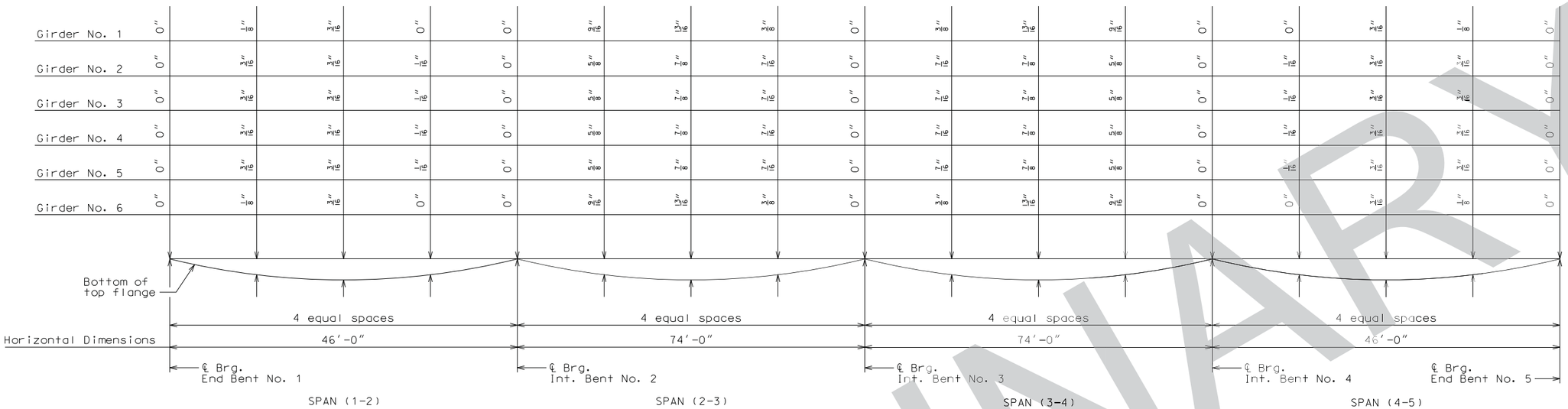
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	20

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

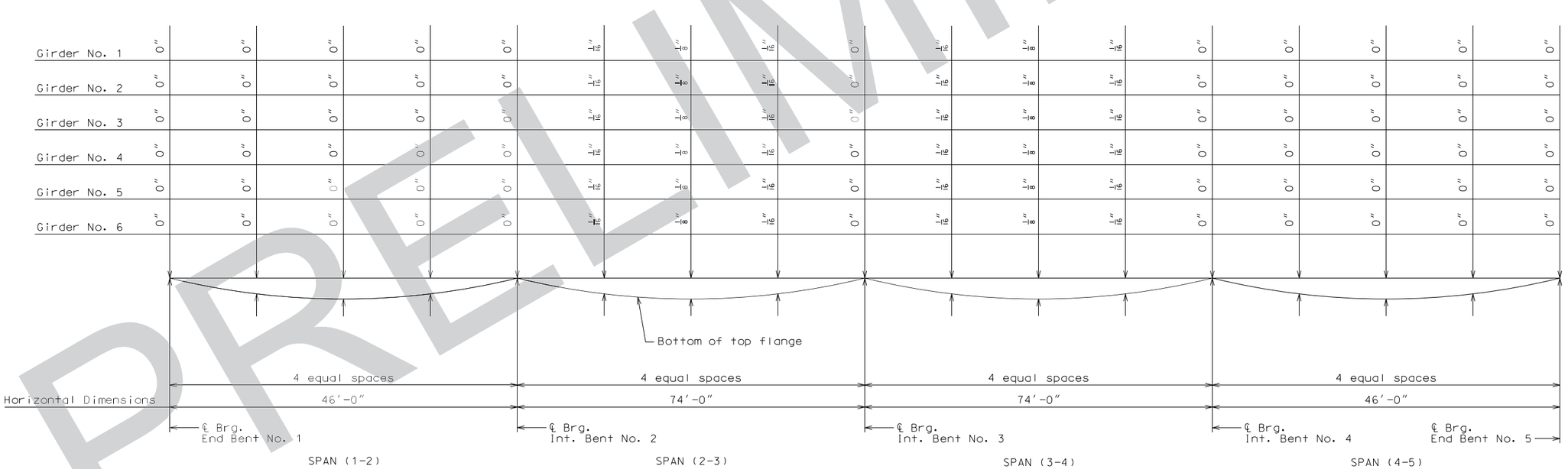
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



DEAD LOAD DEFLECTION

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



STEEL DEFLECTION

DEAD LOAD DEFLECTIONS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

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DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	21

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8436

DESCRIPTION

DATE

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

HDR Engineering, Inc.
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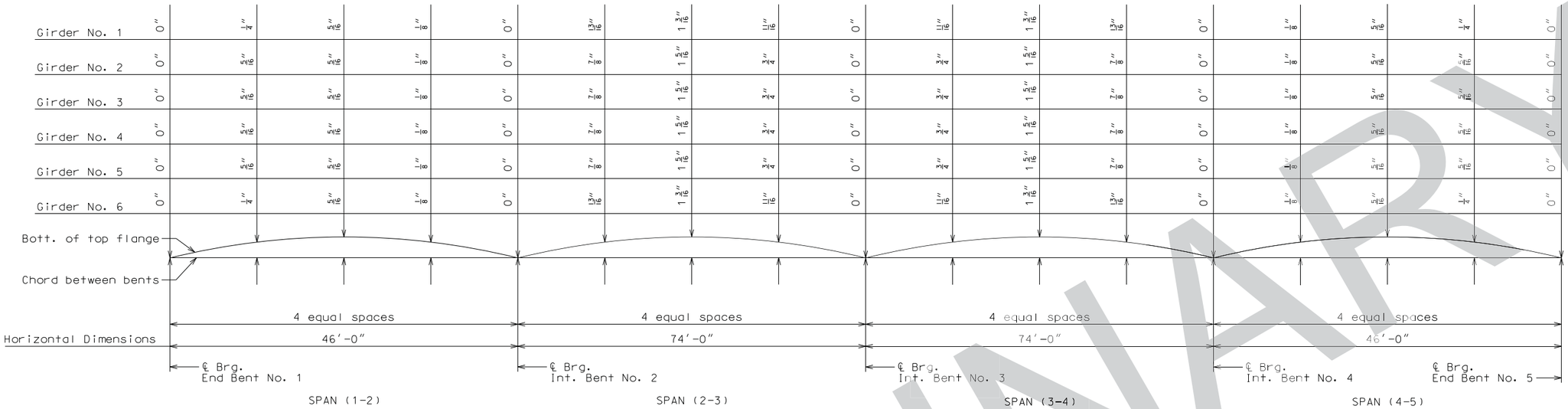


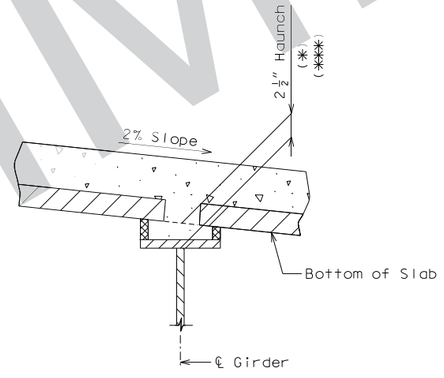
CAMBER DIAGRAM

Note: Camber includes allowance for vertical curve and dead load deflection due to structural steel, concrete slab and barrier curbs.

Theoretical Bottom of Slab Elevations at CL of Girder (Prior to Forming for Slab) * *

	℄ brg.	.25	.5	.75	℄ brg.
	Span (1-2) (46'-0" ℄ brg - ℄ brg.)				
Girder No. 1	397.28	397.30	397.31	397.30	397.30
Girder No. 2	397.46	397.48	397.49	397.48	397.47
Girder No. 3	397.64	397.66	397.67	397.66	397.64
Girder No. 4	397.65	397.67	397.67	397.65	397.64
Girder No. 5	397.47	397.49	397.49	397.47	397.46
Girder No. 6	397.30	397.31	397.31	397.29	397.27
	Span (2-3) (74'-0" ℄ brg - ℄ brg.)				
	℄ brg.	.25	.5	.75	℄ brg.
Girder No. 1	397.30	397.31	397.29	397.21	397.11
Girder No. 2	397.47	397.49	397.47	397.38	397.27
Girder No. 3	397.64	397.66	397.63	397.54	397.42
Girder No. 4	397.64	397.65	397.62	397.52	397.40
Girder No. 5	397.46	397.46	397.43	397.33	397.21
Girder No. 6	397.27	397.27	397.23	397.13	397.01
	Span (3-4) (74'-0" ℄ brg - ℄ brg.)				
	℄ brg.	.25	.5	.75	℄ brg.
Girder No. 1	397.11	397.05	396.97	396.83	396.65
Girder No. 2	397.27	397.21	397.13	396.98	396.79
Girder No. 3	397.42	397.36	397.28	397.12	396.93
Girder No. 4	397.40	397.33	397.25	397.09	396.90
Girder No. 5	397.21	397.13	397.04	396.88	396.68
Girder No. 6	397.01	396.93	396.83	396.67	396.47
	Span (4-5) (46'-0" ℄ brg - ℄ brg.)				
	℄ brg.	.25	.5	.75	℄ brg.
Girder No. 1	396.65	396.55	396.46	396.35	396.22
Girder No. 2	396.79	396.69	396.60	396.49	396.36
Girder No. 3	396.93	396.83	396.74	396.62	396.49
Girder No. 4	396.90	396.80	396.70	396.58	396.44
Girder No. 5	396.68	396.58	396.48	396.36	396.22
Girder No. 6	396.47	396.36	396.26	396.14	396.00

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



THEORETICAL SLAB HAUNCH

(*) Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more or less than the values in the Steel Deflection Diagram.

No payment will be made for any adjustment in forming or additional concrete required for variation in haunching.

(***) To allow a constant step elevation at the middle of bent cap at Bents No. 3, 4 & 5, the haunch at Girder No. 3 shall be increased by the following amounts:

Bent	Increase Haunch at Girder No. 3
3	¼"
4	⅜"
5	½"

CAMBER AND SLAB ELEVATIONS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	22

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION	DATE

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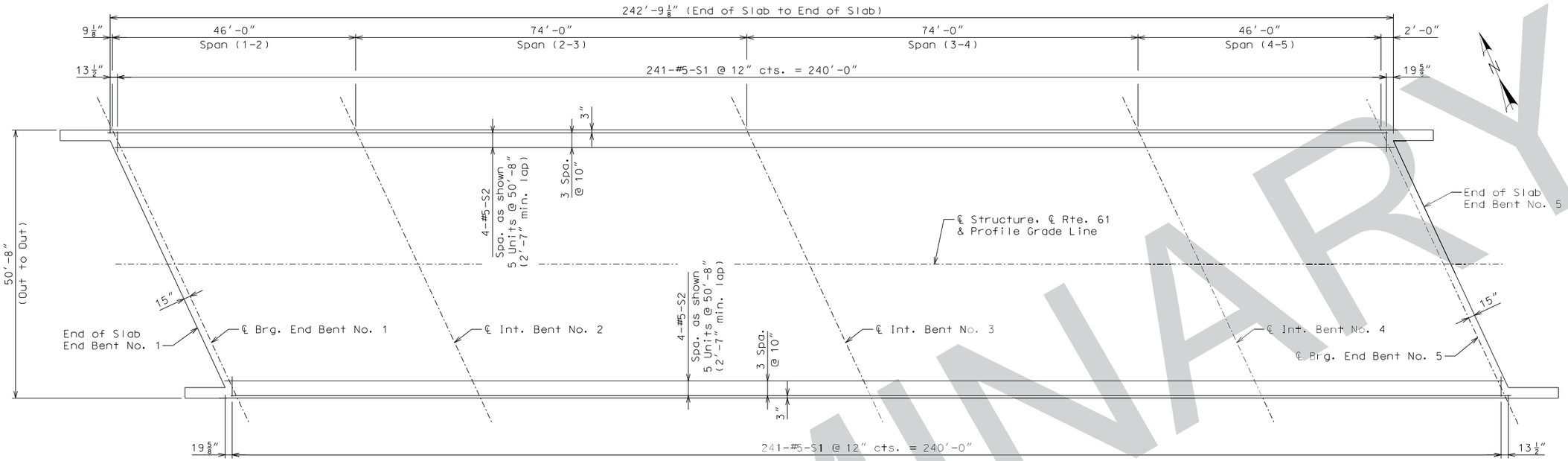
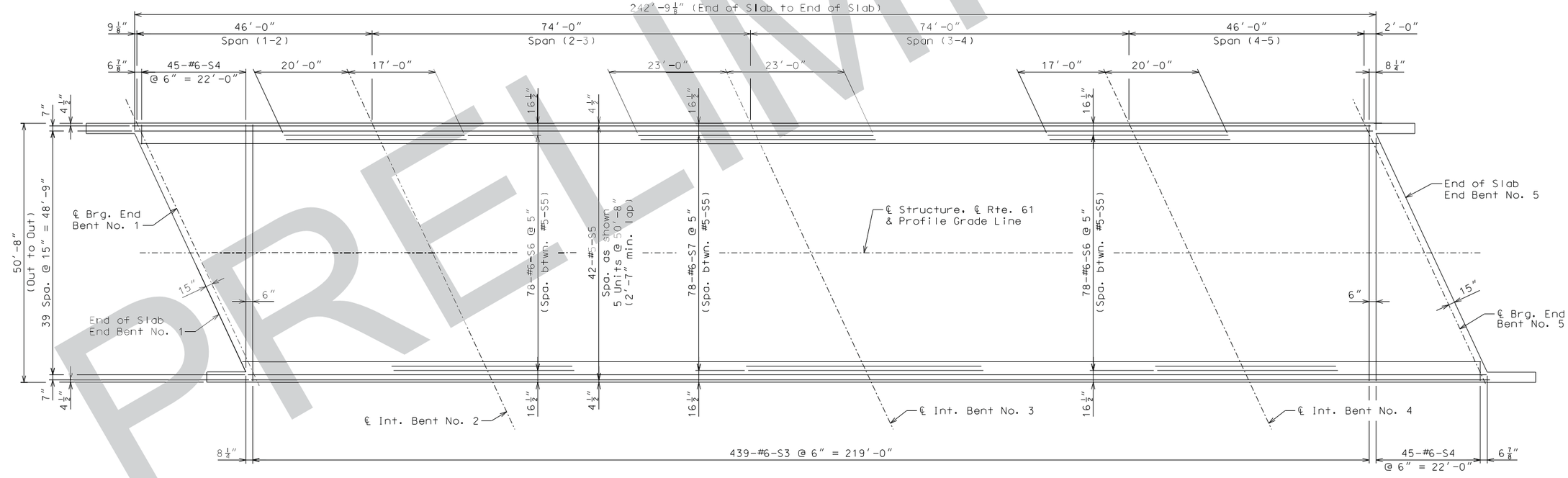


BOTTOM REINFORCEMENT



TOP REINFORCEMENT

PLAN OF SLAB REINFORCEMENT

Notes:
Dimensions shown are horizontal.
For Typical Slab Section, see Sheet No. 24.

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	23

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
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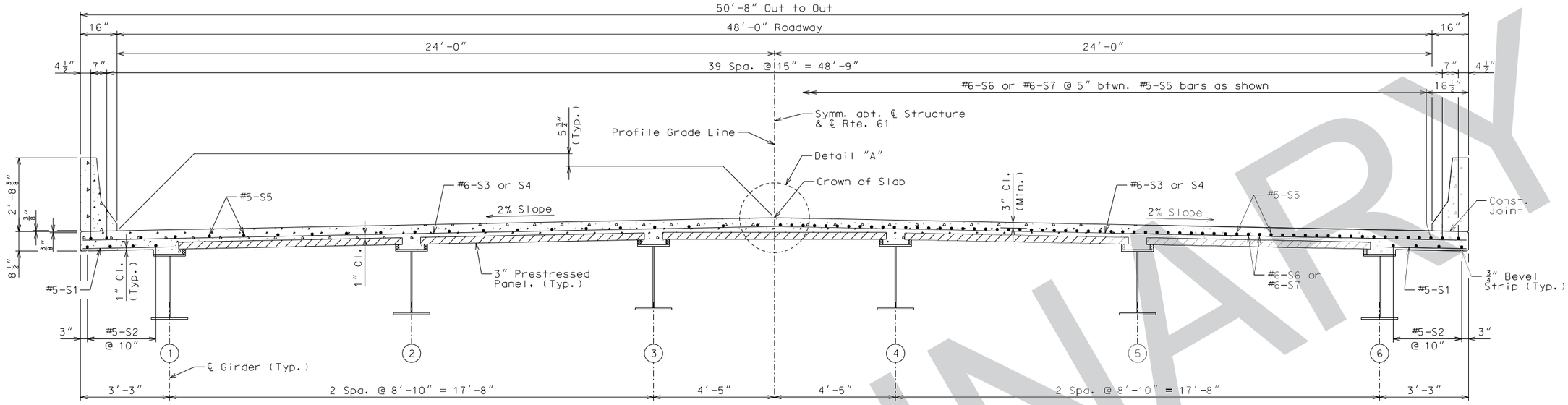
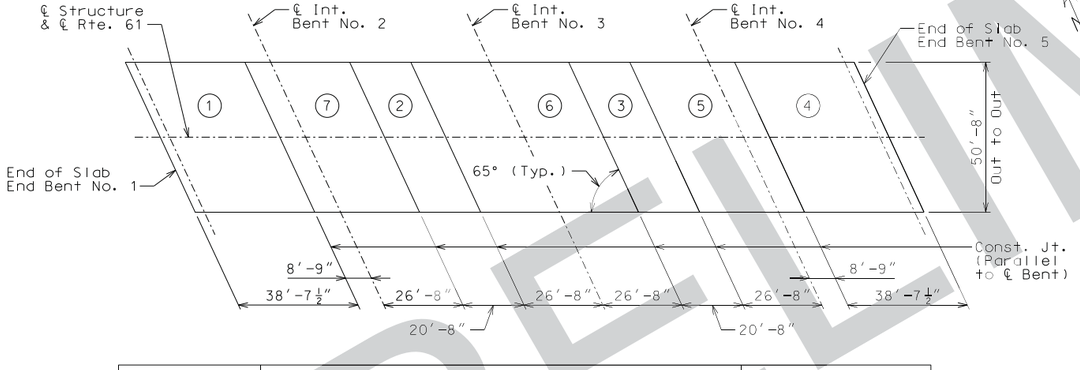


HALF SECTION NEAR ℄ SPAN

HALF SECTION NEAR INTERMEDIATE BENT

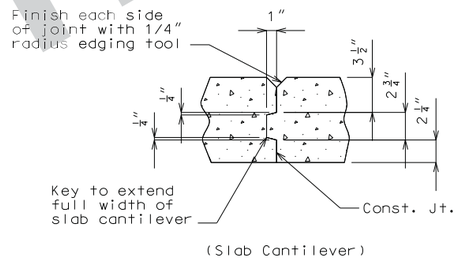


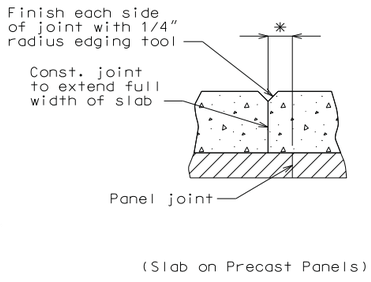
	Sequence of Pours							Min. rate of pour cu. yds./hr.	
	Direction							With retarder	No retarder
Basic sequence	1	2	3	4	5	6	7	25	25
	Either direction								
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.									
Alternate "A" pours	1		7 + 2		6 + 3		5 + 4	25	25
	End to 7		1 to 6		2 to 5		3 to end		
Alternate "B" pours	1 + 7 + 2			6 + 3		5 + 4		25	25
	End to 6			2 to 5		3 to end			
Alternate "C" pours	1 + 7 + 2				6 + 3 + 5 + 4			25	37
	End to 6				2 to end				
Alternate "D" pours	1 + 7 + 2 + 6 + 3 + 5 + 4							25	37
	End to end								

Note: The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

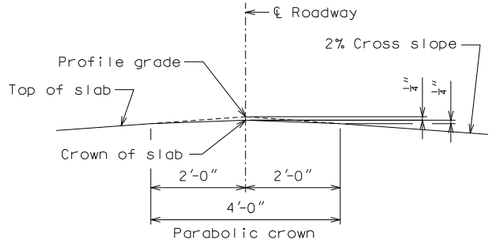
SLAB POURING SEQUENCE

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





SLAB CONSTRUCTION JOINT DETAILS



DETAIL "A"

Notes:

Longitudinal dimensions shown are horiztal.

For Plan of Slab Reinforcement, see Sheet No. 23.

For Theoretical Bottom of Slab Elevations, see Sheet No. 22.

For details and reinforcement of Safety Barrier Curb, see Sheet No. 26.

For details of Precast Prestressed Panels, see Sheet No. 30.

For details and location of slab drains, see Sheet No. 25.

TYPICAL SLAB SECTION AND DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

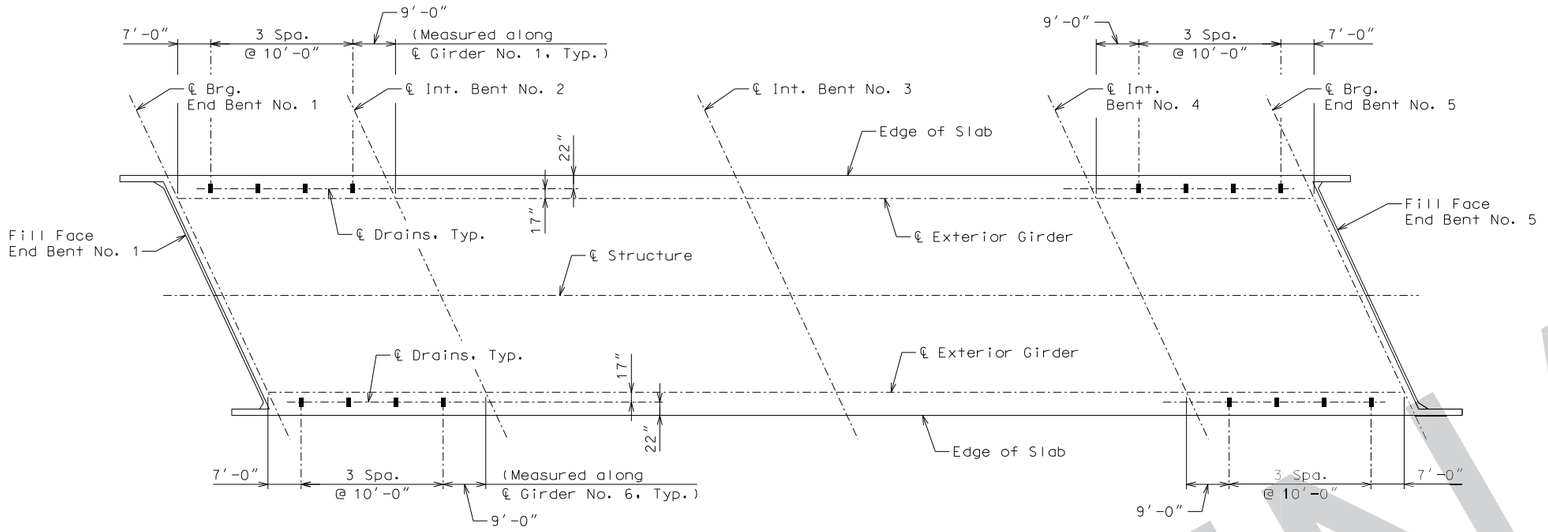
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	24

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

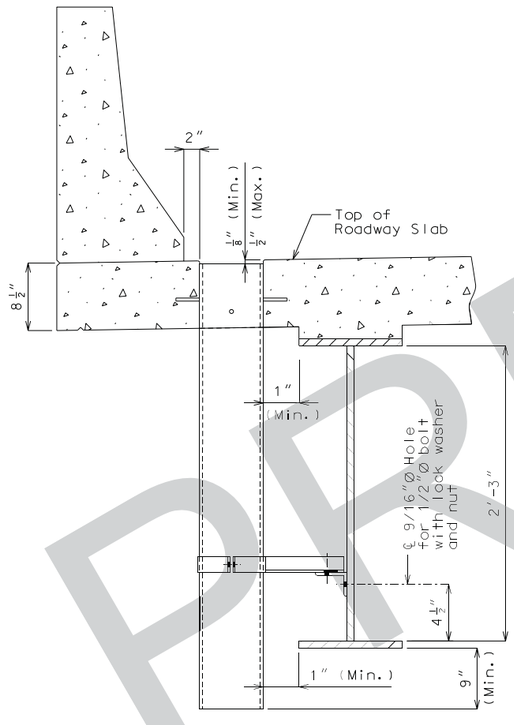
DESCRIPTION	DATE

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

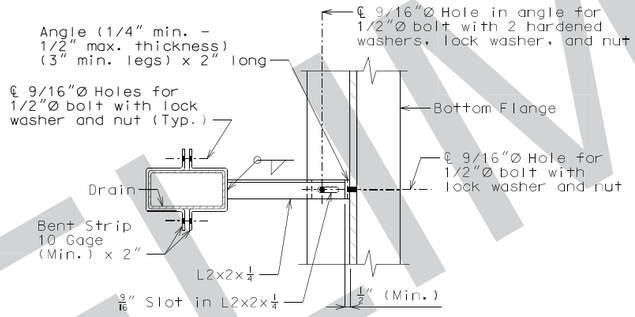
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



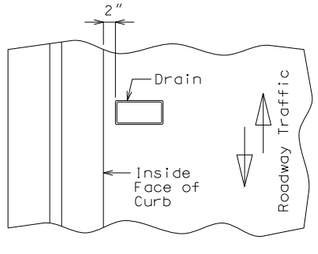
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



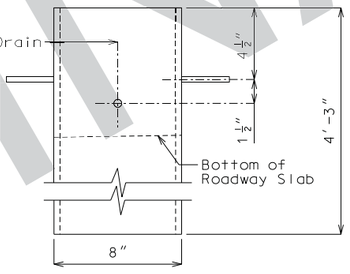
PART SECTION NEAR DRAIN



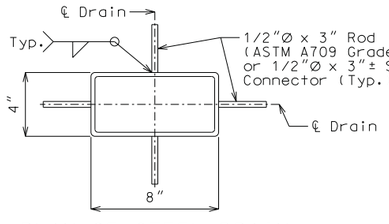
PART SECTION SHOWING BRACKET ASSEMBLY



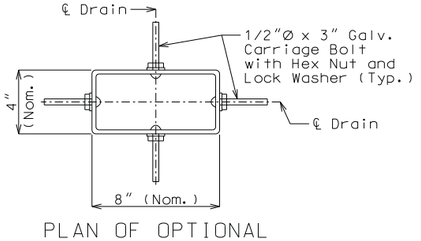
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN



PLAN OF OPTIONAL FRP DRAIN

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 ASTM A153.

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

The bolt hole for the bracket assembly attachment shall be located on the plate girder shop drawings.

NOTES FOR STEEL DRAIN:

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

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

NOTES FOR FRP DRAIN:

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

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

Minimum reinforced wall thickness shall be 1/4 inch.

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

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

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

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

No additional payment will be made for this substitution.

STATE OF MISSOURI
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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	25

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

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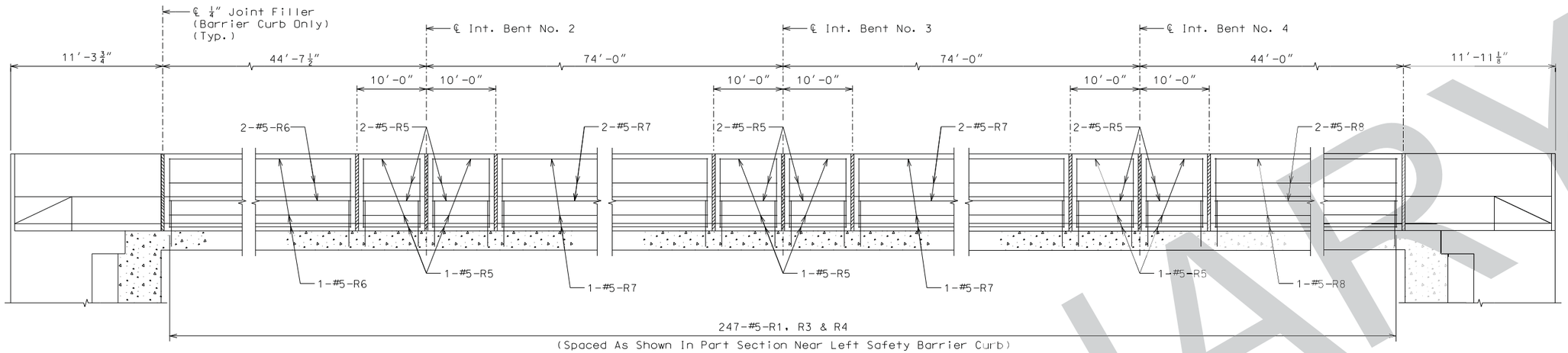
SLAB DRAIN DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

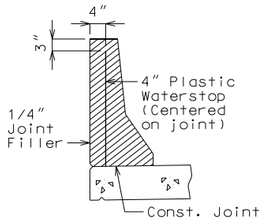
Note: This drawing is not to scale. Follow dimensions.

c:\pwworking\oma\d2187466\B_A8436_25_J0I0956.dgn 9:35:42 AM 11/14/2016



ELEVATION OF SAFETY BARRIER CURB

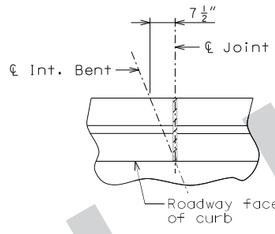
(Left barrier curb shown, right barrier curb similar)
Longitudinal dimensions are horizontal.



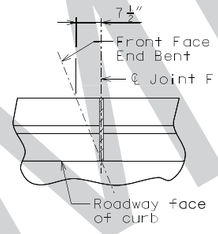
PLASTIC WATERSTOP DETAIL

Plastic waterstop shall be placed in all safety barrier curb filled joints, except structures with superelevation, use on all lower safety barrier curb joints only.

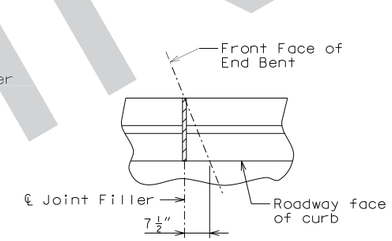
Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.



(AT INTERMEDIATE BENT)

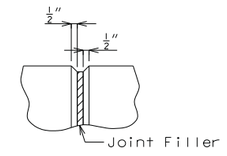


(AT END BENT 1)

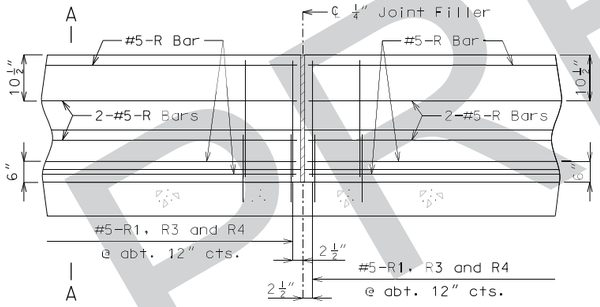


(AT END BENT 5)

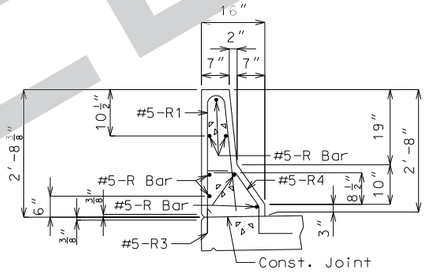
PART PLAN SHOWING SAFETY BARRIER CURB JOINT



FILLED JOINT DETAIL



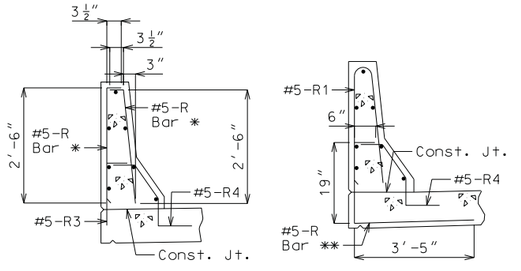
PART ELEVATION OF SAFETY BARRIER CURB (CAST-IN-PLACE CONVENTIONAL FORMING)



SECTION A-A

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

The cross-sectional area above the slab = 2.27 sq. ft.



R-BAR PERMISSIBLE ALTERNATE SHAPE

* 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.)

** The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.

General Notes

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

SAFETY BARRIER CURB DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

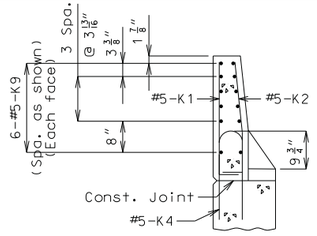
ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	26

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

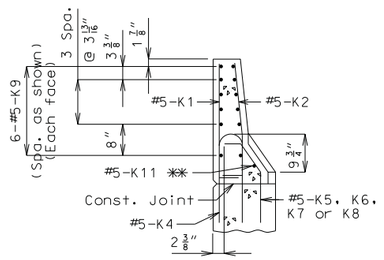
DESCRIPTION | DATE

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

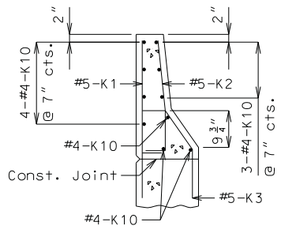
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



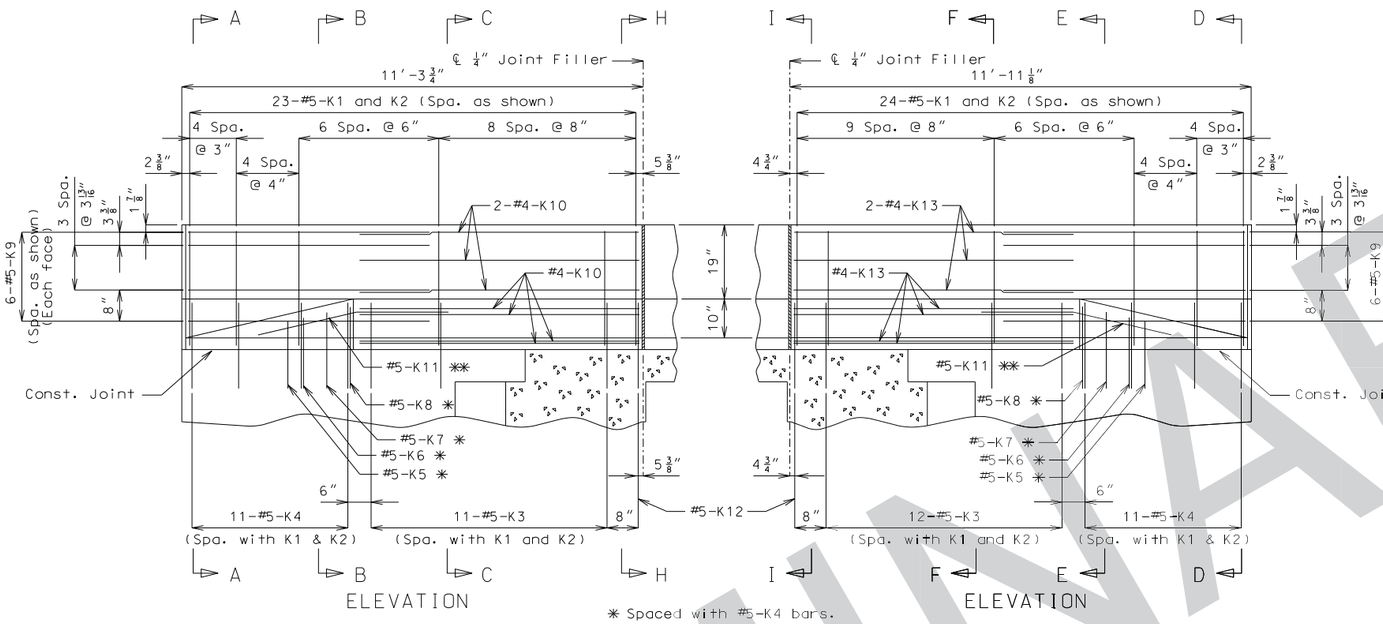
SECTION A-A



SECTION B-B



SECTION C-C

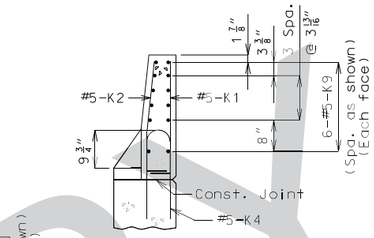


ELEVATION

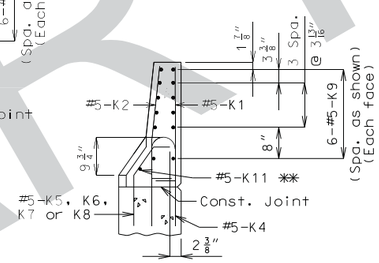
ELEVATION

* Spaced with #5-K4 bars.

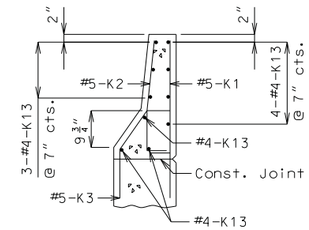
** Fit bar to follow transition face of curb.



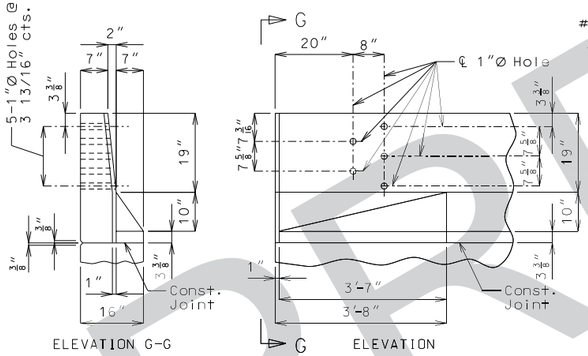
SECTION D-D



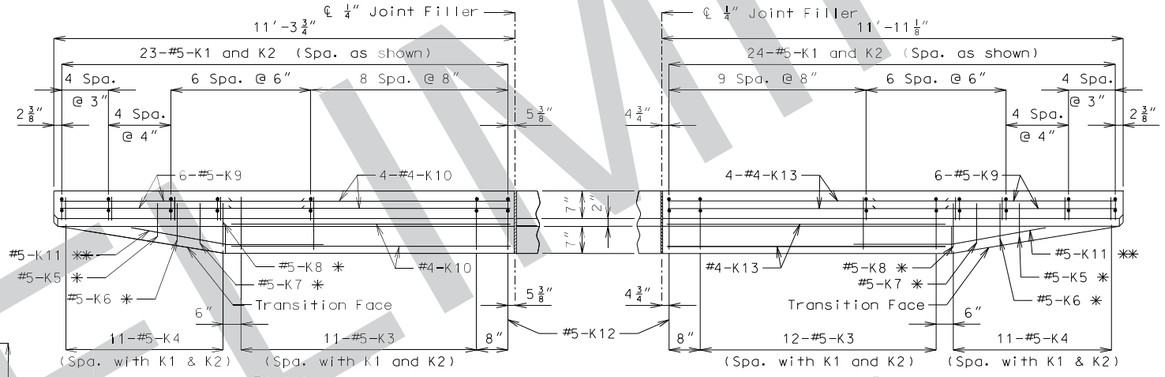
SECTION E-E



SECTION F-F

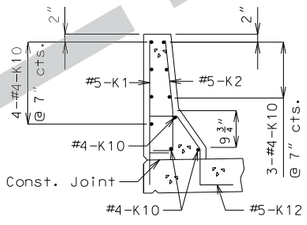


DETAILS OF GUARD RAIL ATTACHMENT

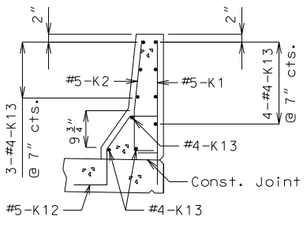


PLAN

PLAN



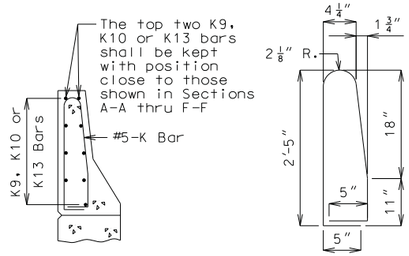
SECTION H-H



SECTION I-I

Note: Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.



K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE

(K3 or K4 thru K8 bars not shown for clarity)

The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.

DETAILS OF SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	27

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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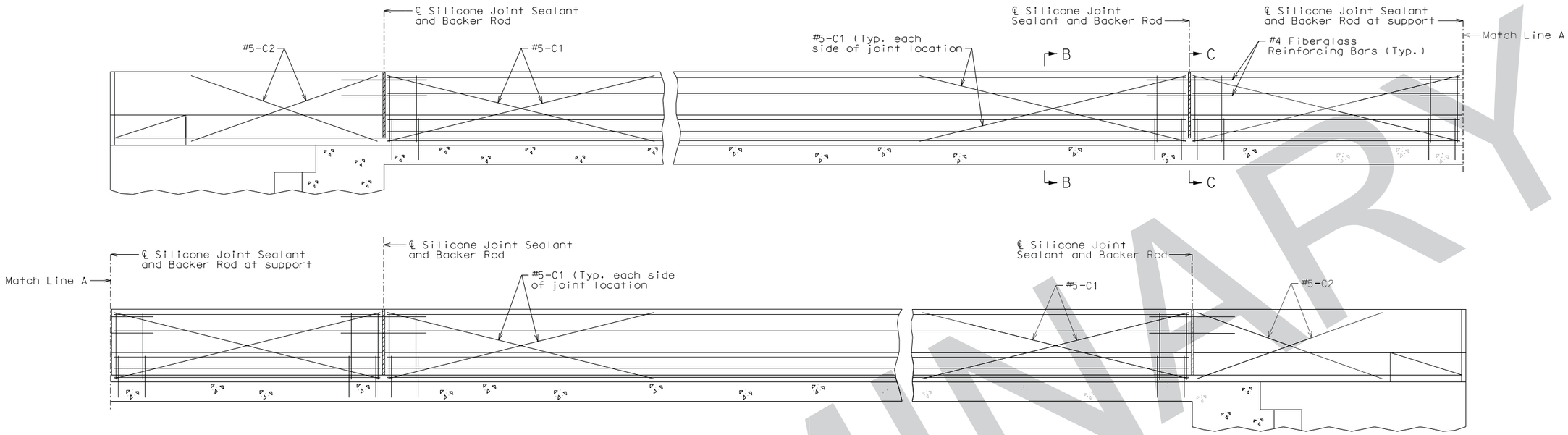
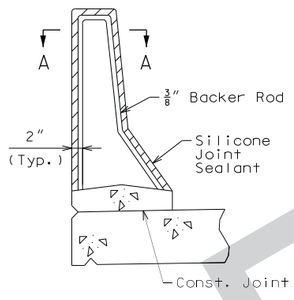
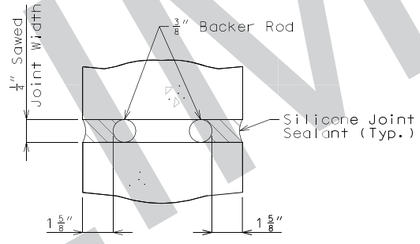
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



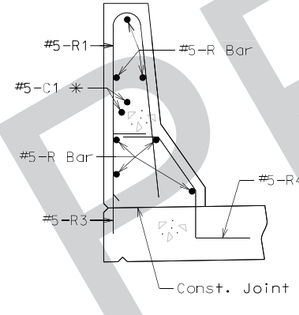
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



SECTION THRU JOINT

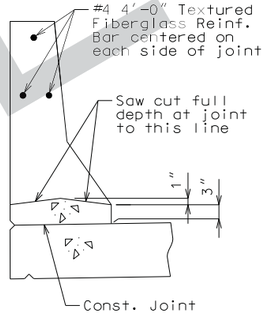


SECTION A-A



SECTION B-B

* Each side of joint location.



SECTION C-C

OPTIONAL SLIP-FORM SAFETY BARRIER CURB

General Notes:

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

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

Joint sealant and backer rods shall be used on all slip-form barrier curbs instead of joint filler and shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with slip-form option.

For slip-form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C bars (slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

Cost of silicone joint sealant and backer rod, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

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ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	28

COUNTY: SCOTT

JOB NO.: J0I0956

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A8436

DESCRIPTION	DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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

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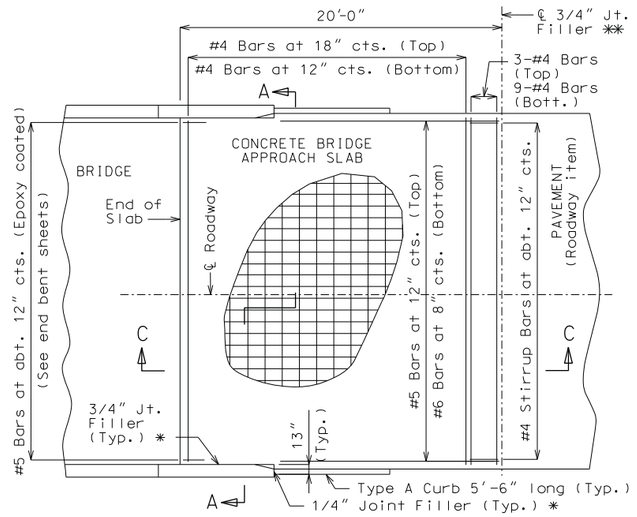
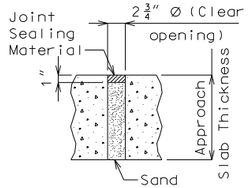
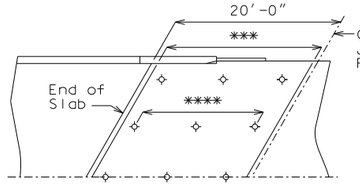


PART PLAN OF SQUARED STRUCTURE



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



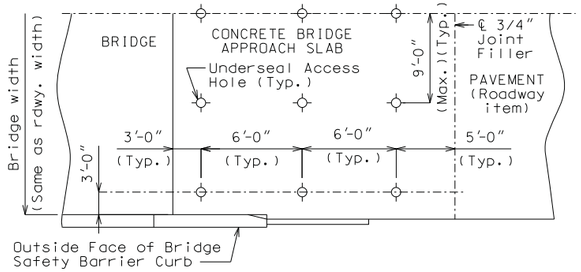
LEFT ADVANCED STRUCTURE SHOWN, RIGHT ADVANCED SIMILAR

PART PLAN OF SKEWED STRUCTURE

** Except not allowed with asphalt pavement.

*** Transverse reinforcing bars shall be placed parallel to end bents.

**** Underseal access holes shall be laid out parallel to end bents.



PART PLAN SHOWING UNDERSEAL ACCESS HOLES
(Squared structure shown)

General Notes:

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

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

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

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

☐ Concrete Bridge Approach Slab

☐ Asphalt Bridge Approach Slab

Notes For Concrete Slab Only:

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

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

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

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

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23".

Mechanical bar splices shall be in accordance with Sec 710.

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

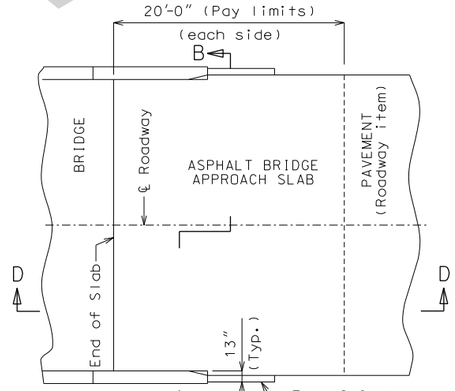
Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered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

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

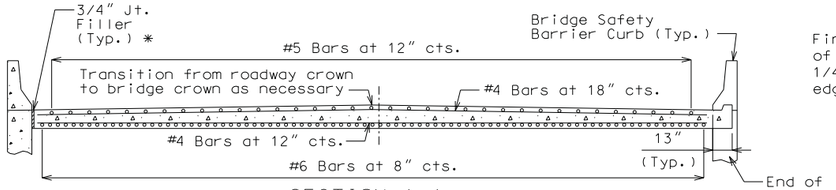
* Seal joint between vertical face of bridge approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

Notes For Asphalt Slab Only:

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

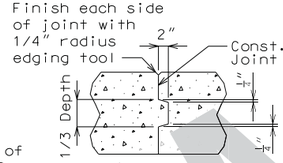


PART PLAN
(Squared structure shown, skewed structure similar)

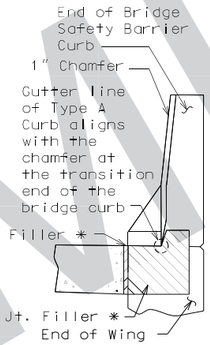


SECTION A-A

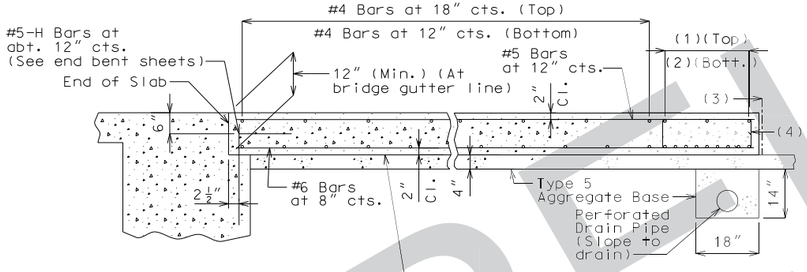
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



CONCRETE CONST. JOINT DETAIL
(If required)



4" TYPE A CURB



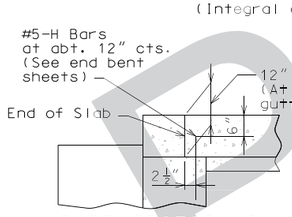
SECTION C-C
(Integral end bent)

(1) 3-#4 Bars

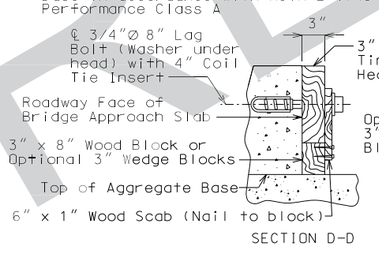
(2) 9-#4 Bars

(3) ℄ 3/4" Jt. Filler **

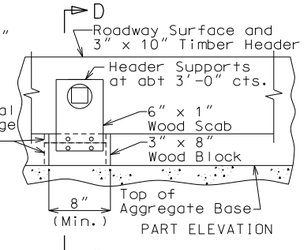
(4) #4 Stirrup Bars at abt. 12" cts.: 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.



PART SECTION C-C
(Non-integral end bent)



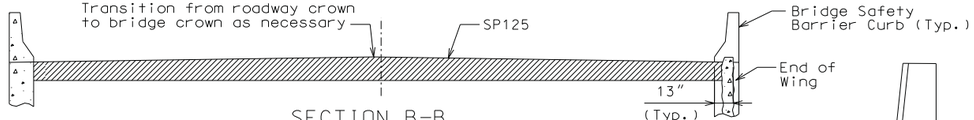
SECTION D-D



PART ELEVATION

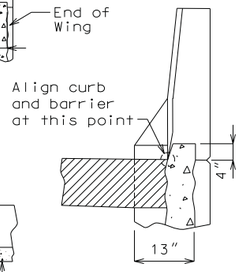
DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

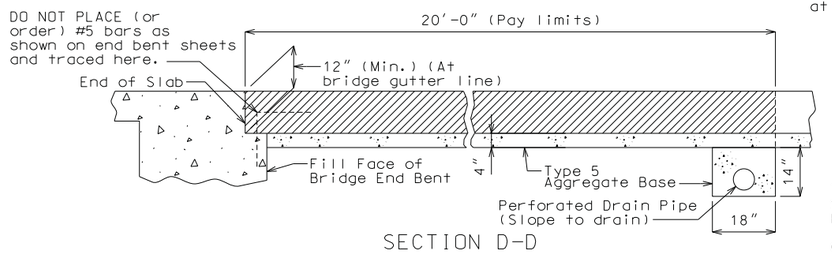


SECTION B-B

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



4" TYPE S CURB
See Missouri Standard Plans Drawing 609.00 for details of Type S Curb.



SECTION D-D
(Integral end bent shown, non-integral end bent similar)

OPTIONAL ASPHALT SLAB (EXCEPT NOT ALLOWED WITH CONCRETE PAVEMENT)

APPROACH SLAB DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

Sheet No. 29 of 38

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	29

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

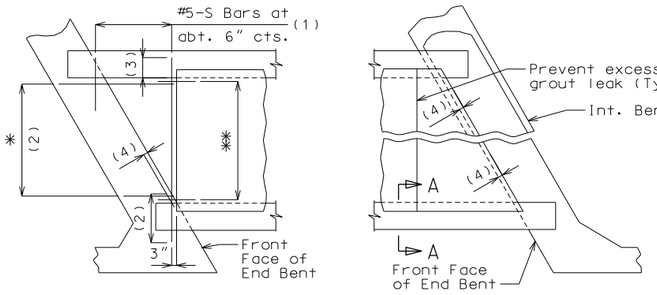
BRIDGE NO. A8436

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

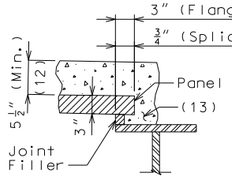
c:\pwworking\oma\d2187466\B_A8436_29_J0I0956.dgn 9:39:28 AM 11/14/2016



SQUARED END PANELS (INTEGRAL) SKEWED END PANELS (INTEGRAL)

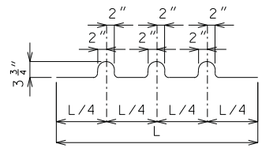
PLAN SHOWING PANELS PLACEMENT

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



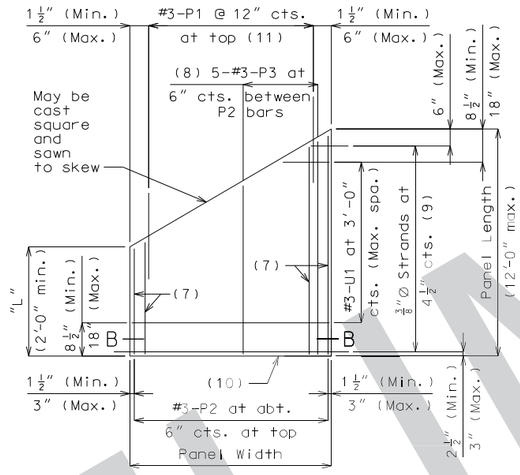
SECTION A-A

Joint Filler Dimensions			
Loc.	Width (W)	Height (H) Min.	Max.
Flange	1½"	1"	2"
Splice Plate	¾"	¼"	1"

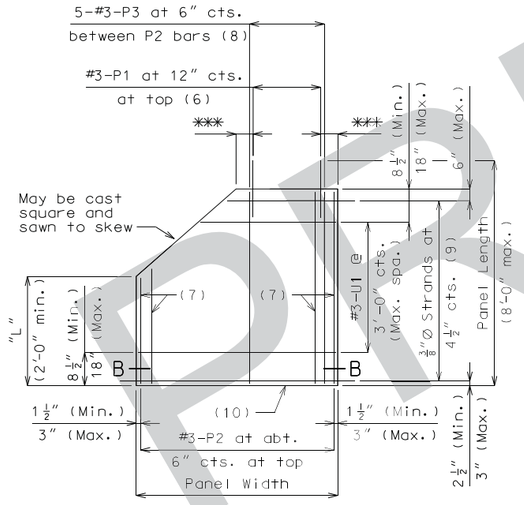


BENDING DIAGRAM FOR U1 BAR

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

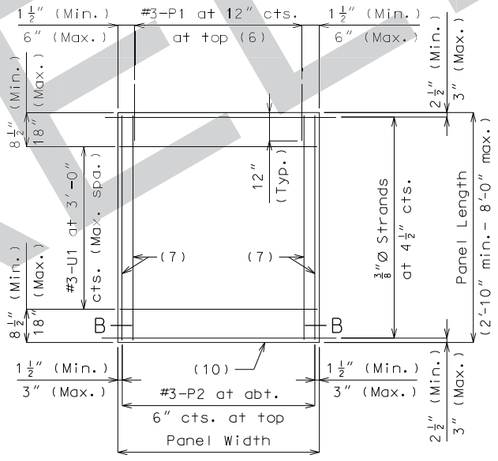


PLAN OF OPTIONAL SKEWED END PANEL

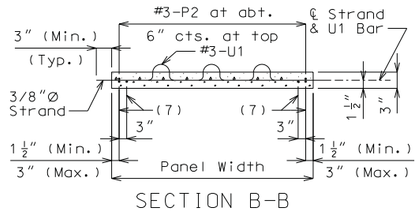


PLAN OF OPTIONAL TRUNCATED END PANEL

✱✱✱ 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL



SECTION B-B

Reference Notes:

Plan of Panels Placement:

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

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

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

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

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

Plans of Panels:

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

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

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

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

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

(11) P1 bars not required for integral end bents.

Section A-A:

(12) Adjustment in the slab thickness, joint filler, or grade will be necessary if the girder camber after erection differs from plan camber by more or less than the values in the Steel Deflection Diagram. No payment will be made for additional labor or materials for the adjustment.

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

General Notes:

Prestressed Panels:

Concrete for prestressed panels shall be Class A-1 with f'c = 6.000 psi, f'ci = 4.000 psi.

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

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

Initial prestressing force = 17.2 kips/strand.

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

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

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

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

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

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

Reinforcing Steel:

All dimensions are out to out.

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

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

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

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

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

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

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

All reinforcement other than prestressing strands shall be epoxy coated.

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

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

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

Joint Filler:

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

The thickness of the joint filler shall be adjusted to achieve the slab haunching dimension found on Sheet No. 22. These adjustments shall be within the limits noted in the table of Joint Filler Dimensions.

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

The same thickness of material shall be used under any one edge of any panel except at splices, and the maximum change in thickness between adjacent panels shall be 1/4 inch to correct for variations from Girder Camber Diagram. The polystyrene bedding material may be cut to match haunch height above top of flange.

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

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

PRECAST PRESTRESSED PANEL DETAILS

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED: 11/14/2016
ROUTE: I-55 | STATE: MO
DISTRICT: BR | SHEET NO.: 30
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION | DATE

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

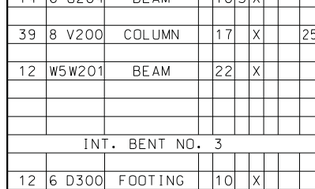
HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
SUBSTRUCTURE																												
INT. BENT NO. 2																												
12	6	D200	FOOTING		10		X					4	1.500	7	6.000									15	9	15	5	278
42	6	D201	FOOTING		20		X			8	3.000													8	3	8	3	520
48	6	D202	FOOTING		20		X			6	9.000													6	9	6	9	487
6	9	H200	BEAM		20		X			52	0.000													52	0	52	0	1061
10	6	H201	BEAM		20		X			52	0.000													52	0	52	0	781
8	11	H202	BEAM		18		X			52	0.000													55	2	55	2	2345
8	6	H203	BEAM		20		X			12	11.000													12	11	12	11	155
3	4	P200	COLUMN		35	S	X			2	9.000		4.000	20	4.500									554	0	545	7	1093
33	4	P201	COLUMN		34	S	X			2	9.000													9	5	9	3	204
66	5	U200	BEAM		13	S	X			3	3.000	3	9.000	3	3.000	3	9.000							14	11	14	7	1004
8	5	U201	BEAM		10	S	X					3	9.000	3	3.000									10	9	10	7	88
20	5	U202	BEAM		13	S	X			3	3.000	4	1.500	3	3.000	4	1.500							15	8	15	4	320
4	5	U203	BEAM		10	S	X					4	1.500	3	3.000									11	6	11	4	47
14	6	U204	BEAM		10	S	X						22.000	3	1.750									6	10	6	6	137
39	8	V200	COLUMN		17		X			25	5.000													26	4	26	4	2742
12	W5	W201	BEAM		22		X				18.000		9.125											26	1	26	1	53
INT. BENT NO. 3																												
12	6	D300	FOOTING		10		X					4	1.500	7	6.000									15	9	15	5	278
42	6	D301	FOOTING		20		X			8	3.000													8	3	8	3	520
48	6	D302	FOOTING		20		X			6	9.000													6	9	6	9	487
6	9	H300	BEAM		20		X			52	0.000													52	0	52	0	1061
10	6	H301	BEAM		20		X			52	0.000													52	0	52	0	781
8	11	H302	BEAM		18		X			52	0.000													55	2	55	2	2345
8	6	H303	BEAM		20		X			12	11.000													12	11	12	11	155
3	4	P300	COLUMN		35	S	X			2	9.000		4.000	18	7.500									508	8	500	11	1004
33	4	P301	COLUMN		34	S	X			2	9.000													9	5	9	3	204
66	5	U300	BEAM		13	S	X			3	3.000	3	9.000	3	3.000	3	9.000							14	11	14	7	1004
8	5	U301	BEAM		10	S	X					3	9.000	3	3.000									10	9	10	7	88
20	5	U302	BEAM		13	S	X			3	3.000	4	1.750	3	3.000	4	1.750							15	9	15	5	322
4	5	U303	BEAM		10	S	X					4	1.750	3	3.000									11	7	11	5	48
14	6	U304	BEAM		10	S	X						22.000	3	1.750									6	10	6	6	137
39	8	V300	COLUMN		17		X			23	8.000													24	7	24	7	2560
12	W5	W301	BEAM		22		X				18.000		9.125											26	1	26	1	53

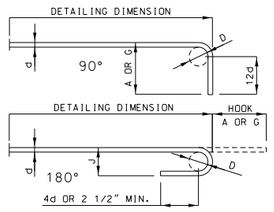
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
SUBSTRUCTURE (CONT.)																												
INT. BENT NO. 4																												
12	6	D400	FOOTING		10		X					4	1.500	7	6.000									15	9	15	5	278
42	6	D401	FOOTING		20		X			8	3.000													8	3	8	3	520
48	6	D402	FOOTING		20		X			6	9.000													6	9	6	9	487
6	9	H400	BEAM		20		X			52	0.000													52	0	52	0	1061
10	6	H401	BEAM		20		X			52	0.000													52	0	52	0	781
8	11	H402	BEAM		18		X			52	0.000													55	2	55	2	2345
8	6	H403	BEAM		20		X			12	11.000													12	11	12	11	155
3	4	P400	COLUMN		35	S	X			2	9.000		4.000	19	7.500									534	0	526	6	1055
33	4	P401	COLUMN		34	S	X			2	9.000													9	5	9	3	204
66	5	U400	BEAM		13	S	X			3	3.000	3	9.000	3	3.000	3	9.000							14	11	14	7	1004
8	5	U401	BEAM		10	S	X					3	9.000	3	3.000									10	9	10	7	88
20	5	U402	BEAM		13	S	X			3	3.000	4	2.125	3	3.000	4	2.125							15	9	15	5	322
4	5	U403	BEAM		10	S	X					4	2.125	3	3.000									11	7	11	5	48
14	6	U404	BEAM		10	S	X						22.000	3	1.750									6	10	6	6	137
39	8	V400	COLUMN		17		X			24	8.000													25	7	25	7	2664
12	W5	W401	BEAM		22		X				18.000		9.125											26	1	26	1	53
SUPERSTRUCTURE																												
END BENT NO. 1																												
8	6	F100	BRACE		9						14.000	3	11.000		14.000					2	1.125	3	3.625	6	3	6	2	74
3	6	F101	DIAPHRAGM		21					3	0.000			5	1.000					2	9.000		15.375	8	1	7	9	35
8	6	F102	BRACE		9						14.000	6	1.500		14.000					5	2.000	3	3.500	8	6	8	6	102
3	6	F103	DIAPHRAGM		21					3	0.000			5	1.000					2	9.000		15.375	8	1	7	9	35
8	7	H100	BEAM		20					55	7.000													55	7	55	7	909
4	6	H101	BEAM		20					55	7.000													55	7	55	7	334
4	6	H102	BEAM		20					12	8.000													12	8	12	8	76
6	6	H103	DIAPHRAGM		20					55	7.000													55	7	55	7	501
4	7	H104	SLAB	E	20					55	7.000													55	7	55	7	454
53	5	H105	DIAPHRAGM	E	19					2	0.000		15.000											3	3	3	1	170
8	6	H106	WING		19						12.000	9	5.500											10	6	10	4	124
8	6	H107	WING		20					9	11.000													9	1	9	11	119
1	8	H108	WING	E	19						16.000	10	5.500											11	10	11	8	31
3	8	H109	WING		19						16.000	10	5.500											11	10	11	8	93
1	8	H110	WING	E	20					10	11.000													10	11	10	11	29
3	8	H111	WING		20					10	11.000													10	11	10	11	87
8	6	H112	WING		19						12.000	9	3.500											10	4	10	2	122
8	6	H113	WING		20					8	10.000													8	10	8	10	106
1	8	H114	WING	E	19						16.000	10	3.500											11	8	11	6	31
3	8	H115	WING		19						16.000	10	3.500											11	8	11	6	92
1	8	H116	WING	E	20					9	10.000													9	10	9	10	26
3	8	H117	WING		20					9	10.000													9	10	9	10	79



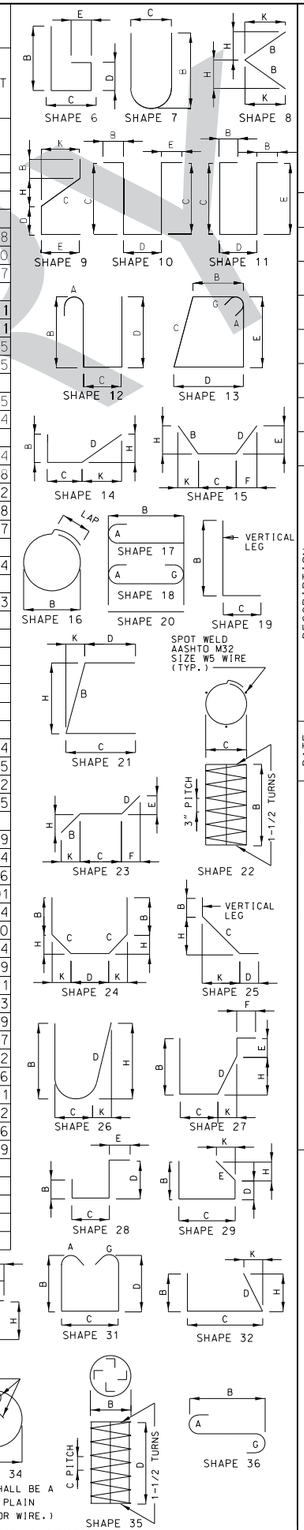
STIRRUP HOOK DIMENSIONS					
GRADES 40 - 50 - 60 KSI					
BAR SIZE	D (IN.)	90° HOOK		135° HOOK	
		HOOK A OR G		HOOK A OR G	APPROX. H
#4	2"	4 1/2"		4 1/2"	3"
#5	2 1/2"	6"		5 1/2"	3 3/4"
#6	4 1/2"	12"		8"	4 1/2"

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



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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.



BENDING DIAGRAMS

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED: 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	31

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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

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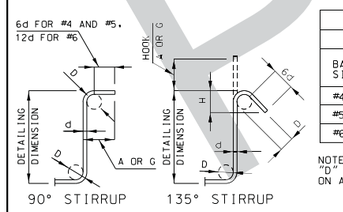
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
SUPERSTRUCTURE (CONT.)																												
END BENT NO. 1 (CONT.)																												
47	5	U100	BEAM		10	S						5	0.000	3	0.000									13	0	12	10	629
12	4	U101	BEAM		13	S				3	0.000	2	8.000	3	0.000	2	8.000							12	1	11	10	95
2	4	U102	BEAM		10	S						2	8.000	3	0.000									8	4	8	2	11
7	4	U103	BEAM		10	S						3	0.375	3	0.000									9	1	8	11	42
58	5	U104	DIAPHRAGM	E	10	S						2	9.375	2	5.750									8	1	7	11	479
58	6	U105	DIAPHRAGM		19	S					19.875	3	0.000											4	8	4	6	392
71	6	U106	SLAB	E	19	S				3	1.625	4	9.500											7	11	7	9	826
22	5	V100	BEAM		20					4	11.000													4	11	4	11	113
21	6	V101	DIAPHRAGM		20						19.000													1	7	1	7	50
36	6	V102	WING		20					6	0.000													6	0	6	0	324
END BENT NO. 5																												
8	6	F500	BRACE		9						14.000	3	11.000		14.000					2	1.125	3	3.625	6	3	6	2	74
3	6	F501	DIAPHRAGM		21					3	0.000			5	1.000					2	9.000	15	375	8	1	7	9	35
8	6	F502	BRACE		9						14.000	6	1.500		14.000					5	2.000	3	3.500	8	6	8	6	102
3	6	F503	DIAPHRAGM		21					3	0.000			5	1.000					2	9.000	15	375	8	1	7	9	35
8	7	H500	BEAM		20					55	7.000													55	7	55	7	909
4	6	H501	BEAM		20					55	7.000													55	7	55	7	334
4	6	H502	BEAM		20					12	8.000													12	8	12	8	76
6	6	H503	DIAPHRAGM		20					55	7.000													55	7	55	7	501
4	7	H504	SLAB	E	20					55	7.000													55	7	55	7	454
53	5	H505	DIAPHRAGM	E	19					2	0.000		15.000											3	3	3	1	170
8	6	H506	WING		19						12.000	9	5.500											10	6	10	4	124
8	6	H507	WING		20					9	11.000													9	11	9	11	119
1	8	H508	WING	E	19						16.000	10	5.500											11	10	11	8	31
3	8	H509	WING		19						16.000	10	5.500											11	10	11	8	93
1	8	H510	WING	E	20					10	11.000													10	11	10	11	29
3	8	H511	WING		20					10	11.000													10	11	10	11	87
8	6	H512	WING		19						12.000	9	3.500											10	4	10	2	122
8	6	H513	WING		20					8	10.000													8	10	8	10	106
1	8	H514	WING	E	19						16.000	10	3.500											11	8	11	6	31
3	8	H515	WING		19						16.000	10	3.500											11	8	11	6	92
1	8	H516	WING	E	20					9	10.000													9	10	9	10	26
3	8	H517	WING		20					9	10.000													9	10	9	10	79
47	5	U500	BEAM		10	S						4	7.250	3	0.000									12	3	12	1	592
12	4	U501	BEAM		13	S				3	0.000	2	8.000	3	0.000	2	8.000							12	1	11	10	95
2	4	U502	BEAM		10	S						2	8.000	3	0.000									8	4	8	2	11
7	4	U503	BEAM		10	S						3	1.250	3	0.000									9	3	9	1	42
58	5	U504	DIAPHRAGM	E	10	S						2	9.625	2	5.750									8	1	7	11	479
58	6	U505	DIAPHRAGM		19	S					20.250	3	0.000											4	8	4	6	392
71	6	U506	SLAB	E	19	S				3	2.000	4	9.500											8	0	7	10	835
22	5	V500	BEAM		20					5	0.000													5	0	5	0	115
21	6	V501	DIAPHRAGM		20						20.250													1	8	1	8	53
36	6	V502	WING		20					5	11.000													5	11	5	11	320

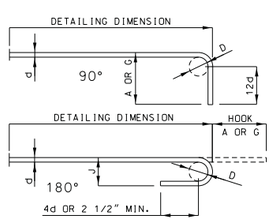
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
SUPERSTRUCTURE (CONT.)																												
SLAB																												
482	5	S1	SLAB	E	20					3	4.000													3	4	3	4	1676
40	5	S2	SLAB	E	20					50	8.000													50	8	50	8	2114
439	6	S3	SLAB	E	20					50	5.000													50	5	50	5	33244
90	6	S4	SLAB	E	20			V	2	49	4.000													49	4	49	4	
			Inc. = 12.875"							2	1.000													2	1	2	1	3475
210	5	S5	SLAB	E	20					50	8.000													50	8	50	8	11098
156	6	S6	SLAB	E	20					37	0.000													37	0	37	0	8670
78	6	S7	SLAB	E	20					46	0.000													46	0	46	0	5389
BARRIER CURB																												
56	5	C1	SLIP FORM	E	20					10	0.000													10	0	10	0	584
8	5	C2	SLIP FORM	E	20					7	10.000													7	10	7	10	65
94	5	K1	BARR.CURB	E	19	S				2	5.000	5	5.125											2	10	2	9	270
94	5	K2	BARR.CURB	E	14	S					5.125	11	5.125	18	0.000						2.000	17	875	2	10	2	9	270
46	5	K3	BARR.CURB	E	27	S				3	4.125	5	5.125	12	0.000	2	6.250				9.875	6	875	7	4	7	2	344
44	5	K4	BARR.CURB	E	7	S				3	4.125	6	0.000											7	0	6	11	317
4	5	K5	BARR.CURB	E	25	S				2	10.625	6	7.750	4	5.375						5.500	4	0.000	3	10	3	9	16
4	5	K6	BARR.CURB	E	25	S				2	9.625	7	7.875	4	5.375						6.500	4	5.000	3	10	3	9	16
4	5	K7	BARR.CURB	E	25	S				2	8.250	9	7.625	4	5.375						7.875	5	5.000	3	10	3	9	16
4	5	K8	BARR.CURB	E	25	S				2	6.875	11	7.250	4	5.375						9.250	6	5.000	3	11	3	10	16
48	5	K9	BARR.CURB	E	20					6	2.000													6	2	6	2	309
20	4	K10	BARR.CURB	E	20					7	6.000													7	6	7	6	100
4	5	K11	BARR.CURB	E	8					2	2.125									2	2.000	2	375	4	4	4	4	18
4	5	K12	BARR.CURB	E	27	S					17.000	5	5.125	12	0.000	7	5.125	12	0.000		9.875	6	875	4	5	4	1	17
20	4	K13	BARR.CURB	E	20					8	2.000													8	2	8	2	109
494	5	R1	BARR.CURB	E	26					2	6.000	4	5.250							2	6.000	3	0.000	5	3	5	3	2705
494	5	R3	BARR.CURB	E	19	S					17.000	6	0.000											1	11	1	10	945
494	5	R4	BARR.CURB	E	27	S						6	0.000	11	5.250	7	0.000	12	0.000		9.250	6	375	3	0	2	10	1460
84	5	R5	BARR.CURB	E	20					9	9.000													9	9	9	9	854
14	5	R6	BARR.CURB	E	20					34	4.000													34	4	34	4	501
28	5	R7	BARR.CURB	E	20					53	9.000																	124
14	5	R8	BARR.CURB	E	20					33	9.000													33	9	33	9	493



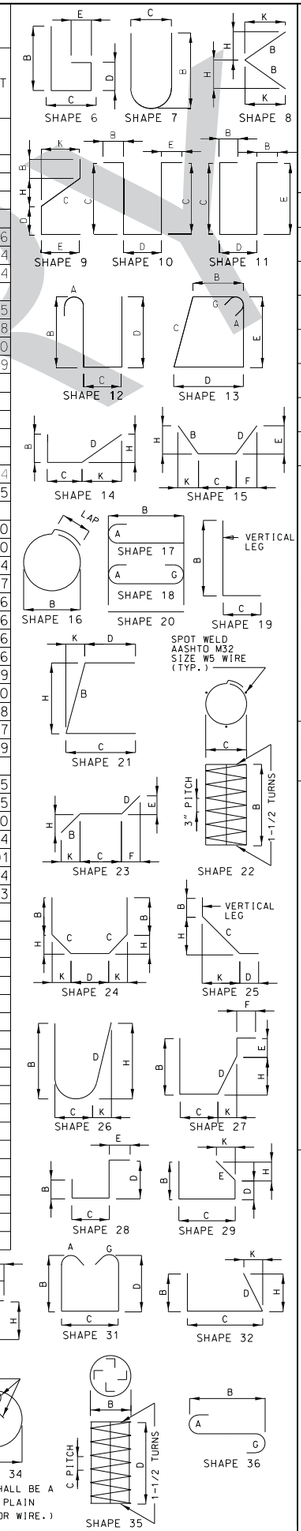
STIRRUP HOOK DIMENSIONS					
GRADES 40 - 50 - 60 KSI					
BAR SIZE	D (IN.)	90° HOOK		135° HOOK	
		HOOK A OR G		HOOK A OR G	APPROX. H
#4	2"	4 1/2"		4 1/2"	3"
#5	2 1/2"	6"		5 1/2"	3 3/4"
#6	4 1/2"	12"		8"	4 1/2"

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



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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.



STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	32

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Detailed: Aug. 2016
Checked: Aug. 2016

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

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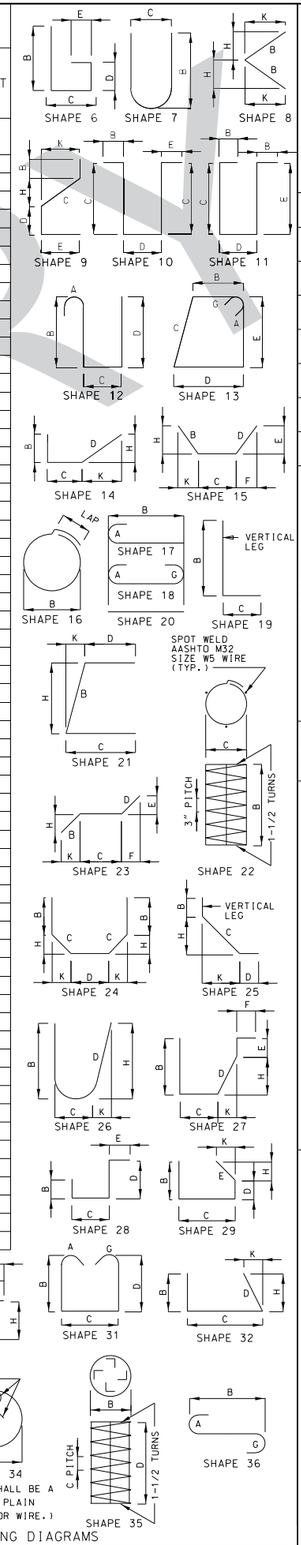
BILL OF REINFORCING STEEL

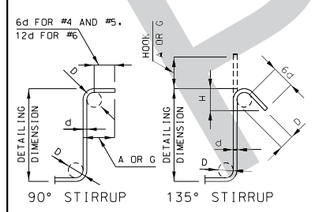
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
BAR SIZE SUMMARY																												
TOTALS																												
	W5																											159
	4																											4060
	4			E																								209
	5																											5832
	5			E																								25526
	6																											12273
	6			E																								52439
	7																											1818
	7			E																								908
	8																											8642
	8			E																								224
	9																											3183
	11																											7035
SLAB ON STEEL																												
	4																											296
	5																											1449
	5			E																								16186
	6																											4787
	6			E																								52439
	7																											1818
	7			E																								908
	8																											702
	8			E																								234
REINFORCING STEEL (BRIDGES)																												
	W5																											159
	4																											3764
	5																											4383
	6																											7074
	8																											7966
	9																											3183
	11																											7035
BARRIER CURB																												
	4			E																								209
	5			E																								8691
SLIP-FORM OPTION																												
	5			E																								649

BILL OF REINFORCING STEEL

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

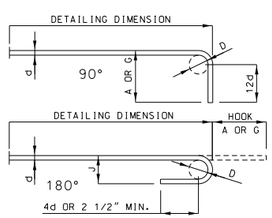


BENDING DIAGRAMS



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

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



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

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	33

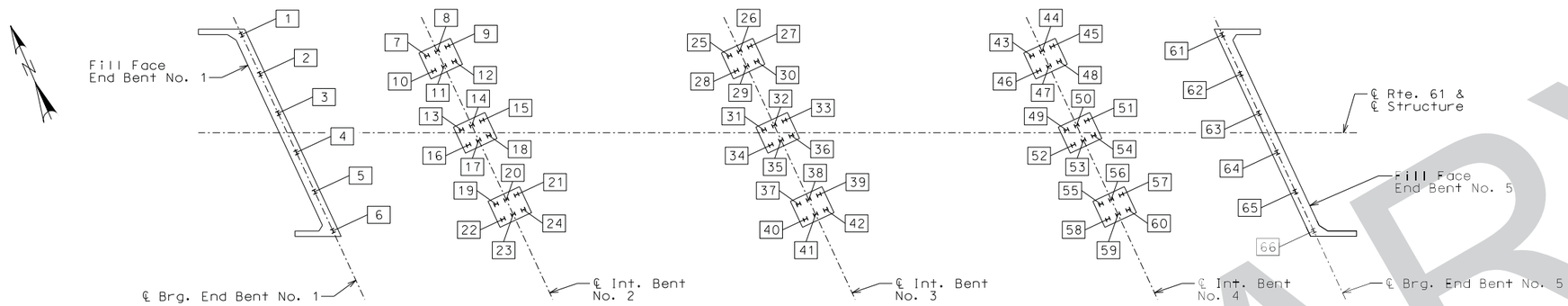
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8436

DESCRIPTION

DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856



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

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

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			

As-Built Pile Data			
	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
61			
62			
63			
64			
65			
66			

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

AS-BUILT PILE DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED
11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	34

COUNTY
SCOTT

JOB NO.
J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A8436

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 395.9 | Completion Date: 4/15/2016
Datum: NAVD88 | Station: 48+10.64 | Offset: 10 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Asphalt pavement				
	Very stiff to soft, brown and gray, silty CLAY - (CL)				
			3-4-5	SS1	
			103	ST2	
			5-6-6	SS3	
			1-4-4	SS4	
			1-2-3	SS5	
			91	ST6	
			0-2-2	SS7	
			1-2-3	SS8	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 28 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8436, West abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8436-B-101

Project No. J026274.01

Surface Elevation: 395.9 | Completion Date: 4/15/2016
Datum: NAVD88 | Station: 48+10.64 | Offset: 10 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Very stiff to soft, brown and gray, silty CLAY - (CL) *(continued)*				
			2-3-5	SS9	
			93	ST10	
	Medium stiff to stiff, gray CLAY - (CH)				
			3-3-4	SS11	
			3-4-5	SS12	
			5-6-8	SS13	
			92	ST14	
			2-2-4	SS15	
	very stiff		6-8-12	SS16	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 28 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8436, West abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8436-B-101

Project No. J026274.01

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 35
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8436

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 395.9 | Completion Date: 4/15/2016
Datum: NAVD88 | Station: 48+10.64 | Offset: 10 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (△ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Medium stiff to stiff, gray CLAY - (CH) *(continued)*				
85			2-1-3	SS17	
90			91	ST18	
95	with gravel		26-28-50	SS19	78 ▲
	Dense, gray, medium, SILTY SAND with gravel - SM		5-7-26	SS20	
100			50/3"	SS21	
105	Moderately hard, tan and gray, medium bedded, moderately to slightly weathered LIMESTONE		100% 60%	NQ1	
	Core loss		78% 58%	NQ2	
110	Moderately hard, gray, medium bedded, slightly weathered, dolomitic LIMESTONE vuggy		100% 64%	NQ3	
	2-inch clay seam				
115	Boring terminated at 113.0 feet.				

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002.WL J026274.01 I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 28 FEET ▽

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8436, West abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8436-B-101

Project No. J026274.01

Surface Elevation: 396.0 | Completion Date: 4/19/2016
Datum: NAVD88 | Station: 50+54.41 | Offset: 10 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (△ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Asphalt pavement Medium stiff to stiff, gray and brown, silty CLAY - (CL)				
5			3-4-4	SS1	
10			3-4-5	SS2	
				ST3	
15	very stiff		102	ST4	
20			3-4-7	SS5	
			1-2-5	SS6	
25					
30			2-3-5	SS7	
				ST8	
35			89	ST9	
	becoming soft		1-1-3	SS10	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002.WL J026274.01 I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 32 FEET ▽

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 70 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8436, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8436-B-501

Project No. J026274.01

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	36

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8436

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 396.0 | Completion Date: 4/19/2016
Datum: NAVD88 | Station: 50+54.41 | Offset: 10 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (△ - UU/2, ○ - QU/2, ▯ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Medium stiff to stiff, gray and brown, silty CLAY - (CL) *(continued)*				
45			0-0-2	SS11	
50			1-1-2	SS12	
	Very stiff to stiff, gray CLAY - (CH)		102	ST13	66 >>
55			4-6-6	SS14	
60			6-7-11	SS15	
65			3-4-6	SS16	
70			2-2-3	SS17	82 >>
75	medium stiff		5-4-7	SS18	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002.WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 32 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 70 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8436, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8436-B-501

Project No. J026274.01

Surface Elevation: 396.0 | Completion Date: 4/19/2016
Datum: NAVD88 | Station: 50+54.41 | Offset: 10 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (△ - UU/2, ○ - QU/2, ▯ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Very stiff to stiff, gray CLAY - (CH) *(continued)*				
85	becoming medium stiff		2-2-3	SS19	
90			2-3-3	SS20	
	Stiff, tan, sandy, silty CLAY - CL		5-6-8	SS21	
95					
100	Loose to dense, tan, SILTY SAND - SM 38.3 percent finer than No. 200 sieve		5-3-3	SS22	
105			9-9-25	SS23	
	Soft to very soft, brown CLAY with gravel - CH		2-0-3	SS24	
110			0-0-0	SS25	
115	gravelly		39-36-14	SS26	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002.WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 32 FEET

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 70 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8436, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8436-B-501

Project No. J026274.01

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 37
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8436

DESCRIPTION | DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

Surface Elevation: 396.0 | Completion Date: 4/19/2016
Datum: NAVD88 | Station: 50+54.41 | Offset: 10 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (△ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Soft to very soft, brown CLAY with gravel - CH *(continued)*				
	no sampler recovery		50/3"	SS27	
125	Split-spoon refusal at 123.8 feet.				
130					
135					
140					
145					
150					
155					

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002.WL J026274.01 I-55.SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/1/16

GROUNDWATER DATA

ENCOUNTERED AT 32 FEET ▽

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 70 FEET
SJP DRILLER MVL LOGGER
CME 55HT DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 78 %

REMARKS:
Bridge A8436, East abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 5/9/2016	Date: 7/29/2016	Date: 7/29/2016

GEOTECHNOLOGY INC
FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8436-B-501

Project No. J026274.01

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

BORING DATA

Detailed: Aug. 2016
Checked: Aug. 2016

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

STATE OF MISSOURI
GREGORY LOUIS KUNTZ
NUMBER PE-2002016682
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

DATE PREPARED 11/14/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	38

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8436

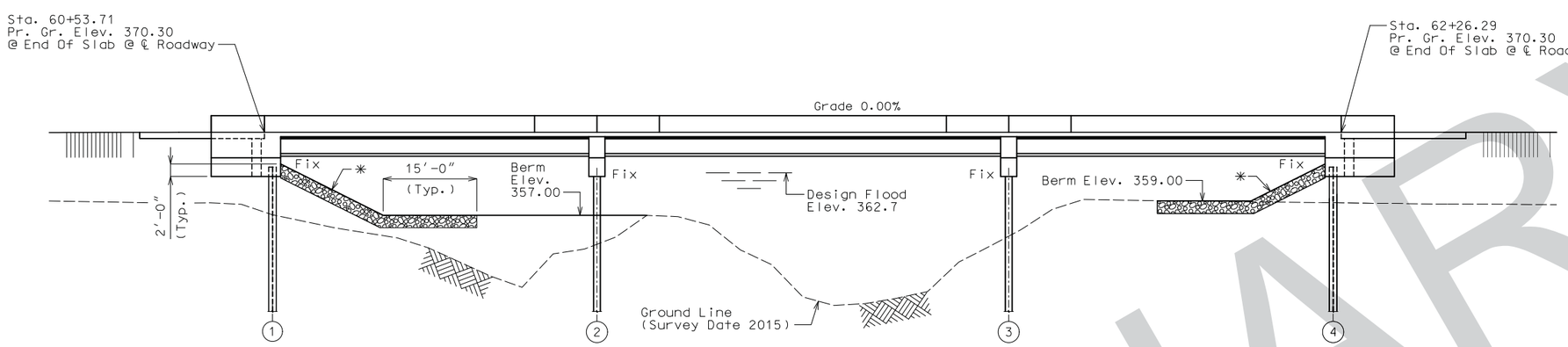
DESCRIPTION	DATE

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

HDR Engineering, Inc.
401 S. 18th Street
Suite 300
St. Louis, MO 63103-2267
314-425-8300
Certificate of Authority: 000856

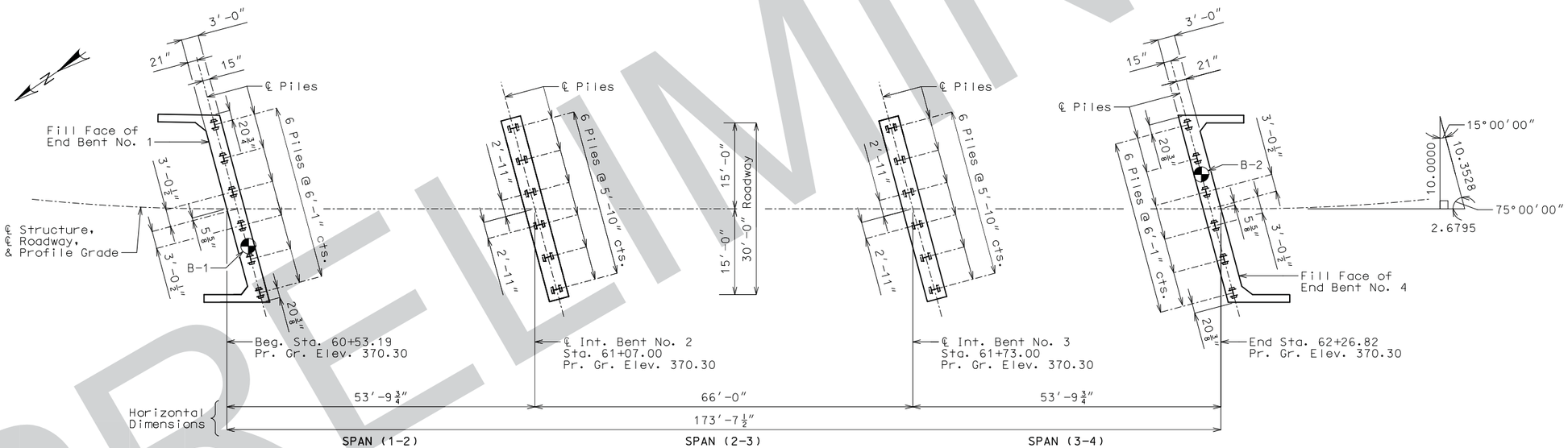
SEC/SUR 8 TWP 29N RGE 14E

(52′-66′-52′) PRESTRESSED CONCRETE NU-GIRDER SPANS



GENERAL ELEVATION

* 2:1 (H:V) Slope (Normal) 2′-0″ Type 2 Rock Blanket with Permanent Erosion Control Geotextile (Roadway Item)



PLAN

"◓" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 30 thru 32 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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

Notes:

All Bents are parallel.

Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

For General Notes, Foundation Data, Estimated Quantities, Hydrologic Data and Location Sketch, see Sheet No. 2.

B.M.: #3 – COTTON PICKER SPINDLE NW ROOT 18″ MAPLE
OUTER ROAD EAST
STA 50+31.63, 372.82′ LT
ELEV. 378.45′

#4 – COTTON PICKER SPINDLE SOUTH SIDE OF TWIN ASH
OUTER ROAD EAST
STA 63+37.24, 171.57′ RT
ELEV. 356.65′

BRIDGE: EAST OUTER ROAD OVER RAMSEY CREEK

EAST OUTER ROAD FROM ROUTE M TO ROUTE PP

ABOUT 1.2 MILES SOUTH OF ROUTE M

STA. 60+53.19

STD. 609.00
STD. 617.10
STD. 706.35

Detailed AUG 2016
Checked AUG 2016

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

Sheet No. 1 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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EFK·Moen, LLC
Civil Engineering Design
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St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

REV.

Estimated Quantities

	Item		Substr.	Superstr.	Total
	Bridge Approach Slab (Minor Road)	sq. yard		138	138
	Galvanized Structural Steel Piles (14")	linear foot	2280		2280
	Pile Wave Analysis	each	4		4
	Pre-Bore for Piling	linear foot	348		348
	Pile Point Reinforcement	each	24		24
	Class B Concrete (Substructure)	cu. yard	56.6		56.6
*	Safety Barrier Curb	linear foot		379	379
	Slab on Concrete NU-Girder	sq. yard		626	626
	NU 35, Prestressed Concrete NU-Girder	linear foot		679	679
	Reinforcing Steel (Bridges)	pound	4,190		4,190
	Fabricated Structural Carbon Steel (Misc.)	pound	1750		1750
	Slab Drain	each		16	16
	Vertical Drain at End Bents	each			2
	Plain Neoprene Bearing Pad	each		24	24

* Safety Barrier Curb shall be cast-in-place option or slip-form option.

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

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

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

The cost of furnishing and installing steel sway bracing on piles at the intermediate bents will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Misc.).

Cost of bent plate pile anchors complete in place will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Estimated Quantities for Slab on Concrete NU-Girder

Item		
Class B-2 Concrete	cu. yard	193.5
Reinforcing Steel	pound	7,080
Reinforcing Steel (Epoxy Coated)	pound	33,970

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

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

The Estimated Quantities for Slab on Concrete NU-Girder are based on skewed precast prestressed end panels.

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

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

Foundation Data

Type	Design Data		Bent Number 1	2	3	4
Load Bearing Pile	Pile Type and Size		HP14x73	HP14x73	HP14x73	HP14x73
	Number	ea	6	6	6	6
	Approximate Length per Each	ft	96	95	94	95
	Pile Driving Verification Method		WEAP	WEAP	WEAP	WEAP
	Minimum Nominal Axial Compressive Resistance	kip	908	418	418	908
	Hammer Energy Required	ft-lb	21,000	20,800	20,600	20,800

Load Bearing Pile: Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor.

WEAP = Wave Equation Analysis of Piles.

Prebore for piles at End Bents No. 1 & 4 to Elev. 343.0.

Prebore for piles at Int. Bent No. 2 to Elev. 347.0.

Manufactured pile point reinforcement shall be used on all piles in this structure.

Hydrologic Data

Drainage Area = 19.0 (sq. mi.)
Design Flood Frequency = 25 (year)
Design Flood Discharge = 6,800 (cfs)
Design High Water (D.F.) Elev. = 362.7

Base Flood (100-Year)

Base Flood Elevation = 364.6
Base Flood Discharge = 9,300 (cfs)
Estimated Backwater = 3.3 (ft)
Average Velocity thru Opening = 9.7 (ft/sec)

Freeboard (50-Year)

Freeboard = 1.2 (ft)

Roadway Overtopping

Overtopping Flood Discharge = 8,700 (cfs)
Overtopping Flood Frequency = 80 (year)
Design Elevation = 364.3

General Notes:

Design Specifications:

2012 AASHTO LRFD Bridge Design Specifications (6th Ed.) and 2013 Interim Revisions
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = D

Design Loading:

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

Design Unit Stresses:

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

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

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

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

Structural Steel (ASTM A709 Grade 36) fy = 36,000 psi

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

For Precast Prestressed Panel stresses, see Sheet No. 18.

For Prestressed Girder stresses, see Sheets No. 12 thru 15.

Neoprene Pads:

Plain Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

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

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1½", unless otherwise shown.

Traffic Handling:

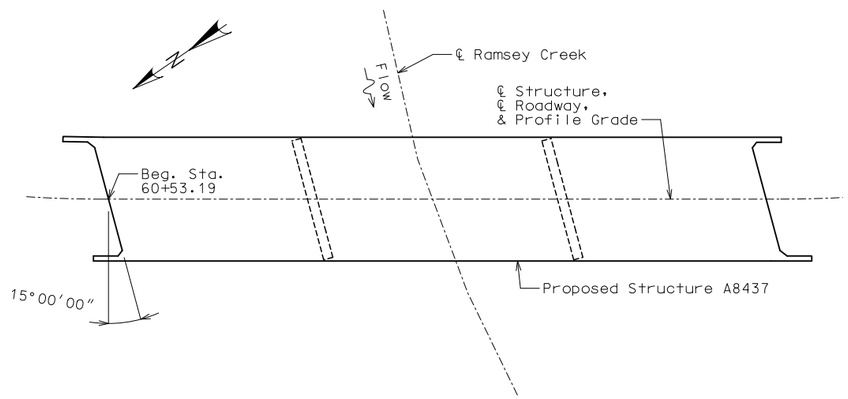
Structure to be closed during construction. Traffic to be maintained on other routes. See roadway plans for traffic control.

Miscellaneous:

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

☐ Constant Joint Filler

☐ Variable Joint Filler



LOCATION SKETCH

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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EFK·Moen, LLC
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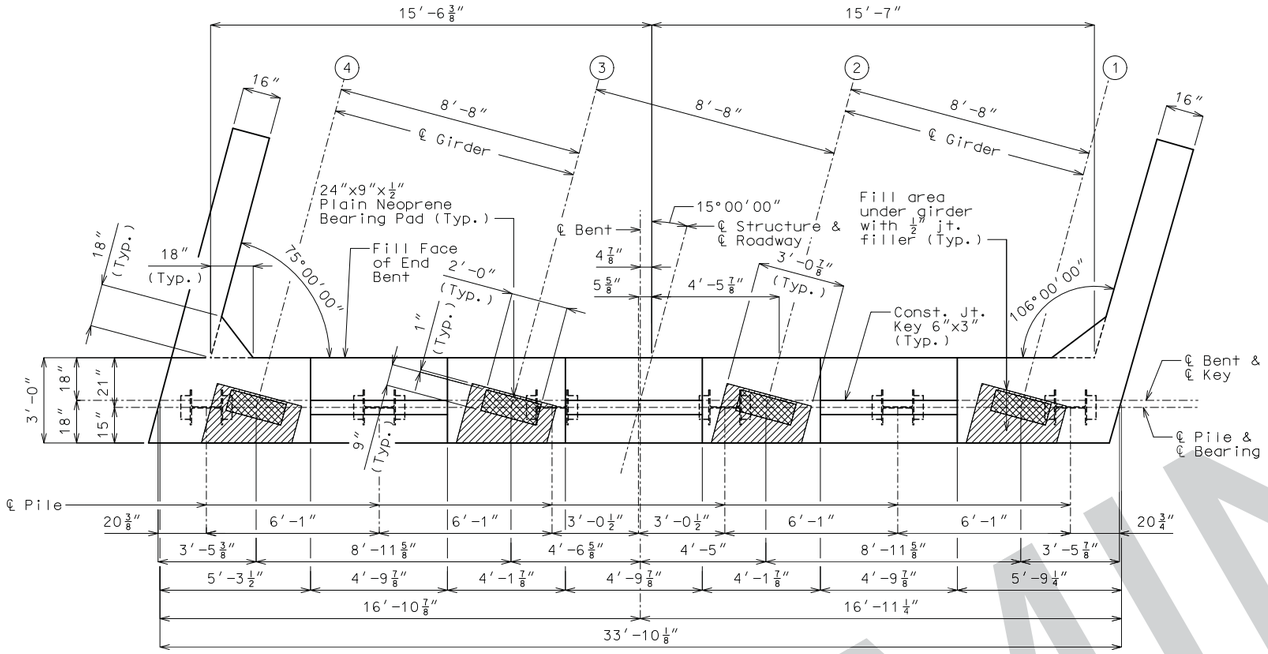
St. Louis, MO 63021 Phone 314-394-3100
Missouri Certificate of Authority: 001578

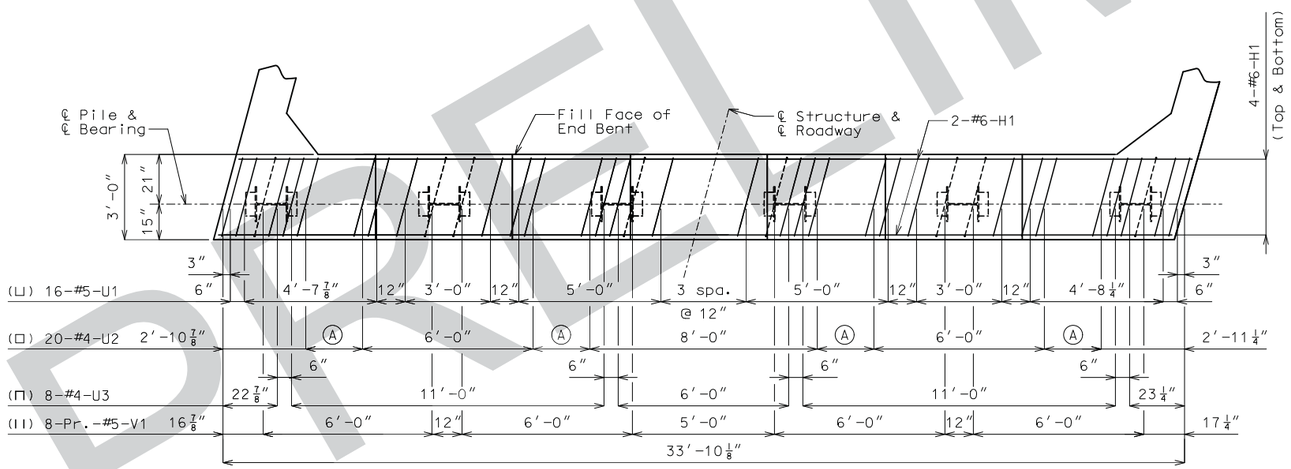
Detailed AUG 2016
Checked AUG 2016

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

GENERAL NOTES AND QUANTITIES

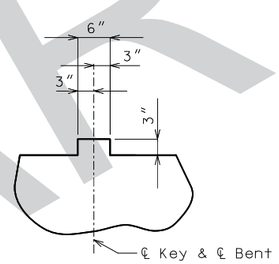


PLAN OF BEAM SHOWING DIMENSIONS

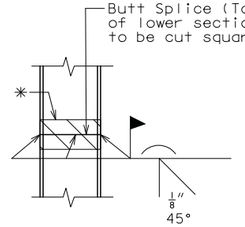


PLAN OF BEAM SHOWING REINFORCEMENT

Note: Keys not shown for clarity.



TYPICAL SECTION THRU KEY



STEEL PILE SPLICE

(If required)

* Galvanization material shall be removed for a minimum of 2″ around weld locations. The method used for removing galvanizing material shall be as approved by the Engineer.

Galvanizing shall be repaired per special provisions.

Notes:

For details of End Bent not shown, see Sheets No. 4 & 5.

All U-bars and Pairs V-bars in End Bent are to be placed parallel to ℄ Roadway.

For Substructure Quantity Table for End Bent No. 1, see Sheet No. 4.

For details of Vertical Drain at End Bent, see Sheet No. 6.

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

Reinforcement in wing in Plan of Beam not shown for clarity.

DETAILS OF END BENT NO. 1

Detailed AUG 2016
Checked AUG 2016

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

Sheet No. 3 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

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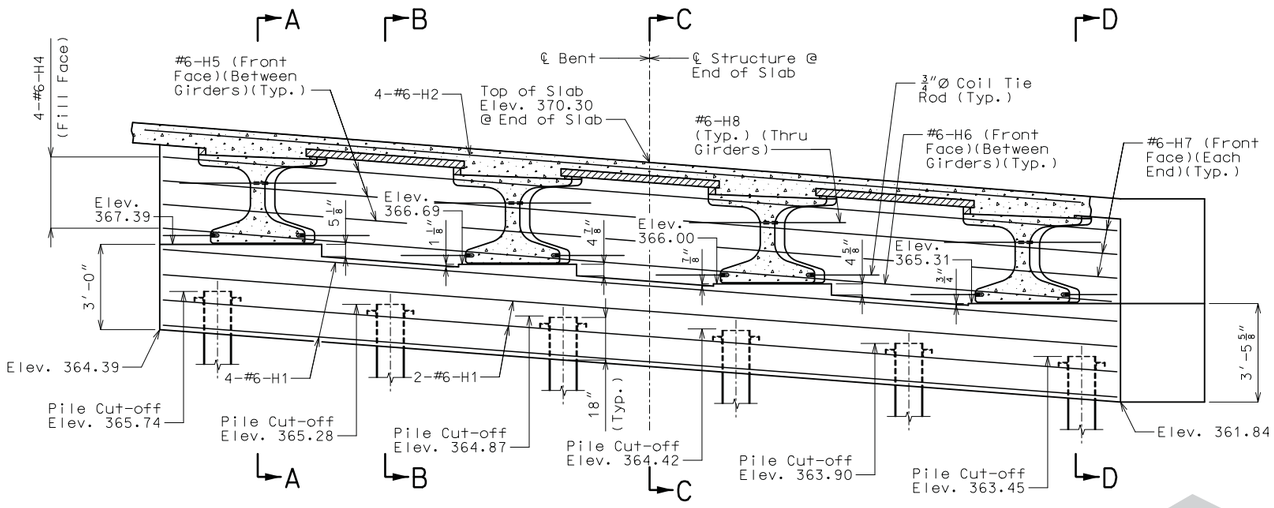
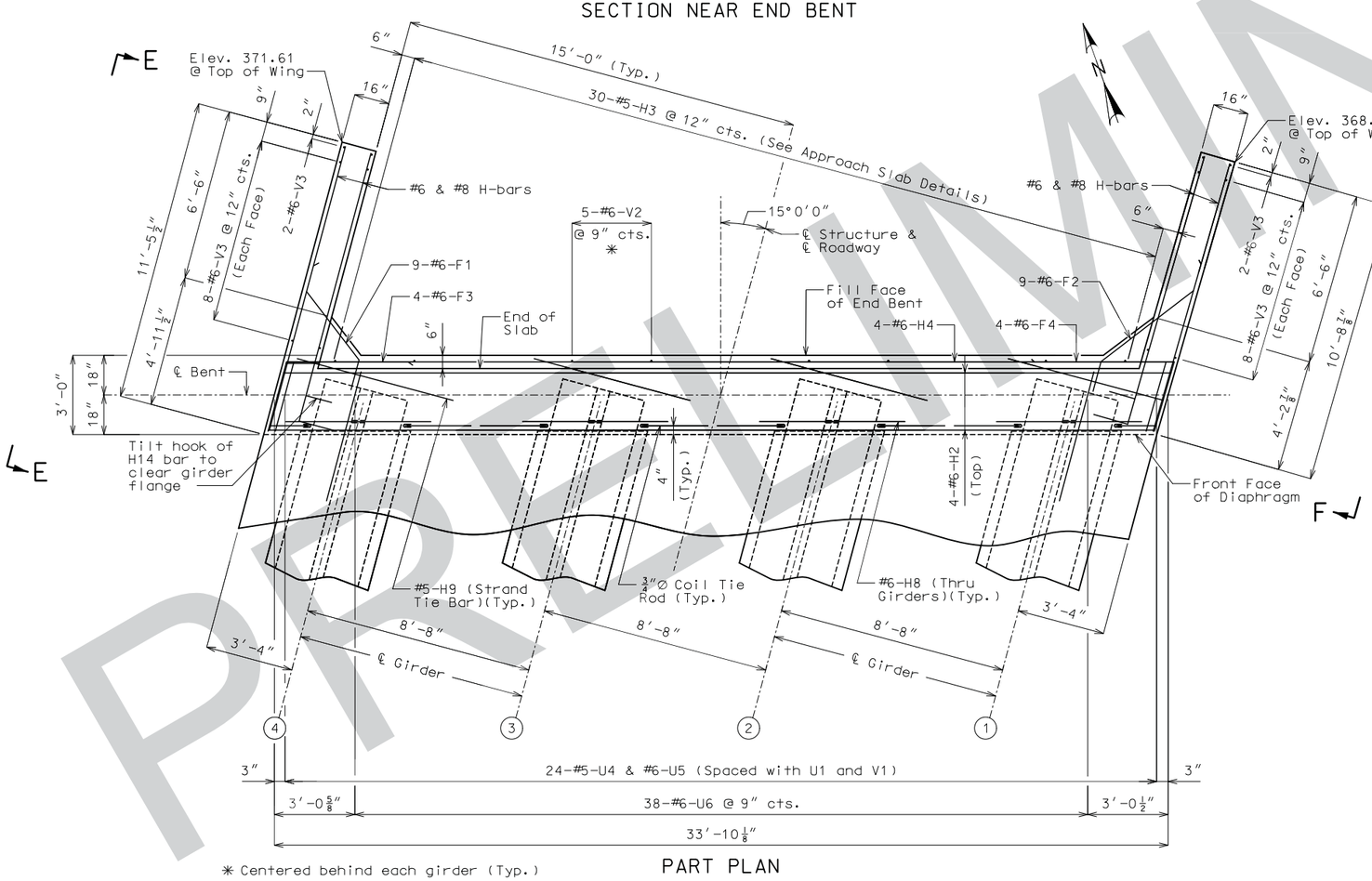


SECTION NEAR END BENT



DETAILS OF END BENT NO. 1

Notes:

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 5.

For details of End Bent No. 1 not shown, see Sheets No. 3 & 5.

For details of Vertical Drain at End Bent, see Sheet No. 6.

For details and reinforcement of Safety Barrier Curb, see Sheet No. 23 thru 25.

The #6-F1 & #6-F2 Bars shall be bent in the field to clear girders.

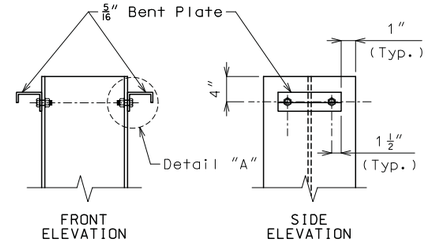
All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1½" minimum clearance to fill face of end bent.

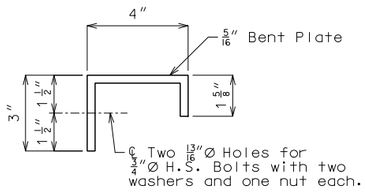
For locations of Coil Tie Rods and #5-H9 (Strand Tie Bar), see Sheets No. 12 thru 15.

For details of Approach Slab, see Sheet No. 26.

The U bars and #5-H3 bars shall be placed parallel to the centerline of roadway.



DETAILS OF PILE ANCHORS



DETAIL "A"

Substructure Quantity Table for End Bent No. 1

Item		Total
Galvanized Structural Steel Piles (14 in.)	linear foot	576
Pile Wave Analysis	each	1
Pre-Bore for Piling	linear foot	120
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	14.7

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
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DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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REV.

PRELIMINARY

Detailed AUG 2016
Checked AUG 2016

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

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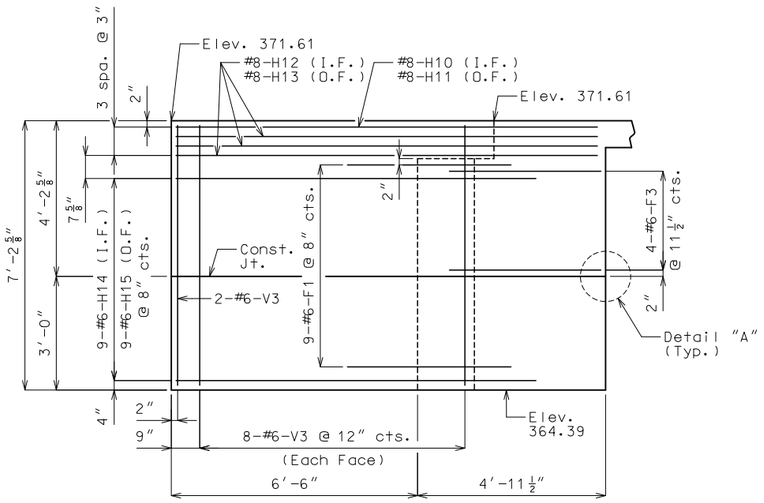
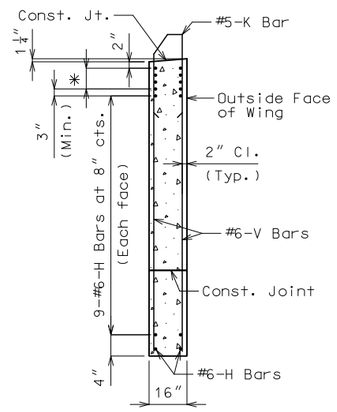
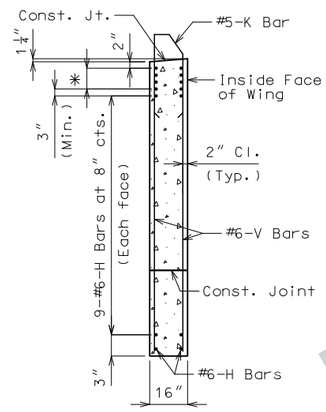


ELEVATION E-E



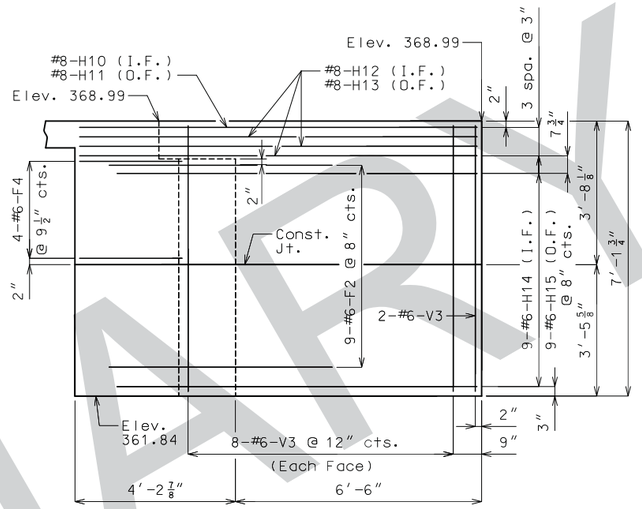
RIGHT WING



LEFT WING

TYPICAL SECTION THRU WING

* #8-H Bars at 3″ cts. (Each face)
(I.F.) = Inside Face of Wing
(O.F.) = Outside Face of Wing



ELEVATION F-F

Notes:

For details of End Bent No. 1 not shown, see Sheets No. 3 & 4.

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

Bend #6-F1 & #6-F2 bars in field to clear girders.

For Details and Reinforcement of the Safety Barrier Curb not shown, see Sheet No. 23 thru 25.

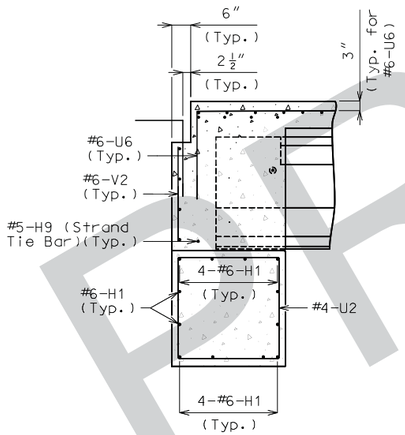
For location of Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 4.

For details of Vertical Drain at End Bents, see Sheet No. 6.

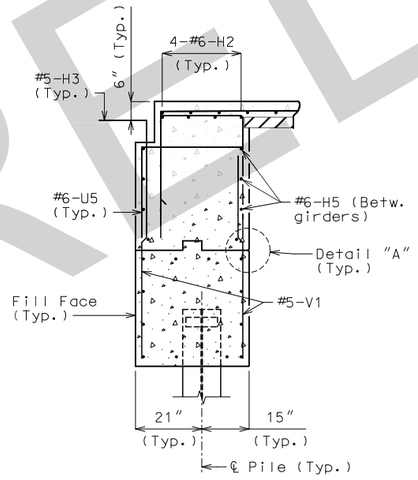
For location of #5-H9 (Strand Tie Bar), see Sheets No. 12 thru 15.

For details of Bridge Approach Slab, see Sheet No. 26.

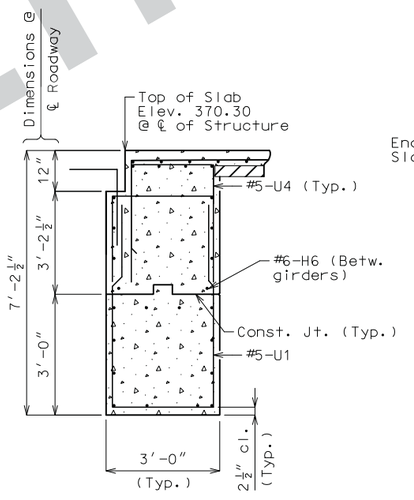
For Substructure Quantity Table, see Sheet No. 4.



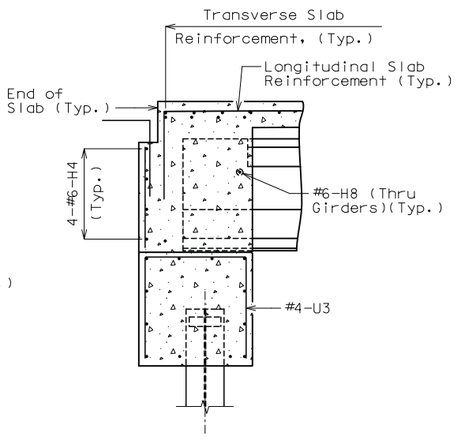
SECTION A-A



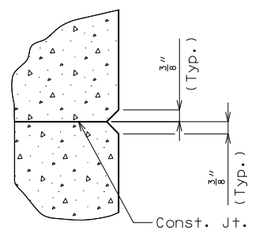
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL "A"

DETAILS OF END BENT NO. 1

Detailed AUG 2016
Checked AUG 2016

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

Z:\16017 GBA Scott County Bridge\DGN\Bridge\Final\Plotsheets\B_A8437_005_J0I0956_End Bent 1_3.dgn 7:53:51 AM 11/21/2016

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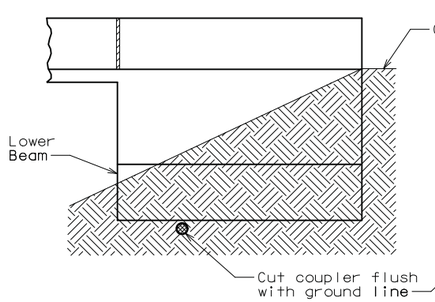
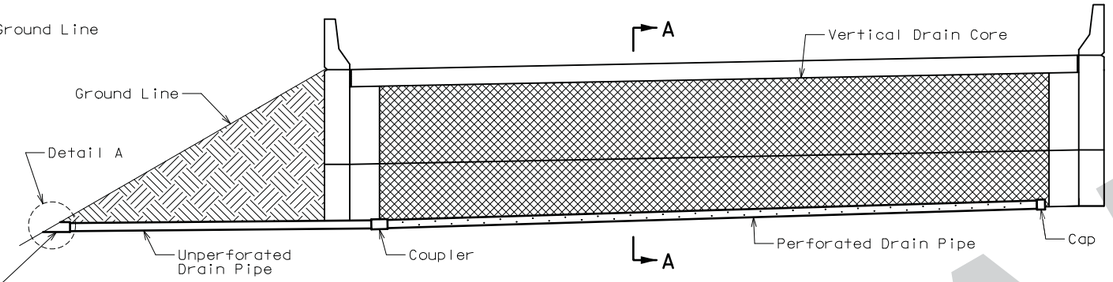
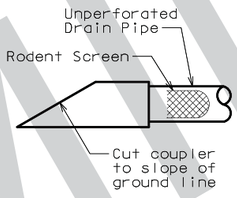


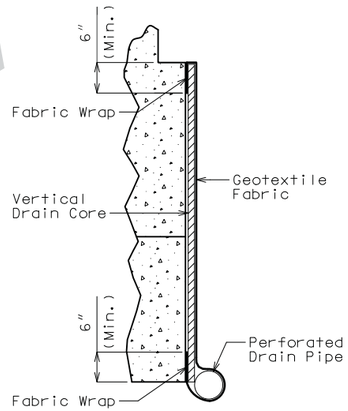
ELEVATION OF WING



ELEVATION AT END BENT



DETAIL A



PART SECTION A-A

Note:

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.

Place drain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1 1/2 inches. (See Elevation at End Bent.)

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

VERTICAL DRAIN AT END BENTS

Detailed AUG 2016
Checked AUG 2016

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

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

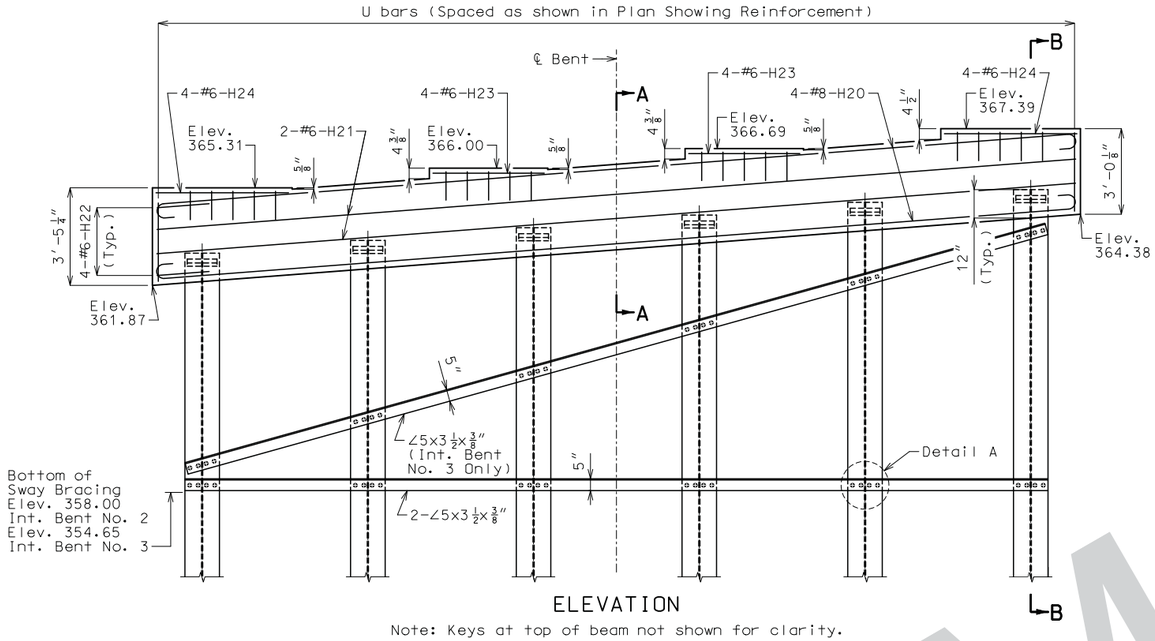
DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 6
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION	DATE

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

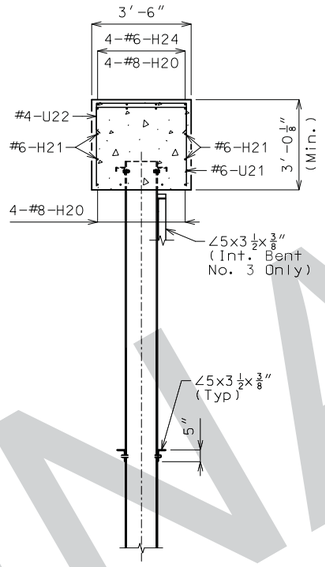
EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021 Phone 314-394-3100
Missouri Certificate of Authority: 001578

REV.



ELEVATION

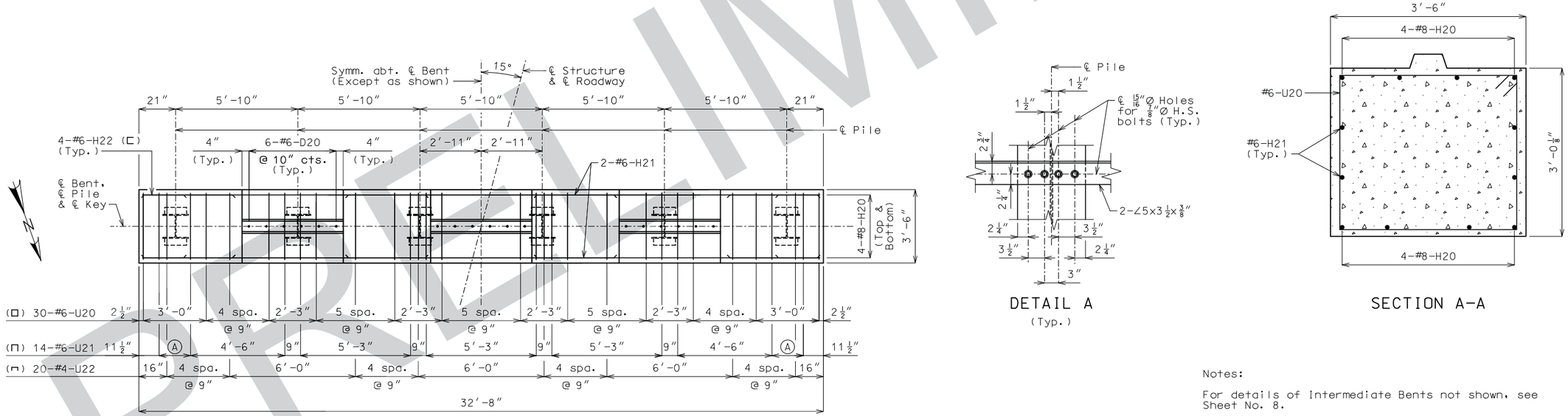
Note: Keys at top of beam not shown for clarity.



SECTION B-B

Pile Details		
Bent Number	Pile	Pile Cut-off Elevation
Int. Bent No. 2	7	363.01
	8	363.46
	9	363.90
	10	364.35
	11	364.80
	12	365.24
Int. Bent No. 3	13	363.01
	14	363.46
	15	363.90
	16	364.35
	17	364.80
	18	365.24

For Pile numbering, see As-Built Pile Data Table on Sheet No. 29.



PLAN SHOWING REINFORCEMENT

Ⓐ = 2 spa. @ 9″

DETAIL A

(Typ.)

SECTION A-A

Notes:

For details of Intermediate Bents not shown, see Sheet No. 8.

For Substructure Quantity Table for Intermediate Bents, see Sheet No. 8.

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

Sway bracing, fill plates and shapes shall be galvanized (See Special Provisions).

The cost of furnishing and installing steel sway bracing on piles at the intermediate bents will be considered completely covered by the contract unit price for Fabricated Structural Carbon Steel (Misc.).

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

Detailed AUG 2016
Checked AUG 2016

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

Sheet No. 7 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
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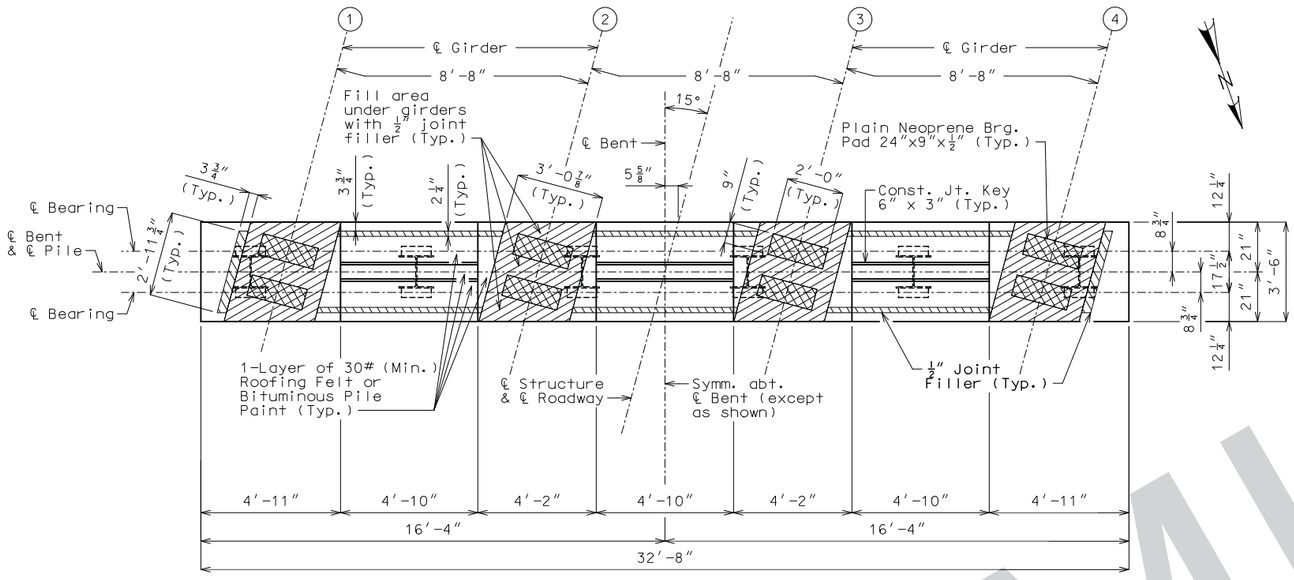
DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 7
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE | REV.

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

EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

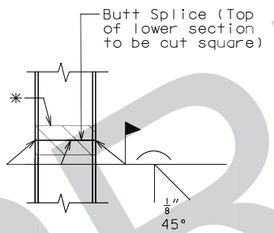


PLAN OF BEAM

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Galvanized Structural Steel Piles (14 in.)	linear foot	570
Pile Wave Analysis	each	1
Pre-bore for Piling	linear foot	108
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	13.6
Reinforcing Steel (Bridges)	pound	2,090
Fabricated Structural Carbon Steel (Misc.)	pound	690

Substructure Quantity Table for Bent No. 3		
Item		Quantity
Galvanized Structural Steel Piles (14 in.)	linear foot	564
Pile Wave Analysis	each	1
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	13.6
Reinforcing Steel (Bridges)	pound	2,090
Fabricated Structural Carbon Steel (Misc.)	pound	1060

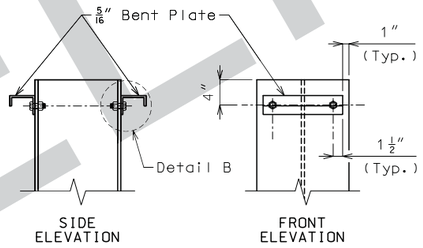
These quantities are included in the Estimated Quantities table on Sheet No. 2.



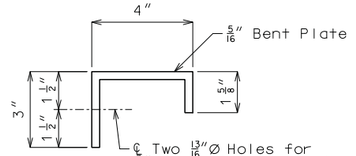
STEEL PILE SPLICE
(If required)

✳ Galvanization material shall be removed for a minimum of 2″ around weld locations. The method used for removing galvanizing material shall be as approved by the Engineer.

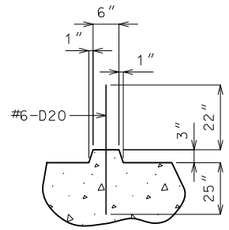
Galvanizing shall be repaired per special provisions.



DETAILS OF PILE ANCHORS



DETAIL B



SECTION THRU KEY

Notes:

For steps 2″ or more, use 2 1/2″x1/2″ joint filler up vertical face.

For Details of Intermediate Bents not shown, see Sheet No. 7.

For Details of Concrete Diaphragm, see Sheet No. 17.

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

Detailed AUG 2016
Checked AUG 2016

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

Sheet No. 8 of 32

CHRIS LINNEMAN NUMBER PE-2002016690 STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

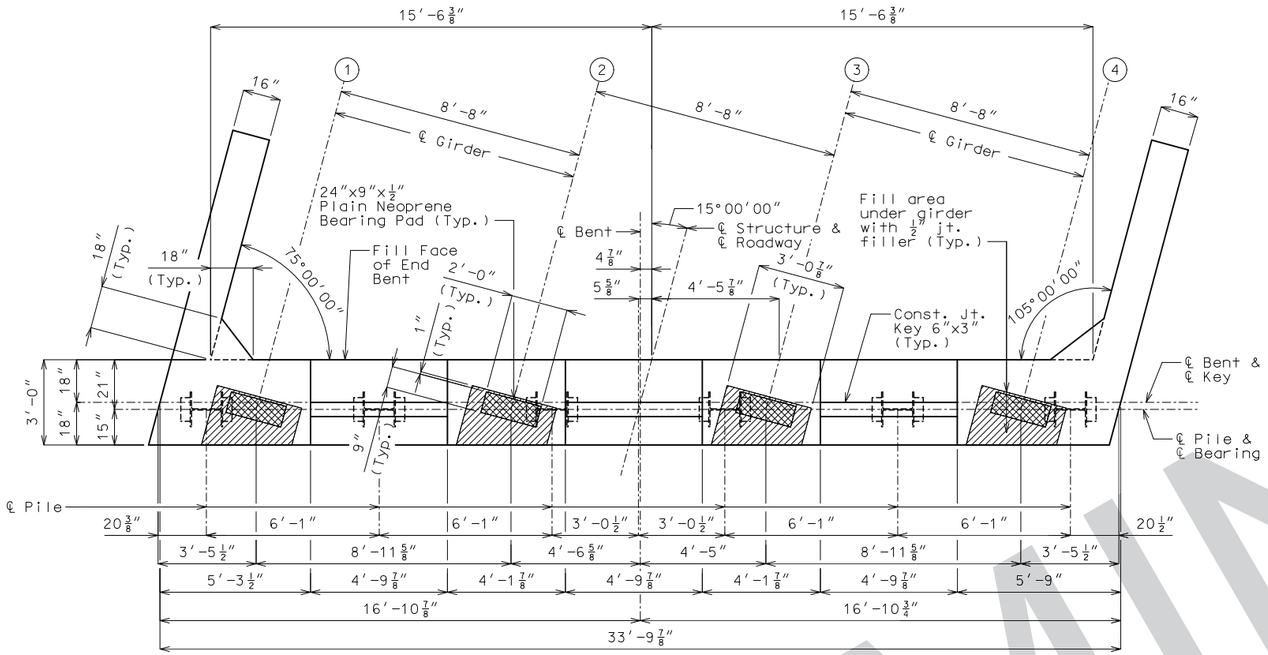
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 8
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

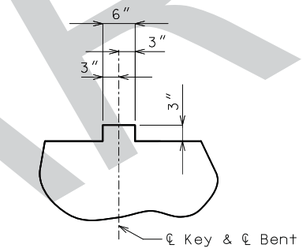
DESCRIPTION | DATE | REV.

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

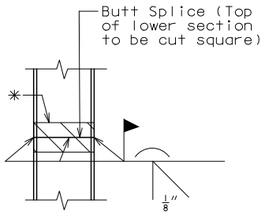
EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021 Phone 314-394-3100
Missouri Certificate of Authority: 001578



PLAN OF BEAM SHOWING DIMENSIONS



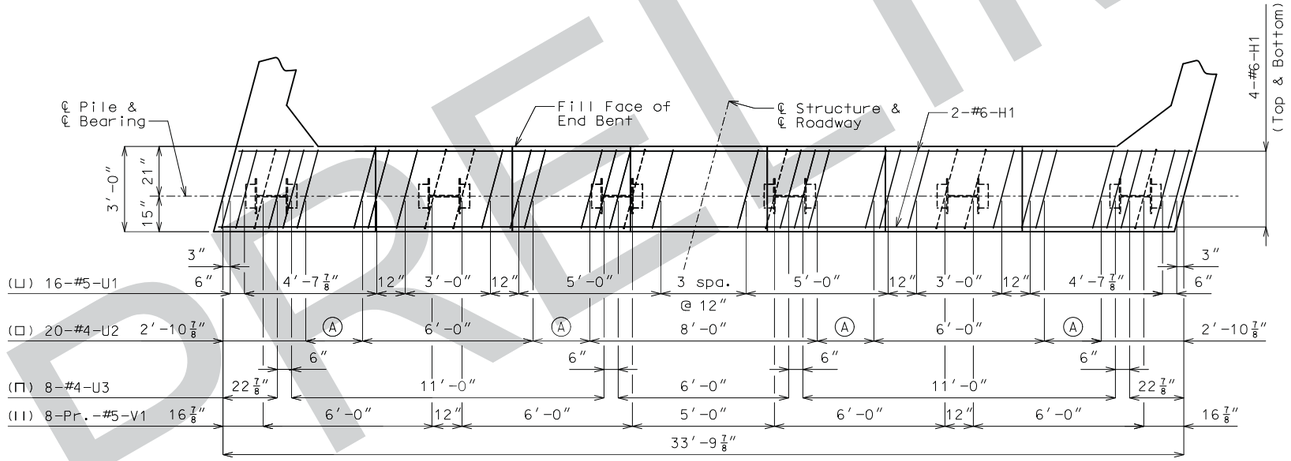
TYPICAL SECTION THRU KEY



STEEL PILE SPLICE
(If required)

✳ Galvanization material shall be removed for a minimum of 2″ around weld locations. The method used for removing galvanizing material shall be as approved by the Engineer.

Galvanizing shall be repaired per special provisions.



PLAN OF BEAM SHOWING REINFORCEMENT

Note: Keys not shown for clarity.

Ⓐ = 4 spa. @ 6″

Notes:

For details of End Bent not shown, see Sheets No. 10 & 11.

All U-bars and Pairs V-bars in End Bent are to be placed parallel to ℄ Roadway.

For Substructure Quantity Table for End Bent No. 4, see Sheet No. 10.

For details of Vertical Drain at End Bent, see Sheet No. 6.

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

Reinforcement in wing in Plan of Beam not shown for clarity.

DETAILS OF END BENT NO. 4

Detailed AUG 2016
Checked AUG 2016

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

Sheet No. 9 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

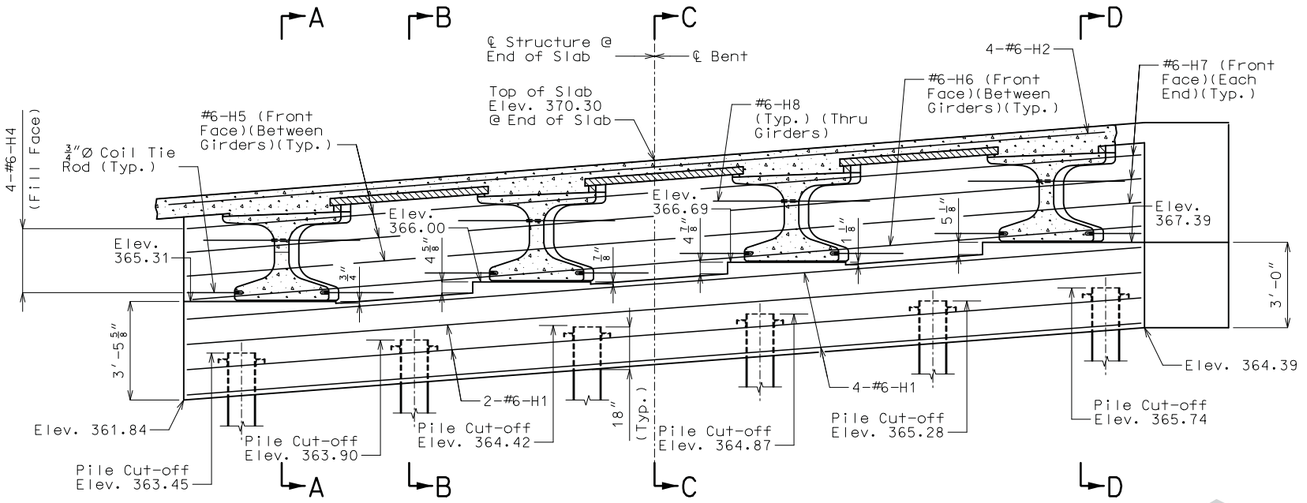
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 9
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

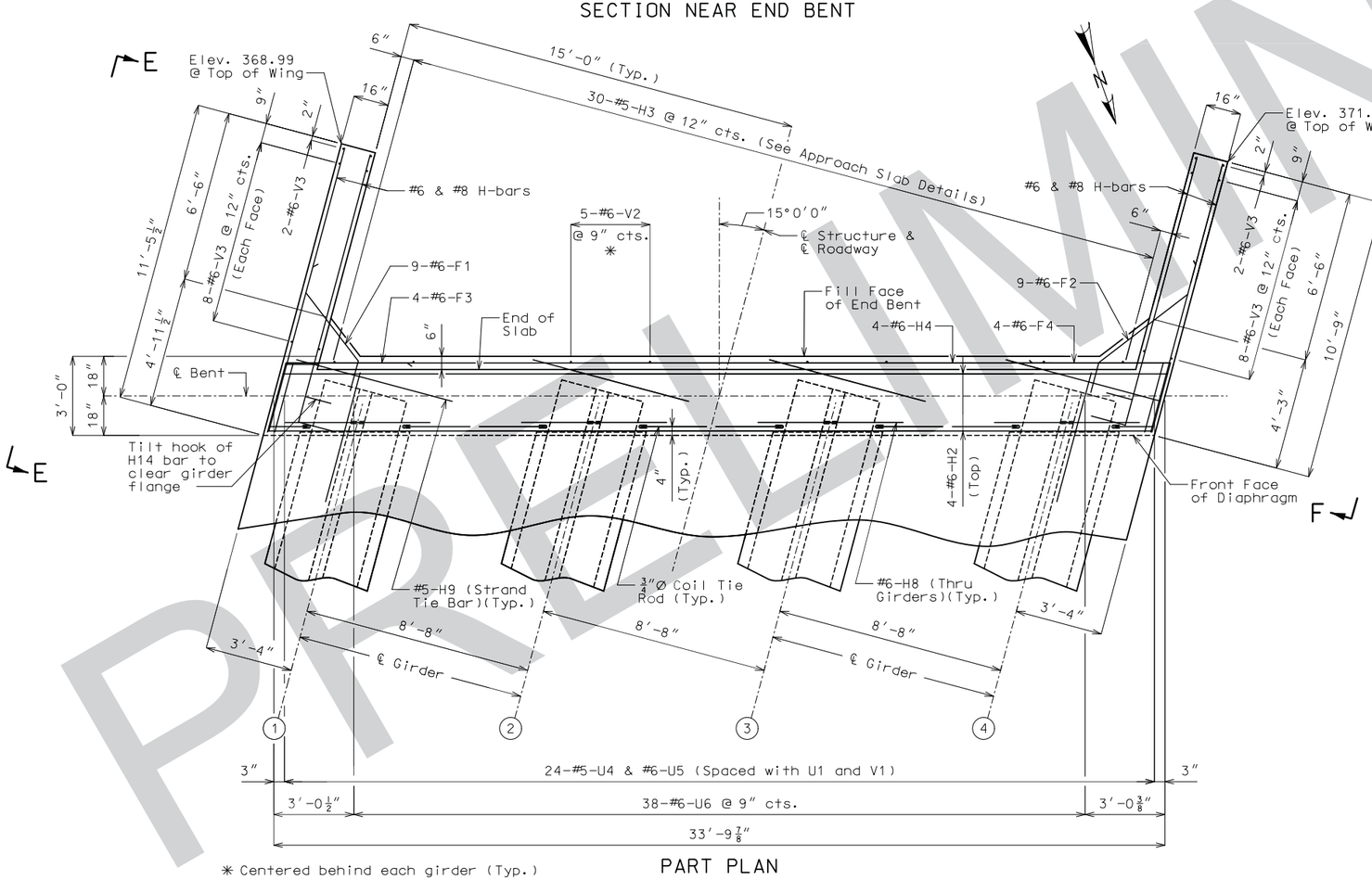
DESCRIPTION | DATE | REV.

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

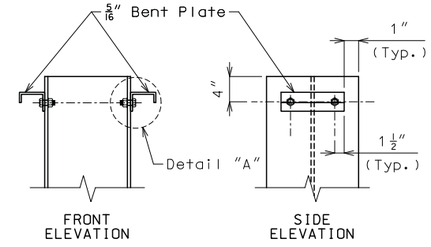
EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578



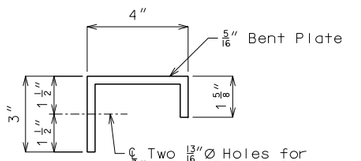
SECTION NEAR END BENT



PART PLAN



DETAILS OF PILE ANCHORS



DETAIL "A"

Notes:

For Elevations E-E & F-F, Sections A-A, B-B, C-C, D-D and Section Thru Wing, see Sheet No. 11.

For details of End Bent No. 4 not shown, see Sheets No. 9 & 11.

For details of Vertical Drain at End Bent, see Sheet No. 6.

For details and reinforcement of Safety Barrier Curb, see Sheet No. 23 thru 25.

The #6-F1 & #6-F2 Bars shall be bent in the field to clear girders.

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

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1½″ minimum clearance to fill face of end bent.

For locations of Coil Tie Rods and #5-H9 (Strand Tie Bar), see Sheets No. 12 thru 15.

For details of Approach Slab, see Sheet No. 26.

The U bars and #5-H3 bars shall be placed parallel to the centerline of roadway.

Substructure Quantity Table for End Bent No. 4		
Item		Total
Galvanized Structural Steel Piles (14 in.)	linear foot	570
Pile Wave Analysis	each	1
Pre-Bore for Piling	linear foot	120
Pile Point Reinforcement	each	6
Class B Concrete (Substructure)	cu. yard	14.7

Note: These quantities are included in the Estimated Quantities Table on Sheet No. 2.

DETAILS OF END BENT NO. 4

Detailed AUG 2016
Checked AUG 2016

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STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 10
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE

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

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

EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

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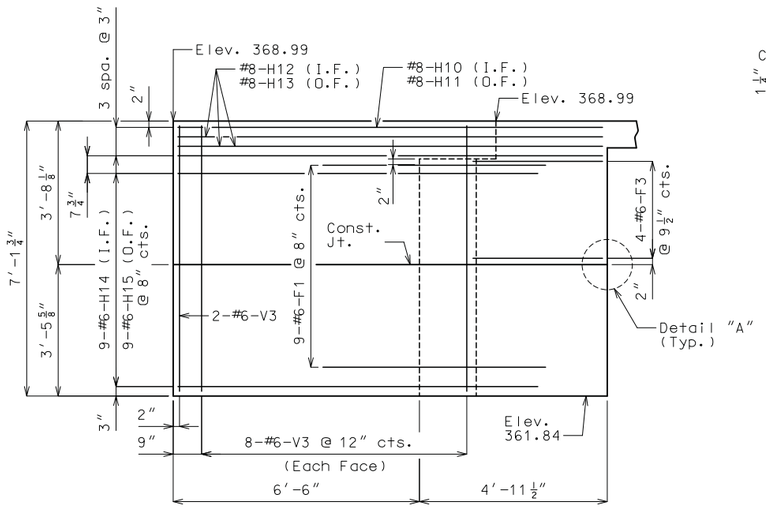
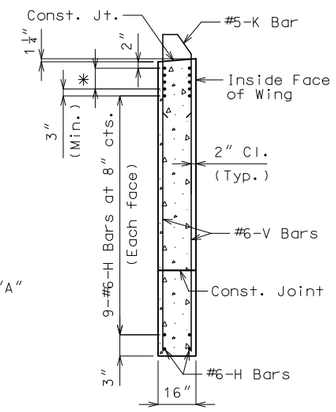
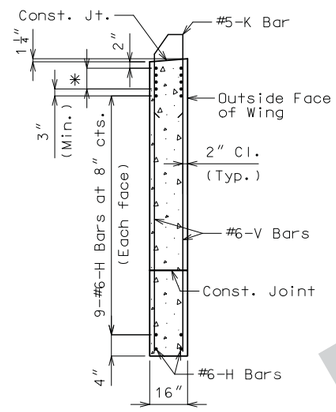


ELEVATION E-E



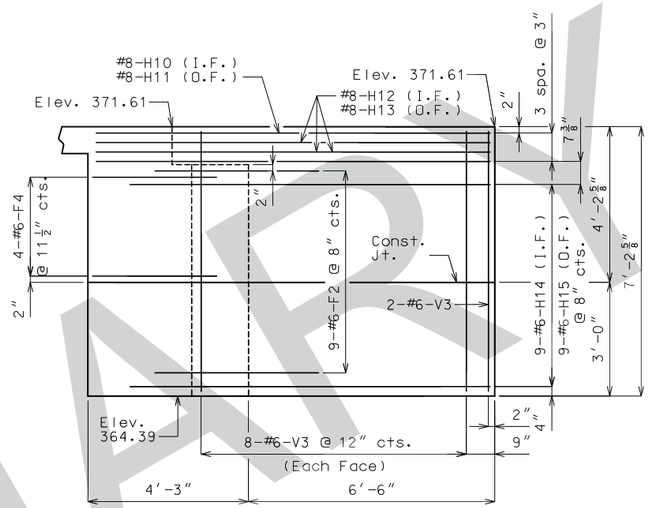
LEFT WING



RIGHT WING

TYPICAL SECTION THRU WING

* #8-H Bars at 3″ cts. (Each face)
(I.F.) = Inside Face of Wing
(O.F.) = Outside Face of Wing



ELEVATION F-F

Notes:

For details of End Bent No. 4 not shown, see Sheets No. 9 & 10.

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

Bend #6-F1 & #6-F2 bars in field to clear girders.

For Details and Reinforcement of the Safety Barrier Curb not shown, see Sheet No. 23 thru 25.

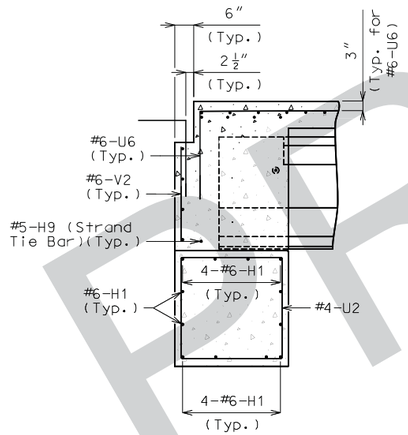
For location of Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 10.

For details of Vertical Drain at End Bents, see Sheet No. 6.

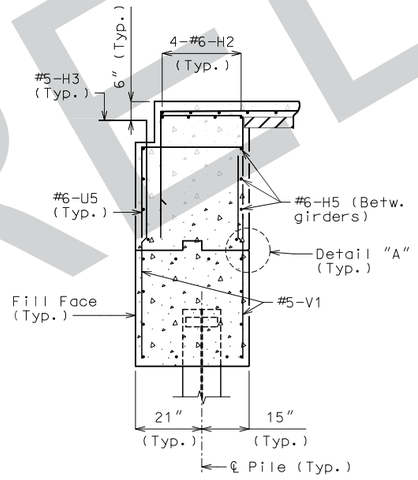
For location of #5-H9 (Strand Tie Bar), see Sheets No. 12 thru 15.

For details of Bridge Approach Slab, see Sheet No. 26.

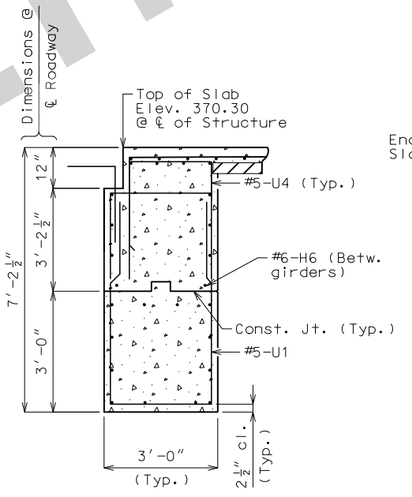
For Substructure Quantity Table, see Sheet No. 10.



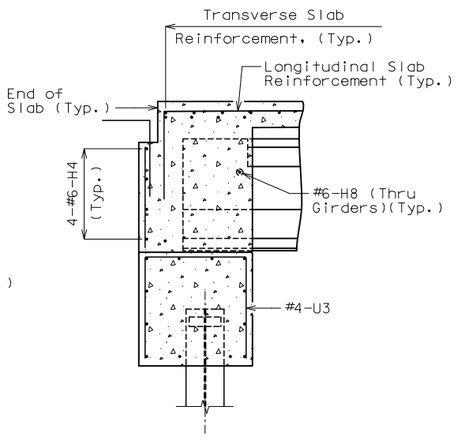
SECTION A-A



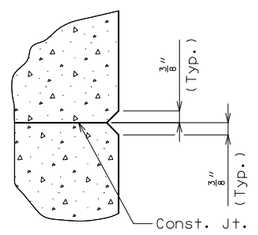
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL "A"

DETAILS OF END BENT NO. 4

Detailed AUG 2016
Checked AUG 2016

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

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
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DATE PREPARED 11/21/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	11

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE | REV.

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

EFK·Moen, LLC
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St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

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

(+) indicates prestressing strand.

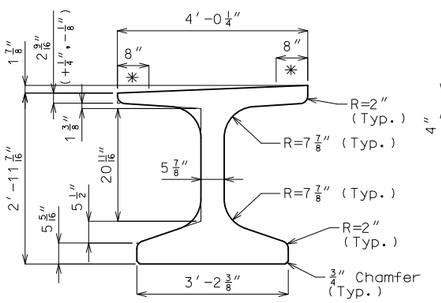
Use 14 strands with an initial prestress force of 615 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

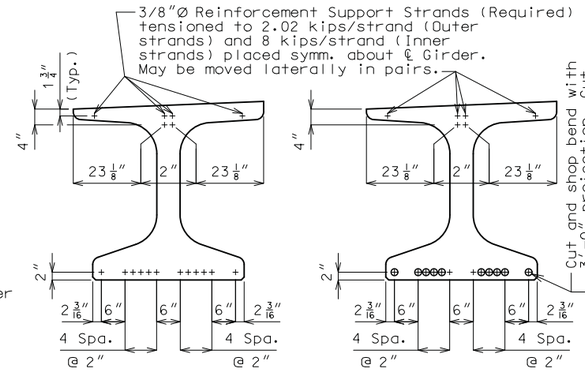
Fabricator shall be responsible for location and design of lifting devices.

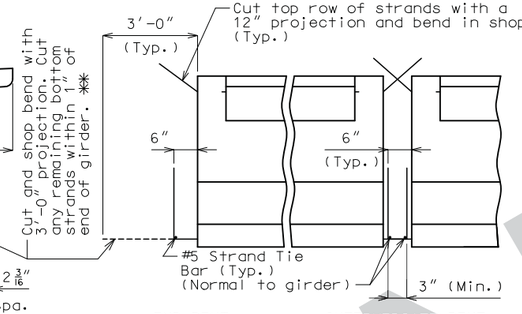
✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only.



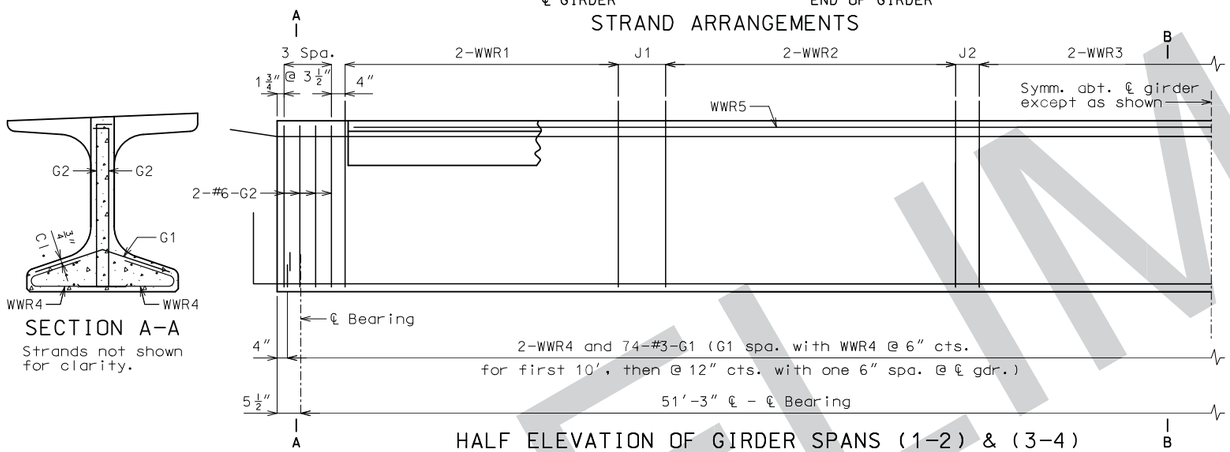
DIMENSIONS





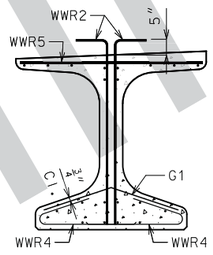
STRAND ARRANGEMENTS

STRAND DETAILS AT GIRDER ENDS



HALF ELEVATION OF GIRDER SPANS (1-2) & (3-4)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.

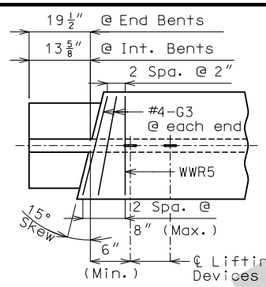


SECTION A-A

Strands not shown for clarity.

SECTION B-B

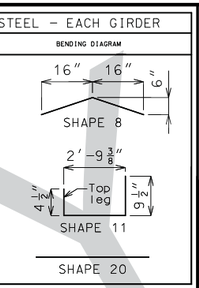
Strands not shown for clarity.



TOP FLANGE BLOCKOUT DETAIL

BILL OF REINFORCING STEEL - EACH GIRDER

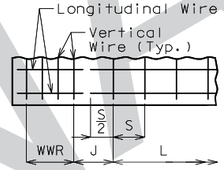
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
74	3 G1	2'-10"	8	
16	6 G2	3'-8"	11	
4	4 G3	3'-11"	20	



WELDED WIRE REINFORCEMENT

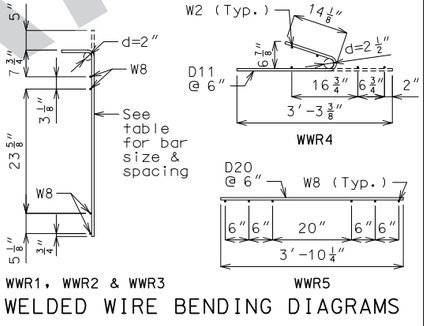
(WWR4 & WWR5 as shown in Welded Wire Bending Diagrams)

	WWR1				WWR2				WWR3		
SPAN NO.	BAR SIZE	S1	L1	J1	BAR SIZE	S2	L2	J2	BAR SIZE	S3	L3
1	D20	4"	9'-6"	4¾"	D20	6"	2'-0"	6"	D20	12"	23'-0"
3	D20	4"	9'-6"	4¾"	D20	6"	2'-0"	6"	D20	12"	23'-0"



WELDED WIRE PLACEMENT DETAIL

S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats



WWR1, WWR2 & WWR3

WWR5

WELDED WIRE BENDING DIAGRAMS

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

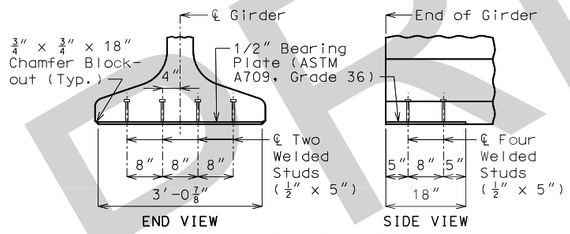
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 19.

For location of coil ties and #6 bars, see Sheets No. 4, 10 & 17.

For Girder Camber Diagram, see Sheet No. 20.

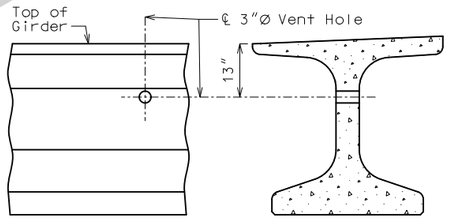
Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



BEARING PLATE DETAILS

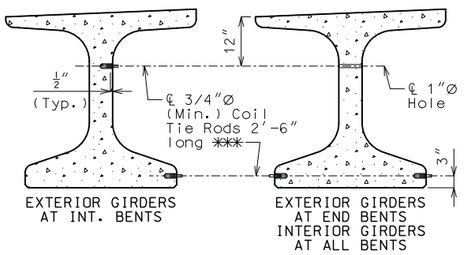
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

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



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

✳✳✳ Length of coil tie rods at exterior girders at end bents = 1'-8".

Detailed AUG 2016
Checked AUG 2016

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

Sheet No. 12 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED 11/21/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	12

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8437

NO.	DESCRIPTION	DATE

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

EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

REV.

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

(+) indicates prestressing strand.

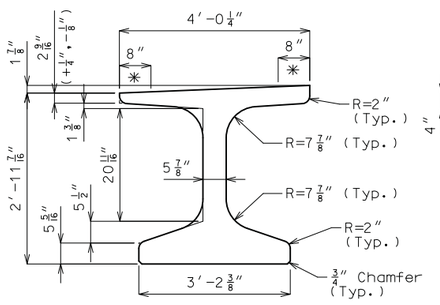
Use 14 strands with an initial prestress force of 615 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

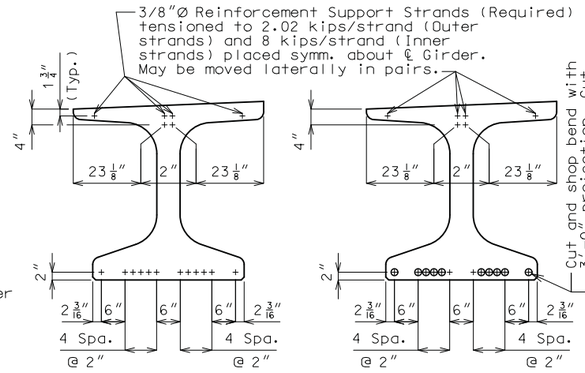
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

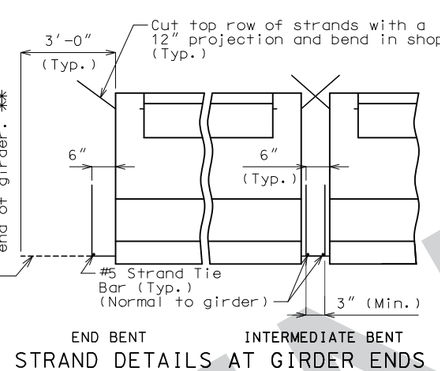
✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only.



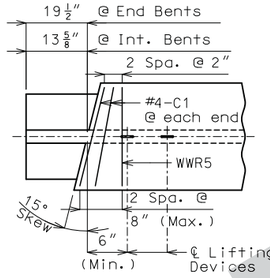
DIMENSIONS



STRAND ARRANGEMENTS



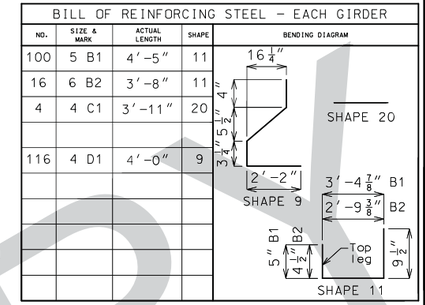
STRAND DETAILS AT GIRDER ENDS

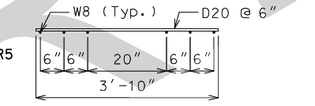


TOP FLANGE BLOCKOUT DETAIL

BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
100	5 B1	4'-5"	11	
16	6 B2	3'-8"	11	
4	4 C1	3'-11"	20	
116	4 D1	4'-0"	9	

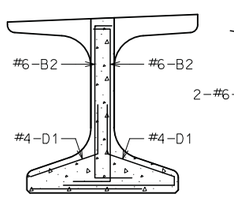




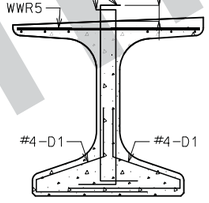
WELDED WIRE BENDING DIAGRAM

HALF ELEVATION OF GIRDER SPANS (1-2) & (3-4)

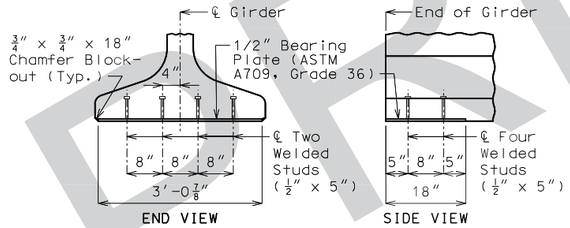
Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



SECTION A-A
Strands not shown for clarity.



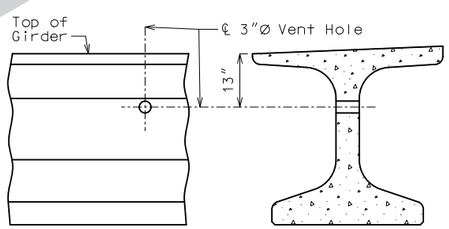
SECTION B-B
Strands not shown for clarity.



BEARING PLATE DETAILS

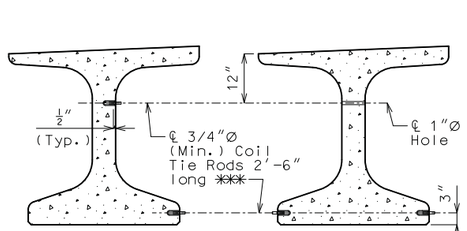
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

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



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

✳✳✳ Length of coil tie rods at exterior girders at end bents = 1'-8".

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

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

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 19.

For location of coil ties and #6 bars, see Sheets No. 4, 10 & 17.

For Girder Camber Diagram, see Sheet No. 20.

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

ALTERNATE BAR REINFORCING STEEL DETAILS

Detailed AUG 2016
Checked AUG 2016

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

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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DATE PREPARED 11/21/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	13

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8437

DESCRIPTION	DATE	REV.

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

EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

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

(+) indicates prestressing strand.

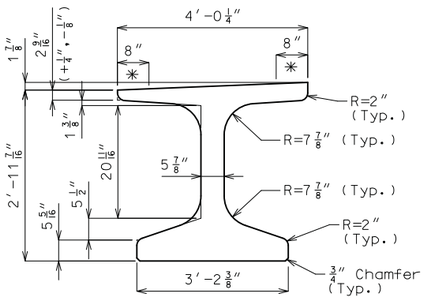
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

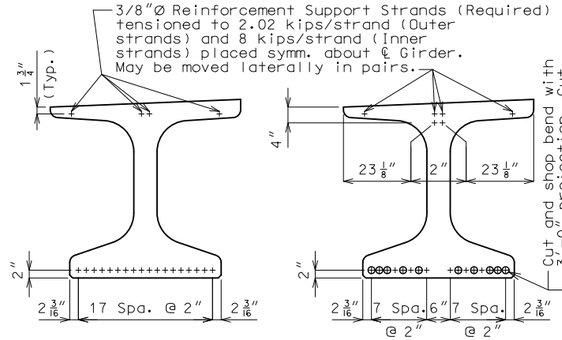
Fabricator shall be responsible for location and design of lifting devices.

✱ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

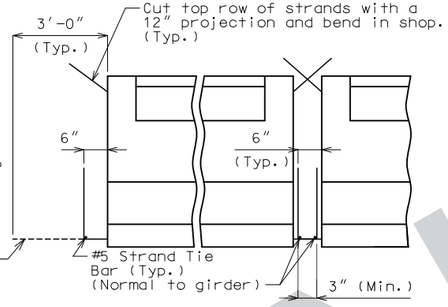
✱✱ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands.



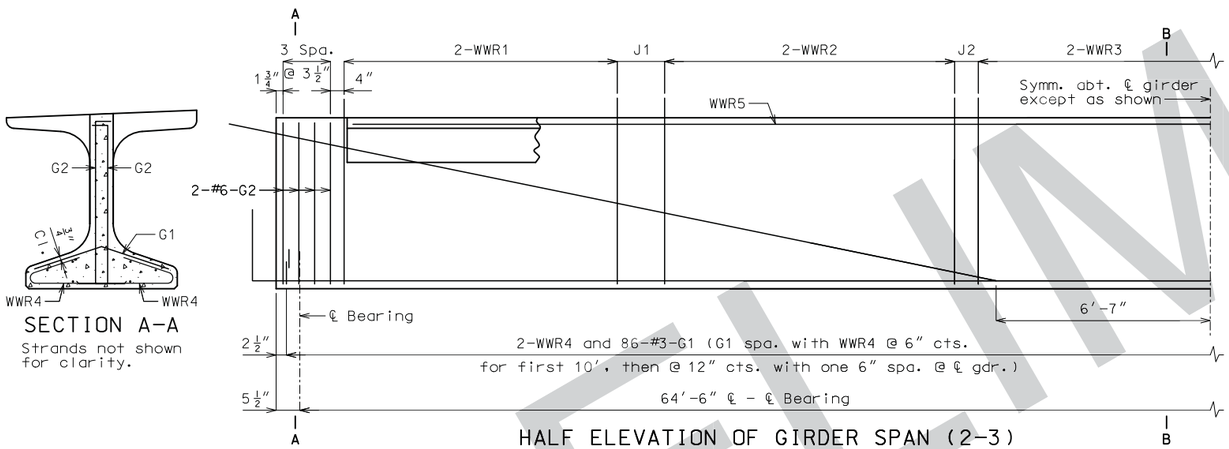
DIMENSIONS



STRAND ARRANGEMENTS



STRAND DETAILS AT GIRDER ENDS

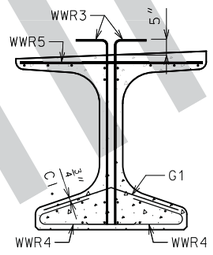


SECTION A-A

Strands not shown for clarity.

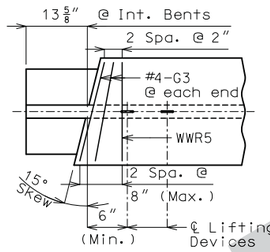
HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.



SECTION B-B

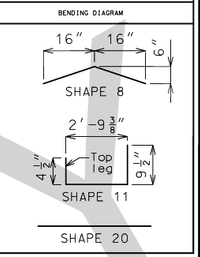
Strands not shown for clarity.



TOP FLANGE BLOCKOUT DETAIL

BILL OF REINFORCING STEEL - EACH GIRDER

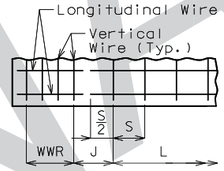
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
86	3 G1	2'-10"	8	
16	6 G2	3'-8"	11	
4	4 G3	3'-11"	20	



WELDED WIRE REINFORCEMENT

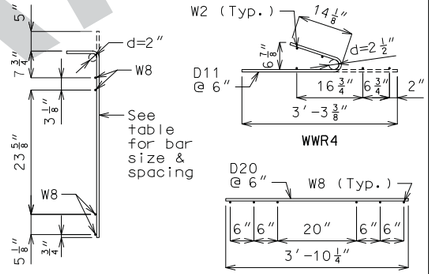
(WWR4 & WWR5 as shown in Welded Wire Bending Diagrams)

SPAN NO.	WWR1 BAR SIZE	WWR1 S1	WWR1 L1	WWR1 J1	WWR2 BAR SIZE	WWR2 S2	WWR2 L2	WWR2 J2	WWR3 BAR SIZE	WWR3 S3	WWR3 L3
2	D24	4"	5'-8"	4"	D20	6"	9'-0"	10¼"	D20	12"	31'-0"



WELDED WIRE PLACEMENT DETAIL

S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats



WWR1, WWR2 & WWR3

WELDED WIRE BENDING DIAGRAMS

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

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

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

WWR shall not be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

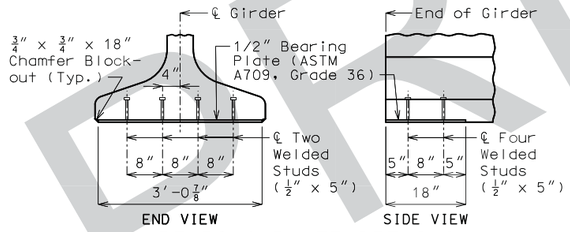
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 19.

For location of coil ties and #6 bars, see Sheet No. 17.

For Girder Camber Diagram, see Sheet No. 20.

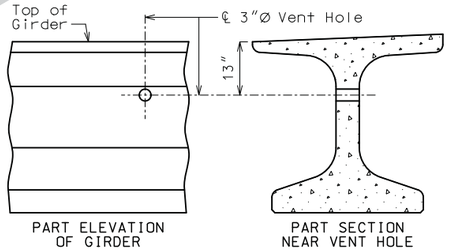
Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.



BEARING PLATE DETAILS

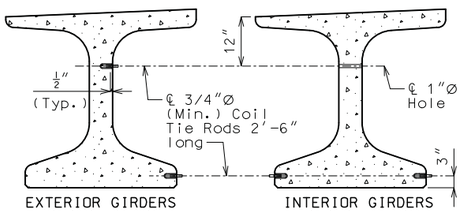
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

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



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

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CHRIS LINNEMAN
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BR	14

COUNTY SCOTT

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CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8437

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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Missouri Certificate of Authority: 001578

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

Z:\16017 GBA Scott County Bridge\DGN\Bridge\Final\Plotsheets\B_A8437_014_J0I0956_Girder Span 2 WWR.dgn 7:54:06 AM 11/21/2016

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

(+) indicates prestressing strand.

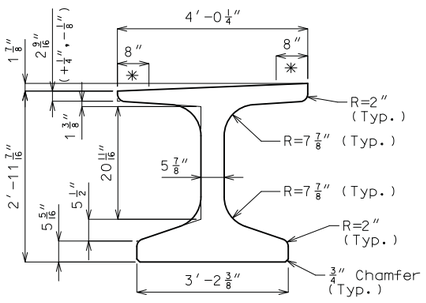
Use 18 strands with an initial prestress force of 791 kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

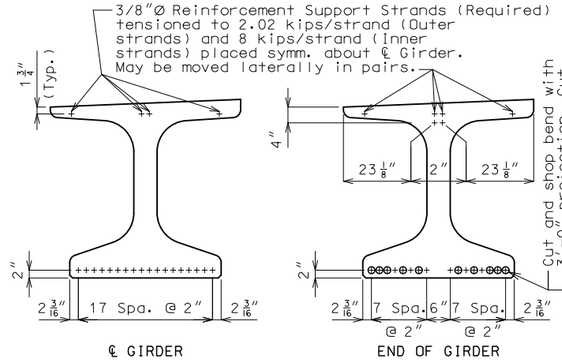
Fabricator shall be responsible for location and design of lifting devices.

✳ Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

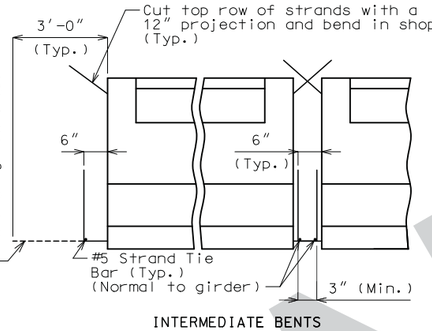
✳✳ At the contractor's option the location for bent-up strands may be varied from that shown for fully bonded strands only. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands.



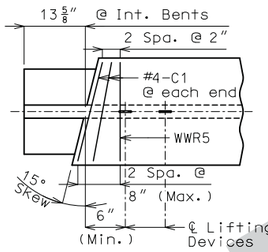
DIMENSIONS



STRAND ARRANGEMENTS



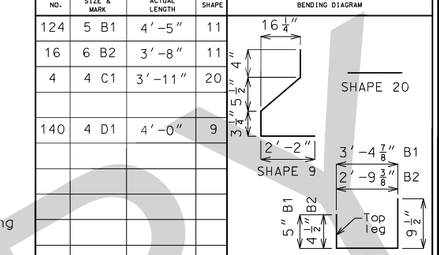
STRAND DETAILS AT GIRDER ENDS

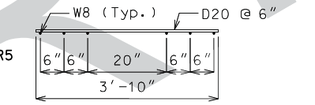


TOP FLANGE BLOCKOUT DETAIL

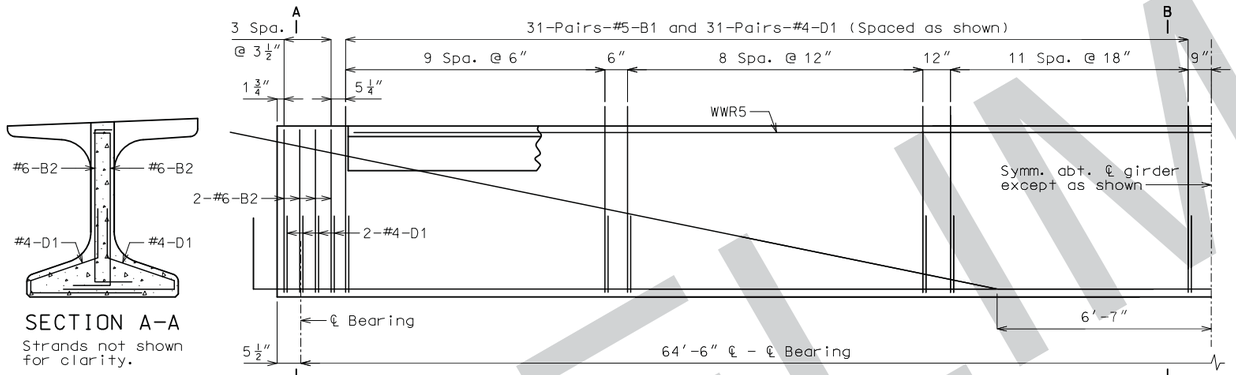
BILL OF REINFORCING STEEL - EACH GIRDER

NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
124	5 B1	4'-5"	11	
16	6 B2	3'-8"	11	
4	4 C1	3'-11"	20	
140	4 D1	4'-0"	9	





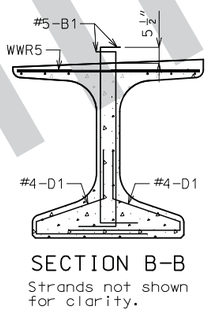
WELDED WIRE BENDING DIAGRAM



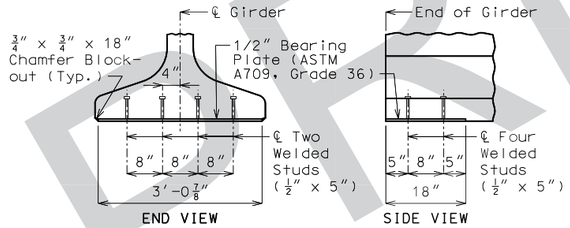
HALF ELEVATION OF GIRDER SPAN (2-3)

Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains. Reinforcement support strands not shown for clarity.

SECTION A-A
Strands not shown for clarity.



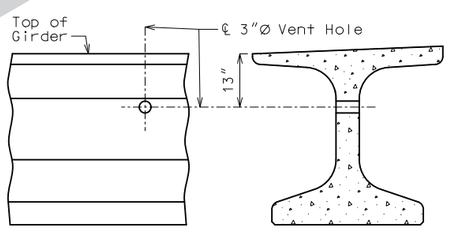
SECTION B-B
Strands not shown for clarity.



BEARING PLATE DETAILS

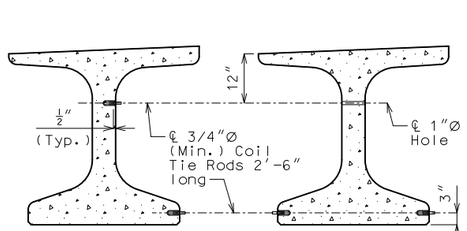
Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



DETAILS OF VENT HOLE

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



DETAILS OF COIL TIES

Cast 1"Ø hole horizontally in girder for #6 bar 5'-6" long and clear reinforcing steel or strands by 1 1/2" minimum.

General Notes:

Reinforcing Steel:

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

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

All B1 bars shall be epoxy coated.

Miscellaneous:

Cost of 3/4"Ø coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

For location of coil inserts at slab drains, see Sheet No. 19.

For location of coil ties and #6 bars, see Sheet No. 17.

For Girder Camber Diagram, see Sheet No. 20.

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

ALTERNATE BAR REINFORCING STEEL DETAILS

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PROJECT NO.

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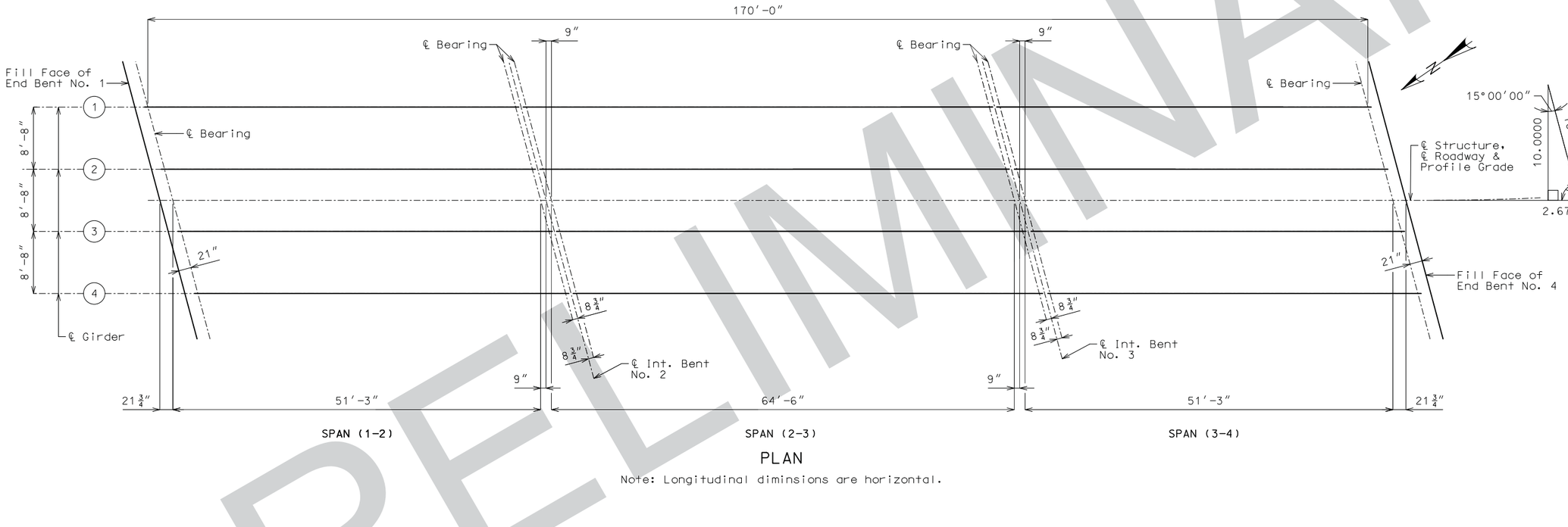

PLAN

Note: Longitudinal diminsions are horizontal.

FRAMING PLAN

Detailed AUG 2016
Checked AUG 2016

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

Sheet No. 16 of 32

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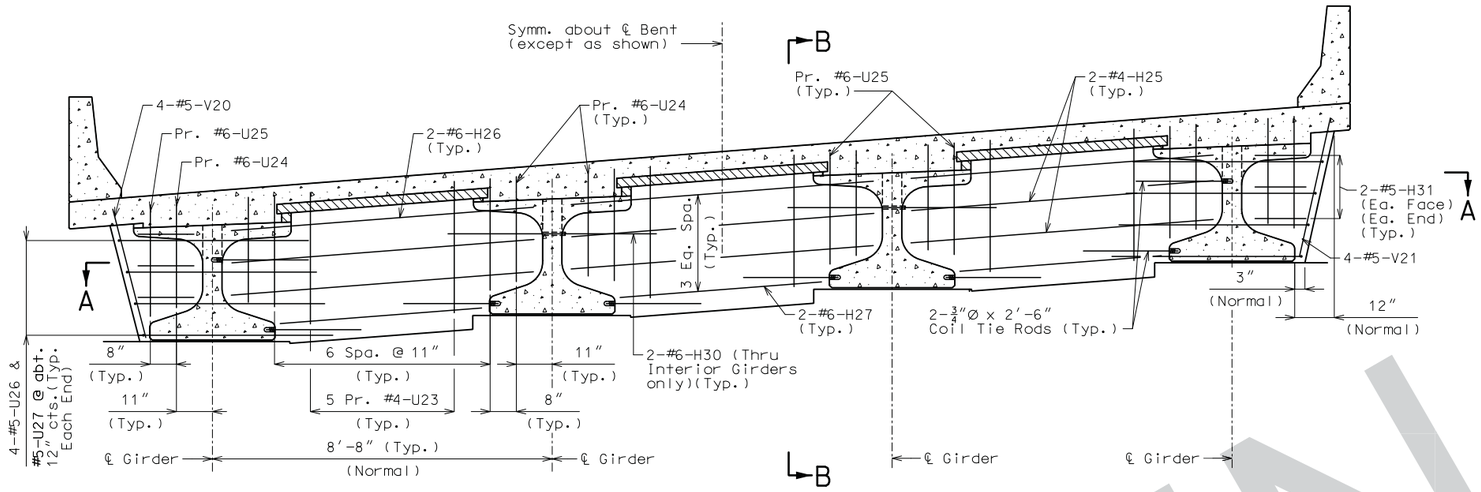
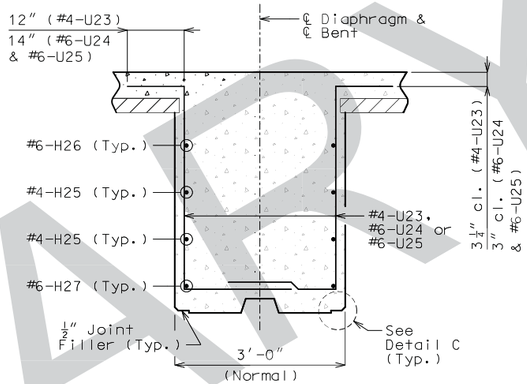
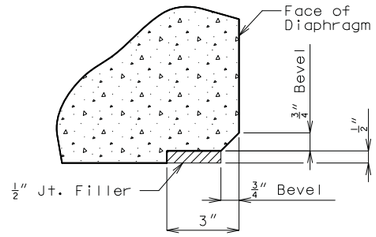


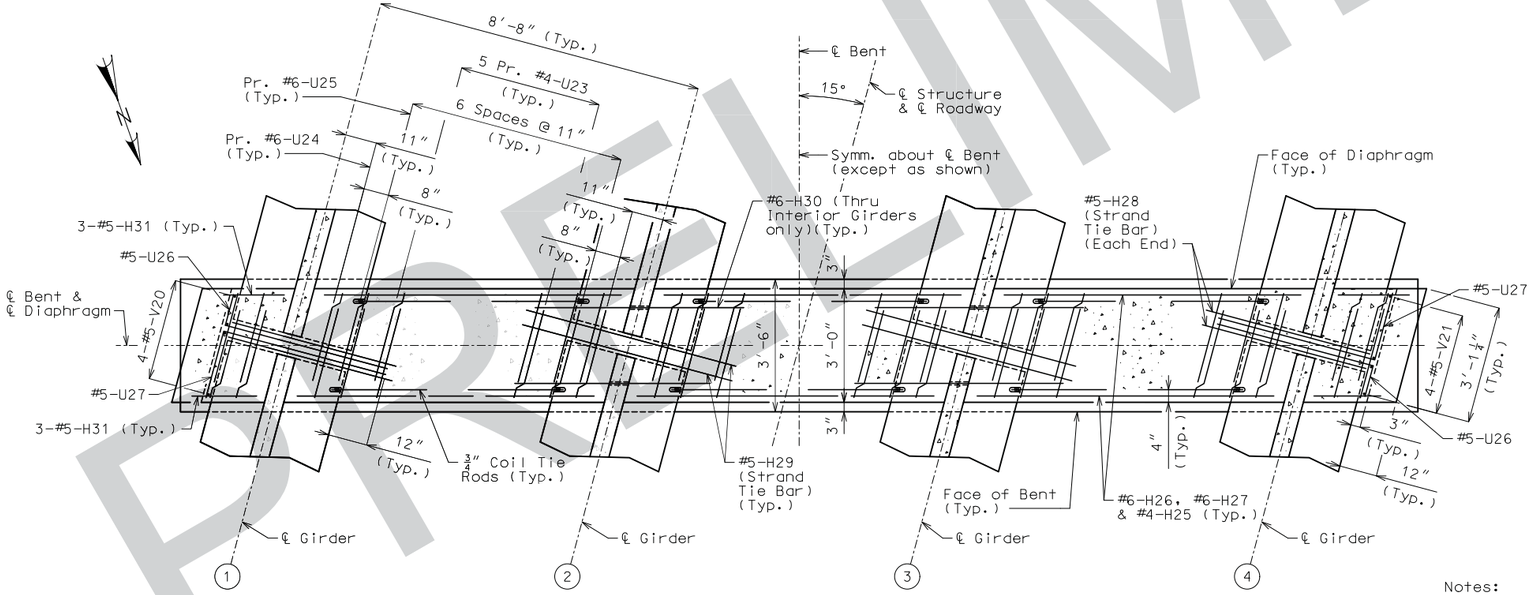
SECTION NEAR INTERMEDIATE BENTS NO. 2 & 3



SECTION B-B



DETAIL C



SECTION A-A

Notes:

For location of Strand Tie Bars and Coil Tie Rods, see Sheets No. 14 & 15.

All U-Bars in diaphragms are to be placed parallel to ℄ Girders.

Diaphragms at Intermediate Bents shall be built vertical.

DETAILS OF CONCRETE DIAPHRAGMS AT INTERMEDIATE BENTS NO. 2 & 3

Detailed AUG 2016
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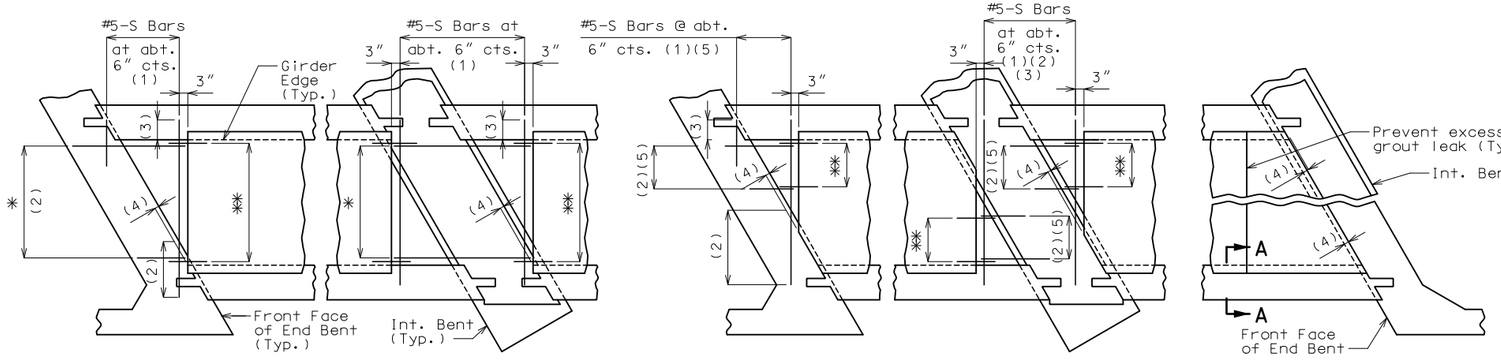
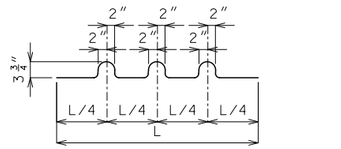


SQUARED END PANELS OR TRUNCATED END PANELS

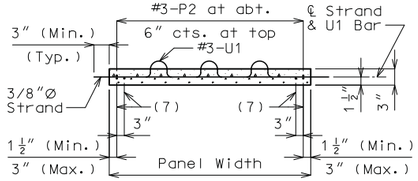
PLAN SHOWING PANELS PLACEMENT

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

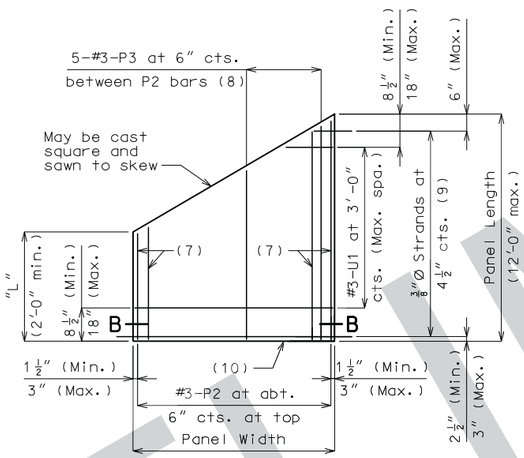


BENDING DIAGRAM FOR U1 BAR

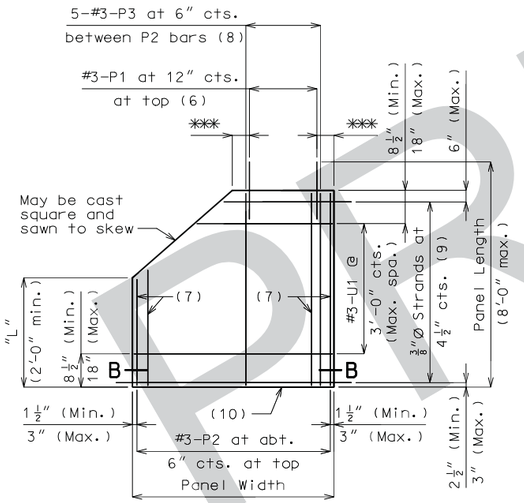
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



SECTION B-B

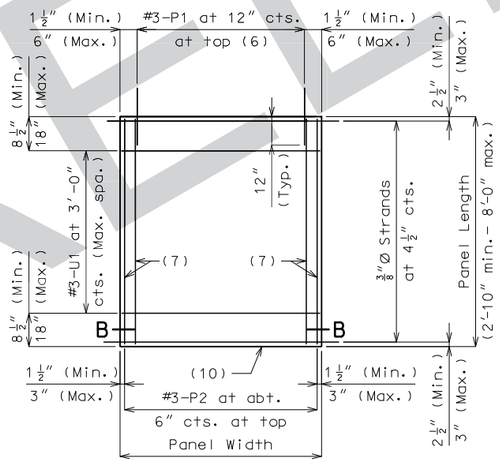


PLAN OF OPTIONAL SKEWED END PANEL



PLAN OF OPTIONAL TRUNCATED END PANEL

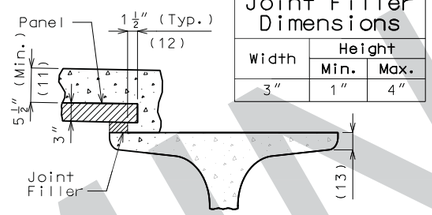
✱✱✱ 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL

SKEWED END PANELS

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



SECTION A-A

Reference Notes:

Plan of Panels Placement:

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

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

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

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

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

Plans of Panels:

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

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

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

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

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

Section A-A:

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

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

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

General Notes:

Prestressed Panels:

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

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

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

Initial prestressing force = 17.2 kips/strand.

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

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

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

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

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:
#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:

Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. 20 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness to within tolerances. The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Joint filler shall be glued to the girder. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.
Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

DETAILS OF PRESTRESSED PANELS

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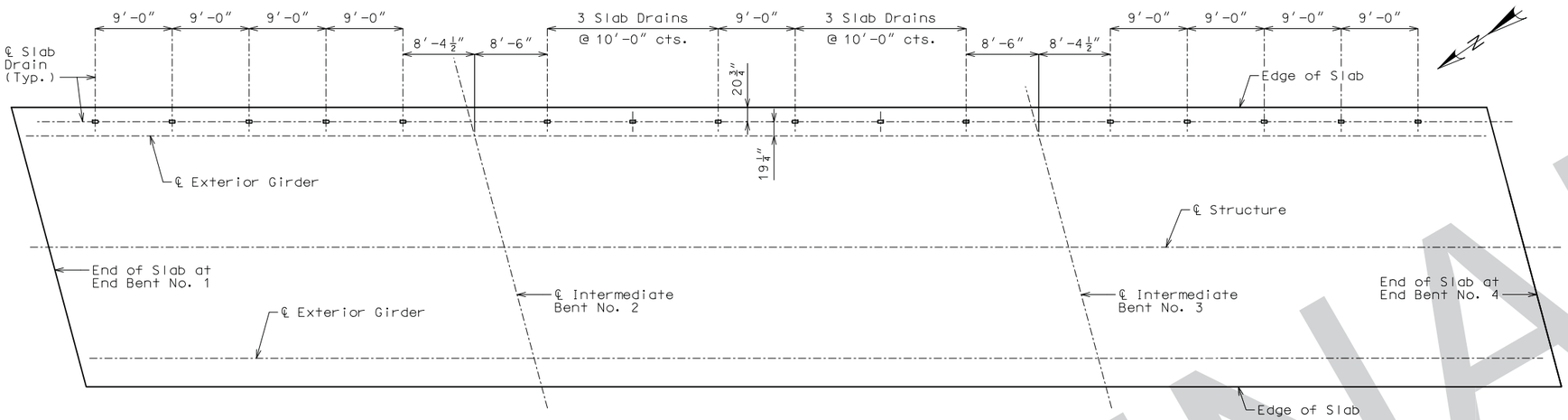
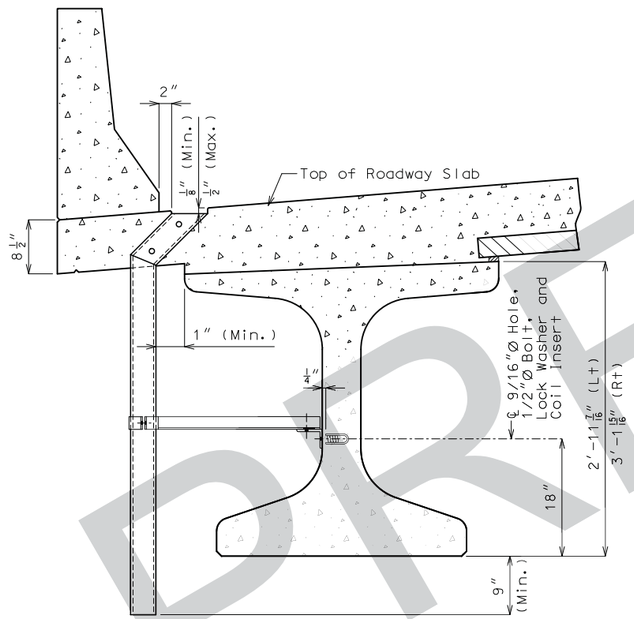
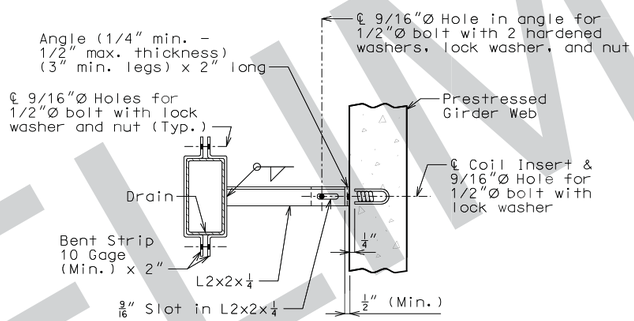


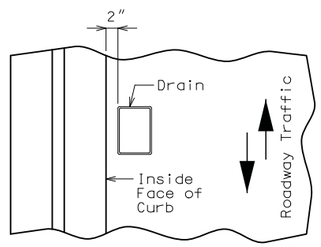
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION NEAR DRAIN

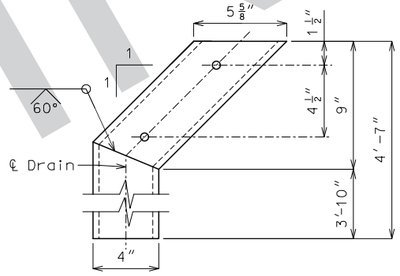


PART SECTION SHOWING BRACKET ASSEMBLY

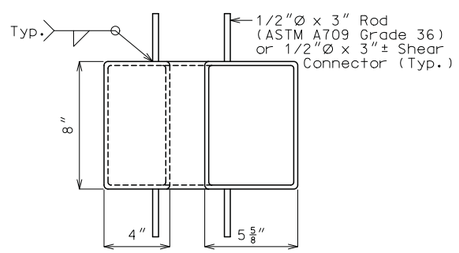


PART PLAN OF SLAB AT DRAIN

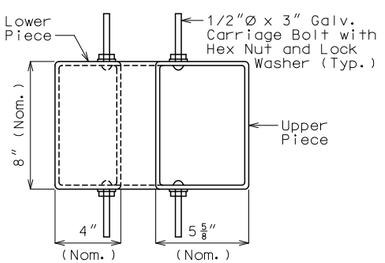
SLAB DRAIN DETAILS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN



PLAN OF OPTIONAL FRP DRAIN

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4″ welded sheets of ASTM A709 Grade 36 steel or from 1/4″ structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8″ x 4″.

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8″ x 4″.

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be Gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.

No additional payment will be made for this substitution.

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
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DISTRICT BR | SHEET NO. 19
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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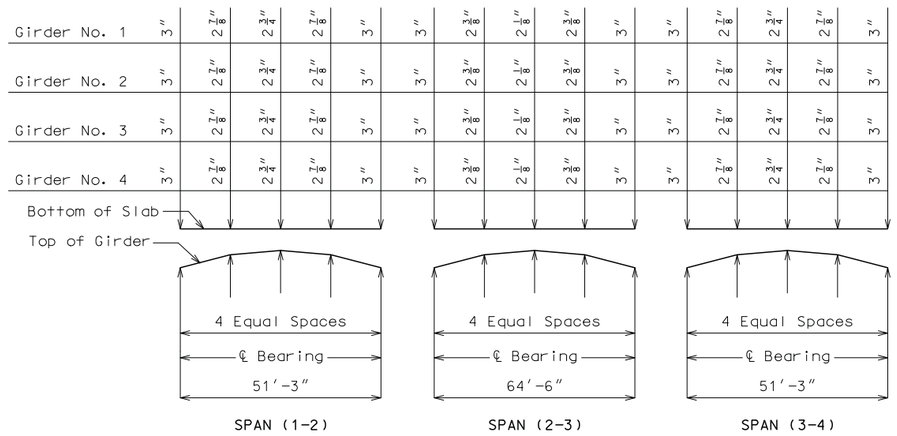
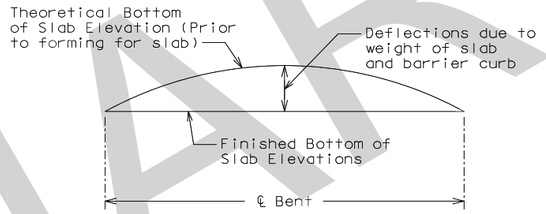


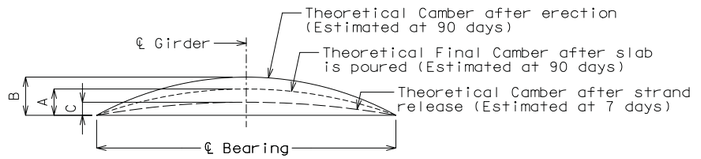
THEORETICAL SLAB HAUNCHING DIAGRAM



TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at ℄ of Girder (Prior to forming for slab) ✻✻																
Girder Number	Span (1-2) (51′-3″ ℄ Brg. - ℄ Brg.)					Span (2-3) (64′-6″ ℄ Brg. - ℄ Brg.)					Span (3-4) (51′-3″ ℄ Brg. - ℄ Brg.)					
	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	℄ Brg.	.25	.50	.75	℄ Brg.	
1	368.55	368.57	368.58	368.57	368.55	368.55	368.60	368.62	368.60	368.55	368.55	368.57	368.58	368.57	368.55	
2	369.25	369.26	369.27	369.26	369.25	369.25	369.30	369.32	369.30	369.25	369.25	369.26	369.27	369.26	369.25	
3	369.94	369.96	369.97	369.96	369.94	369.94	369.99	370.01	369.99	369.94	369.94	369.96	369.97	369.96	369.94	
4	370.63	370.65	370.66	370.65	370.63	370.63	370.68	370.70	370.68	370.63	370.63	370.65	370.66	370.65	370.63	

✻✻ Elevations are based on a constant slab thickness of 8 1/2″ and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier curb.



	Span (1-2)			Span (2-3)			Span (3-4)		
	A	B	C	A	B	C	A	B	C
Ext. girder	1/4″	1/2″	1/4″	7/8″	1 1/2″	5/8″	1/4″	1/2″	1/4″
Int. girder	1/4″			7/8″			1/4″		

GIRDER CAMBER DIAGRAM

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. no payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Conversion factors for girder camber (estimated at 90 days)

0.25 pt. = 0.7125 x 0.5 pt.

SLAB DETAILS

Detailed AUG 2016
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CHRIS LINNEMAN
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ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 20
COUNTY SCOTT
JOB NO. J0I0956
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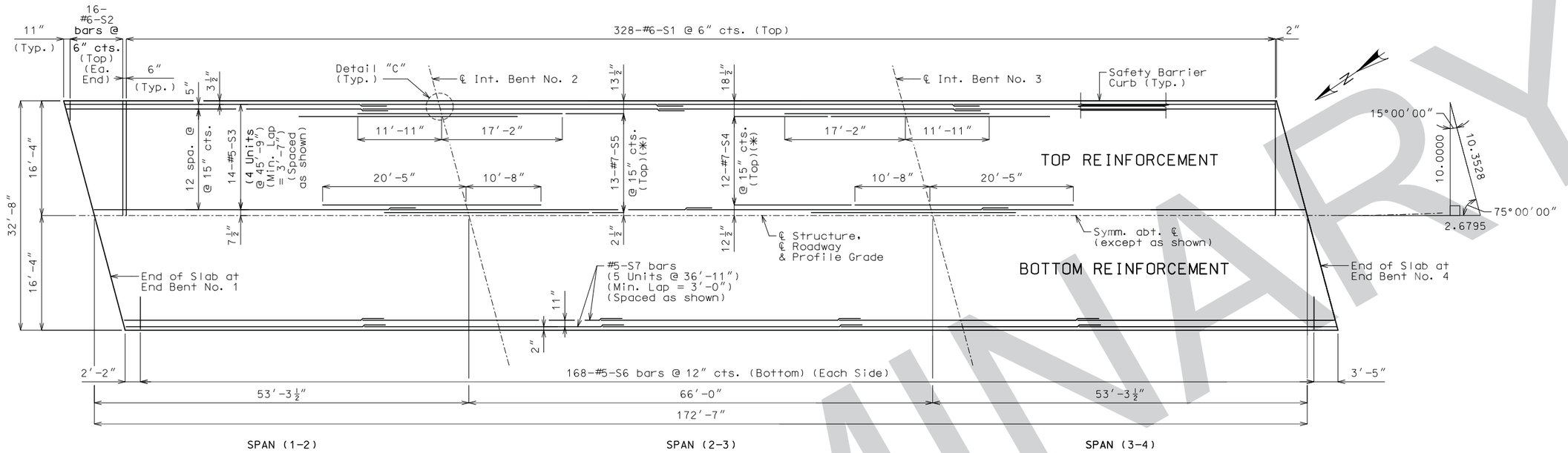
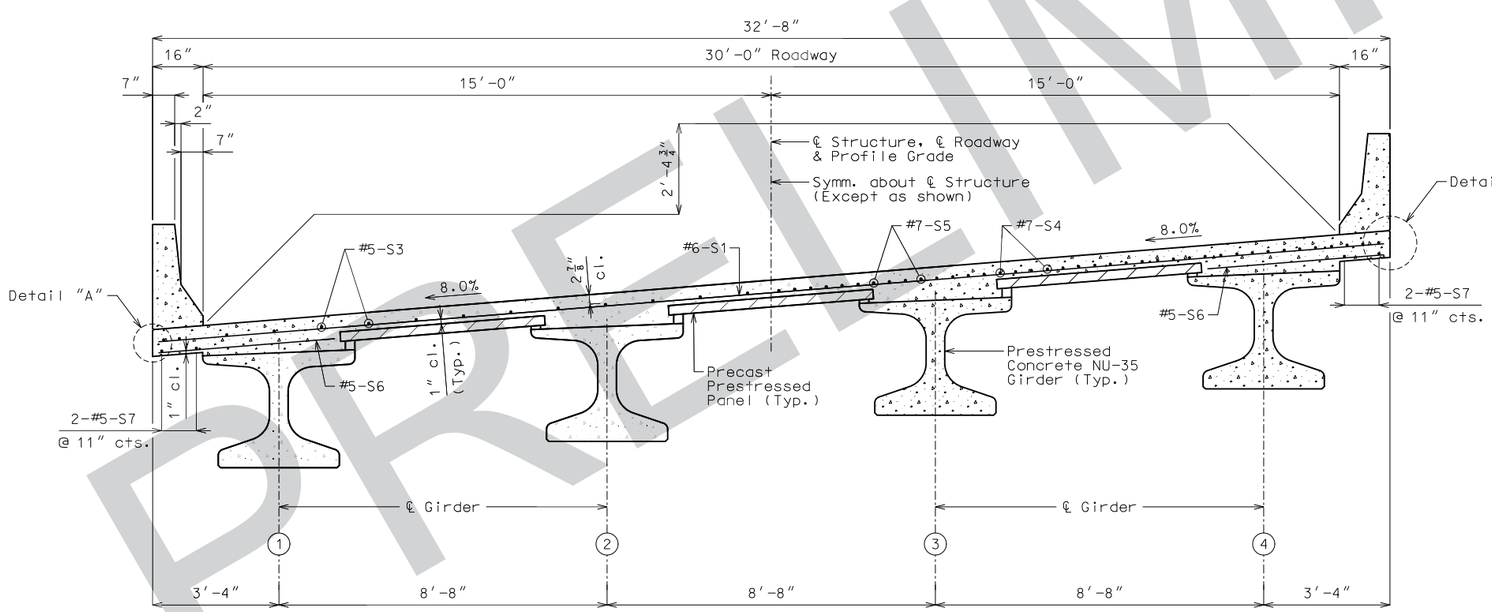


PLAN OF SLAB SHOWING TOP AND BOTTOM REINFORCEMENT

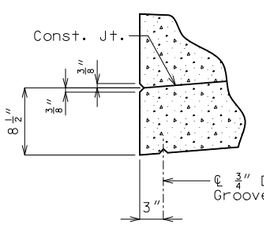
(*) Typ. over Int. Bents No. 2 & 3



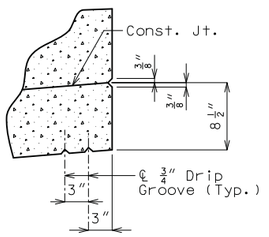
HALF SECTION NEAR ℄ SPAN

HALF SECTION NEAR INTERMEDIATE BENT

SECTION THRU SLAB



DETAIL "A"



DETAIL "B"

Notes:

For Theoretical Bottom of Slab Elevations, Theoretical Slab Haunching Diagram and Girder Camber Diagram, see Sheet No. 20.

For details and reinforcement of safety barrier curb not shown, see Sheets No. 23 thru 25.

For Slab Drain Details, see Sheet No. 19.

For Details of Precast Prestressed Panels, see Sheet No. 18.

For Slab Pouring Sequence & Detail "C", see Sheet No. 22.

For detail showing optional bar shifting at Safety Barrier Curb, see Sheet No. 22.

SLAB DETAILS

Detailed AUG 2016
Checked AUG 2016

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COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

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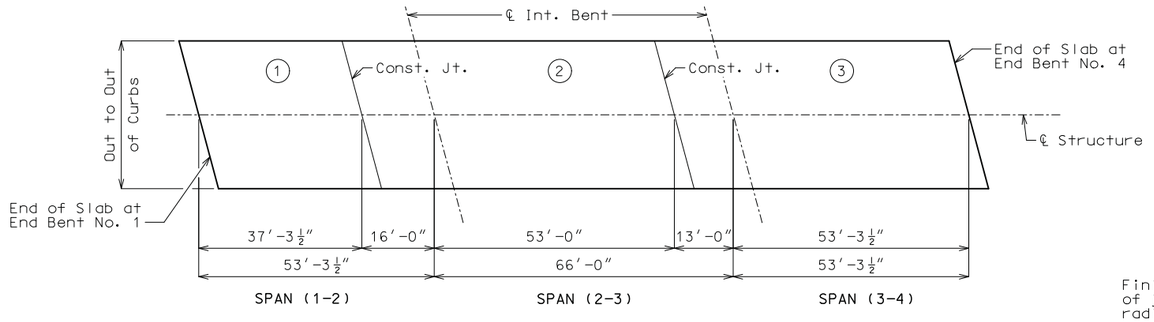


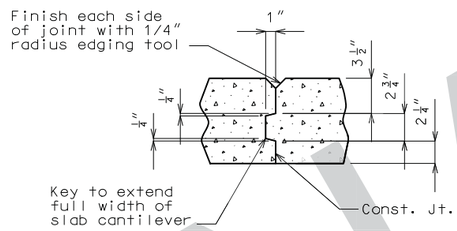
	Sequence of Pours			Min. rate of pour cu. yds./hr.
	Direction			With retarder
Basic sequence	1 End to 2	2 1 to 3	3 2 to End	25
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate "A" pours	1 + 2 End to 3		3 2 to End	26
Alternate "B" pours	1 + 2 + 3 End to End			26

SLAB POURING SEQUENCE

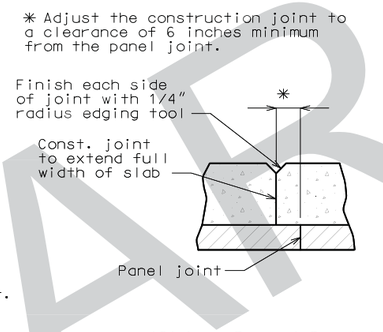
Notes:

The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bents and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

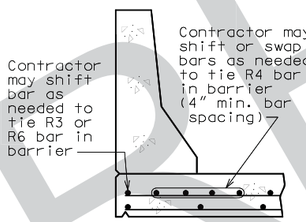


(Slab Cantilever)

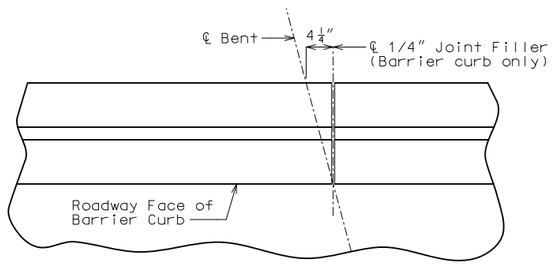


(Slab on Precast Panels)

SLAB CONSTRUCTION JOINT DETAILS



OPTIONAL SHIFTING TOP BARS AT BARRIER



DETAIL "C"

Notes:

For details of Precast Prestressed Panels, see Sheet No. 18.

For reinforcement of Safety Barrier Curb not shown, see Sheet No. 23.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 20.

For Plan of Slab Showing Reinforcement, see Sheet No. 21.

SLAB DETAILS

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BRIDGE NO. A8437

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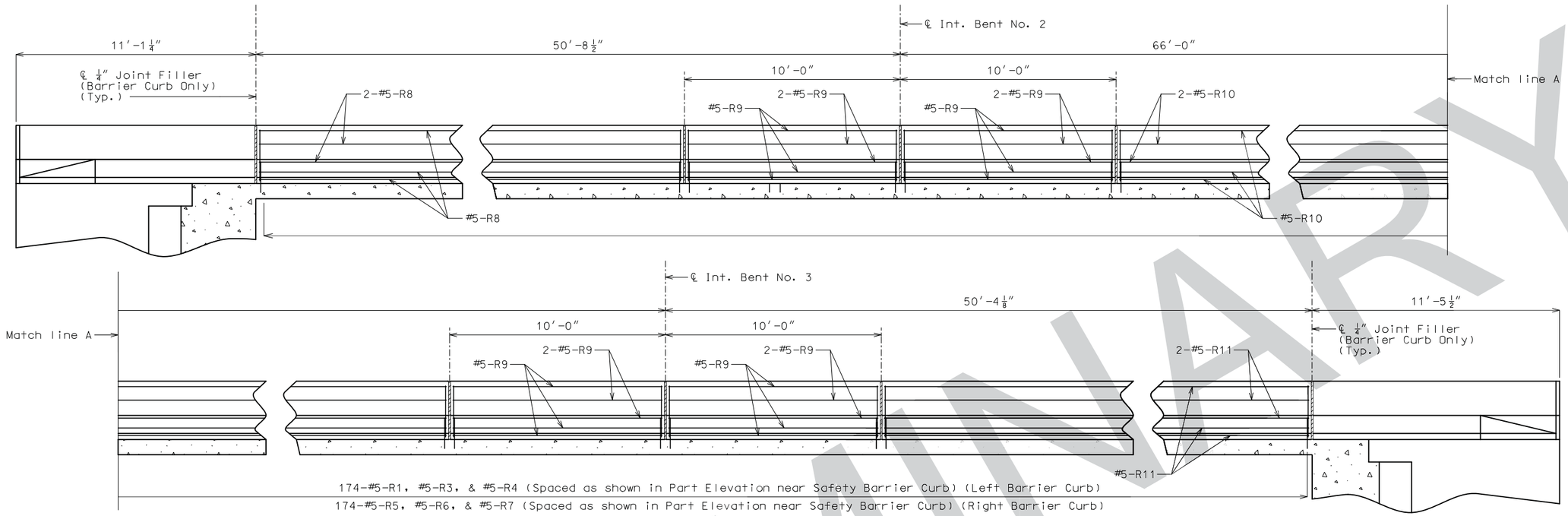
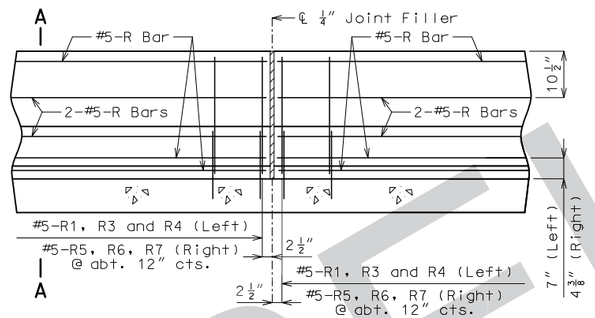


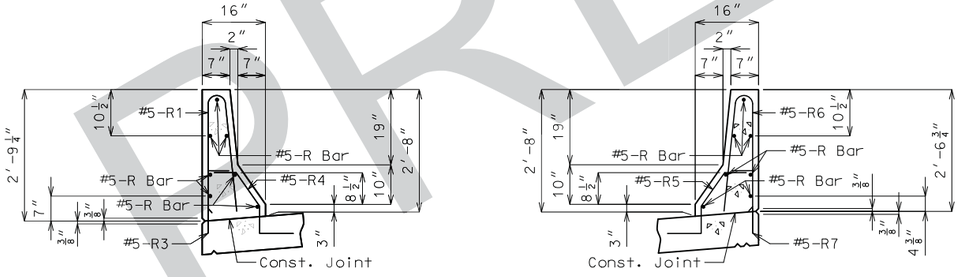
ELEVATION OF SAFETY BARRIER CURB

(Left barrier curb shown, right barrier curb similar)

Longitudinal dimensions are horizontal.



PART ELEVATION OF SAFETY BARRIER CURB (CAST-IN-PLACE CONVENTIONAL FORMING)



LEFT BARRIER

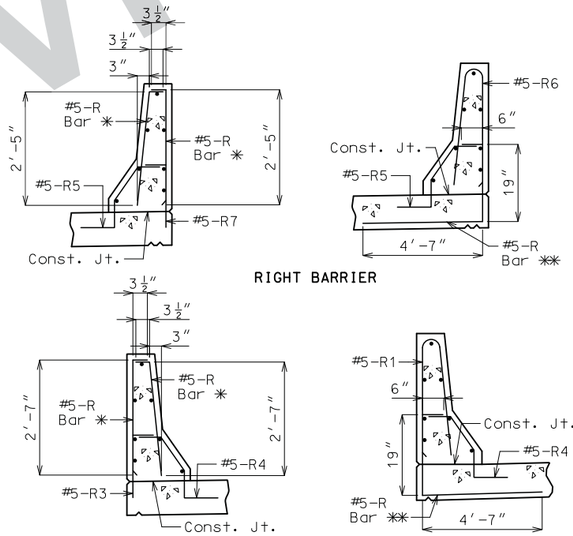
The cross-sectional area above the slab = 2.33 sq. ft.

RIGHT BARRIER

The cross-sectional area above the slab = 2.18 sq. ft.

SECTION A–A

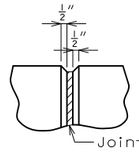
Use a minimum lap of 3′-1″ for #5 horizontal safety barrier curb bars.



R-BAR PERMISSIBLE ALTERNATE SHAPE

✳ The R1 (Left) or R6 (Right) bars 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.)

✳✳ The R3 (Left) or R7 (Right) bars and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.



FILLED JOINT DETAIL

General Notes

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a ½-inch radius or a ⅜-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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

DETAILS OF SAFETY BARRIER CURB

Detailed AUG 2016
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I-55	MO
DISTRICT	SHEET NO.
BR	23

COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8437

DESCRIPTION	DATE

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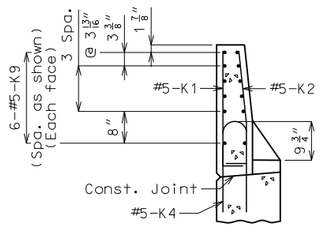
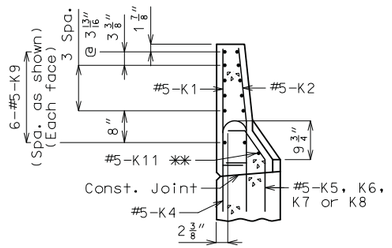
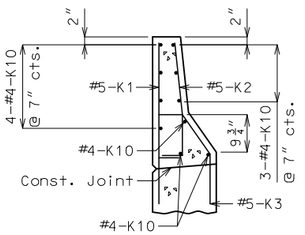


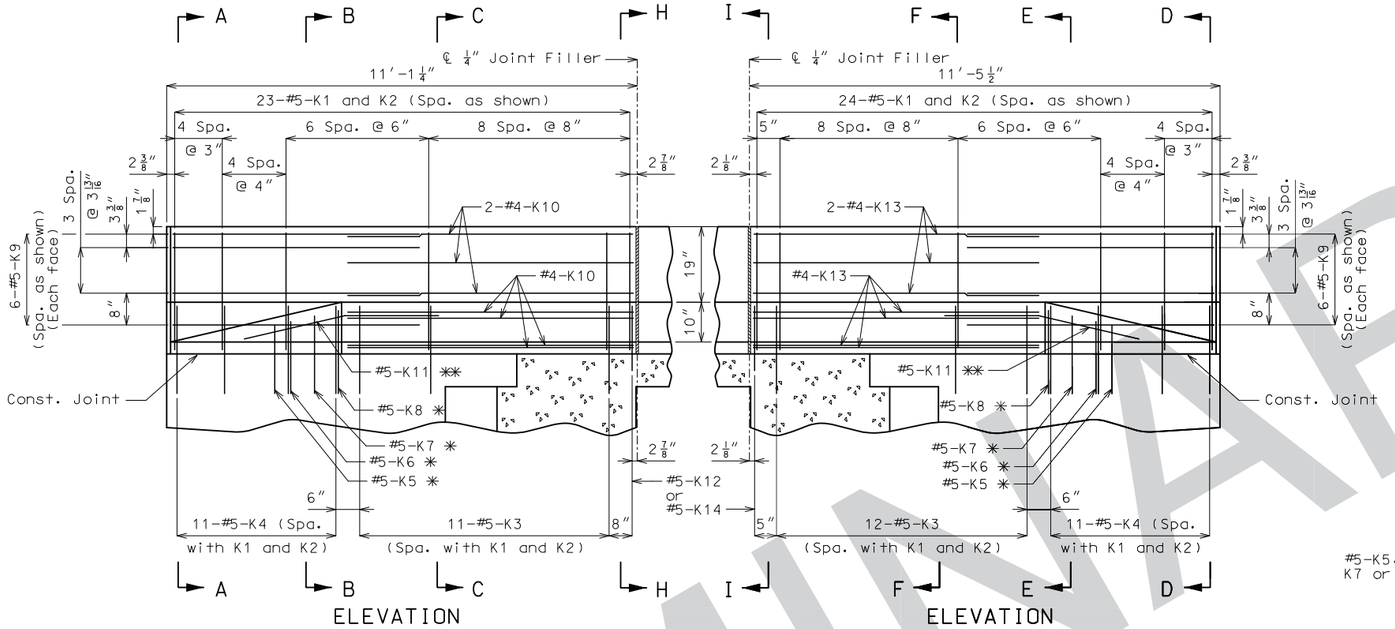
SECTION A-A



SECTION B-B

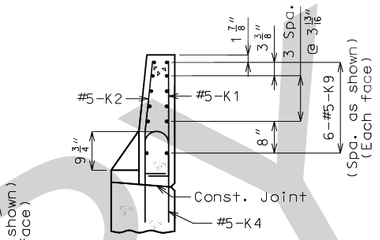


SECTION C-C

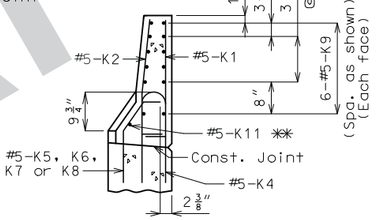


ELEVATION

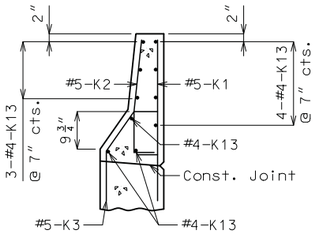
ELEVATION



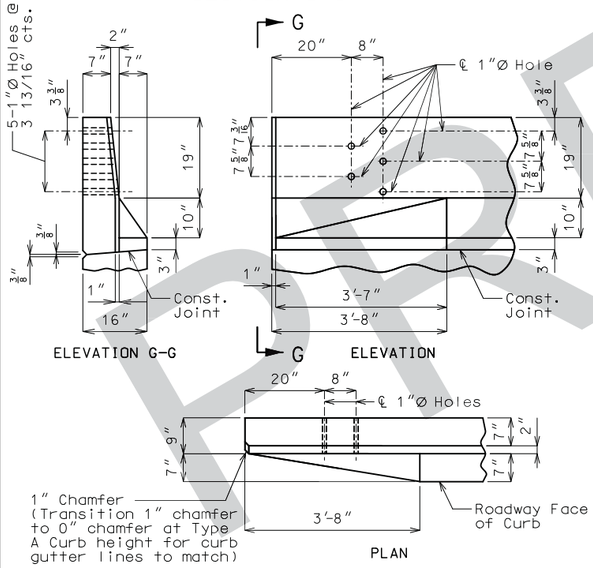
SECTION D-D



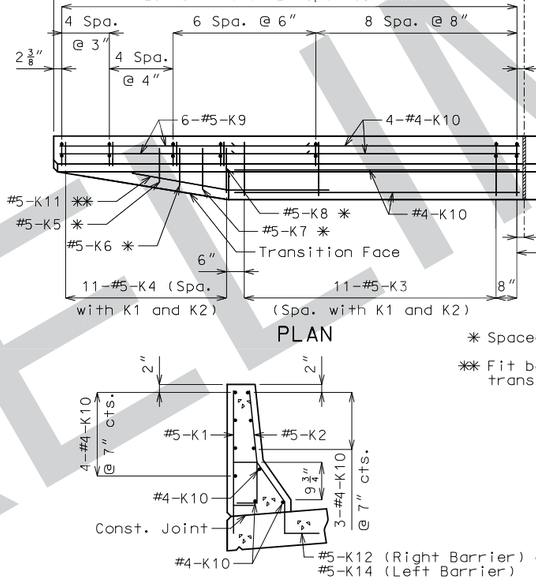
SECTION E-E

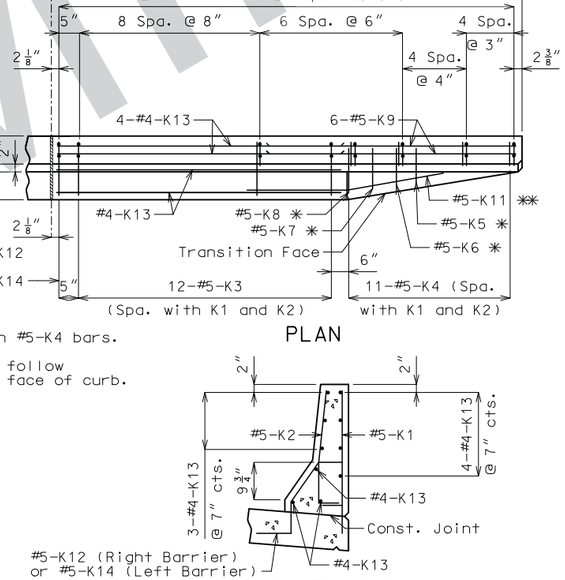


SECTION F-F



DETAILS OF GUARD RAIL ATTACHMENT





* Spaced with #5-K4 bars.

** Fit bar to follow transition face of curb.

SECTION H-H

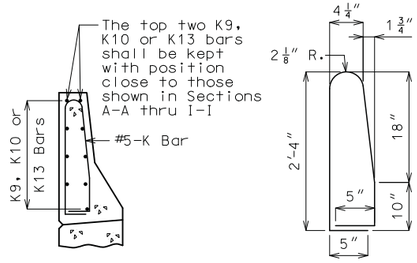
SECTION I-I

Note: Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

DETAILS OF SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)



K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE

(K3 or K4 thru K8 bars not shown for clarity)

The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

DATE PREPARED 11/21/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	24

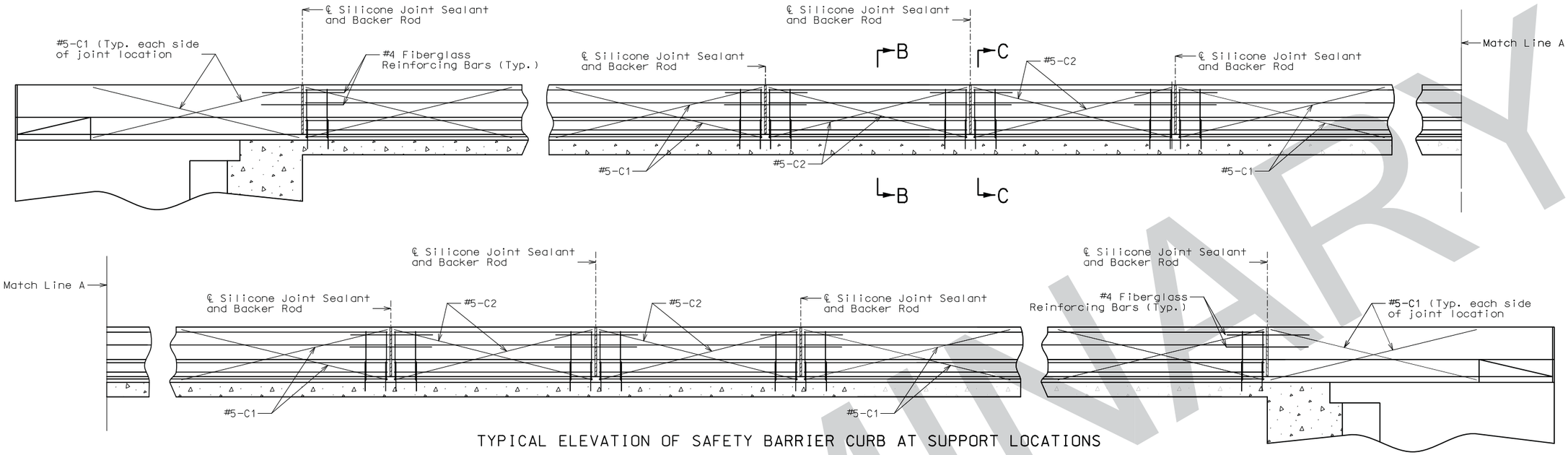
COUNTY: SCOTT
JOB NO.: J0I0956
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.: A8437

DESCRIPTION	DATE

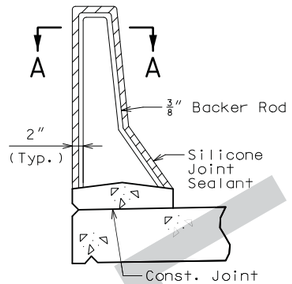
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

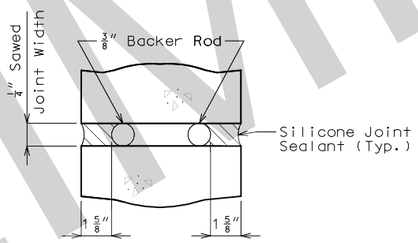
REV.



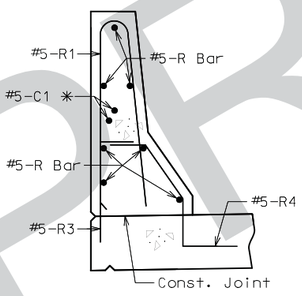
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



SECTION THRU JOINT

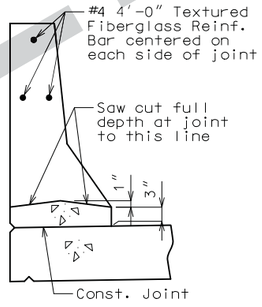


SECTION A-A



SECTION B-B

* Each side of joint location.



SECTION C-C

General Notes:

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb 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 Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb 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 safety barrier curb as shown on Missouri Standard Plans 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 Safety Barrier Curb.

Joint sealant and backer rods shall be used on all slip-form barrier curbs instead of joint filler and shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-form option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

C bars (slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.

Cost of silicone joint sealant and backer rod, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb.

OPTIONAL SLIP-FORM SAFETY BARRIER CURB

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016699
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

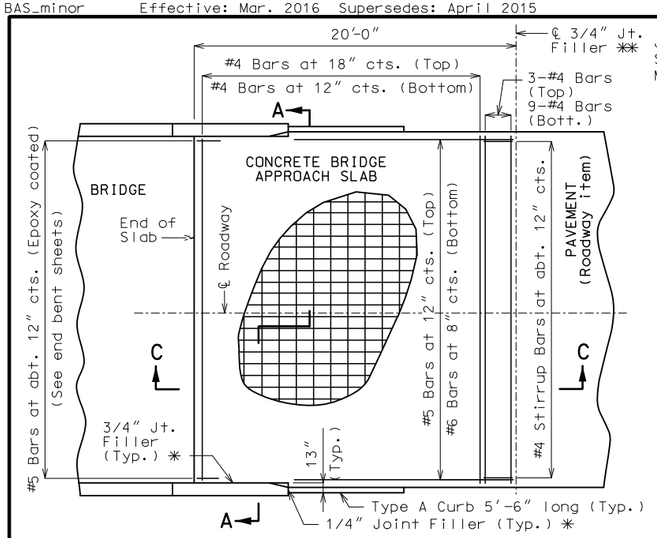
DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 25
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE | REV.

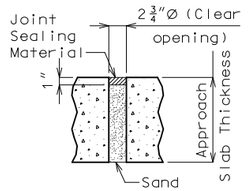
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

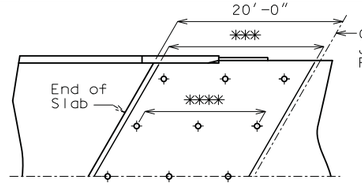
EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578



PART PLAN OF SQUARED STRUCTURE



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



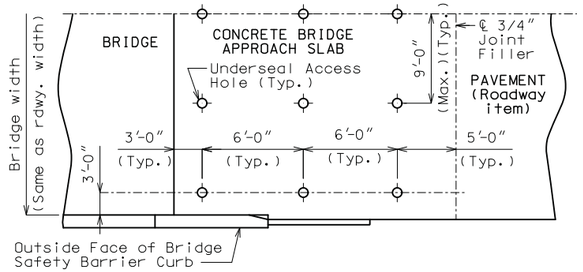
LEFT ADVANCED STRUCTURE SHOWN, RIGHT ADVANCED SIMILAR

PART PLAN OF SKEWED STRUCTURE

** Except not allowed with asphalt pavement.

*** Transverse reinforcing bars shall be placed parallel to end bents.

**** Underseal access holes shall be laid out parallel to end bents.



PART PLAN SHOWING UNDERSEAL ACCESS HOLES
(Squared structure shown)

Notes For Concrete Slab Only:

All concrete for the bridge approach slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 1½", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23".

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor Road) per square yard.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

* Seal joint between vertical face of bridge approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

General Notes:

Contractor shall have the option to construct either slab except as noted.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

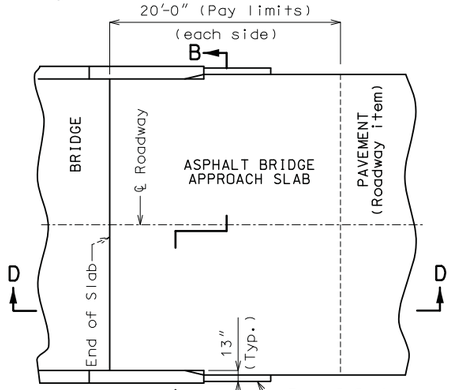
Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

MoDOT Construction personnel will indicate the bridge approach slab used for this structure:

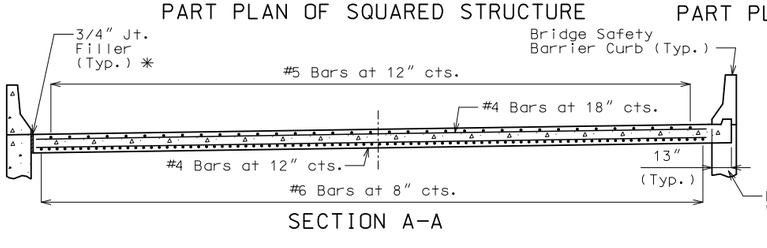
☐ Concrete Bridge Approach Slab
☐ Asphalt Bridge Approach Slab

Notes For Asphalt Slab Only:

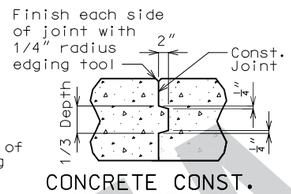
Payment for furnishing all materials, curb, labor and excavation necessary to construct the asphalt bridge approach slab, including curb, underdrain and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor Road) per square yard.



PART PLAN
(Squared structure shown, skewed structure similar)

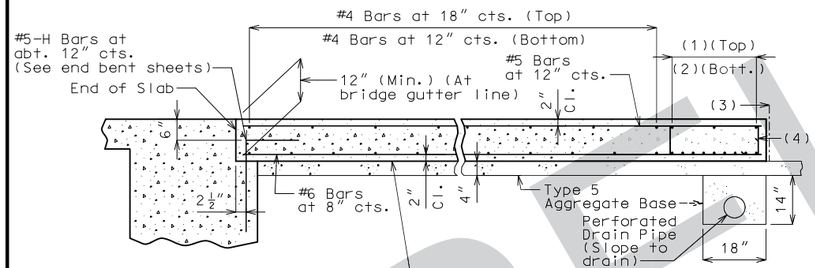


SECTION A-A



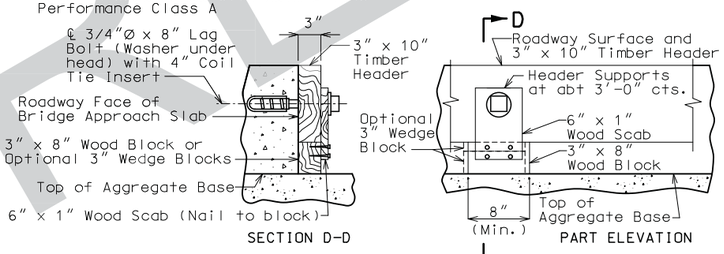
CONCRETE CONST. JOINT DETAIL
(If required)

4" TYPE A CURB



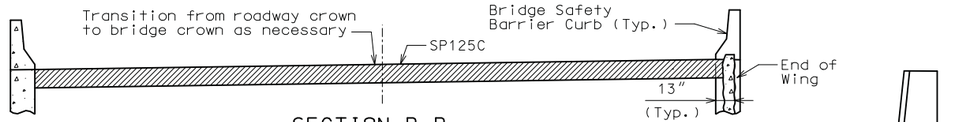
SECTION C-C
(Integral end bent)

(1) 3-#4 Bars
(2) 9-#4 Bars
(3) ℄ 3/4" Jt. Filler **
(4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.



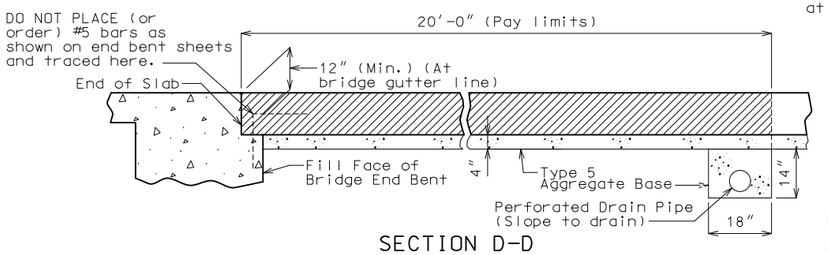
DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.

OPTIONAL CONCRETE SLAB

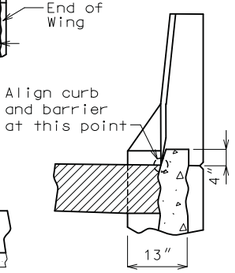


SECTION B-B

With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION D-D



4" TYPE S CURB
See Missouri Standard Plans Drawing 609.00 for details of Type S Curb.

OPTIONAL ASPHALT SLAB (EXCEPT NOT ALLOWED WITH CONCRETE PAVEMENT)

DETAILS OF BRIDGE APPROACH SLAB (MINOR ROAD)

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 26 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/21/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	26

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION	DATE	REV.

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
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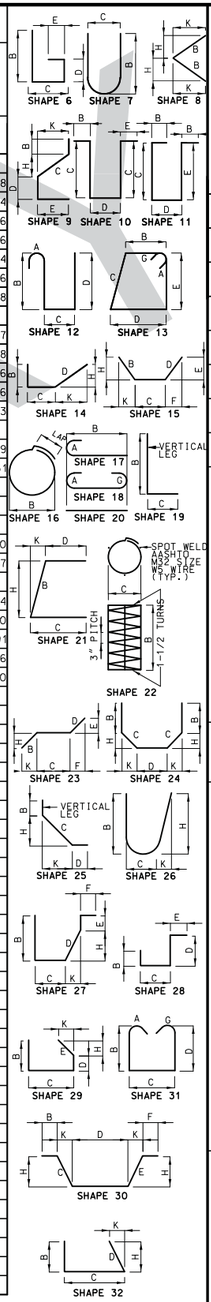
Phone 314-394-3100
Missouri Certificate of Authority: 001578

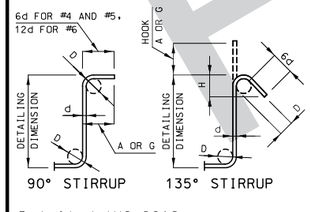
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			SUBSTRUCTURE																									
			INT. BENTS 2 & 3																									
36	6	D20	BEAM		20		X			4	2.000													4	2	4	2	225
16	8	H20	BEAM		18		X			32	5.000													36	3	36	3	1549
8	6	H21	BEAM		20		X			32	5.000													32	5	32	5	390
16	6	H22	BEAM		10	S	X					22.000	3	1.500										6	9	6	5	154
16	6	H23	BEAM		20		X			3	11.000													3	11	3	11	94
16	6	H24	BEAM		20		X			4	8.000													4	8	4	8	112
60	6	U20	BEAM		13	S	X			3	3.000	2	9.000	3	3.000	2	9.000							13	4	13	0	1172
28	6	U21	BEAM		10	S	X					2	9.000	3	3.000									8	9	8	5	354
40	4	U22	BEAM		10	S	X					0	12.000	3	3.000									5	3	5	1	136
			SUPERSTRUCTURE																									
			END BENTS 1 & 4																									
18	6	F1	WING BRACE		23	S				0	14.000	3	3.125	0	14.000	0	11.125	0	8.500	0	11.125	0	8.500	5	7	5	6	149
18	6	F2	WING BRACE		23	S				0	14.000	4	5.000	0	14.000	0	8.500	0	11.125	0	8.500	0	11.125	6	9	6	8	180
8	6	F3	WING BRACE		21	S				2	8.625			4	10.000					2	7.500	0	8.500	7	6	7	3	87
8	6	F4	WING BRACE		21	S				2	8.625	5	5.000							2	7.500	0	8.500	8	2	7	10	94
24	6	H1	BEAM		20					33	6.000													33	6	33	6	1208
8	6	H2	DIAPHRAGM	E	20					33	6.000													33	6	33	6	403
60	5	H3	DIAPHRAGM	E	19					2	0.000	0	15.000											3	3	3	2	198
8	6	H4	DIAPHRAGM		20					33	6.000													33	6	33	6	403
18	6	H5	DIAPHRAGM		20					8	0.000													8	0	8	0	216
6	6	H6	DIAPHRAGM		20					5	4.000													5	4	5	4	48
12	6	H7	DIAPHRAGM		20					2	11.000													2	11	2	11	53
8	6	H8	DIAPHRAGM		20					5	6.000													5	6	5	6	66
8	5	H9	STRAND TIE		20					5	9.000													5	9	5	9	48
4	8	H10	WINGWALL	E	6					10	6.000	16.000												10	10	10	8	114
4	8	H11	WINGWALL	E	20					10	6.000													10	6	10	6	112
12	8	H12	WINGWALL		6					10	6.000	16.000												10	10	10	8	342
12	8	H13	WINGWALL		20					10	6.000													10	6	10	6	336
36	6	H14	WINGWALL		6					9	6.000	12.000												10	6	10	4	559
36	6	H15	WINGWALL		20					9	6.000													9	6	9	6	514
32	5	U1	BEAM		10	S						5	0.000	2	10.000									12	10	12	7	420
40	4	U2	BEAM		13	S				2	10.000	2	8.000	2	10.000	2	8.000							11	9	11	5	305
16	4	U3	BEAM		10	S						2	8.000	2	10.000									8	2	8	0	86
48	5	U4	DIAPHRAGM	E	10	S						3	3.000	2	4.000									8	10	8	7	430
48	6	U5	DIAPHRAGM		19	S				2	5.000	2	10.000											8	3	5	1	366
76	6	U6	DIAPHRAGM	E	19	S				3	0.000	5	1.000											8	1	7	11	904
32	5	V1	BEAM		20					5	0.000													5	0	5	0	167
40	6	V2	DIAPHRAGM		20					2	5.000													2	5	2	5	145
72	6	V3	WINGWALL		20					6	10.000													6	10	6	10	739

BILL OF REINFORCING STEEL

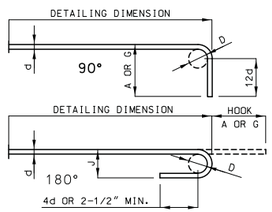
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			INT. BENTS 2 & 3																									
24	4	H25	DIAPHRAGMS		20					8	0.000													8	0	8	0	128
12	6	H26	DIAPHRAGMS		20					8	0.000													8	0	8	0	144
12	6	H27	DIAPHRAGMS		20					5	4.000													5	4	5	4	96
8	5	H28	DIAPHRAGMS		20					4	4.000													4	4	4	4	36
8	5	H29	DIAPHRAGMS		20					5	3.000													5	3	5	3	44
8	6	H30	DIAPHRAGMS		20					5	6.000													5	6	5	6	66
24	5	H31	DIAPHRAGMS		20						18.000														18		18	38
60	4	U23	DIAPHRAGMS	E	28	S						2	10.000	3	6.000	12.000								7	4	7	2	287
32	6	U24	DIAPHRAGMS	E	28	S						2	10.000	2	9.000	14.000								6	9	6	5	308
32	6	U25	DIAPHRAGMS	E	28	S						2	10.000	2	11.000	14.000								6	11	6	7	316
16	5	U26	DIAPHRAGMS	E	6	S				5	1.000		9.000											5	10	5	9	96
16	5	U27	DIAPHRAGMS	E	6	S				5	1.000	1	9.000											6	10	6	9	113
8	5	V20	DIAPHRAGMS	E	20					3	5.000													3	5	3	5	29
8	5	V21	DIAPHRAGMS	E	20					3	9.000													3	9	3	9	31
			SLAB																									
328	6	S1	SLAB	E	20			V	2	32	5.000													32	5	32	5	15970
32	6	S2	SLAB	E	20					30	7.000													30	7	30	7	797
			INCR. = 22 3/8 IN.							2	7.000													2	7	2	7	
112	5	S3	SLAB	E	20					45	9.000													45	9	45	9	5344
48	7	S4	SLAB	E	20					31	1.000													31	1	31	1	3050
52	7	S5	SLAB	E	20					29	1.000													29	1	29	1	3091
336	5	S6	SLAB	E	20					4	7.000													4	7	4	7	1606
20	5	S7	SLAB	E	20					36	11.000													36	11	36	11	770





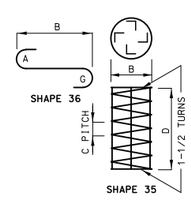
STIRRUP HOOK DIMENSIONS			
GRADES 40 - 50 - 60 KSI			
BAR SIZE	D (IN.)	90° HOOK	135° HOOK
		HOOK A OR G	HOOK A OR G	APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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 FABRICATOR'S 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.



BENDING DIAGRAMS

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 27 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016699
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

DATE PREPARED 11/21/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	27

COUNTY SCOTT

JOB NO. J0I0956

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A8437

DESCRIPTION

DATE

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

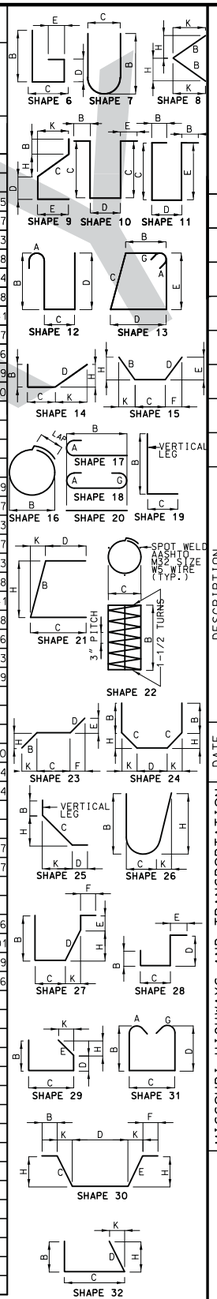
Z:\16017 GBA Scott County Bridge\DGN\Bridge\Final\Plotsheets\B_A8437_027_J0I0956_Barbill.dgn 7:55:19 AM 11/21/2016

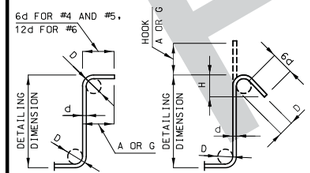
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			BARRIER CURB																									
94	5	K1	BARRIER CURB	E	19	S				2	4.000	5.125												2	9	2	7	253
94	5	K2	BARRIER CURB	E	14	S					5.125	10.125		18.000						2.000		17.875		2	9	2	8	261
46	5	K3	BARRIER CURB	E	27	S				3	5.125	5.125		12.000		2	7.250			9.875		6.875		7	6	7	4	352
44	5	K4	BARRIER CURB	E	7					3	5.125	6.000												7	2	7	1	325
4	5	K5	BARRIER CURB	E	25	S				2	11.625	6.750		4.375						5.500		4.000		3	11	3	10	16
4	5	K6	BARRIER CURB	E	25	S				2	10.625	7.875		4.375						6.500		4.500		3	11	3	10	16
4	5	K7	BARRIER CURB	E	25	S				2	9.250	9.625		4.375						7.875		5.500		3	11	3	10	16
4	5	K8	BARRIER CURB	E	25	S				2	7.875	11.250		4.375						9.250		6.500		4	0	3	11	16
48	5	K9	BARRIER CURB	E	20					6	2.000													6	2	6	2	309
20	4	K10	BARRIER CURB	E	20					7	4.000													7	4	7	4	98
4	5	K11	BARRIER CURB	E	8					2	2.125									2	2.000	0	2.375	4	4	4	4	18
2	5	K12	BARRIER CURB	E	27	S					17.000	5.125		12.000		8.375		12.000		9.875		6.875		4	6	4	4	9
20	4	K13	BARRIER CURB	E	20					7	8.000													7	8	7	8	102
2	5	K14	BARRIER CURB	E	27	S					19.000	5.125		12.000		8.375		12.000		9.875		6.875		4	8	4	6	9
174	5	R1	BARRIER CURB	E	26					2	6.125	4.250								2	5.625	3.000		5	3	5	3	953
	R2		NOT USED																									
174	5	R3	BARRIER CURB	E	19	S					18.250	6.000													24		23	348
174	5	R4	BARRIER CURB	E	27	S						6.000		11.250		7.375		12.000		9.250		6.375		3	1	2	11	529
174	5	R5	BARRIER CURB	E	27	S						6.000		11.250		7.875		12.000		9.250		6.375		3	1	2	11	529
174	5	R6	BARRIER CURB	E	26					2	4.375	4.250								2	3.875	3.000		4	11	4	11	892
174	5	R7	BARRIER CURB	E	19	S					15.875	6.000													22		21	318
14	5	R8	BARRIER CURB	E	20					40	4.000													40	4	40	4	589
56	5	R9	BARRIER CURB	E	20					9	8.000													9	8	9	8	565
14	5	R10	BARRIER CURB	E	20					45	8.000													45	8	45	8	667
14	5	R11	BARRIER CURB	E	20					40	0.000													40	0	40	0	584
			SLIP FORM																									
32	5	C1	SLIP FORM	E	20					7	6.000													7	6	7	6	250
16	5	C2	SLIP FORM	E	20					10	0.000													10	0	10	0	167

BILL OF REINFORCING STEEL

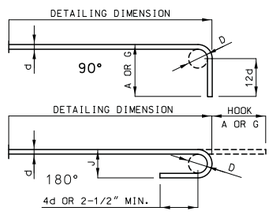
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			TOTALS																									
	4																											655
	4			E																								487
	5																											753
	5			E																								16608
	6																											7634
	6			E																								18698
	7			E																								6141
	8																											2227
	8			E																								226
			TOTAL																									11269
			TOTAL	E																								42160
			SLAB ON GIRDER																									
	4																											519
	4			E																								287
	5																											753
	5			E																								8617
	6																											5133
	6			E																								18698
	7			E																								6141
	8																											678
	8			E																								226
			TOTAL																									7083
			TOTAL	E																								33969
			BARRIER CURB																									
	4			E																								200
	5			E																								7574
			TOTAL	E																								7774
			SLIP FORM																									
	5			E																								417
			TOTAL	E																								417
			REINFORCING STEEL (BRIDGES)																									
	4																											136
	6																											2501
	8																											1549
			TOTAL																									4186





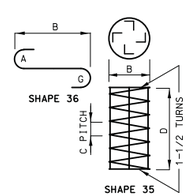
STIRRUP HOOK DIMENSIONS					
GRADES 40 - 50 - 60 KSI					
BAR SIZE	D (IN.)	90° HOOK	135° HOOK		
		HOOK A OR G	HOOK A OR G	APPROX. H	
#4	2"	4-1/2"	4-1/2"	3"	
#5	2-1/2"	6"	5-1/2"	3-3/4"	
#6	4-1/2"	12"	8"	4-1/2"	

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	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"
#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 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. 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 FABRICATOR'S 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.



BENDING DIAGRAMS

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 28 of 32

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

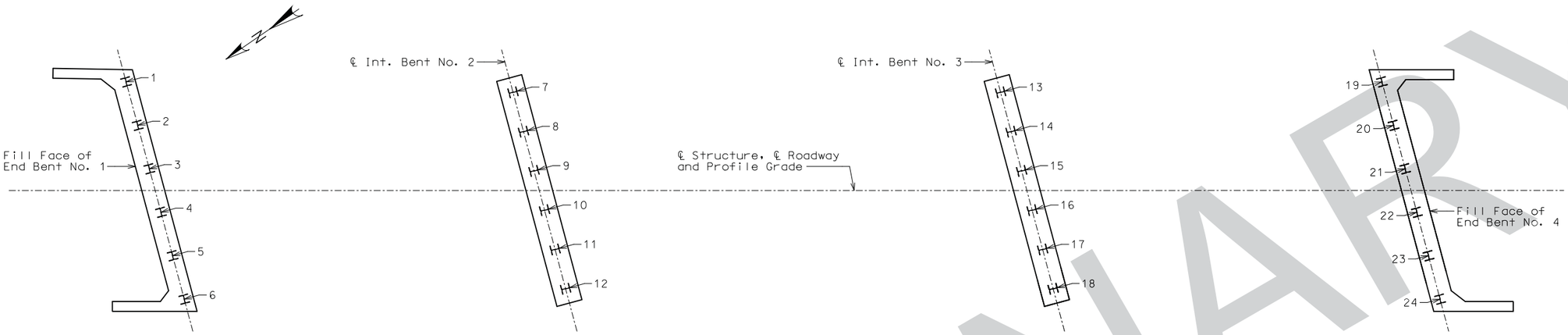
DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 28
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021
Phone 314-394-3100
Missouri Certificate of Authority: 001578

Z:\16017 GBA Scott County Bridge\DGN\Bridge\Final\Plotsheets\B_A8437_028_J0I0956_Barbill.dgn 7:55:20 AM 11/21/2016



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

AS-BUILT PILE DATA					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					END BENT NO. 1
1					
2					
3					
4					
5					
6					
					INT. BENT NO. 2
7					
8					
9					
10					
11					
12					

AS-BUILT PILE DATA					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					INT. BENT NO. 3
13					
14					
15					
16					
17					
18					
					END BENT NO. 4
19					
20					
21					
22					
23					
24					

Note: Indicate in remarks column:
A.) Pile Type and Grade
B.) Batter
C.) Driven to Practical Refusal
D.) PDA test pile
E.) Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirment. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

Note: This sheet should be completed by MoDOT construction personnel.

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 29
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021 Phone 314-394-3100
Missouri Certificate of Authority: 001578

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

REV.

Surface Elevation: 356.6 | Completion Date: 6/30/2016
Datum: NAVD88 | Station: 60+55.00 | Offset: 6.2 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV) 0.5 1.0 1.5 2.0 2.5 / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % PL 10 20 30 40 50 LL
	Very stiff, brown SILT - (ML)			
		1-2-3	SS1	
		98	ST2	
		1-1-1	SS3	
	becoming soft to very soft	0-0-0	SS4	
		0-1-3	SS5	
	Stiff to soft, gray CLAY - (CH)	87	ST6	
		1-2-2	SS7	
	Medium stiff to stiff, maroon and gray, silty CLAY - (CL)	2-2-3	SS8	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE.ME.GPJ 8/5/16

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 40 FEET
TPD DRILLER MVL LOGGER
CME 55LC DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 92 %

REMARKS:
Bridge A8437, North abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 7/29/2016	Date: 8/4/2016	Date: 8/5/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8437-B-1

Project No. J026274.01

Surface Elevation: 356.6 | Completion Date: 6/30/2016
Datum: NAVD88 | Station: 60+55.00 | Offset: 6.2 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV) 0.5 1.0 1.5 2.0 2.5 / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % PL 10 20 30 40 50 LL
	Medium stiff to stiff, maroon and gray, silty CLAY - (CL) *(continued)*			
	soft	96	ST9	
		1-1-3	SS10	
		2-2-4	SS11	
		2-2-3	SS12	
		2-3-5	SS13	
		1-3-3	SS14	
		3-5-6	SS15	
	Dense, gray, sandy GRAVEL - GP	2-11-21	SS16	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE.ME.GPJ 8/5/16

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 40 FEET
TPD DRILLER MVL LOGGER
CME 55LC DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 92 %

REMARKS:
Bridge A8437, North abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 7/29/2016	Date: 8/4/2016	Date: 8/5/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF
LOG OF BORING: A8437-B-1

Project No. J026274.01

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 30
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021 Phone 314-394-3100
Missouri Certificate of Authority: 001578

REV.

BORING DATA

Note: For locations of boring, see Sheet No. 1.

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

Z:\16017 GBA Scott County Bridge\DGN\Bridge\Final\Plotsheets\B_A8437_030_J0I0956_Boring Data.dgn 7:56:35 AM 11/21/2016

Surface Elevation: 356.6 | Completion Date: 6/30/2016
Datum: NAVD88 | Station: 60+55.00 | Offset: 6.2 R

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Dense, gray, sandy GRAVEL - GP *(continued)*				
	rough drilling to 87 feet				
85					
	Hard, gray, very finely crystalline, thin to medium bedded, fresh LIMESTONE		100% 0%	NQ1	
	highly fractured to 90.1 feet				
90			100% 60%	NQ2	
95			100% 77%	NQ3	
	Boring terminated at 97 feet.				
100					
105					
110					
115					

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/5/16

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 40 FEET
TPD DRILLER MVL LOGGER
CME 55LC DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 92 %

REMARKS:
Bridge A8437, North abutment

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 7/29/2016	Date: 8/4/2016	Date 8/5/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8437-B-1

Project No. J026274.01

Surface Elevation: 358.9 | Completion Date: 6/29/2016
Datum: NAVD88 | Station: 62+25.00 | Offset: 6.2 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Soft to medium stiff, gray, silty CLAY - (CL)				
	disturbed sample			ST1	
5					
			1-2-2	SS2	
10					
			1-2-4	SS3	
15					
	71.3 percent finer than No. 200 sieve		+	SS4	
20	Loose, gray, silty SAND - SM				
			2-2-3	SS5	
25	Soft, gray, sandy CLAY - (CH)				
			1-1-2	SS6	
30			+	SS7	68 >>
35	Medium stiff to soft, maroon and gray CLAY - CH				
			2-3-3	SS8	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE ME.GPJ 8/5/16

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 25 FEET
TPD DRILLER MVL LOGGER
CME 55LC DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 92 %

REMARKS:
Bridge A8437, South abutment
+ No tube sample recovery. Disturbed sample obtained by split-spoon.

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 7/29/2016	Date: 8/4/2016	Date: 8/5/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

LOG OF BORING: A8437-B-2

Project No. J026274.01

BORING DATA

Note: For locations of boring, see Sheet No. 1.

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/21/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 31
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021 Phone 314-394-3100
Missouri Certificate of Authority: 001578

REV.

Surface Elevation: 358.9 | Completion Date: 6/29/2016
Datum: NAVD88 | Station: 62+25.00 | Offset: 6.2 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Medium stff to soft, maroon and gray CLAY - CH *(continued)*				
	stiff				
45			2-4-5	SS9	
50			1-1-2	SS10	
			95	ST11	
55					
60			2-3-4	SS12	
	stiff				
65			2-4-5	SS13	
			2-3-3	SS14	
70	79.3 percent finer than No. 200 sieve				
	Very stiff, gray, gravelly, sandy CLAY - CH		4-8-14	SS15	
75					
	Very loose to medium dense, gray, SILTY SAND with gravel - SM		1-2-1	SS16	

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE.ME.GPJ 8/5/16

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 25 FEET
TPD DRILLER MVL LOGGER
CME 55LC DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 92 %

REMARKS:
Bridge A8437, South abutment
+ No tube sample recovery. Disturbed sample obtained by split-spoon.

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 7/29/2016	Date: 8/4/2016	Date: 8/5/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8437-B-2

Project No. J026274.01

Surface Elevation: 358.9 | Completion Date: 6/29/2016
Datum: NAVD88 | Station: 62+25.00 | Offset: 6.2 L

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ - UU/2, ○ - QU/2, □ - SV; 0.5 1.0 1.5 2.0 2.5) / STANDARD PENETRATION RESISTANCE ▲ N-VALUE (BLOWS PER FOOT) (ASTM D 1586) / WATER CONTENT, % (PL 10 20 30 40 50 LL)
	Very loose to medium dense, gray, SILTY SAND with gravel - SM *(continued)*		10-12-5	SS17	
85					
	Hard, gray, very finely crystalline, thin to medium bedded, fresh LIMESTONE highly fractured to 91.3 feet		100% 0%	NQ1	
90			100% 53%	NQ2	
	vertical fracture 93.8 to 94.8 feet				
95			100% 83%	NQ3	
	Boring terminated at 98 feet.				
100					
105					
110					
115					

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

LOG OF BORING 2002 WL J026274.01 - I-55 SCOTT CITY.GPJ 00 CLONE.ME.GPJ 8/5/16

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM 25 FEET
TPD DRILLER MVL LOGGER
CME 55LC DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 92 %

REMARKS:
Bridge A8437, South abutment
+ No tube sample recovery. Disturbed sample obtained by split-spoon.

Drawn by: AGB	Checked by: AWR	App'vd. by: CKK
Date: 7/29/2016	Date: 8/4/2016	Date: 8/5/2016

GEOTECHNOLOGY INC FROM THE GROUND UP

Subsurface Exploration
Interchange Improvements
Scott County, Missouri

CONTINUATION OF LOG OF BORING: A8437-B-2

Project No. J026274.01

BORING DATA

Note: For locations of boring, see Sheet No. 1.

Detailed AUG 2016
Checked AUG 2016

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 32 of 32

Z:\16017 GBA Scott County Bridge\DGN\Bridge\Final\Plotsheets\B_A8437_032_J0I0956_Boring Data.dgn 8:07:55 AM 11/21/2016

STATE OF MISSOURI
CHRIS LINNEMAN
NUMBER PE-2002016690
REGISTERED PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/21/2016

ROUTE	STATE
I-55	MO
DISTRICT	SHEET NO.
BR	32

COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A8437

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED

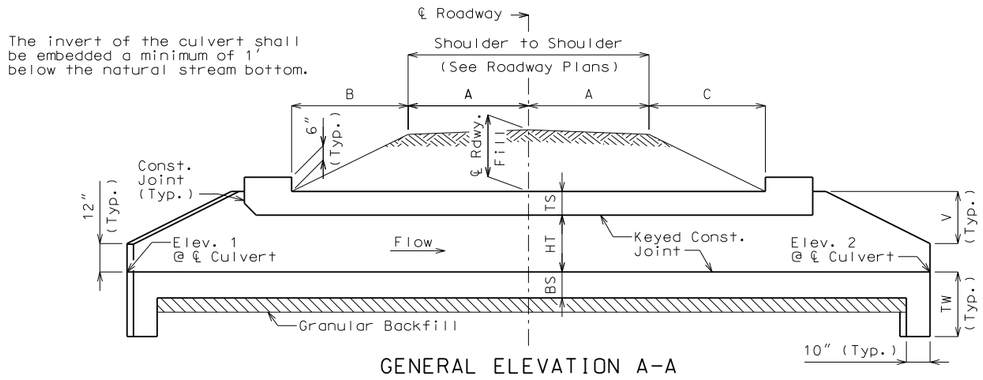
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFK·Moen, LLC
Civil Engineering Design
13523 Barrett Parkway Dr
Suite 250
St. Louis, MO 63021 Phone 314-394-3100
Missouri Certificate of Authority: 001578

REV.

3 (13'x10') CONCRETE BOX CULVERT

USPS 2478 TWP 29 N RGE 14 E



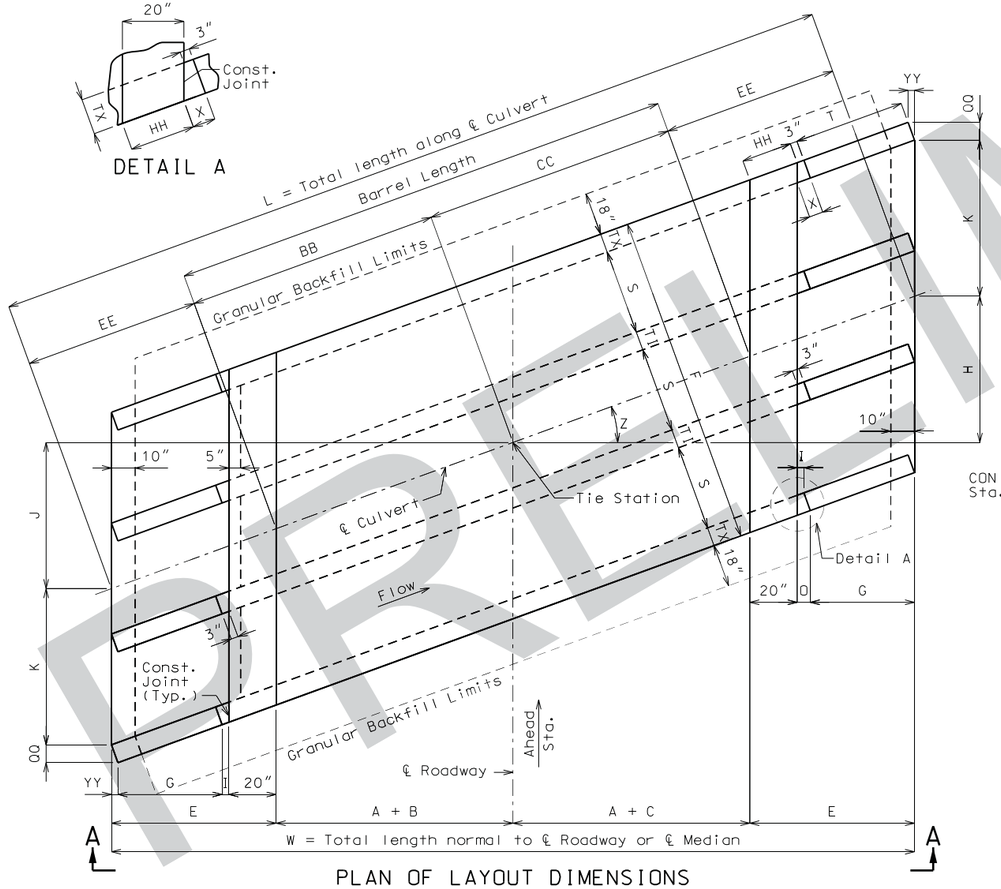
GENERAL ELEVATION A-A

Construction joint key not shown for clarity, see standard plans for details.

If any part of the barrel is exposed, the roadway fill shall be warped to provide 12 inches minimum cover. (Roadway Item)

If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

DETAIL A



PLAN OF LAYOUT DIMENSIONS

Layout Dimensions

Var.	Equation	Dim.	Var.	Equation	Dim.	Var.	Equation	Dim.
S	- - -	13'-0"	F	3S + 2TX + 2TI	42'-4"	W	2A + B + C + 2E	100'-11"
HT	- - -	10'-0"	G	2V	19'-10"	X	3" + TX(tan Z)	4 3/4"
TS	- - -	11"	H	(A + C + E)(tan Z)	8'-10 3/4"	Z	Skew Angle	10°
BS	- - -	11"	I	3"(cos Z)	3"	BB	(A + B)(sec Z)	29'-0"
TX	- - -	10"	J	(A + B + E)(tan Z)	8'-10 3/4"	CC	(A + C)(sec Z)	29'-0"
TI	- - -	10"	K	(3S/2 + TI)(sec Z)	20'-7 3/4"	EE	E(sec Z)	22'-2 3/4"
A	- - -	15'-0"	L	2EE + BB + CC	102'-5 1/2"	HH	20"(sec Z)	1'-8 1/4"
B	- - -	13'-6 3/4"	O	I + YY	4 3/4"	QQ	TX(cos Z)	9 7/8"
C	- - -	13'-6 3/4"	T	G(sec Z)	20'-1 5/8"	YY	TX(sin Z)	1 3/4"
E	G + O + 20"	21'-10 3/4"	V	HT + TS - 12"	9'-11"	TW	Max{3'-4" or (BS + 12")}	3'-4"

Hydrologic Data

Drainage Area = 2.6 mi²
Design Flood Frequency = 25 years
Design Flood Discharge = 1,350 cfs
Design Flood (D.F.) Elev. (Illmo) = 352.1
Backwater/Base Flood (100-year)
Base Flood Elevation (Illmo) = 353.8
Base Flood Discharge = 2,100 cfs
Estimated Backwater (Illmo) = 0.5 ft
Outlet Velocity = 5.9 ft/s
Base Flood Elev. (Ramsey Creek) = 357.6
Roadway Overtopping
Overtopping Flood Discharge = 2,600 cfs
Overtopping Flood Frequency = 200 years
Overtopping Flood Elevation = 355.8

Elevations

Upstream (Elev. 1) = 342.40
Downstream (Elev. 2) = 342.00
Pr. Gr. at Tie Sta. = 357.65

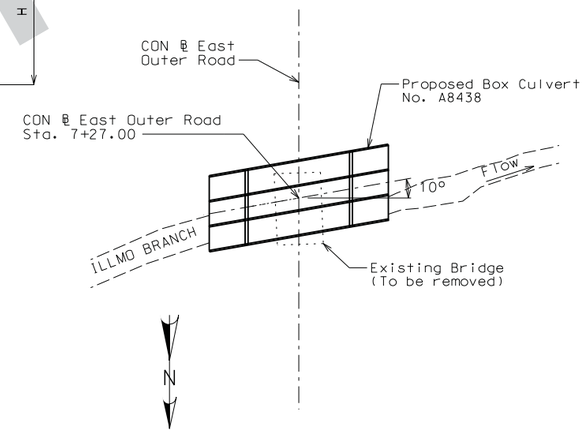
Fill Heights

℄ Rdwy at ℄ Culvert = 4.54 ft
Design (All units) = 6.0 ft

Dimensions are based on end units.
Fill heights are measured from the top of top slab to the top of earth fill or roadway.

Estimated Quantities

			Final
Class 4 Excavation	cu. yard	1,020	
Removal of Bridges	lump sum	1	
Class B-1 Concrete (Culverts-Bridge)	cu. yard	350.9	
Reinforcing Steel (Culverts-Bridge)	pound	51,840	



LOCATION SKETCH

General Notes:

Design Specifications:
2010 AASHTO LRFD Bridge Design Specifications and 2010 Interim Revisions

Design Loading:
Vehicular = HL-93 minus lane load, Earth = 120 lb/cf
Equivalent Fluid Pressure = 30 lb/cf (min.), 60 lb/cf (max.)

Design Unit Stresses:
Class B-1 Concrete (Box Culvert) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Miscellaneous:
MoDOT Construction personnel will indicate the type of box culvert constructed:
☐ Precast Concrete Box used
☐ Cast-in-Place Concrete Box used

When alternate precast concrete box sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

Channel bottom shall be graded within the right of way for transition of channel bed to culvert openings. Channel banks shall be tapered to match culvert openings. (Roadway Item)

Traffic Handling:
Structure to be closed during construction.

B.M. # 1 ELEV. 356.00 SW CORNER OF BRIDGE
EAST OUTER ROAD STA 14+52.23, 13.25' RT.

CULVERT-BRIDGE: EAST OUTER ROAD OVER ILLMO BRANCH

EAST OUTER ROAD FROM ROUTE M TO ROUTE PP
ABOUT 0.3 MILES SOUTH OF ROUTE M
TIE STA. 7+27.00 (East Outer Road)

STD. 703.37
STD. 703.84
STD. 703.86
STD. 703.87
STD. 706.35

Designed Aug 2016
Detailed Sept 2016
Checked Sept 2016

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI HOLLY A. LEHMKUHL NUMBER PE-2009032976 PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 STATE MO
DISTRICT BR SHEET NO. 1
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8438

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

GBA architects engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 00212
LANDSCAPE ARCHITECT 000025
PRO. LAND SURVEYOR 000059

HOLLY LEHMKUHL
PROFESSIONAL ENGINEER
PE-2009032976

REV.

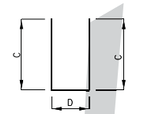
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

BILL OF REINFORCING STEEL

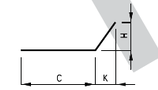
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	SHAPE NO.	STIRRUP (S)	EPOXY (E)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	C FT.	D or F FT.	E FT.	H FT.	K FT.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
.			Barrel Section														
			Cut Section 1														
108	5	A1	Top Slab	20				1	42.000						42'-0"	42'-0"	4731
96	5	A2	Bottom Slab	20				1	42.000						42'-0"	42'-0"	4205
28	5	A3	Top Slab	20			V	2	38.863		Incr =	34.028	inches		38'-10"	38'-10"	596
									2.000						2'-0"	2'-0"	
244	5	J3	Top Corner	19				1	2.583	5.042					7'-8"	7'-6"	1909
248	6	J4	Bottom Corner	19				1	10.583	5.083					15'-8"	15'-6"	5774
248	5	B1	Interior Wall	10				1		1.000	11.417				13'-5"	13'-2"	3406
162	5	B2	Exterior Wall	10				1		1.000	11.417				13'-5"	13'-2"	2225
98	6	H1	Top Slab	20				1	11.250						11'-3"	11'-3"	1656
104	6	H2	Top Slab	20				1	6.083						6'-1"	6'-1"	950
216	7	H3	Bottom Slab	20				1	9.833						9'-10"	9'-10"	4341
284	4	F1	Temp. Steel	20				1	31.583						31'-7"	31'-7"	5992
			Upper Wings and Headwall														
40	5	A2	Bottom Slab	20				1	42.000						42'-0"	42'-0"	1754
13	5	A10	Bottom Slab	20			V	1	38.863		Incr =	36.863	inches		38'-10"	38'-10"	277
									2.000						2'-0"	2'-0"	
2	8	D1	Headwall	20				1	42.733						42'-9"	42'-9"	228
4	9	D2	Headwall	20				1	9.024						9'-0"	9'-0"	123
16	5	E1	Toe	20				1	4.000						4'-0"	4'-0"	67
42	4	F52	Straight Wings	20			V	6	21.821		Incr =	28.432	inches		21'-10"	21'-10"	413
									7.605						7'-7"	7'-7"	
10	4	F54	Bottom Slab	20				1	22.836						22'-10"	22'-10"	153
36	4	F55	Bottom Slab	20				1	22.836						22'-10"	22'-10"	549
80	5	G1	Interior Walls	20			V	4	11.356		Incr =	5.909	inches		11'-4"	11'-4"	558
									2.000						2'-0"	2'-0"	
54	5	G2	Exterior Wings	20			V	2	11.602		Incr =	4.432	inches		11'-7"	11'-7"	384
									2.000						2'-0"	2'-0"	
78	7	H3	Bottom Slab	20				1	9.833						9'-10"	9'-10"	1569
4	8	H10	Headwall	20				1	42.733						42'-9"	42'-9"	457
16	7	J1	Straight Wings	20		FB		1	25.845						25'-10"	25'-10"	846
52	4	J5	Exterior Wings	19			V	2	11.232	5.083	Incr =	4.432	inches		16'-4"	16'-3"	403
									2.000	5.083					7'-1"	6'-11"	
44	5	R1	HeadWall	27	S			1	1.417	0.823		2.198	0.344	0.344	4'-11"	4'-10"	221
44	5	R2	HeadWall	10	S			1		0.875	1.167				2'-11"	2'-8"	124
			Lower Wings and Headwall														
40	5	A2	Bottom Slab	20				1	42.000						42'-0"	42'-0"	1754
13	5	A10	Bottom Slab	20			V	1	38.863		Incr =	36.863	inches		38'-10"	38'-10"	277
									2.000						2'-0"	2'-0"	
2	8	D1	Headwall	20				1	42.733						42'-9"	42'-9"	228
4	9	D2	Headwall	20				1	9.024						9'-0"	9'-0"	123
16	5	E2	Heel	20				1	4.000						4'-0"	4'-0"	67
42	4	F42	Wings	20			V	6	21.398		Incr =	28.432	inches		21'-5"	21'-5"	401
									7.182						7'-2"	7'-2"	
10	4	F44	Bottom Slab	20				1	22.413						22'-5"	22'-5"	150
36	4	F45	Bottom Slab	20				1	22.413						22'-5"	22'-5"	542
80	5	G1	Interior Walls	20			V	4	11.356		Incr =	5.909	inches		11'-4"	11'-4"	558
									2.000						2'-0"	2'-0"	
54	5	G2	Exterior Wings	20			V	2	11.602		Incr =	4.432	inches		11'-7"	11'-7"	384
									2.000						2'-0"	2'-0"	
78	7	H3	Bottom Slab	20				1	9.833						9'-10"	9'-10"	1569
4	8	H10	Headwall	20				1	42.733						42'-9"	42'-9"	457
16	7	J1	Wings	20		FB		1	25.845						25'-10"	25'-10"	846
52	4	J5	Wings	19			V	2	11.233	5.083	Incr =	4.432	inches		16'-4"	16'-3"	403
									2.000	5.083					7'-1"	6'-11"	
44	5	R3	HeadWall	10	S			1		1.417	1.167				4'-0"	3'-9"	174
			Totals														
	4																9006
	5																23671
	6																8380
	7																9167
	8																1370
	9																246
	10																0
	11																0
			TOTALS														51840.0

BILL OF REINFORCING STEEL

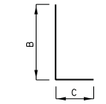
NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	SHAPE NO.	STIRRUP (S)	EPOXY (E)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	C FT.	D or F FT.	E FT.	H FT.	K FT.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.



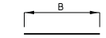
SHAPE 10



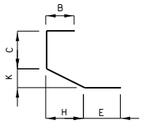
SHAPE 15



SHAPE 19



SHAPE 20

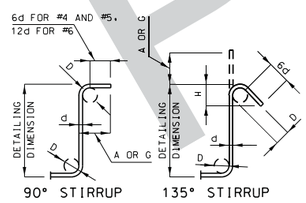


SHAPE 27

SPLICE LENGTH	
BAR SIZE	NON-EPOXY
#4	21 IN.
#5	26 IN.
#6	31 IN.
#7	39 IN.
#8	51 IN.
#9	65 IN.
#10	82 IN.
#11	101 IN.

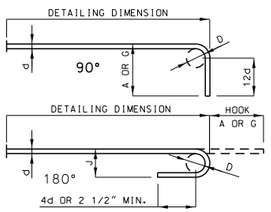
MAX BAR LENGTH	
BAR SIZE	NON-EPOXY
#4	60 FT.
#5	60 FT.
#6	60 FT.
#7	60 FT.
#8	60 FT.
#9	60 FT.
#10	60 FT.
#11	60 FT.

NOTE:
THE BAR LIST IS BASED ON THE MISSOURI STANDARD PLANS.
THIS BAR LIST IS FOR QUANTITY ESTIMATION PURPOSE ONLY AND SHALL BE VERIFIED OR MODIFIED BY THE CONTRACTOR.



STIRRUP HOOK DIMENSIONS			
BAR SIZE	D (IN.)	90° HOOK	135° HOOK
		HOOK A OR G	HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	GRADE 60		
		180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	24"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
FB = BARS MAY BE BENT IN FIELD TO FIT.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE. A BLANK IN THE SECOND LINE REPRESENTS THE SAME BAR DIMENSION AS THAT IN THE FIRST LINE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADD A SPLICE LENGTH TO A BAR LENGTH WHICH EXCEEDS ITS MAXIMUM ALLOWABLE LENGTH.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed Sept 2016
Checked Sept 2016

Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
HOLLY A. LEHMKUHL
NUMBER PE-2009032976
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/22/2016
ROUTE I-55 | STATE MO
DISTRICT BR | SHEET NO. 2
COUNTY SCOTT
JOB NO. J0I0956
CONTRACT ID. .
PROJECT NO. .
BRIDGE NO. A8438

DATE	DESCRIPTION	REV.
.	.	.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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