MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY

CLAY COUNTY

DESIGN DESIGNATION

A.A.D.T. - 2017 = 50,000
A.A.D.T. - 2027 = 60,000
D.H.V. = 7000
T = 9%
V = 65/45 M.P.H.

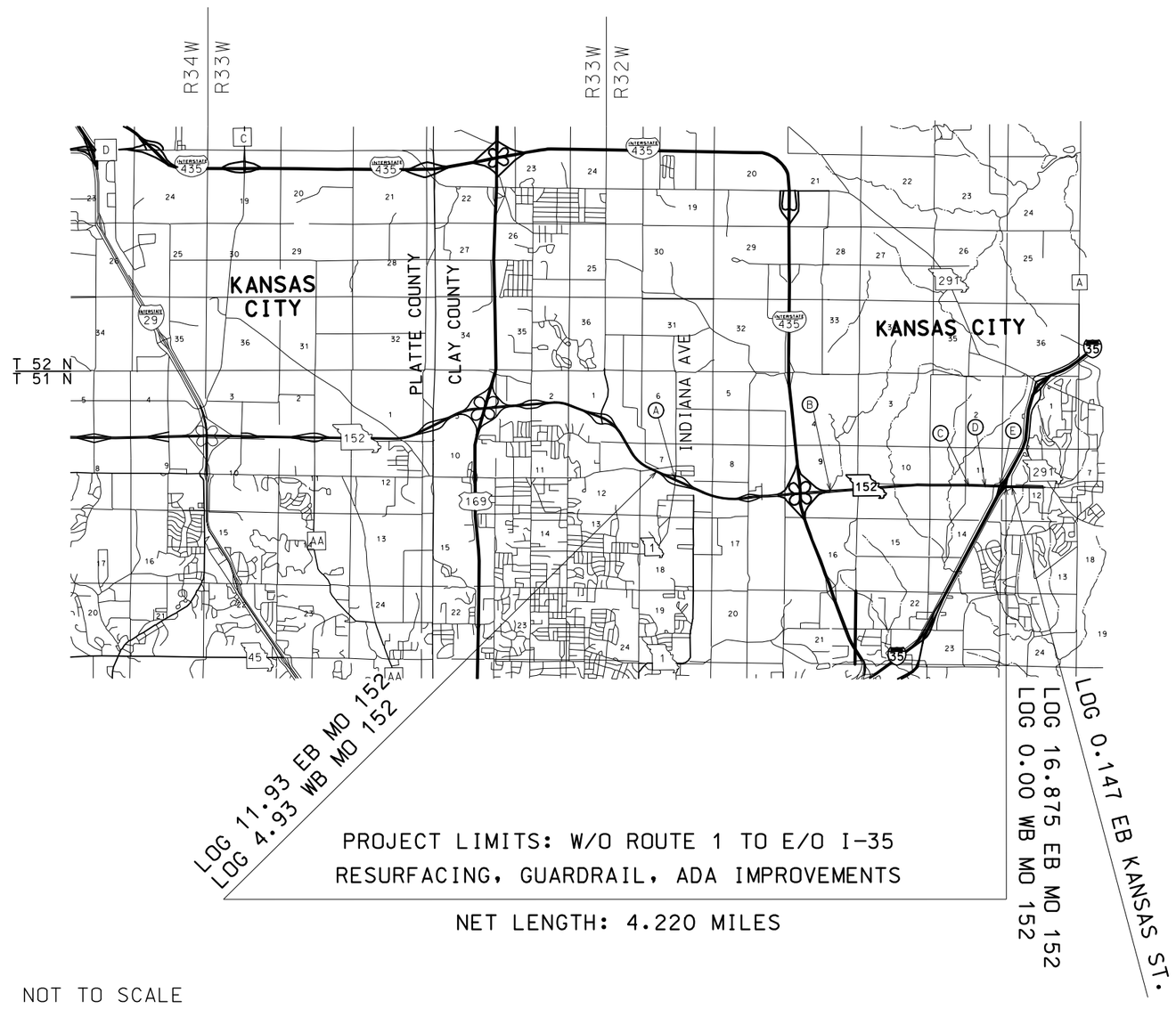
FUNCTIONAL CLASSIFICATION-FREEWAY

NO ADDITIONAL RIGHT OF WAY NEEDED FOR THIS PROJECT

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	—O—	—●—
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



PROJECT LIMITS: W/O ROUTE 1 TO E/O I-35
RESURFACING, GUARDRAIL, ADA IMPROVEMENTS

NET LENGTH: 4.220 MILES

NOT TO SCALE

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
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QUANTITIES (QU) (9 SHEETS)	3
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COORDINATE POINTS (CP)	5
SPECIAL SHEETS (SS)	6-16
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SIGNALS (SG)	35-47
SIGNING (SN)	48-52

LENGTH OF PROJECT

BEGINNING OF PROJECT	LOG MILE 11.93 @ EB MO152
END OF PROJECT	LOG MILE 0.147 @ EB KANSAS ST
APPARENT LENGTH	5.092 MILES

EQUATIONS AND EXCEPTIONS:

(A) LOG 12.273 (EB) TO LOG 12.320 (EB)
(B) LOG 14.42 (EB) TO LOG 14.503 (EB)
(C) LOG 16.038 (EB) TO LOG 16.305 (EB)
(D) LOG 16.498 (EB) TO LOG 16.875 (EB)
(E) LOG 0.100 (WB) TO LOG 0.00 (WB)
(E) LOG 16.875 (MO 152 EB) = LOG 0.00 (KANSAS ST)

TOTAL CORRECTIONS	-0.872	MILES
NET LENGTH OF PROJECT	4.220	MILES
STATE LENGTH	4.220	MILES

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

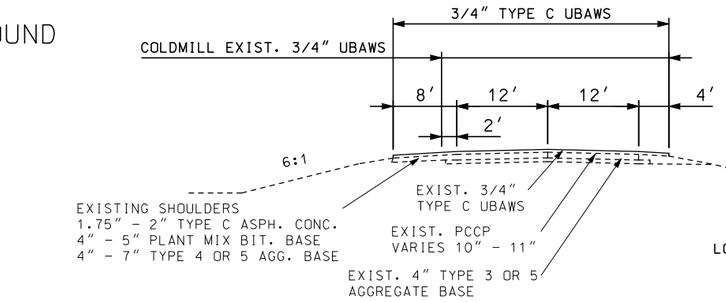
DATE PREPARED	
9/29/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 1
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

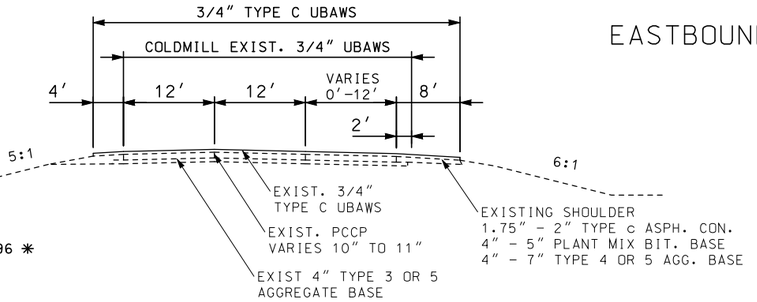
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

WESTBOUND

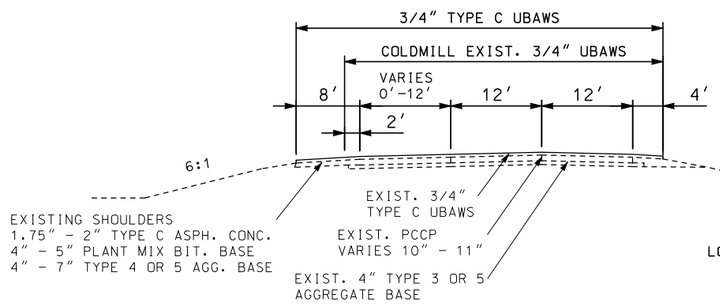


LOG MILE 11.93 TO 11.96 ✳

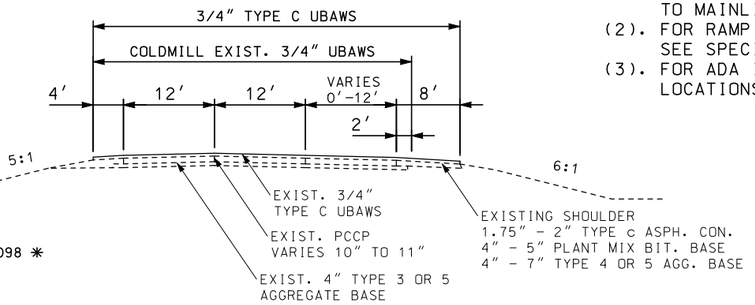
EASTBOUND

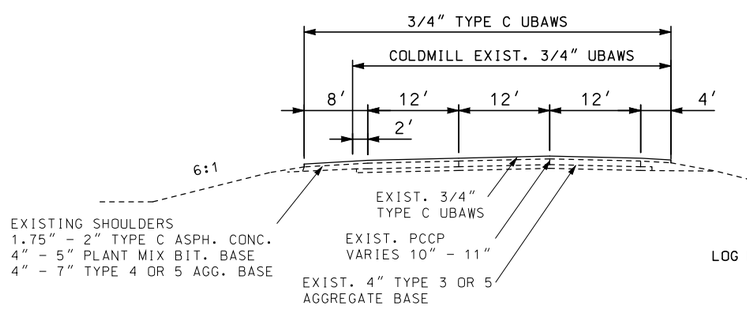


NOTES:
(1). ISLANDS SHALL BE REPLACED PRIOR TO MAINLINE RESURFACING
(2). FOR RAMP AND INTERSECTION LIMITS, SEE SPECIAL SHEETS
(3). FOR ADA IMPROVEMENT DETAILS & LOCATIONS SEE SPECIAL SHEETS

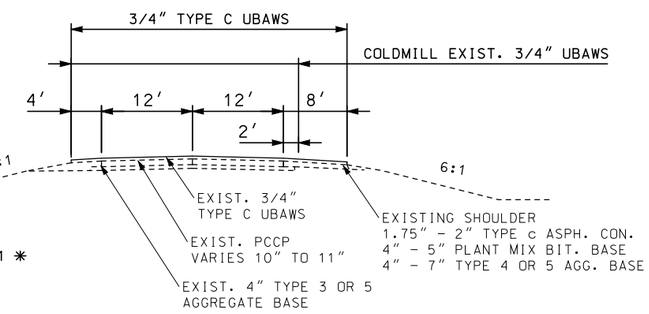


LOG MILE 11.96 TO 12.098 ✳

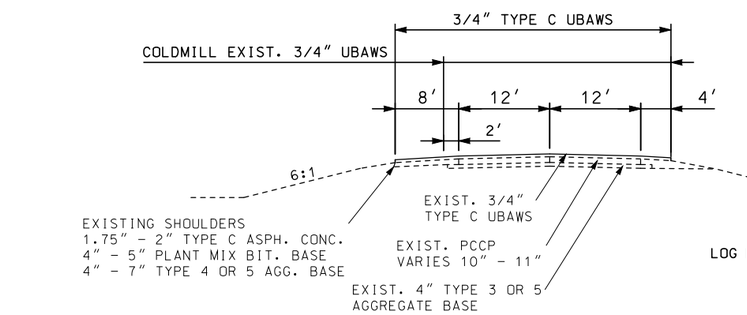




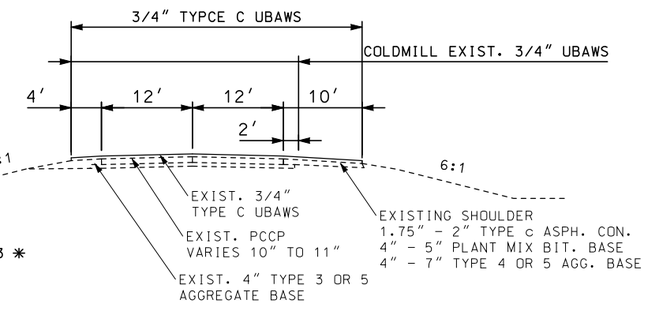
LOG MILE 12.098 TO 12.141 ✳



✳ EASTBOUND LOG MILES USED



LOG MILE 12.141 TO 12.273 ✳



TYPICAL SECTION SHEET
SHEET 1 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	10/12/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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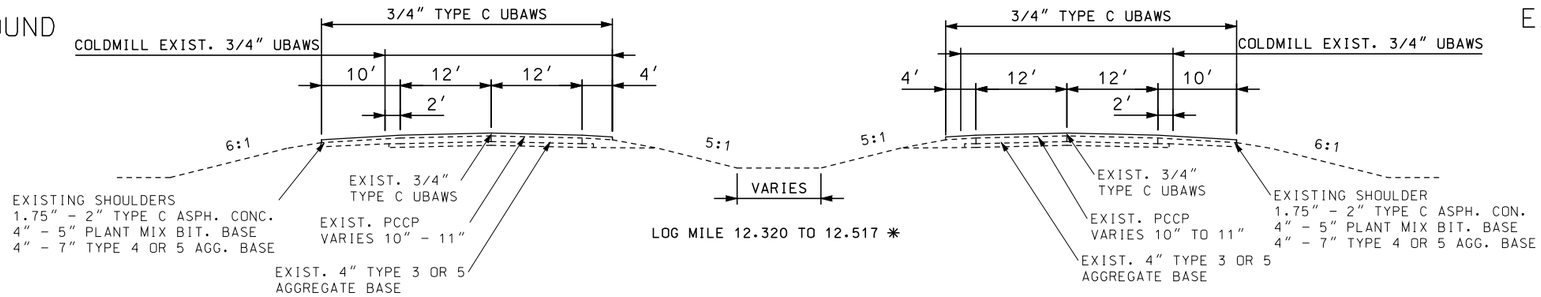
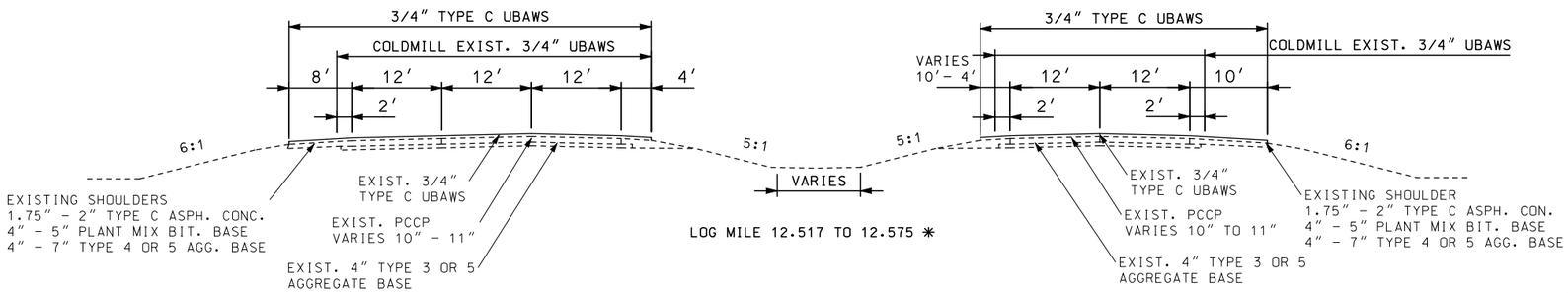
WESTBOUND



EASTBOUND



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(2). FOR RAMP AND INTERSECTION LIMITS, SEE SPECIAL SHEETS
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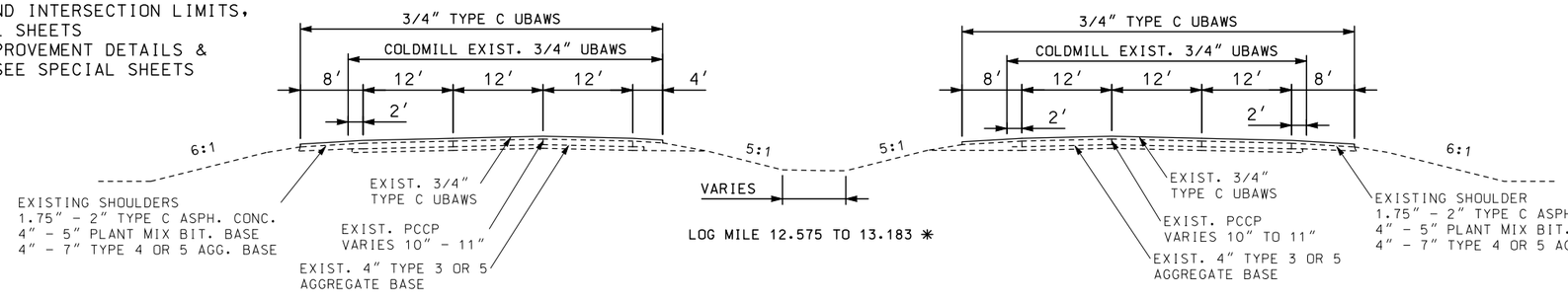
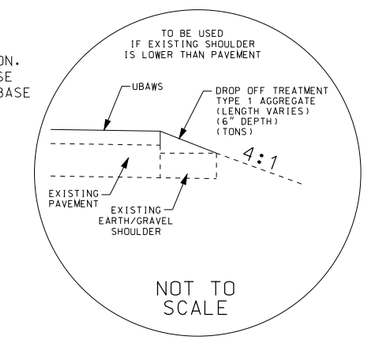
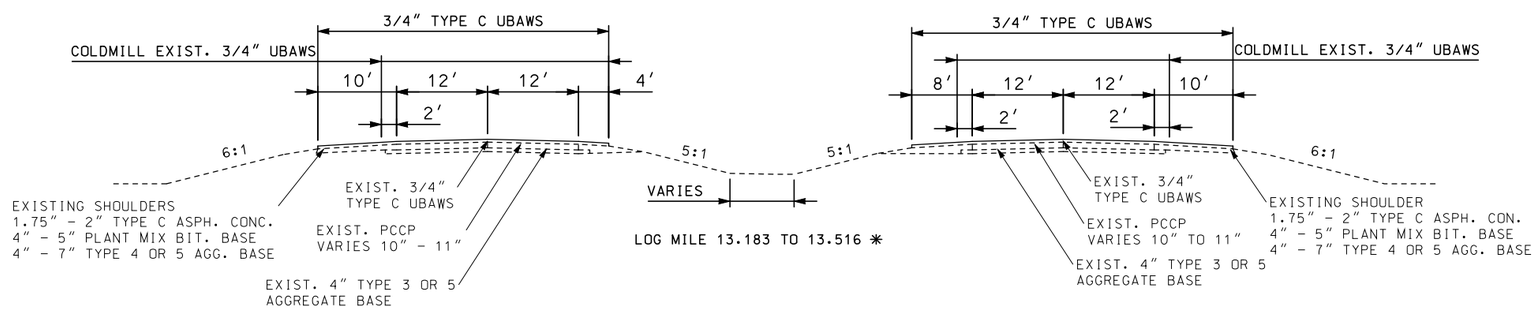




SHOULDER EDGE
DROP OFF TREATMENT
AT VARIOUS LOCATIONS

✳ EASTBOUND LOG MILES USED



TYPICAL SECTION SHEET
SHEET 2 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

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DATE PREPARED	
10/12/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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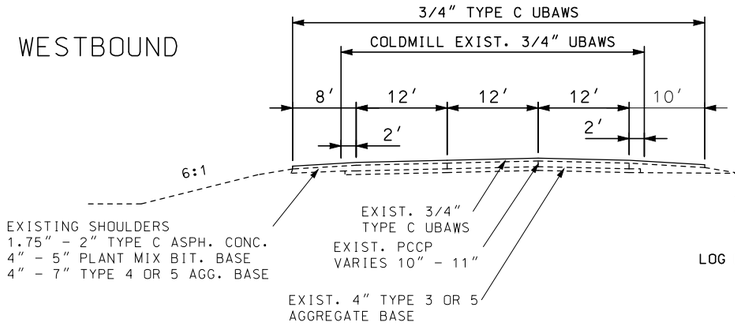
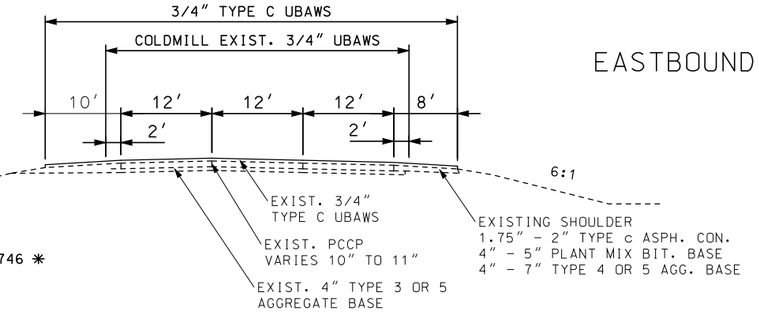
WESTBOUND

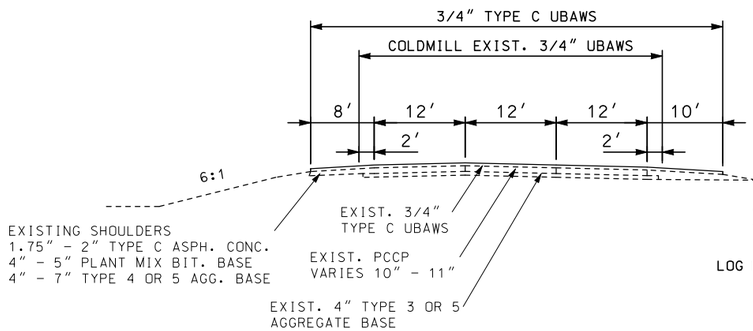


VARIES

LOG MILE 13.516 TO 13.746 ✳

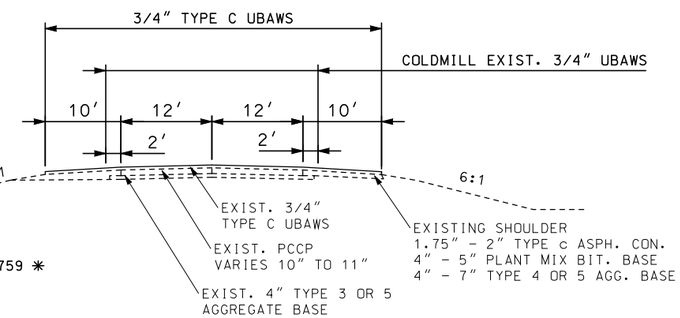
EASTBOUND



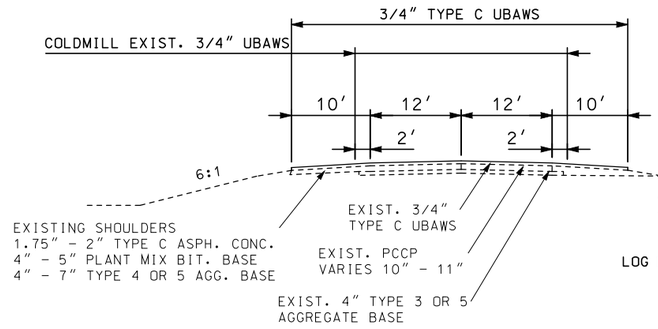


VARIES

LOG MILE 13.746 TO 13.759 ✳

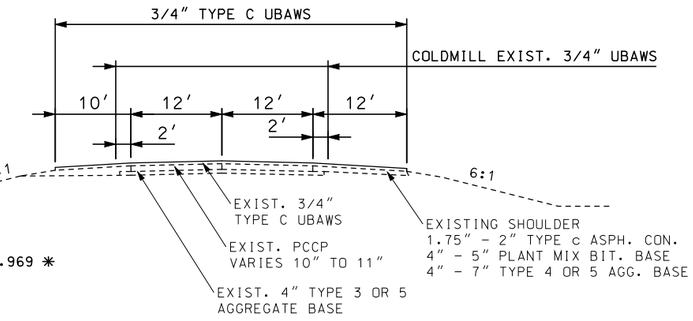


✳ EASTBOUND LOG MILES USED



VARIES

LOG MILE 13.759 TO 13.969 ✳



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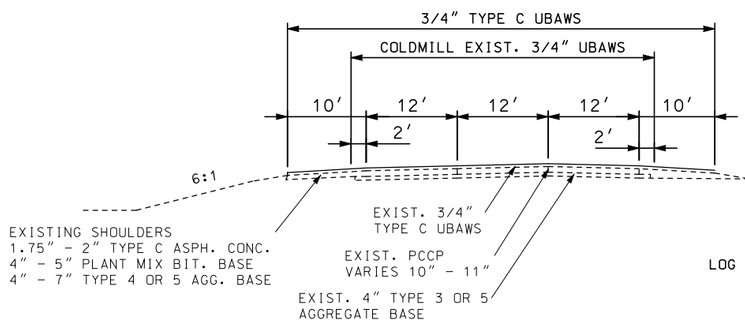
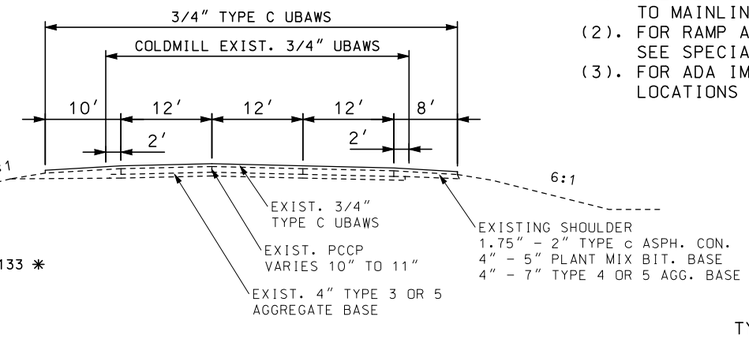


VARIES

LOG MILE 13.969 TO 14.133 ✳



TYPICAL SECTION SHEET
SHEET 3 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

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DATE PREPARED	10/12/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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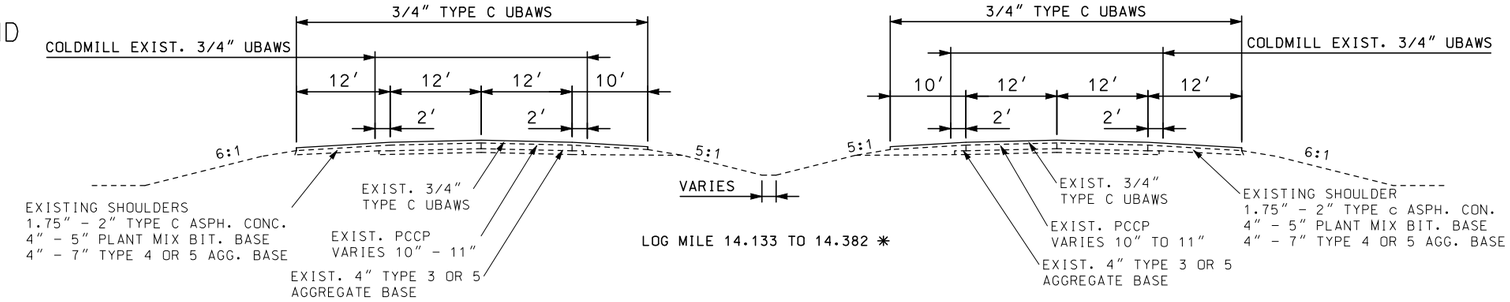
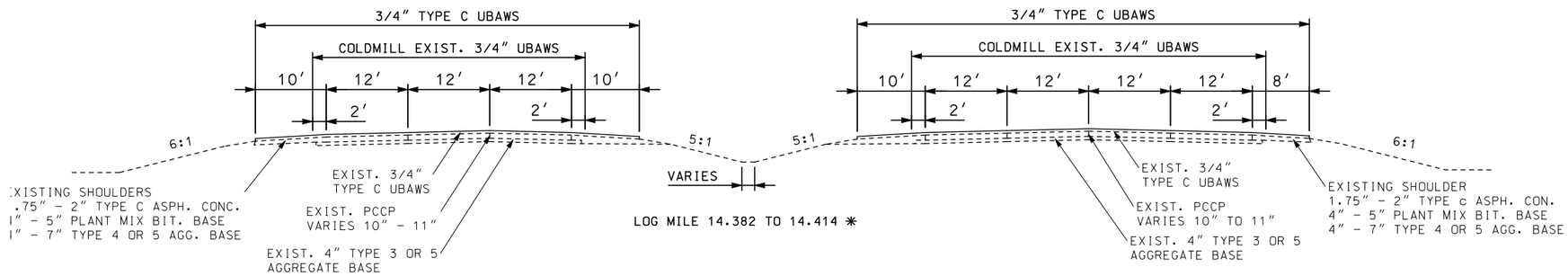
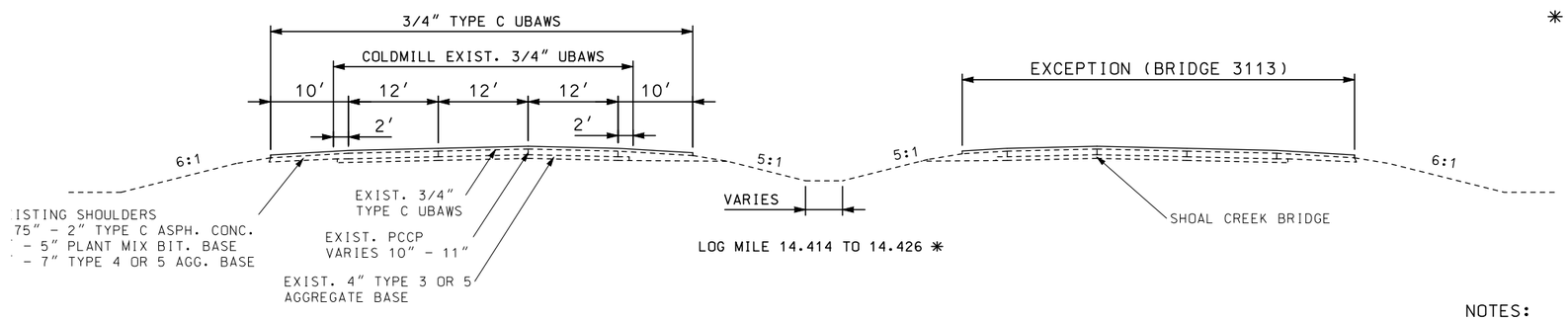
WESTBOUND



EASTBOUND



✳ EASTBOUND LOG MILES USED



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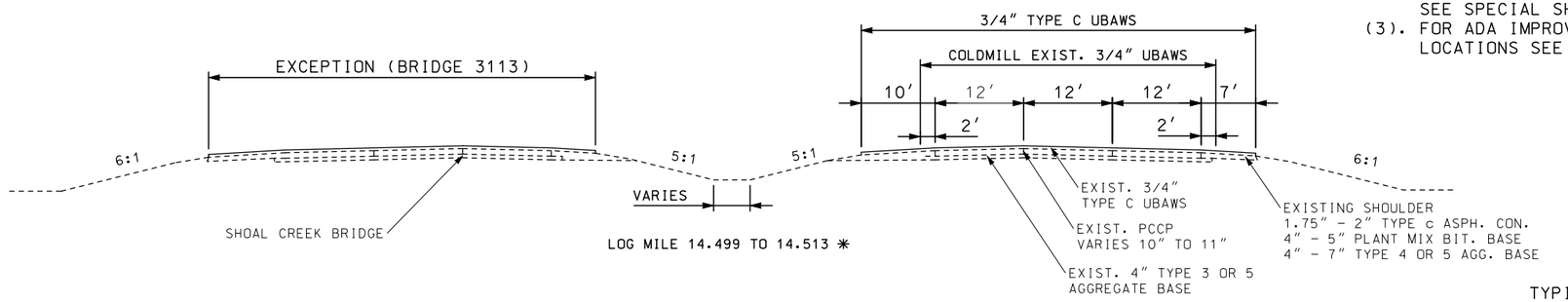

TYPICAL SECTION SHEET
SHEET 4 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

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DATE PREPARED	10/12/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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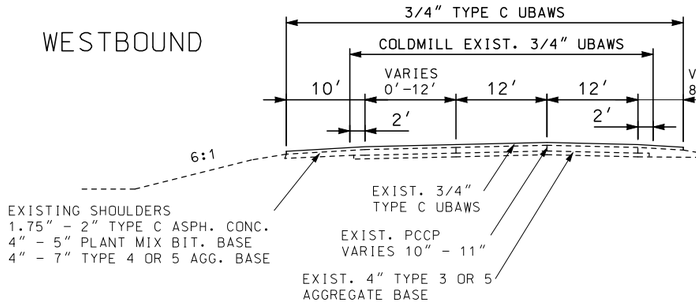
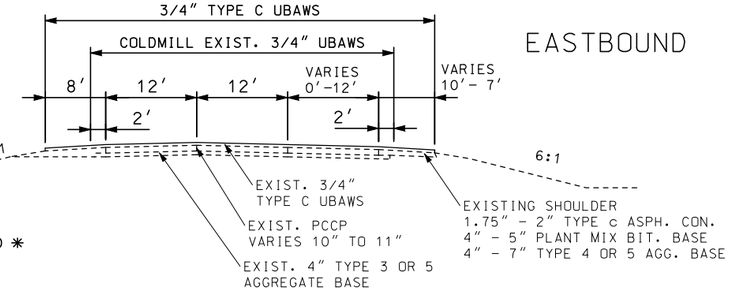
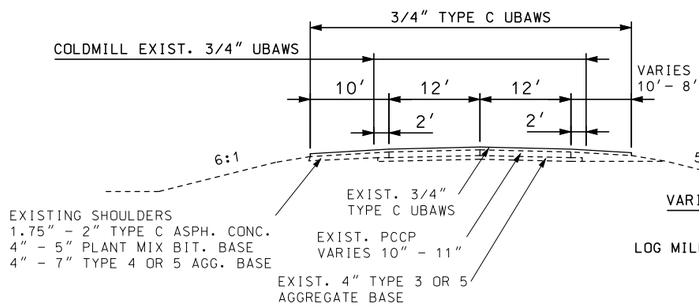
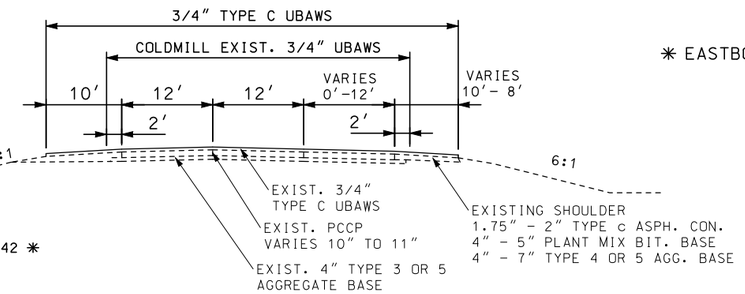


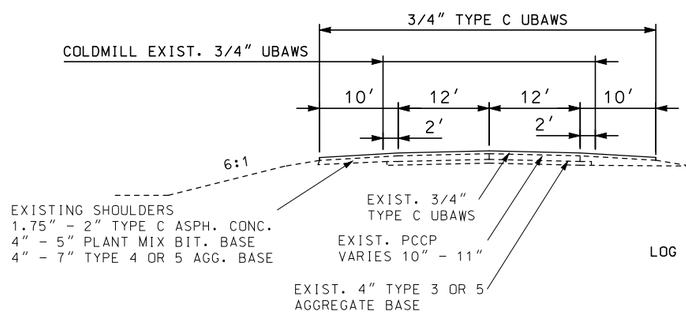
EASTBOUND

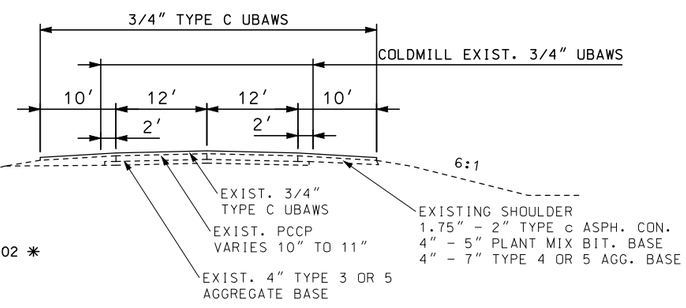


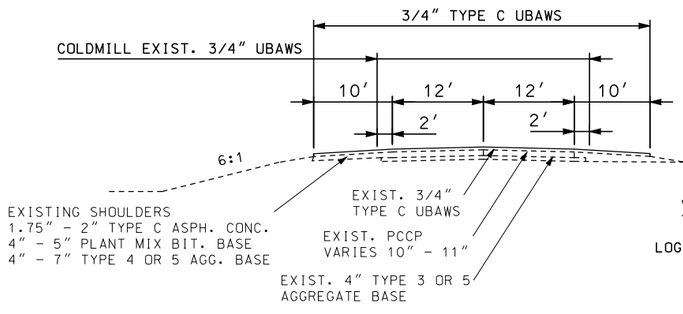


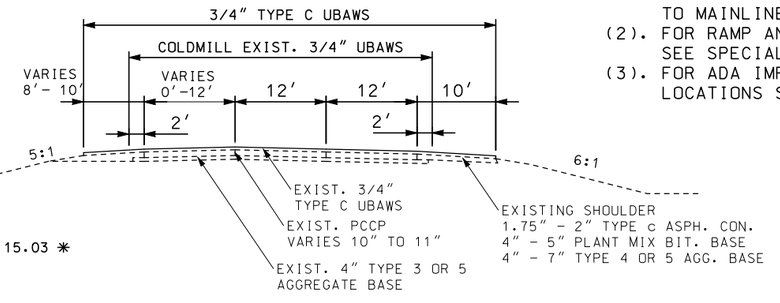


✳ EASTBOUND LOG MILES USED









NOTES:
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(2). FOR RAMP AND INTERSECTION LIMITS, SEE SPECIAL SHEETS
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TYPICAL SECTION SHEET
SHEET 5 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
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DATE PREPARED	
10/12/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3136	
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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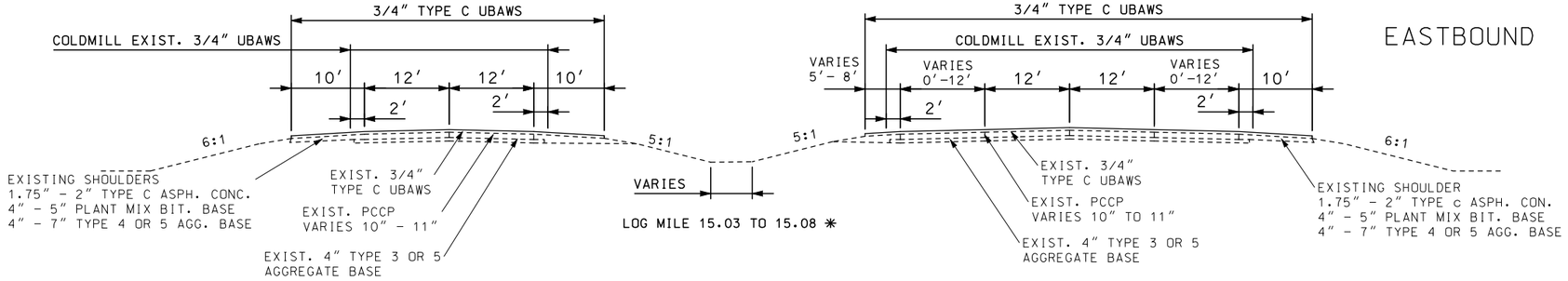
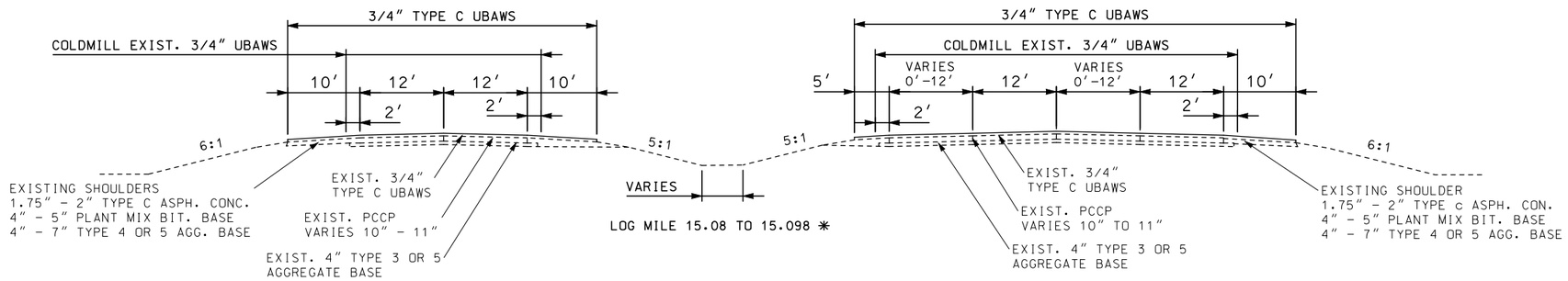
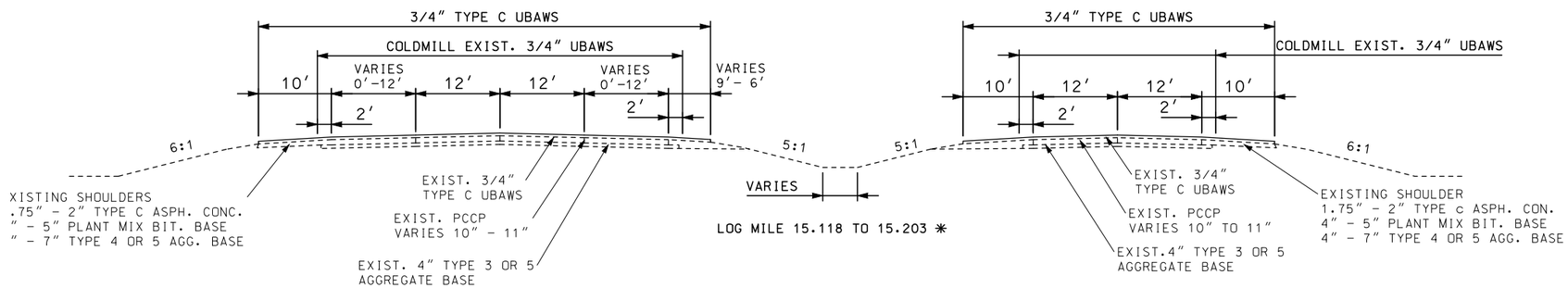
WESTBOUND



EASTBOUND



✳ EASTBOUND LOG MILES USED



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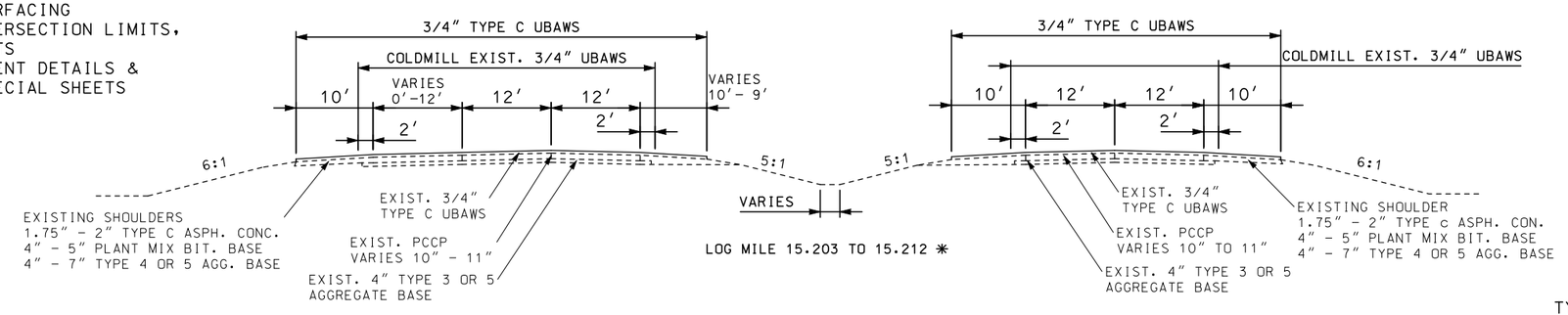

TYPICAL SECTION SHEET
SHEET 6 OF 13

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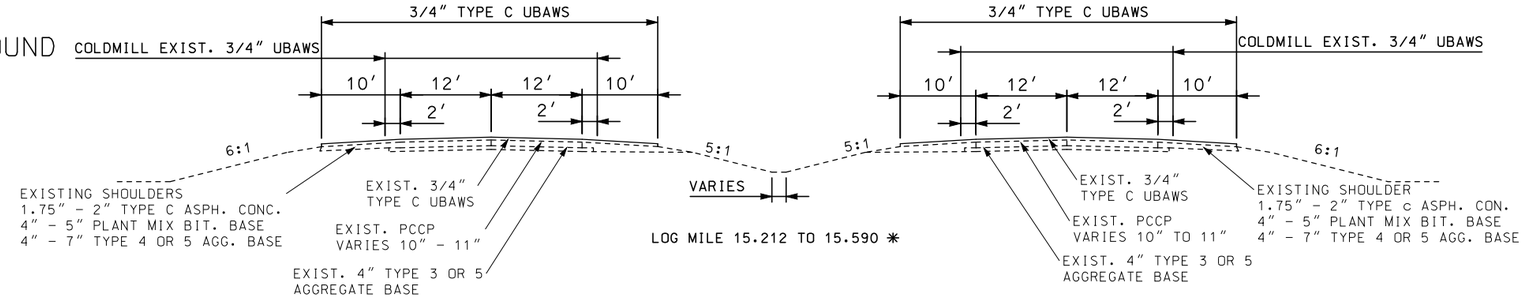
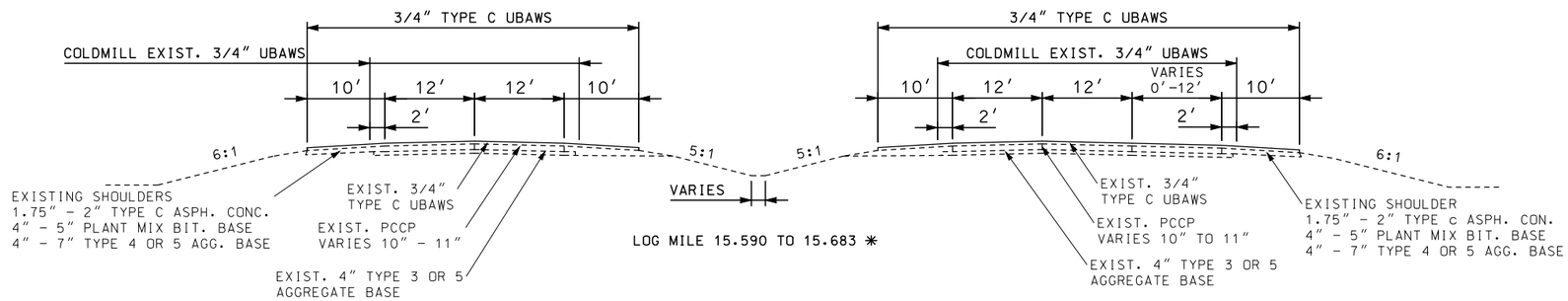
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

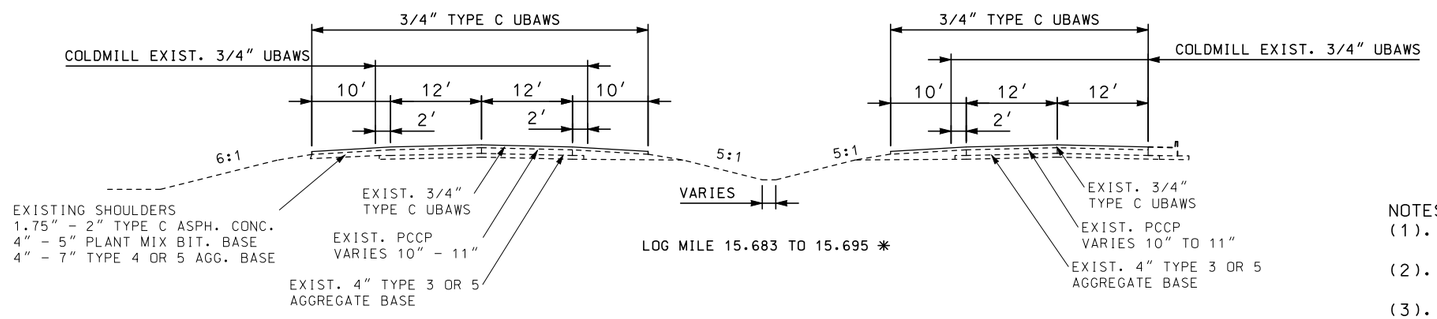
WESTBOUND



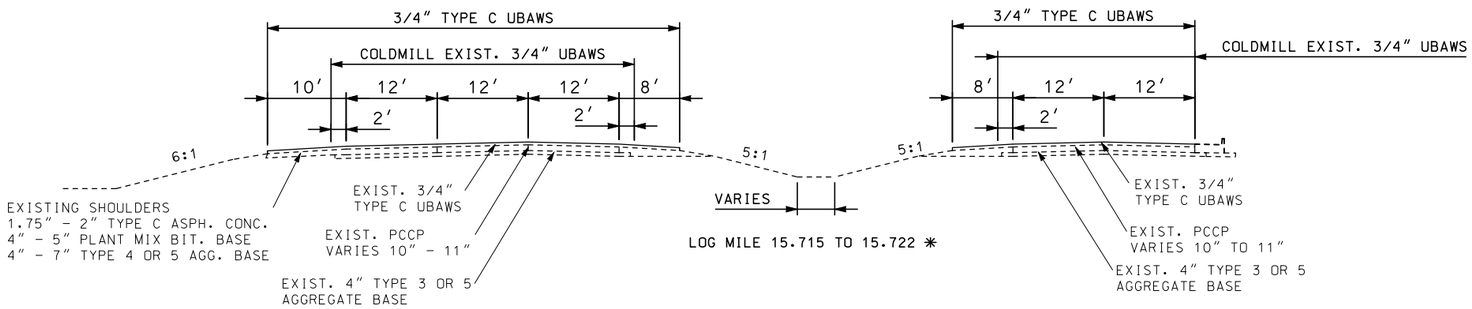
EASTBOUND



✳ EASTBOUND LOG MILES USED



NOTES:
(1). ISLANDS SHALL BE REPLACED PRIOR TO MAINLINE RESURFACING
(2). FOR RAMP AND INTERSECTION LIMITS, SEE SPECIAL SHEETS
(3). FOR ADA IMPROVEMENT DETAILS & LOCATIONS SEE SPECIAL SHEETS



TYPICAL SECTION SHEET
SHEET 7 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

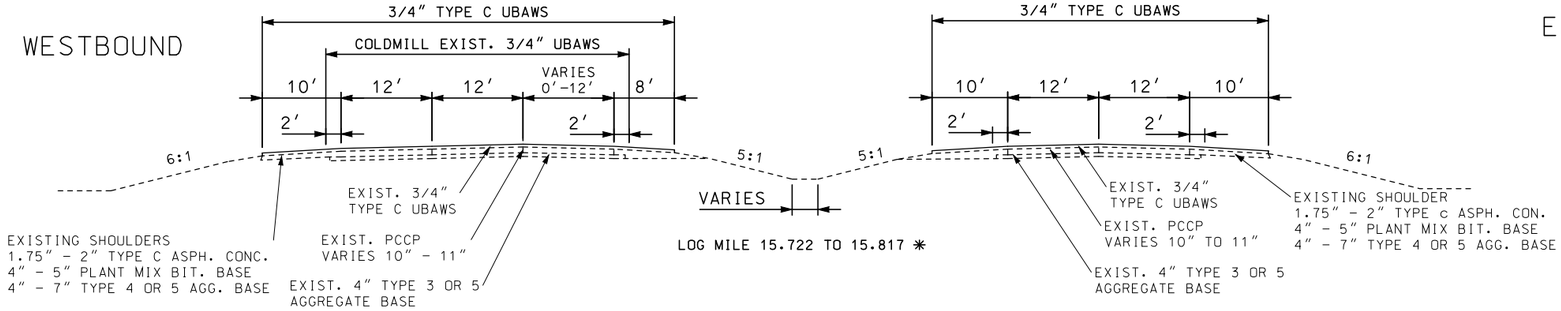
DATE PREPARED	
10/12/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

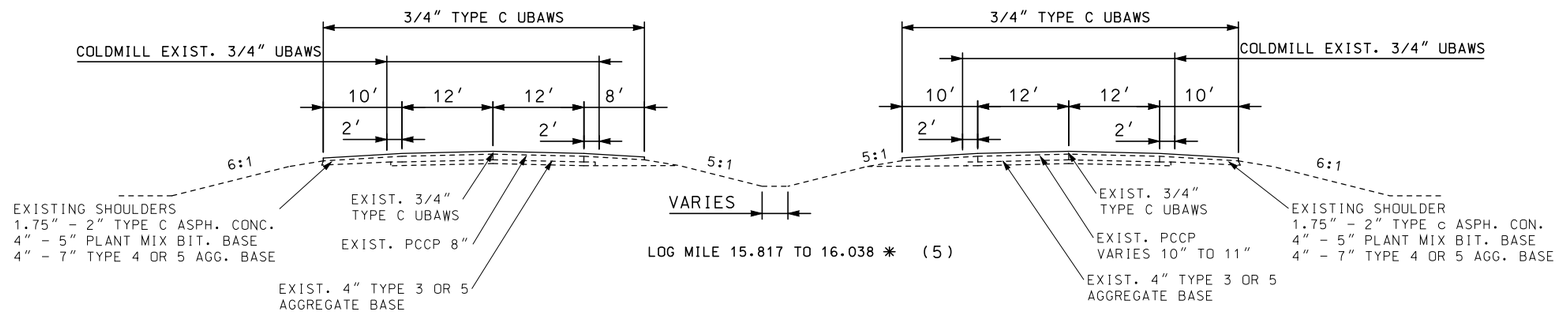
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

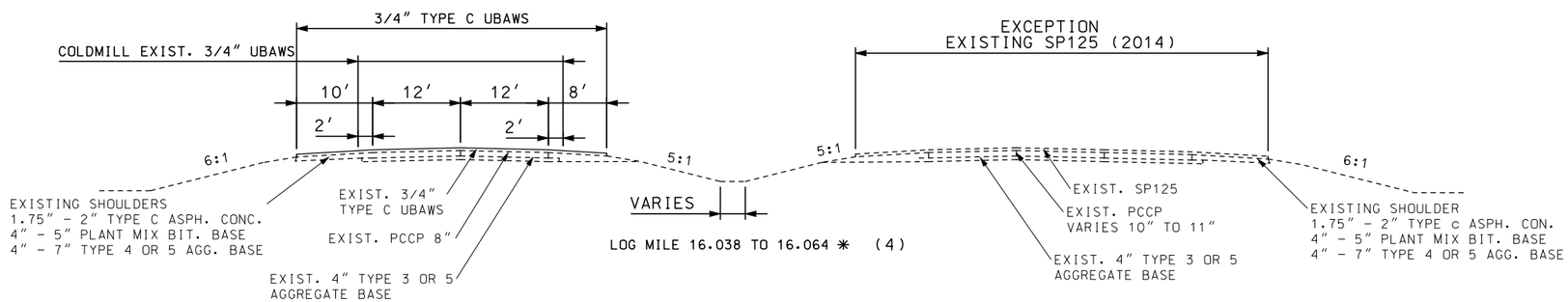
WESTBOUND



EASTBOUND



✳ EASTBOUND LOG MILES USED



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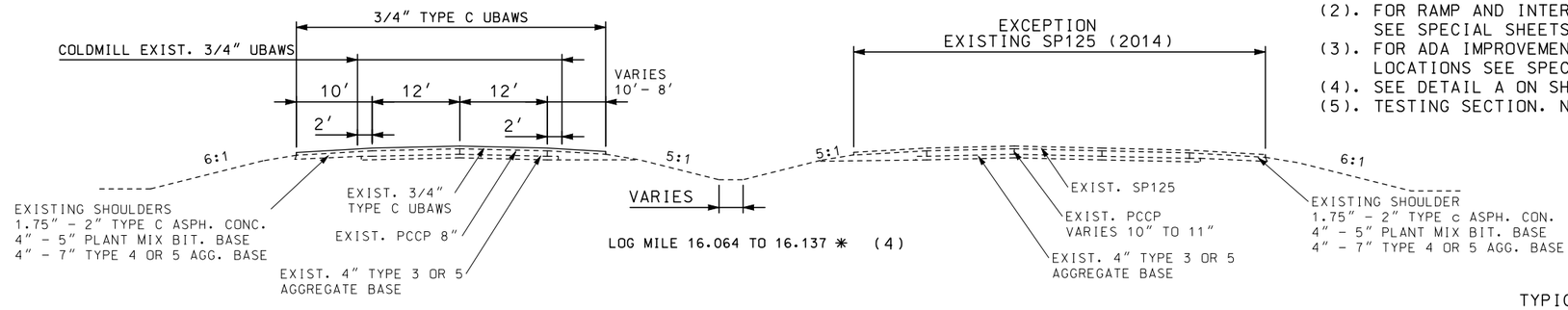
(3). FOR ADA IMPROVEMENT DETAILS & LOCATIONS SEE SPECIAL SHEETS

(4). SEE DETAIL A ON SHEET 2 - 11 OF 13

(5). TESTING SECTION. NO SAW CUTS



TYPICAL SECTION SHEET
SHEET 8 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	10/12/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CLAY
JOB NO.	J4S3136
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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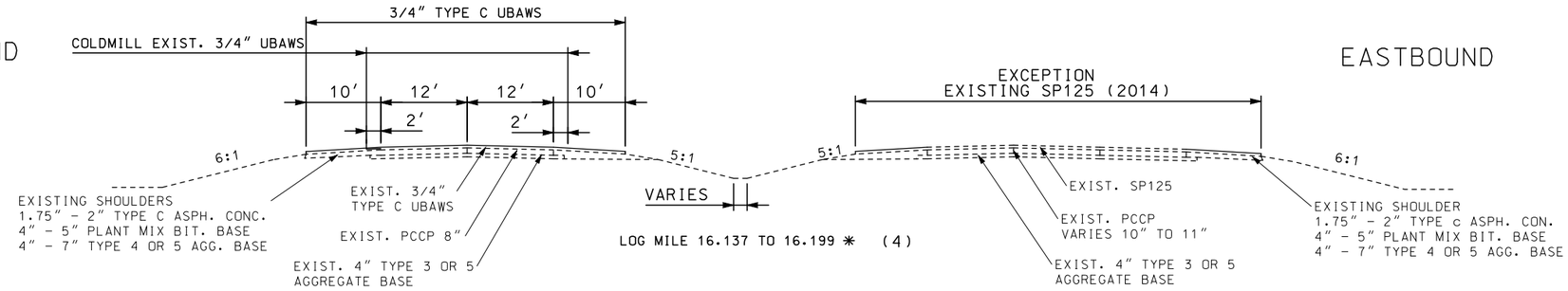
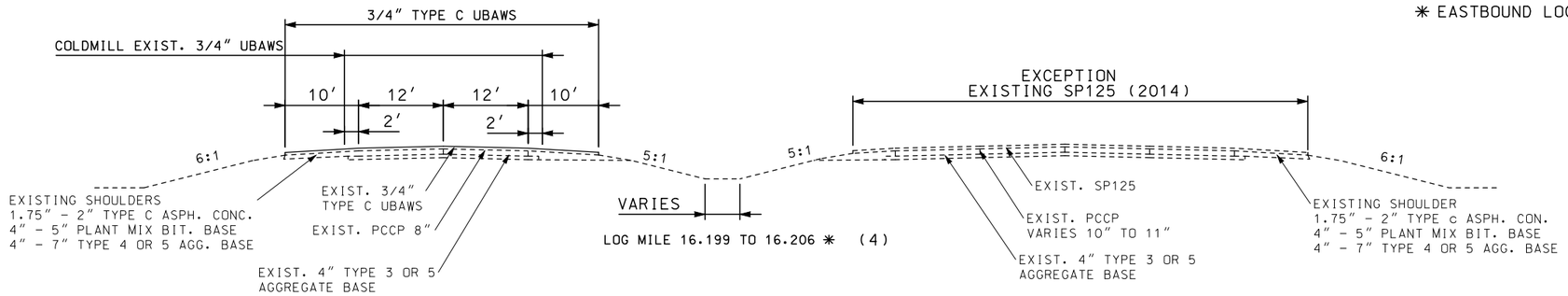
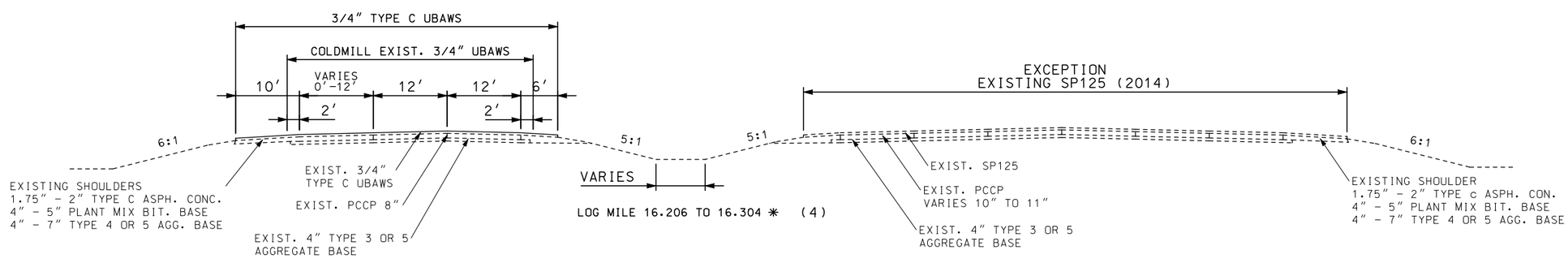
WESTBOUND



EASTBOUND

✳ EASTBOUND LOG MILES USED





NOTES:

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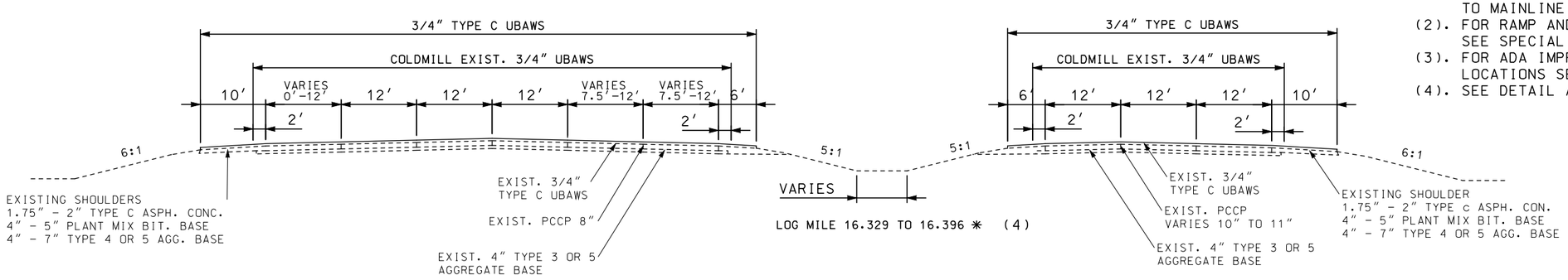
(3). FOR ADA IMPROVEMENT DETAILS & LOCATIONS SEE SPECIAL SHEETS

(4). SEE DETAIL A ON SHEET 2 - 11 OF 13



TYPICAL SECTION SHEET
SHEET 9 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

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DATE PREPARED	10/12/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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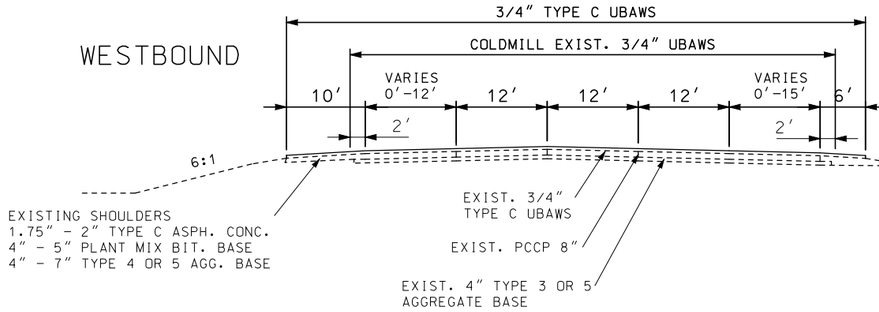
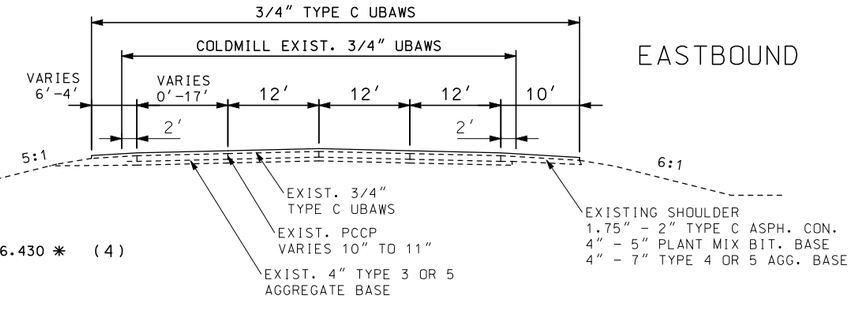
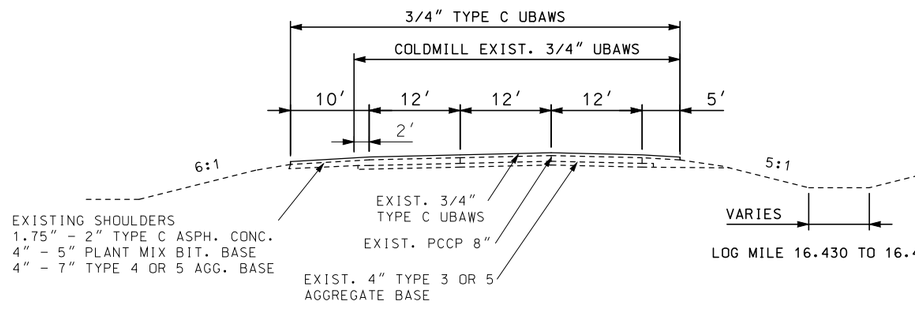
WESTBOUND



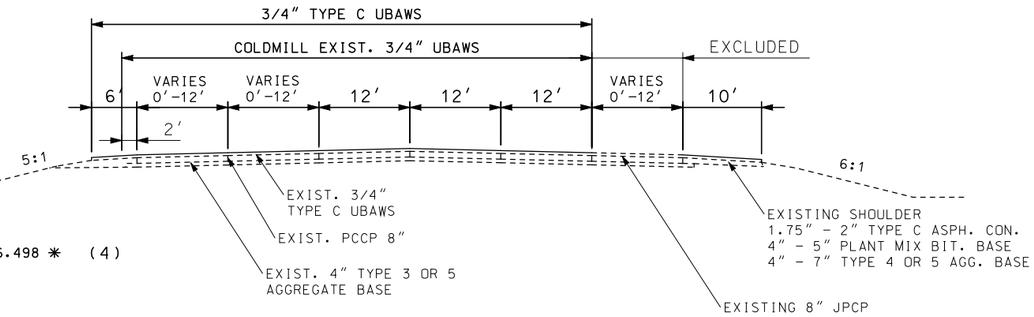
LOG MILE 16.396 TO 16.430 ✳ (4)

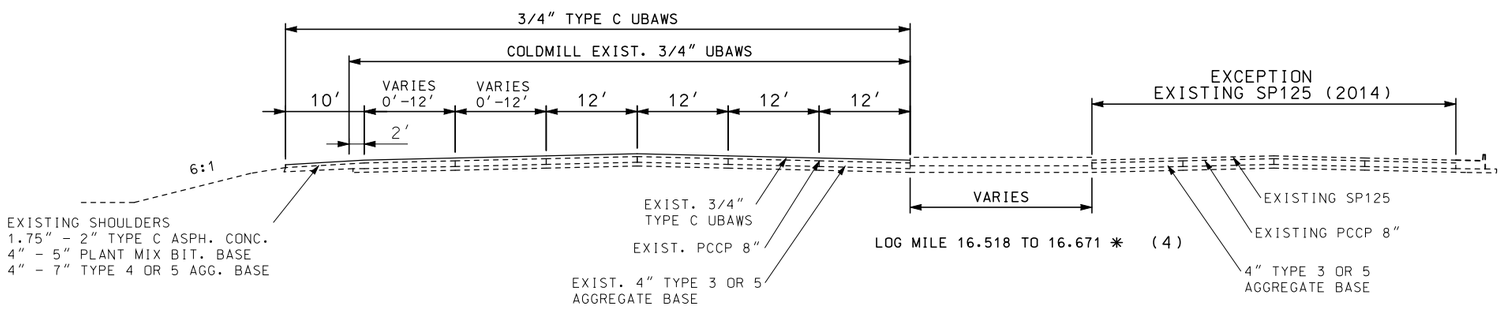
EASTBOUND



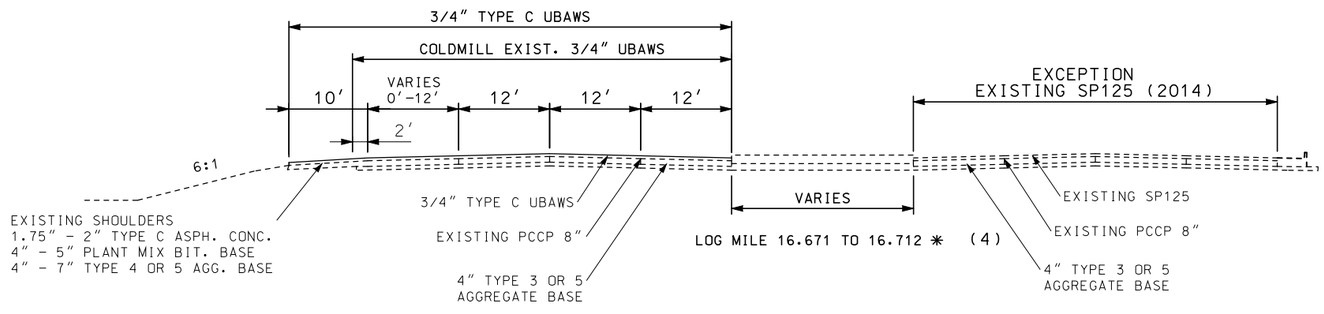


LOG MILE 16.430 TO 16.498 ✳ (4)





LOG MILE 16.518 TO 16.671 ✳ (4)



LOG MILE 16.671 TO 16.712 ✳ (4)

✳ EASTBOUND LOG MILES USED

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TYPICAL SECTION SHEET
SHEET 10 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
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DATE PREPARED	10/12/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CLAY
JOB NO.	J4S3136
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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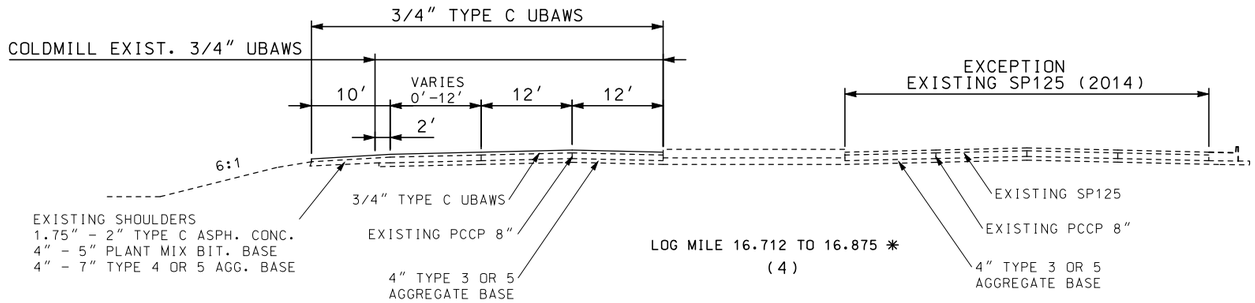
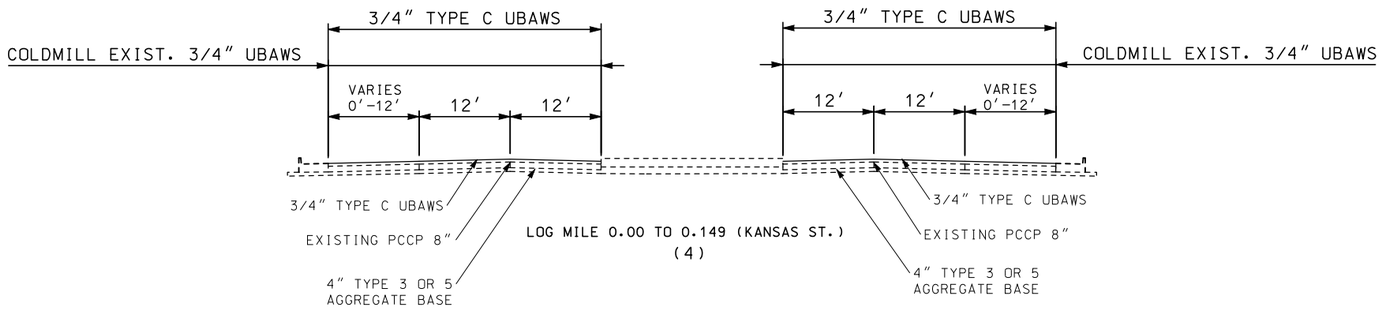
WESTBOUND



EXCEPTION
EXISTING SP125 (2014)

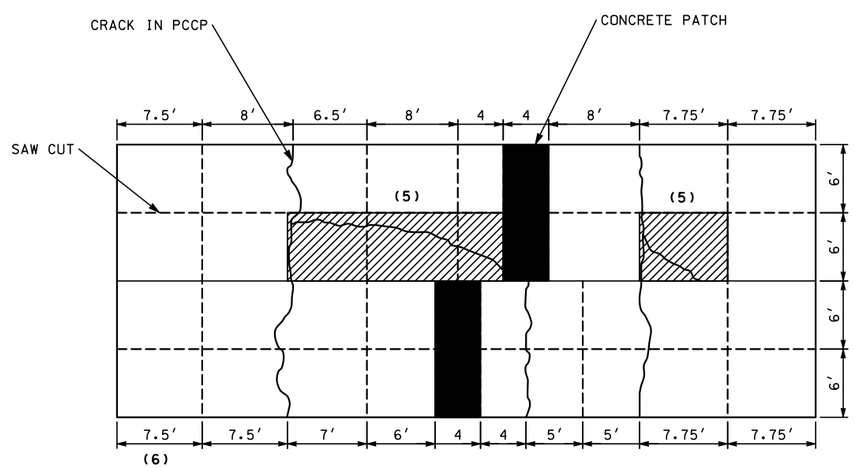
EASTBOUND

✳ EASTBOUND LOG MILES USED



DETAIL A

SAW CUTS TO REDUCE PANEL SIZE
(LOG MILE 15.817 TO LOG MILE 0.147)



EXAMPLE OF SAW PATTERN TO REDUCE PANEL SIZE
USING EXISTING CRACKS IN EXISTING 8" PCCP (7)

NOT TO SCALE

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(4). SEE DETAIL A
(5). AREAS OF FULL DEPTH PAVEMENT REPAIR AND SAW CUT AS NEEDED TO REDUCE PANEL SIZE
(6). PANEL LENGTHS SHOULD BE A MIN. OF 4' AND A MAX. OF 8' (FOR CALCULATIONS, USE AN AVERAGE OF 6')
(7). LONGITUDINAL SAW CUTS ARE CALCULATED BY TAKING THE TOTAL LENGTH OF THE AREA AND MULTIPLY BY 2. TRANVERSE SAW CUTS ARE CALCULATED BY TAKING THE TOTAL LENGTH OF THE AREA, DIVIDED BY 6', AND MULTIPLY BY 24'.

STATE OF MISSOURI
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DATE PREPARED 10/18/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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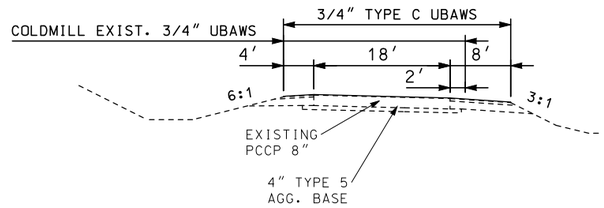
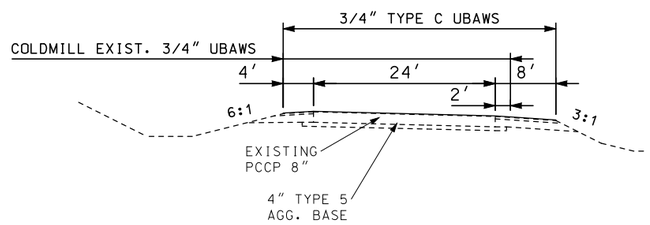
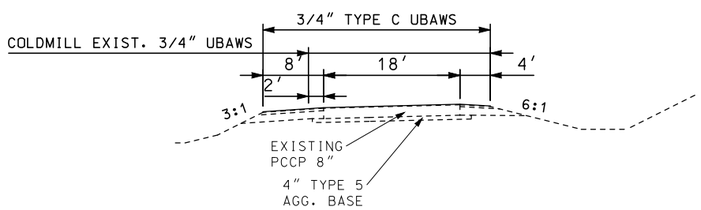


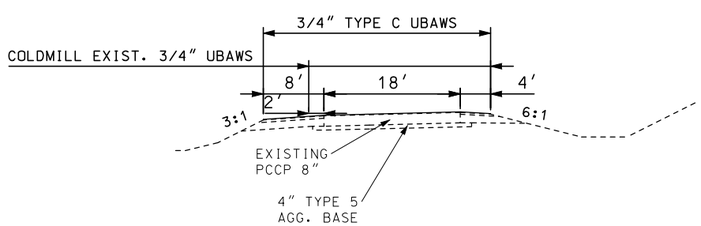
ROUTE 1 OFF RAMP EB



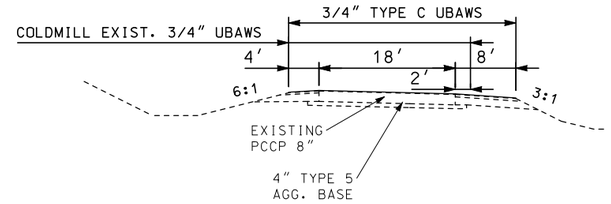
ROUTE 1 ON RAMP EB



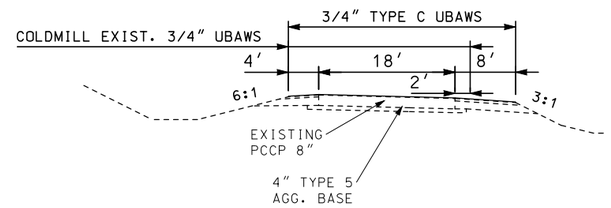
ROUTE 1 OFF RAMP WB



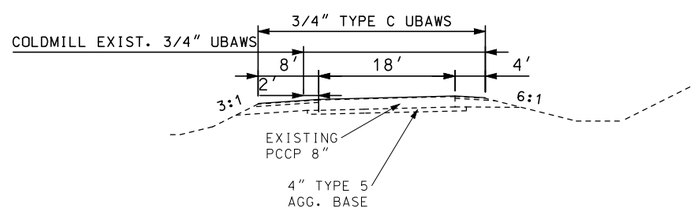
ROUTE 1 ON RAMP WB



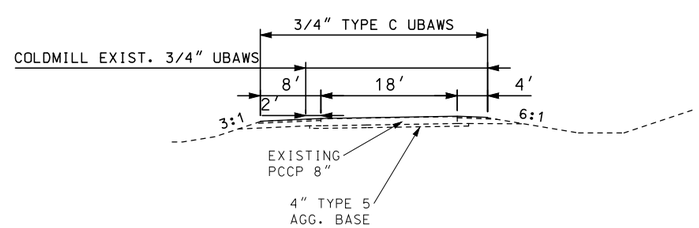
BRIGHTON OFF RAMP EB



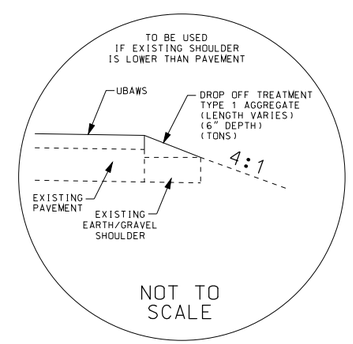
BRIGHTON ON RAMP EB



BRIGHTON OFF RAMP WB



BRIGHTON ON RAMP WB



SHOULDER EDGE
DROP OFF TREATMENT
AT VARIOUS LOCATIONS

TYPICAL SECTION SHEET
SHEET 12 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
10/12/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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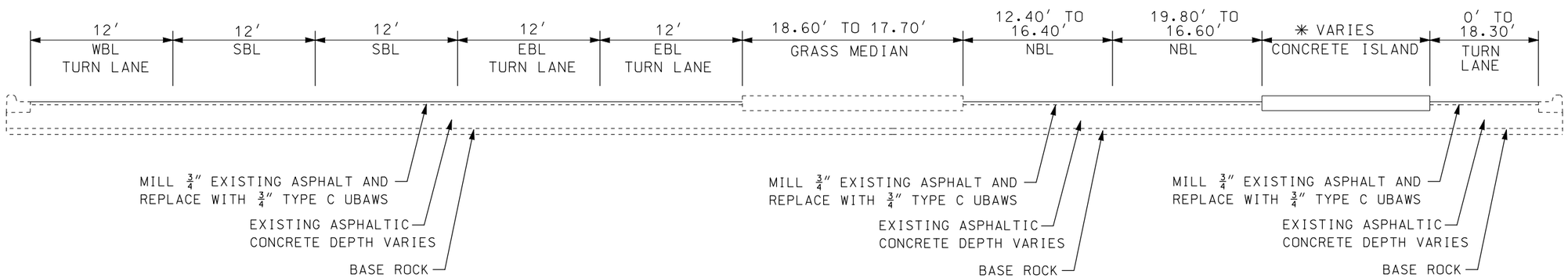

STATION 18+58.00 TO STATION 19+19.68
FLINTLOCK ROAD

✳ CONCRETE ISLAND FROM STATION 19+19.69 TO STATION 18+92.52 +/-

TYPICAL SECTION SHEET
SHEET 13 OF 13

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

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DATE PREPARED	
10/12/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	2
COUNTY	
CLAY	
JOB NO.	
J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

SUMMARY OF QUANTITIES

PAVEMENT QUANTITIES - EASTBOUND									
LOG MILE	LOG MILE	LOCATION	LENGTH FT	LANE WIDTH FT	AREA SF	SHOULDER AREA SF	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
11.93	11.96	MO 152 EB	158.4	VARIES (36-24)	4001.6	1900.8	656	550	
11.96	12.098	MO 152 EB	728.64	VARIES (36-24)	18913.32	8743.68	3073	2587	
12.098	12.141	MO 152 EB	227.04	24	5448.96	2724.48	908	757	
12.141	12.273	MO 152 EB	696.96	24	16727.04	9757.44	2943	2323	DOES NOT INLCUDE BRIDGE A3111
12.32	12.517	MO 152 EB	1040.16	24	24963.84	14562.24	4392	3467	DOES NOT INLCUDE BRIDGE A3111
12.517	12.575	MO 152 EB	306.24	24	7349.76	1183.04	948	953	
12.575	13.183	MO 152 EB	3210.24	36	115568.64	51363.84	18548	14268	
13.183	13.516	MO 152 EB	1758.24	24	42197.76	31648.32	8205	5470	
13.516	13.746	MO 152 EB	1214.4	36	43718.4	21859.2	7286	5397	
13.746	13.759	MO 152 EB	68.64	24	1647.36	1372.8	336	214	
13.759	13.969	MO 152 EB	1108.8	24	26611.2	24393.6	5667	3450	
13.969	14.133	MO 152 EB	865.92	36	31173.12	15586.56	5196	3849	
14.133	14.382	MO 152 EB	1314.72	24	31553.28	28923.84	6720	4090	
14.382	14.414	MO 152 EB	168.96	48	8110.08	3041.28	1239	976	DOES NOT INLCUDE BRIDGE A3113
14.499	14.513	MO 152 EB	73.92	36	2661.12	1256.64	435	329	DOES NOT INLCUDE BRIDGE A3113
14.513	14.54	MO 152 EB	142.56	VARIES (36-24)	4129.2	2498.1	736	522	
14.54	14.542	MO 152 EB	10.56	VARIES (36-24)	2055.1	1754.44	423	233	
14.542	15.002	MO 152 EB	2428.8	24	58291.2	48576	11874	7556	
15.002	15.03	MO 152 EB	147.84	VARIES (36-24)	2728.9	1903.5	515	369	
15.03	15.08	MO 152 EB	264	VARIES (48-24)	10526.0	3797	1591	1287	
15.08	15.098	MO 152 EB	95.04	VARIES (48-24)	4459.2	1425.6	654	538	SHOAL CREEK
15.118	15.203	MO 152 EB	448.8	24	10771.2	8976	2194	1396	SHOAL CREEK
15.203	15.212	MO 152 EB	47.52	24	1140.5	950.4	232	148	
15.212	15.59	MO 152 EB	1995.84	24	47900.2	39916.8	9757	6209	
15.59	15.683	MO 152 EB	491.04	VARIES (36-24)	16525.1	9820.8	2927	2054	
15.683	15.695	MO 152 EB	63.36	24	1520.6	633.6	239	183	BOOTH
15.715	15.722	MO 152 EB	36.96	24	887.0	295.68	131	107	BOOTH
15.722	15.817	MO 152 EB	501.6	24	12038.4	10032	2452	1561	
15.817	16.038	MO 152 EB	1166.88	24	28005.1	23337.6	5705	3630	
16.329	16.396	MO 152 EB	353.76	36	12735.4	5660.16	2044	1572	FLINTLOCK
16.396	16.43	MO 152 EB	179.52	VARIES (53 -36)	8857.3	2769.9	1292	1064	
16.43	16.498	MO 152 EB	359.04	VARIES (60-36)	22619.2	5744.64	3152	2593	CHURCH
0.000	0.149	KANSAS ST.	786.72	24	18881	2505.2	2376	2098	I-35
EASTBOUND SUBTOTAL							114,846	81,800	

PAVEMENT QUANTITIES - RAMPS										
TRAVELWAY ID	LOG MILE	LOG MILE	LOCATION	LENGTH FT	LANE WIDTH FT	AREA SF	SHOULDER AREA SF	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
277202.000	0.000	0.236	ROUTE 1 - OFF RAMP EB	1246.08	18.00	22429.44	19083.57	4613	3323	
277203.000	0.030	0.278	ROUTE 1 - ON RAMP EB	1309.44	24.00	31426.56	21249.09	5853	4365	
277204.000	0.000	0.284	ROUTE 1 - OFF RAMP WB	1499.52	18.00	26991.36	16702.03	4855	3999	
277205.000	0.033	0.217	ROUTE 1 - ON RAMP WB	971.52	18.00	17487.36	11334.23	3202	2591	
277206.000	0.000	0.206	BRIGHTON - OFF RAMP EB	1087.68	18.00	19578.24	12184.40	3529	2900	
103619.000	0.006	0.226	BRIGHTON - ON RAMP EB	1161.60	18.00	20908.80	12855.87	3752	3098	
227502.000	0.011	0.219	BRIGHTON - OFF RAMP WB	1098.24	18.00	19768.32	12890.59	3629	2929	
227207.000	0.000	0.217	BRIGHTON - ON RAMP WB	1145.76	18.00	20623.68	14652.27	3920	3055	
5950.000	0.184	0.188	SB I-35 TO WB 152	21.12	20.00	422.40	253.44	75	61	
5407.000	0.000	0.017	WB 152 TO NB I-35	89.76	18.00	1615.68	1077.12	299	239	
RAMP SUBTOTAL								33,727	26,560	

SUMMARY SHEET
SHEET 1 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/27/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
CLAY

JOB NO.
J4S3136

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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PAVEMENT QUANTITIES – WESTBOUND									
LOG MILE	LOG MILE	LOCATION	LENGTH FT	LANE WIDTH FT	AREA SF	SHOULDER AREA SF	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
11.930	11.960	MO 152 WB	158.40	24	3801.60	1900.80	634	528	
11.960	12.098	MO 152 WB	728.64	VARIES (36-24)	23524.40	8743.68	3585	3100	
12.098	12.141	MO 152 WB	227.04	36	8173.44	2724.48	1211	1060	
12.141	12.273	MO 152 WB	696.96	24	16727.04	8363.52	2788	2323	DOES NOT INCLUDE BRIDGE A5491
12.320	12.517	MO 152 WB	1040.16	24	24963.84	14562.24	4392	3467	DOES NOT INCLUDE BRIDGE A5491
12.517	12.575	MO 152 WB	306.24	36	11024.64	3674.88	1633	1429	
12.575	13.183	MO 152 WB	3210.24	36	115568.64	38522.88	17121	14981	
13.183	13.516	MO 152 WB	1758.24	24	42197.76	24615.36	7424	5861	
13.516	13.746	MO 152 WB	1214.40	36	43718.40	21859.20	7286	5397	
13.746	13.759	MO 152 WB	68.64	36	2471.04	1235.52	412	305	
13.759	13.969	MO 152 WB	1108.80	24	26611.20	22176.00	5421	3450	
13.969	14.133	MO 152 WB	865.92	36	31173.12	17318.40	5388	3849	
14.133	14.382	MO 152 WB	1314.72	24	31553.28	28923.84	6720	4090	
14.382	14.414	MO 152 WB	168.96	36	6082.56	3379.20	1051	751	
14.414	14.426	MO 152 WB	63.36	36	2280.96	1267.20	394	282	DOES NOT INCLUDE BRIDGE A3113
14.513	14.540	MO 152 WB	142.56	VARIES (36-12)	3847.06	2276.80	680	491	DOES NOT INCLUDE BRIDGE A3113
14.540	14.542	MO 152 WB	10.56	24	253.44	211.2	52	33	
14.542	15.002	MO 152 WB	2428.80	24	58291.20	48576	11874	7556	
15.002	15.030	MO 152 WB	147.84	24	3548.16	2956.8	723	460	
15.030	15.080	MO 152 WB	264.00	24	6336.00	5280	1291	821	
15.080	15.098	MO 152 WB	95.04	24	2280.96	1900.8	465	296	SHOAL CREEK
15.118	15.203	MO 152 WB	448.80	VARIES (48-24)	19439.8	7248.76	2965	2359	SHOAL CREEK
15.203	15.212	MO 152 WB	47.52	VARIES (36-24)	1832.52	1530.3	374	225	
15.212	15.590	MO 152 WB	1995.84	24	47900.16	39916.8	9757	6209	
15.590	15.683	MO 152 WB	491.04	24	11784.96	9820.8	2401	1528	
15.683	15.695	MO 152 WB	63.36	24	1520.64	1267.2	310	197	BOOTH
15.715	15.722	MO 152 WB	36.96	36	1330.56	665.28	222	164	BOOTH
15.722	15.817	MO 152 WB	501.60	VARIES (36-24)	17806.63	9028.8	2982	2201	
15.817	16.038	MO 152 WB	1166.88	24	28005.12	21003.84	5445	3630	
16.038	16.064	MO 152 WB	137.28	24	3294.72	2471.04	641	427	
16.064	16.137	MO 152 WB	385.44	24	9250.56	7580.5	1870	1199	
16.137	16.199	MO 152 WB	327.36	24	7856.64	6547.2	1600	1018	
16.199	16.206	MO 152 WB	36.96	24	887.04	739.2	181	115	
16.206	16.304	MO 152 WB	517.44	VARIES (36-24)	17626.8	8279.04	2878	2189	FLINTLOCK
16.329	16.396	MO 152 WB	353.76	VARIES (72-51)	23021.88	5660.16	3187	2715	FLINTLOCK
16.396	16.430	MO 152 WB	179.52	VARIES (63-36)	10596.71	2872.32	1497	1257	
16.430	16.498	MO 152 WB	359.04	36	12925.44	5385.6	2035	1516	CHURCH
16.518	16.671	MO 152 WB	807.84	VARIES (72-48)	53833.98	8078.4	6879	6161	CHURCH
16.671	16.712	MO 152 WB	216.48	VARIES (48-36)	8446.3	2164.8	1179	1035	
16.712	16.875	MO 152 WB	860.64	VARIES (36-24)	11701.93	8606.4	2256	1491	I-35
0.000	0.149	MO 152 WB	786.72	VARIES (36-24)	8369.6		930	930	I-35
WEST BOUND SUBTOTAL							130,134	97,096	
EASTBOUND SUBTOTAL							114,846	81,800	
TOTAL							244,980	178,896	

RELOCATION OF EXISTING SIGN ASSEMBLIES	
LOCATION	SIGN RELOCATION EACH
FLINTLOCK	1
BRIGHTON	1
PAY TOTAL	2

PAVEMENT QUANTITIES – ENTRANCE									
STATION	STATION	LOG MILE	LOG MILE	LOCATION	LENGTH FT	AREA SF	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
18+58.00	19+19.68			FLINTLOCK N (WB)	61.7	8358	929	929	FLINTLOCK ALIGNMENT
		1.931	1.936	FLINTLOCK S (EB)	26.4	3309	368	368	FLINTLOCK S LOG MILE
		2.785	2.789	CHURCH N (WB)	21.1	4266	474	474	CHURCH N LOG MILE
		1.855	1.866	CHURCH S (EB)	58.1	5971	663	663	CHURCH S LOG MILE
ENTRANCE SUBTOTAL							1,297	1,297	

PAVEMENT QUANTITIES – TOTAL			
LOCATION	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
MO-152 MAINLINE	244,980	178,896	
RAMPS	33,727	26,560	
ENTRANCES	1,297	1,297	
PAY TOTAL	280,004	206,753	

SUMMARY SHEET
SHEET 2 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/27/2016
ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 3
COUNTY CLAY
JOB NO. J4S3136
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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

GUARDRAIL							
LOG MILE	LOCATION	MGS GUARDRAIL LF	MGS TYPE A CRASHWORTHY END TERMINAL EA	MGS HEIGHT TRANSITION EA	MGS END ANCHOR	SHAPING SLOPE CLASS 3 100FT	REMARKS
12.271	EB ROUTE 1 - RT		1	1		0.63	EB 152 LOG MILE
12.271	EB ROUTE 1 - LT		1	1		0.63	EB 152 LOG MILE
4.583	WB ROUTE 1 - RT		1	1		0.63	WB 152 LOG MILE
4.583	WB ROUTE 1 - LT		1	1		0.63	WB 152 LOG MILE
12.879	EB OVERHEAD SIGN PROTECTION - RT		1	1		0.63	EB 152 LOG MILE
13.13	EB OVERHEAD SIGN PROTECTION - RT		1	1		0.63	EB 152 LOG MILE
4.308	WB OVERHEAD SIGN PROTECTION - RT		1	1		0.63	WB 152 LOG MILE
4.061	WB OVERHEAD SIGN PROTECTION - RT		1	1		0.63	WB 152 LOG MILE
13.331	EB BRIGHTON - RT		1	1		0.63	EB 152 LOG MILE
13.331	EB BRIGHTON - LT		1	1		0.63	EB 152 LOG MILE
3.523	WB BRIGHTON - RT		1	1		0.63	WB 152 LOG MILE
3.523	WB BRIGHTON - LT		1	1		0.63	WB 152 LOG MILE
13.702	MEDIAN TRUSS PROECTION - RT		1	1		0.63	EB 152 LOG MILE
3.152	MEDIAN TRUSS PROECTION - LT	77	1		1	1.15	WB 152 LOG MILE
13.764	I-435 S ON RAMP - LT		1	1		0.63	EB 152 LOG MILE
14.446	EAST FORK SHOAL CREEK BR - RT		1	1		0.63	EB 152 LOG MILE
14.446	EAST FORK SHOAL CREEK BR - LT		1	1		0.63	EB 152 LOG MILE
2.408	EAST FORK SHOAL CREEK BR - LT		1	1		0.63	WB 152 LOG MILE
2.408	EAST FORK SHOAL CREEK BR - RT		1	1		0.63	WB 152 LOG MILE
PAY TOTAL		77	19	18	1	12	

RUMBLE STRIPS		
LOCATION	LENGTH STA	REMARKS
MO-152 MAINLINE EB	358.4	
MO-152 MAINLINE WB	377.1	
PAY TOTAL	735.5	

MOBILIZATION
1 LUMP SUM

SAW CUTS TO REDUCE PANEL SIZE			
LOG MILE	LOG MILE	SAW CUTS LF	REMARKS
16.038	0.147	14837	EASTBOUND LANES (LESS FULL DEPTH SAW CUTS FOR QUARTER AND HALF PANEL REPAIRS)
15.817	0.147	23101	WESTBOUND LANES (LESS FULL DEPTH SAW CUTS FOR QUARTER AND HALF PANEL REPAIRS)
PAY TOTAL		37.938	

MEDIAN STRIP						
STATION	LOG MILE	LOCATION	6" CONCRETE MEDIAN STRIP SY	8" PCCP SY	TYPE S CURB LF	REMARKS
386+72		FLINTLOCK NE	33.5	33.5		MO 152 WB
386+50		FLINTLOCK MEDIAN	5.2	10.6		MO 152 WB
	1.785	BRIGHTON	3.8	3.8	15	SOUTH BRIGHTON
PAY TOTAL			42.5	47.9	15	

CONCRETE SIDEWALK												
LOCATION	WIDTH FT	LENGTH FT	4" SIDEWALK SY	7" SIDEWALK SY	TYPE 5 AGG. (4") SY	LINEAR GRADING FOR SIDEWALKS STA	ADA RAMP EACH	TRUNCATED DOMES SF	CURB AND GUTTER TYPE CG-1 LF	TYPE S CURB LF	MODIFIED COLDMILLING SY	REMARKS
FLINTLOCK NW	5	47.7	26.5			0.5	1		6			
FLINTLOCK N MEDIAN	5	16.2	9.0			0.2	1	20	10	21		
FLINTLOCK NE	5	35.8	19.9			0.4	1	30				
FLINTLOCK SW	5							30			13	
FLINTLOCK MEDIAN	5							40			13	
FLINTLOCK S MEDIAN	4.5	15		1.7	2	0.2				15	7	
MO 152 BRIGHTON N.	7	20	2.8			0.2	1					WEST QUADRANT
MO 152 BRIGHTON N.	6	20	2.8			0.2	1					
MO 152 BRIGHTON S.	6	20	2.8			0.2	1					NW QUADRANT
MO 152 BRIGHTON S.	8	20	2.8			0.2	1					SW QUADRANT
MO 152 BRIGHTON S.	5	20	2.8			0.2	1					SE QUADRANT
PAY TOTAL			69.4	1.7	2	2.3	8	120	16	36	33	

SUMMARY SHEET
SHEET 3 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/27/2016
ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 3
COUNTY CLAY
JOB NO. J4S3136
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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

FULL DEPTH PAVEMENT REPAIR											
LOG MILE	DIRECTION	LANE	WIDTH FT	LENGTH FT	AREA SY	FURN /PLACE CONCRETE MATL SY	6" SUBGRADE COMPACTION SY	TYPE 1 OR 5 AGGR. (4") SY	SAW CUT LF	DOWEL BAR EACH	REMARKS
4.232	EB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
4.317	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.38	EB	3	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.48	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.504	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.529	EB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
4.541	EB	2,3	6	24	8.00	8.00	0.80	0.80	43	40	Full Depth
4.565	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.628	EB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
4.677	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.736	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.758	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
4.497	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
5.038	EB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
5.24	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
5.311	EB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
5.463	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
7.408	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
7.427	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
7.465	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
7.783	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
7.839	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
7.927	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.019	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.326	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.336	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.346	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.439	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.526	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.531	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.556	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.636	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.643	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.756	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
8.954	EB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
9.093	EB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
0.566	WB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
6.39	WB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
0.656	WB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
0.667	WB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
0.679	WB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
1.48	WB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
1.539	WB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
1.907	WB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
2.202	WB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
2.678	WB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
2.701	WB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
2.713	WB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
2.725	WB	1	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
3.121	WB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
3.135	WB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
3.179	WB	2,3	6	24	16.00	16.00	1.60	1.60	69	40	Full Depth
3.228	WB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
3.304	WB	2	6	12	8.00	8.00	0.80	0.80	37	20	Full Depth
3.782	EB	Ramp	6	24	16.00	16.00	1.60	1.60	63	40	Ramp from Route 1 to Eastbound 152 - Full Depth
4.885	EB	Ramp	6	20	13.33	13.33	1.33	1.33	55	34	Ramp from N. Brighton to Eastbound 152 - Full Depth
4.897	EB	Ramp	6	20	13.33	13.33	1.33	1.33	55	34	Ramp from N. Brighton to Eastbound 152 - Full Depth
3.332	WB	Ramp	6	12	8.00	8.00	0.80	0.80	37	20	Ramp from Westbound 152 to N. Brighton - Full Depth
3.423	WB	Ramp	6	20	13.33	13.33	1.33	1.33	55	34	Ramp from Westbound 152 to N. Brighton - Full Depth
13.632	EB	Ramp	6	24	16.00	16.00	1.60	1.60	69	40	Ramp from Eastbound 152 to N. Brighton - Full Depth
13.447	EB	Ramp	6	24	16.00	16.00	1.60	1.60	69	40	Ramp from N. Brighton to Eastbound 152 - Full Depth
16.37	EB	1,2	6	24	16.00	16.00	1.60	1.60	69	40	East of Flintlock
PAY TOTAL						615.99	62	62	2764	1562	

SUMMARY SHEET
SHEET 4 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/27/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
CLAY

JOB NO.
J4S3136

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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PARTIAL DEPTH PAVEMENT REPAIR

LOG MILE	DIRECTION	LANE	WIDTH FT	LENGTH FT	AREA SY	REMOVAL FOR CLASS B PAVEMENT REPAIR SY	PARTIAL DEPTH PAVEMENT REPAIR TON	TACK COAT GAL	REMARKS
4.198	EB	1,2	2	24	5.33	5.3	0.9	0.53	
4.21	EB	1,3	2	24	5.33	5.3	0.9	0.53	
4.232	EB	3	2	12	2.67	2.7	0.4	0.27	
4.266	EB	1,2,3	2	36	8.00	8.0	1.3	0.80	
4.289	EB	1	2	12	2.67	2.7	0.4	0.27	
4.289	EB	CL	2	25	5.56	5.6	0.9	0.56	
4.355	EB	2	2	10	2.22	2.2	0.4	0.22	
4.402	EB	3	2	3	0.67	0.7	0.1	0.07	
4.417	EB	1,2	3	3	1.00	1.0	0.2	0.10	
4.452	EB	1,2	3	3	1.00	1.0	0.2	0.10	
4.452	EB	2,3	3	3	1.00	1.0	0.2	0.10	
4.475	EB	2	2	2	0.44	0.4	0.1	0.04	
4.496	EB	1,2	2	24	5.33	5.3	0.9	0.53	
4.5	EB	2,3	2	3	0.67	0.7	0.1	0.07	
4.55	EB	2	2	12	2.67	2.7	0.4	0.27	
4.605	EB	1	5	5	2.78	2.8	0.5	0.28	
4.605	EB	2,3	2	3	0.67	0.7	0.1	0.07	
4.63	EB	1	3	8	2.67	2.7	0.4	0.27	
4.653	EB	1,2	2	3	0.67	0.7	0.1	0.07	
4.672	EB	1,2	2	2	0.44	0.4	0.1	0.04	
4.691	EB	2	2	2	0.44	0.4	0.1	0.04	
4.704	EB	1,2	2	2	0.44	0.4	0.1	0.04	
4.775	EB	2	2	3	0.67	0.7	0.1	0.07	
4.881	EB	1	3	3	1.00	1.0	0.2	0.10	
4.923	EB	1	2	2	0.44	0.4	0.1	0.04	
4.968	EB	2,3	2	2	0.44	0.4	0.1	0.04	
4.973	EB	1	3	3	1.00	1.0	0.2	0.10	
4.983	EB	1	2	12	2.67	2.7	0.4	0.27	
5.124	EB	1,2	2	24	5.33	5.3	0.9	0.53	
5.144	EB	1,2	2	24	5.33	5.3	0.9	0.53	
5.187	EB	1,2	2	24	5.33	5.3	0.9	0.53	
5.296	EB	2	2	12	2.67	2.7	0.4	0.27	
5.329	EB	2	2	2	0.44	0.4	0.1	0.04	
5.354	EB	2	2	12	2.67	2.7	0.4	0.27	
5.365	EB	2	2	2	0.44	0.4	0.1	0.04	
5.427	EB	2	2	12	2.67	2.7	0.4	0.27	
7.93	EB	2	3	3	1.00	1.0	0.2	0.10	
7.521	EB	2	4	4	1.78	1.8	0.3	0.18	
7.563	EB	1	2	12	2.67	2.7	0.4	0.27	
7.577	EB	2	2	2	0.44	0.4	0.1	0.04	
7.671	EB	2	2	4	0.89	0.9	0.1	0.09	
7.709	EB	1	2	3	0.67	0.7	0.1	0.07	
7.733	EB	1,2	2	2	0.44	0.4	0.1	0.04	
7.746	EB	1	2	3	0.67	0.7	0.1	0.07	
8.037	EB	1,2	3	3	1.00	1.0	0.2	0.10	
8.06	EB	2	2	2	0.44	0.4	0.1	0.04	
8.12	EB	2	2	12	2.67	2.7	0.4	0.27	
8.137	EB	1,2	2	24	5.33	5.3	0.9	0.53	
8.168	EB	1	2	12	2.67	2.7	0.4	0.27	
8.238	EB	2	3	4	1.33	1.3	0.2	0.13	
8.277	EB	1	2	3	0.67	0.7	0.1	0.07	
8.298	EB	1,2	2	24	5.33	5.3	0.9	0.53	
8.382	EB	1,2	2	5	1.11	1.1	0.2	0.11	
8.457	EB	2	2	3	0.67	0.7	0.1	0.07	
8.487	EB	1	2	12	2.67	2.7	0.4	0.27	
8.505	EB	2	2	2	0.44	0.4	0.1	0.04	
8.575	EB	1	2	3	0.67	0.7	0.1	0.07	
8.626	EB	1,2	2	2	0.44	0.4	0.1	0.04	
8.699	EB	1	2	2	0.44	0.4	0.1	0.04	
8.719	EB	2	2	2	0.44	0.4	0.1	0.04	
8.831	EB	2	2	2	0.44	0.4	0.1	0.04	
8.856	EB	1	2	2	0.44	0.4	0.1	0.04	
8.863	EB	2	2	2	0.44	0.4	0.1	0.04	
PARTAIL DEPTH PAVEMENT REPAIR SUBTOTAL 1						119.7	20.1	12	

✳ TACK ESTIMATE FACTOR = 0.1 GAL/S.Y

REMOVAL OF IMPROVEMENTS

LOCATION	LT/RT	DESCRIPTION	UNITS	QUANTITY
FLINTLOCK INTERSECTION NE QUADRANT	RT	CONCRETE ISLAND	SY	33.5
VARIOUS LOCATIONS	RT/LT	CONCRETE SIDEWALK	SY	67.7
VARIOUS LOCATIONS	RT/LT	PEDESTRIAN PUSH BUTTONS	EACH	8
VARIOUS LOCATIONS	RT/LT	PEDESTRIAN SIGNAL HEADS	EACH	8
VARIOUS LOCATIONS	RT/LT	PEDESTRIAN SIGNAL POLE	EACH	5
FLINTLOCK INTERSECTION NORTH	RT/LT	CONCRETE CURB AND GUTTER	LF	67.5
VARIOUS LOCATIONS	RT/LT	CURB RAMP	EACH	7
FLINTLOCK INTERSECTION NORTH	LT/RT	PULL BOX	EACH	1
BRIGHTON INTERCHANGE SOUTH		CONCRETE MEDIAN STRIP	SY	37.5
VARIOUS LOCATIONS	RT/LT	END TERMINALS	EACH	19
VARIOUS LOCATIONS	RT/LT	END ANCHORS	EACH	1
VARIOUS LOCATIONS	RT/LT	GUARDRAIL TYPE A	LF	527
VARIOUS LOCATIONS	RT/LT	CONCRETE PAVEMENT	SY	615.9
VARIOUS LOCATIONS	RT/LT	SAW CUT	LF	347
VARIOUS LOCATIONS	RT/LT	LEFT/RIGHT TURN ARROWS	EACH	28
TOTAL				1 LUMP SUM

EROSION CONTROL

LOCATION	SILT FENCE LF	CURB INLET CHECK EACH	SEDIMENT REMOVAL CY	COOL SEASON MIXTURES ACRE	REMARKS
FLINTLOCK	217	3	5	0.1	
BRIGHTON	154	4	6	0.1	
PAY TOTAL	371	7	11	0.2	

TEMPORARY SEEDING AND MULCHING

LOCATION	TEMPORARY SEEDING/MULCHING ACRE	REMARKS
FLINTLOCK	0.1	
BRIGHTON	0.1	
PAY TOTAL	0.2	

RELOCATION OF EXISTING TRAFFIC SEPARATOR CURB WITH DELINEATORS

1 LUMP SUM

TYPE 1 AGGREGATE FOR SHOULDER DROP OFF

LENGTH FT	WIDTH FT	DEPTH FT	VOLUME CUYD	AGG. FOR SHOULDER DROP OFF (TYPE 1 AGG.)✳ TON	LOCATION/DESCRIPTION
4873	4	0.5	361	505.3	Route 152, WBL Median, Log Mile 3.571 to 4.494
665	4	0.5	49	69.0	Route 152, WBL Median, Log Mile 4.858 to 4.984
100	4	0.5	7	10.4	North Brighton NW Ramp
400	4	0.5	30	41.5	North Brighton NW Ramp
400	4	0.5	30	41.5	Route 1 NE Ramp
400	4	0.5	30	41.5	Route 1 NE Ramp
400	4	0.5	30	41.5	Route 1 NW Ramp
PAY TOTAL				750.7	

✳ AGGREGATE FOR SHOULDER DROP OFF ESTIMATE FACTOR = 1.4 TON/CY

SUMMARY SHEET
SHEET 5 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/27/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY CLAY

JOB NO. J4S3136

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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PARTIAL DEPTH PAVEMENT REPAIR									
LOG MILE	DIRECTION	LANE	WIDTH FT	LENGTH FT	AREA SY	REMOVAL FOR CLASS B PAVEMENT REPAIR SY	PARTIAL DEPTH PAVEMENT REPAIR TON	TACK COAT GAL	REMARKS
8.9	EB	2	2	3	0.67	0.7	0.1	0.07	
9	EB	1,2	2	3	0.67	0.7	0.1	0.07	
9.037	EB	2	3	3	1.00	1.0	0.2	0.10	
9.074	EB	2	2	3	0.67	0.7	0.1	0.07	
9.13	EB	2	3	4	1.33	1.3	0.2	0.13	
9.244	EB	2	2	2	0.44	0.4	0.1	0.04	
9.262	EB	2	2	3	0.67	0.7	0.1	0.07	
9.356	EB	1	3	6	2.00	2.0	0.3	0.20	
9.505	EB	2	2	12	2.67	2.7	0.4	0.27	
9.58	EB	1	2	3	0.67	0.7	0.1	0.07	
9.617	EB	1	2	12	2.67	2.7	0.4	0.27	
9.645	EB	2	2	2	0.44	0.4	0.1	0.04	
10.337	EB	1	3	3	1.00	1.0	0.2	0.10	
10.348	EB	3	2	2	0.44	0.4	0.1	0.04	
10.398	EB	2	2	12	2.67	2.7	0.4	0.27	
0.809	WB	1,2	2	24	5.33	5.3	0.9	0.53	
0.811	WB	1,2	2	24	5.33	5.3	0.9	0.53	
0.946	WB	CL	2	3	0.67	0.7	0.1	0.07	
0.957	WB	1,2	2	24	5.33	5.3	0.9	0.53	
0.981	WB	1,2	2	24	5.33	5.3	0.9	0.53	
0.994	WB	1,2	2	24	5.33	5.3	0.9	0.53	
1.02	WB	2	2	12	2.67	2.7	0.4	0.27	
1.07	WB	2	2	12	2.67	2.7	0.4	0.27	
1.21	WB	2	2	3	0.67	0.7	0.1	0.07	
1.249	WB	2	2	12	2.67	2.7	0.4	0.27	
1.284	WB	2	2	12	2.67	2.7	0.4	0.27	
1.292	WB	1	3	3	1.00	1.0	0.2	0.10	
1.311	WB	1	2	2	0.44	0.4	0.1	0.04	
1.4	WB	1	2	12	2.67	2.7	0.4	0.27	
1.423	WB	2	2	4	0.89	0.9	0.1	0.09	
1.473	WB	2	2	3	0.67	0.7	0.1	0.07	
1.551	WB	2	2	2	0.44	0.4	0.1	0.04	
1.585	WB	1	2	3	0.67	0.7	0.1	0.07	
1.648	WB	CL	2	2	0.44	0.4	0.1	0.04	
1.667	WB	CL	2	2	0.44	0.4	0.1	0.04	
1.69	WB	CL	2	2	0.44	0.4	0.1	0.04	
1.725	WB	2	2	12	2.67	2.7	0.4	0.27	
1.735	WB	CL	2	30	6.67	6.7	1.1	0.67	
1.819	WB	2	2	12	2.67	2.7	0.4	0.27	
1.824	WB	1,2	2	24	5.33	5.3	0.9	0.53	
1.849	WB	CL	2	6	1.33	1.3	0.2	0.13	
1.853	WB	2	2	12	2.67	2.7	0.4	0.27	
1.867	WB	2	3	3	1.00	1.0	0.2	0.10	
1.9	WB	1	2	50	11.11	11.1	1.9	1.11	
1.935	WB	1	2	3	0.67	0.7	0.1	0.07	
1.958	WB	2	3	3	1.00	1.0	0.2	0.10	
1.975	WB	CL	2	2	0.44	0.4	0.1	0.04	
1.985	WB	CL	3	3	1.00	1.0	0.2	0.10	
1.998	WB	1,2	2	24	5.33	5.3	0.9	0.53	
2.051	WB	2	2	3	0.67	0.7	0.1	0.07	
2.07	WB	2	2	50	11.11	11.1	1.9	1.11	
2.13	WB	2	2	2	0.44	0.4	0.1	0.04	
2.16	WB	CL	2	2	0.44	0.4	0.1	0.04	
2.188	WB	1	3	3	1.00	1.0	0.2	0.10	
2.272	WB	1	2	2	0.44	0.4	0.1	0.04	
2.307	WB	1	2	3	0.67	0.7	0.1	0.07	
2.345	WB	2	2	2	0.44	0.4	0.1	0.04	
2.555	WB	1	2	12	2.67	2.7	0.4	0.27	
2.605	WB	1	2	12	2.67	2.7	0.4	0.27	
2.621	WB	CL	2	2	0.44	0.4	0.1	0.04	
2.629	WB	CL	2	2	0.44	0.4	0.1	0.04	
2.655	WB	2	2	2	0.44	0.4	0.1	0.04	
2.736	WB	1	2	12	2.67	2.7	0.4	0.27	
PARTIAL DEPTH PAVEMENT REPAIR SUBTOTAL 2						131.1	21.8	13	

* TACK ESTIMATE FACTOR = 0.1 GAL/S.Y

SUMMARY SHEET
SHEET 6 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
10/27/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
CLAY

JOB NO.
J4S3136

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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PARTIAL DEPTH PAVEMENT REPAIR									
LOG MILE	DIRECTION	LANE	WIDTH FT	LENGTH FT	AREA SY	REMOVAL FOR CLASS B PAVEMENT REPAIR SY	PARTIAL DEPTH PAVEMENT REPAIR TON	TACK COAT GAL	REMARKS
2.746	WB	1	2	3	0.67	0.7	0.1	0.07	
2.792	WB	3	2	12	2.67	2.7	0.4	0.27	
3.004	WB	1	2	12	2.67	2.7	0.4	0.27	
3.039	WB	1,2	2	24	5.33	5.3	0.9	0.53	
3.105	WB	CL	2	3	0.67	0.7	0.1	0.07	
3.135	WB	1	2	12	2.67	2.7	0.4	0.27	
3.185	WB	CL	2	6	1.33	1.3	0.2	0.13	
3.187	WB	3	2	2	0.44	0.4	0.1	0.04	
3.224	WB	EL	2	2	0.44	0.4	0.1	0.04	
3.248	WB	CL	2	30	6.67	6.7	1.1	0.67	
3.268	WB	1	2	12	2.67	2.7	0.4	0.27	
3.342	WB	1	2	12	2.67	2.7	0.4	0.27	
3.353	WB	3	2	3	0.67	0.7	0.1	0.07	
3.389	WB	2	2	12	2.67	2.7	0.4	0.27	
3.397	WB	2	2	6	1.33	1.3	0.2	0.13	
3.441	WB	1,2	2	24	5.33	5.3	0.9	0.53	
3.74	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from Route 1 to Eastbound 152
3.753	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from Route 1 to Eastbound 152
3.766	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from Route 1 to Eastbound 152
3.771	EB	Ramp	2	2	0.44	0.4	0.1	0.04	Ramp from Route 1 to Eastbound 152
3.778	EB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from Route 1 to Eastbound 152
3.794	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from Route 1 to Eastbound 152
3.803	EB	Ramp	2	2	0.44	0.4	0.1	0.04	Ramp from Route 1 to Eastbound 152
3.814	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from Route 1 to Eastbound 152
3.829	EB	Ramp	2	2	0.44	0.4	0.1	0.04	Ramp from Route 1 to Eastbound 152
3.934	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from Route 1 to Eastbound 152
3.943	EB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from Route 1 to Eastbound 152
3.995	EB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from Route 1 to Eastbound 152
4.774	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from N. Brighton to Eastbound 152
4.775	EB	Ramp	2	6	1.33	1.3	0.2	0.13	Ramp from N. Brighton to Eastbound 152
4.776	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from N. Brighton to Eastbound 152
4.822	EB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from N. Brighton to Eastbound 152
4.835	EB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from N. Brighton to Eastbound 152
4.85	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from N. Brighton to Eastbound 152
4.857	EB	Ramp	2	24	5.33	5.3	0.9	0.53	Ramp from N. Brighton to Eastbound 152
4.873	EB	Ramp	2	20	4.44	4.4	0.7	0.44	Ramp from N. Brighton to Eastbound 152
4.908	EB	Ramp	2	16	3.56	3.6	0.6	0.36	Ramp from N. Brighton to Eastbound 152
4.919	EB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from N. Brighton to Eastbound 152
4.931	EB	Ramp	2	4	0.89	0.9	0.1	0.09	Ramp from N. Brighton to Eastbound 152
4.939	EB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from N. Brighton to Eastbound 152
4.954	EB	Ramp	2	8	1.78	1.8	0.3	0.18	Ramp from N. Brighton to Eastbound 152
4.961	EB	Ramp	3	4	1.33	1.3	0.2	0.13	Ramp from N. Brighton to Eastbound 152
4.965	EB	Ramp	2	20	4.44	4.4	0.7	0.44	Ramp from N. Brighton to Eastbound 152
4.971	EB	Ramp	2	5	1.11	1.1	0.2	0.11	Ramp from N. Brighton to Eastbound 152
4.975	EB	Ramp	2	12	2.67	2.7	0.4	0.27	Ramp from N. Brighton to Eastbound 152
3.34	WB	Ramp	2	6	1.33	1.3	0.2	0.13	Ramp from Westbound 152 to N. Brighton
3.35	WB	Ramp	3	3	1.00	1.0	0.2	0.10	Ramp from Westbound 152 to N. Brighton
3.35	WB	Ramp	3	3	1.00	1.0	0.2	0.10	Ramp from Westbound 152 to N. Brighton
3.36	WB	Ramp	2	2	0.44	0.4	0.1	0.04	Ramp from Westbound 152 to N. Brighton
3.365	WB	Ramp	2	20	4.44	4.4	0.7	0.44	Ramp from Westbound 152 to N. Brighton
3.377	WB	Ramp	3	4	1.33	1.3	0.2	0.13	Ramp from Westbound 152 to N. Brighton
3.388	WB	Ramp	2	20	4.44	4.4	0.7	0.44	Ramp from Westbound 152 to N. Brighton
3.4	WB	Ramp	2	20	4.44	4.4	0.7	0.44	Ramp from Westbound 152 to N. Brighton
3.411	WB	Ramp	2	20	4.44	4.4	0.7	0.44	Ramp from Westbound 152 to N. Brighton
3.46	WB	Ramp	2	3	0.67	0.7	0.1	0.07	Ramp from Westbound 152 to N. Brighton
3.476	WB	Ramp	2	2	0.44	0.4	0.1	0.04	Ramp from Westbound 152 to N. Brighton
3.48	WB	Ramp	2	10	2.22	2.2	0.4	0.22	Ramp from Westbound 152 to N. Brighton
3.483	WB	Ramp	2	20	4.44	4.4	0.7	0.44	Ramp from Westbound 152 to N. Brighton
3.5	WB	Ramp	2	6	1.33	1.3	0.2	0.13	Ramp from Westbound 152 to N. Brighton
2.345	WB	2	2	2	0.44	0.4	0.1	0.04	
2.605	WB	1	2	12	2.67	2.7	0.4	0.27	
4.574	WB	Ramp	2	6	1.33	1.3	0.2	0.13	Ramp from Westbound 152 to Route 1
PARTIAL DEPTH PAVEMENT REPAIR SUBTOTAL 3						155.6	25.5	16	
PARTIAL DEPTH PAVEMENT REPAIR PAY TOTAL						406.8	36.9	40	

* TACK ESTIMATE FACTOR = 0.1 GAL/S.Y

SUMMARY SHEET
SHEET 7 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/27/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY CLAY

JOB NO. J4S3136

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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PAVEMENT MARKINGS

LOG MILE	LOG MILE	LOCATION ✳	LENGTH LF	WATERBORNE PAVEMENT MARKING PAINT: 6" WHITE SOLID LF	6" WHITE INTER. LF	6" WHITE DOTTED LF	6" WHITE WIDE DOTTED LF	6" YELLOW SOLID LF	12" WHITE SOLID LF	24" WHITE (CROSS HATCH) LF	24" YELLOW (CROSS HATCH) LF	PREFORMED THERMOPLASTIC PAVEMENT MARKING: LEFT/ RIGHT ARROWS EACH	6" WHITE (CROSS WALK) LF	6" WHITE (TURNING PATH) LF	24" WHITE (STOP BARS) LF	PAVEMENT MARKING REMOVAL LF	REMARKS
11.930	12.273	MO 152 - PROJECT LIMIT TO RTE 1	1811.04	3230	906	325		3622									RTE 1 RAMPS - USE DOTTED WHITE LINE, 3 FT LONG, 9 FT GAP
12.320	14.414	MO 152 - RTE 1 TO SHOAL CR. BR.	11056.32	22633	5528		2172	22113									AUXILIARY LANES - USE WIDE DOTTED WHITE LINES, 3 FT LONG, 9 FT GAP
14.502	15.098	MO 152 - SHOAL CR. BR. TO SHOAL CR.	3146.88	6111	1573			6294				3					
15.118	15.695	MO 152 - SHOAL CR. TO BOOTH	3046.56	6673	1523			6093				6					
15.715	16.038	MO 152 - BOOTH TO PROJECT EXCE.	1705.44	3713	853			3411				2					
16.038	16.307	MO 152 - PROJECT EXCE.TO FLINTLOCK	1420.32	1349	337		119	1420									
16.329	16.498	MO 152 - FLINTLOCK TO CHURCH	892.32	2364	837	238		1785				11					
16.518	16.875	MO 152 - CHURCH TO I-35	1884.96	2248	643	249		1347				6			132	180	INCLUDE STOP BARS IN PAVEMENT EXCEPTION AREA
0.112	0.147	MO 152 - I-35 TO PROJECT LIMIT	184.80	779	92			370		50		1			36		
0.000	0.236	ROUTE 1 - OFF RAMP EB	1246.08	1372				1051	380		68	2					
0.030	0.278	ROUTE 1 - ON RAMP EB	1309.44	1352				1141									
0.000	0.284	ROUTE 1 - OFF RAMP WB	1499.52	1589				1195				2					
0.033	0.217	ROUTE 1 - ON RAMP WB	971.52	1074				546	265								
0.000	0.199	BRIGHTON - OFF RAMP EB	1050.72	1385				835				3	288		48		
0.010	0.226	BRIGHTON - ON RAMP EB	1140.48	1355				874									
0.011	0.207	BRIGHTON - OFF RAMP WB	1034.88	1391				890				3			60		
0.000	0.217	BRIGHTON - ON RAMP WB	1145.76	1263				941					122				
15.098	15.118	SHOAL CREEK	105.6									4	617		216	370	REMOVAL OF STOP BARS, CROSS WALK, AND TURN ARROWS ON SIDE STREET
15.695	15.715	BOOTH	105.6									6	373	138	96	273	REMOVAL OF STOP BARS, CROSS WALK, AND TURN ARROWS ON SIDE STREET
16.307	16.329	FLINTLOCK	116.16	734								12	1010	600	240		
16.498	16.518	CHURCH	105.6	256								9	1009	509	192		
TOTAL				60,871	12,292	812	2,291	53,928	645	50	68	70	3,419	1,247	1,020	823	
PAY TOTAL				76,266				53,928	645	50	68	70	4,666		1,020	823	

✳ SEE SHEET 08 FOR INTERSECTION PAVEMENT MARKINGS

SUMMARY SHEET
SHEET 8 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/27/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY CLAY

JOB NO. J4S3136

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)

EFFECTIVE: 06-08-2016

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	1	16			REVERSE CURVE (SYMBOL LEFT ARROW)
W01-4R	48X48	16.00					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					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	1	16			YIELD AHEAD (SYMBOL)
W03-3	48X48	16.00					SIGNAL AHEAD (SYMBOL)
W03-4	48X48	16.00					BE PREPARED TO STOP
W03-5	48X48	16.00					SPEED LIMIT AHEAD
W04-1L	48X48	16.00					MERGE (SYMBOL FROM LEFT)
W04-1aL	48X48	16.00	2	32			MERGE (LEFT ARROW AT LANE DROP)
W04-1R	48X48	16.00					MERGE (SYMBOL FROM RIGHT)
W04-1aR	48X48	16.00	2	32			MERGE (RIGHT ARROW AT LANE DROP)
W05-1	48X48	16.00	4	64			ROAD/BRIDGE/RAMP NARROWS
W05-3	48X48	16.00					ONE LANE BRIDGE
W05-5	48X48	16.00	2	32			NARROW LANES
W06-1	48X48	16.00					DIVIDED HIGHWAY (SYMBOL)
W06-2	48X48	16.00					DIVIDED HIGHWAY END (SYMBOL)
W06-3	48X48	16.00					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	18	288			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	18	288			SHOULDER DROP-OFF (SYMBOL)
W08-17p	30X24	5.00	18	90			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	4	25			ADVISORY SPEED (PLAQUE)
W016-2	30X24	5.00					XXX FEET (PLAQUE)
W016-3	30X24	5.00					X MILE (PLAQUE)
W020-1	48X48	16.00	5	80			ROAD/BRIDGE/RAMP WORK AHEAD
W020-2	48X48	16.00					DETOUR AHEAD
W020-3	48X48	16.00	4	64			ROAD/BRIDGE/RAMP CLOSED AHEAD
W020-4	48X48	16.00					ONE LANE ROAD AHEAD
W020-5	48X48	16.00	3	48			RIGHT/CENTER/LEFT LANE CLOSED AHEAD
W020-5a	48X48	16.00	2	32			2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
W020-6a	48X48	16.00	4	64			RIGHT/CENTER/LEFT LANE CLOSED
W020-7a	48X48	16.00					FLAGGER (SYMBOL) WITH FLAGS
W021-2	36X36	9.00					FRESH OIL
W021-5	48X48	16.00	2	32			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	4	8.76			WET PAINT (ARROW PIVOTS)
GUIDE SIGNS							
SPECIAL	36X36	9.00					FRESH OIL/LOOSE GRAVEL
E05-1	36X48	12.00	1	12			GORE EXIT
E05-2	48X36	12.00					EXIT OPEN
E05-2a	48X36	12.00					EXIT CLOSED
G020-1	60X24	10.00					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	2	12			WORK ZONE (PLAQUE)
M04-8a	24X18	3.00					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	1	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	8	96			SPEED LIMIT 2-65, 2-55, 2-45, 2-35
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	2	12.5			LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25	2	12.5			RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00					DO NOT PASS
R4-2	36X48	12.00					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					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					STOP HERE ON RED (45° ARROW)
R11-2	48X30	10.00	4	40			ROAD/BRIDGE/RAMP CLOSED
R11-3a	60X30	12.50					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50					ROAD CLOSED TO THRU TRAFFIC
S4-4	36X15	3.75					WHEN FLASHING
CONST-3A	60X48	20.00					FINE SIGN
R-10	24X12	2.00	3	6			SIDEWALK CLOSED (ARROW) USE OTHER SIDE
R9-9	24X12	2.00	6	12			SIDEWALK CLOSED
MISCELLANEOUS SIGNS							
SPECIAL	36X48	12.00					POINT OF PRESENCE
SPECIAL	96X48	32.00	2	64			POINT OF PRESENCE
CONST-7-48	48X24	8.00					RATE OUR WORK ZONE
CONST-7-72	72X36	18.00	2	36			RATE OUR WORK ZONE
616-10.05 CONSTRUCTION SIGNS TOTAL				1522			
616-10.10 RELOCATED SIGNS TOTAL							

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		IMPACT ATTENUATOR (19 SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A	2	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY
6161008	5	ADVANCED WARNING RAIL SYSTEM
6161009	5	FLAG ASSEMBLY
6161020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONES)
6161024		CHANNELIZER (TRIM LINE) WITH LIGHT
6161025	278	CHANNELIZER (TRIM LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161027		CHANNELIZER (VERTICAL PANEL) WITH LIGHT
6161028		CHANNELIZER
6161030		TYPE III MOVEABLE BARRICADE
6161031	20	TYPE III MOVEABLE BARRICADE WITH LIGHT
6161033	28	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	28	SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A		CHANGEABLE MESSAGE SIGN WITHOUT COMMUNICATION INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099	2	CHANGEABLE MESSAGE SIGN WITH COMMUNICATION INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6173600D		CONTRACTOR FURNISHED/RETAINED TEMPORARY TRAFFIC BARRIER
6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED TEMPORARY TRAFFIC BARRIER
6174000A		TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		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
6169902	5	ADA COMPLIANT MOVEABLE BARRICADE

SUMMARY SHEET
SHEET 9 OF 9

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/13/2016

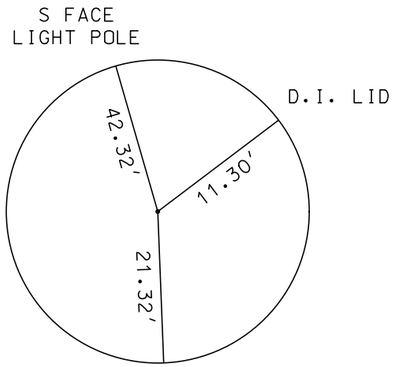
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY: CLAY
JOB NO.: J4S3136
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE	DESCRIPTION

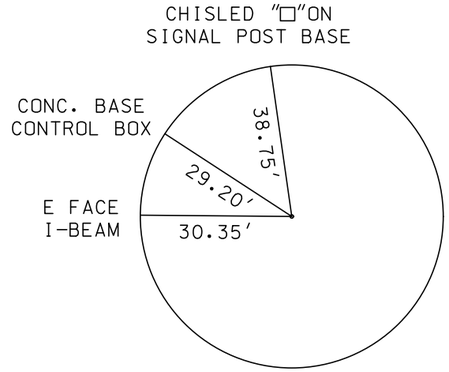
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



E: 2798809.184
N: 1121018.651
ELEV: 848.92

N. FLINTLOCK INTERSECTION
MEDIAN
100p NAIL FOUND IN SB LANE



E: 2799899.1955
N: 1120783.9138
ELEV: 876.74

SE. FLINTLOCK INTERSECTION
CORNER
100p NAIL FOUND

NOTES:
NO DIRECT PAY FOR SURVEYING.
SURVEYING TO BE DONE BY MODOT

REFERENCE POINT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	4
COUNTY	CLAY
JOB NO.	J4S3136
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.

COORDINATE POINT LISTING
MISSOURI COORDINATE SYSTEM OF 1983

RECIPROCAL AVERAGE GRID FACTOR : 0.9999032

COORDINATED POINT LISTING

SHEET NO.	STATION	LOCATION	OFFSET	NORTHING	EASTING	DESCRIPTION	DESIGN PT. ID
4	375+60.77	MO 152 WB	0'	1120978.42	2797713.6	BEGINNING OF ALIGNMENT - 152	63
4	405+00.00	MO 152 WB	0'	1120906.98	2800651.95	END OF ALIGNMENT - 152	51
	16+58.00	FLINTLOCK	0'	1121251.87	2798809.29	BEGINNING OF ALIGNMENT - FLINTLOCK	
	19+58.00	FLINTLOCK	0'	1120951.96	2798802.00	END OF ALIGNMENT - FLINTLOCK	

(1) GROUND DISTANCE

NOTES: THE RECIPROCAL OF THE AVERAGE GRID FACTOR IS USED AS A MULTIPLIER FROM STATE PLANE DISTANCE TO GROUND DISTANCE.

COORDINATED POINT SHEET
SHEET 1 OF 1

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/30/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	5

COUNTY
CLAY

JOB NO.
J4S3136

CONTRACT ID.

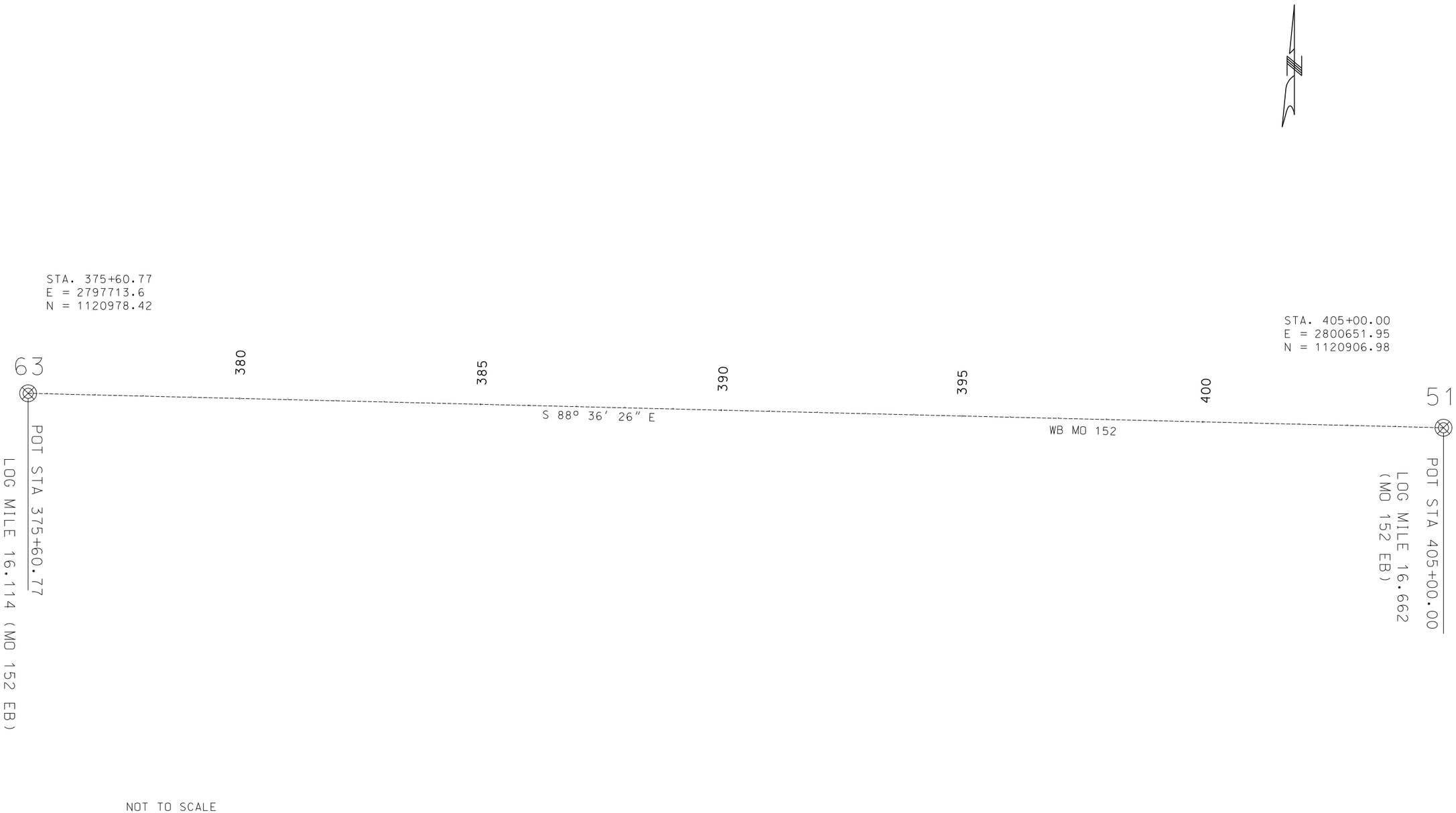
PROJECT NO.

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)



NOT TO SCALE

SPECIAL SHEET
ALIGNMENTS - 152
SHEET 1 OF 2

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

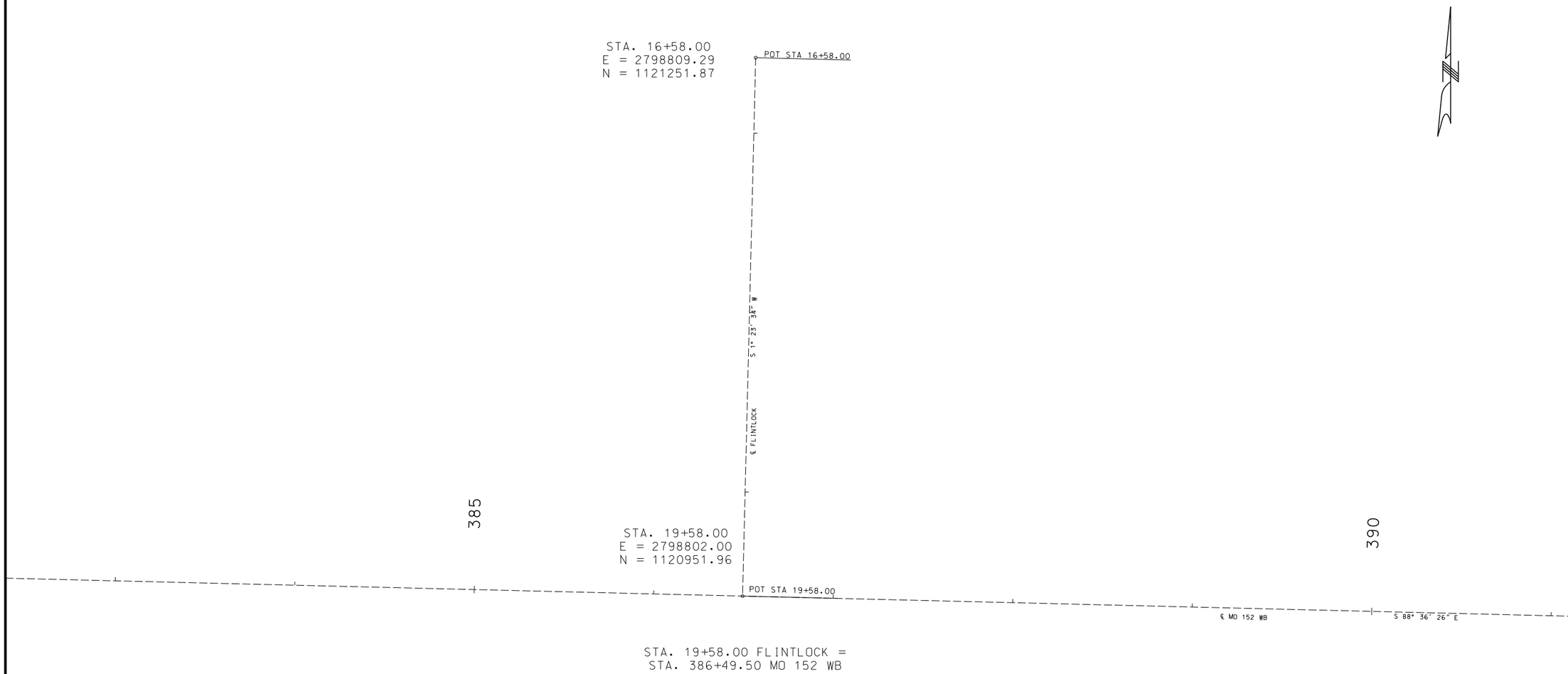
DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	6
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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)



SCALE

0 30 60 90

SPECIAL SHEET
ALIGNMENTS - FLINTLOCK
SHEET 2 OF 2

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

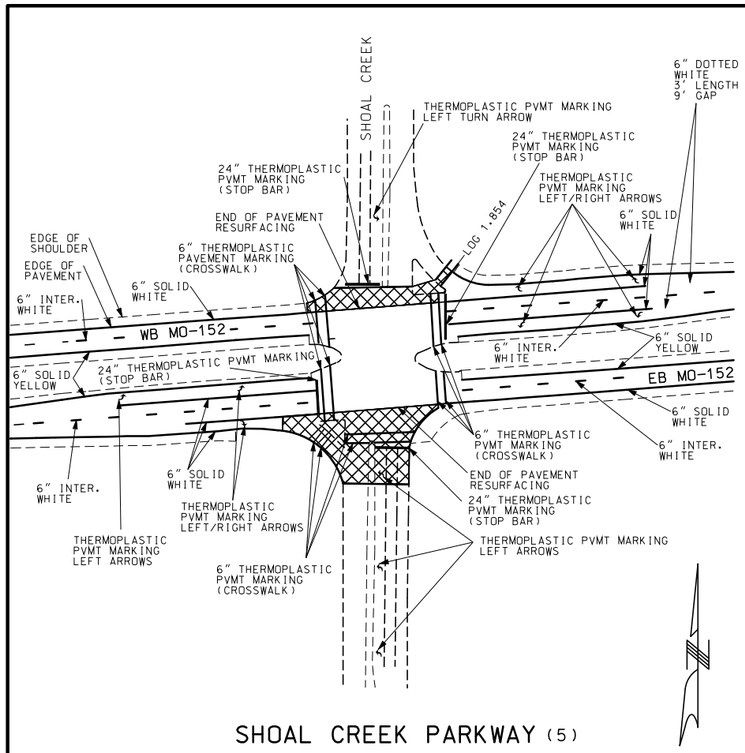
DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	7
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

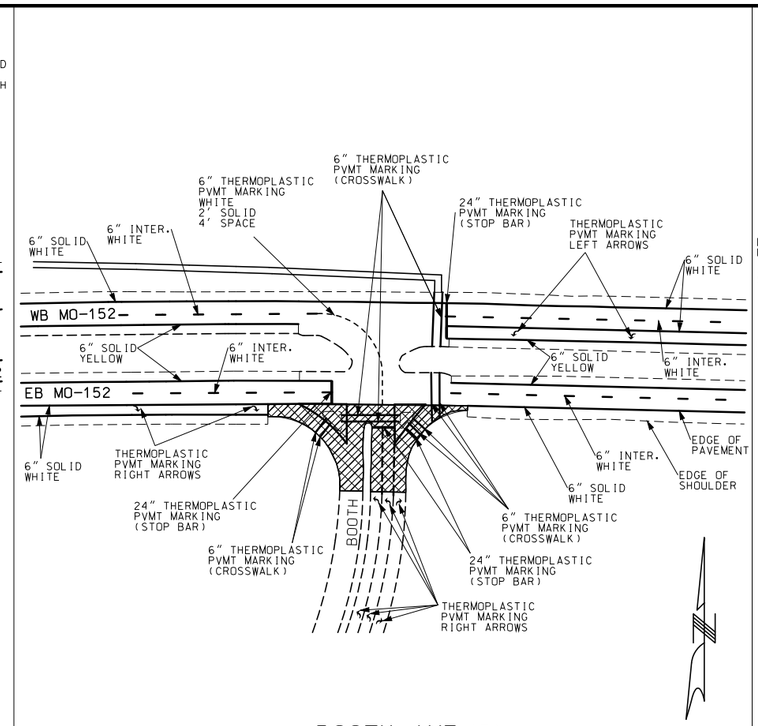
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

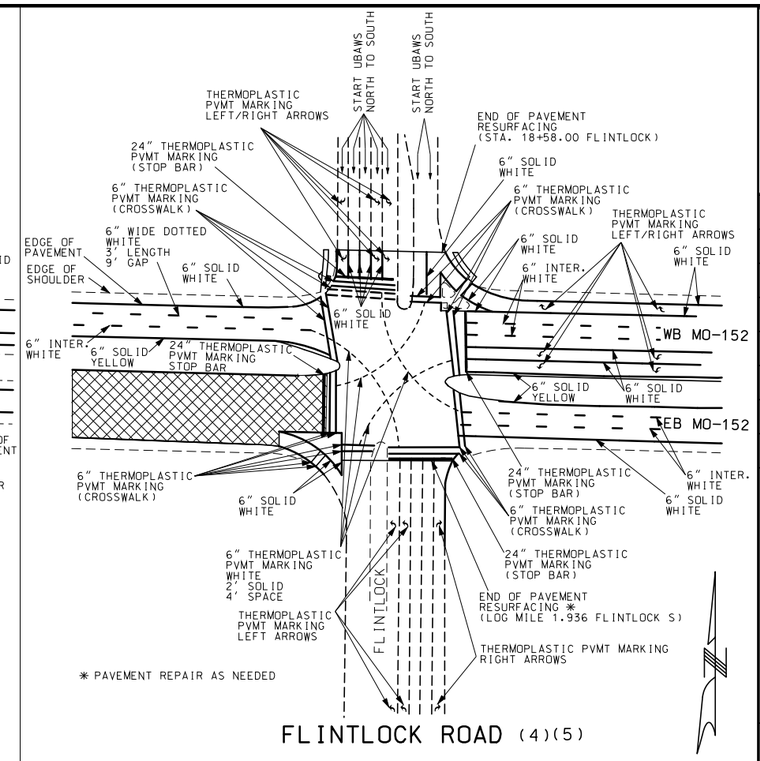
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



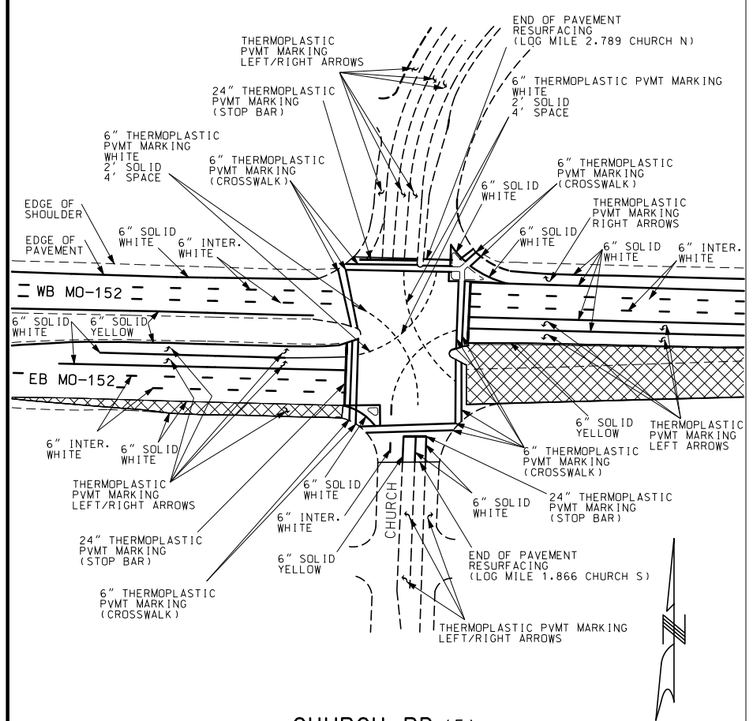
SHOAL CREEK PARKWAY (5)



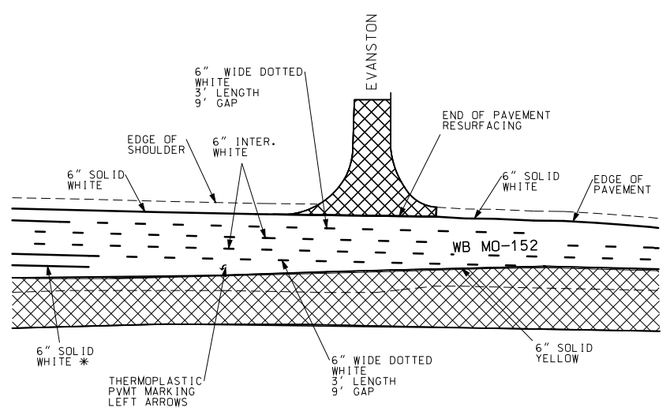
BOOTH AVE (5)



FLINTLOCK ROAD (4)(5)



CHURCH RD (5)



EVANSTON AVE

EXEMPT

NOTE:

(1). FOR PAVEMENT DESIGN, SEE TYPICAL SECTIONS AND SUMMARY OF QUANTITIES

(2). DRAWINGS ARE NOT TO SCALE

(3). DRAWINGS ARE FOR INFORMATION ONLY

(4). SEE SHEET 11 - 12 FOR ADA DETAIL

(5). PAVEMENT MARKINGS ARE INCLUDED ON SIDE STREETS

SPECIAL SHEET
INTERSECTION DETAILS
SHEET 1 OF 1

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

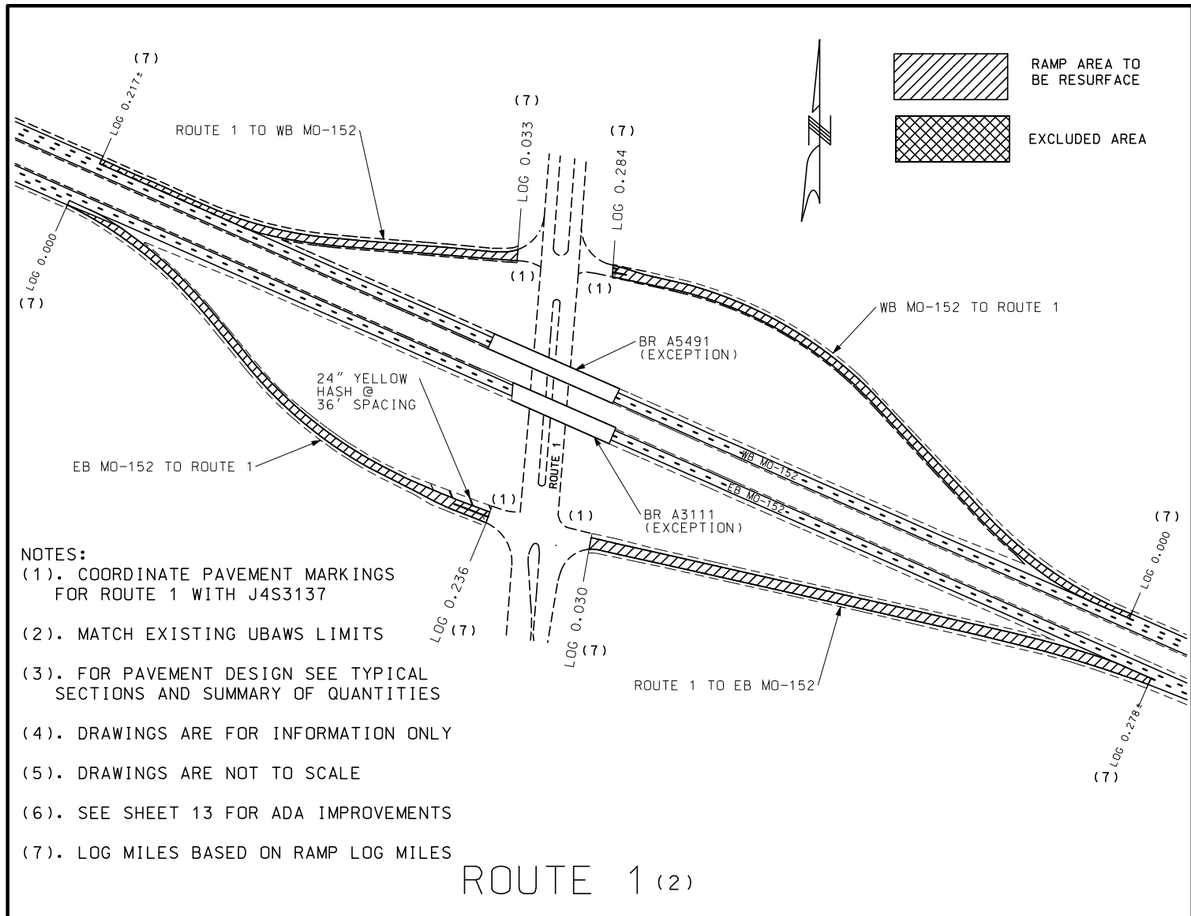
DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	8
COUNTY	
CLAY	
JOB NO.	
J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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)



NOTES:

(1). COORDINATE PAVEMENT MARKINGS FOR ROUTE 1 WITH J4S3137

(2). MATCH EXISTING UBAWS LIMITS

(3). FOR PAVEMENT DESIGN SEE TYPICAL SECTIONS AND SUMMARY OF QUANTITIES

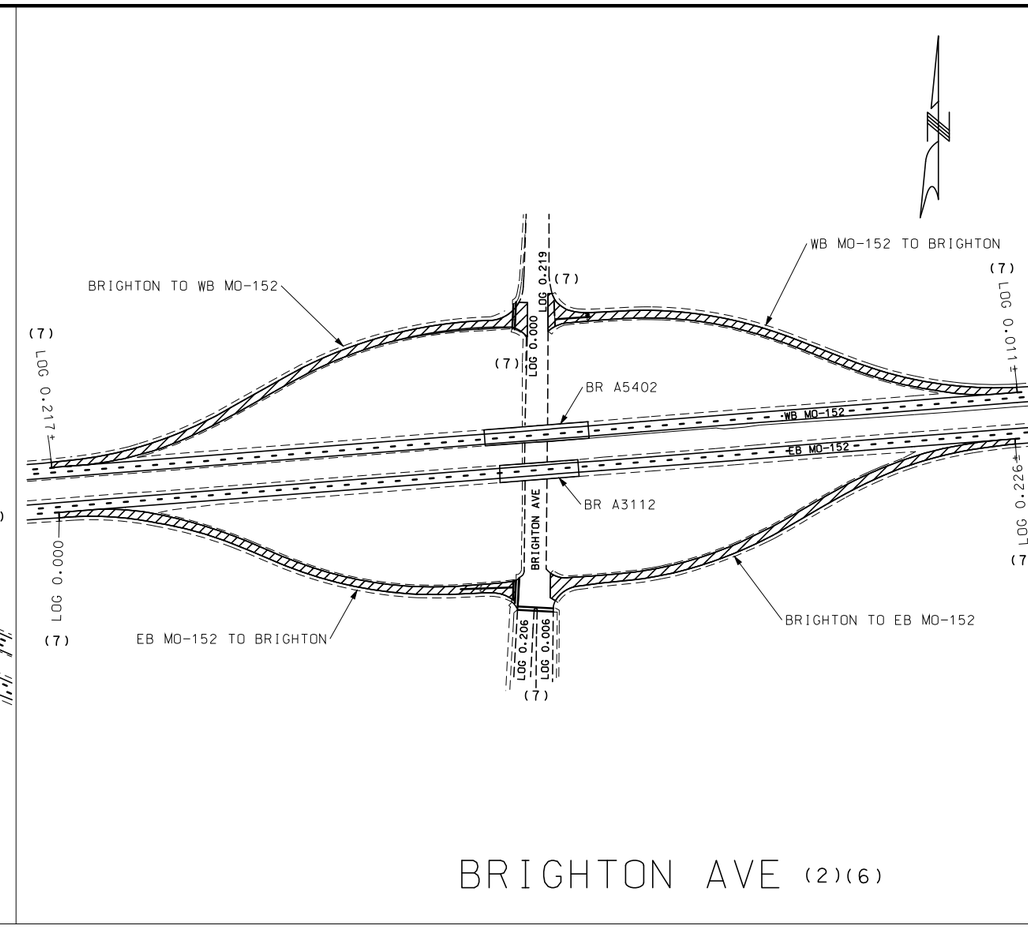
(4). DRAWINGS ARE FOR INFORMATION ONLY

(5). DRAWINGS ARE NOT TO SCALE

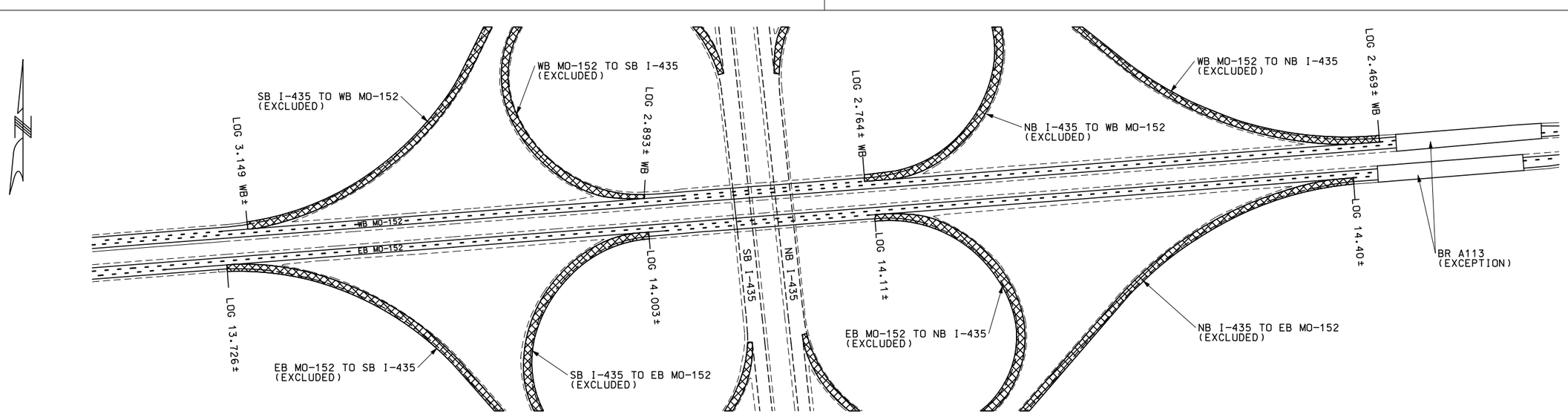
(6). SEE SHEET 13 FOR ADA IMPROVEMENTS

(7). LOG MILES BASED ON RAMP LOG MILES

ROUTE 1 (2)



BRIGHTON AVE (2)(6)



I-435

SPECIAL SHEET
RAMP RESURFACING LIMITS
SHEET 1 OF 2

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 9
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

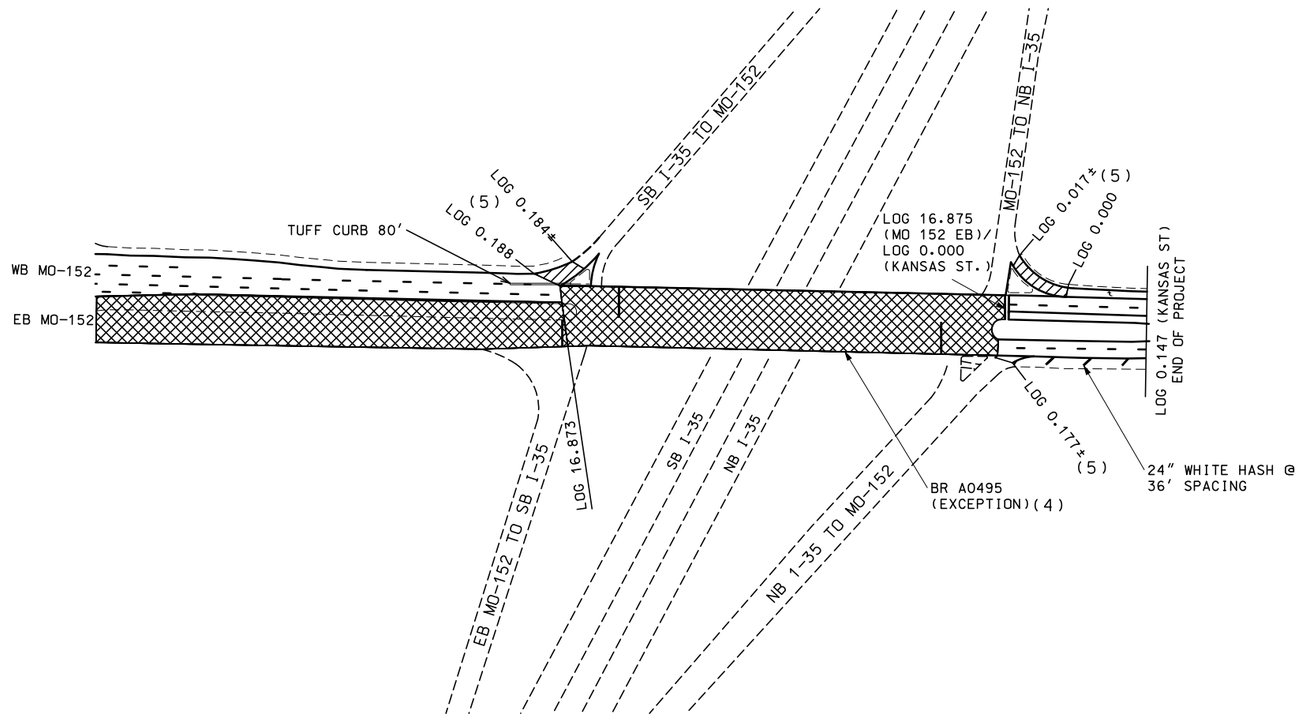
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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.

RAMP AREA TO BE RESURFACE

EXCLUDED AREA



NOTES:

(1). DRAWINGS FOR INFORMATION ONLY

(2). FOR PAVEMENT DESIGN SEE TYPICAL SECTIONS AND SUMMARY OF QUANTITIES

(3). DRAWINGS ARE NOT TO SCALE

(4). STOP BARS ARE INCLUDED IN THE PAVEMENT EXCEPTION AREA

(5). LOG MILES BASED ON RAMP LOG MILES

I-35

SPECIAL SHEET
RAMP RESURFACING LIMITS
SHEET 2 OF 2

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

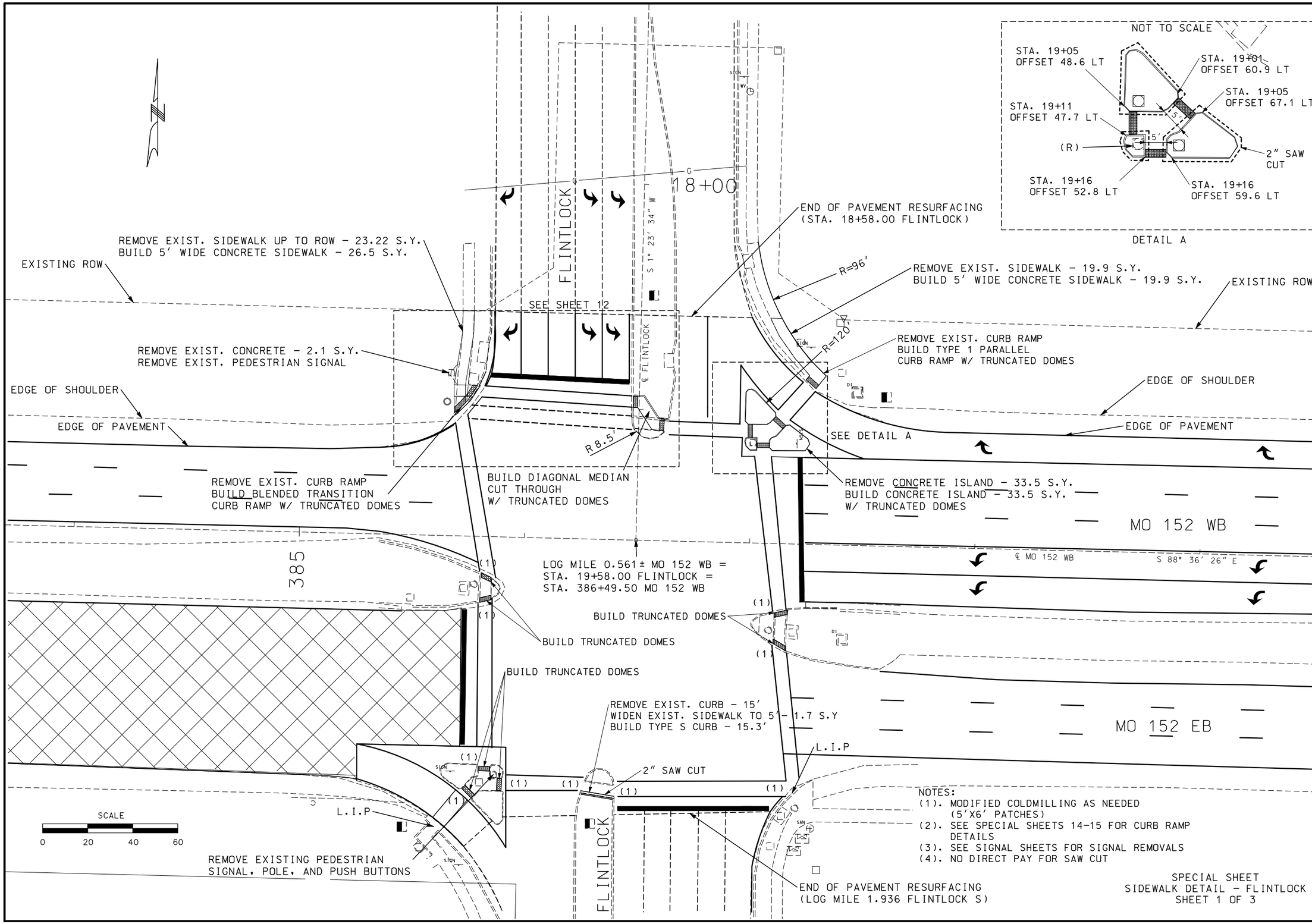
DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 10
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.



NOTES:
(1). MODIFIED COLDMILLING AS NEEDED (5'X6' PATCHES)
(2). SEE SPECIAL SHEETS 14-15 FOR CURB RAMP DETAILS
(3). SEE SIGNAL SHEETS FOR SIGNAL REMOVALS
(4). NO DIRECT PAY FOR SAW CUT

SPECIAL SHEET
SIDEWALK DETAIL - FLINTLOCK
SHEET 1 OF 3

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 11
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

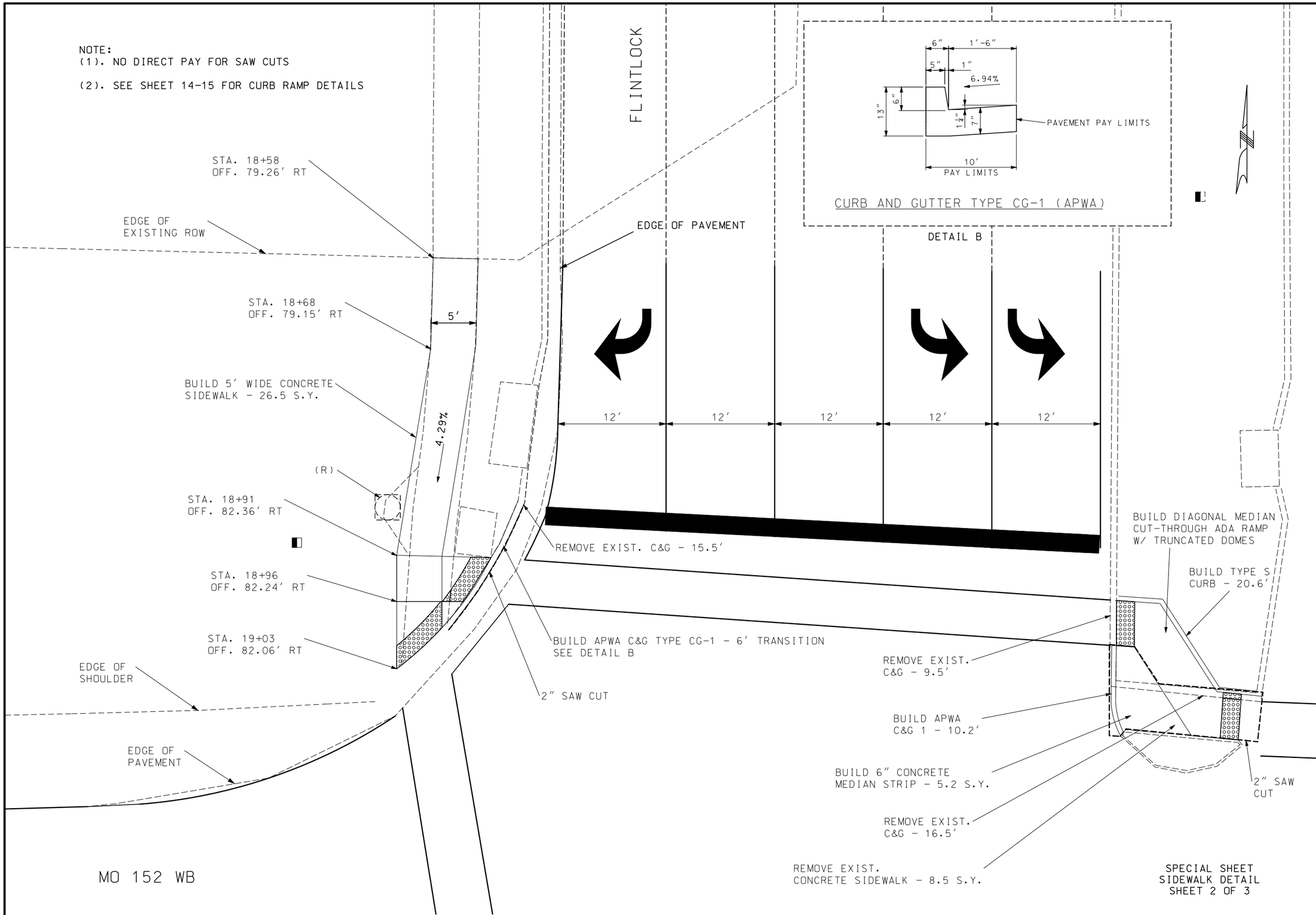
DATE	DESCRIPTION

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.

NOTE:
(1). NO DIRECT PAY FOR SAW CUTS

(2). SEE SHEET 14-15 FOR CURB RAMP DETAILS



SPECIAL SHEET
SIDEWALK DETAIL
SHEET 2 OF 3

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

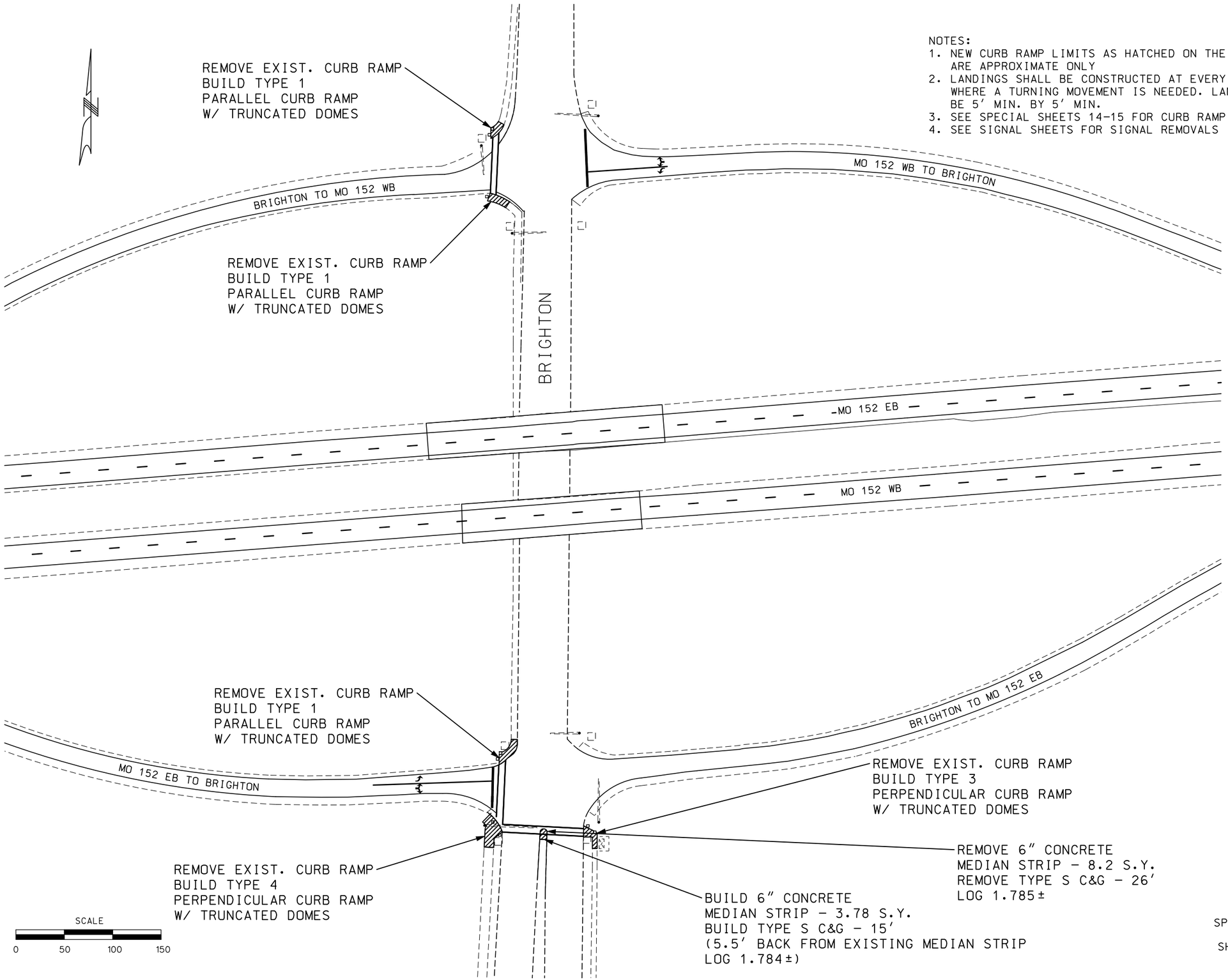
DATE PREPARED	
10/18/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	12
COUNTY	
CLAY	
JOB NO.	
J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.

NOTES:
1. NEW CURB RAMP LIMITS AS HATCHED ON THE PLANS ARE APPROXIMATE ONLY
2. LANDINGS SHALL BE CONSTRUCTED AT EVERY LOCATION WHERE A TURNING MOVEMENT IS NEEDED. LANDINGS SHALL BE 5′ MIN. BY 5′ MIN.
3. SEE SPECIAL SHEETS 14-15 FOR CURB RAMP DETAILS
4. SEE SIGNAL SHEETS FOR SIGNAL REMOVALS



SPECIAL SHEET
SIDEWALK
SHEET 3 OF 3

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

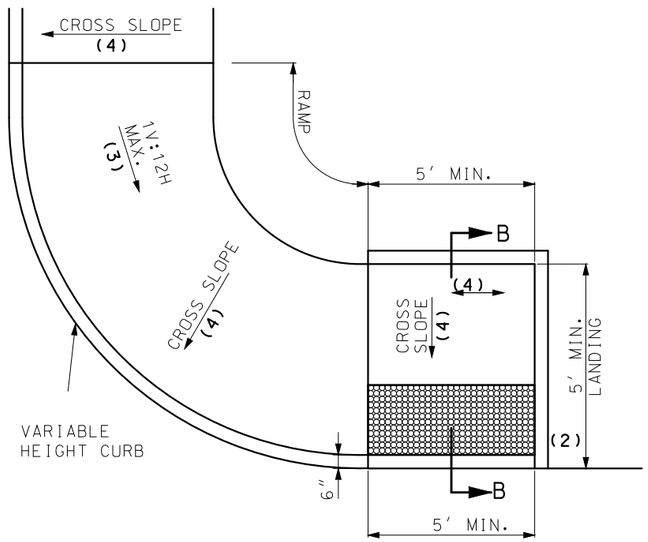
DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	13
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

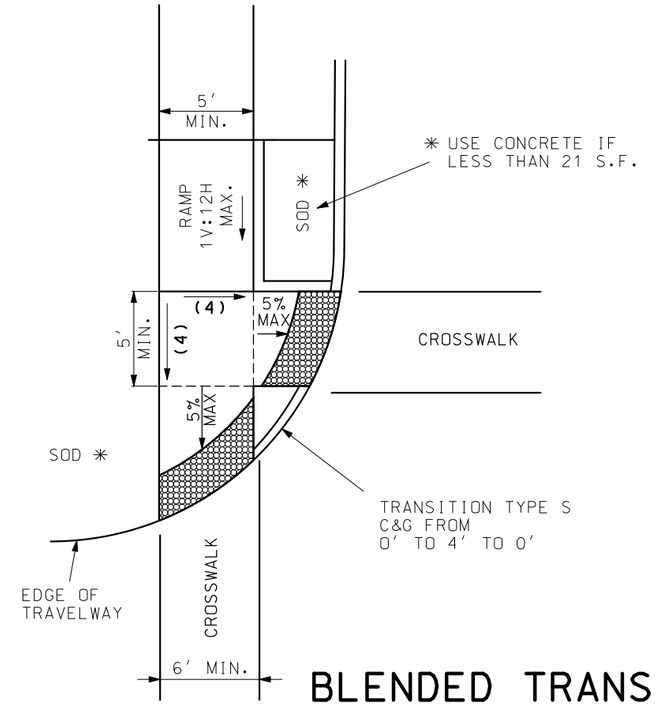
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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.

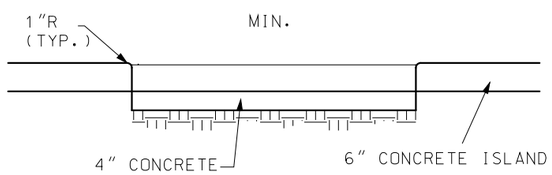


TYPE 1 PARALLEL

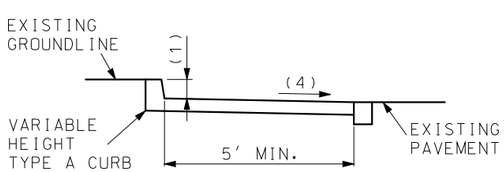


BLENDED TRANSITION

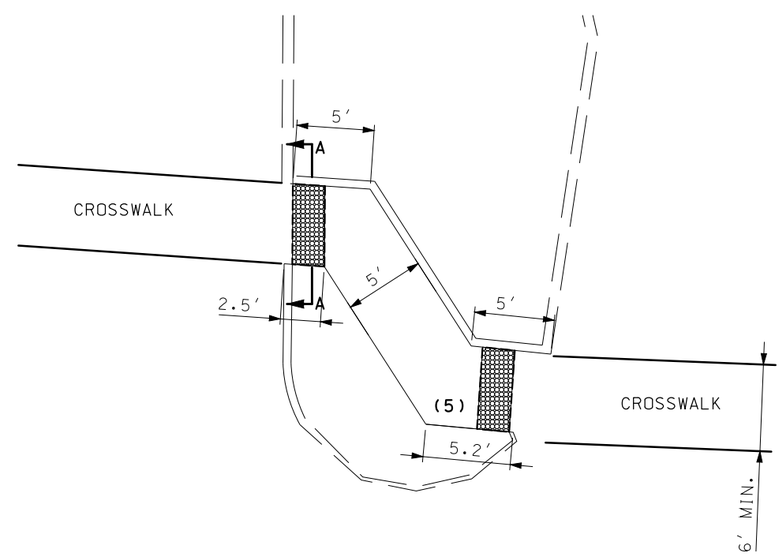
NOTES:
(1) HEIGHT VARIES MEET EXISTING GROUND
(2) 1' FOR ≤6" CURB, 1.5' FOR 8" CURB.
(3) ENSURE THAT THE INSIDE EDGE OF CURVED RAMPS MAINTAINS AN 8.3% (1V:12H) MAXIMUM SLOPE.
(4) 1.0% MINIMUM, 2.0% MAXIMUM
(5) DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE EDGES OF THE PEDESTRIAN ISLAND AND SHALL BE SEPARATED BY 2' MIN. LENGTH OF SURFACE WITHOUT DETECTABLE WARNING



SECTION A-A
MEDIAN CUT THROUGH TYPICAL



SECTION B-B



DIAGONAL MEDIAN CUT-THROUGH

SPECIAL SHEET
TYPICAL CURB RAMP
SHEET 1 OF 2

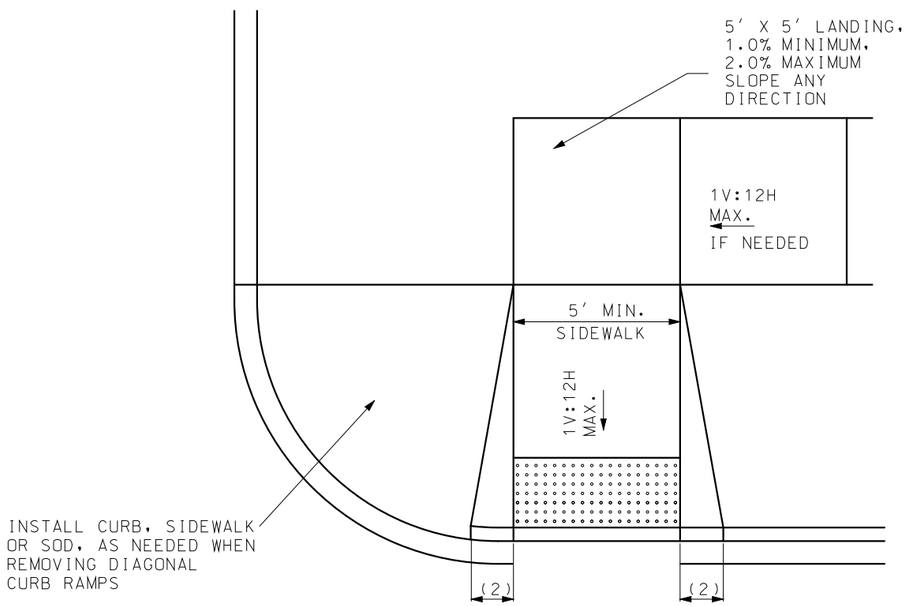
STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 14
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

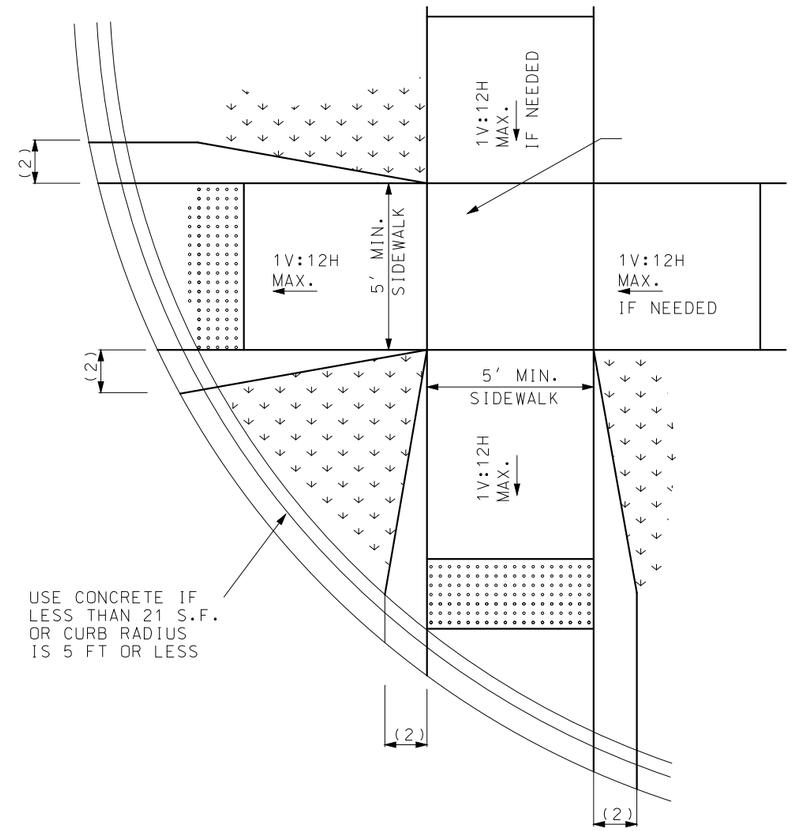
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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



TYPE 3 PERPENDICULAR

NOT TO SCALE



TYPE 4 PERPENDICULAR

GENERAL NOTES:
(1) HEIGHT VARIES MEET EXISTING GROUND
(2) 1′ FOR ≤6″ CURB, 1.5′ FOR 8″ CURB.
(3) ENSURE THAT THE INSIDE EDGE OF CURVED RAMPS MAINTAINS AN 8.3% (1V:12H) MAXIMUM SLOPE.
(4) 1.0% MINIMUM, 2.0% MAXIMUM

SPECIAL SHEET
TYPICAL CURB RAMP
SHEET 2 OF 2

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

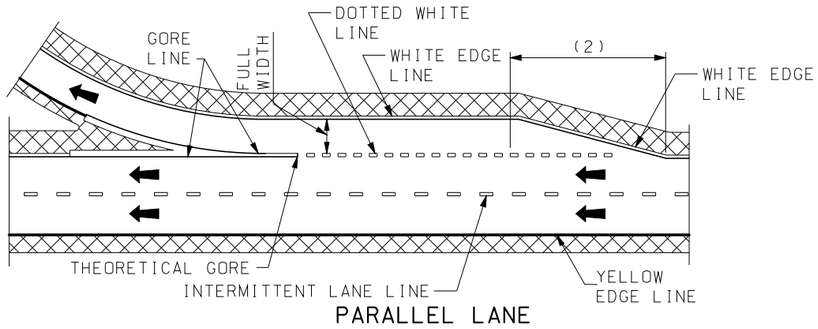
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	15
COUNTY	
CLAY	
JOB NO.	
J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

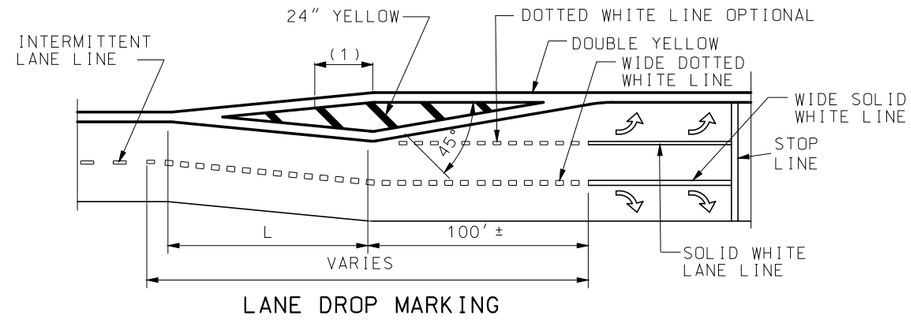
DATE	DESCRIPTION

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)



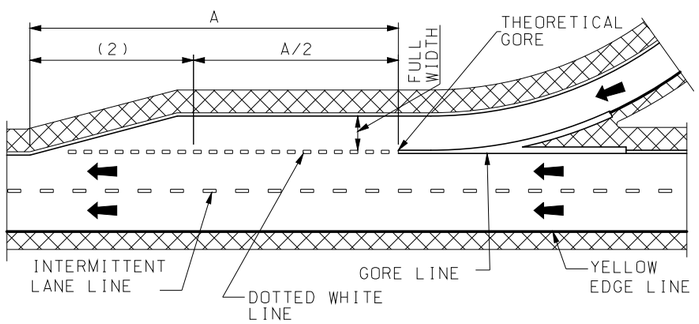
EXIT RAMP MARKING



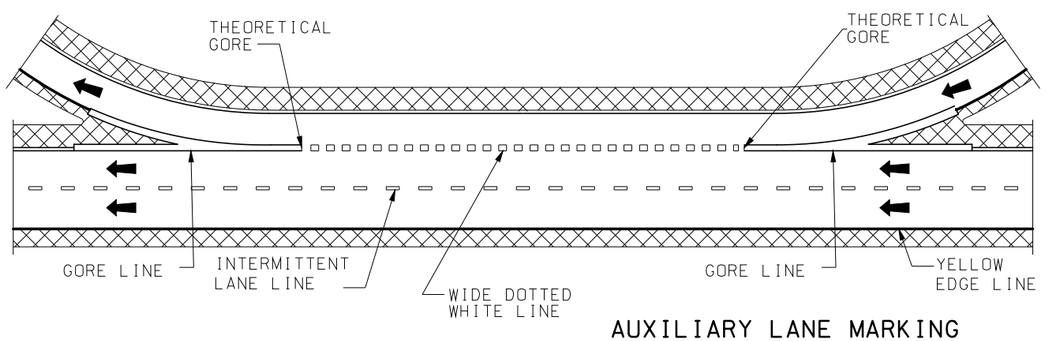
(1) 50' (TYP.) SPACE BETWEEN BARS. A MINIMUM OF 3 BARS ARE REQUIRED. IF NECESSARY, THE DISTANCE BETWEEN THE BARS SHALL BE DECREASED TO INSTALL 3 BARS.

(2) DOTTED WHITE LINE OPTIONAL LOCATED WITHIN TAPER AREA.

A = LENGTH OF ACCERLERATION LANE PLUS TAPER.



ENTRANCE RAMP MARKING



AUXILIARY LANE MARKING

GENERAL NOTES:

DOTTED LINES SHALL BE 3 FEET IN LENGTH SEPARATED BY 9 FOOT GAPS.

REFER TO THE STANDARD PLAN 626.00 WHEN INSTALLING PAVEMENT MARKINGS OVER RUMBLE STRIPS.

WIDE LINES ARE TWICE THE WIDTH OF NORMAL LINES.

LANE LINES SHALL BE AN INTERMITTENT OR SOLID WHITE.

INTERMITTENT LINES SHALL BE 10 FEET IN LENGTH SEPARATED BY 30 FOOT GAPS.

EDGELINES SHALL BE CONTINUOUS SOLID WHITE OR YELLOW LINES. RIGHT SIDE EDGELINES SHALL BE SOLID WHITE. MEDIAN OR LEFT SIDE EDGELINES ON DIVIDED HIGHWAYS AND ON THE LEFT SIDE OF RAMPS SHALL BE SOLID YELLOW. EDGELINES SHALL BE CONTINUOUS ACROSS DRIVEWAYS AND MINOR INTERSECTING ROADS.

"NO PASSING" LINES SHALL BE CONTINUOUS SOLID YELLOW.

"NO PASSING" LINES SHALL BE PLACED AS SHOWN IN "LINE DETAIL". "NO PASSING" LINES ON A TWO-LANE, TWO-WAY HIGHWAY WHEN PASSING IS PROHIBITED IN EACH DIRECTION SHALL BE PLACED 4 INCHES APART AND THE INTERMITTENT CENTERLINE SHALL BE OMITTED.

STOP LINES SHALL BE A SOLID WHITE TRANSVERSE LINE 24 INCHES WIDE, LOCATED AT LEAST 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.

CROSSWALK LINES SHALL BE SOLID WHITE TRANSVERSE LINES 6 INCHES WIDE AT LEAST 6 FEET APART. CROSSWALK LINES ON THE INTERSECTION SIDE OF THE CROSSWALK SHALL MEET AT THE CURB.

GORE LINES SHALL BE A SOLID WHITE LINE WITH A WIDTH TWICE THAT OF THE EDGELINE.

ARROWS AND WORD SYMBOLS SHALL BE SOLID WHITE.

SPECIAL SHEET
PAVEMENT MARKING
SHEET 1 OF 1

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
10/3/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 16
COUNTY CLAY	
JOB NO. J4S3136	
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.

Traffic Control Legend, Sign Spacing, Device Spacing, Channelizing Taper Lengths And Recommended Maximum Speed Reductions

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

TAPER LENGTHS AND END TREATEMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (3) 10′	11′	12′	END TREATMENT (4)
β40	160′	168′	176′	BARRIER HEIGHT TRANSITION
₵40	160′	168′	176′	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (L) (3) 10′	11′	12′	MINIMUM SHOULDER TAPER LENGTH (T1) BASED ON 10′ SHOULDER	BUFFER LENGTH FT	MAXIMUM CHANNELIZER SPACING THROUGH TAPER	THROUGH WORK AREA
0-35	205′	225′	245′	70′	280′	35′	40′
40-45	450′	495′	540′	150′	400′	40′	80′
50-55	550′	605′	660′	185′	560′	50′	80′
60-70	700′	770′	840′	235′	840′	60′	120′

** THE SA DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN.

THE SB DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS.

THE SC DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS.

(THE "FIRST SIGN" IS THE SIGN IN A THREE-SIGN SERIES THAT IS CLOSEST TO THE TEMPORARY TRAFFIC CONTROL ZONE. THE "THIRD SIGN" IS THE SIGN THAT IS FURTHEST UPSTREAM FROM THE TEMPORARY TRAFFIC CONTROL ZONE)

DETAILS NOTES:

(1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OF SIGNED CONDITION.

(2) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

(3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER

(4) CONCRETE BARRIER MAY BE INSTALLED AT 8:1 FLARE RATE FROM THE SHOULDER POINT OF THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER

TAPER LENGTH (L)

L = W X P FOR 40 MPH OR MORE

$L = \frac{WP^2}{60}$ FOR 35 MPH OR LESS

L = TAPER LENGTH IN FEET

W = LATERAL SHIFT IN FEET

P = POSTED SPEED PRIOR TO ROAD WORK IN MPH

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- PROTECTIVE VEHICLE WITH WORK SIGN, FLASHING ARROW PANEL AND REAR-MOUNTED IMPACT ATTENUATOR UNIT.
- FLASHING ARROW PANEL
- CHANGEABLE MESSAGE BOARD
- BARRICADE

LEGEND NOTE:

THE PROTECTIVE VEHICLE SIGN SHALL BE MOUNTED AT A RECOMMENDED HEIGHT OF 48 IN. ABOVE THE ROAD SURFACE.

GENERAL NOTES:

1. SEE STANDARD PLAN 616.10 FOR DETAILS AND ITEMS NOT SHOWN.
2. EXISTING SIGNS SHALL BE COVERED DURING WORKING HOURS ONLY IF IN CONFLICT WITH TRAFFIC CONTROL PLANS.
3. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATING, COVERING, UNCOVERING OR REMOVING SIGNS.
4. CONES ALLOWABLE FOR DAYTIME OPERATIONS ONLY.
5. LOCATE FLASHING ARROW PANEL AT BEGINNING OF TAPER WHEN FEASIBLE, ARROW PANELS ARE ALWAYS LOCATED BEHIND CHANNELIZERS OR CONES.

EPG TABLE 616.29 RECOMMENDED MAXIMUM SPEED REDUCTIONS	
ACTIVITY (I.E. WORKERS, EQUIPMENT OR MATERIAL) LOCATION	RECOMMENDED WORK ZONE SPEED REDUCTION (WHEN APPLICABLE)
10 FT. BEYOND EDGE OF TRAVELWAY TO EDGE OF RIGHT OF WAY	NO SPEED REDUCTION
IN TRAFFIC LANE OR WITHIN 10FT. OF THE TRAFFIC LANE	10 MPH
HEAD-TO-HEAD ON MULTILANE	10 MPH
SPECIAL CIRCUMSTANCES WITHIN A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY WARRANT A LOWER SPEED LIMIT THAN RECOMMENDED ABOVE. ALL SPEED LIMIT REDUCTIONS GREATER THAN 10 MPH SHALL BE DOCUMENTED, SUBMITTED TO AND APPROVED BY THE DISTRICT WORK ZONE COORDINATOR.	

TEMPORARY TRAFFIC CONTROL SHEET 1 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	17

COUNTY CLAY

JOB NO. J4S3136

CONTRACT ID.

PROJECT NO.

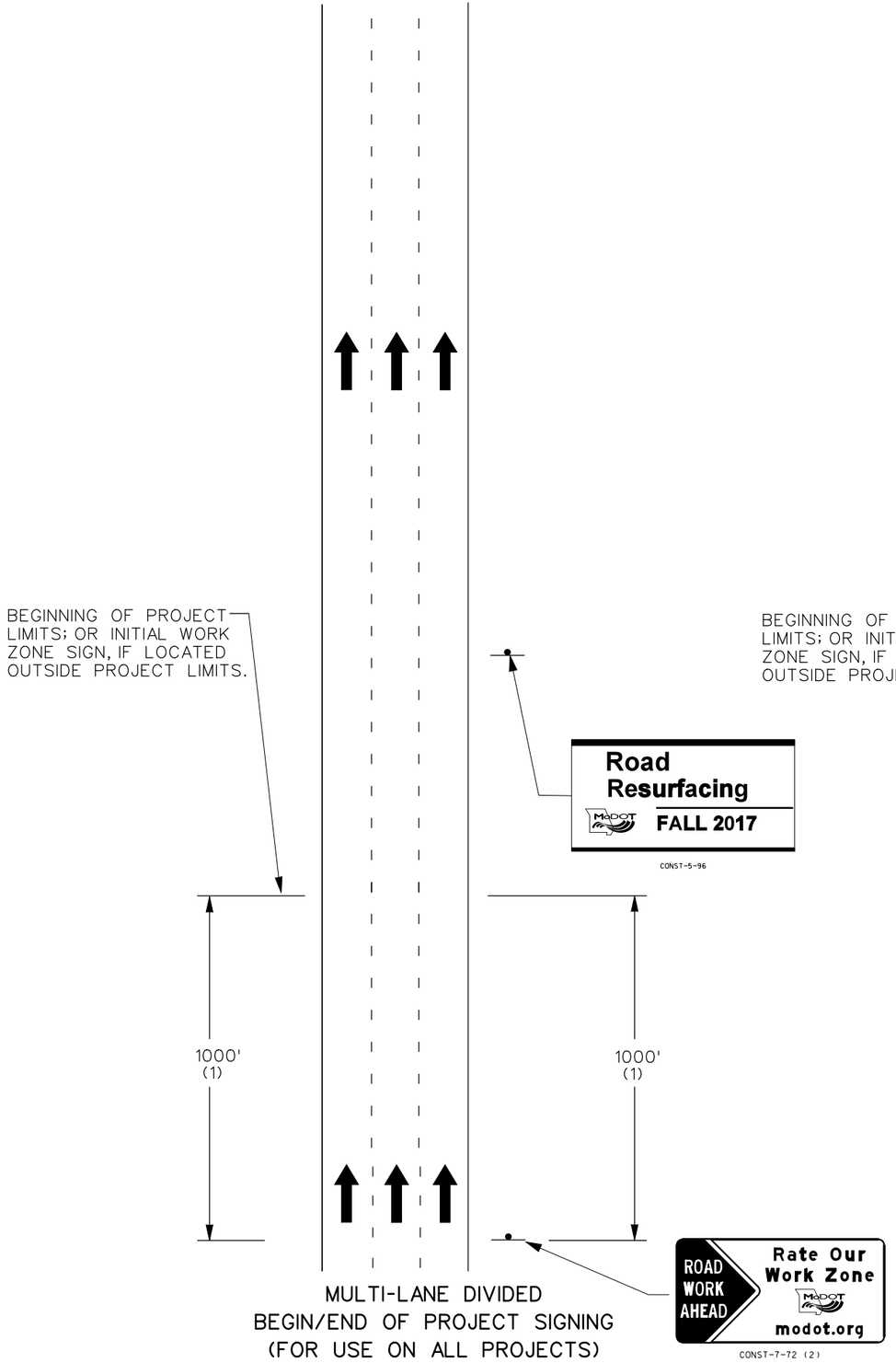
BRIDGE NO.

DATE	DESCRIPTION

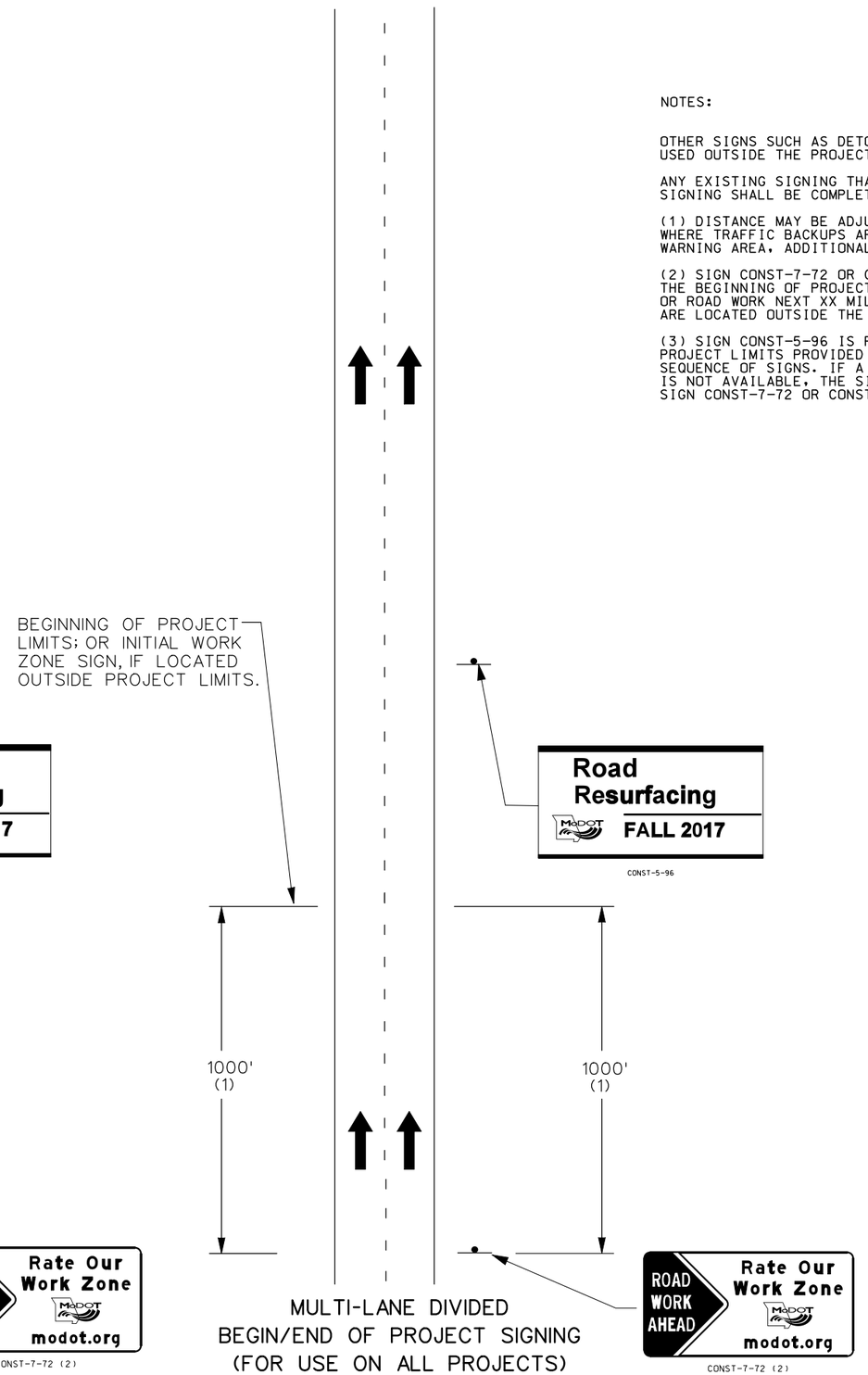
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

REV.



MULTI-LANE DIVIDED
BEGIN/END OF PROJECT SIGNING
(FOR USE ON ALL PROJECTS)



MULTI-LANE DIVIDED
BEGIN/END OF PROJECT SIGNING
(FOR USE ON ALL PROJECTS)

NOTES:

OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.

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

(1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.

(2) SIGN CONST-7-72 OR CONST-7-48 IS PLACED 500 FEET BEFORE THE BEGINNING OF PROJECT LIMITS OR THE ROAD WORK AHEAD SIGN OR ROAD WORK NEXT XX MILES SIGN, IF USED, WHEN THESE SIGNS ARE LOCATED OUTSIDE THE PROJECT LIMITS.

(3) SIGN CONST-5-96 IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATION WITHIN THE PROJECT IS NOT AVAILABLE, THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN CONST-7-72 OR CONST-7-48.

TEMPORARY
TRAFFIC CONTROL
BEGIN/END
SHEET 2 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

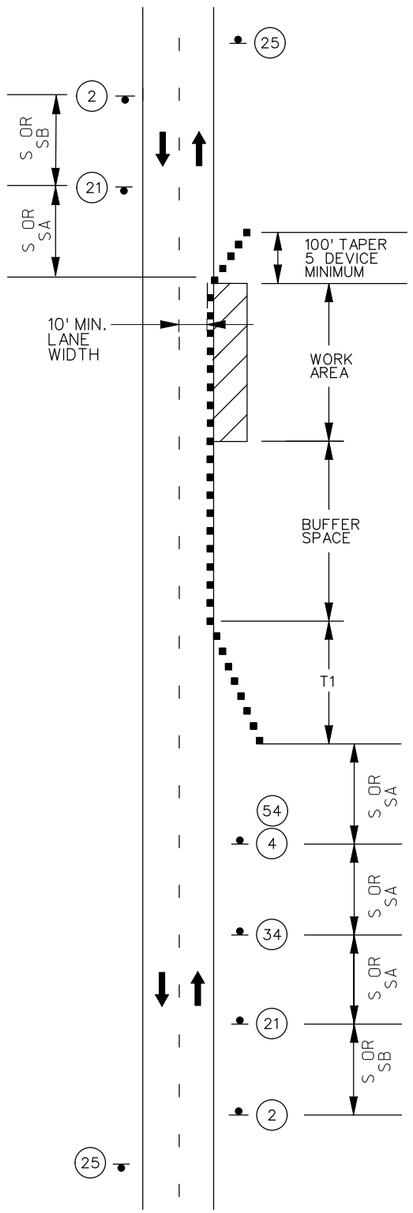
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 18
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

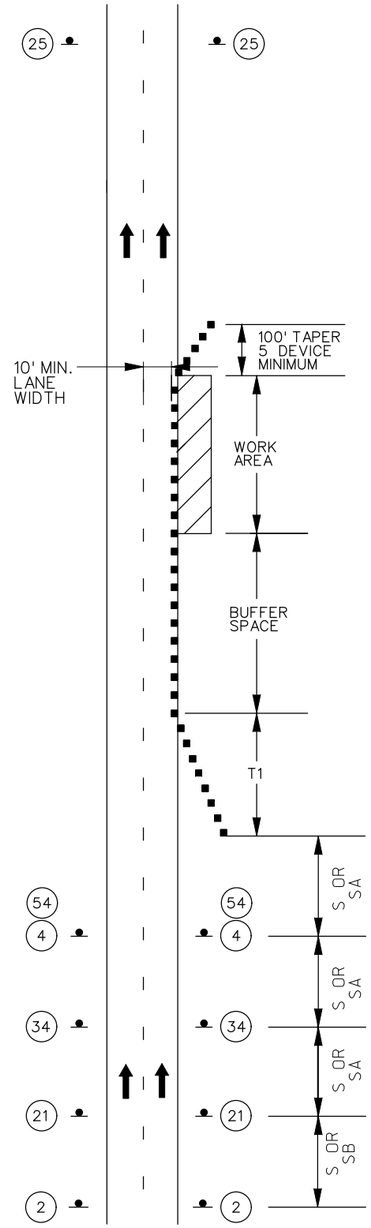
DATE	DESCRIPTION

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

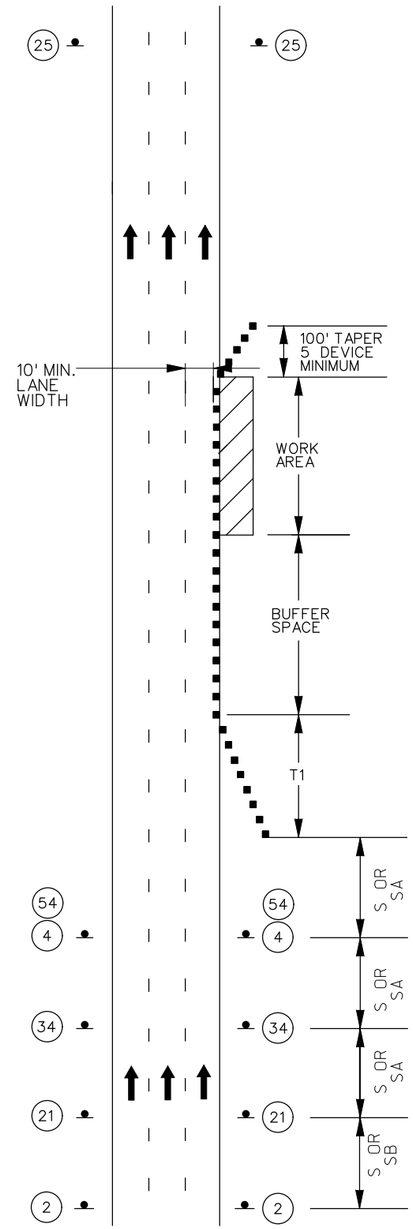
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



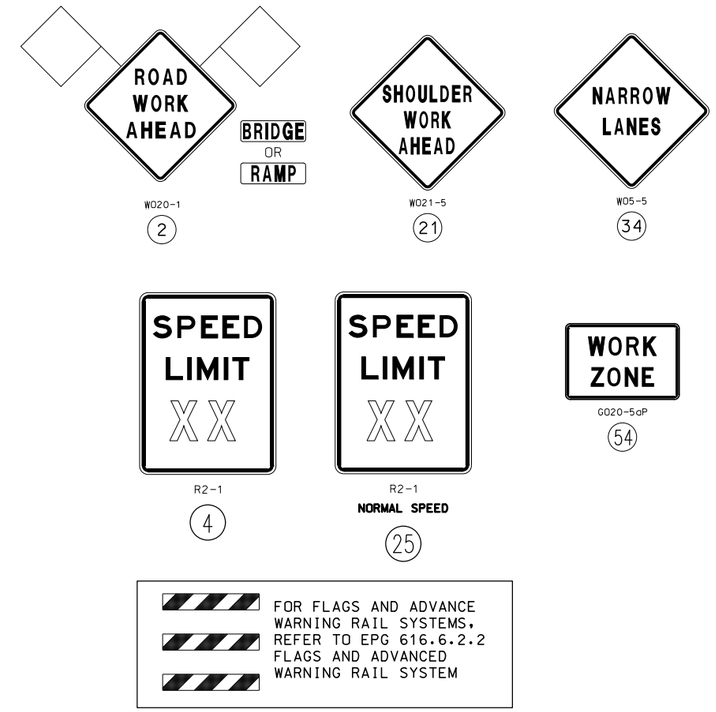
TWO LANE UNDIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



TWO LANE (MULTI) DIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



THREE LANE (MULTI) DIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



GENERAL NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORKZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

SIGN 2 NOT REQUIRED IF SHOULDER WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITY AREA WHERE ANOTHER SIGN 2 IS ALREADY USED.

THE PROTECTIVE VEHICLE MAY BE OMITTED IF A TAPER AND CHANNELIZING DEVICES ARE USED.

VEHICLE MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGEND ON VEHICLE MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

SHADOW AND WORK VEHICLES SHALL DISPLAY HIGH-DENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
SHOULDER WORK
MINOR ENCROACHMENT
SHEET 3 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 19
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

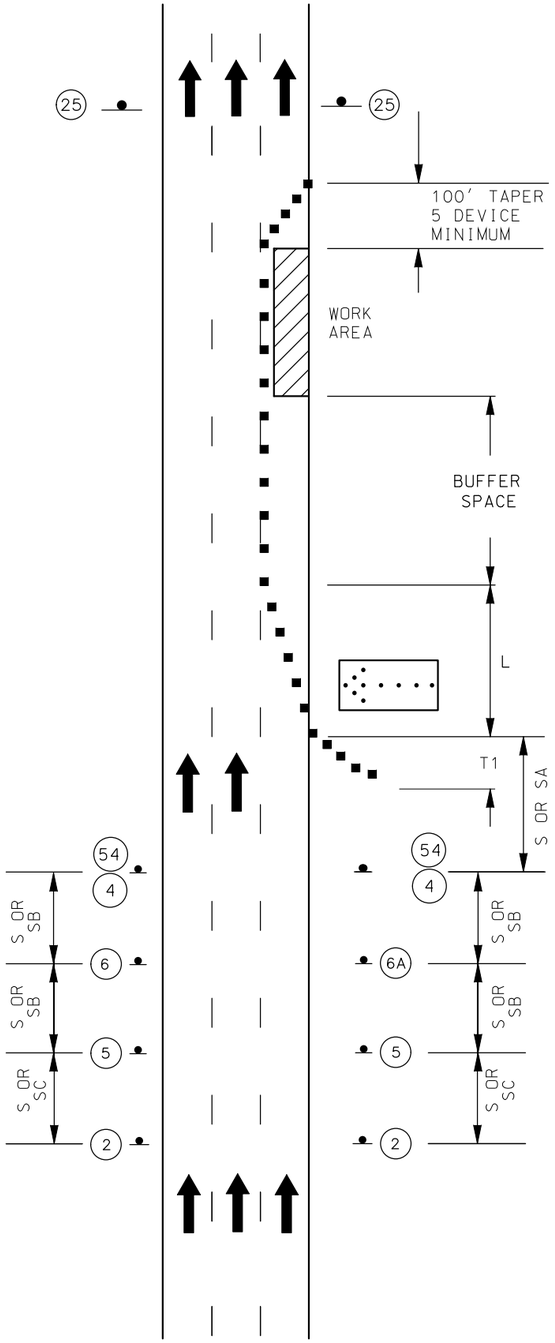
DATE	DESCRIPTION

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

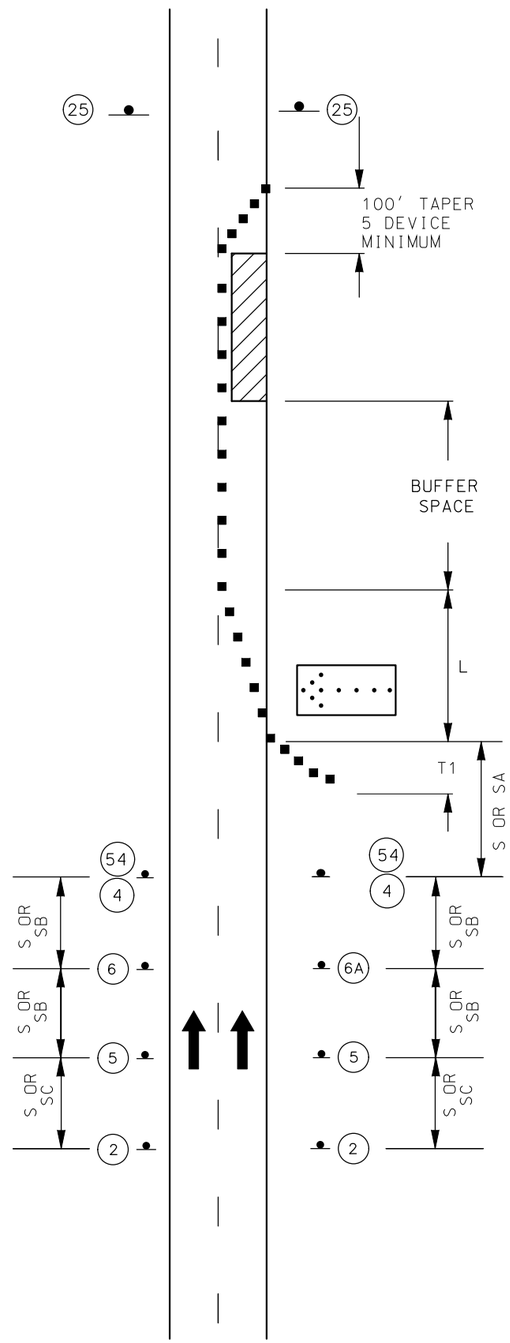
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

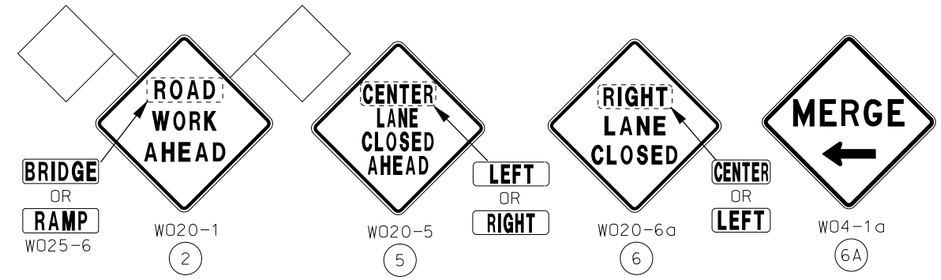
EFFECTIVE: 02-01-2009

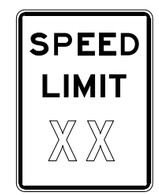


THREE LANE DIVIDED HIGHWAY
(SOUTH BOUND LANE)



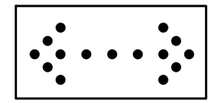
TWO-LANE DIVIDED HIGHWAY





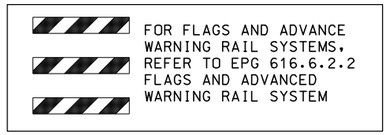
R2-1
4

R2-1
NORMAL SPEED
25



FLASHING
ARROW PANEL

G020-5aP
54



CHANNELIZERS

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.

THIS INFORMATION ALSO SHALL BE USED WHEN WORK IS BEING PREFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY. IN THIS CASE, THE LEFT LANDE CLOSED SIGNS AND THE CORRESPONDING MERGE OR LANE ENDS SIGN SHALL BE SUBSTITUTED.

WHEN A SIDE ROAD INTERSECTS THE HIGHWAY WITHIN THE TTC ZONE ADDITIONAL TTC DEVICES SHALL BE PLACED AS NEEDED.

TEMPORARY TRAFFIC BARRIERS, IF USED SHALL COMPLY WITH THE PROVISIONS IN EPG 616.6.85 TEMPORARY TRAFFIC BARRIER AND REVIEW TA-34 LANE CLOSURE WITH A TEMPORARY TRAFFIC BARRIER.

REVIEW EPG TA-34a LANE CLOSURE WITH WIDTH AND LANE RESTRICTIONS DE/CM FOR A LANE CLOSURE WITH WIDTH RESTRICTIONS

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

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

REVIEW EPG 616.6.83 WARNING LIGHTS WHEN SEQUENTIAL OR WARNING LIGHTS SHOULD BE USED ON NIGHTTIME OPERATIONS.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REFER TO EPG 616.6.2.2 FLAG AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
LANE CLOSURE
SHEET 4 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

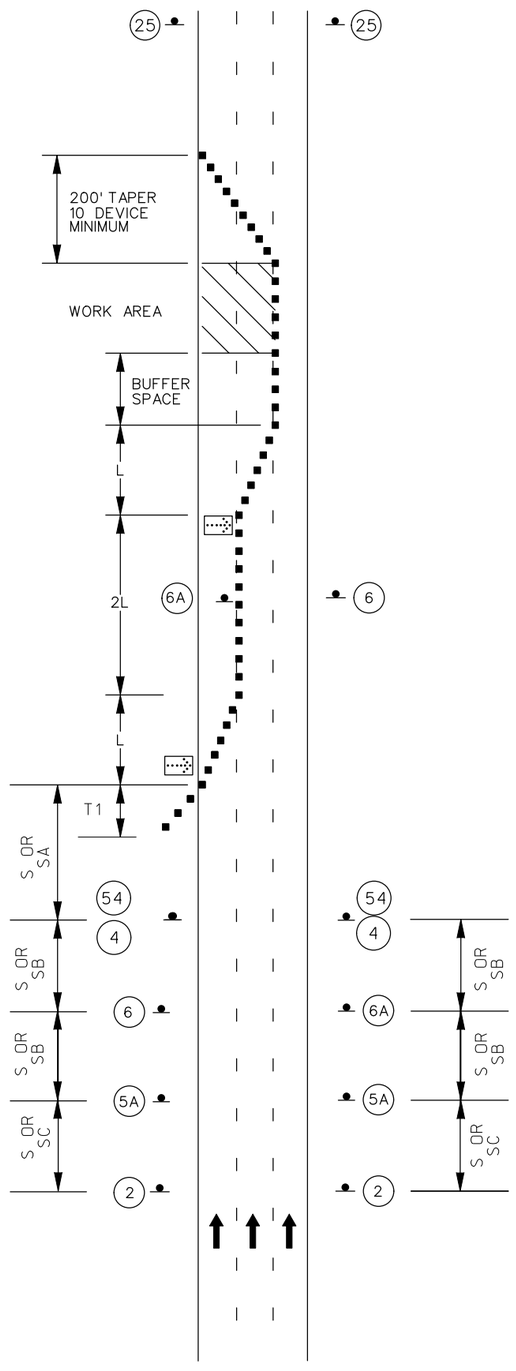
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 20
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

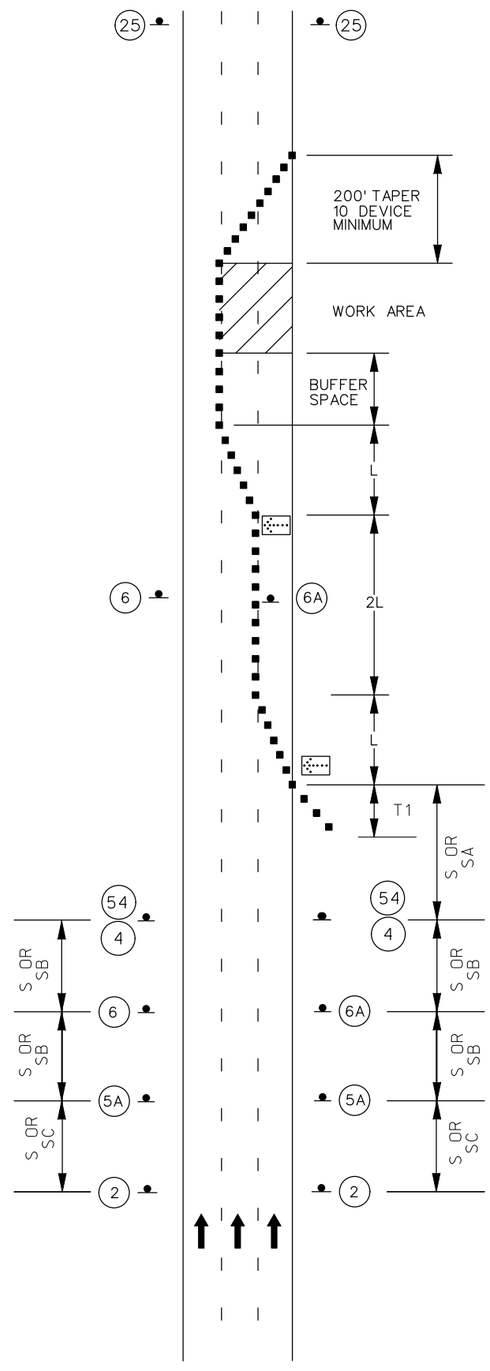
DATE	DESCRIPTION

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

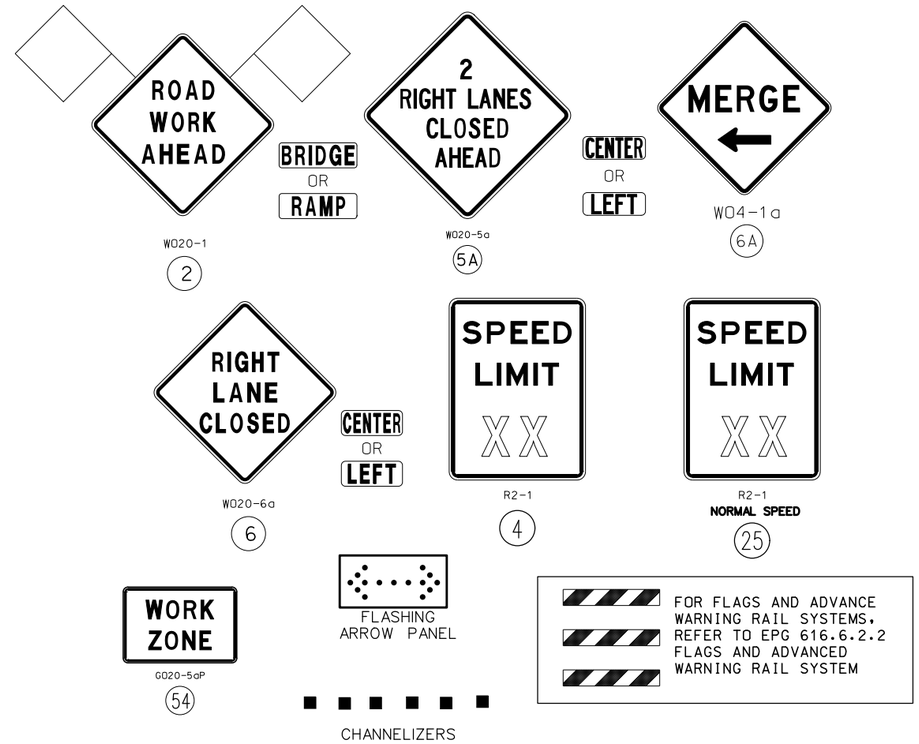
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



LANE CLOSURE TWO LANES OF
MULTI-LANE DIVIDE HIGHWAY



LANE CLOSURE TWO LANES OF
MULTI-LANE DIVIDE HIGHWAY



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.

ALTERNATIVE TEMPORARY TRAFFIC CONTROL SET-UPS SHOULD BE CONSIDERED WHEN REDUCTION IN CAPACITY CANNOT BE TOLERATED.

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS .

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REFER TO EPG 616.6.2.2 FLAG AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES

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

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
LANE CLOSURE
MULTI LANE
SHEET 5 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

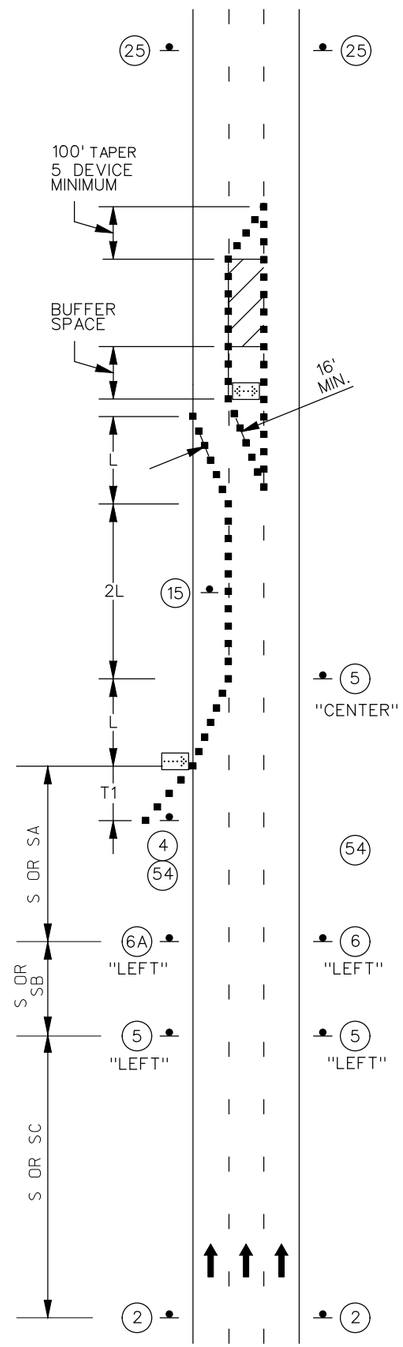
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 21
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

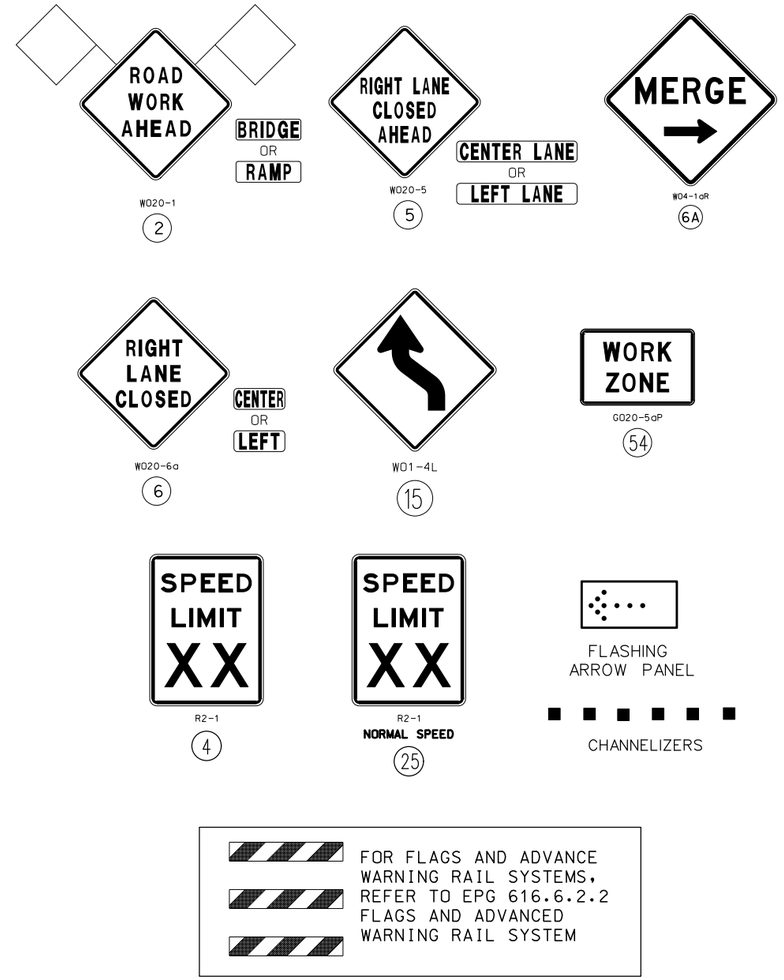
DATE	DESCRIPTION

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.



LANE CLOSURE
INTERIOR LANE CLOSURES OF MULTI-LANE DIVIDED HIGHWAY



NOTES:

(1). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(2). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(3). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

(4). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

(5). ALTERNATIVE TEMPORARY TRAFFIC CONTROL SET-UPS SHOULD BE CONSIDERED WHEN REDUCTION IN CAPACITY CANNOT BE TOLERATED.

(6). FOR NIGHTTIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHT FOR USE OF SEQUENTIAL LIGHTS.

INTERIOR LANE
CLOSURE ON FREEWAY
TEMPORARY
TRAFFIC CONTROL
SHEET 6 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

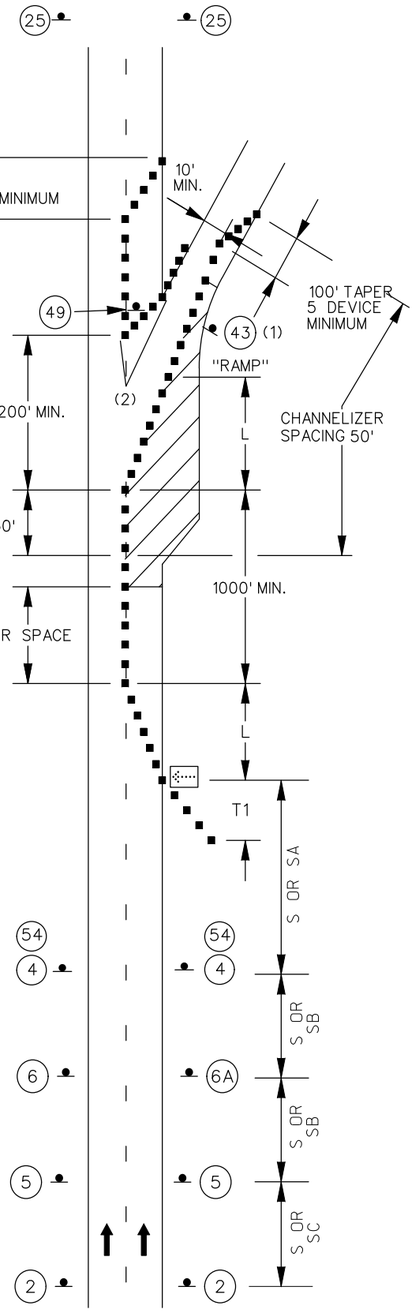
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 22
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

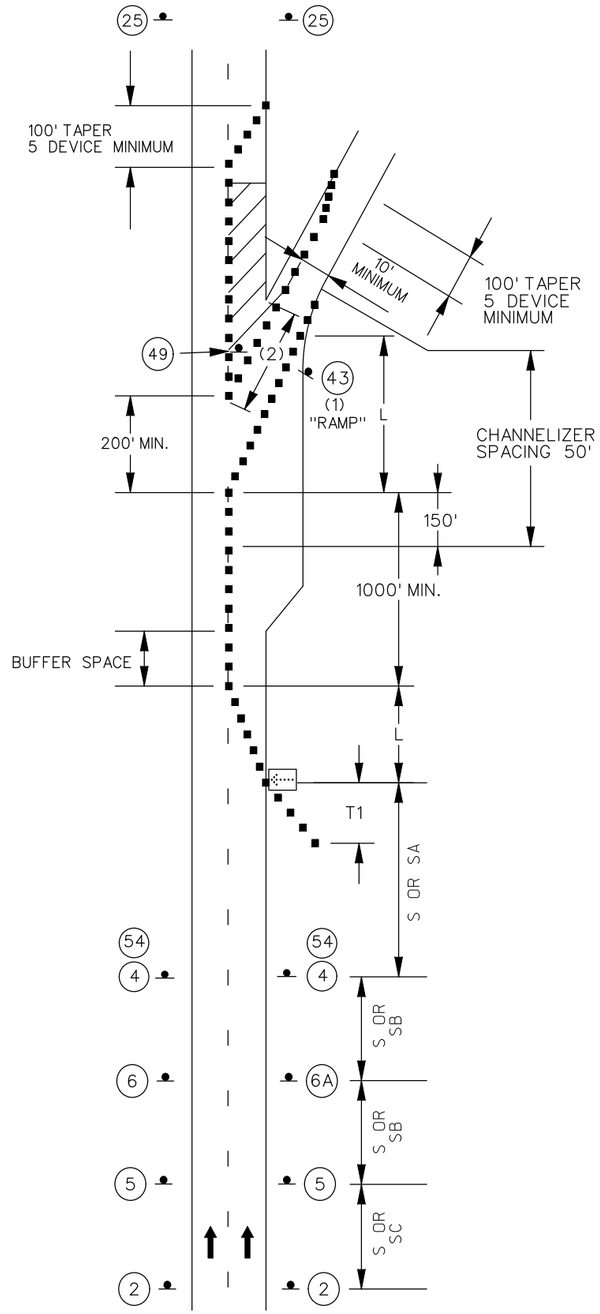
DATE	DESCRIPTION

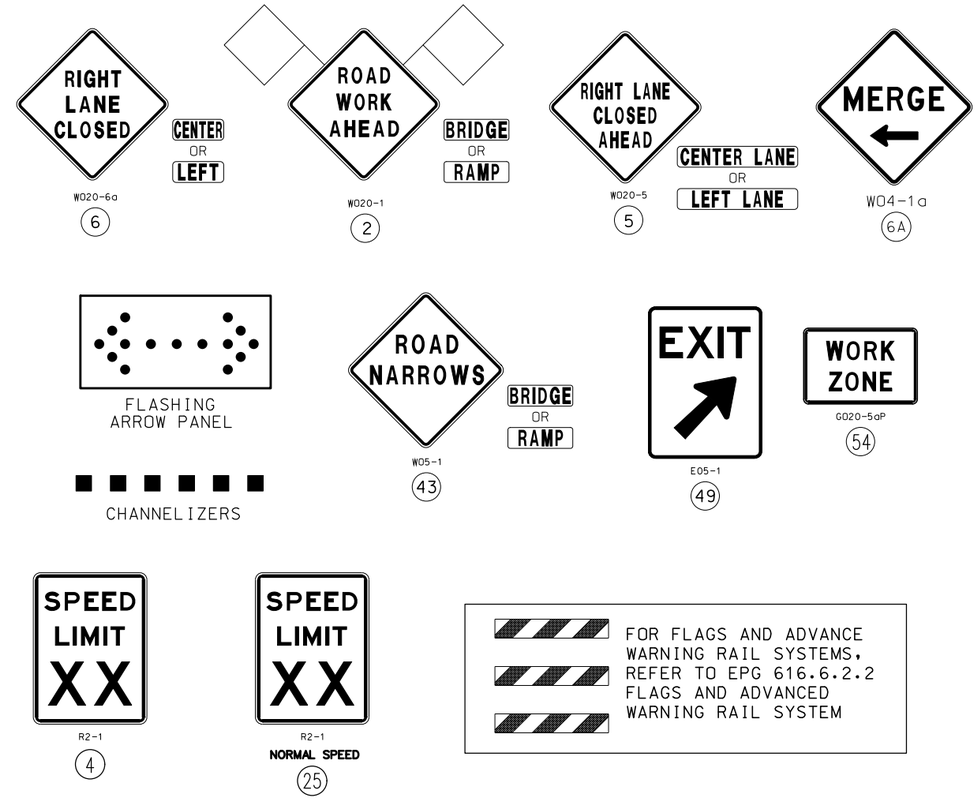
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



WORK IN THE VICINITY
OF A EXIT RAMP AREAS





NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

(1). SIGN (43) REQUIRED WHEN RAMP WIDTH IS REDUCED.

(2). FIVE CHANNELIZER DEVICE MINIMUM.

WORK IN VICINITY
OF EXIT RAMP
TEMPORARY
TRAFFIC CONTROL
SHEET 7 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

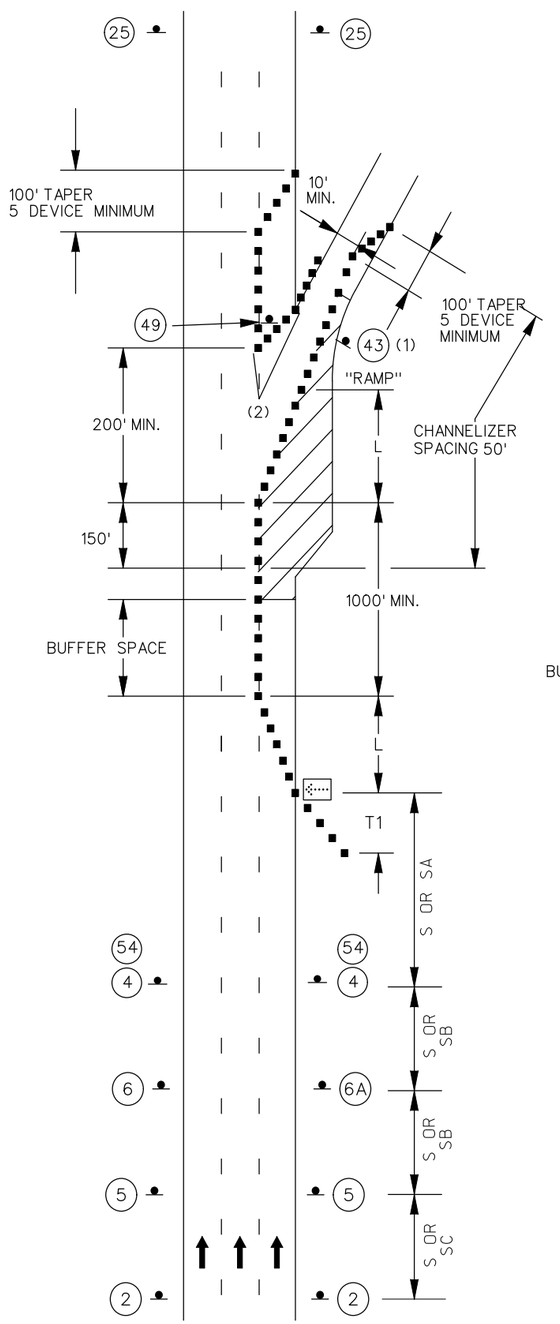
DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 23
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

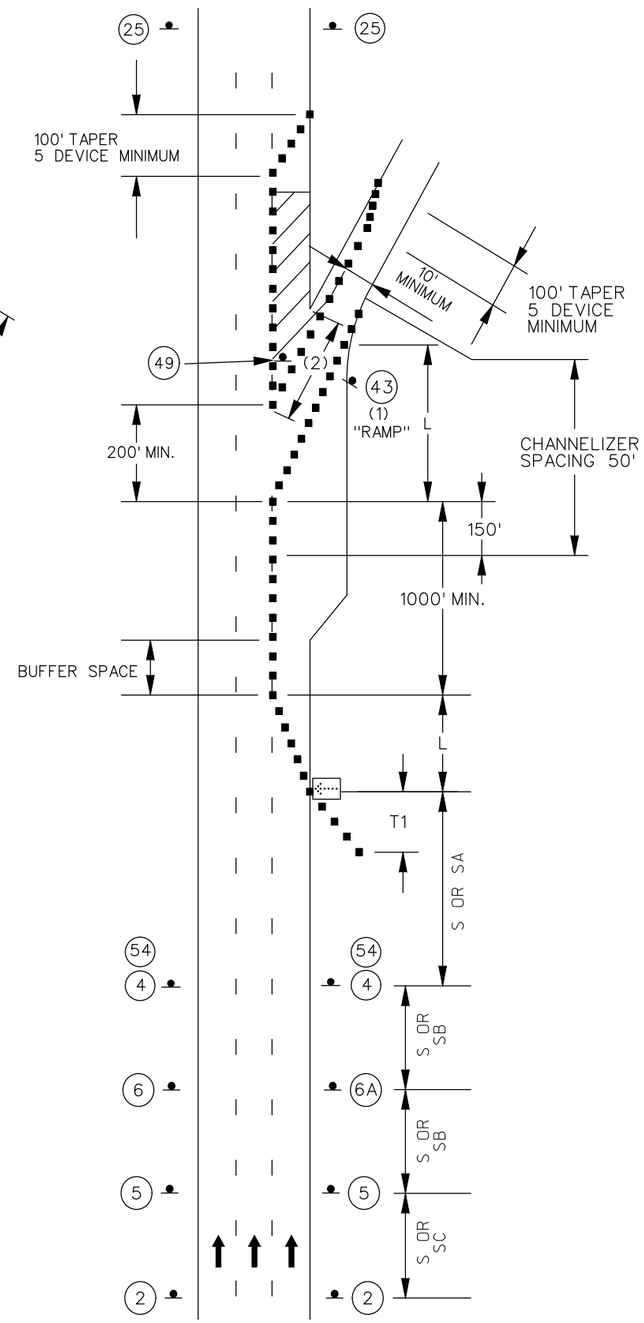
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

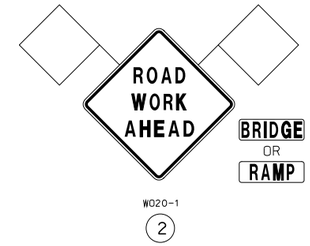
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

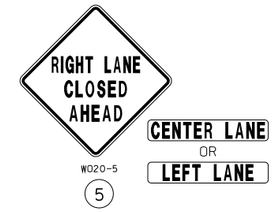
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

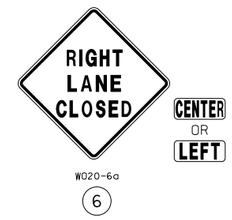


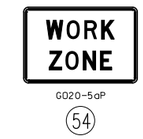


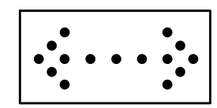
WORK IN THE VICINITY
OF A EXIT RAMP AREAS











FLASHING
ARROW PANEL

CHANNELIZERS

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

(1). SIGN (43) REQUIRED WHEN RAMP WIDTH IS REDUCED.

(2). FIVE CHANNELIZER DEVICE MINIMUM.

TEMPORARY
TRAFFIC CONTROL
WORK IN VICINITY
OF RAMP
SHEET 8 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

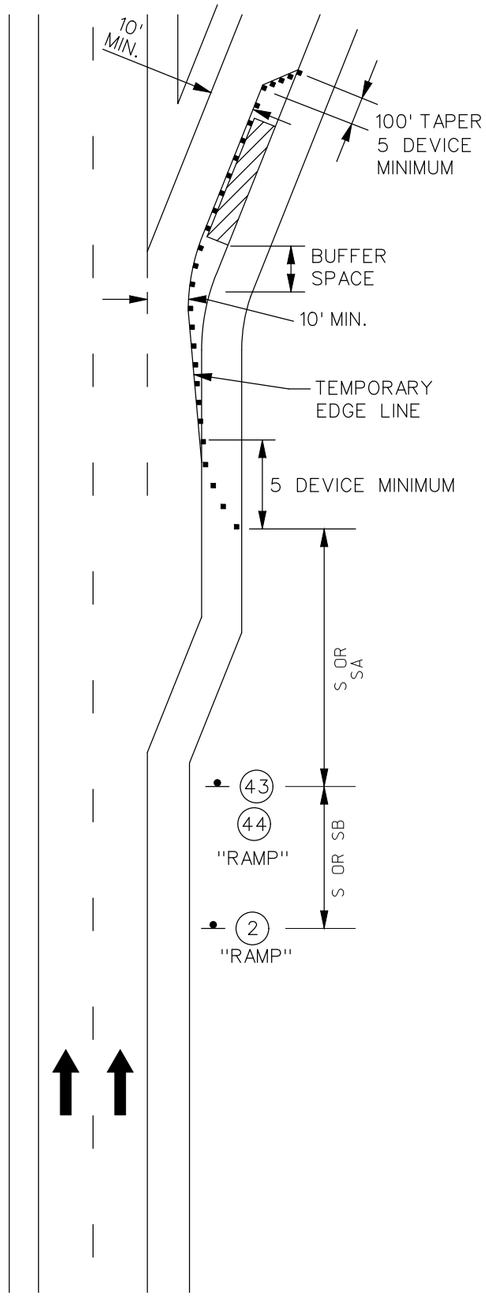
DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 24
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

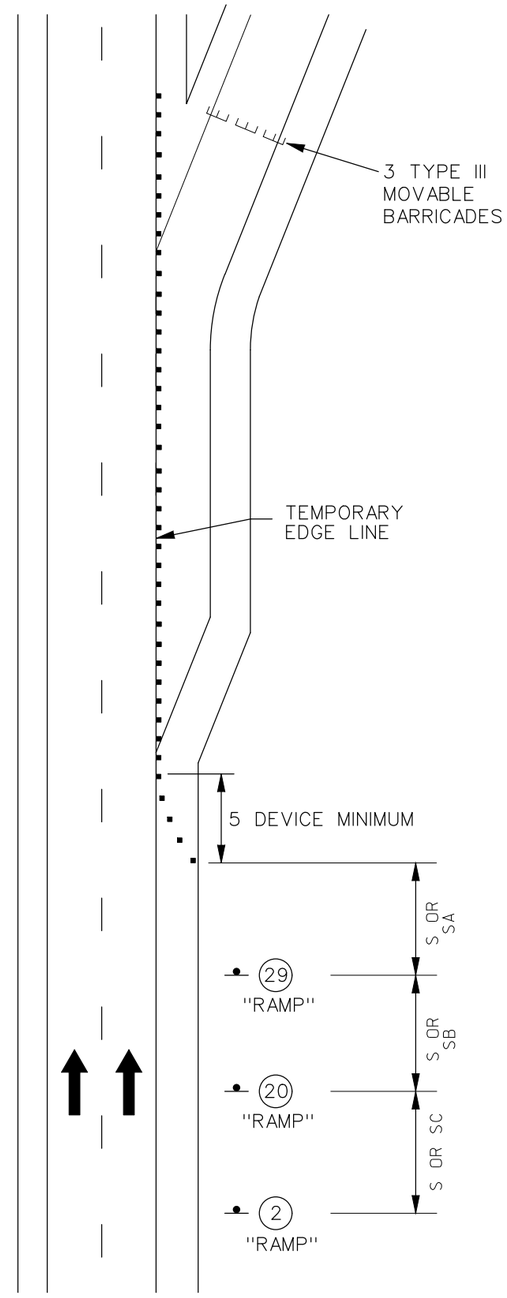
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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.

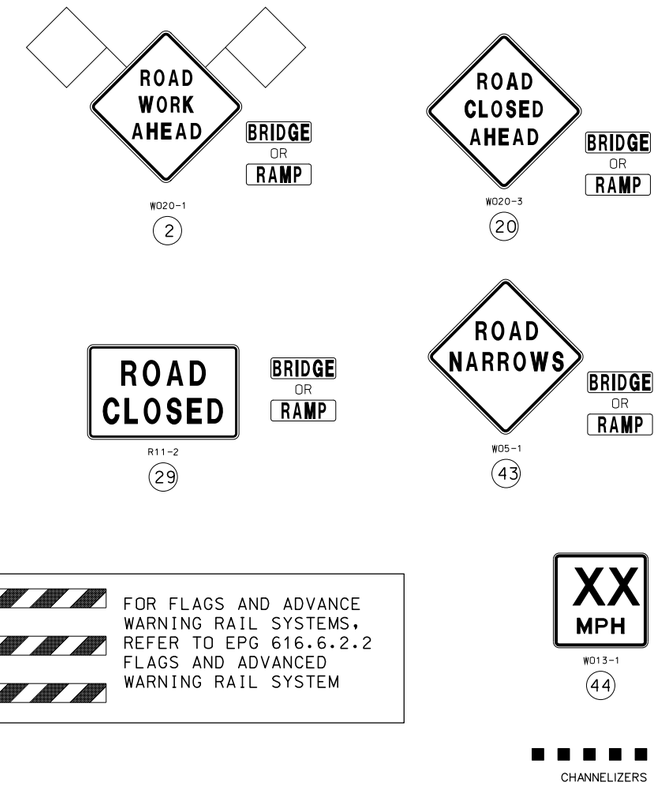


PARTIAL LANE



ENTIRE RAMP

LANE CLOSURE
PARTIAL AND TOTAL RAMP CLOSURE



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

TEMPORARY PAVEMENT MARKING OPTIONAL FOR SHORT TERM OPERATIONS.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

PARTIAL OR TOTAL
EXIT RAMP CLOSURE
TEMPORARY
TRAFFIC CONTROL
SHEET 9 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

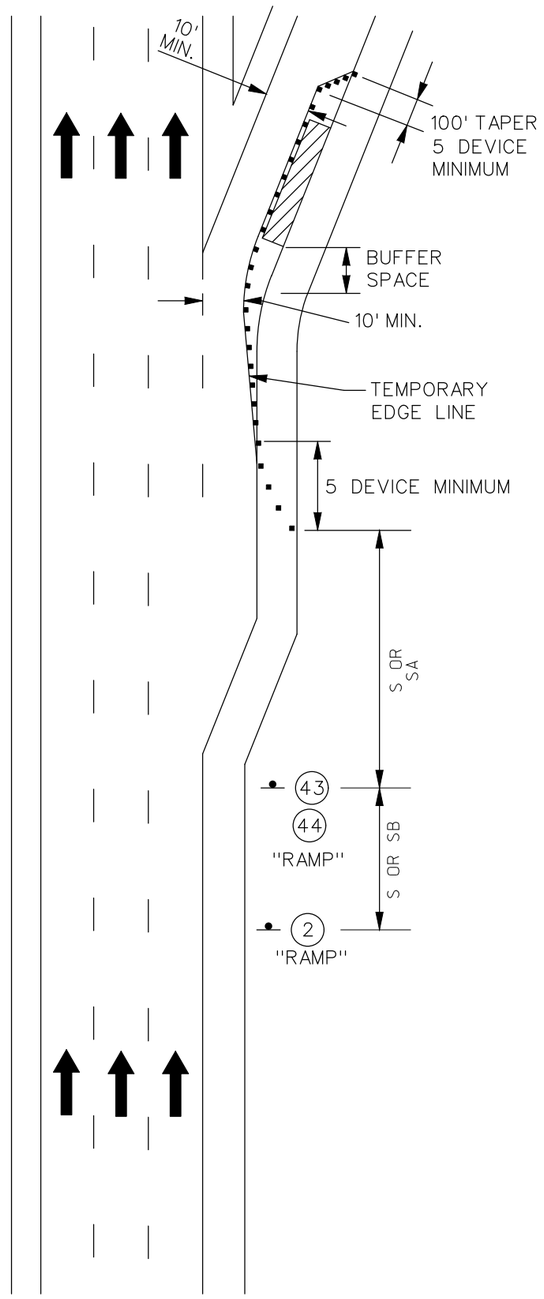
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 25
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

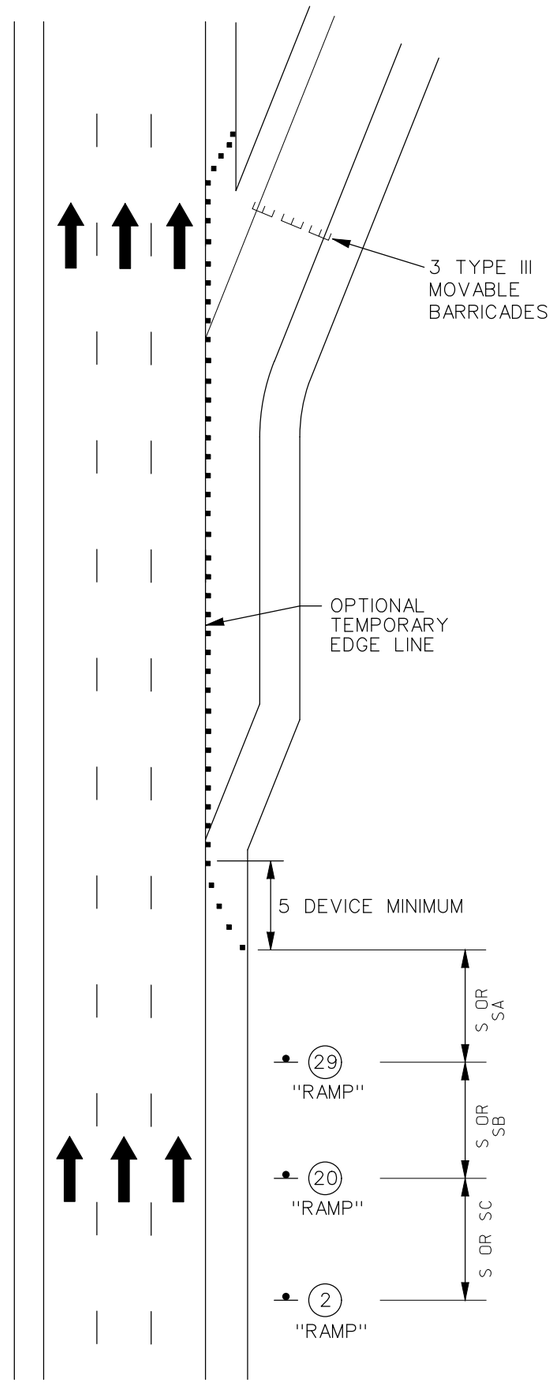
DATE	DESCRIPTION

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.

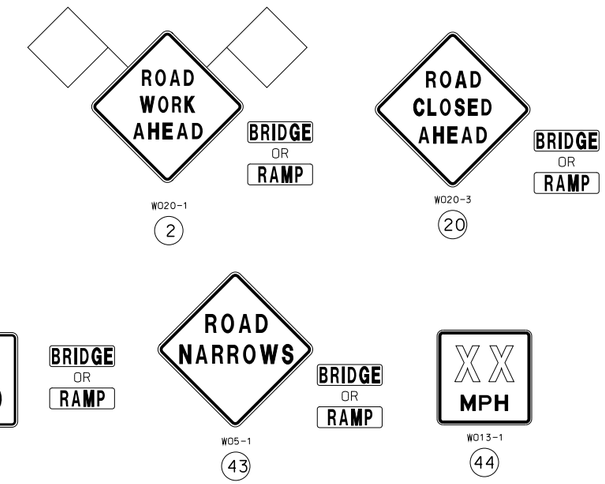


PARTIAL LANE



ENTIRE RAMP

LANE CLOSURE
PARTIAL AND TOTAL RAMP CLOSURE



CHANNELIZERS

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

TEMPORARY PAVEMENT MARKING OPTIONAL FOR SHORT TERM OPERATIONS.

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
PARTIAL OR TOTAL
RAMP CLOSURE
SHEET 10 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

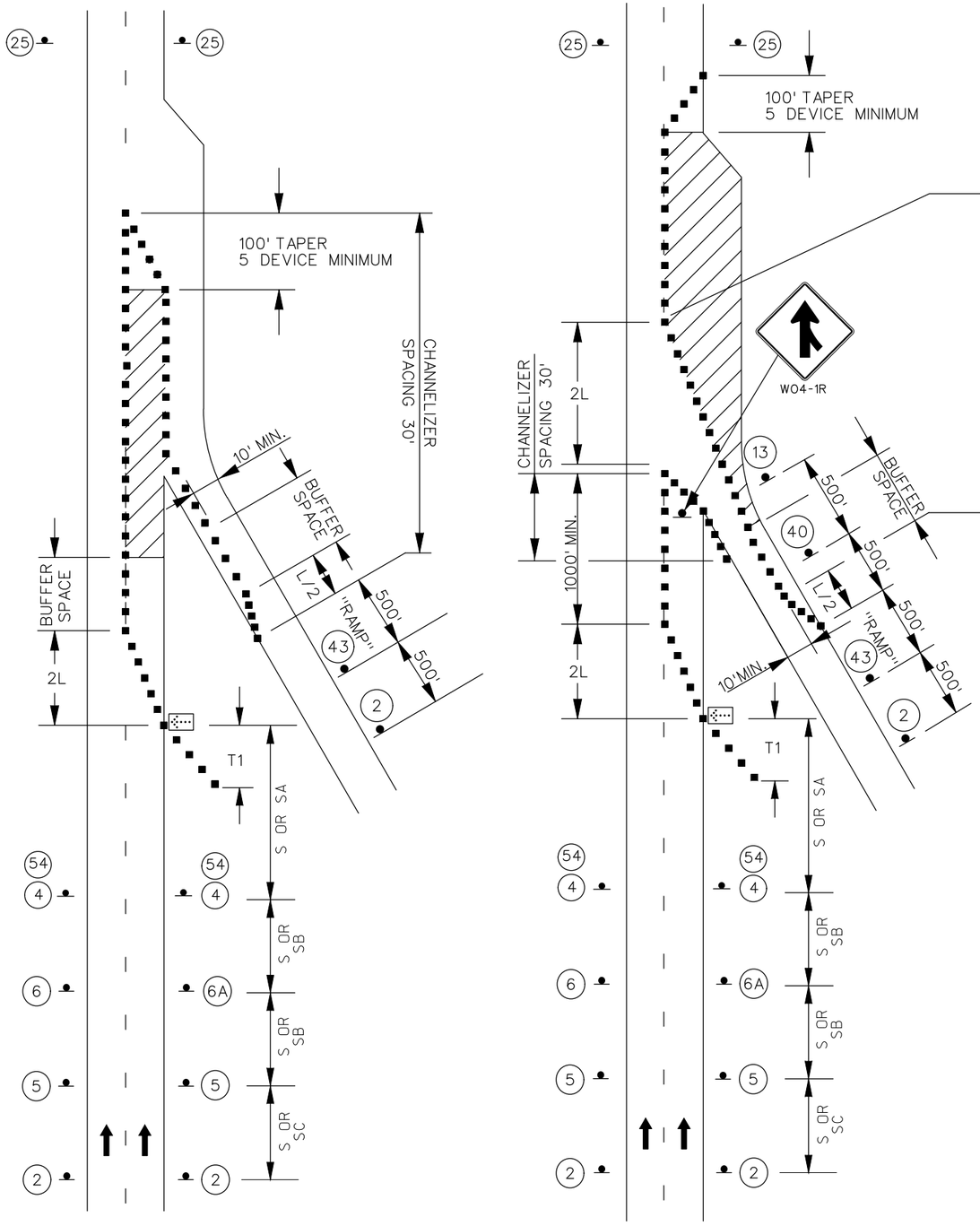
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 26
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

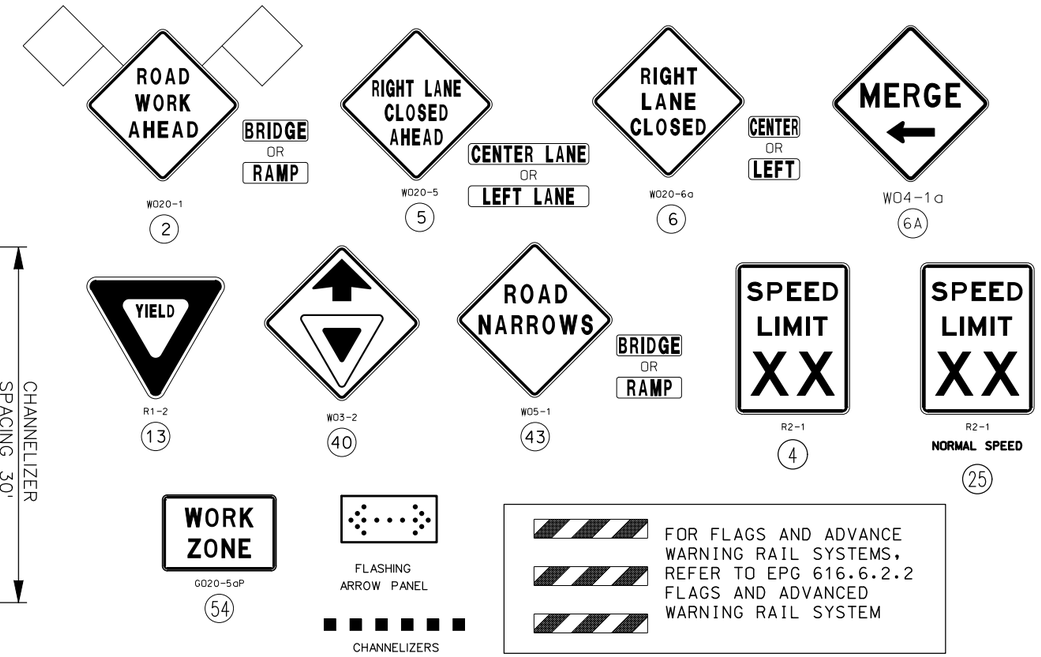
DATE	DESCRIPTION

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)



LANE CLOSURE
ENTRANCE RAMP AREAS



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

RAMP NARROWS SIGN IS REQUIRED WHEN RAMP WIDTH IS REDUCED.

YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC. WHERE INADEQUATE ACCELERATION DISTANCE EXISTS FOR THE TEMPORARY ENTRANCE, THE YIELD SIGN SHALL BE REPLACED WITH STOP SIGNS (ONE EACH SIDE OF THE APPROACH).

THE LOCATION OF THE SIGN SEQUENCE AND MERGE TAPER SHOULD BE ADJUSTED SO THAT THE ARROW PANEL LOCATION IS NOT CONFUSING TO MOTORISTS ON THE RAMP.

THE YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVER NIGHT, UAW TRIM-LINE CHANNELIZERS.

WORK IN VICINITY
OF ENTRANCE RAMP
TEMPORARY
TRAFFIC CONTROL
SHEET 11 OF 18

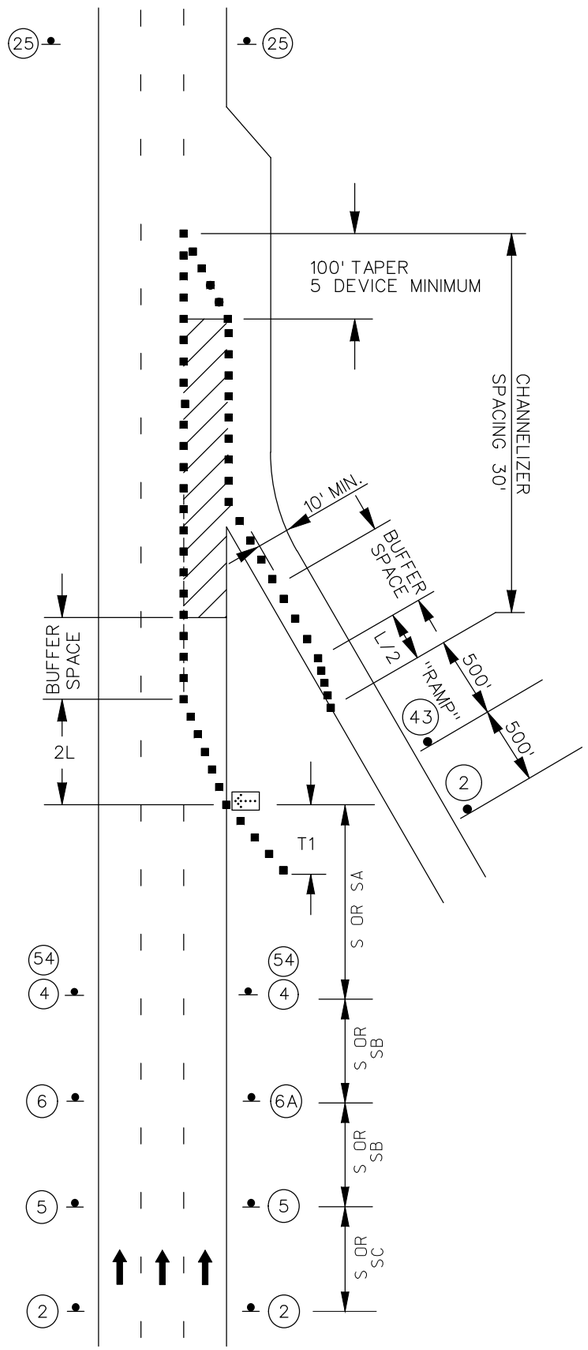
STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

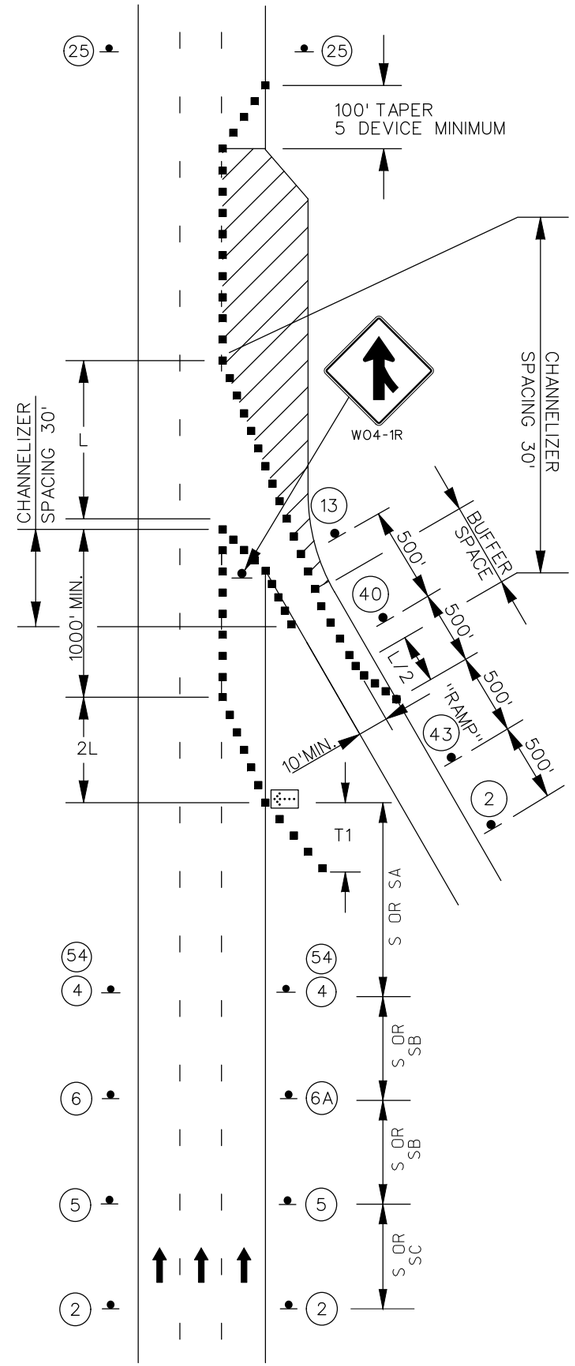
DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 27
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

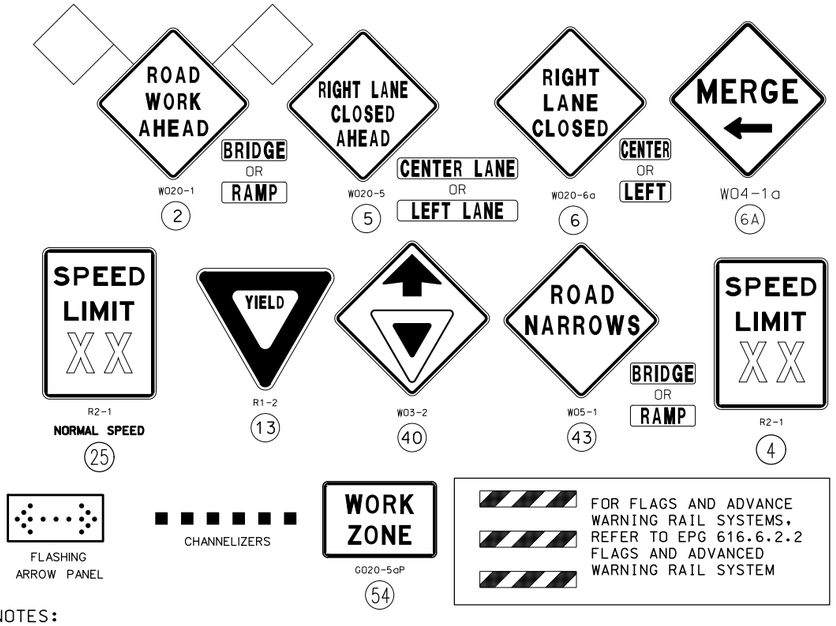
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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





LANE CLOSURE
ENTRANCE RAMP AREAS



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

RAMP NARROWS SIGN IS REQUIRED WHEN RAMP WIDTH IS REDUCED.

YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC. WHERE INADEQUATE ACCELERATION DISTANCE EXISTS FOR THE TEMPORARY ENTRANCE, THE YIELD SIGN SHALL BE REPLACED WITH STOP SIGNS (ONE EACH SIDE OF THE APPROACH).

THE LOCATION OF THE SIGN SEQUENCE AND MERGE TAPER SHOULD BE ADJUSTED SO THAT THE ARROW PANEL LOCATION IS NOT CONFUSING TO MOTORISTS ON THE RAMP.

THE YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVER NIGHT, UAW TRIM-LINE CHANNELIZERS.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
WORK IN VICINITY
OF ENTRANCE RAMP
SHEET 12 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

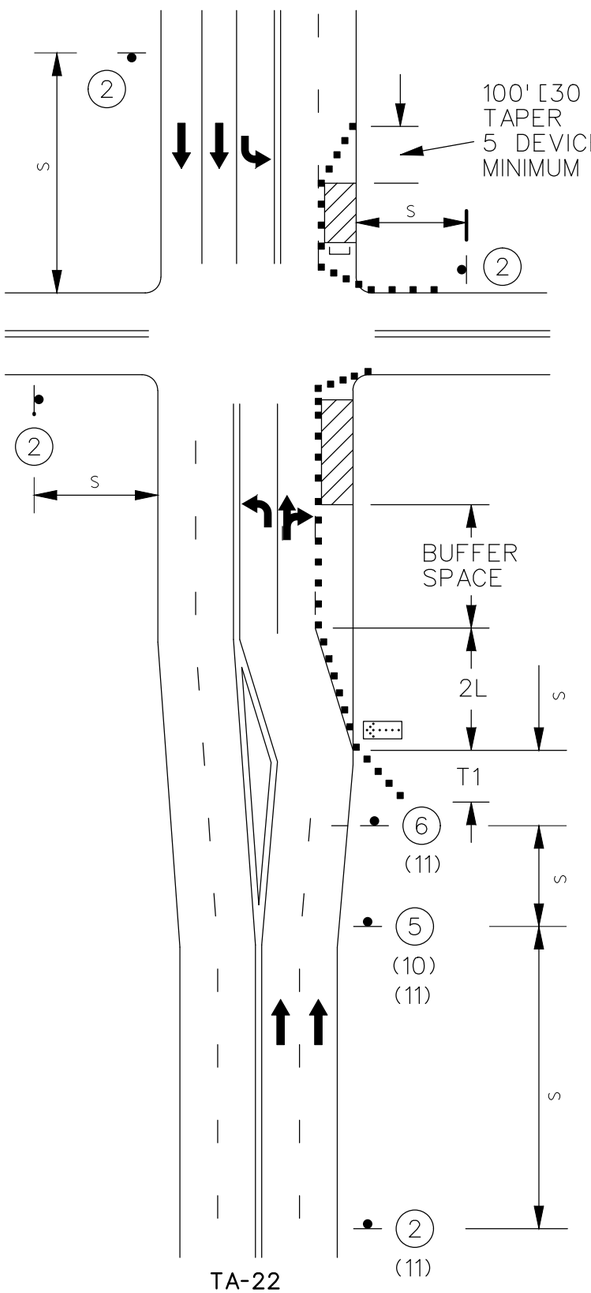
DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	28
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

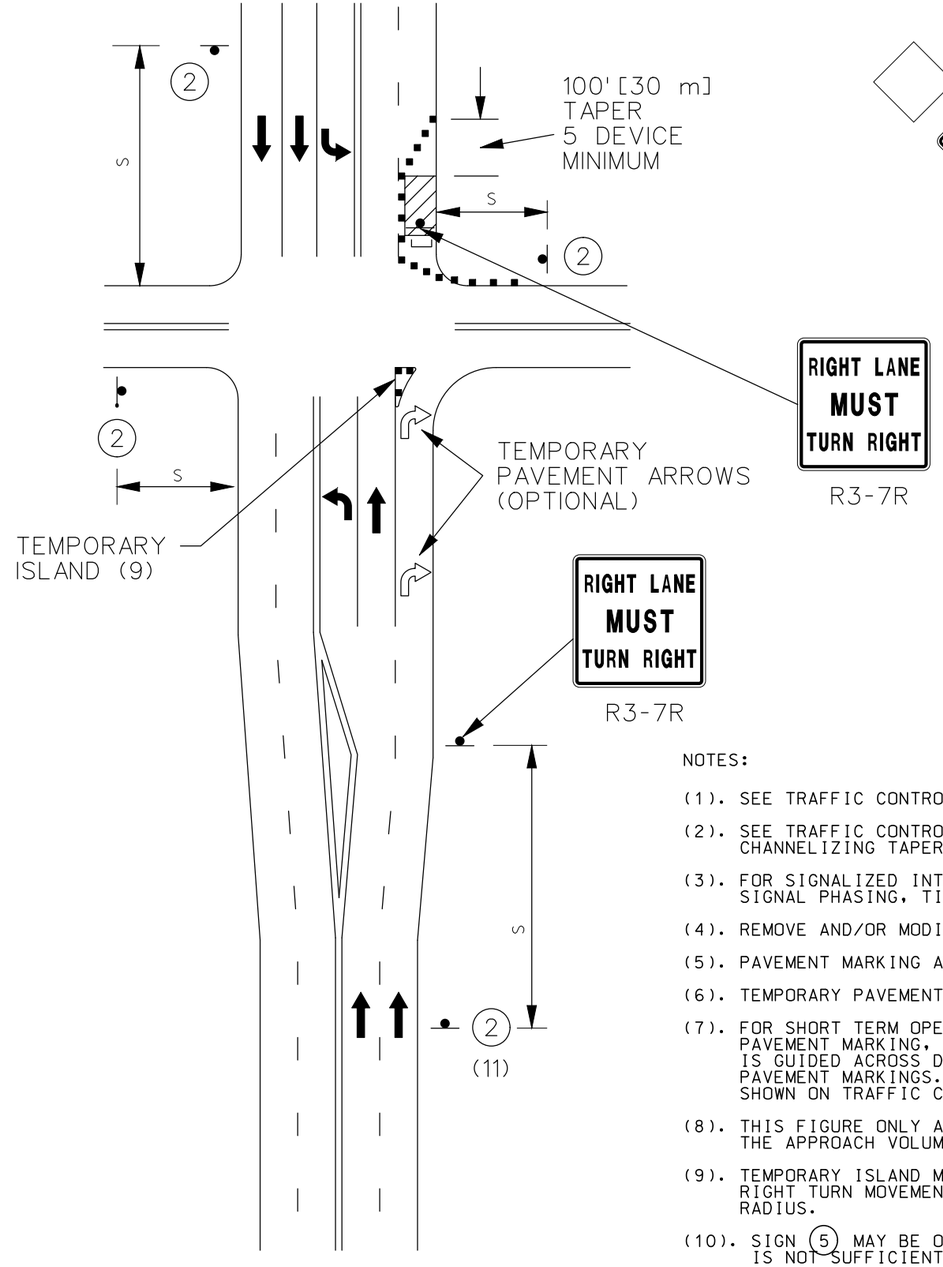
DATE

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

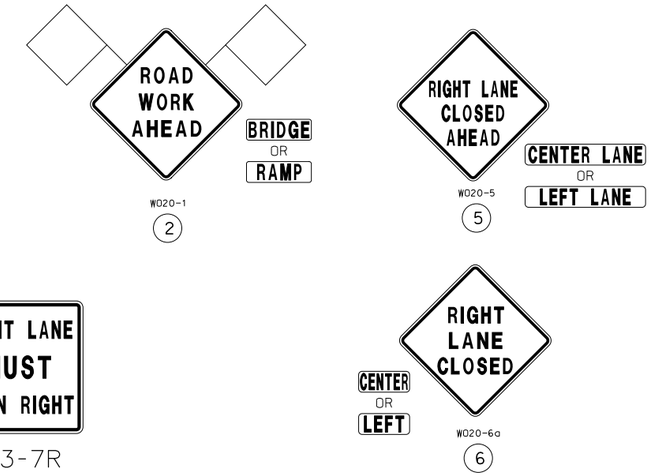
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



TA-22
WORK ON NEAR OR FAR SIDE



TA-22A
WORK ON FAR SIDE ONLY (8)



FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

NOTES:

(1). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(2). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(3). FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.

(4). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

(5). PAVEMENT MARKING AND BARRICADES OPTIONAL FOR SHORT TERM OPERATIONS.

(6). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

(7). FOR SHORT TERM OPERATIONS, WHERE IT IS NOT FEASIBLE TO MODIFY PAVEMENT MARKING, A 10' DEVICE SPACING IS USED WHERE TRAFFIC IS GUIDED ACROSS DOUBLE YELLOW LINES OR OTHER CONFLICTING PAVEMENT MARKINGS. ALL OTHER SPACINGS ARE ONE HALF OF THE SPACING SHOWN ON TRAFFIC CONTROL SHEET 1.

(8). THIS FIGURE ONLY APPLIES WHERE A SIGNIFICANT PERCENTAGE OF THE APPROACH VOLUME.

(9). TEMPORARY ISLAND MAY BE USED TO EMPHASIZE THE MANDATORY RIGHT TURN MOVEMENT WHERE THERE IS A SUFFICENT RIGHT TURN RADIUS.

(10). SIGN (5) MAY BE OMITTED IN LOW SPEED URBAN AREAS WHERE THERE IS NOT SUFFICIENT SPACE FOR THE FULL SIGN SERIES.

(11). SIGN MAY ALSO BE PLACED IN THE MEDIAN OF THE ROADWAY IF THERE IS SUFFICENT ROOM BETWEEN EASTBOUND AND WESTBOUND LANES.

LANE CLOSURE
RIGHT LANE CLOSURE AT INTERSECTION

RIGHT LANE CLOSURE
AT INTERSECTION
TEMPORARY
TRAFFIC CONTROL
SHEET 13 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	29
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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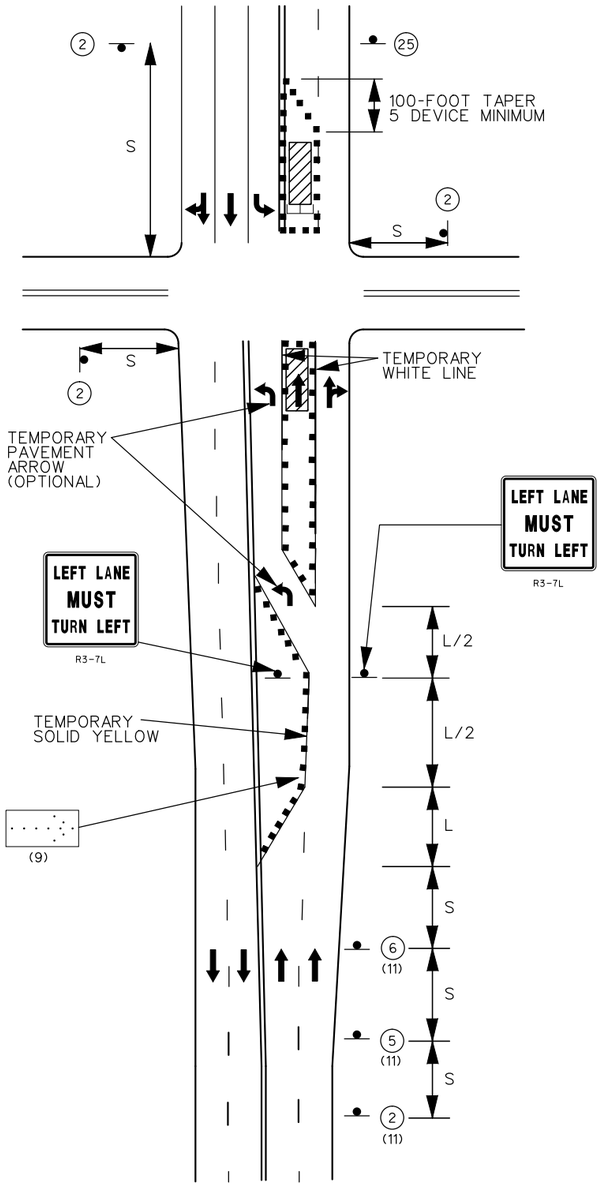
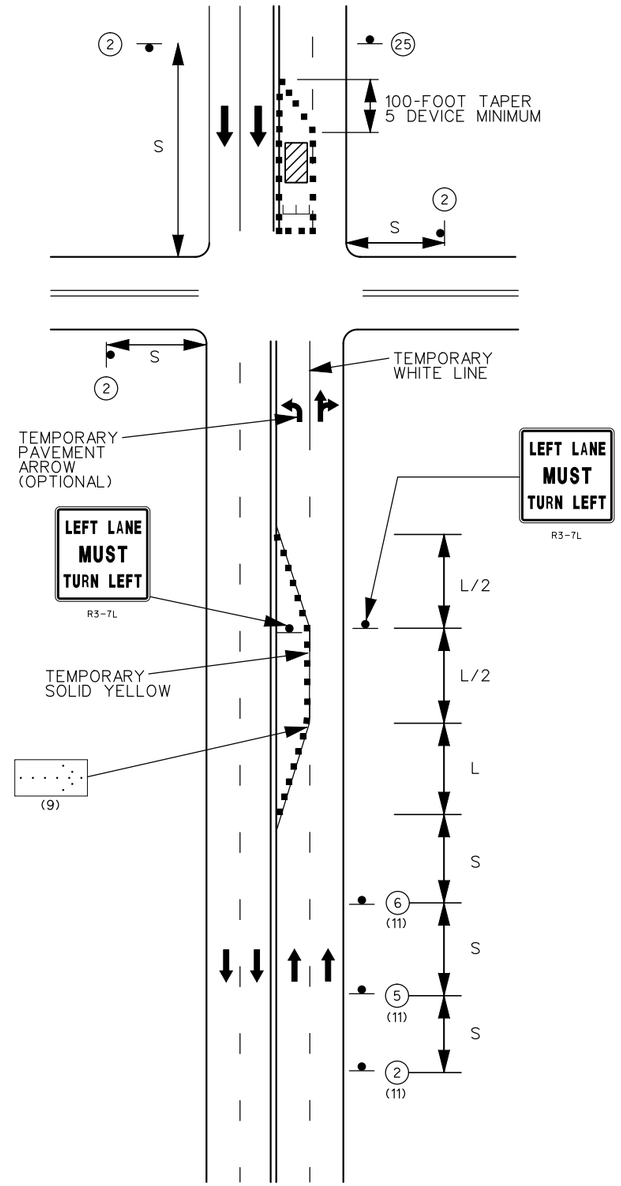


TA-23
LEFT LANE CLOSURE
AT INTERSECTION



TA-23A
LEFT LANE CLOSURE
AT INTERSECTION

NOTE:

(1). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(2). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(3). FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.

(4). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKINGS AS NEEDED.

(5). PAVEMENT MARKING AND BARRICADES OPTIONAL FOR SHORT TERM OPERATIONS.

(6). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

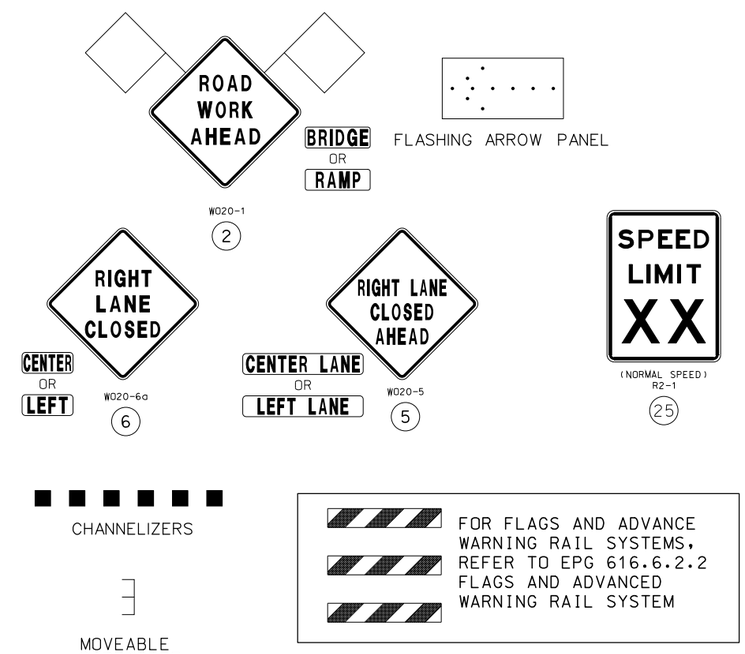
(7). FOR SHORT TERM OPERATION, WHERE IT IS NOT FEASIBLE TO MODIFY PAVEMENT MARKING, A 10-FEET DEVICE SPACING IS USED WHERE TRAFFIC IS GUIDED ACROSS DOUBLE YELLOW LINES OR OTHER CONFLICTING PAVEMENT MARKING. ALL OTHER SPACING ARE ONE-HALF OF THE SPACING.

(8). "LEFT LANE CLOSED AHEAD" SIGN MAY BE OMITTED IN LOW SPEED URBAN AREAS WHERE THERE IS NOT SUFFICIENT SPACE FOR THE FULL SIGN SERIES.

(9). THE FLASHING ARROW BOARD SHOULD BE LOCATED AT THE BEGINNING OF THE MERGING TAPER WHEN MEDIAN WIDTH ALLOW THIS PLACEMENT.

(10). IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.

(11). SIGN MAY ALSO BE PLACED IN THE MEDIAN OF THE ROADWAY IF THERE IS SUFFICENT ROOM BETWEEN EASTBOUND AND WESTBOUND LANES.



LEFT LANE CLOSURE AT INTERSECTION
WORK ON FAR SIDE ONLY
TEMPORARY
TRAFFIC CONTROL
SHEET 14 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 30
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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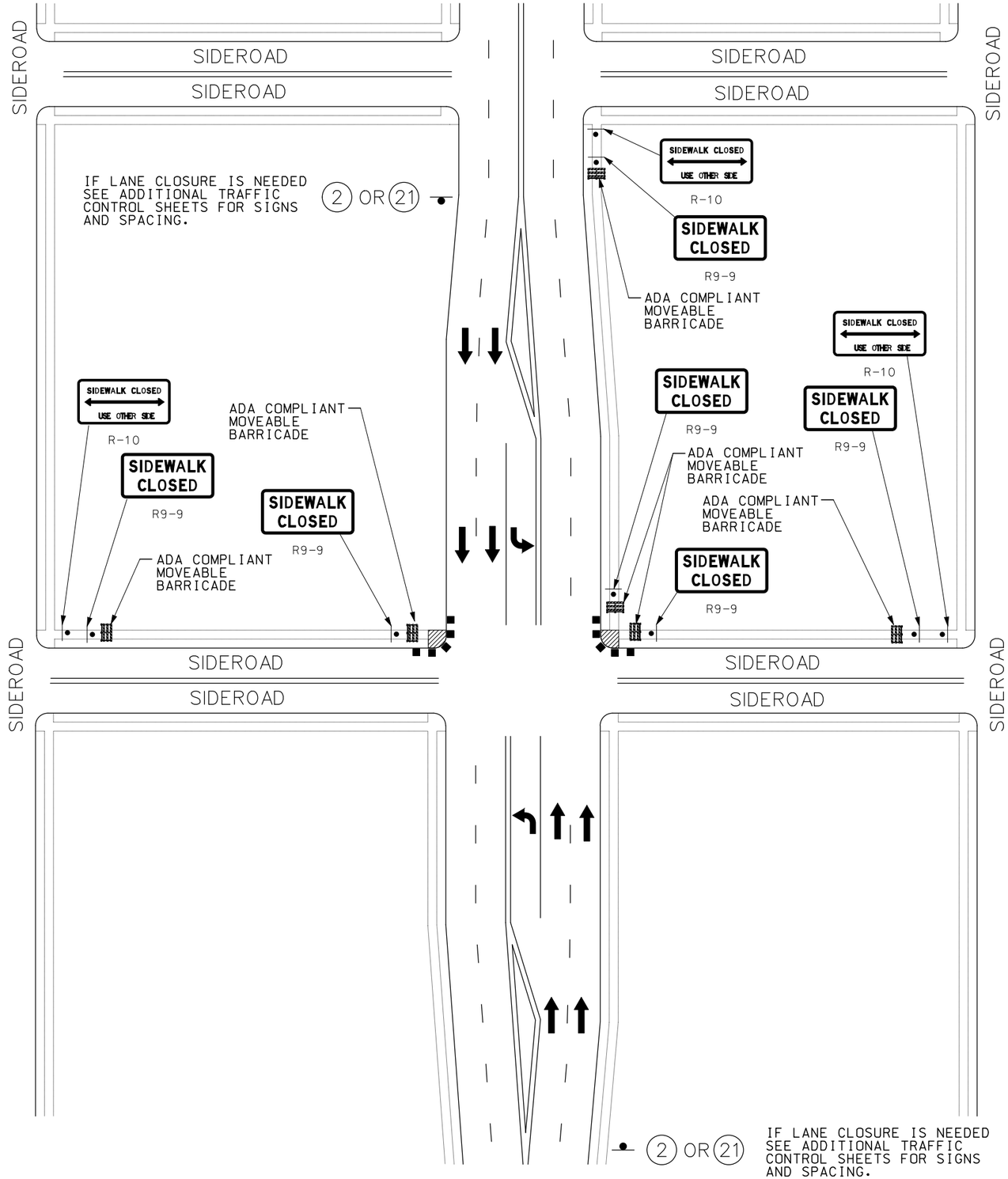
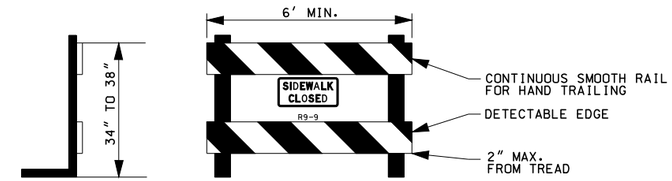


ADA COMPLIANT MOVEABLE BARRICADE

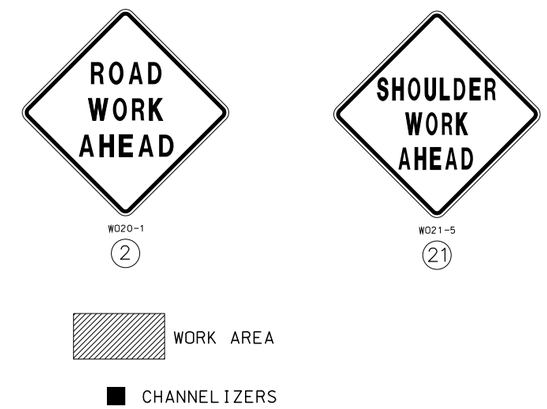


(1). WARINING LIGHTS SHALL NOT BE ATTACHED TO ADA COMPLINT BARRICADES.

(2). CHEVRON RAILS ON THE ADA COMPLIANT BARRICADES MUST BE 8" WIDE MIN. AND MEET TYPE 3 RETRO-REFLECTIVE SHEETING AND COLOR CONTRAST BARRICADE RAILS AS SHOWN. THE TOP RAIL MUST PROVIDE A SMOOTH CONTINUOUS RAIL SURFACE SUITABLE FOR HAND TRAILING WITH NO SPLINTERS, BURRS OR SHARP EDGES. A MINIMUM OF TWO 8" WIDE RAILS REQUIRED.

(3). NO TRIPPING HAZARDS FROM THE BARRICADES ARE ALLOWED WITHIN THE PEDESTRIAN SPACE. THIS MEANS NO FEET OR BARS USED TO HOLD THE RAILS OR SUPPORT THE DEVICE ARE ALLOWED WITHIN THE WALKWAY, ALL FEET AND BALLASTS WILL NEED TO BE BEHIND THE DEVICE.

(4). THE BARRICADE MUST BE THE FULL WIDTH OF THE CLOSED SIDEWALK.



NOTES:

(1). ALL SIGNS AND BARRICADES SHALL BE MOVED TO THE OPPOSITE SIDE OF THE ROADWAY WHEN SIDEWALK UPGRADES ARE REQUIRED FOR BOTH SIDES OF THE ROAD.

(2). ONLY THE TEMPORARY TRAFFIC CONTROL DEVICES RELATED TO PEDESTRIANS ARE SHOWN OTHER DEVICES MAY BE NECESSARY TO CONTROL TRAFFIC, SEE OTHER TRAFFIC CONTROL SHEETS FOR LANE CLOSURES

(3). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(4). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(5). FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.

(6). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

(7). PAVEMENT MARKING OPTIONAL FOR SHORT TERM OPERATIONS.

(8). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

(9). SIGNS MAY ALSO BE PLACED IN THE MEDIAN OF THE ROADWAY IF THERE IS SUFFICENT ROOM BETWEEN LANES

SIDEWALK WORK
AT INTERSECTION
TEMPORARY
TRAFFIC CONTROL
SHEET 15 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

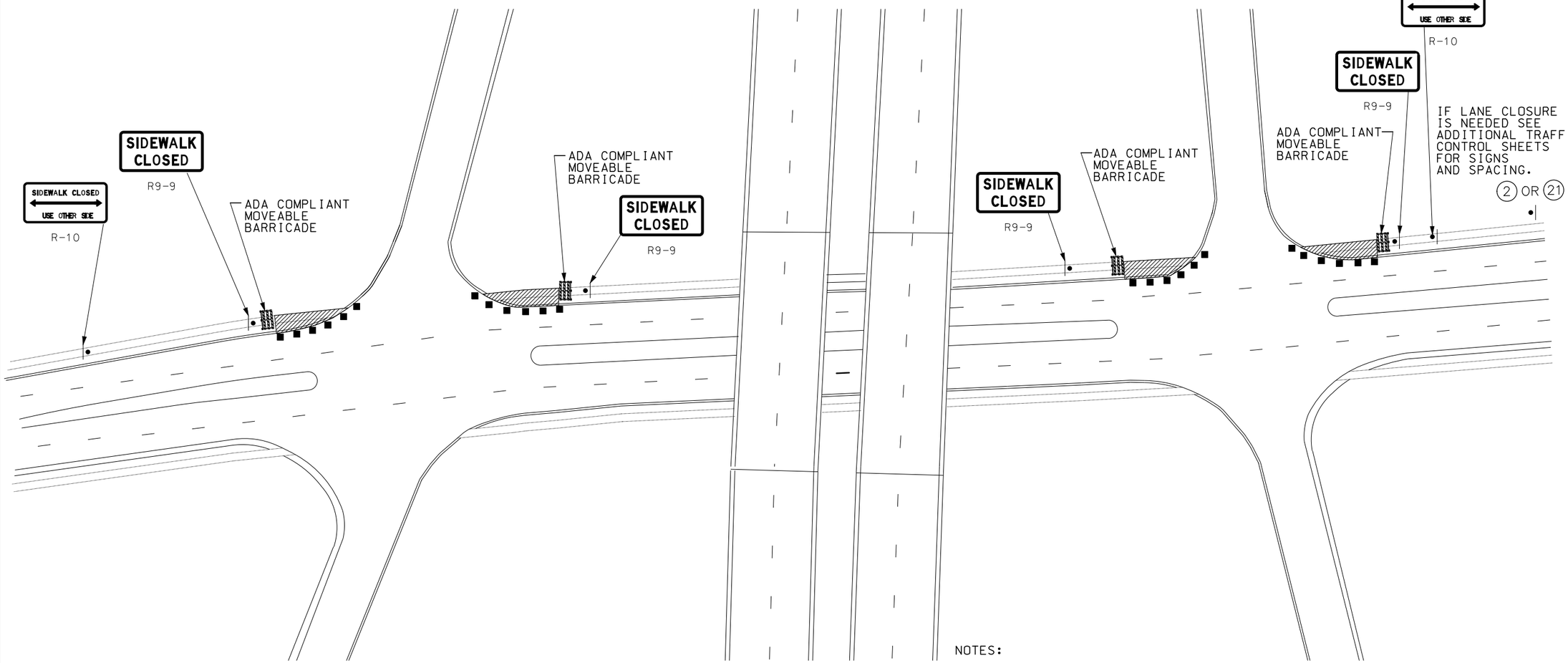
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	31
COUNTY	
CLAY	
JOB NO.	
J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

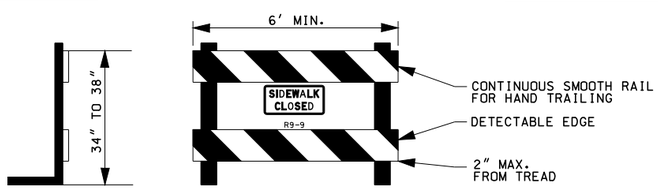
DATE	DESCRIPTION

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.



ADA COMPLINANT MOVEABLE BARRICADE

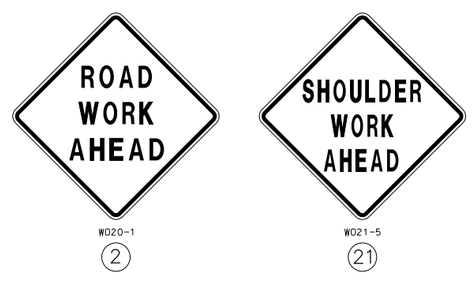


(1). WARINING LIGHTS SHALL NOT BE ATTACHED TO ADA COMPLINT BARRICADES.

(2). CHEVRON RAILS ON THE ADA COMPLIANT BARRICADES MUST BE 8" WIDE MIN. AND MEET TYPE 3 RETRO-REFLECTIVE SHEETING AND COLOR CONTRAST BARRICADE RAILS AS SHOWN. THE TOP RAIL MUST PROVIDE A SMOOTH CONTINUOUS RAIL SURFACE SUITABLE FOR HAND TRAILING WITH NO SPLINTERS, BURRS OR SHARP EDGES. A MINIMUM OF TWO 8" WIDE RAILS REQUIRED.

(3). NO TRIPPING HAZARDS FROM THE BARRICADES ARE ALLOWED WITHIN THE PEDESTRIAN SPACE. THIS MEANS NO FEET OR BARS USED TO HOLD THE RAILS OR SUPPORT THE DEVICE ARE ALLOWED WITHIN THE WALKWAY. ALL FEET AND BALLASTS WILL NEED TO BE BEHIND THE DEVICE.

(4). THE BARRICADE MUST BE THE FULL WIDTH OF THE CLOSED SIDEWALK.



WORK AREA

CHANNELIZERS

NOTES:

(1). ALL SIGNS AND BARRICADES SHALL BE MOVED TO THE OPPOSITE SIDE OF THE ROADWAY WHEN SIDEWALK UPGRADES ARE REQUIRED FOR BOTH SIDES OF THE ROAD.

(2). ONLY THE TEMPORARY TRAFFIC CONTROL DEVICES RELATED TO PEDESTRIANS ARE SHOWN OTHER DEVICES MAY BE NECESSARY TO CONTROL TRAFFIC, SEE OTHER TRAFFIC CONTROL SHEETS FOR LANE CLOSURES

(3). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(4). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(5). FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.

(6). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

(7). PAVEMENT MARKING OPTIONAL FOR SHORT TERM OPERATIONS.

(8). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

(9). SIGNS MAY ALSO BE PLACED IN THE MEDIAN OF THE ROADWAY IF THERE IS SUFFICENT ROOM BETWEEN LANES

SIDEWALK WORK
AT INTERCHANGE
TEMPORARY
TRAFFIC CONTROL
SHEET 16 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

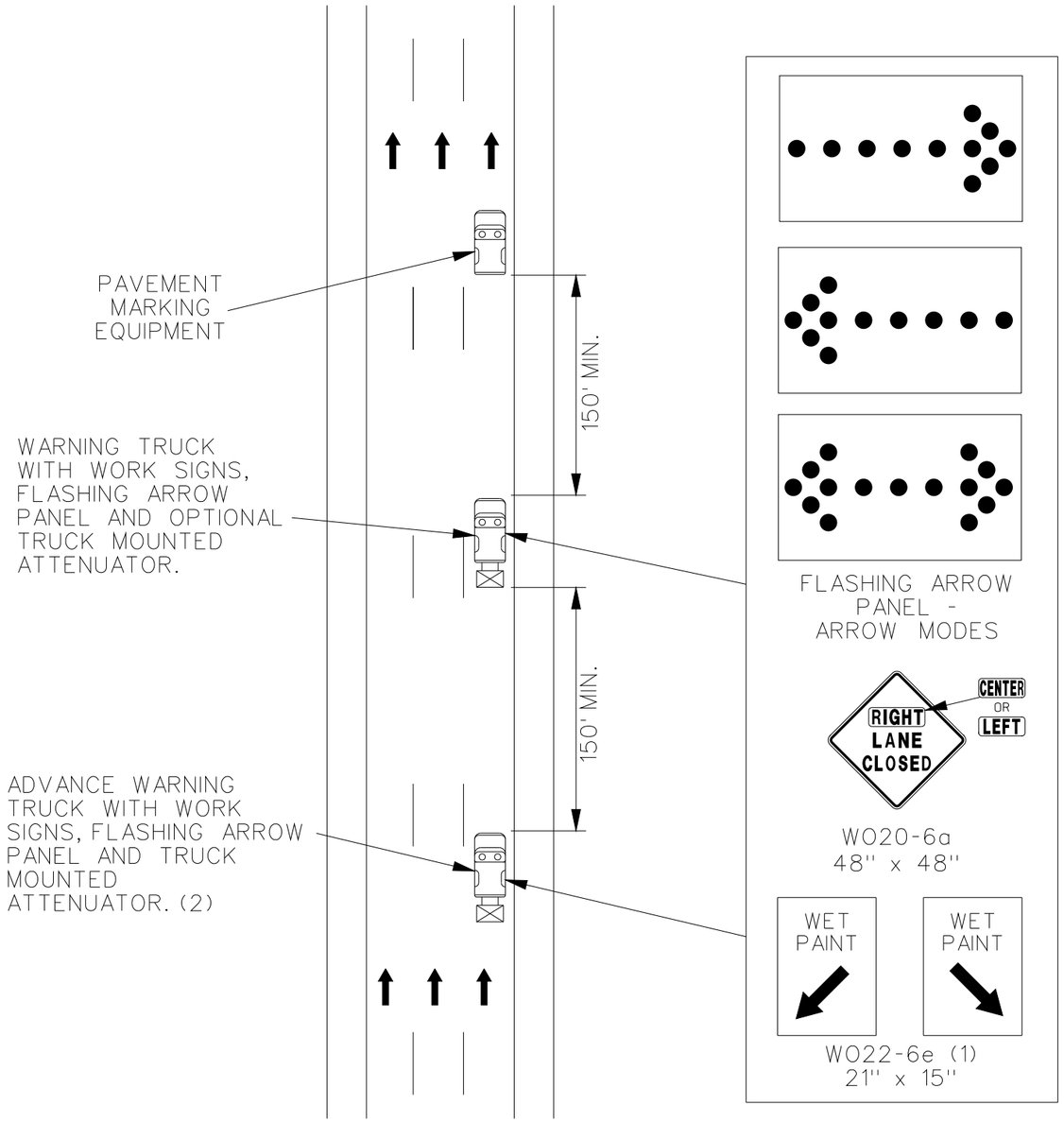
DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	32
COUNTY	
CLAY	
JOB NO.	
J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.



MOVING OPERATION ON HIGHWAY
OPEN TO TRAFFIC
MULTI-LANE DIVIDED HIGHWAY

NOTES:

ALL SIGNS HAVE TYPE 3 FLUORESCENT ORANGE RETROFLECTIVE SHEETING.

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

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

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

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

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

FLASHING ARROW PANELS SHALL, AS A MINIMUM, BE TYPE B, WITH A SIZE OF 60 X 30 INCHES.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

CENTERLINE AND/OR
LANE LINE STRIPING
ON MULTI-LANE
UNDIVIDED HIGHWAYS
TEMPORARY
TRAFFIC CONTROL
SHEET 17 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

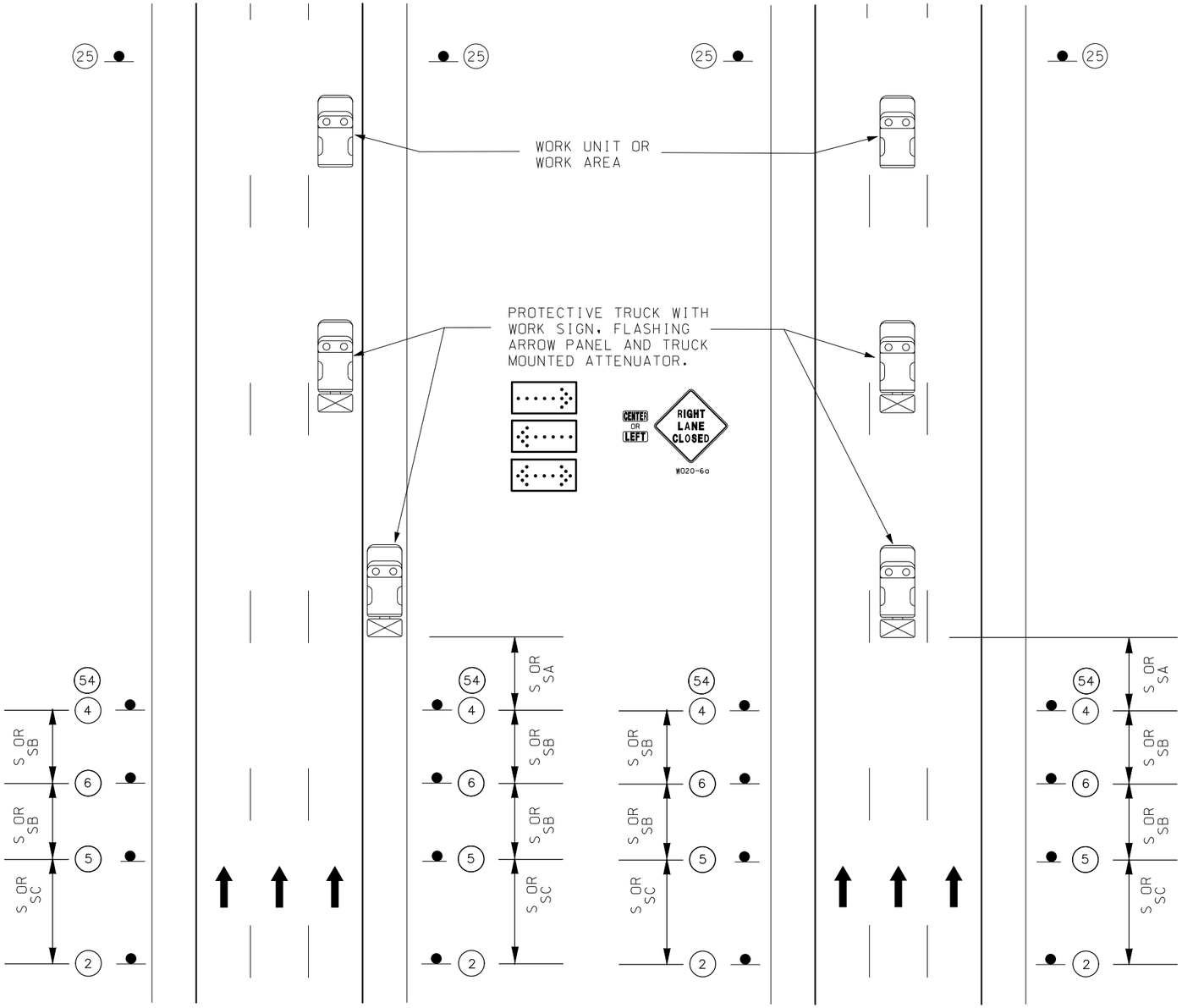
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 33
COUNTY CLAY	
JOB NO. J4S3136	
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)

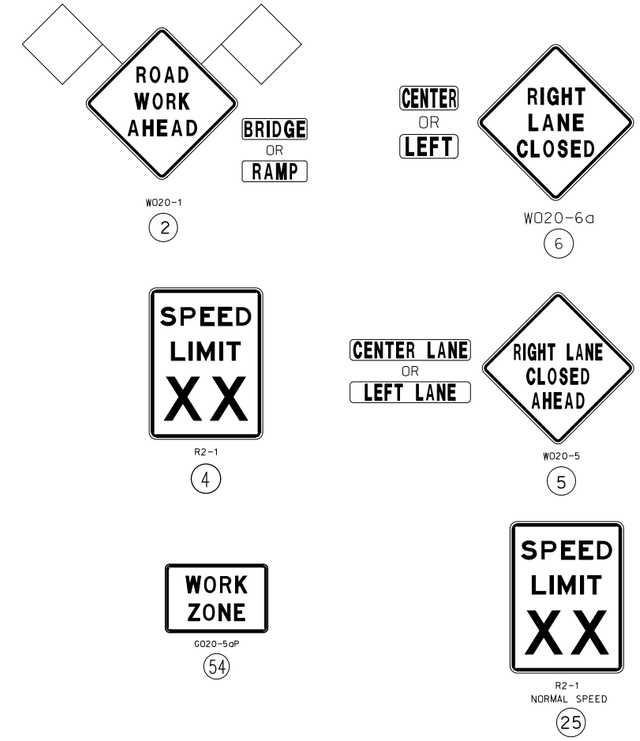
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



Right or Left Lane

Interior Lane

MOVING OPERATION ON MULTI-LANE DIVIDED HIGHWAY OPEN TO TRAFFIC



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING CHANNELIZING TAPER LENGTHS.

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

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

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

FLASHING ARROW PANELS SHALL, AS A MINIMUM, BE TYPE B, WITH A SIZE OF 60 X 30 INCHES.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

MOBILE OPERATION
ON DIVIDED OR
MULTI-LANE HIGHWAYS
TEMPORARY
TRAFFIC CONTROL
SHEET 18 OF 18

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 34
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

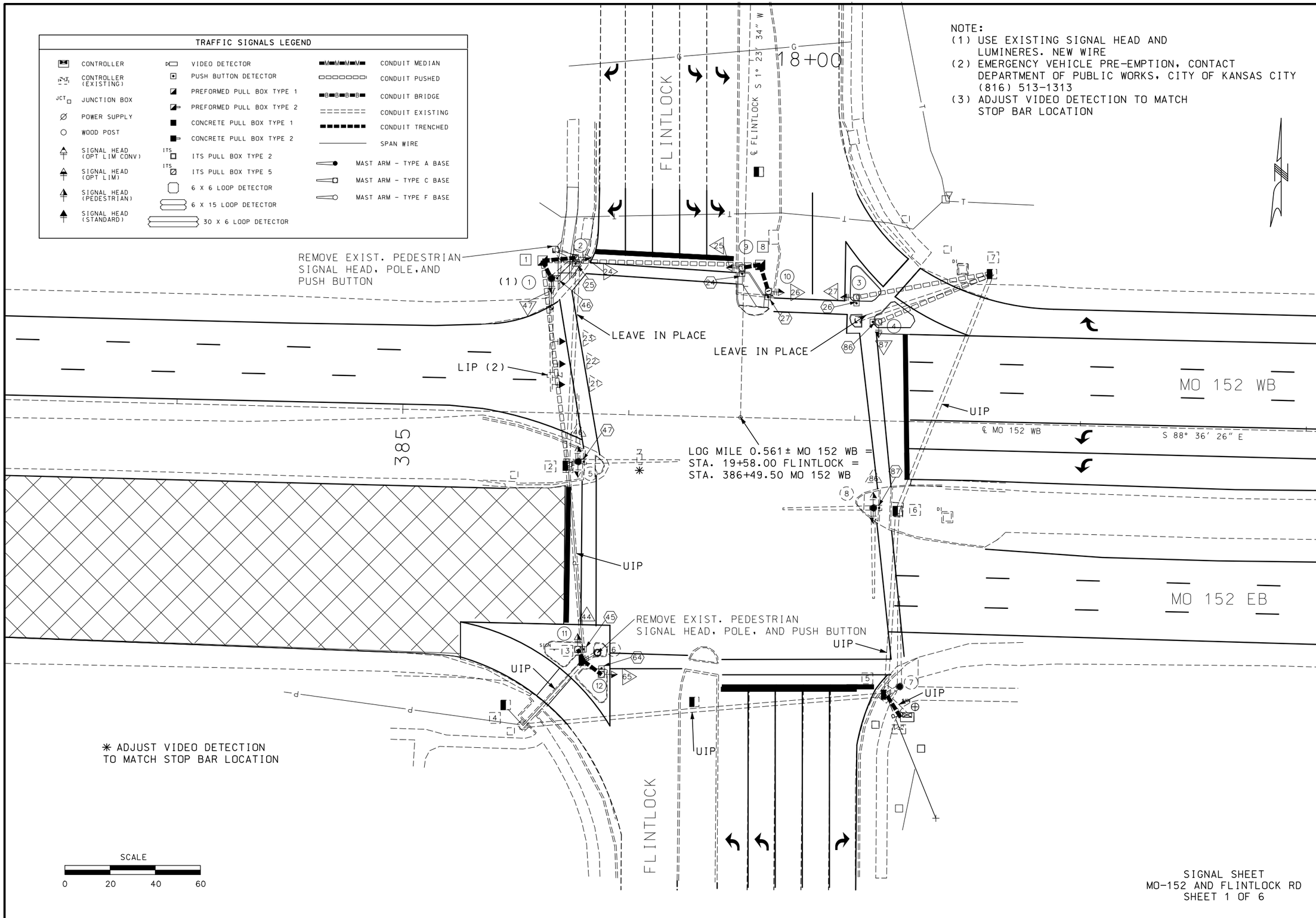
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

TRAFFIC SIGNALS LEGEND

CONTROLLER	VIDEO DETECTOR	CONDUIT MEDIAN
CONTROLLER (EXISTING)	PUSH BUTTON DETECTOR	CONDUIT PUSHED
JUNCTION BOX	PREFORMED PULL BOX TYPE 1	CONDUIT BRIDGE
POWER SUPPLY	PREFORMED PULL BOX TYPE 2	CONDUIT EXISTING
WOOD POST	CONCRETE PULL BOX TYPE 1	CONDUIT TRENCHED
SIGNAL HEAD (OPT LIM CONV)	CONCRETE PULL BOX TYPE 2	SPAN WIRE
SIGNAL HEAD (OPT LIM)	ITS PULL BOX TYPE 2	MAST ARM - TYPE A BASE
SIGNAL HEAD (PEDESTRIAN)	ITS PULL BOX TYPE 5	MAST ARM - TYPE C BASE
SIGNAL HEAD (STANDARD)	6 X 6 LOOP DETECTOR	MAST ARM - TYPE F BASE
	6 X 15 LOOP DETECTOR	
	30 X 6 LOOP DETECTOR	

NOTE:
(1) USE EXISTING SIGNAL HEAD AND LUMINERES. NEW WIRE
(2) EMERGENCY VEHICLE PRE-EMPTION, CONTACT DEPARTMENT OF PUBLIC WORKS, CITY OF KANSAS CITY (816) 513-1313
(3) ADJUST VIDEO DETECTION TO MATCH STOP BAR LOCATION



SIGNAL SHEET
MO-152 AND FLINTLOCK RD
SHEET 1 OF 6

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 35
COUNTY CLAY	
JOB NO. J4S3136	
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.

EFFECTIVE: 07/01/2013

POST NUMBER	PULL BOX NUMBER	APPROACH	STATION	OFFSET	BASE A 9	A 9.5	A 10	A 10.5	A 11	A 12	BASE F 9	F 9.5	F 10	F 10.5	F 11	F 12	C	CONCRETE** (CU. YDS.)
			CONTROLLER	(AS REQ'D)														
2		FLINTLOCK	18+89.15	74.78 RT													1	0.44
3		FLINTLOCK	19+03.65	50.04 LT													1	0.44
4		FLINTLOCK	19+14.28	60.10 LT													1	0.44
9		FLINTLOCK	19+91.84	0.86 RT													1	0.44
10		FLINTLOCK	19+01.89	11.03 LT													1	0.44
11		MO 152	385+79.95	104.36 RT													1	0.44
12		MO 152	385+90.72	115.13 RT													1	0.44
	1	FLINTLOCK	18+90.78	89.24 RT														
	8	FLINTLOCK	19+90.33	7.08 LT														
																	SUBTOTAL	3.08
																	TOTAL 1	3.10

NOTE: FOR PAY TOTAL, SEE SHEET 43

PULL BOX / POST (TOP MOUNT)

POST NUMBER	PULL BOX NUMBER	PREFORMED CLASS 1	CLASS 2	CLASS 3	CLASS 5	CONCRETE STANDARD	DOUBLE, TYPE A	DOUBLE, TYPE B	DRAIN TYPE* I	II A	II B	II C	TOP MOUNT POST 8 FT.	15 FT.
2													1	
3													1	
4													1	
9													1	
10													1	
11													1	
12													1	
	1		1						1					
	8		1						1					
SUBTOTAL			2										7	
TOTAL 1			2										7	

POST – TYPE C & CL / TYPE B & BL / LUMINAIRE BRACKET ARM*

TYPE C & CL ARM LENGTH A	A	A	A	SIGNAL SPACING B	C	D	D'	SIGN SPACING B	C	D	D'	TYPE B & BL ARM LENGTH E	K	E	K	E	K	LEFT ARM E SIGNAL SPACING F	G	H	H'	LEFT ARM E SIGN SPACING F	G	H	H'	RIGHT ARM K SIGNAL SPACING L	M	N	N'	RIGHT ARM K SIGN SPACING L	M	N	N'	INCLUDED ANGLE	LUMINAIRE BRACKET ARM* 4 FT.	6 FT.	8 FT.	10 FT.	12 FT.	15 FT.

SIGNAL HEADS

SPAN NUMBER	POST NUMBER	FACE NUMBER	LUMINAIRE 150W SODIUM	INDICATIONS * 12" LENS CONVENTIONAL R	Y	YL	YR†	FYL	FYR	G	S	L	R†	(ped symbol)	12" LENS OPTICAL LIMITING R	Y	YL	YR†	YL	YR†	G	S	L	R†	VISORS * 12" LENS	PED.
	1	47												1												1
	2	24												1												1
	3	27												1												1
	4	87												1												1
	9	25																								1
	10	26																								1
	11	44																								1
	12	65																								1
	1																									
																										8
SUBTOTAL																										
TOTAL																										

POST NUMBER	LOUVERS * A	B	C	D	E	F	BACKPLATE* LENSES 1	2	3	4	5	BRACKET* TYPE I	II	III
1												1		
2												1		
3												1		
4												1		
9												1		
10												1		
11												1		
12												1		

POST NUMBER	ONE-FACE SECTION 1- T	1- S	1- C	1- B	3- T	3- S	3- C	3- B	4- T	4- S	4- C	4- B	5- T	5- S	5- C	5- B	TWO-FACE SECTIONS 11- T	11- S	11- B	33- T	33- S	33- C	33- B	34- S	34- B	35- S	35- B	44- S	44- B	45- S	45- B
1		1																													
2		1																													
3		1																													
4		1																													
9		1																													
10		1																													
11		1																													
12		1																													
SUBTOTAL OPTICALLY LIMITED																															
SUBTOTAL CONVENTIONAL		8																													
SUBTOTAL COMBINATION OL & CONV																															
TOTAL OPTICALLY LIMITED																															
TOTAL CONVENTIONAL		8																													
TOTAL COMBINATION OL & CONV																															

SPAN WIRE POLES

POST NUMBER	WOOD CLASS IV	STEEL (A10 BASE REQUIRED)
SUBTOTAL		
TOTAL		

SPAN WIRE CABLE SPANS

SPAN NUMBER	FROM POST	TO POST	SINGLE MESSENGER ASSEMBLY (LIN. FT.)	MESSENGER ASSEMBLY WITH TETHER (LIN. FT.)
		SUBTOTAL		
		TOTAL		

SIGNS

QUANTITY	MUTCD SIGN NUMBER	SIZE (INCHES)	AREA (SQ.FT.)	TOTAL AREA EACH SIGN ITEM NO. 90350.04A (SQ.FT.)	SIGNAL MOUNTING HARDWARE ITEM NO. 90350.73 (EA.)
	R10-10L	24 X 30	5.0		
	R10-10R	24 X 30	5.0		
	R3-5L	30 X 36	7.5		
	R3-5R	30 X 36	7.5		
	R3-5S	30 X 36	7.5		
	R3-6L	30 X 36	7.5		
	R3-6R	30 X 36	7.5		
	R3-2	24 X 24	4.0		
	R3-1	24 X 24	4.0		
	R3-3	24 X 24	4.0		
	R10-5	24 X 30	5.0		
	R10-12	24 X 30	5.0		
	D3-16***	VAR. X 16			
	D3-18***	VAR. X 18			
	R10-3B	9 X 12	0.75		
	R10-11A	24 X 30	5.0		
			SUBTOTAL		
			TOTAL		

REMARKS

ALL LENGTHS AND SPACINGS ARE IN FEET UNLESS OTHERWISE INDICATED.

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

** SEE STANDARD PLANS 902.10 AND 902.30 FOR CONCRETE REQUIREMENTS ON BASES.

*** USE D3-16 FOR ONE LINE. USE D3-18 FOR TWO LINE.

SIGNAL STRUCTURES WHICH WILL EXCEED THE DIMENSION LIMITS SHOWN ON STANDARD PLAN SHEETS IN SECTION 902 AND ANY OTHER INSTALLATION WHERE THE DETAILS OF CONSTRUCTION ARE NOT FURNISHED IN THE CONTRACT PLANS, SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION, AND LATEST INTERIMS. THE STRUCTURE SHALL BE DESIGNED AS IMPORTANCE CATEGORY I FOR FATIGUE WITH A 50-YEAR DESIGN LIFE. THE CONTRACTOR SHALL SUBMIT A SET OF SHOP DETAIL DRAWINGS INCLUDING WELD PROCEDURE SPECIFICATIONS AND DESIGN COMPUTATIONS FOR MODOT RECORDS AND REFERENCE. THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED IN ACCORDANCE WITH THE LAWS RELATING TO ARCHITECTS AND PROFESSIONAL ENGINEERS (CHAPTER 327, RSMO.), AND SHALL INCLUDE A TITLE BLOCK OR SUMMARY SHEET WHICH LISTS AND CERTIFIES THAT THE PRODUCT MEETS ALL OF THE SPECIFIED DESIGN CRITERIA.

MO-152 AND FLINTLOCK RD

INTERSECTION

LEGEND

T - TOP MOUNT
S - SIDE MOUNT
C - SPANWIRE MOUNT
B - MAST ARM MOUNT

D-37A

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/18/2016
ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 36
COUNTY CLAY
JOB NO. J4S3136
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: 10-01-2015

CONDUIT (WITH #14 TRACER WIRE)

FROM	TO	CENTER TO CENTER DISTANCE	LOOP DET.	TRENCH				PUSHED			MEDIAN			ON STRUCTURE			REMARKS
			1"	2"	3"	4"		2"	3"	4"	2"	3"	4"	2"	3"		
[25]	[15]	13			16												EXISTING PULL BOX
[12]	[1]	93								91							
[1]	(1)	12			15												EXISTING POST
[1]	(2)	19			20												
[17]	(3)	60							61								EXISTING PULL BOX
[17]	(4)	54							55								EXISTING PULL BOX
[8]	(9)	8			10												
[8]	(10)	12			14												
[13]	(11)	6			8												EXISTING PULL BOX
[13]	(12)	10			12												EXISTING PULL BOX
[1]	[8]	100							98								
SUBTOTALS					95				214	91							
TOTAL 1					100				210	90							

CABLE

FROM	TO	CENTER TO CENTER DISTANCE	POWER		CONTROL				CLOSED LOOP INTERCONNECT	LUMINAIRE		DETECTOR		FIBER		REMARKS
					2c #16	5c #16	7c #16	3c #16	3 PAIR #16	CONTROL 2c #12	POLE & BRACKET 1c #10	1c #14 IN DUCT	2c #14 LEAD-IN CABLE	SINGLE-MODE	MULTI-MODE	
[25]	21	392					486									EXISTING SIGNAL HEAD
[25]	22	392					496									EXISTING SIGNAL HEAD
22	23	10					10									EXISTING SIGNAL HEAD
[25]	44	399				447										
[25]	(25)	399			446											
[25]	47	392				440										
[25]	(46)	392			439											
[25]	27	254				284										
[25]	(26)	254			283											
[25]	87	248				278										
[25]	(86)	248			277											
[25]	25	500				554										
[25]	(24)	500			553											
[25]	26	504				558										
[25]	(27)	504			557											
[25]	44	218				254										
[25]	(45)	218			253											
[25]	65	222				258										
[25]	(64)	222			257											
P.S.	[25]	71								79						EXISTING LUMINERE
[25]	(1)	380								484						
SUBTOTALS					3065	3073	992			563						
TOTAL 1					3070	3070	1000			560						

NOTE: FOR PAY TOTAL, SEE SHEET 54

INTERSECTION MO-152 AND FLINTLOCK RD

D-37B

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE	STATE
152	MO

DISTRICT	SHEET NO.
KC	37

COUNTY CLAY

JOB NO. J4S3136

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 04-01-2002

POWER SUPPLY

LOCATION			POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING ✱					LIGHTING CONTROL ✱ (ON POWER SUPPLY)		SERVICE POLE	
					CONTROLLER		POWER SUPPLY DISCONNECT						
							MAIN BREAKER						
APPROACH	STATION	OFFSET	DRAWING 902.15	DRAWING	AUXILIARY BREAKER	CONT & SIGNAL LAMPS	SIGNALS	LIGHTING		120 VOLT CONTROL CABINET	MAIN BREAKER	CONTRACT FURNISH	UTILITY COMPANY
			Type		15 Amps	· Amps	Amps	Amps			Amps	Cl. Ft.	
			Type		15 Amps	Amps	Amps	Amps			Amps	Cl. Ft.	

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT

LOCATION			SYSTEM MASTER (CLOSED LOOP)		ACTUATED		ON-OFF ✱ SWITCH TYPE		COORDINATION INTERFACE ✱						TIME ✱ CLOCK	NEMA CABINET TYPE ✱			170 CABINET TYPE ✱		170 SOFTWARE ✱	
									12C/7C HARDWIRE (1)		TIME BASE	CLOSED LOOP		FIBER								
APPROACH	STATION	OFFSET	NEMA	170	NEMA	170	I	II	MASTER	LOCAL		NEMA	170			E	EV	DOUBLE	332	336S	BITRAN	WAPITI

DETECTOR SCHEDULE

DETECTOR NUMBER	APPROACH	TYPE				
		PUSH BUTTON	INDUCTION LOOP (2)			VIDEO
			STANDARD	DELAY/ EXTEND ✱	CALL UNIT ✱	
24,25,26,27	FLINTLOCK N	4				
45,46,47	MO 152	3				
65	FLINTLOCK S	1				
86,87	MO 152	2				
TOTAL		10				

✱ ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

(1) MoDOT "D" PLUG SHALL BE WIRED INTO ALL NEMA CONTROLLERS WITH 7C HARDWIRE INTERCONNECT.

(2) PAYMENT IS MADE FOR THE NUMBER OF 2-CHANNEL DETECTOR CARDS AS SHOWN BELOW THE ASSIGNMENT CHART.

NEMA DETECTOR ASSIGNMENT

		CARD POSITION							
		1	2	3	4	5	6	7	8
CHANNEL	1								
	2								

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

NEMA LOAD SWITCH ASSIGNMENTS

1	2	3	4	5	6	7	8	9	10	11	12

170 INPUT FILE ASSIGNMENTS

	CHANNEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14
"I"	U														
	L														
"J"	U														
	L														

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

170 OUTPUT FILE ASSIGNMENTS

FR1							MONITOR
FR2							
FR3							
FR4							

170 AUXILIARY OUTPUT FILE

FR5							X
FR6							

MO-152 AND FLINTLOCK

INTERSECTION

D-37C

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE 152 | STATE MO

DISTRICT KC | SHEET NO. 38

COUNTY CLAY

JOB NO. J4S3136

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

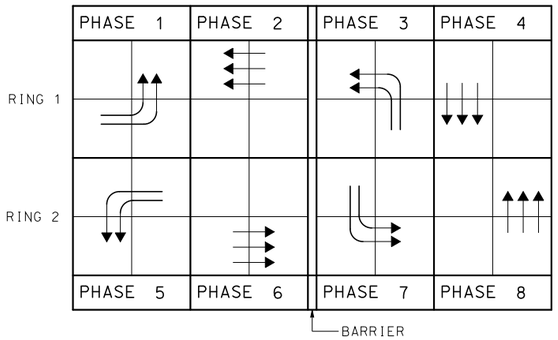
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

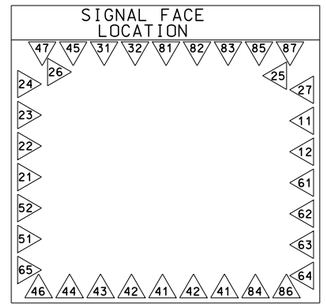
EFFECTIVE 09/08/2009

TRAFFIC PHASING AND COLOR SEQUENCE – ACTUATED CONTROLLERS

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PED Φ 2 OVERLAP	PED Φ 4 OVERLAP	PED Φ 6 OVERLAP	PED Φ 8 OVERLAP
FACE NUMBERS	11	21	31	41	51	61	71	81	24 26	44 46	64	84 86
	12 43	22 23	32	42 43	52 83	62 63	72	82 83	25 27	45 47	65	85 87
SIGNAL INDICATIONS R	RL R	R R	RL	R R	RL R	R R	RL	R R	DW	DW DW	DW	DW DW
Y	YL Y	Y Y	YL	Y Y	YL Y	Y Y	YL					
FYA												
G	L G	S G	L	S G	L G	S G	L	S G	W	W W	W	W W
	GR			GR	GR			GR				
DETECTOR ASSIGNMENTS												
DETECTOR ASSIGNMENTS (PEDS. ONLY)												
OVERLAP PARENT PHASES												



RING STRUCTURE



IF CALLED, ALL NON-CONFLICTING PHASES SHALL COMBINE AND TIME CONCURRENTLY. TIME TO BE DETERMINED BY THE ENGINEER AT SIGNAL TURN ON AND SET IN THE CONTROLLER BY THE CONTRACTOR.

LEGEND

- ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED ACTUATED VEHICULAR MOVEMENT
- NON-ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED NON-ACTUATED VEHICULAR MOVEMENT
- ACTUATED PEDESTRIAN MOVEMENT
- NON-ACTUATED PEDESTRIAN MOVEMENT
- VEHICLE STOPPED

FDW – FLASHING DON'T WALK
R/W – RIGHT OF WAY INTERVAL
DW – DON'T WALK
YR – YELLOW RIGHT ARROW
RT. – GREEN RIGHT ARROW
W – WALK
LY –YL – YELLOW LEFT ARROW
L – GREEN LEFT ARROW
S – GREEN STRAIGHT AHEAD ARROW
G – CIRCULAR GREEN
GR – GREEN RIGHT ARROW
Y – CIRCULAR YELLOW
R – CIRCULAR RED
Ø – TRAFFIC PHASE
AO – ALL OTHERS
FR – FLASHING RED
FY – FLASHING CIRCULARE YELLOW
FYA – FLASHING YELLOW ARROW
FYL – FLASHING YELLOW LEFT ARROW

FLASHING OPERATION	
	FR
	FY

CONTROLLER TYPE	EPAC

TRAFFIC SIGNAL CONTROL OPERATION	
INTERSECTION OF	MO 152
WITH	FLINTLOCK

D-38A

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 39
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

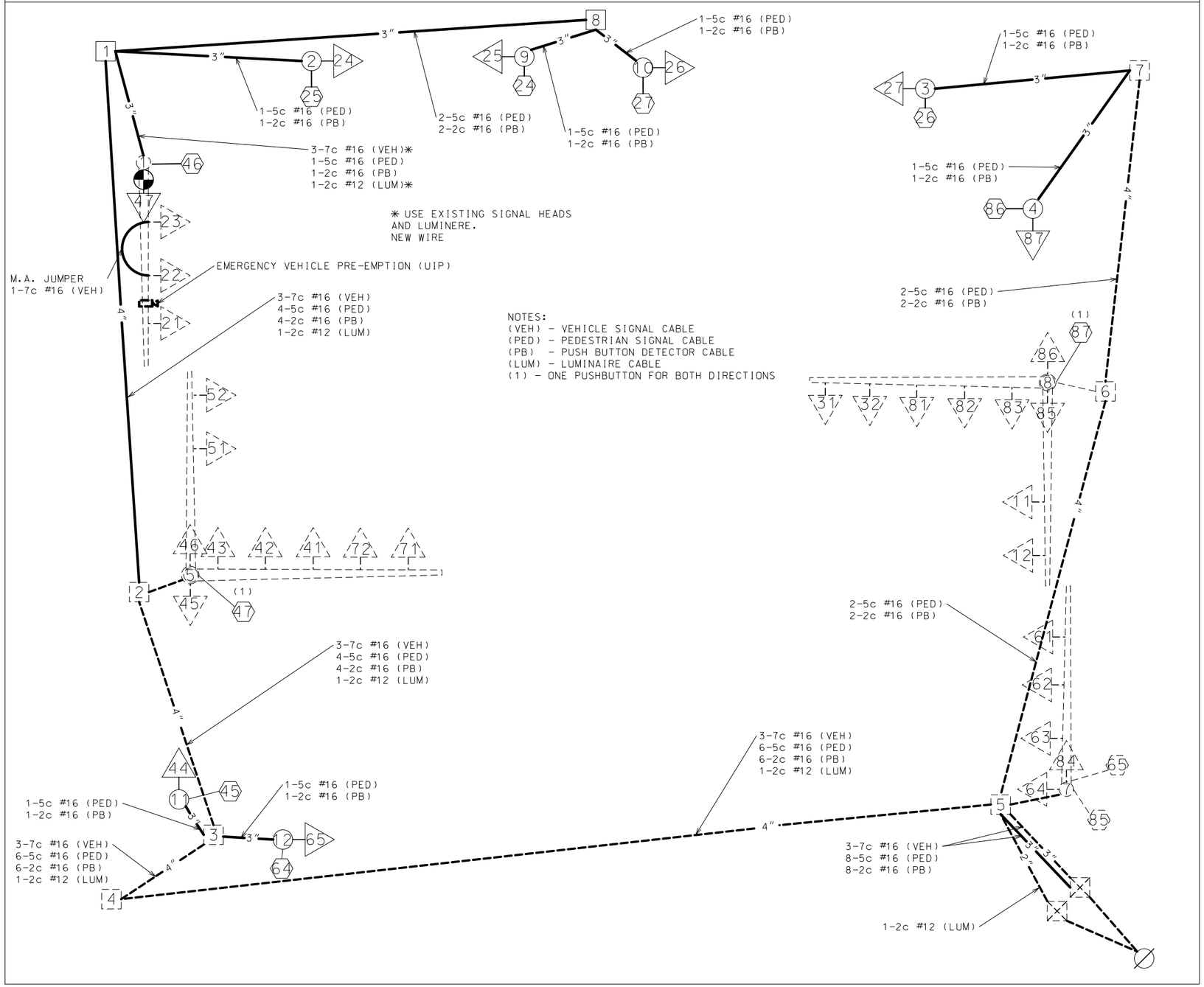
DESCRIPTION | DATE

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 04-01-99

WIRING DIAGRAM



LEGEND

3"	CONDUIT CONTAINING CABLE WITH SIZE
	CABLE
X-Xc	MULTI-CONDUCTOR CABLE #12 AWG (UNLESS OTHERWISE INDICATED)
LIC	#14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)
X	PULL BOX WITH NUMBER
X	POST WITH NUMBER
X	POST WITH MAST ARM
X	POST WITH MAST ARM AND LUMINAIRE
X	DETECTOR WITH NUMBER
X	SIGNAL HEAD WITH NUMBER
	SIGNAL CONTROLLER
	POWER SUPPLY
	LIGHTING CONTROLLER

MO-152 AND FLINTLOCK

INTERSECTION

D-37D

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

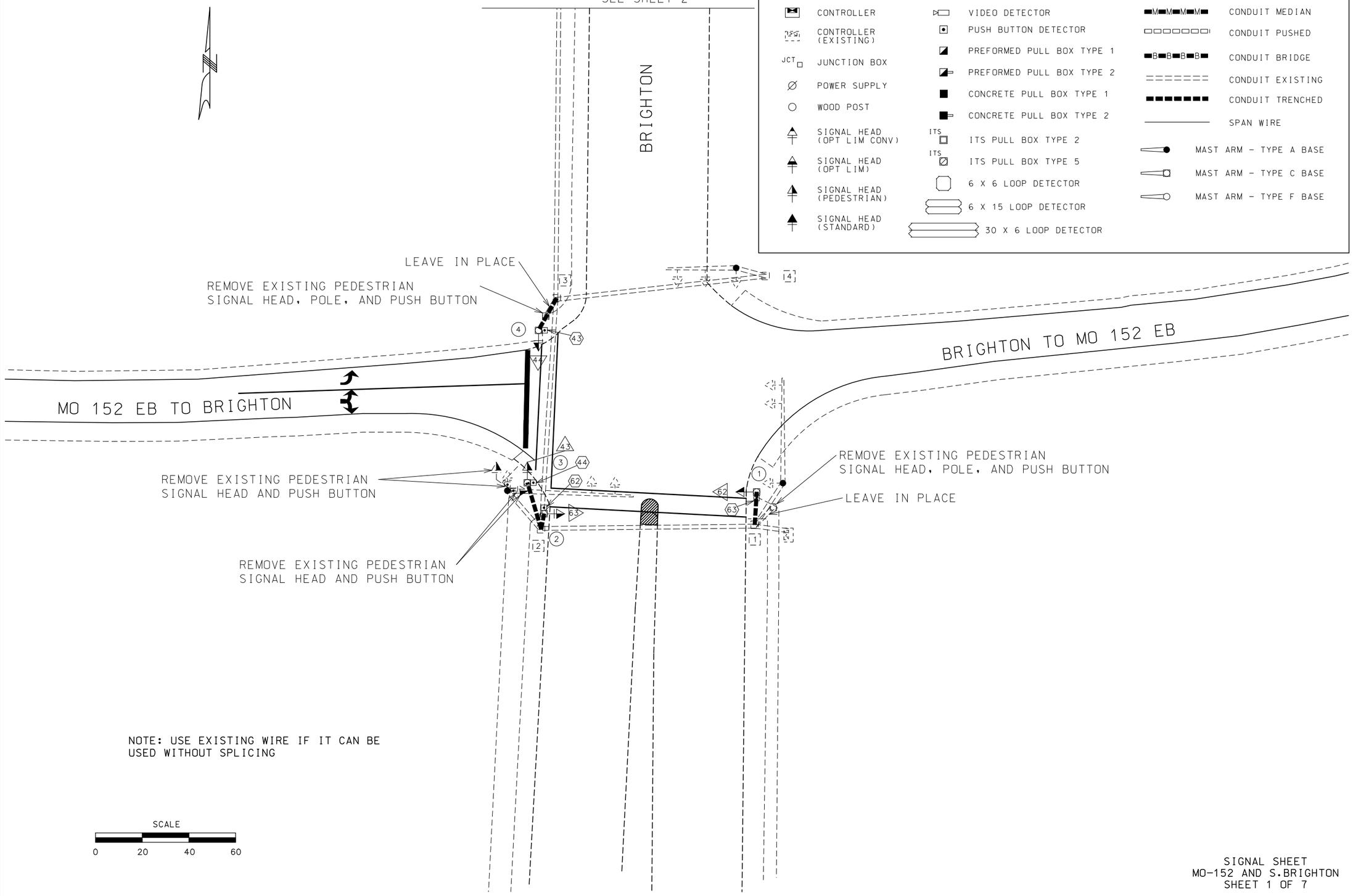
DATE PREPARED	
10/18/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 40
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.



TRAFFIC SIGNALS LEGEND

- CONTROLLER
- CONTROLLER (EXISTING)
- JUNCTION BOX
- POWER SUPPLY
- WOOD POST
- SIGNAL HEAD (OPT LIM CONV)
- SIGNAL HEAD (OPT LIM)
- SIGNAL HEAD (PEDESTRIAN)
- SIGNAL HEAD (STANDARD)
- VIDEO DETECTOR
- PUSH BUTTON DETECTOR
- PREFORMED PULL BOX TYPE 1
- PREFORMED PULL BOX TYPE 2
- CONCRETE PULL BOX TYPE 1
- CONCRETE PULL BOX TYPE 2
- ITS PULL BOX TYPE 2
- ITS PULL BOX TYPE 5
- 6 X 6 LOOP DETECTOR
- 6 X 15 LOOP DETECTOR
- 30 X 6 LOOP DETECTOR
- CONDUIT MEDIAN
- CONDUIT PUSHED
- CONDUIT BRIDGE
- CONDUIT EXISTING
- CONDUIT TRENCHED
- SPAN WIRE
- MAST ARM - TYPE A BASE
- MAST ARM - TYPE C BASE
- MAST ARM - TYPE F BASE

SIGNAL SHEET
MO-152 AND S.BRIGHTON
SHEET 1 OF 7

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 41
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

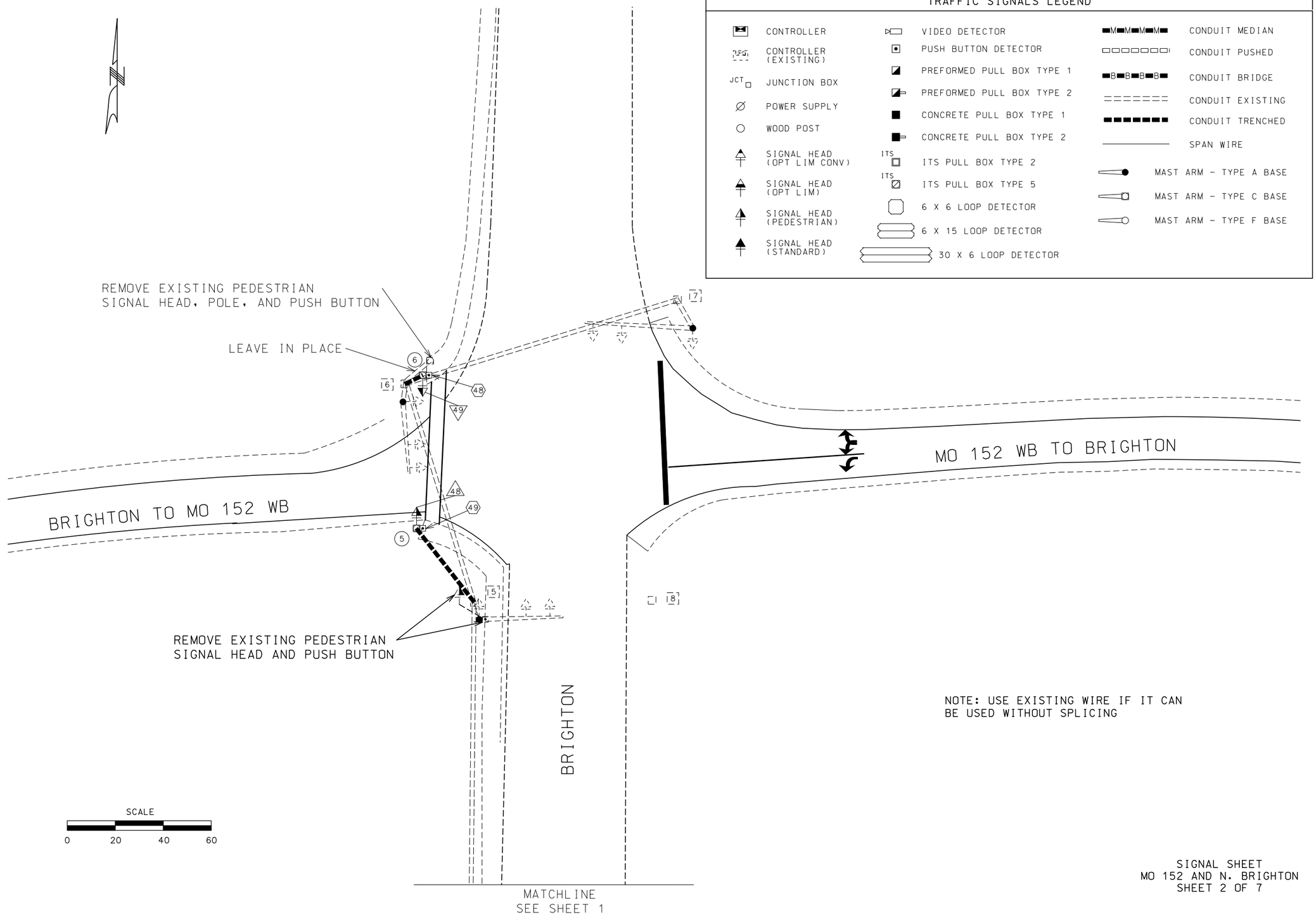
DATE	DESCRIPTION

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.

TRAFFIC SIGNALS LEGEND

	CONTROLLER		VIDEO DETECTOR		CONDUIT MEDIAN
	CONTROLLER (EXISTING)		PUSH BUTTON DETECTOR		CONDUIT PUSHED
JCT	JUNCTION BOX		PREFORMED PULL BOX TYPE 1		CONDUIT BRIDGE
	POWER SUPPLY		PREFORMED PULL BOX TYPE 2		CONDUIT EXISTING
	WOOD POST		CONCRETE PULL BOX TYPE 1		CONDUIT TRENCHED
	SIGNAL HEAD (OPT LIM CONV)		CONCRETE PULL BOX TYPE 2		SPAN WIRE
	SIGNAL HEAD (OPT LIM)	ITS	ITS PULL BOX TYPE 2		MAST ARM - TYPE A BASE
	SIGNAL HEAD (PEDESTRIAN)	ITS	ITS PULL BOX TYPE 5		MAST ARM - TYPE C BASE
	SIGNAL HEAD (STANDARD)		6 X 6 LOOP DETECTOR		MAST ARM - TYPE F BASE
			6 X 15 LOOP DETECTOR		
			30 X 6 LOOP DETECTOR		



NOTE: USE EXISTING WIRE IF IT CAN BE USED WITHOUT SPLICING

SIGNAL SHEET
MO 152 AND N. BRIGHTON
SHEET 2 OF 7

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 42
COUNTY CLAY	
JOB NO. J4S3136	
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)

EFFECTIVE: 07/01/2013

POST NUMBER	PULL BOX NUMBER	LOCATION APPROACH	LOG MILE (±)	OFFSET	BASE A 9	A 9.5	A 10	A 10.5	A 11	A 12	F 9	F 9.5	F 10	F 10.5	F 11	F 12	C	CONCRETE** (CU. YDS.)
			CONTROLLER	(AS REQ'D)														
1		BRIGHTON S.	1.792	46.54' LT													1	0.44
2		BRIGHTON S.	1.792	44.50' RT													1	0.44
3		BRIGHTON S.	1.792	51.64' RT													1	0.44
4		BRIGHTON S.	1.783	46.83' RT													1	0.44
5		BRIGHTON N.	6.237	61.75' LT													1	0.44
6		BRIGHTON N.	6.247	59.18' LT													1	0.44
																	SUBTOTAL	2.64
																	TOTAL 2	2.70
																	TOTAL 1	3.10
																	PAY TOTAL	5.80

NOTE: FOR TOTAL 1, SEE SHEET 36

POST NUMBER	PULL BOX PREFORMED CLASS 1	CLASS 2	CLASS 3	CLASS 5	CONCRETE STANDARD	DOUBLE, TYPE A	DOUBLE, TYPE B	DRAIN TYPE* I	II A	II B	II C	POST TOP MOUNT POST 8 FT.	15 FT.
1												1	
2												1	
3												1	
4												1	
5												1	
6												1	
SUBTOTAL												6	
TOTAL 2												6	
TOTAL 1		2										7	
PAY TOTAL		2										13	

POST NUMBER	TYPE C & CL ARM LENGTH A	A	A	A	SIGNAL SPACING B	C	D	D'	SIGN SPACING B	C	D	D'	TYPE B & BL ARM LENGTH E	K	E	K	E	K	LEFT ARM E SIGNAL SPACING F	G	H	H'	SIGN SPACING F	G	H	H'	RIGHT ARM K SIGNAL SPACING L	M	N	N'	SIGN SPACING L	M	N	N'	INCLUDED ANGLE	LUMINAIRE BRACKET ARM* 4 FT.	6 FT.	8 FT.	10 FT.	12 FT.	15 FT.
1																																									
2																																									
3																																									
4																																									
5																																									
6																																									

SIGNAL HEADS

SPAN NUMBER	POST NUMBER	FACE NUMBER	LUMINAIRE 150W SODIUM	INDICATIONS * 12" LENS CONVENTIONAL R	Y	YL	YR†	FYL	FYR	G	S	L	R†	PED (hand/walk)	12" LENS OPTICAL LIMITING R	Y	YL	YR†	YL	YR†	G	S	L	R†	VISORS * 12" LENS	VISORS * PED.
	1	62												1												1
	2	63												1												1
	3	43												1												1
	4	44												1												1
	5	48												1												1
	6	49												1												1
																										6
SUBTOTAL																										
TOTAL																										

POST NUMBER	LOUVERS * A	B	C	D	E	F	BACKPLATE* LENSES 1	2	3	4	5	BRACKET* TYPE I	II	III	ONE-FACE SECTION 1- T	S	C	B	3- T	S	C	B	4- T	S	C	B	5- T	S	C	B	TWO-FACE SECTIONS 11- T	S	B	33- T	S	C	B	34- S	B	35- S	B	44- S	B	45- S	B
1												1				1																													
2												1				1																													
3												1				1																													
4												1				1																													
5												1				1																													
6												1				1																													
SUBTOTAL OPTICALLY LIMITED																																													
SUBTOTAL CONVENTIONAL																6																													
SUBTOTAL COMBINATION OL & CONV																																													
TOTAL OPTICALLY LIMITED																																													
TOTAL CONVENTIONAL																6																													
TOTAL COMBINATION OL & CONV																																													

SPAN WIRE POLES

POST NUMBER	WOOD CLASS IV	STEEL (A10 BASE REQUIRED)
SUBTOTAL		
TOTAL		

SPAN WIRE CABLE SPANS

SPAN NUMBER	FROM POST	TO POST	SINGLE MESSENGER ASSEMBLY (LIN. FT.)	MESSENGER ASSEMBLY WITH TETHER (LIN. FT.)
		SUBTOTAL		
		TOTAL		

SIGNS

QUANTITY	MUTCD SIGN NUMBER	SIZE (INCHES)	SIGN AREA (SQ. FT.) EACH	TOTAL SIGN AREA (SQ. FT.) 903-50.04A	MAST ARM SIGN MOUNTING HARDWARE (EACH) 903-50.73
	R10-10L	24 X 30	5.0	0.0	
	R10-10R	24 X 30	5.0	0.0	
	R3-7	30 X 36	7.5	0.0	
	R3-5R	30 X 36	7.5	0.0	
	R3-5S	30 X 36	7.5	0.0	
	R3-6L	30 X 36	7.5	0.0	
	R3-6R	30 X 36	7.5	0.0	
	R3-2	24 X 24	4.0	0.0	
	R3-1	24 X 24	4.0	0.0	
	R3-3	24 X 24	4.0	0.0	
	R10-5	24 X 30	5.0	0.0	
	R10-12	24 X 30	5.0	0.0	
	D3-16***	VAR. X 16	X	0.0	
	D3-18***	VAR. X 18	X	0.0	
	R10-3B	9 X 12	0.75	0.0	
	R10-11A	24 X 30	5.0	0.0	
	R10-27A	30 X 36	7.5	0.0	
	R10-3eL	9 X 15	0.9375	0.0	
	R10-3eR	9 X 15	0.9375	0.0	
			SUBTOTAL		

REMARKS

ALL LENGTHS AND SPACINGS ARE IN FEET UNLESS OTHERWISE INDICATED.

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

** SEE STANDARD PLANS 902.10 AND 902.30 FOR CONCRETE REQUIREMENTS ON BASES.

*** USE D3-16 FOR ONE LINE. USE D3-18 FOR TWO LINE.

SIGNAL STRUCTURES WHICH WILL EXCEED THE DIMENSION LIMITS SHOWN ON STANDARD PLAN SHEETS IN SECTION 902 AND ANY OTHER INSTALLATION WHERE THE DETAILS OF CONSTRUCTION ARE NOT FURNISHED IN THE CONTRACT PLANS, SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION, AND LATEST INTERIMS. THE STRUCTURE SHALL BE DESIGNED AS IMPORTANCE CATEGORY I FOR FATIGUE WITH A 50-YEAR DESIGN LIFE. THE CONTRACTOR SHALL SUBMIT A SET OF SHOP DETAIL DRAWINGS INCLUDING WELD PROCEDURE SPECIFICATIONS AND DESIGN COMPUTATIONS FOR MODOT RECORDS AND REFERENCE. THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED IN ACCORDANCE WITH THE LAWS RELATING TO ARCHITECTS AND PROFESSIONAL ENGINEERS (CHAPTER 327, RSMO.), AND SHALL INCLUDE A TITLE BLOCK OR SUMMARY SHEET WHICH LISTS AND CERTIFIES THAT THE PRODUCT MEETS ALL OF THE SPECIFIED DESIGN CRITERIA.

LEGEND

T - TOP MOUNT
S - SIDE MOUNT
C - SPANWIRE MOUNT
B - MAST ARM MOUNT

MO-152 AND BRIGHTON

INTERSECTION

D-37A

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/18/2016
ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 43
COUNTY CLAY
JOB NO. J4S3136
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: 10-01-2015

CONDUIT (WITH #14 TRACER WIRE)

FROM	TO	CENTER TO CENTER DISTANCE	LOOP DET. 1"	TRENCH 2"	TRENCH 3"	TRENCH 4"		PUSHED 2"	PUSHED 3"	PUSHED 4"	MEDIAN 2"	MEDIAN 3"	MEDIAN 4"	ON STRUCTURE 2"	ON STRUCTURE 3"		REMARKS
1	1	15			17												EXISTING PULL BOX
2	2	7			9												EXISTING PULL BOX
2	3	21			23												EXISTING PULL BOX
3	4	16			18												EXISTING PULL BOX
5	5	39			41												EXISTING PULL BOX
6	6	8			10												EXISTING PULL BOX
SUBTOTAL 2					118												
TOTAL 2					120												
TOTAL 1					100			210	90								
PAY TOTAL					220			210	90								

CABLE

FROM	TO	CENTER TO CENTER DISTANCE	POWER		CONTROL 2c #16	CONTROL 5c #16	CONTROL 7c #16	CONTROL 3c #16	CLOSED LOOP INTERCONNECT 3 PAIR #16	LUMINAIRE CONTROL 2c #12	LUMINAIRE POLE & BRACKET 1c #10	DETECTOR 1c #14 IN DUCT	DETECTOR 2c #14 LEAD-IN CABLE	FIBER SINGLE-MODE	FIBER MULTI-MODE	REMARKS
	62	30				54										
	63	30			53											
	63	114				144										
	62	114			143											
	44	128				158										
	44	128			157											
	44	221				257										
	43	221			256											
	48	781				823										
	49	781			822											
	49	846				894										
	48	846			893											
SUBTOTAL 2					2324	2330										
TOTAL 2					2320	2330										
TOTAL 1					3070	3070	1490			560						
PAY TOTAL					5390	5400	1490			560						

NOTE: FOR TOTAL 1, SEE SHEET 47

INTERSECTION MO-152 AND BRIGHTON

D-37B

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE	STATE
152	MO

DISTRICT	SHEET NO.
KC	44

COUNTY CLAY

JOB NO. J4S3136

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 04-01-2002

POWER SUPPLY

LOCATION			POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING ✱					LIGHTING CONTROL ✱ (ON POWER SUPPLY)		SERVICE POLE	
					CONTROLLER		POWER SUPPLY DISCONNECT						
							MAIN BREAKER						
APPROACH	STATION	OFFSET	DRAWING 902.15	DRAWING	AUXILIARY BREAKER	CONT & SIGNAL LAMPS	SIGNALS	LIGHTING		120 VOLT CONTROL CABINET	MAIN BREAKER	CONTRACT FURNISH	UTILITY COMPANY
			Type		15 Amps	· Amps	Amps	Amps			Amps	Cl. Ft.	
			Type		15 Amps	Amps	Amps	Amps			Amps	Cl. Ft.	

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT

LOCATION			SYSTEM MASTER (CLOSED LOOP)		ACTUATED		ON-OFF ✱ SWITCH TYPE		COORDINATION INTERFACE ✱						TIME ✱ CLOCK	NEMA CABINET TYPE ✱			170 CABINET TYPE ✱		170 SOFTWARE ✱	
									12C/7C HARDWIRE (1)		TIME BASE	CLOSED LOOP		FIBER								
APPROACH	STATION	OFFSET	NEMA	170	NEMA	170	I	II	MASTER	LOCAL		NEMA	170			E	EV	DOUBLE	332	336S	BITRAN	WAPITI

DETECTOR SCHEDULE

DETECTOR NUMBER	APPROACH	TYPE				
		PUSH BUTTON	INDUCTION LOOP (2)			VIDEO
			STANDARD	DELAY/ EXTEND ✱	CALL UNIT ✱	
62.63	BRIGHTON	2				
43.44	BRIGHTON	2				
48.49	BRIGHTON	2				
TOTAL		6				

✱ ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.

(1) MoDOT "D" PLUG SHALL BE WIRED INTO ALL NEMA CONTROLLERS WITH 7C HARDWIRE INTERCONNECT.

(2) PAYMENT IS MADE FOR THE NUMBER OF 2-CHANNEL DETECTOR CARDS AS SHOWN BELOW THE ASSIGNMENT CHART.

NEMA DETECTOR ASSIGNMENT

		CARD POSITION							
		1	2	3	4	5	6	7	8
CHANNEL	1								
	2								

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

170 OUTPUT FILE ASSIGNMENTS

FR1							MONITOR
FR2							
FR3							
FR4							

NEMA LOAD SWITCH ASSIGNMENTS

1	2	3	4	5	6	7	8	9	10	11	12

170 INPUT FILE ASSIGNMENTS

	CHANNEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14
"I"	U														
	L														
"J"	U														
	L														

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)

170 AUXILIARY OUTPUT FILE

FR5							X
FR6							

MO-152 AND BRIGHTON

INTERSECTION

D-37C

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	45

COUNTY CLAY

JOB NO. J4S3136

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.

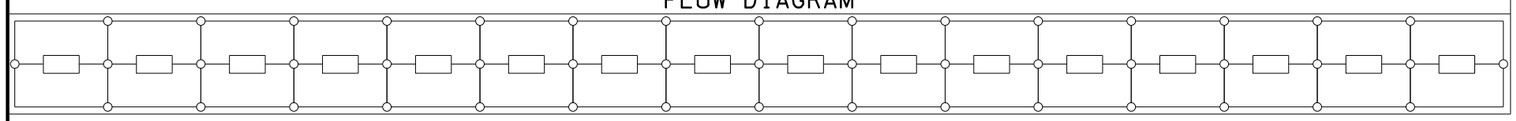
EFFECTIVE 09/08/2009

TRAFFIC PHASING AND COLOR SEQUENCE – PRETIMED CONTROLLERS

CONT. NO.	PHASE 1	PHASE 2	PHASE 3	PHASE	PHASE 5	PHASE 6	PHASE 7	PHASE	PHASE 2p	PHASE 7p	PHASE 6p	PHASE 1	PHASE	PHASE	PHASE	PHASE
APPROACH / PHASE / FACE NO.	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W	CLEAR TO PHASE / R/W
BOUND																
BOUND																
BOUND																
BOUND																

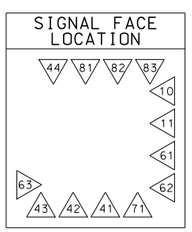
FACE NO.

FLOW DIAGRAM



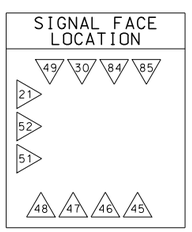
BRIGHTON SOUTH

SIGNAL FACE LOCATION



BRIGHTON NORTH

SIGNAL FACE LOCATION



PHASE ON RECALL WITH EQUAL TIME SETTINGS.

SKIP PHASE.

COMBINED RECALL & SKIP PHASE.

IF CALLED, ALL NON-CONFLICTING PHASES SHALL COMBINE AND TIME CONCURRENTLY. TIME TO BE DETERMINED BY THE ENGINEER AT SIGNAL TURN ON AND SET IN THE CONTROLLER BY THE CONTRACTOR.

LEGEND

- ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED ACTUATED VEHICULAR MOVEMENT
- NON-ACTUATED VEHICULAR MOVEMENT
- PARTIALLY RESTRICTED NON-ACTUATED VEHICULAR MOVEMENT
- ACTUATED PEDESTRIAN MOVEMENT
- NON-ACTUATED PEDESTRIAN MOVEMENT
- VEHICLE STOPPED
- FDW — FLASHING DON'T WALK
- R/W — RIGHT OF WAY INTERVAL
- DW — DON'T WALK
- YR — YELLOW RIGHT ARROW
- RT. — GREEN RIGHT ARROW
- W — WALK
- LY — YELLOW LEFT ARROW
- L — GREEN LEFT ARROW
- S — GREEN STRAIGHT AHEAD ARROW
- G — CIRCULAR GREEN
- Y — CIRCULAR YELLOW
- R — CIRCULAR RED
- Ø — TRAFFIC PHASE
- AO — ALL OTHERS
- FR — FLASHING RED
- FY — FLASHING CIRCULAR YELLOW
- FYL — FLASHING YELLOW LEFT ARROW
- FYR — FLASHING YELLOW RIGHT ARROW

FLASHING OPERATION	
	FR
	FY

CONTROLLER TYPE NEMA

TRAFFIC SIGNAL CONTROL OPERATION
INTERSECTION OF N BRIGHTON
WITH MO 152

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 46
COUNTY CLAY	
JOB NO. J4S3136	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

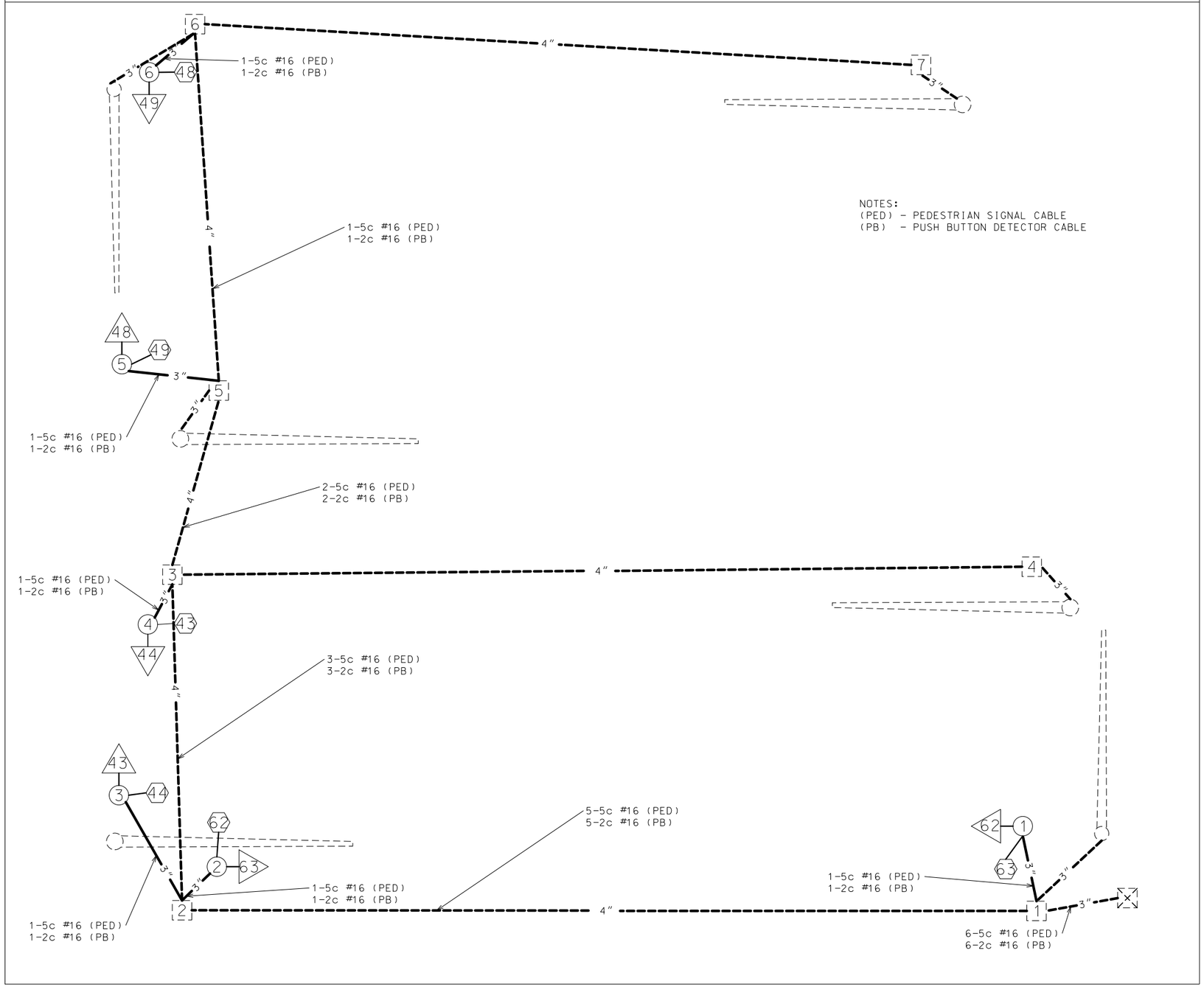
DATE	DESCRIPTION

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)

EFFECTIVE 04-01-99

WIRING DIAGRAM



NOTES:
(PED) - PEDESTRIAN SIGNAL CABLE
(PB) - PUSH BUTTON DETECTOR CABLE

LEGEND

3"	CONDUIT CONTAINING CABLE WITH SIZE
	CABLE
X-Xc	MULTI-CONDUCTOR CABLE #12 AWG (UNLESS OTHERWISE INDICATED)
LIC	#14 AWG DETECTOR LEAD-IN CABLE (2C TWISTED SHIELDED)
X	PULL BOX WITH NUMBER
X	POST WITH NUMBER
X	POST WITH MAST ARM
X	POST WITH MAST ARM AND LUMINAIRE
X	DETECTOR WITH NUMBER
X	SIGNAL HEAD WITH NUMBER
	SIGNAL CONTROLLER
	POWER SUPPLY
	LIGHTING CONTROLLER

MO-152 AND BRIGHTON

INTERSECTION

D-37D

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

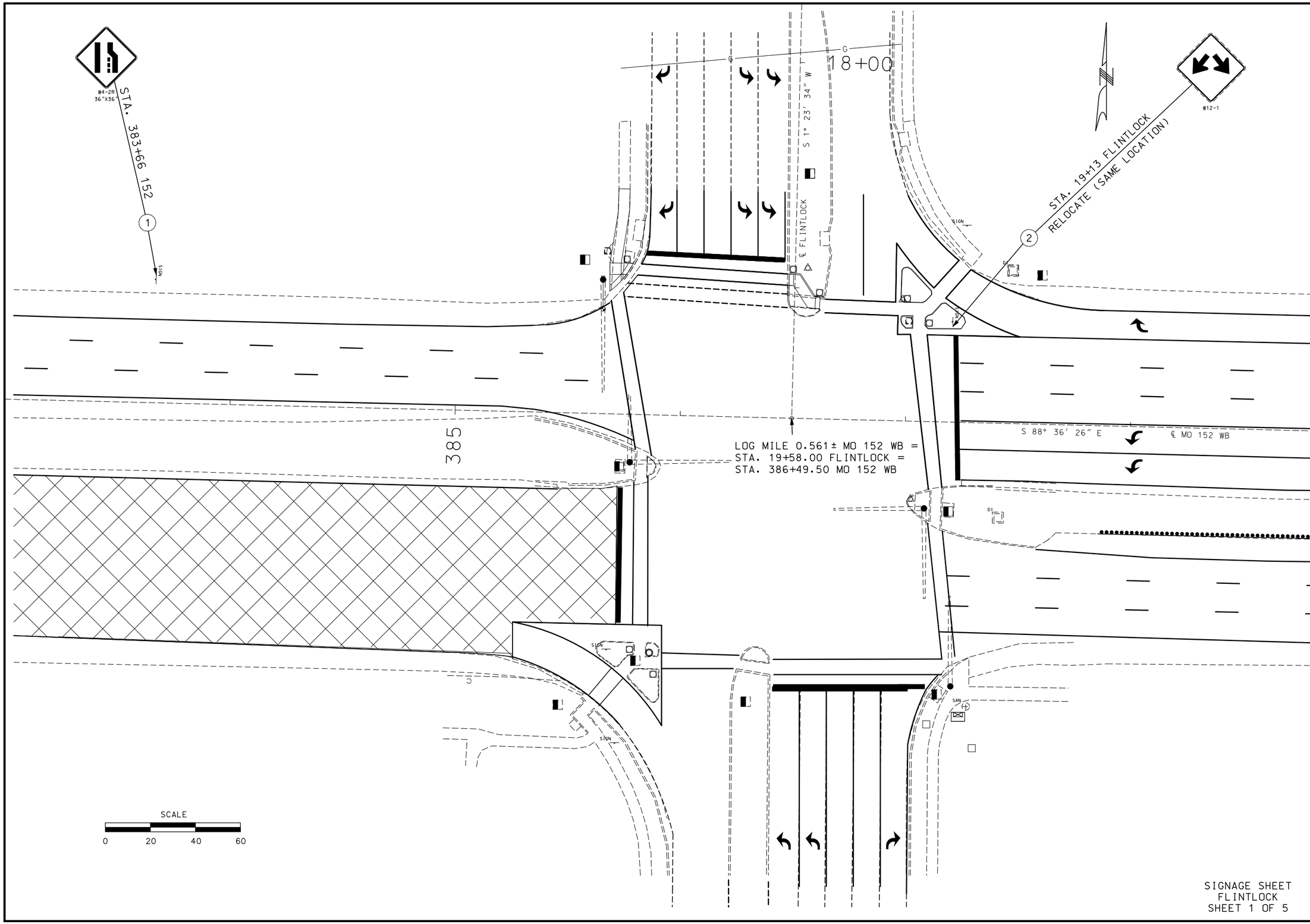
DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	47
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.



SIGNAGE SHEET
FLINTLOCK
SHEET 1 OF 5

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

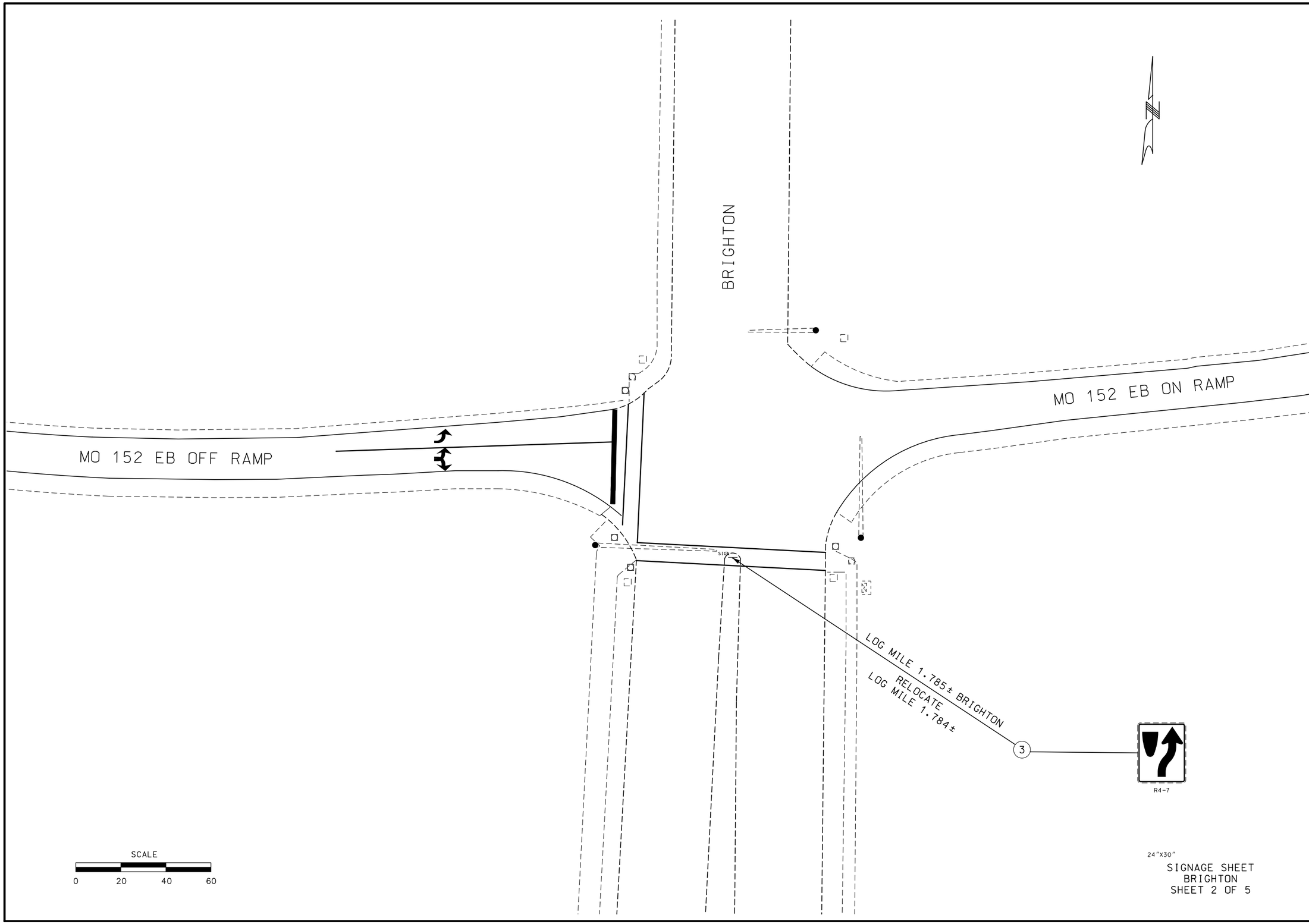
DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	48
COUNTY	CLAY
JOB NO.	J4S3136
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.



24"X30"

SIGNAGE SHEET
BRIGHTON
SHEET 2 OF 5

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 49
COUNTY CLAY	
JOB NO. J4S3136	
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.

EFFECTIVE 10-01-2016

SIGNS							PIPE POST ✳				STRUCTURAL STEEL											U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST														FOOTINGS		MAST ARM SIGN MOUNTING HARDWARE	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	LOG MILE (±)	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE SIZE	POST NO.1	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	ITEM NO. 9035073	
							IN.	LF		LBS		LF	LF	LF		LBS		IN.	LF	LBS	LBS	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EACH	CU YDS	CU YDS	EACH	
1	36X36	383+66		4.00'	MO 152																		16.00		16.00	3														
2	36X36	19+13		3.30'	FLINTLOCK																		14.00		14.00	3														
3	24X30		1.784	2.35'	BRIGHTON																		9.50		9.50	3														
TOTAL																									40	9														

✳ BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	50

COUNTY: CLAY

JOB NO. J4S3136

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.

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOG MILE (±)	LOCATION	SHR4L-1	SHR2L-1	SHR2L-1
				SIGN DESCRIPTION, SIZES & NUMBER OF EACH		
				R1-1D 36"x36"	R10-3eL 9"x15"	R10-3eR 9"x15"
1	383+66		MO 152	1		
1✳	18+87		FLINTLOCK		1	
2✳	18+89		FLINTLOCK			1
3✳	19+03		FLINTLOCK		1	
4✳	19+14		FLINTLOCK			1
9✳	18+92		FLINTLOCK		1	
10✳	19+02		FLINTLOCK			1
11✳	385+80		MO 152			1
12✳	385+91		MO 152		1	
1✳✳		1.792	BRIGHTON S		1	
2✳✳		1.792	BRIGHTON S		1	
3✳✳		1.792	BRIGHTON S			1
4✳✳		1.783	BRIGHTON S		1	
5✳✳		6.237	BRIGHTON N			1
6✳✳		6.247	BRIGHTON N		1	
SUBTOTAL				1	8	6

✳ SIGNAL POLE NUMBER.
SEE FLINTLOCK SIGNAL SHEETS

✳✳ SIGNAL POLE NUMBER.
SEE BRIGHTON SIGNAL SHEETS

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004	FLAT SHEET FLUORESCENT FSF ✳ ITEM NO. 9035069	STRUCTURAL ST ITEM NO. 9035011	STRUCTURAL FLUORESCENT STF ✳ ITEM NO. 9035071
LANE ENDS (W4-2R)	STD	1	3'X3'		9.00		
PEDESTRIAN SIGNAL CROSSING (R10-3eL)	STD	8	0.75'X1.25'	7.50			
PEDESTRIAN SIGNAL CROSSING (R10-3eR)	STD	6	0.75'X1.25'	5.63			
TOTAL				13.13	9.00		

✳ ORANGE, YELLOW & YELLOW/GREEN

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	51

COUNTY: CLAY

JOB NO. J4S3136

CONTRACT ID.

PROJECT NO.

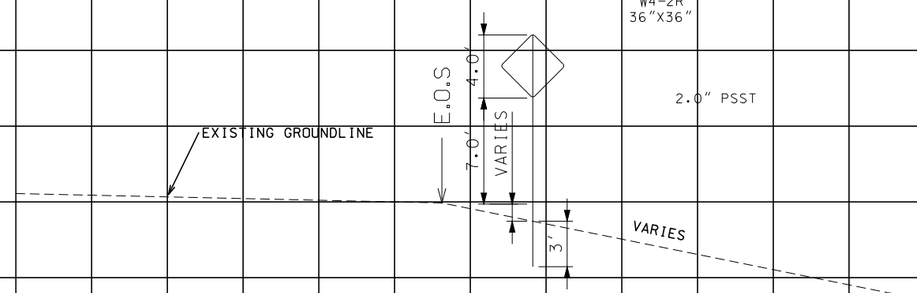
BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

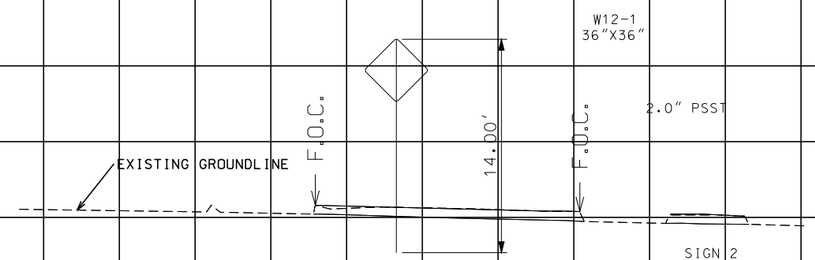
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

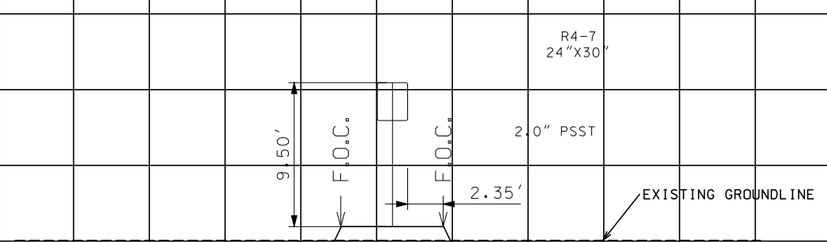


TYPICAL SIGN MOUNT

SIGN 1
STA. 383+66 MO-152



SIGN 2
STA. 19+13 FLINTLOCK



SIGN 3
LOG MILE 1.784± BRIGHTON

NOTE: NOT ACTUAL SIGN ORIENTATION
FOR SIGN ORIENTATION, SEE
SHEET 1

SIGNAGE SHEET
SIGN CROSS SECTIONS
SHEET 5 OF 5

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	52
COUNTY	
CLAY	
JOB NO.	
J4S3136	
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.

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

DESIGN DESIGNATION

A.A.D.T. - 2017 = 50,000
A.A.D.T. - 2027 = 60,000
D.H.V. = 7000
T = 9%
V = 65 M.P.H.

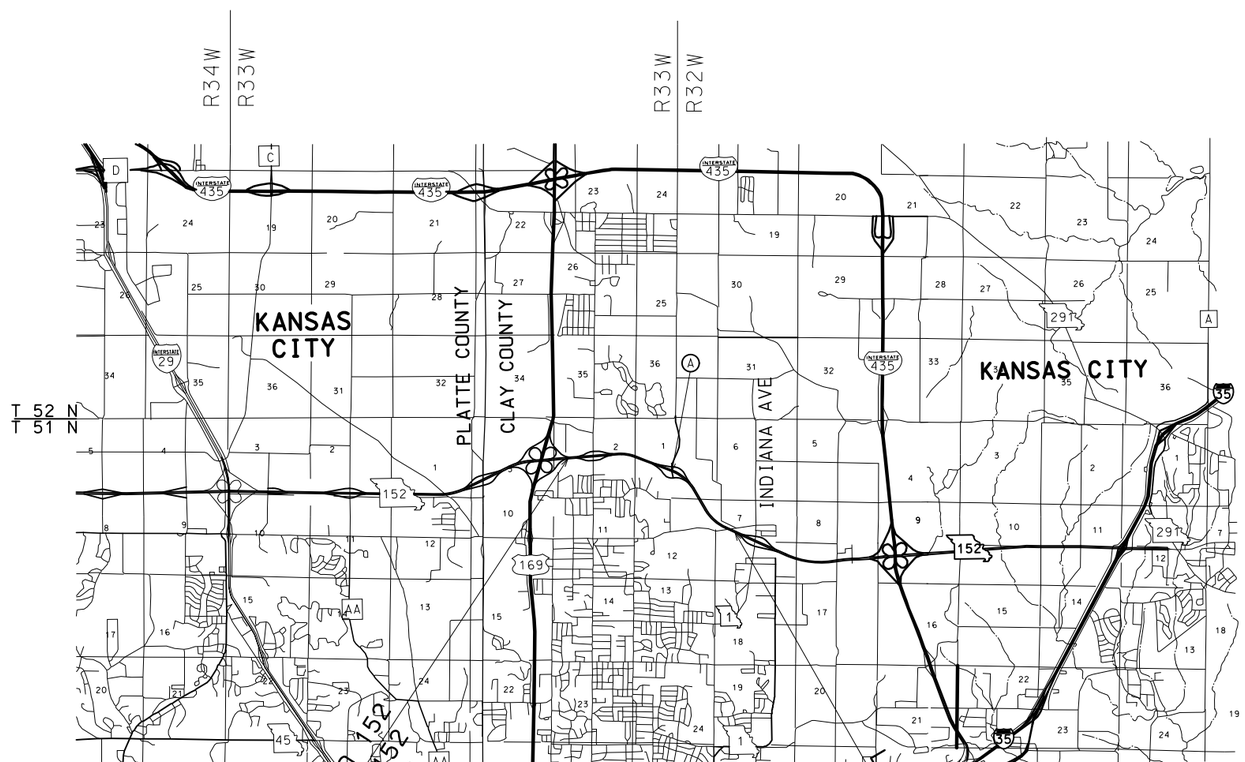
FUNCTIONAL CLASSIFICATION- FREEWAY

NO ADDITIONAL RIGHT OF WAY NEEDED FOR THIS PROJECT

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



PROJECT LIMITS: E/O 169 TO W/O ROUTE 1
RESURFACING, STRIPING, GUARDRAIL

NET LENGTH: 2.256 MILES

NOT TO SCALE

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (6 SHEETS)	2
QUANTITIES (QU) (5 SHEETS)	3
SPECIAL SHEETS (SS)	4-7
TRAFFIC CONTROL SHEETS (TC)	8-24

LENGTH OF PROJECT

BEGINNING OF PROJECT — LOG MILE 9.636
END OF PROJECT — LOG MILE 11.948

APPARENT LENGTH — 2.312 MILES

EQUATIONS AND EXCEPTIONS:

(A) LOG 10.912 (EB) TO LOG 10.968 (EB)

TOTAL CORRECTIONS	-0.056	MILES
NET LENGTH OF PROJECT	2.256	MILES
STATE LENGTH	2.256	MILES

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

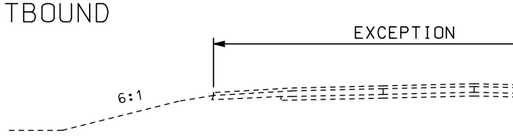
DATE PREPARED	
9/29/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 1
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

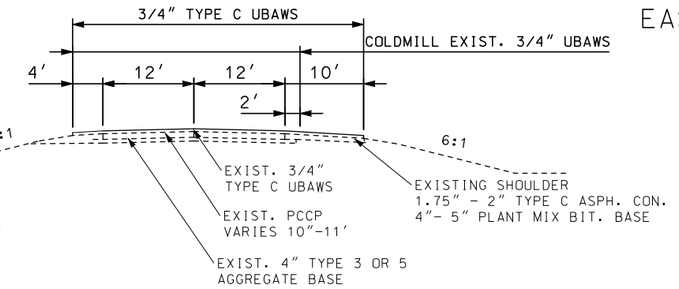
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

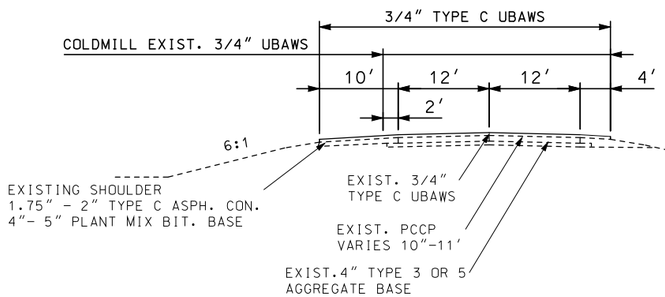
WESTBOUND



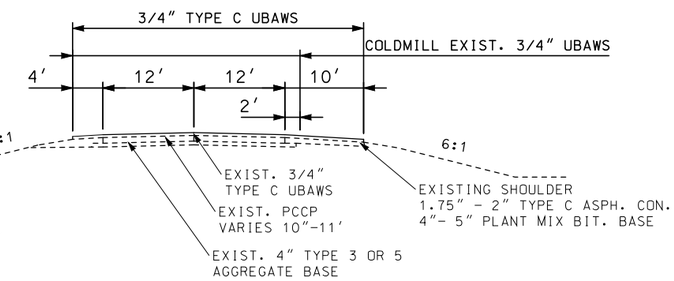
EASTBOUND



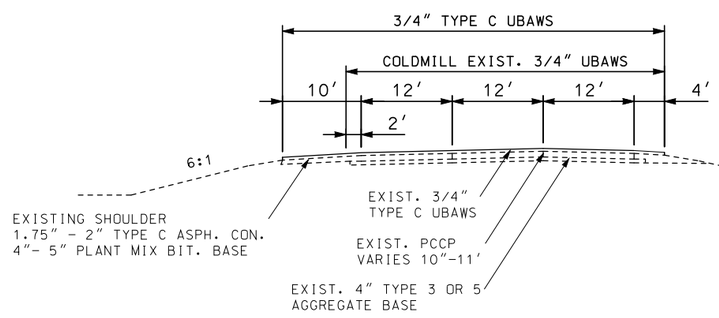
LOG 9.636 TO 9.639 ✳



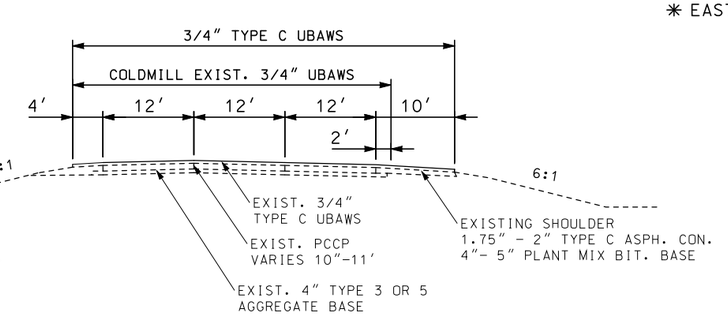
LOG 9.639 TO 9.673 ✳

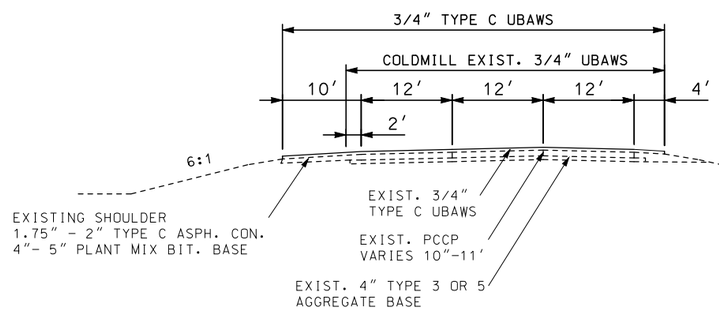


✳ EASTBOUND LOG MILES USED

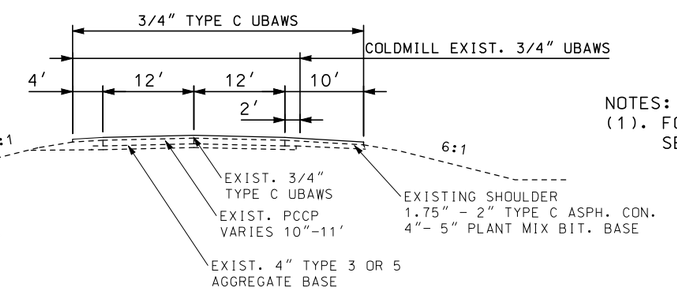


LOG 9.673 TO 9.762 ✳





LOG 9.762 TO 9.785 ✳



NOTES:
(1). FOR RAMP RESURFACING LIMITS, SEE SPECIAL SHEETS

TYPICAL SECTION SHEET
SHEET 1 OF 6

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

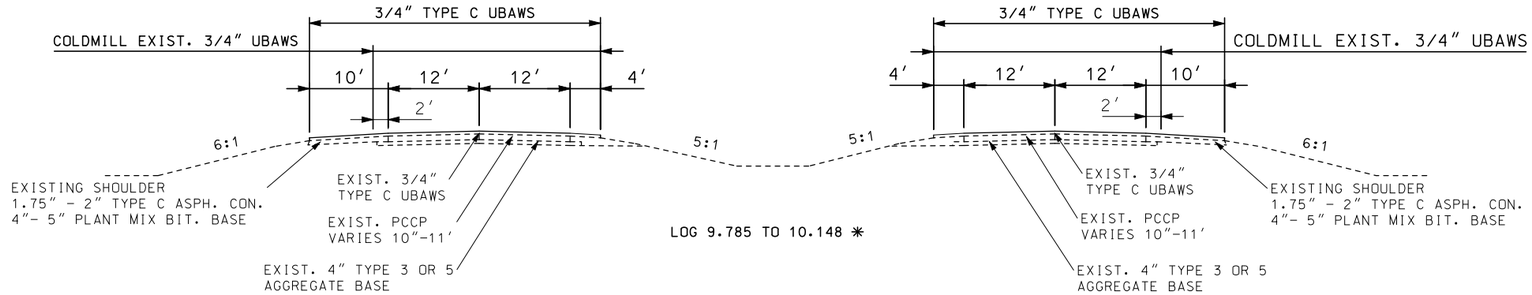
DATE PREPARED	
10/13/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

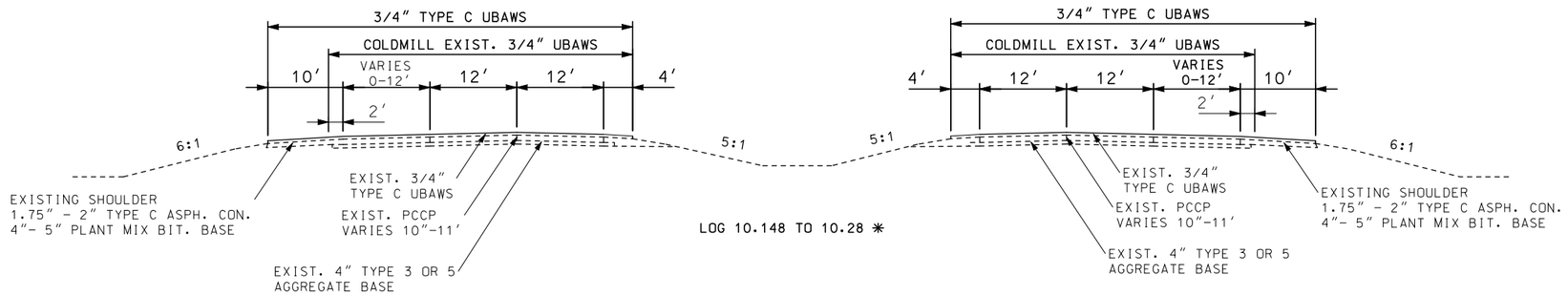
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

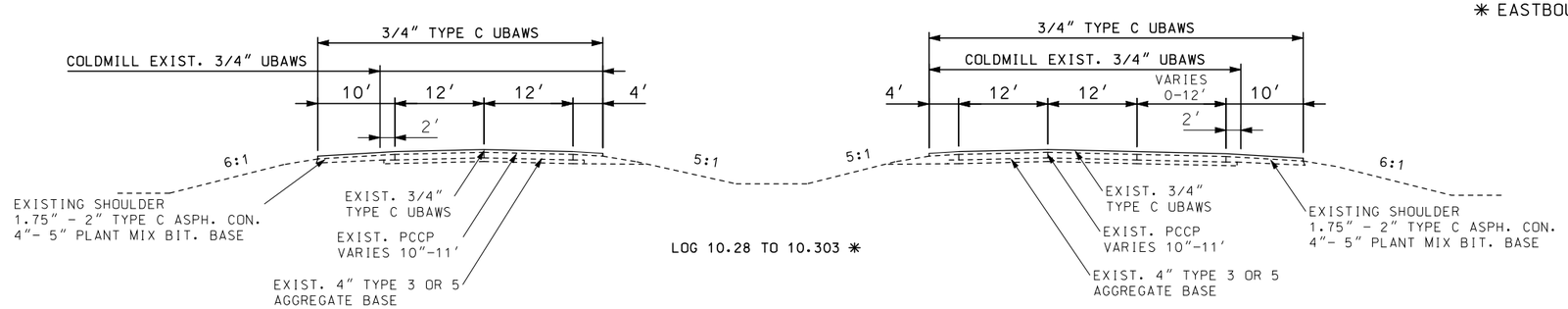
WESTBOUND

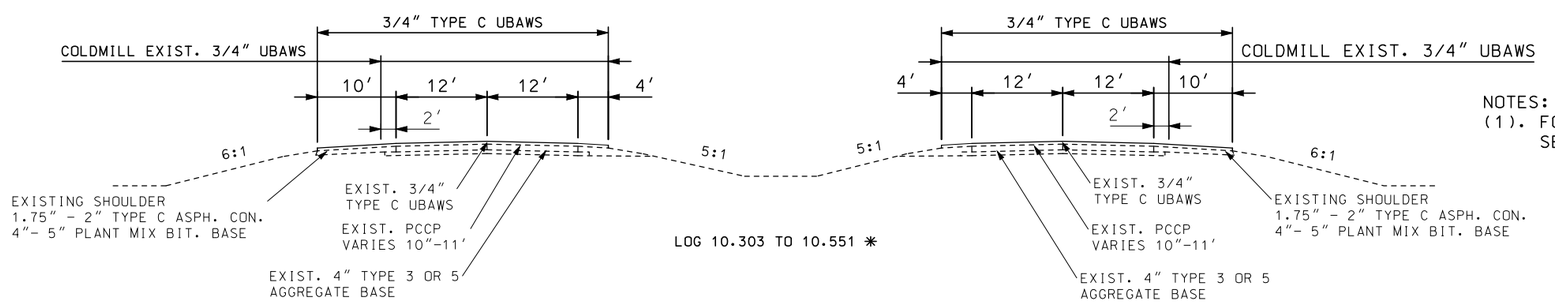


EASTBOUND



✳ EASTBOUND LOG MILES USED





NOTES:
(1). FOR RAMP RESURFACING LIMITS, SEE SPECIAL SHEETS

TYPICAL SECTION SHEET
SHEET 2 OF 6

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

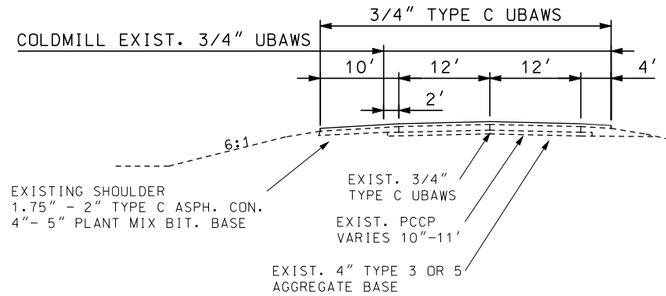
DATE PREPARED	
10/13/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

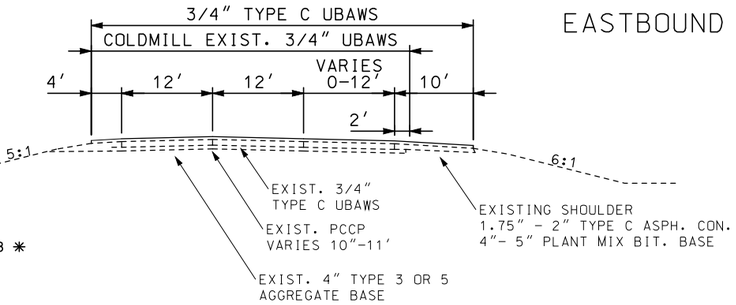
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

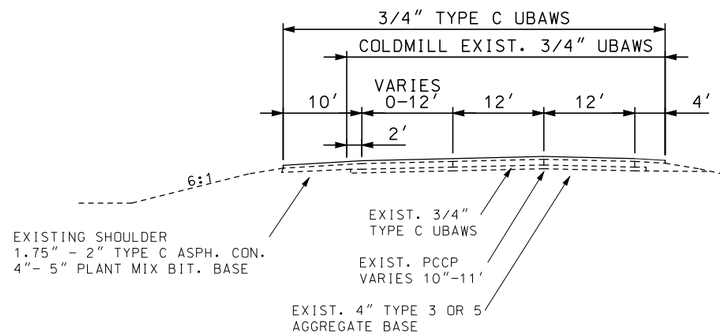
WESTBOUND



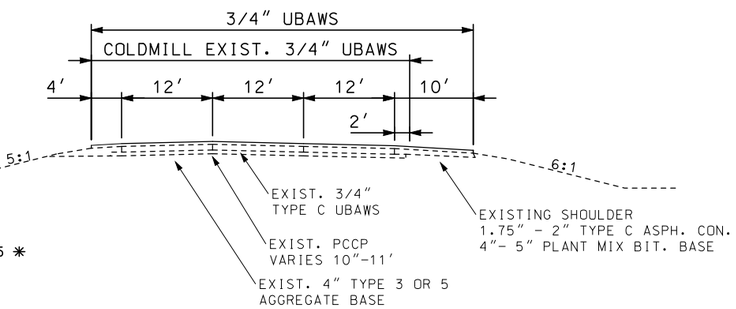
LOG 10.551 TO 10.608 ✳

EASTBOUND

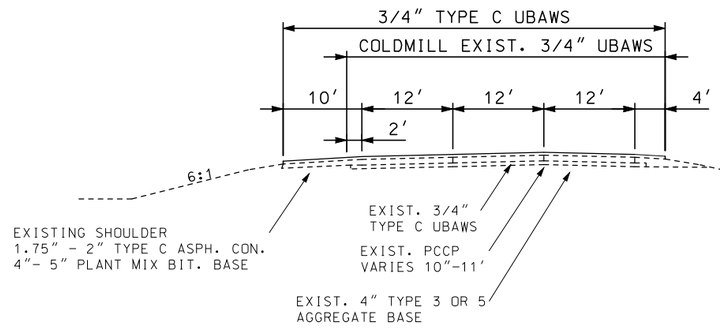




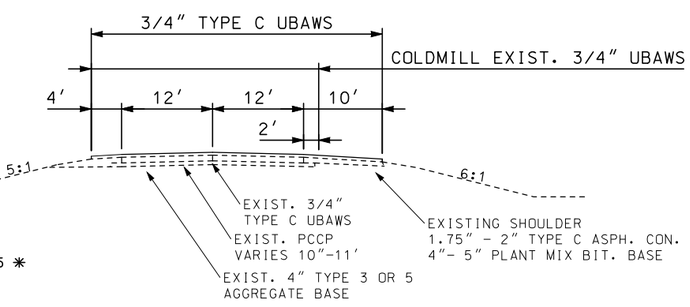
LOG 10.608 TO 10.695 ✳



✳ EASTBOUND LOG MILES USED



LOG 10.695 TO 10.765 ✳



NOTES:
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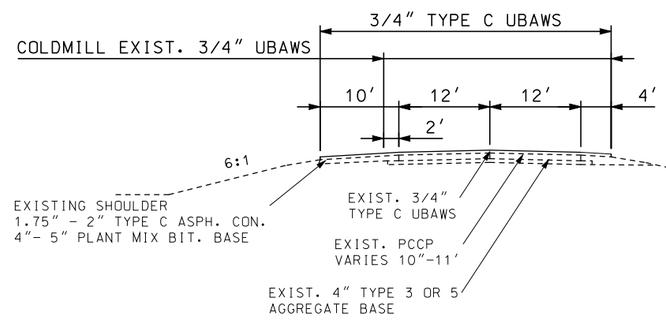
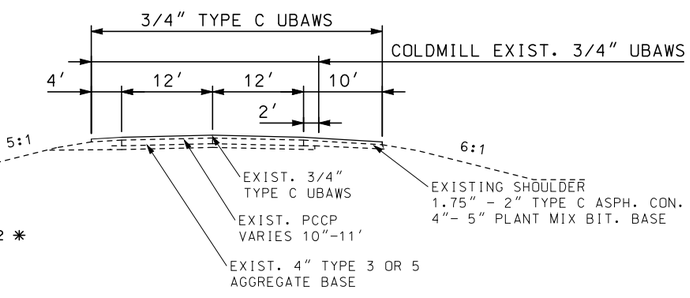


LOG 10.765 TO 10.912 ✳



TYPICAL SECTION SHEET
SHEET 3 OF 6

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

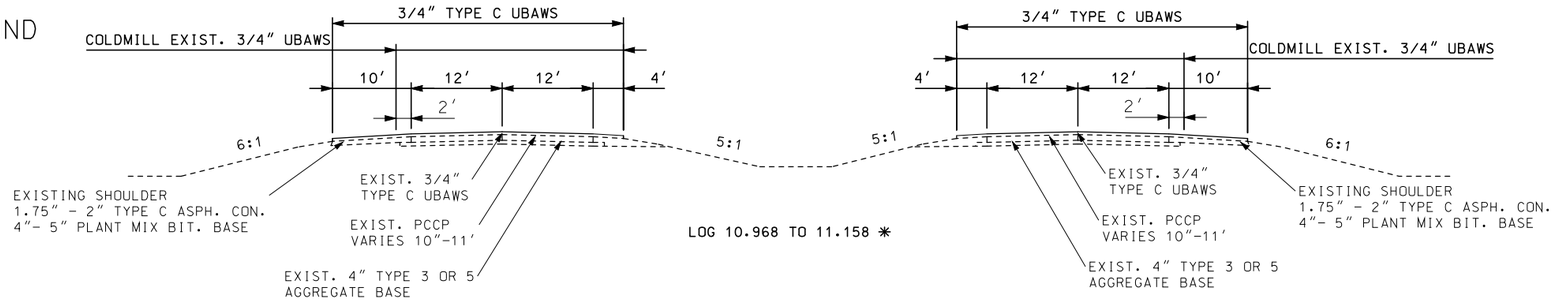
DATE PREPARED	10/13/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	2
COUNTY	CLAY
JOB NO.	J4S3147
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

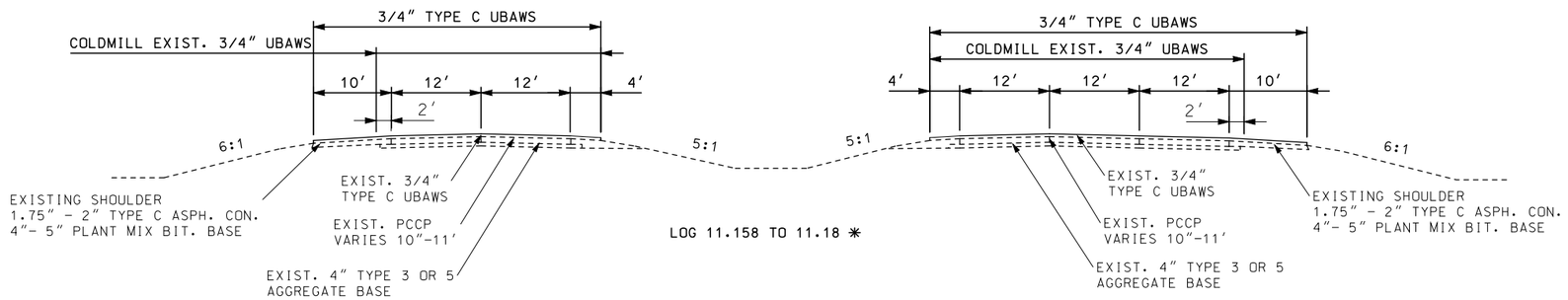
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

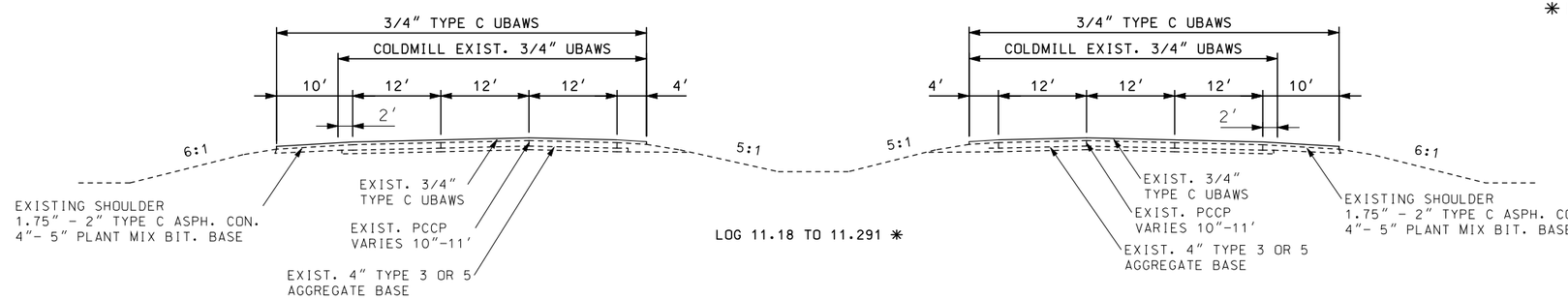
WESTBOUND

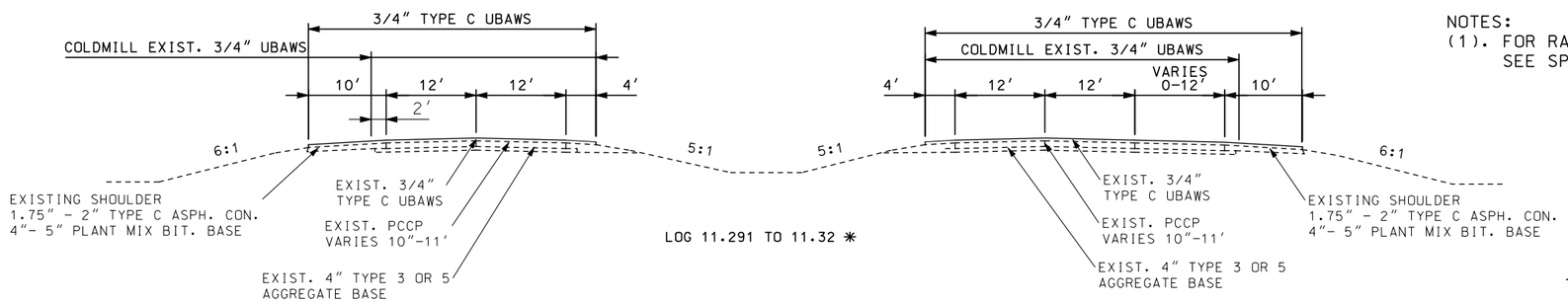


EASTBOUND



✳ EASTBOUND LOG MILES USED





NOTES:
(1). FOR RAMP RESURFACING LIMITS, SEE SPECIAL SHEETS

TYPICAL SECTION SHEET
SHEET 4 OF 6

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

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DATE PREPARED	
10/13/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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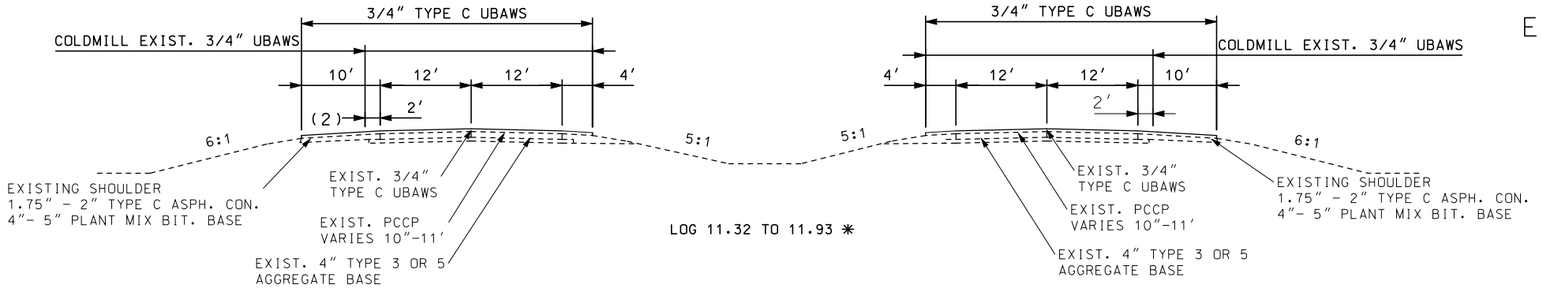
WESTBOUND



EASTBOUND

✳ EASTBOUND LOG MILES USED

NOTE:
(1). FOR RAMP RESURFACING LIMITS, SEE SPECIAL SHEETS
(2). FULL DEPTH SHOULDER REPAIR NEEDED AT VARIOUS LOG MILES. INCLUDES REMOVING EXISTING SHOULDER AND REPLACING WITH 4" BASE ROCK, 5 3/4" BIT BASE, AND TOPPED WITH 3/4" UBAWS

TYPICAL SECTION SHEET
SHEET 5 OF 6

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

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DATE PREPARED	
10/13/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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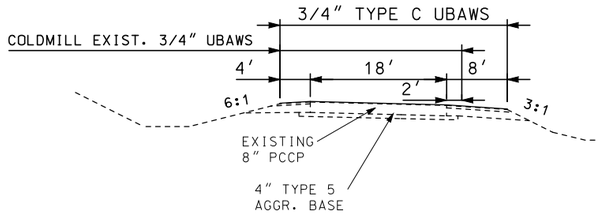
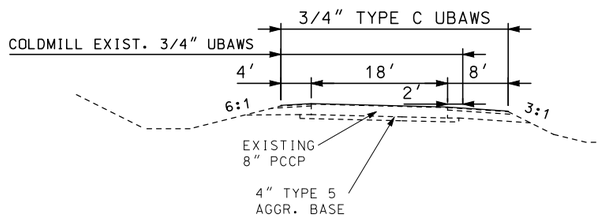
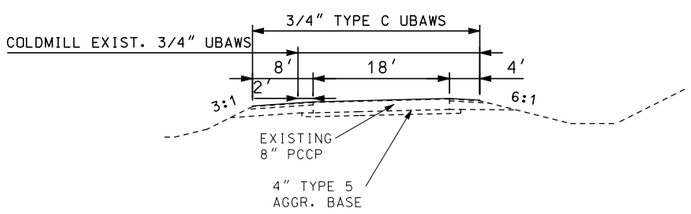


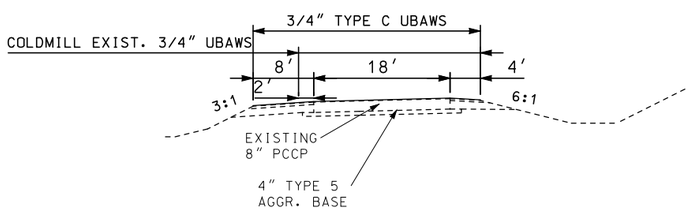
N. OAK TRAFFICWAY OFF RAMP EB



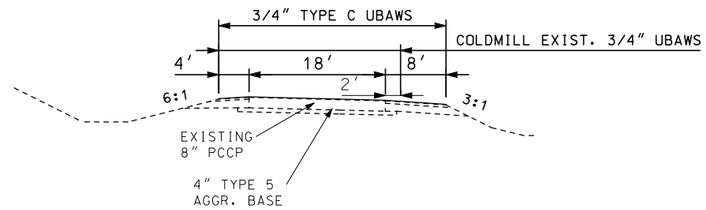
N. OAK TRAFFICWAY ON RAMP EB



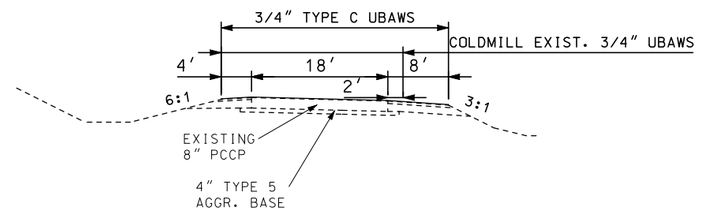
N. OAK TRAFFICWAY OFF RAMP WB



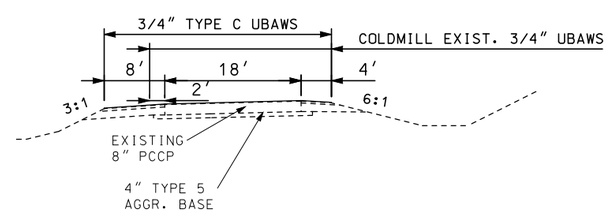
N. OAK TRAFFICWAY ON RAMP WB



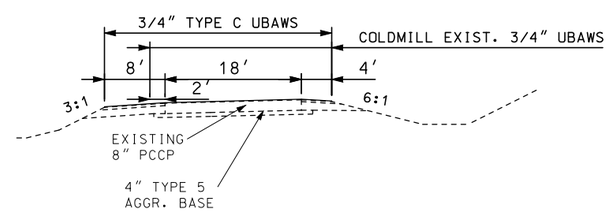
MAPLEWOODS PARKWAY OFF RAMP EB



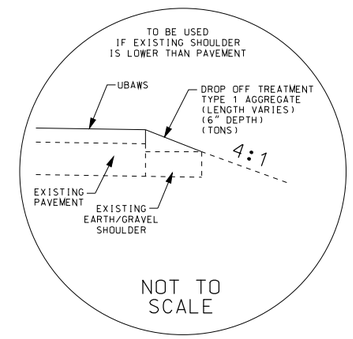
MAPLEWOODS PARKWAY ON RAMP EB



MAPLEWOODS PARKWAY OFF RAMP WB



MAPLEWOODS PARKWAY ON RAMP WB



SHOULDER EDGE
DROP OFF TREATMENT
AT VARIOUS LOCATIONS

NOTES:
(1). FOR RAMP RESURFACING LIMITS, SEE SPECIAL SHEETS

TYPICAL SECTION SHEET
SHEET 6 OF 6

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
10/13/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY CLAY	
JOB NO. J4S3147	
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.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PAVEMENT QUANTITIES – EASTBOUND											
LOG MILE	LOG MILE	LOCATION	LENGTH FT	LANE WIDTH FT	INSIDE SHOULDER WIDTH FT	OUTSIDE SHOULDER WIDTH FT	MAINLINE AREA SF	SHOULDER AREA SF	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
9.636	9.639	MO 152 EB	15.84	24	4.0	10.0	380.16	221.76	67	53	
9.639	9.673	MO 152 EB	179.52	24	4.0	10.0	4308.48	2513.28	758	598	
9.673	9.762	MO 152 EB	469.92	36	4.0	10.0	16917.12	6578.88	2611	2193	
9.762	9.785	MO 152 EB	121.44	24	4.0	10.0	2914.56	1700.16	513	405	
9.785	10.148	MO 152 EB	1916.64	24	4.0	10.0	45999.36	26832.96	8092	6389	
10.148	10.280	MO 152 EB	696.96	VARIES (36-24)	4.0	10.0	26006.30	9757.44	3974	3354	
10.280	10.303	MO 152 EB	121.44	VARIES (29-24)	4.0	10.0	2301.13	1700.16	445	337	
10.303	10.551	MO 152 EB	1309.44	24	4.0	10.0	31426.56	18332.16	5529	4365	
10.551	10.608	MO 152 EB	300.96	VARIES (36-24)	4.0	10.0	8625.77	4213.44	1427	1159	
10.608	10.695	MO 152 EB	459.36	36	4.0	10.0	16536.96	6431.04	2552	2144	
10.695	10.765	MO 152 EB	369.60	24	4.0	10.0	8870.40	5174.40	1561	1232	
10.765	10.912	MO 152 EB	776.16	24	4.0	10.0	18627.84	10866.24	3277	2587	DOES NOT INCLUDE BRIDGE A3846
10.968	11.158	MO 152 EB	1003.20	24	4.0	10.0	24076.80	14044.80	4236	3344	DOES NOT INCLUDE BRIDGE A3846
11.158	11.180	MO 152 EB	116.16	36	4.0	10.0	4181.76	1626.24	645	542	
11.180	11.291	MO 152 EB	586.08	VARIES (36-24)	4.0	10.0	18391.22	8205.12	2955	2434	
11.291	11.320	MO 152 EB	153.12	VARIES (36-24)	4.0	10.0	6708.05	2143.68	984	847	
11.320	11.930	MO 152 EB	3220.80	24	4.0	10.0	77299.2	45091.20	13599	10736	
EASTBOUND SUBTOTAL									53,225	42,719	

PAVEMENT QUANTITIES – WESTBOUND											
LOG MILE	LOG MILE	LOCATION	LENGTH FT	LANE WIDTH FT	INSIDE SHOULDER WIDTH FT	OUTSIDE SHOULDER WIDTH FT	MAINLINE AREA SF	SHOULDER AREA SF	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
9.639	9.673	MO 152 EB	179.52	24	4.0	10.0	4308.48	2513.28	758	598	
9.673	9.762	MO 152 EB	469.92	36	4.0	10.0	16917.12	6578.88	2611	2193	
9.762	9.785	MO 152 EB	121.44	36	4.0	10.0	4371.84	1700.16	675	567	
9.785	10.148	MO 152 EB	1916.64	24	4.0	10.0	45999.36	26832.96	8092	6389	
10.148	10.280	MO 152 EB	696.96	VARIES (36-24)	4.0	10.0	25350.51	9757.44	3901	3281	
10.280	10.303	MO 152 EB	121.44	24	4.0	10.0	2914.56	1700.16	513	405	
10.303	10.551	MO 152 EB	1309.44	24	4.0	10.0	31426.56	18332.16	5529	4365	
10.551	10.608	MO 152 EB	300.96	24	4.0	10.0	7223.04	4213.44	1271	1003	
10.608	10.695	MO 152 EB	459.36	VARIES (36-24)	4.0	10.0	15003.89	6431.04	2382	1973	
10.695	10.765	MO 152 EB	369.60	36	4.0	10.0	13305.60	5174.40	2053	1725	
10.765	10.912	MO 152 EB	776.16	24	4.0	10.0	18627.84	10866.24	3277	2587	DOES NOT INCLUDE BRIDGE A3845
10.968	11.158	MO 152 EB	1003.20	24	4.0	10.0	24076.80	14044.80	4236	3344	DOES NOT INCLUDE BRIDGE A3845
11.158	11.180	MO 152 EB	116.16	24	4.0	10.0	2787.84	1626.24	490	387	
11.180	11.291	MO 152 EB	586.08	VARIES (36-12)	4.0	10.0	16914.10	8205.12	2791	2270	
11.291	11.320	MO 152 EB	153.12	24	4.0	10.0	3674.88	2143.68	647	510	
11.320	11.930	MO 152 EB	3220.80	24	4.0	10.0	77299.20	45091.20	13599	10736	
WESTBOUND SUBTOTAL									52,825	42,333	
EASTBOUND SUBTOTAL									53,225	42,719	
TOTAL									106,050	85,052	

SUMMARY SHEET
SHEET 1 OF 5

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/14/2016

ROUTE 152 | STATE MO

DISTRICT KC | SHEET NO. 3

COUNTY CLAY

JOB NO. J4S3147

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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PAVEMENT QUANTITIES – RAMPS												
TRAVELWAY ID	LOG MILE	LOG MILE	LOCATION	LENGTH FT	LANE WIDTH FT	INSIDE SHOULDER WIDTH FT	OUTSIDE SHOULDER WIDTH FT	MAINLINE AREA SF	SHOULDER AREA SF	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
970790.000	0.000	0.29	MAPLEWOODS OFF RAMP – EB	1531.00	18.0	4.0	8.0	27558.00	18372.00	5103	4083	
970791.000	0.015	0.181	MAPLEWOODS ON RAMP – EB	956.00	18.0	4.0	8.0	17208.00	11472.00	3187	2549	
904620.000	0.000	0.276	MAPLEWOODS OFF RAMP – WB	1460.00	18.0	4.0	8.0	26280.00	17520.00	4867	3893	
904619.000	0.017	0.164	MAPLEWOODS ON RAMP – WB	776.00	18.0	4.0	8.0	13968.00	9312.00	2587	2069	
277198.000	0.000	0.212	N OAK TRAFFICWAY OFF RAMP – EB	1119.00	VARIES (18-24)	4.0	8.0	30213.00	13428.00	4849	4103	
277199.000	0.013	0.237	N OAK TRAFFICWAY ON RAMP – EB	1040.00	18.0	4.0	8.0	18720.00	12480.00	3467	2773	
277200.000	0.000	0.212	N OAK TRAFFICWAY OFF RAMP – WB	1119.00	VARIES (18-24)	4.0	8.0	30213.00	13428.00	4849	4103	
277201.000	0.000	0.207	N OAK TRAFFICWAY ON RAMP – WB	1093.00	VARIES (18-24)	4.0	8.0	22953.00	13116.00	4008	3279	
RAMP SUBTOTAL										32,917	26,852	

PAVEMENT QUANTITIES –TOTAL			
LOCATION	0.75" TYPE C UBAWS SY	0.75" COLDMILLING SY	REMARKS
MO-152 MAINLINE	106,050	85,052	
RAMPS	32,917	26,852	
PAY TOTALS	138,967	111,904	

CONCRETE SIDEWALK						
LOCATION	7" SIDEWALK SY	TYPE 5 AGGREGATE (4") SY	LINEAR GRADING FOR SIDEWALKS STA	ADA RAMP EACH	TRUNCATED DOMES SF	REMARKS
MAPLEWOODS	44.1	4	0.7	3	48	NORTH INTERSECTION
MAPLEWOODS	20.0		0.2	2		SOUTH INTERSECTION
PAY TOTAL	64.1	4	0.9	5.00	48	

PAVEMENT REPAIR												
					FULL DEPTH PAVEMENT REPAIR					PARTIAL DEPTH REPAIR		
LOG MILE	LOCATION	LANE	WIDTH FT	LENGTH FT	FURN /PLACE CONCRETE MATERIAL SY	6" SUBGRADE COMPACTION SY	TYPE 1 OR 5 AGGR. (4") SY	SAW CUT LF	DOWEL BAR EACH	REMOVAL FOR CLASS B REPAIR SY	PARTIAL DEPTH PAVEMENT REPAIR TON	REMARKS
1.435	MO-152 MAINLINE EB	BOTH	6.0	24.0	16.0	2	2	54	40			FULL DEPTH – PAVEMENT IS UNEVEN UNDER UBAWS OVERLAY
1.451	MO-152 MAINLINE EB	BOTH	2.0	24.0						5.3	0.9	PARTIAL DEPTH REPAIR
2.149	MO-152 MAINLINE EB	RT	2	20						4.4	0.7	PARTIAL DEPTH REPAIR IN RT LANE
2.395	MO-152 MAINLINE EB	RT	2	5						1.1	0.2	PARTIAL DEPTH REPAIR IN RT LANE
2.397	MO-152 MAINLINE EB	RT	2	12						2.7	0.4	PARTIAL DEPTH REPAIR IN RT LANE
2.399	MO-152 MAINLINE EB	RT	2	5						1.1	0.2	PARTIAL DEPTH REPAIR IN RT LANE
PAY TOTAL					16.0	2	2	54	40	14.6	2.4	

BITUMINOUS SHOULDER REPAIR						
LOG MILE✳	LOG MILE✳	DIRECTION	LANE	AREA SY	CLASS B PARTIAL DEPTH REPAIR TONS	REMARKS
1.498	1.565	EB	RT	33.3	1.9	RIGHT SHOULDER IN NEED OF REPAIRS FORM 1.498 TO 1.565
1.593		EB	RT	2.7	0.2	SHOULDER REPAIR – N. OAK RAMP TO EB 152 SHOULDER
1.745	1.905	EB	RT	33.3	1.9	SHOULDER REPAIR – 10' WIDE 1.745 TO 1.905 NEEDS VARIOUS PATCHING
2.75		EB	RT	4.4	0.2	SHOULDER REPAIR ALONG THE LONGITUDINAL JOINT
4.657		WB	RT	16.7	0.9	SHOULDER DROPS DOWN – NO DAMAGE TO MAINLINE FOUND
4.724		WB	RT	3.3	0.2	SHOULDER PATCH NEEDED – ROUTE 1 TO WB 152 ON-RAMP SHOULDER
4.782	4.791	WB	RT	22.2	1.2	SHOULER REPAIR NEEDED – LOG 4.782 TO 4.791
4.791	6.021	WB	RT	33.3	1.9	SHOULDER NEEDS VARIOUS PATCHING – 4.791 TO 6.021
PAY TOTAL				149.2	8.4	

✳ WB LOG MILES USED

✳✳SHOULDER REPAIR CONSISTED OF SEVERAL 2 X 2 (AVG.) PATCHES WITHIN THE LOG MILES LISTED ABOVE. BIG PATCHES SEPARATE

SUMMARY SHEET
SHEET 2 OF 5

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/14/2016

ROUTE 152 | STATE MO

DISTRICT KC | SHEET NO. 3

COUNTY CLAY

JOB NO. J4S3147

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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

FULL DEPTH SHOULDER REPAIR									
LOG MILE*	DIRECTION	LANE	AREA SY	LINEAR GRADING CLASS 1 STA.	COMPACTING IN CUT STA.	4" TYPE 5 AGGREGATE BASE SY	BIT BASE TONS	TACK*** GAL	REMARKS
5.021	WB	RT	6.67	0.1	0.1	60	2.1	5	NEEDS FULL DEPTH SHOULDER REPAIR
5.031	WB	RT	16.67	0.1	0.1	150	5.3	12	NEEDS FULL DEPTH SHOULDER REPAIR
PAY TOTAL				0.2	0.2	210	7.4	20	

*WB LOG MILES USED
**SHOULDER REPAIR CONSISTED OF SEVERAL 2 X 2 (AVG.) PATCHES WITHIN THE LOG MILES LISTED ABOVE. BIG PATCHES SEPARATE
*** TACK ESTIMATE FACTOR = 0.8 GAL/S.Y.

RUMBLE STRIPS		
LOCATION	LENGTH STA	REMARKS
MO-152 MAINLINE - EB	208.7	
MO 152 MAINLINE - WB	209.7	
PAY TOTAL	418.4	

MOBILIZATION
1 LUMP SUM

GUARDRAIL					
LOG MILE	LOCATION	MGS END TERMINALS EA	MGS HEIGHT TRANSITION EA	SHAPING SLOPES CLASS 3 100FT	REMARKS
9.698	MEDIAN TRUSS PROTECTION (COMBINED) - LT	1	1	0.6	EB
9.733	MEDIAN TRUSS PROTECTION - RT	1	1	0.6	EB
9.957	N OAK TRAFFICWAY BR PROTECTION - LT	1	1	0.6	EB
10.175	MEDIAN TRUSS PROTECTION - LT	1	1	0.6	EB
10.924	MAPLEWOODS PKWY - RT	1	1	0.6	EB
10.924	MAPLEWOODS PKWY - LT	1	1	0.6	EB
7.156	MEDIAN TRUSS PROTECTION (COMBINED) - LT	1	1	0.6	WB
6.679	MEDIAN TRUSS PROTECTION - RT	1	1	0.6	WB
5.93	MAPLEWOODS PKWY - RT	1	1	0.6	WB
5.93	MAPLEWOODS PKWY - LT	1	1	0.6	WB
5.063	NE BARRY RD BR PROTECTION - LT	1	1	0.6	WB
PAY TOTAL		11	11	7	

REMOVAL OF IMPROVEMENTS				
LOCATION	LT/RT	DESCRIPTION	UNITS	QUANTITY
VARIOUS LOCATIONS	LT/RT	TYPE A END TERMINALS	EACH	11.0
VARIOUS LOCATIONS	LT/RT	TYPE A GUARDRAIL	LF	275
VARIOUS LOCATIONS	LT/RT	CONCRETE PAVEMENT	SY	16
MAPLEWOODS	LT/RT	CURB RAMPS	EACH	5
MAPLEWOODS	LT/RT	SAW CUTS	LF	91
MAPLEWOODS	RT	CONCRETE SIDEWALK	SY	35.8
PAY TOTAL				1 LUMP SUM

EROSION CONTROL					
LOCATION	SILT FENCE LF	CURB INLET CHECK EACH	SEDIMENT REMOVAL CY	COOL SEASON MIXTURES ACRE	REMARKS CY
MAPLEWOODS NORTH	117	2	3	0.1	
MAPLEWOODS SOUTH	43	1	2	0.1	
PAY TOTAL	160	3	5	0.2	

TEMPORARY SEEDING AND MULCHING		
LOCATION	TEMPORARY SEEDING/MULCHING ACRE	REMARKS
MAPLEWOODS	0.1	
PAY TOTAL	0.1	

SUMMARY SHEET
SHEET 3 OF 5

STATE OF MISSOURI
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ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 3
COUNTY CLAY
JOB NO. J4S3147
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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)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

TYPE 1 AGGREGATE FOR SHOULDER DROP OFF					
LENGTH FT	WIDTH FT	DEPTH FT	VOLUME CUYD	AGGR. FOR SHOULDER DROP OFF (TYPE 1 AGG.)✳ TON	LOCATION/DESCRIPTION
300	3	0.5	17	23.3	MAPLEWOODS PKWY NE RAMP
150	4	0.5	11	15.6	MAPLEWOODS PKWY NW RAMP
250	4	0.5	19	25.9	MAPLEWOODS PKWY SE RAMP
150	4	0.5	11	15.6	NORTH OAK NE RAMP
200	4	0.5	15	20.7	NORTH OAK NW RAMP
350	4	0.5	26	36.3	NORTH OAK SE RAMP
PAY TOTAL				137.4	

✳ AGGREGATE FOR SHOULDER DROP OFF ESTIMATE FACTOR = 1.4 TON/CY

PAVEMENT MARKING															
				WATERBORNE PAVEMENT MARKING PAINT						PREFORMED THERMOPLASTIC PAVEMENT MARKING					
LOG MILE	LOG MILE	LOCATION	LENGTH LF	6″ WHITE SOLID LF	6″ WHITE INTER. LF	6″ WHITE WIDE DOTTED LF	6″ WHITE DOTTED LF	6″ YELLOW SOLID LF	12″ WHITE SOLID LF	24″ WHITE STOP BARS LF	LEFT/ RIGHT ARROWS EACH	6″ WHITE CROSSWALK LF	30″ WHITE MIDBLOCK EACH	PAVEMENT MARKING REMOVAL LF	REMARKS
9.636	10.912	MO 152	6737.28	13015	3207	311	433	13554							
10.968	11.948	MO 152	5174.4	10233	2585		175	10407							
0.000	0.212	MO 152	1100	1255				1100	390	14	9	119			N OAK TRAFFICWAY OFF RAMP - EB
0.013	0.210	MO 152	1000	1155				1000	295			83		23	N OAK TRAFFICWAY ON RAMP - EB
0.000	0.212	MO 152	980	1135				980	360	14	9	111		70	N OAK TRAFFICWAY OFF RAMP - WB
0.000	0.207	MO 152	940	1095				940	375			126		66	N OAK TRAFFICWAY ON RAMP - WB
0.000	0.29	MO 152	1480	1911				1313	430	38		117	1		MAPLEWOODS OFF RAMP - EB
0.000	0.181	MO 152	960	1252				779	430			45			MAPLEWOODS ON RAMP - EB
0.000	0.307	MO 152	1440	1765				1351	340	22		95	2		MAPLEWOODS OFF RAMP - WB
0.022	0.164	MO 152	840	994				631	340			149	1		MAPLEWOODS ON RAMP - WB
0.621		MAPLEWOODS PKWY											1	174	MAPLEWOODS PKWY N INTERSECTION
0.739		MAPLEWOODS PKWY											1	94	MAPLEWOODS PKWY S INTERSECTION
TOTAL				33810	5792	311	608	32055	2960	88	18	845	6	427	
PAY TOTAL				40.521				32.055	2.960	88	18	845	6	427	

SUMMARY SHEET
SHEET 4 OF 5

STATE OF MISSOURI
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DATE PREPARED 10/14/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY CLAY

JOB NO. J4S3147

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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EFFECTIVE: 06-08-2016

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	1	16			REVERSE CURVE (SYMBOL LEFT ARROW)
W01-4R	48X48	16.00					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					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	1	16			YIELD AHEAD (SYMBOL)
W03-3	48X48	16.00					SIGNAL AHEAD (SYMBOL)
W03-4	48X48	16.00					BE PREPARED TO STOP
W03-5	48X48	16.00					SPEED LIMIT AHEAD
W04-1L	48X48	16.00					MERGE (SYMBOL FROM LEFT)
W04-1aL	48X48	16.00	2	32			MERGE (LEFT ARROW AT LANE DROP)
W04-1R	48X48	16.00					MERGE (SYMBOL FROM RIGHT)
W04-1aR	48X48	16.00	2	32			MERGE (RIGHT ARROW AT LANE DROP)
W05-1	48X48	16.00	4	64			ROAD/BRIDGE/RAMP NARROWS
W05-3	48X48	16.00					ONE LANE BRIDGE
W05-5	48X48	16.00	2	32			NARROW LANES
W06-1	48X48	16.00					DIVIDED HIGHWAY (SYMBOL)
W06-2	48X48	16.00					DIVIDED HIGHWAY END (SYMBOL)
W06-3	48X48	16.00					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	18	288			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	18	288			SHOULDER DROP-OFF (SYMBOL)
W08-17p	30X24	5.00	18	90			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	4	25			ADVISORY SPEED (PLAQUE)
W016-2	30X24	5.00					XXX FEET (PLAQUE)
W016-3	30X24	5.00					X MILE (PLAQUE)
W020-1	48X48	16.00	5	80			ROAD/BRIDGE/RAMP WORK AHEAD
W020-2	48X48	16.00					DETOUR AHEAD
W020-3	48X48	16.00	4	64			ROAD/BRIDGE/RAMP CLOSED AHEAD
W020-4	48X48	16.00					ONE LANE ROAD AHEAD
W020-5	48X48	16.00	3	48			RIGHT/CENTER/LEFT LANE CLOSED AHEAD
W020-5a	48X48	16.00	2	32			2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
W020-6a	48X48	16.00	4	64			RIGHT/CENTER/LEFT LANE CLOSED
W020-7a	48X48	16.00					FLAGGER (SYMBOL) WITH FLAGS
W021-2	36X36	9.00					FRESH OIL
W021-5	48X48	16.00	2	32			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	4	8.76			WET PAINT (ARROW PIVOTS)
GUIDE SIGNS							
SPECIAL	36X36	9.00					FRESH OIL/LOOSE GRAVEL
E05-1	36X48	12.00	1	12			GORE EXIT
E05-2	48X36	12.00					EXIT OPEN
E05-2a	48X36	12.00					EXIT CLOSED
G020-1	60X24	10.00					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	2	12			WORK ZONE (PLAQUE)
M04-8a	24X18	3.00					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	1	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	8	96			SPEED LIMIT 2-65, 2-55, 2-45, 2-35
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	2	12.5			LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25	2	12.5			RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00					DO NOT PASS
R4-2	36X48	12.00					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					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					STOP HERE ON RED (45° ARROW)
R11-2	48X30	10.00	4	40			ROAD/BRIDGE/RAMP CLOSED
R11-3a	60X30	12.50					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50					ROAD CLOSED TO THRU TRAFFIC
S4-4	36X15	3.75					WHEN FLASHING
R-10	24X12	2.00	3	6			SIDEWALK CLOSED (ARROW) USE OTHER SIDE
R9-9	24X12	2.00	6	12			SIDEWALK CLOSED
MISCELLANEOUS SIGNS							
SPECIAL	36X48	12.00					POINT OF PRESENCE
SPECIAL	96X48	32.00	2	64			POINT OF PRESENCE
CONST-7-48	48X24	8.00					RATE OUR WORK ZONE
CONST-7-72	72X36	18.00	2	36			RATE OUR WORK ZONE
616-10.05 CONSTRUCTION SIGNS TOTAL				1522			
616-10.10 RELOCATED SIGNS TOTAL							

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		IMPACT ATTENUATOR (19 SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A	2	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY
6161008	5	ADVANCED WARNING RAIL SYSTEM
6161009	5	FLAG ASSEMBLY
6161020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONES)
6161024		CHANNELIZER (TRIM LINE) WITH LIGHT
6161025	278	CHANNELIZER (TRIM LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161027		CHANNELIZER (VERTICAL PANEL) WITH LIGHT
6161028		CHANNELIZER
6161030		TYPE III MOVEABLE BARRICADE
6161031	20	TYPE III MOVEABLE BARRICADE WITH LIGHT
6161033	28	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	28	SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A		CHANGEABLE MESSAGE SIGN WITHOUT COMMUNICATION INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099	2	CHANGEABLE MESSAGE SIGN WITH COMMUNICATION INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6173600D		CONTRACTOR FURNISHED/RETAINED TEMPORARY TRAFFIC BARRIER
6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED TEMPORARY TRAFFIC BARRIER
6174000A		TEMPORARY TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		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
6169902	5	ADA COMPLIANT MOVEABLE BARRICADE

SUMMARY SHEET
SHEET 5 OF 5

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JUAN YIN
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DATE PREPARED 10/14/2016
ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 3
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JOB NO. J4S3147
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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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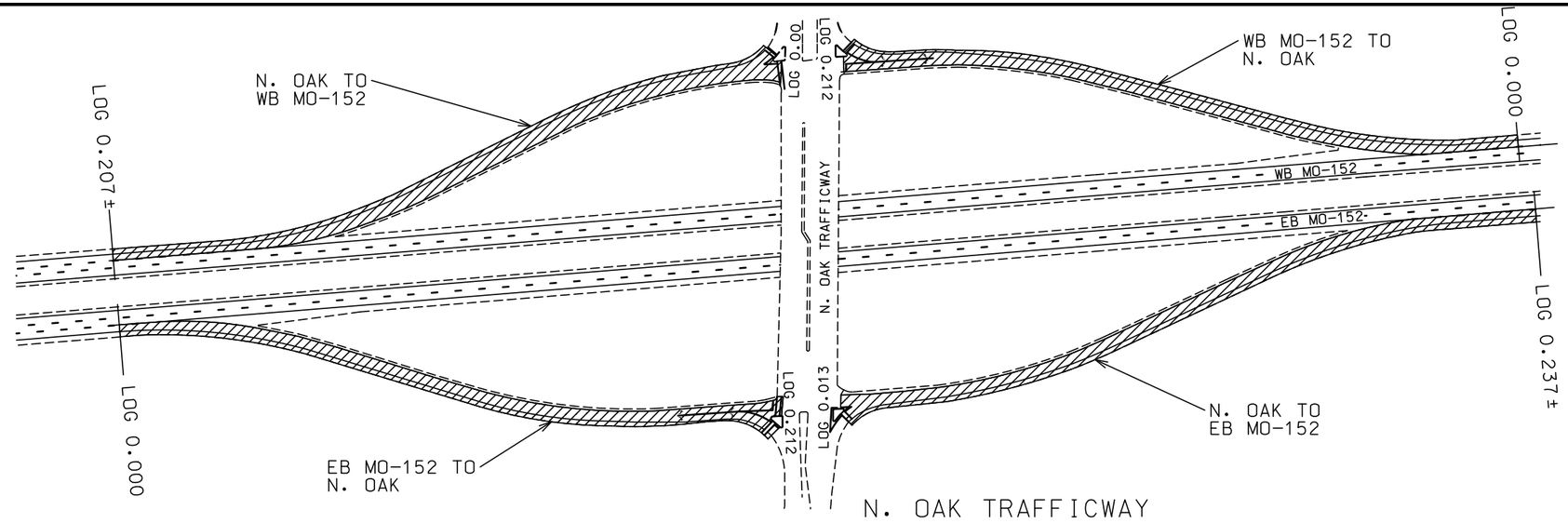
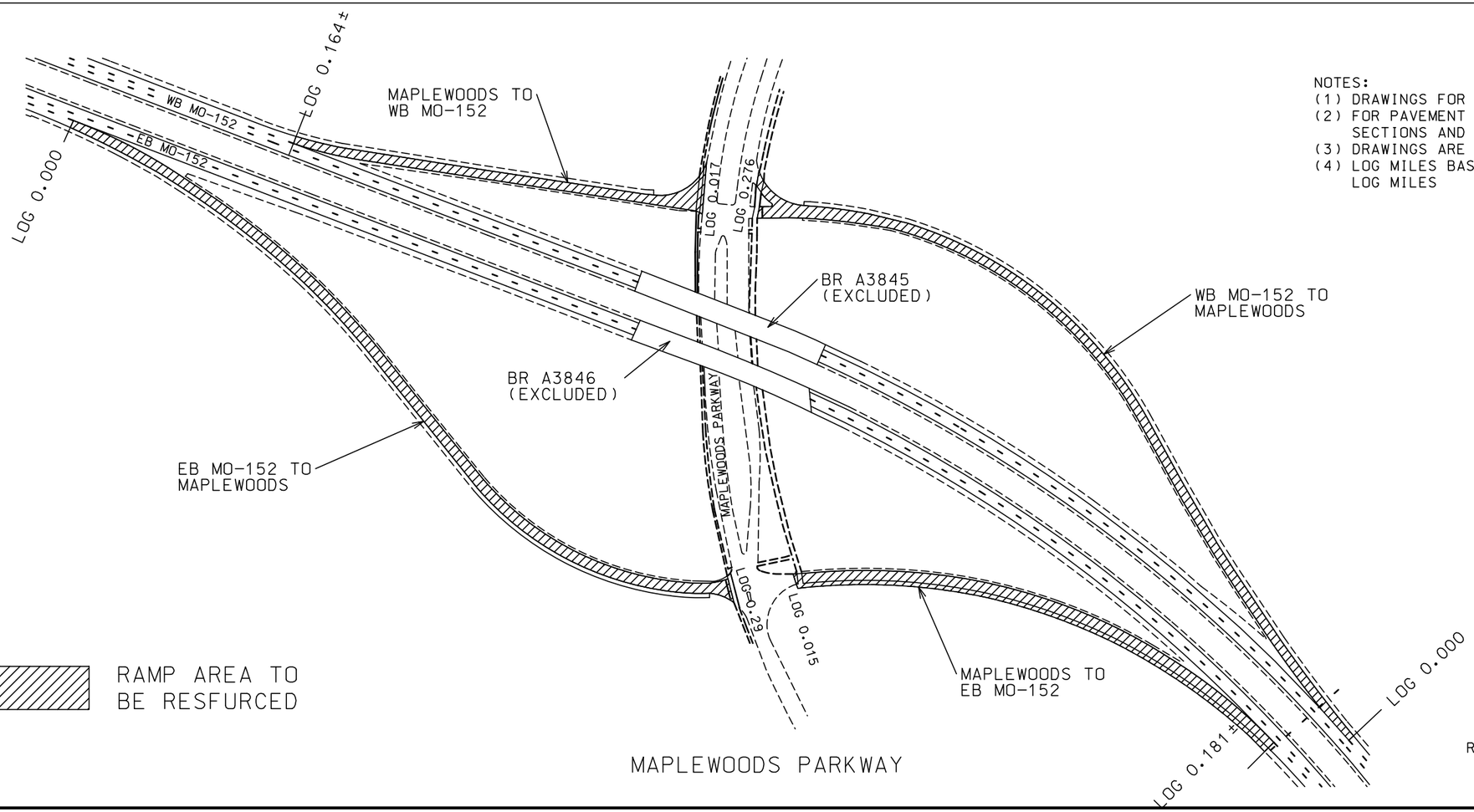


N. OAK TRAFFICWAY



RAMP AREA TO
BE RESFURCED

MAPLEWOODS PARKWAY

NOTES:
(1) DRAWINGS FOR INFORMATION ONLY
(2) FOR PAVEMENT DESIGN SEE TYPICAL SECTIONS AND SUMMARY OF QUANTITIES
(3) DRAWINGS ARE NOT TO SCALE
(4) LOG MILES BASED ON RESPECTIVE RAMP LOG MILES

SPECIAL SHEET
RAMP RESURFACING LIMITS
SHEET 1 OF 1

STATE OF MISSOURI
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DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	4
COUNTY	
CLAY	
JOB NO.	
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REMOVE EXIST. CURB RAMP
BUILD TYPE 2 PERPENDICULAR
CURB RAMP W/ TRUNCATED DOMES

PREFORMED THERMOPLASTIC
PAVEMENT MARKING
30″ MIDBLOCK
30″ SPACING

MAPLEWOODS TO MO 152 WB

REMOVE EXIST. CURB RAMP
BUILD TYPE 3 PERPENDICULAR
CURB RAMP AND LANDING
W/ TRUNCATED DOMES

SEE DETAIL A

REMOVE EXIST. CURB RAMP
BUILD TYPE 2 PERPENDICULAR
CURB RAMP AND LANDING
W/ TRUNCATED DOMES

PREFORMED THERMOPLASTIC
PAVEMENT MARKING
30″ MIDBLOCK
30″ SPACING

REMOVE EXISTING SIDEWALK – 35.8 S.Y.
BUILD 7″ SIDEWALK W/
4″ AGG. BASE – 35.8 S.Y.

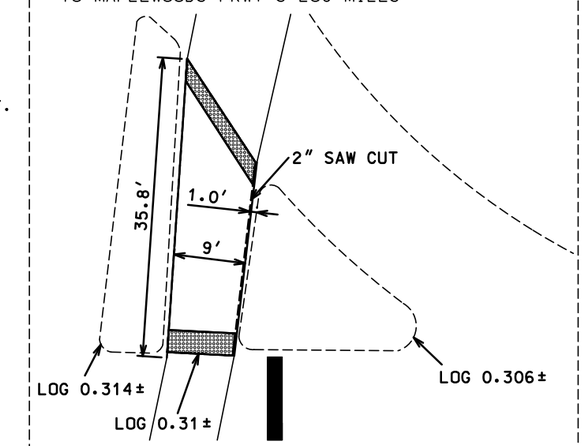
MO 152 WB TO MAPLEWOODS

MATCH EXISTING
CURB RAMP HEIGHT

PREFORMED THERMOPLASTIC
PAVEMENT MARKING
30″ MIDBLOCK
30″ SPACING

NOTE:
LOG MILES BASED ON RAMP MO152W
TO MAPLEWOODS PKWY S LOG MILES

NOT TO SCALE



DETAIL A

MO 152 WB

MO 152 EB

MAPLEWOODS PKWY

MO 152 EB TO MAPLEWOODS

PREFORMED THERMOPLASTIC
PAVEMENT MARKING
30″ MIDBLOCK
30″ SPACING

REMOVE EXIST. CURB RAMP
BUILD TYPE 4 PERPENDICULAR
CURB RAMP AND LANDING
W/ TRUNCATED DOMES

MAPLEWOODS TO MO 152 EB

PREFORMED THERMOPLASTIC
PAVEMENT MARKING
30″ MIDBLOCK
30″ SPACING

REMOVE EXIST. CURB RAMP
BUILD TYPE 2 PERPENDICULAR
CURB RAMP AND LANDING
W/ TRUNCATED DOMES

NOTES:
1. NEW CURB RAMP LIMITS AS HATCHED ON THE PLANS ARE APPROXIMATE ONLY
2. LANDINGS SHALL BE CONSTRUCTED AT EVERY LOCATION WHERE A TURNING MOVEMENT IS NEEDED. LANDINGS SHALL BE 5′ MIN. BY 5′ MIN.
3. SEE SHEET 6 FOR CURB RAMP DETAILS
4. NO DIRECT PAY FOR SAW CUTS

SCALE
0 50 100 150

SPECIAL SHEET
SIDEWALK DETAIL – MAPLEWOODS
SHEET 1 OF 2

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

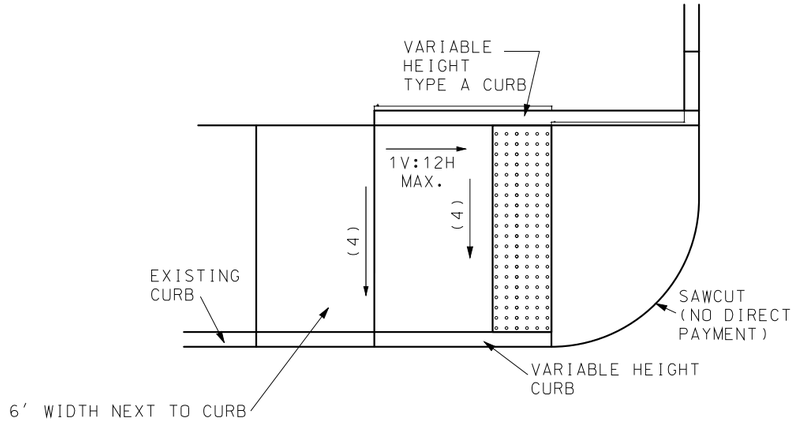
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
10/13/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 5
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

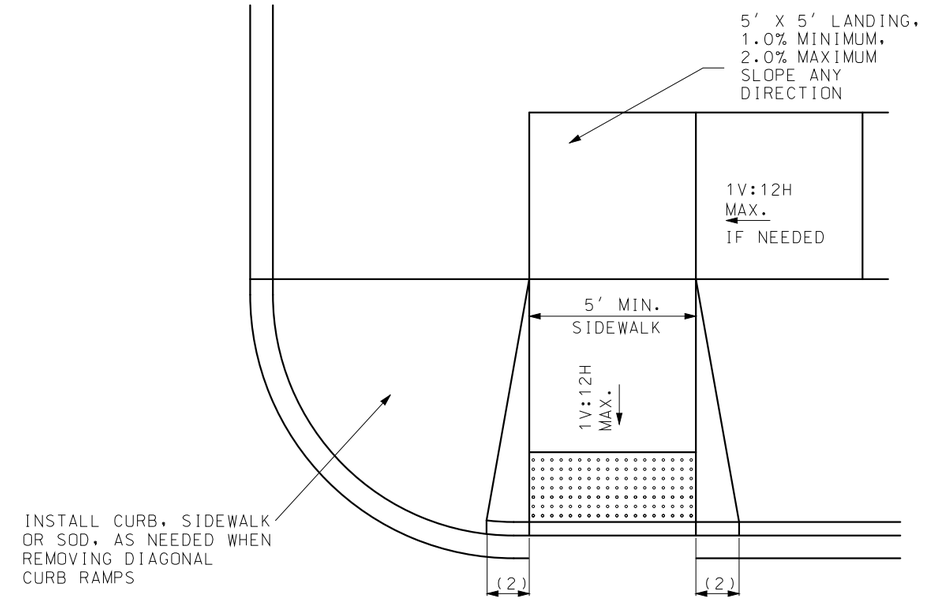
DATE	DESCRIPTION

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

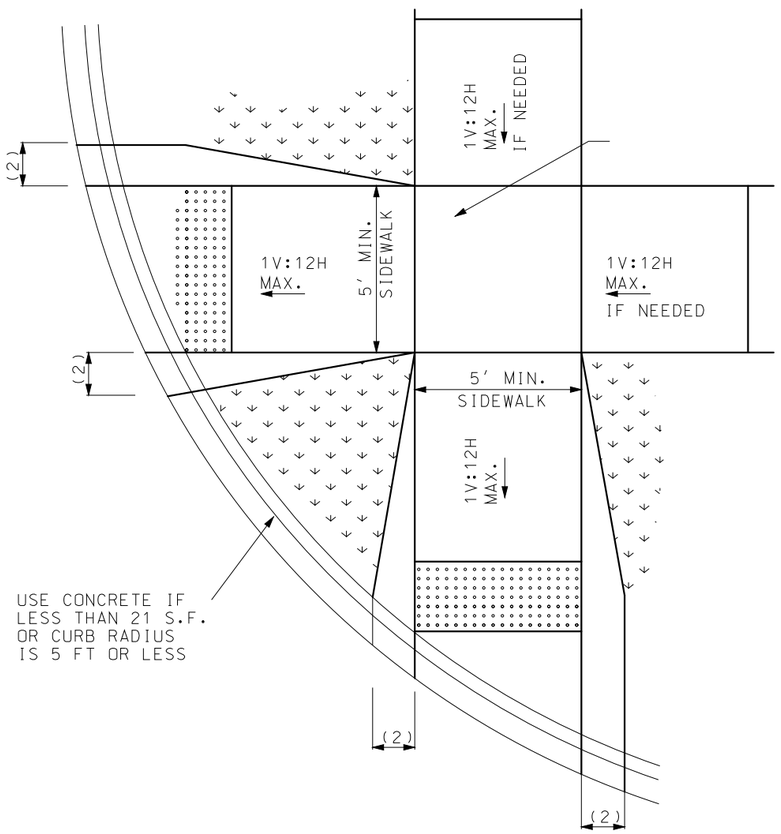
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



TYPE 1 PERPENDICULAR

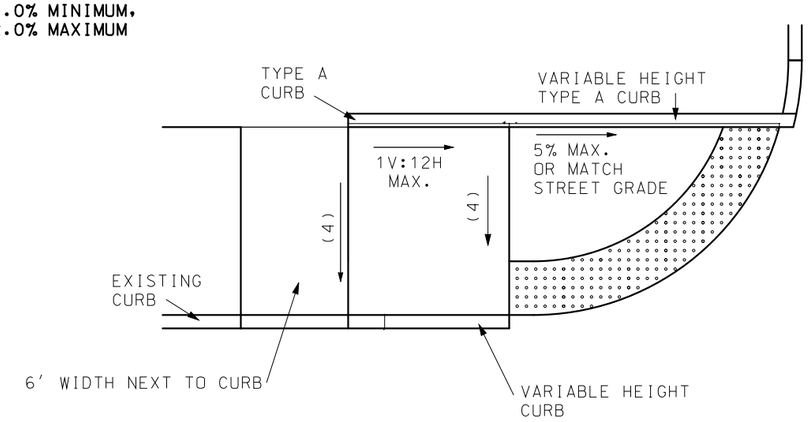


TYPE 3 PERPENDICULAR



TYPE 4 PERPENDICULAR

GENERAL NOTES:
(1) HEIGHT VARIES MEET EXISTING GROUND
(2) 1' FOR ≤6" CURB, 1.5' FOR 8" CURB.
(3) ENSURE THAT THE INSIDE EDGE OF CURVED RAMPS MAINTAINS AN 8.3% (1V:12H) MAXIMUM SLOPE.
(4) 1.0% MINIMUM, 2.0% MAXIMUM



TYPE 2 PERPENDICULAR

SPECIAL SHEET
TYPICAL CURB RAMPS
SHEET 2 OF 2

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 6
COUNTY CLAY	
JOB NO. J4S3147	
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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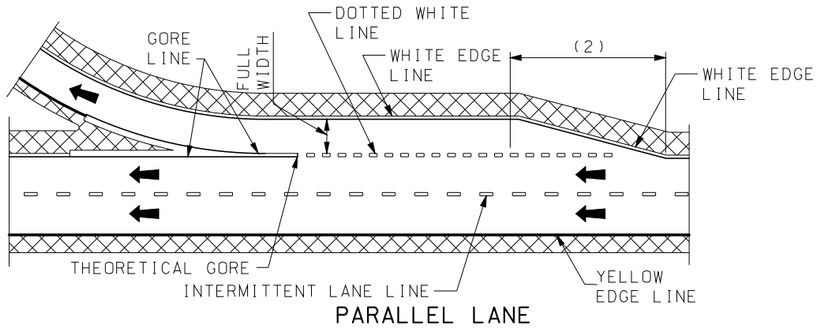
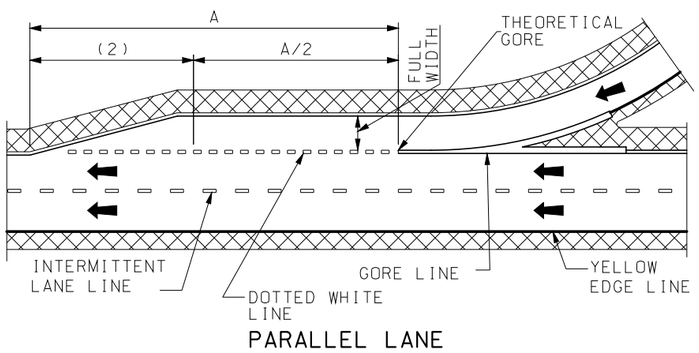


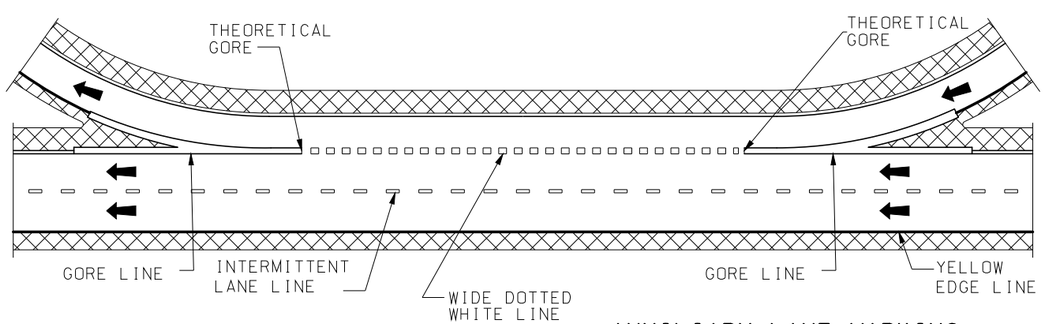
EXIT RAMP MARKING

(2) DOTTED WHITE LINE OPTIONAL LOCATED WITHIN TAPER AREA.

A = LENGTH OF ACCERLERATION LANE PLUS TAPER.



ENTRANCE RAMP MARKING



AUXILIARY LANE MARKING

GENERAL NOTES:

DOTTED LINES SHALL BE 3 FEET IN LENGTH SEPARATED BY 9 FOOT GAPS.

REFER TO THE STANDARD PLAN 626.00 WHEN INSTALLING PAVEMENT MARKINGS OVER RUMBLE STRIPS.

WIDE LINES ARE TWICE THE WIDTH OF NORMAL LINES.

LANE LINES SHALL BE AN INTERMITTENT OR SOLID WHITE.

INTERMITTENT LINES SHALL BE 10 FEET IN LENGTH SEPARATED BY 30 FOOT GAPS.

EDGELINES SHALL BE CONTINUOUS SOLID WHITE OR YELLOW LINES. RIGHT SIDE EDGELINES SHALL BE SOLID WHITE. MEDIAN OR LEFT SIDE EDGELINES ON DIVIDED HIGHWAYS AND ON THE LEFT SIDE OF RAMPS SHALL BE SOLID YELLOW. EDGELINES SHALL BE CONTINUOUS ACROSS DRIVEWAYS AND MINOR INTERSECTING ROADS.

"NO PASSING" LINES SHALL BE CONTINUOUS SOLID YELLOW.

"NO PASSING" LINES SHALL BE PLACED AS SHOWN IN "LINE DETAIL". "NO PASSING" LINES ON A TWO-LANE, TWO-WAY HIGHWAY WHEN PASSING IS PROHIBITED IN EACH DIRECTION SHALL BE PLACED 4 INCHES APART AND THE INTERMITTENT CENTERLINE SHALL BE OMITTED.

STOP LINES SHALL BE A SOLID WHITE TRANSVERSE LINE 24 INCHES WIDE, LOCATED AT LEAST 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.

CROSSWALK LINES SHALL BE SOLID WHITE TRANSVERSE LINES 6 INCHES WIDE AT LEAST 6 FEET APART. CROSSWALK LINES ON THE INTERSECTION SIDE OF THE CROSSWALK SHALL MEET AT THE CURB.

GORE LINES SHALL BE A SOLID WHITE LINE WITH A WIDTH TWICE THAT OF THE EDGELINE.

ARROWS AND WORD SYMBOLS SHALL BE SOLID WHITE.

SPECIAL SHEET
PAVEMENT MARKING
SHEET 1 OF 1

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
10/3/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 7
COUNTY CLAY	
JOB NO. J4S3147	
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.

Traffic Control Legend, Sign Spacing, Device Spacing, Channelizing Taper Lengths And Recommended Maximum Speed Reductions

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

TAPER LENGTHS AND END TREATEMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (3)			END TREATMENT (4)
	10′	11′	12′	
β40	160′	168′	176′	BARRIER HEIGHT TRANSITION
₵40	160′	168′	176′	APPROVED CRASH CUSHION

TAPER LENGTHS AND SPACING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (L) (3)			MINIMUM SHOULDER TAPER LENGTH (T1) BASED ON 10′ SHOULDER	BUFFER LENGTH FT	MAXIMUM CHANNELIZER SPACING	
	10′	11′	12′			THROUGH TAPER	THROUGH WORK AREA
0-35	205′	225′	245′	70′	280′	35′	40′
40-45	450′	495′	540′	150′	400′	40′	80′
50-55	550′	605′	660′	185′	560′	50′	80′
60-70	700′	770′	840′	235′	840′	60′	120′

** THE SA DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN.

THE SB DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS.

THE SC DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS.

(THE "FIRST SIGN" IS THE SIGN IN A THREE-SIGN SERIES THAT IS CLOSEST TO THE TEMPORARY TRAFFIC CONTROL ZONE. THE "THIRD SIGN" IS THE SIGN THAT IS FURTHEST UPSTREAM FROM THE TEMPORARY TRAFFIC CONTROL ZONE)

DETAILS NOTES:

(1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OF SIGNED CONDITION.

(2) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

(3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER

(4) CONCRETE BARRIER MAY BE INSTALLED AT 8:1 FLARE RATE FROM THE SHOULDER POINT OF THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER

TAPER LENGTH (L)

L = W X P FOR 40 MPH OR MORE

$L = \frac{WP^2}{60}$ FOR 35 MPH OR LESS

L = TAPER LENGTH IN FEET

W = LATERAL SHIFT IN FEET

P = POSTED SPEED PRIOR TO ROAD WORK IN MPH

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- PROTECTIVE VEHICLE WITH WORK SIGN, FLASHING ARROW PANEL AND REAR-MOUNTED IMPACT ATTENUATOR UNIT.
- FLASHING ARROW PANEL
- CHANGEABLE MESSAGE BOARD
- BARRICADE

LEGEND NOTE:

THE PROTECTIVE VEHICLE SIGN SHALL BE MOUNTED AT A RECOMMENDED HEIGHT OF 48 IN. ABOVE THE ROAD SURFACE.

GENERAL NOTES:

1. SEE STANDARD PLAN 616.10 FOR DETAILS AND ITEMS NOT SHOWN.
2. EXISTING SIGNS SHALL BE COVERED DURING WORKING HOURS ONLY IF IN CONFLICT WITH TRAFFIC CONTROL PLANS.
3. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATING, COVERING, UNCOVERING OR REMOVING SIGNS.
4. CONES ALLOWABLE FOR DAYTIME OPERATIONS ONLY.
5. LOCATE FLASHING ARROW PANEL AT BEGINNING OF TAPER WHEN FEASIBLE, ARROW PANELS ARE ALWAYS LOCATED BEHIND CHANNELIZERS OR CONES.

EPG TABLE 616.29 RECOMMENDED MAXIMUM SPEED REDUCTIONS	
ACTIVITY (I.E. WORKERS, EQUIPMENT OR MATERIAL) LOCATION	RECOMMENDED WORK ZONE SPEED REDUCTION (WHEN APPLICABLE)
10 FT. BEYOND EDGE OF TRAVELWAY TO EDGE OF RIGHT OF WAY	NO SPEED REDUCTION
IN TRAFFIC LANE OR WITHIN 10FT. OF THE TRAFFIC LANE	10 MPH
HEAD-TO-HEAD ON MULTILANE	10 MPH
SPECIAL CIRCUMSTANCES WITHIN A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY WARRANT A LOWER SPEED LIMIT THAN RECOMMENDED ABOVE. ALL SPEED LIMIT REDUCTIONS GREATER THAN 10 MPH SHALL BE DOCUMENTED, SUBMITTED TO AND APPROVED BY THE DISTRICT WORK ZONE COORDINATOR.	

TEMPORARY TRAFFIC CONTROL
SHEET 1 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/30/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	8

COUNTY CLAY

JOB NO. J4S3147

CONTRACT ID.

PROJECT NO.

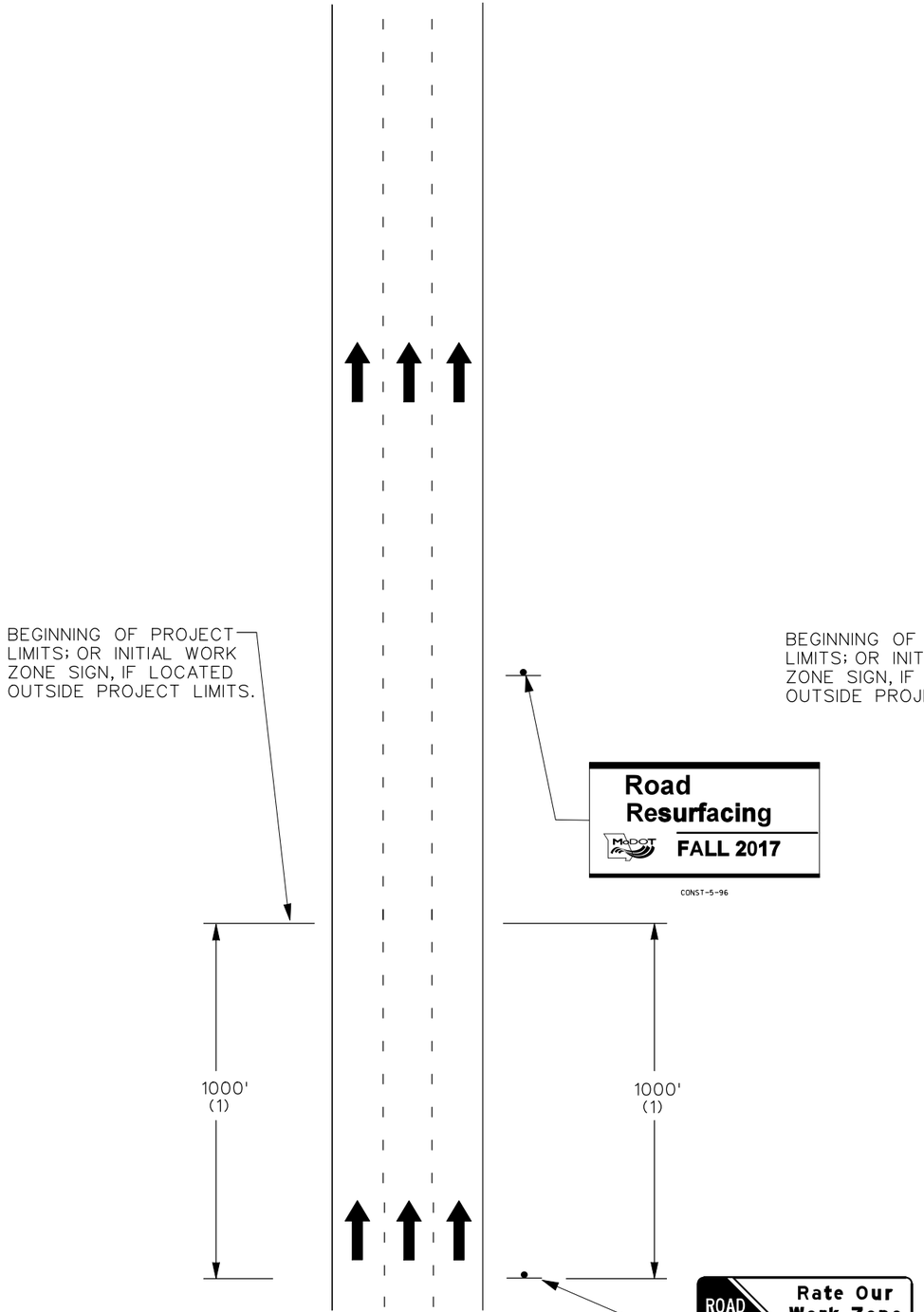
BRIDGE NO.

DATE	DESCRIPTION

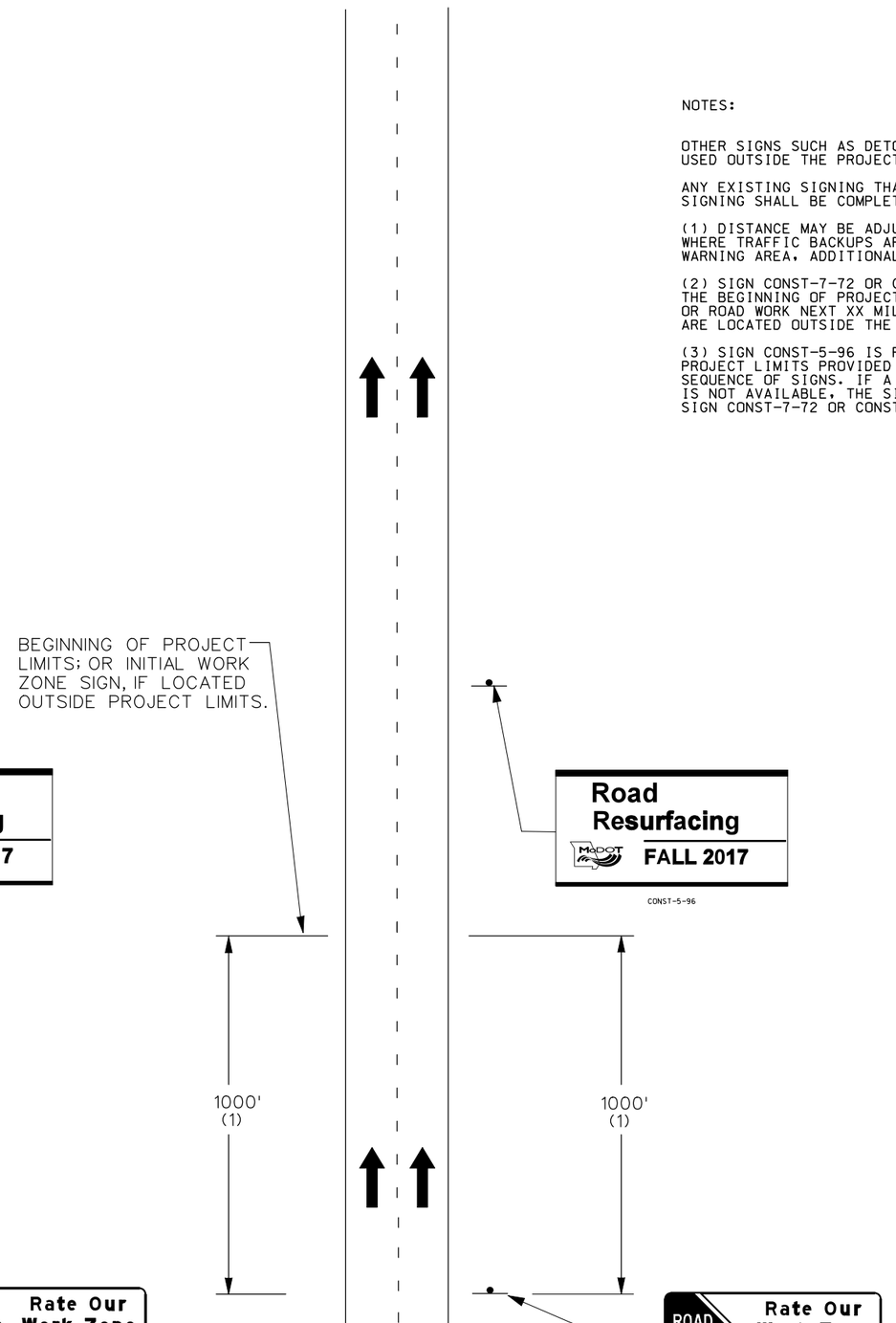
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

REV.



MULTI-LANE DIVIDED
BEGIN/END OF PROJECT SIGNING
(FOR USE ON ALL PROJECTS)



MULTI-LANE DIVIDED
BEGIN/END OF PROJECT SIGNING
(FOR USE ON ALL PROJECTS)

NOTES:

OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.

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

(1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.

(2) SIGN CONST-7-72 OR CONST-7-48 IS PLACED 500 FEET BEFORE THE BEGINNING OF PROJECT LIMITS OR THE ROAD WORK AHEAD SIGN OR ROAD WORK NEXT XX MILES SIGN, IF USED, WHEN THESE SIGNS ARE LOCATED OUTSIDE THE PROJECT LIMITS.

(3) SIGN CONST-5-96 IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATION WITHIN THE PROJECT IS NOT AVAILABLE, THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN CONST-7-72 OR CONST-7-48.

TEMPORARY
TRAFFIC CONTROL
BEGIN/END
SHEET 2 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 9
COUNTY CLAY	
JOB NO. J4S3147	
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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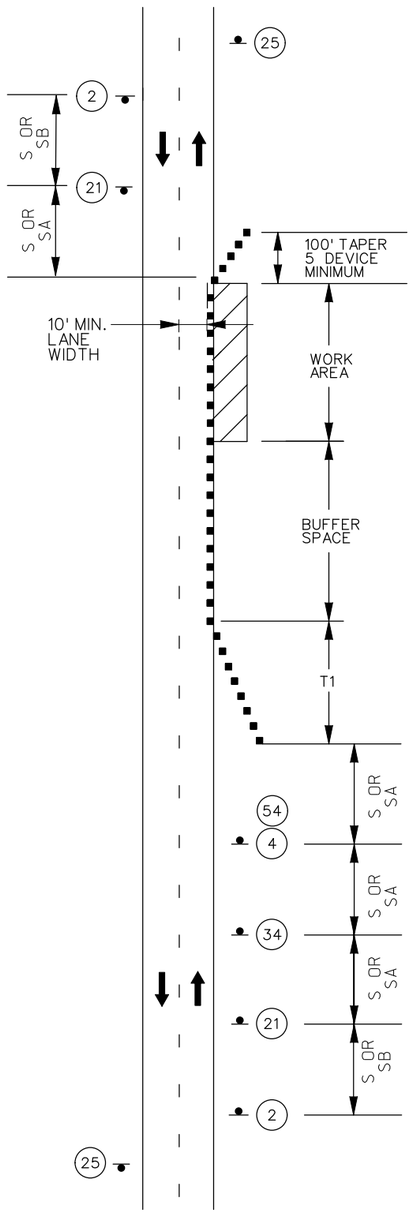
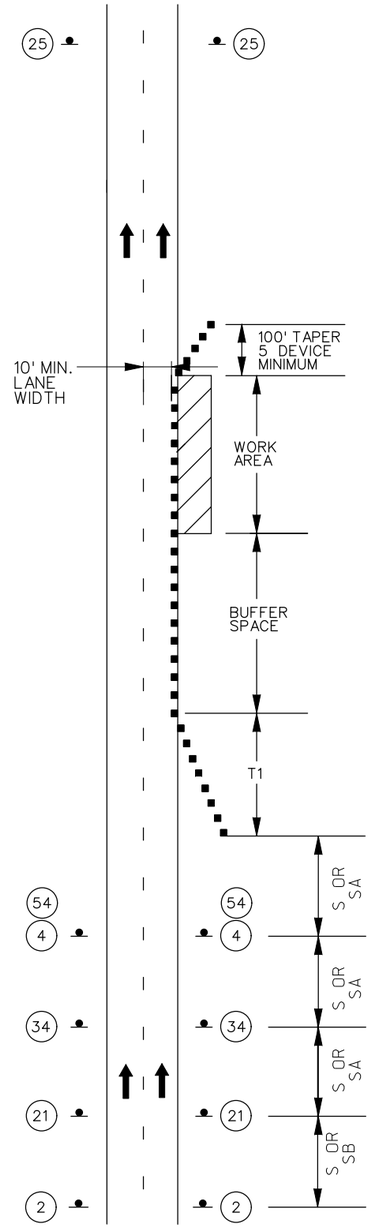
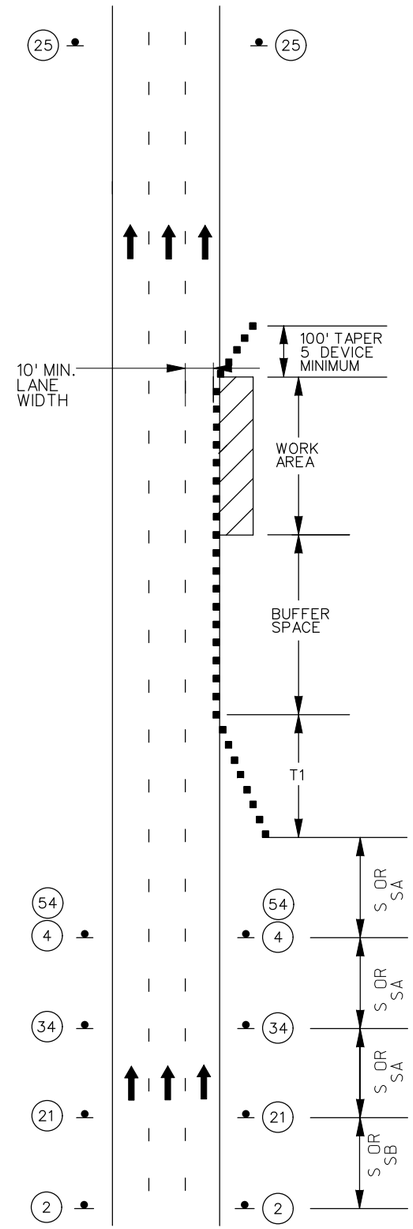


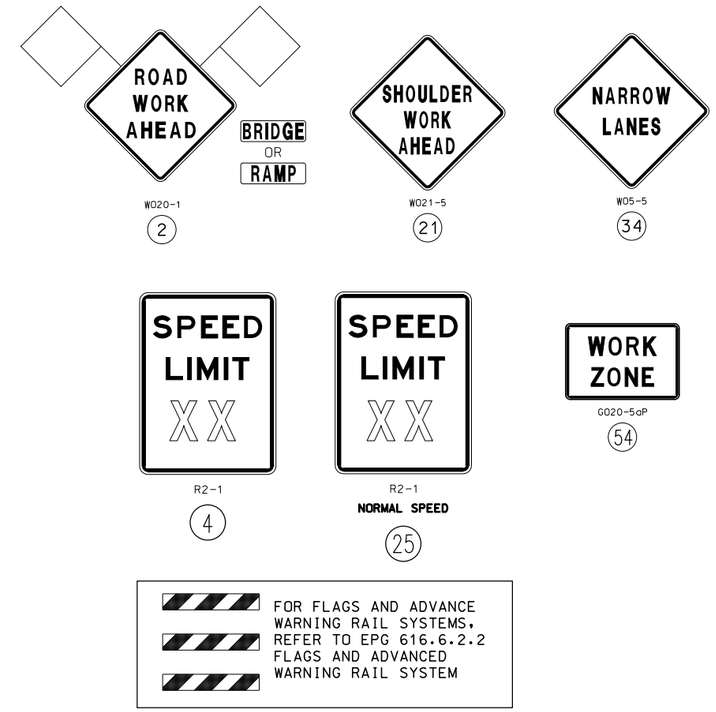
TWO LANE UNDIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



TWO LANE (MULTI) DIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



THREE LANE (MULTI) DIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



GENERAL NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORKZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

SIGN 2 NOT REQUIRED IF SHOULDER WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITY AREA WHERE ANOTHER SIGN 2 IS ALREADY USED.

THE PROTECTIVE VEHICLE MAY BE OMITTED IF A TAPER AND CHANNELIZING DEVICES ARE USED.

VEHICLE MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGEND ON VEHICLE MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

SHADOW AND WORK VEHICLES SHALL DISPLAY HIGH-DENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
SHOULDER WORK
MINOR ENCROACHMENT
SHEET 3 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 10
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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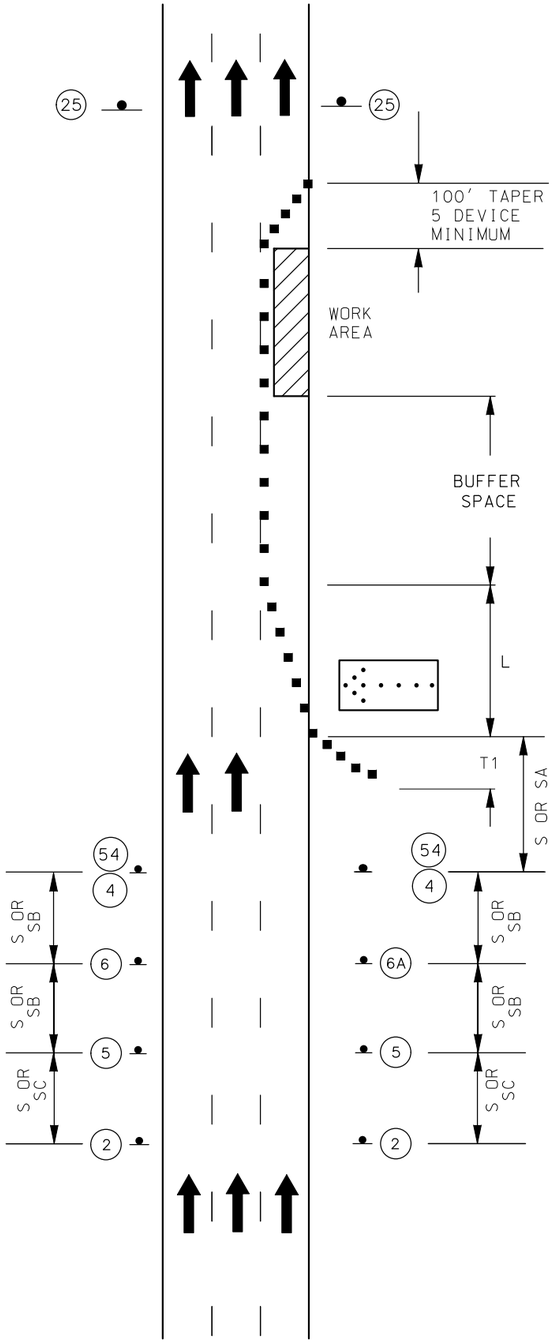
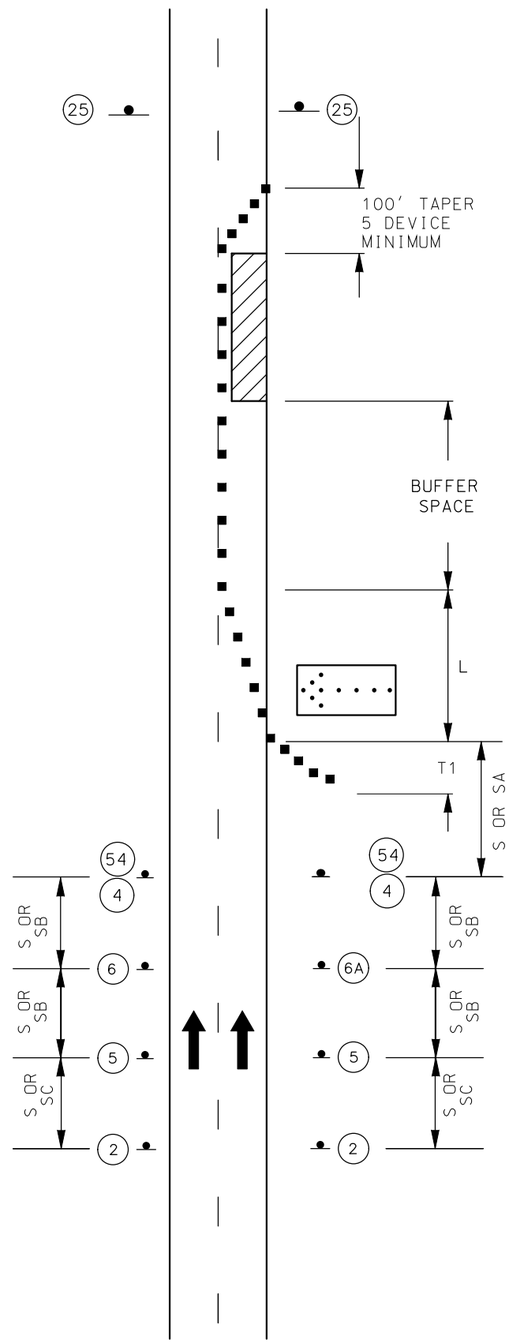
REV.

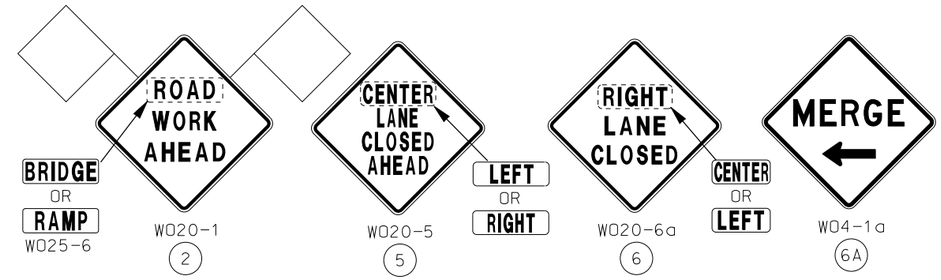
EFFECTIVE: 02-01-2009

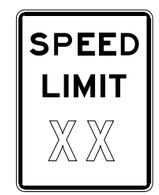


THREE LANE DIVIDED HIGHWAY
(SOUTH BOUND LANE)

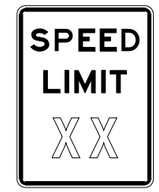


TWO-LANE DIVIDED HIGHWAY

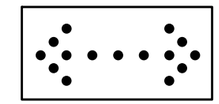




R2-1
4

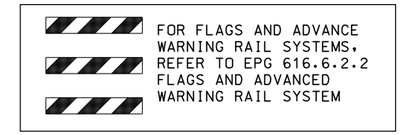


R2-1
NORMAL SPEED
25



FLASHING
ARROW PANEL

G020-5aP
54



CHANNELIZERS

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.

THIS INFORMATION ALSO SHALL BE USED WHEN WORK IS BEING PREFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY. IN THIS CASE, THE LEFT LANDE CLOSED SIGNS AND THE CORRESPONDING MERGE OR LANE ENDS SIGN SHALL BE SUBSTITUTED.

WHEN A SIDE ROAD INTERSECTS THE HIGHWAY WITHIN THE TTC ZONE ADDITIONAL TTC DEVICES SHALL BE PLACED AS NEEDED.

TEMPORARY TRAFFIC BARRIERS, IF USED SHALL COMPLY WITH THE PROVISIONS IN EPG 616.6.85 TEMPORARY TRAFFIC BARRIER AND REVIEW TA-34 LANE CLOSURE WITH A TEMPORARY TRAFFIC BARRIER.

REVIEW EPG TA-34a LANE CLOSURE WITH WIDTH AND LANE RESTRICTIONS DE/CM FOR A LANE CLOSURE WITH WIDTH RESTRICTIONS

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

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

REVIEW EPG 616.6.83 WARNING LIGHTS WHEN SEQUENTIAL OR WARNING LIGHTS SHOULD BE USED ON NIGHTTIME OPERATIONS.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REFER TO EPG 616.6.2.2 FLAG AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
LANE CLOSURE
SHEET 4 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

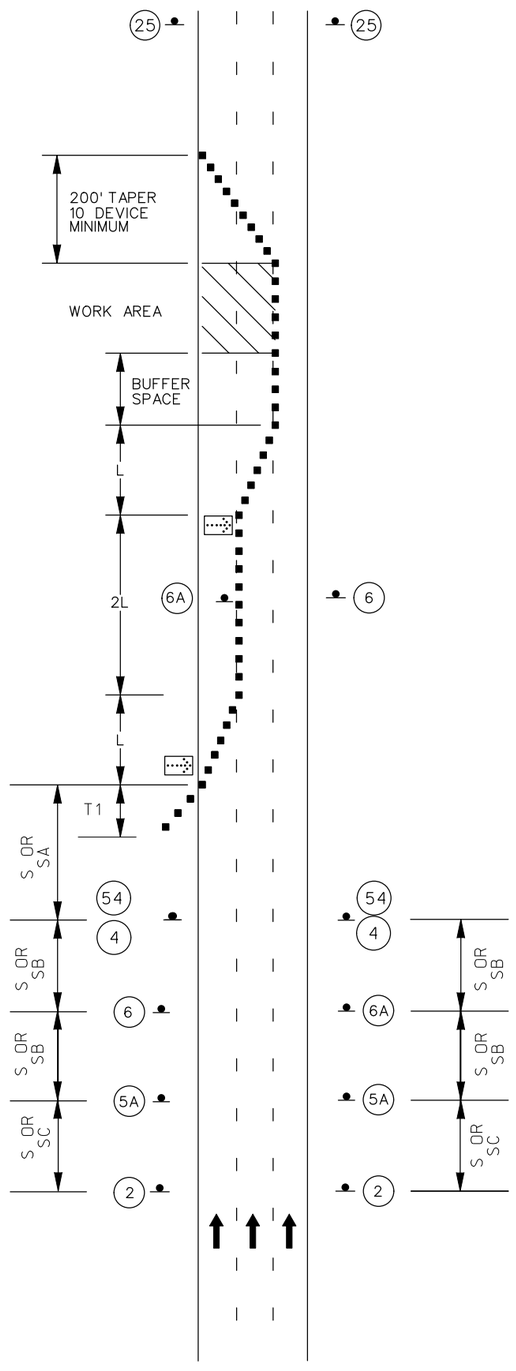
DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 11
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

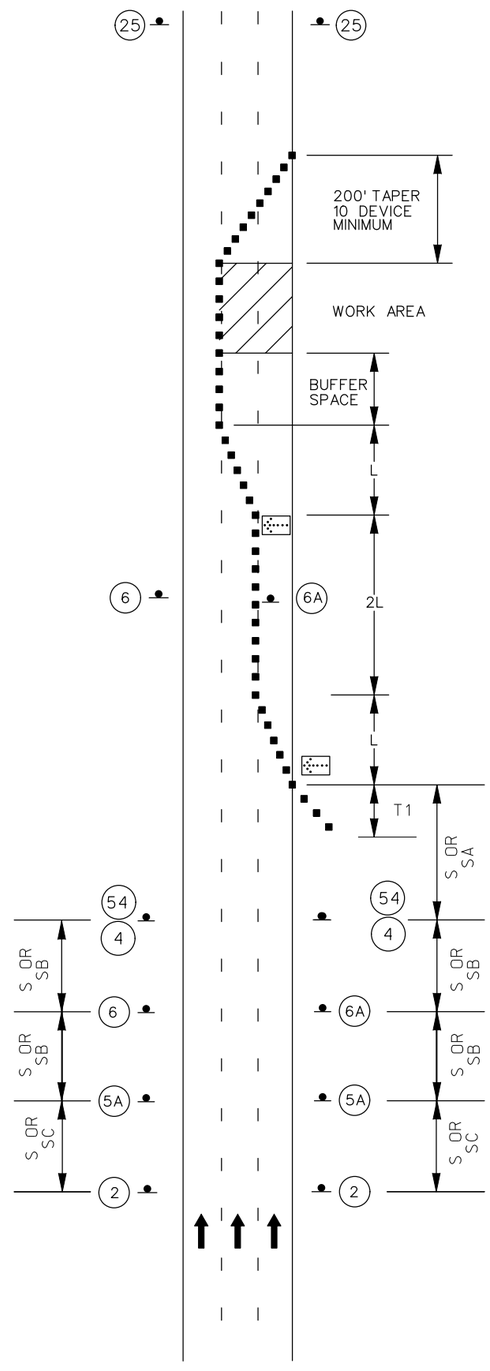
DATE

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

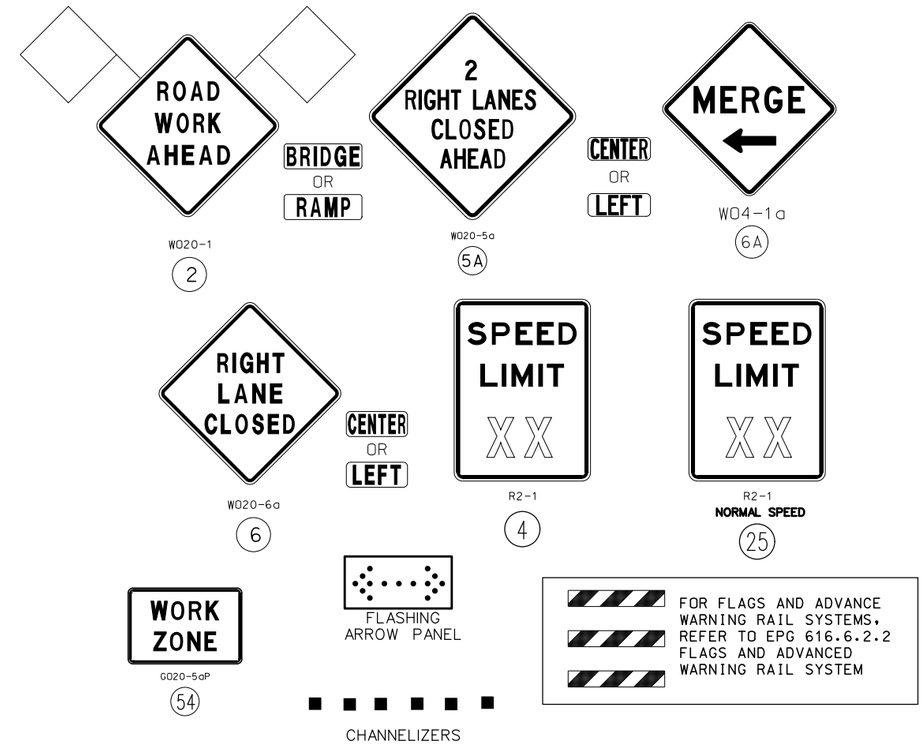
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



LANE CLOSURE TWO LANES OF
MULTI-LANE DIVIDE HIGHWAY



LANE CLOSURE TWO LANES OF
MULTI-LANE DIVIDE HIGHWAY



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.

ALTERNATIVE TEMPORARY TRAFFIC CONTROL SET-UPS SHOULD BE CONSIDERED WHEN REDUCTION IN CAPACITY CANNOT BE TOLERATED.

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS .

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REFER TO EPG 616.6.2.2 FLAG AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES

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

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
LANE CLOSURE
MULTI LANE
SHEET 5 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

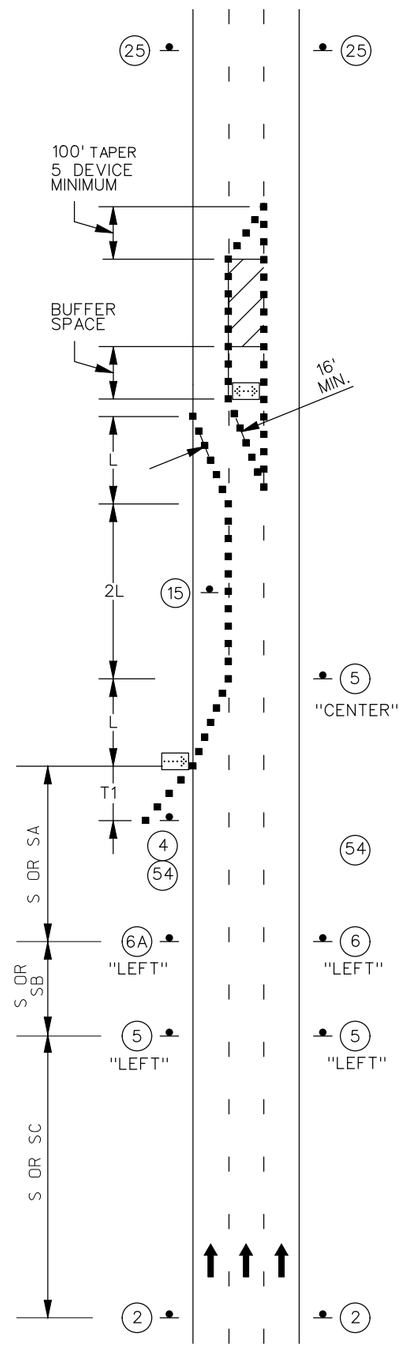
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 12
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

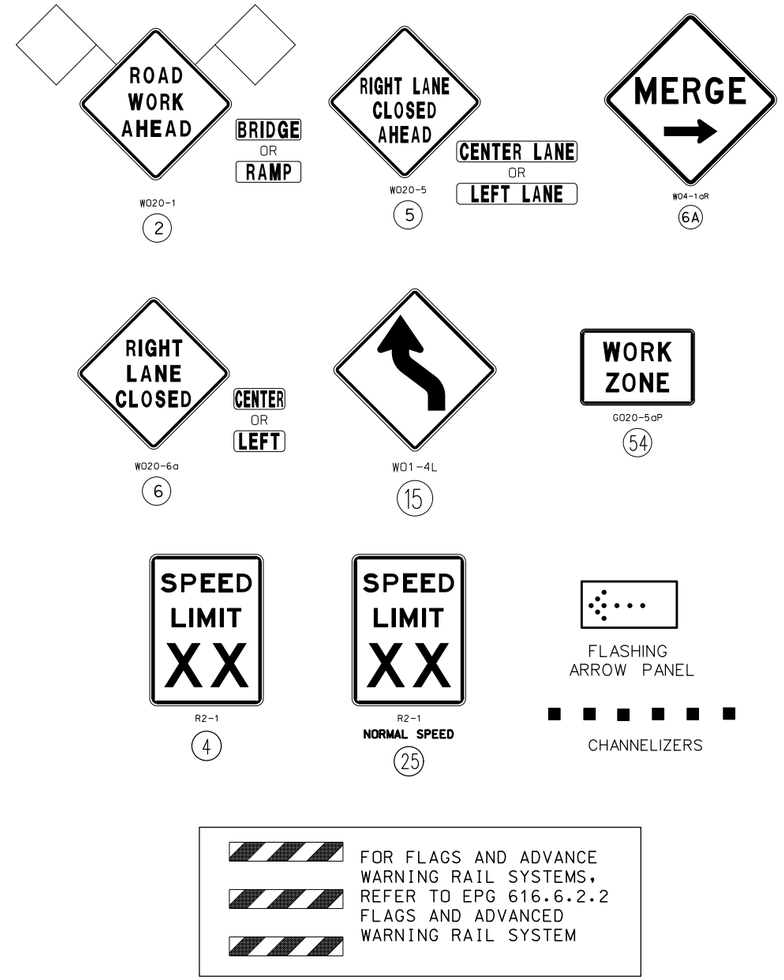
DATE	DESCRIPTION

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.



LANE CLOSURE
INTERIOR LANE CLOSURES OF MULTI-LANE DIVIDED HIGHWAY



NOTES:

(1). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(2). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(3). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

(4). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

(5). ALTERNATIVE TEMPORARY TRAFFIC CONTROL SET-UPS SHOULD BE CONSIDERED WHEN REDUCTION IN CAPACITY CANNOT BE TOLERATED.

(6). FOR NIGHTTIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHT FOR USE OF SEQUENTIAL LIGHTS.

INTERIOR LANE
CLOSURE ON FREEWAY
TEMPORARY
TRAFFIC CONTROL
SHEET 6 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

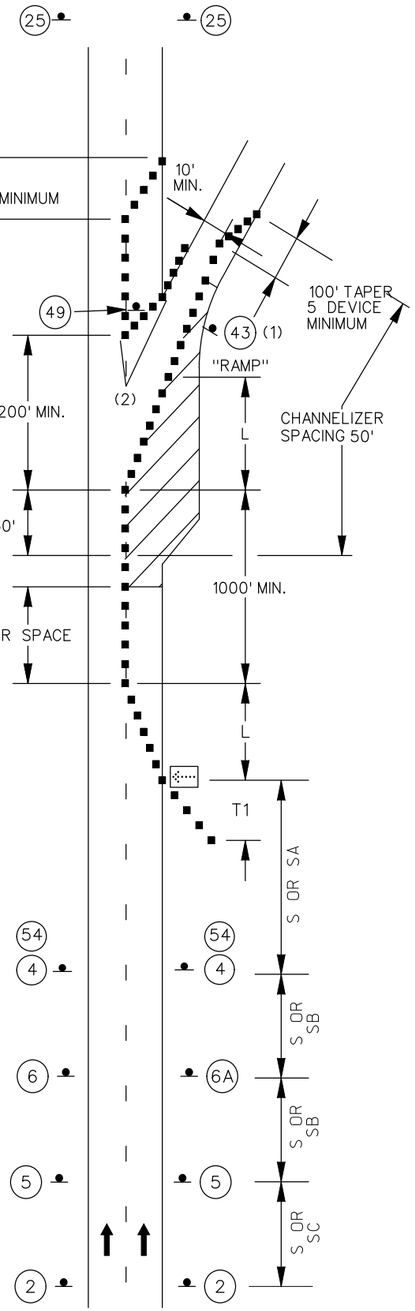
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 13
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

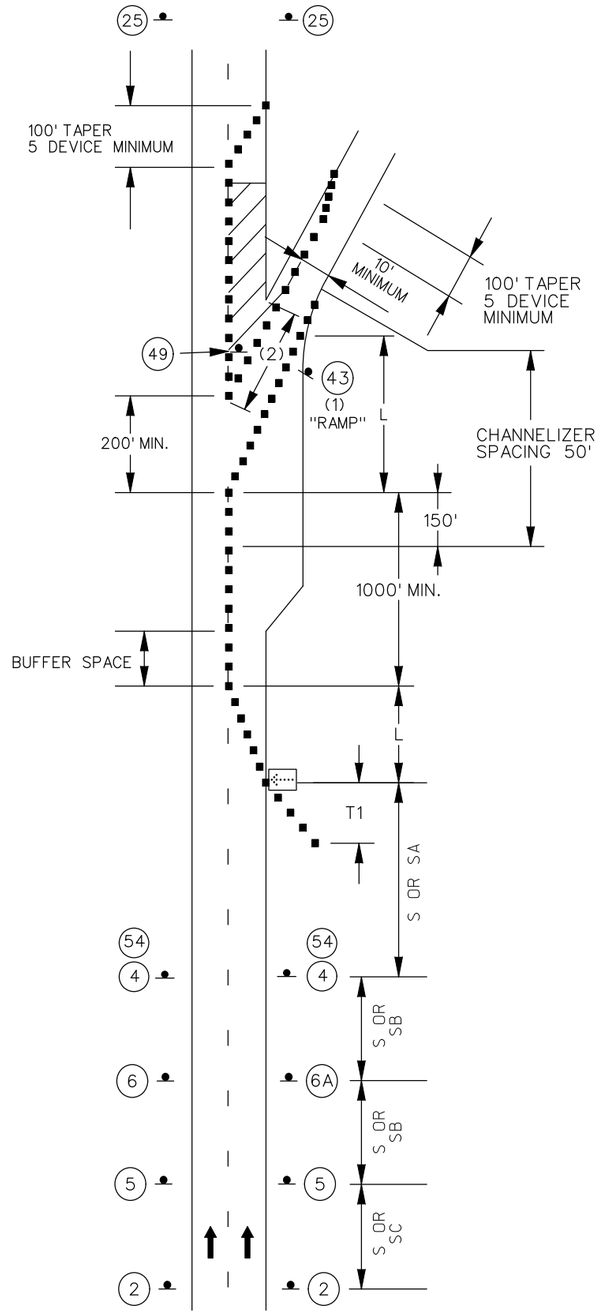
DATE	DESCRIPTION

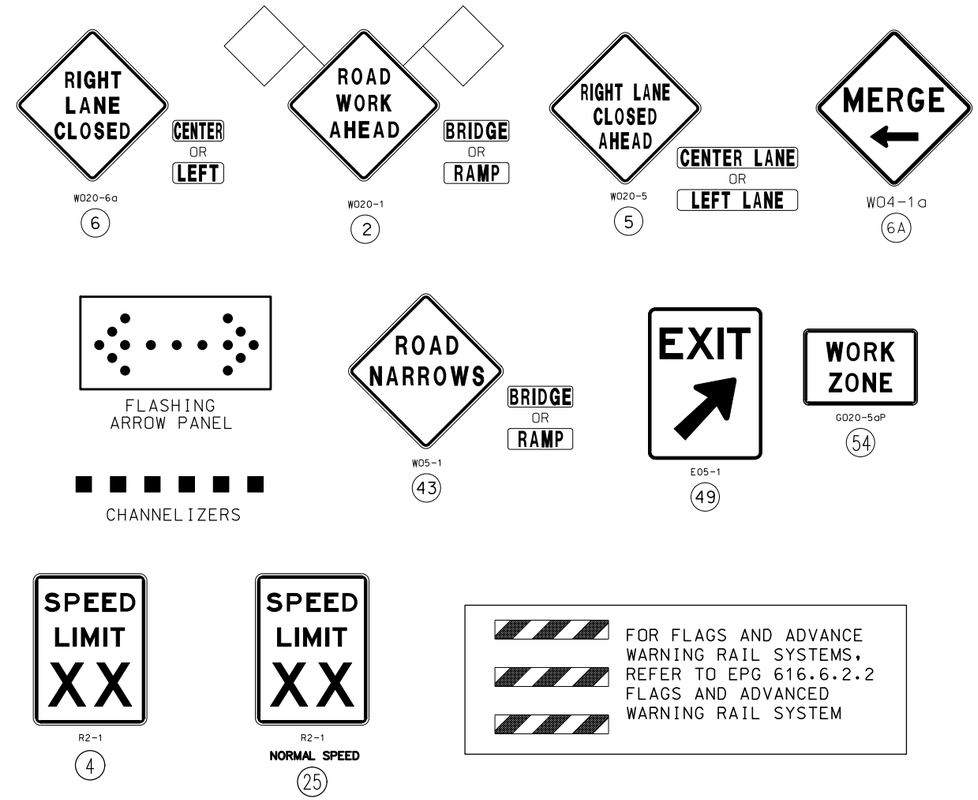
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



WORK IN THE VICINITY
OF A EXIT RAMP AREAS





NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

(1). SIGN (43) REQUIRED WHEN RAMP WIDTH IS REDUCED.

(2). FIVE CHANNELIZER DEVICE MINIMUM.

WORK IN VICINITY
OF EXIT RAMP
TEMPORARY
TRAFFIC CONTROL
SHEET 7 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

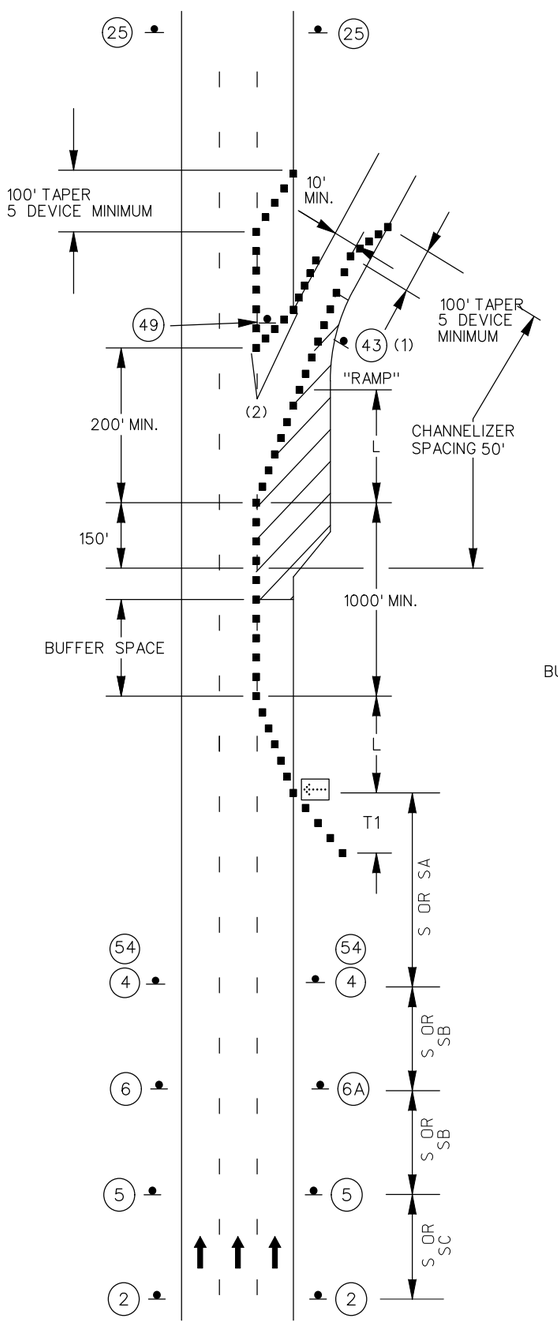
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

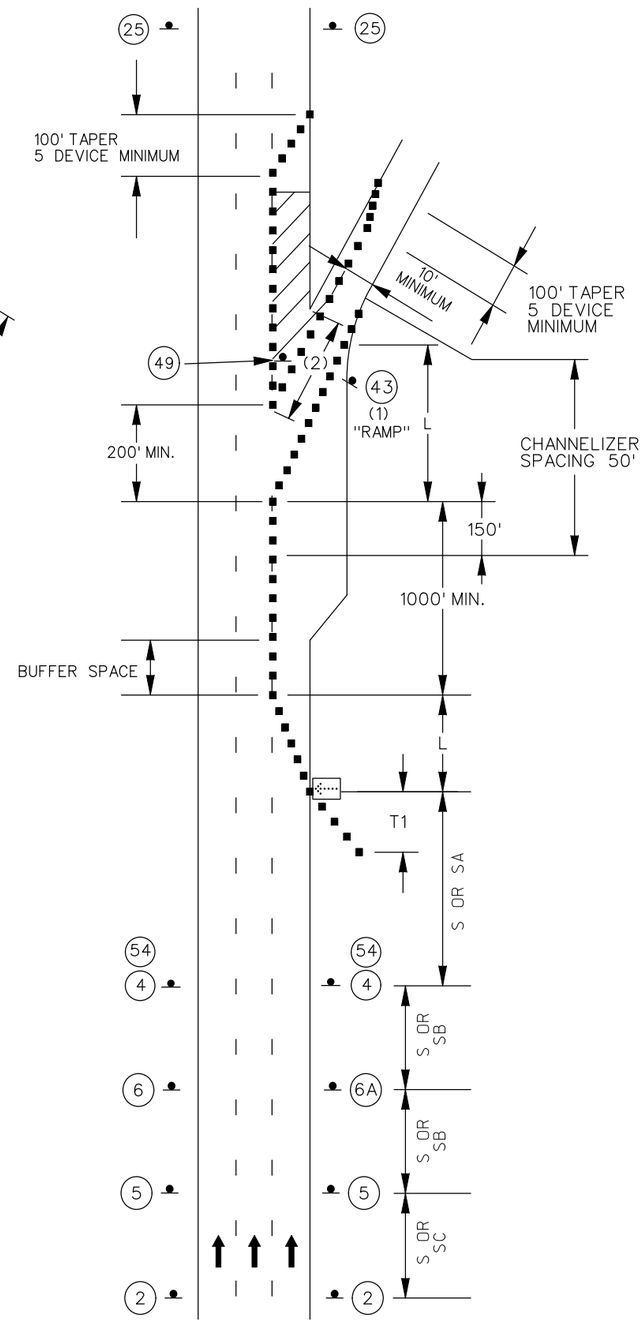
DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 14
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

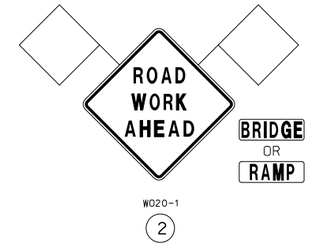
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

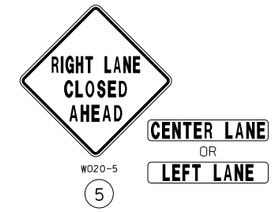
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

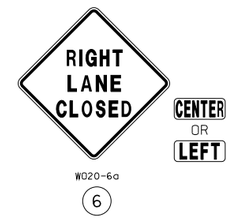


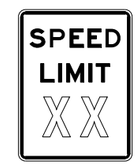


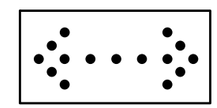
WORK IN THE VICINITY
OF A EXIT RAMP AREAS



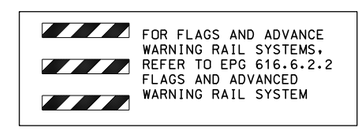








FLASHING
ARROW PANEL



CHANNELIZERS

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

(1). SIGN (43) REQUIRED WHEN RAMP WIDTH IS REDUCED.

(2). FIVE CHANNELIZER DEVICE MINIMUM.

TEMPORARY
TRAFFIC CONTROL
WORK IN VICINITY
OF RAMP
SHEET 8 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

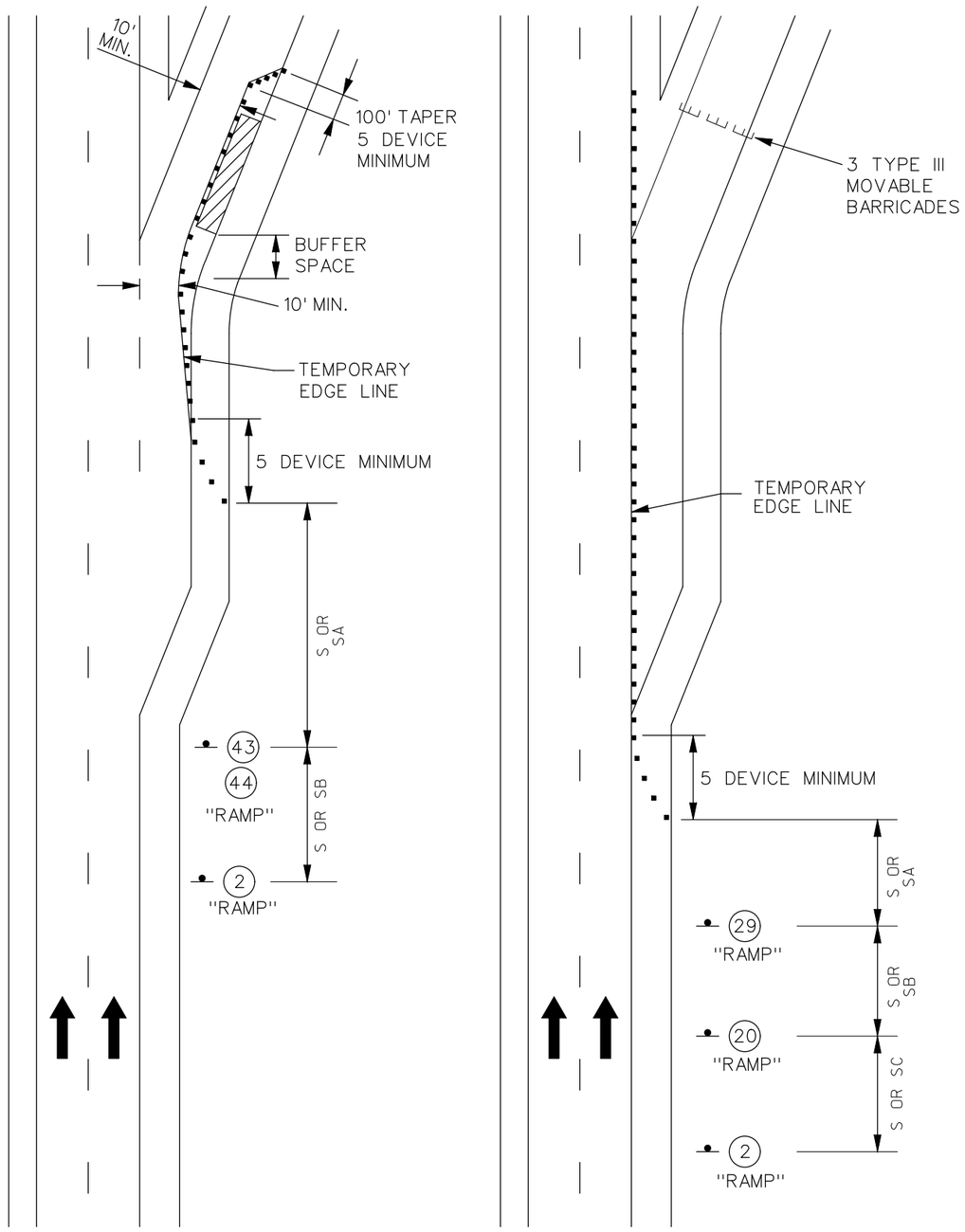
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 15
COUNTY CLAY	
JOB NO. J4S3147	
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)

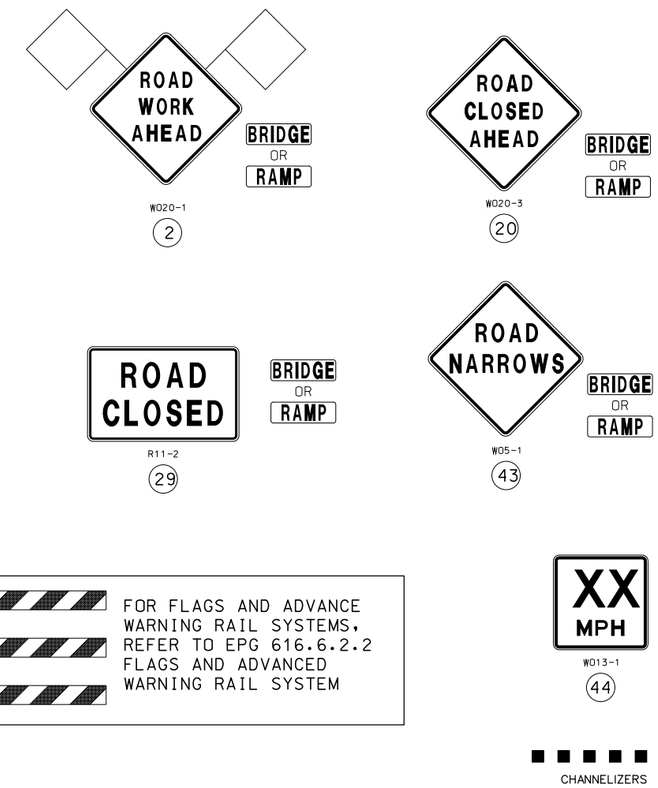
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PARTIAL LANE

ENTIRE RAMP

LANE CLOSURE
PARTIAL AND TOTAL RAMP CLOSURE



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

TEMPORARY PAVEMENT MARKING OPTIONAL FOR SHORT TERM OPERATIONS.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

PARTIAL OR TOTAL
EXIT RAMP CLOSURE
TEMPORARY
TRAFFIC CONTROL
SHEET 9 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

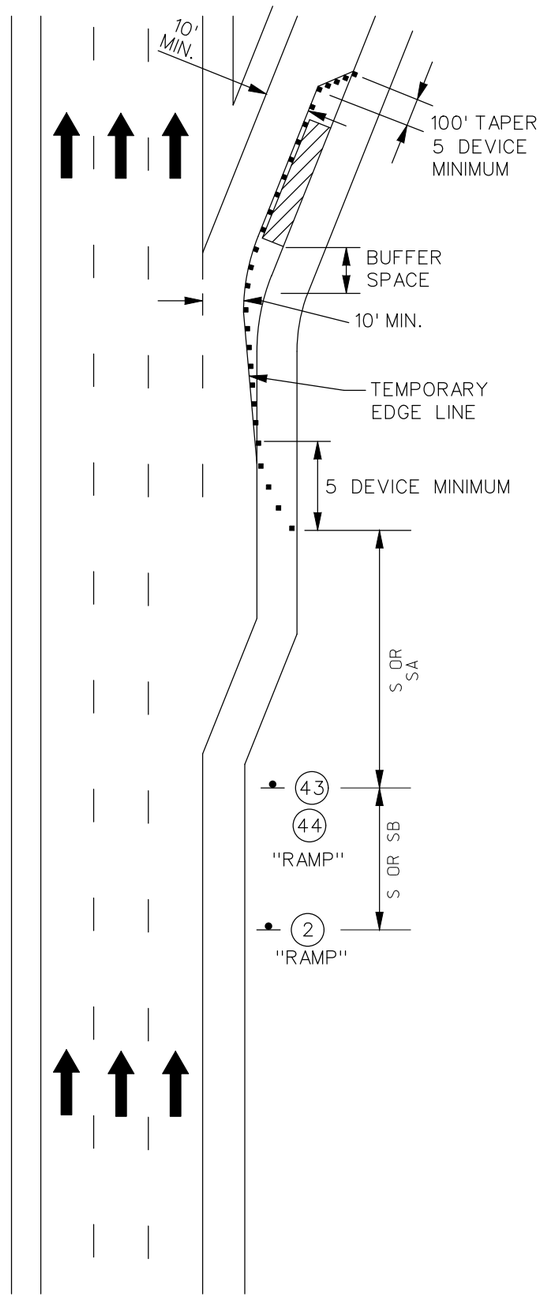
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 16
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

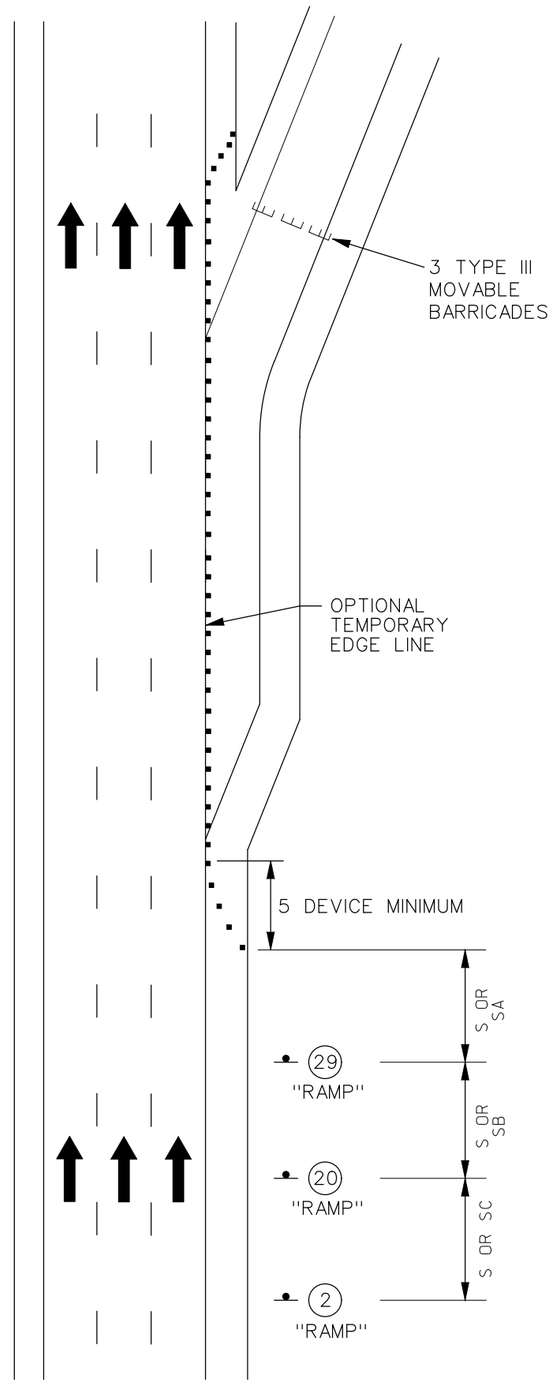
DATE	DESCRIPTION

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.

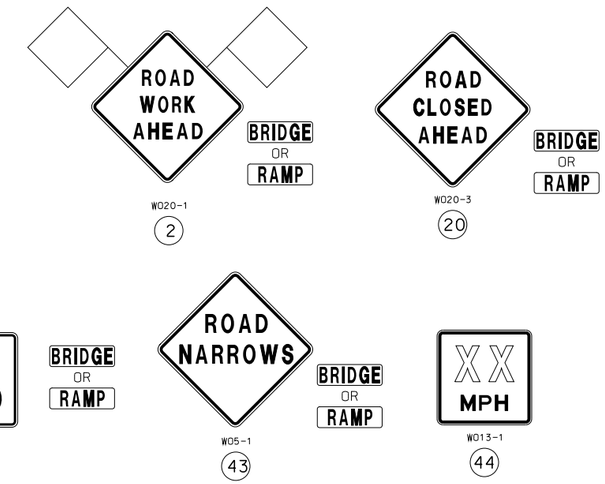


PARTIAL LANE



ENTIRE RAMP

LANE CLOSURE
PARTIAL AND TOTAL RAMP CLOSURE



CHANNELIZERS

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

TEMPORARY PAVEMENT MARKING OPTIONAL FOR SHORT TERM OPERATIONS.

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
PARTIAL OR TOTAL
RAMP CLOSURE
SHEET 10 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

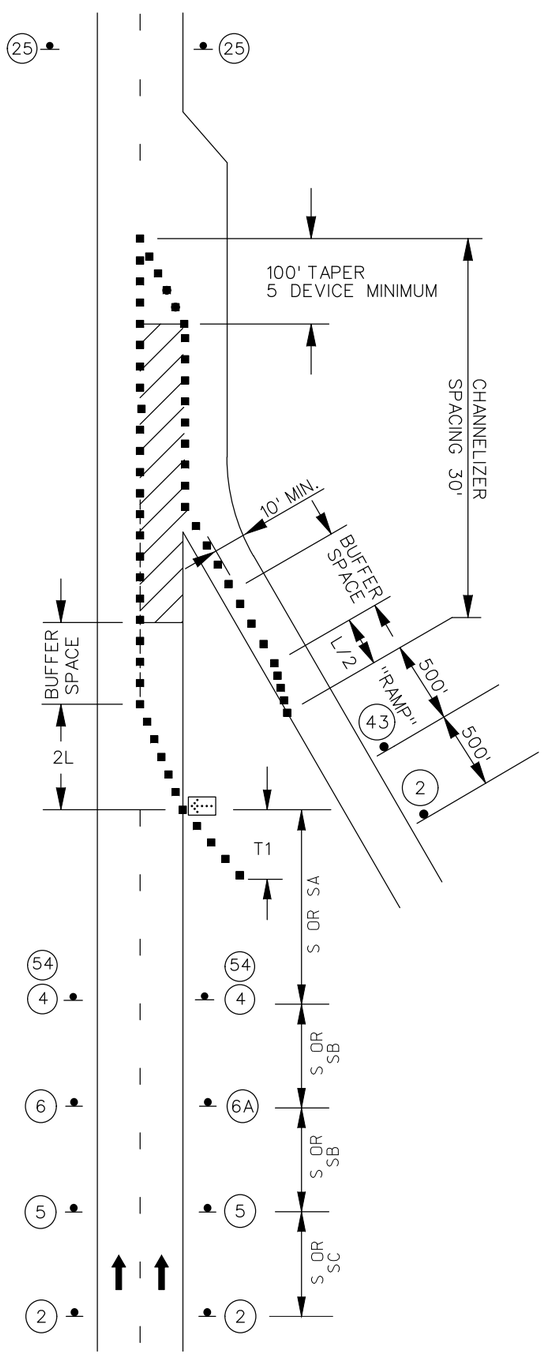
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

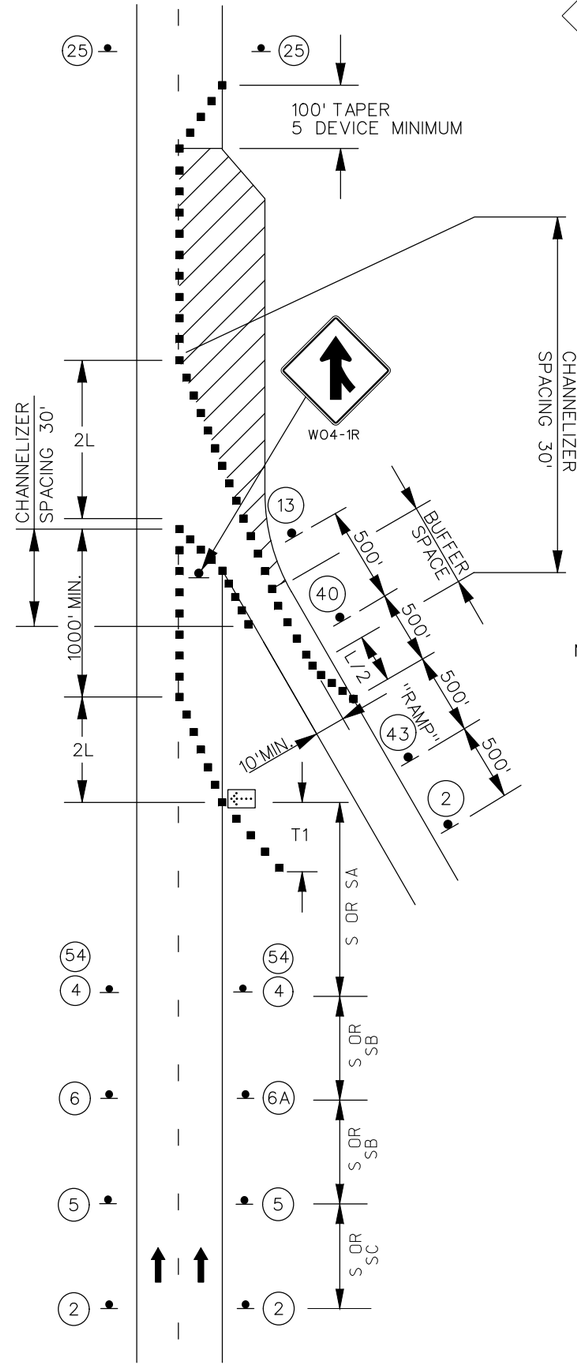
DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 17
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

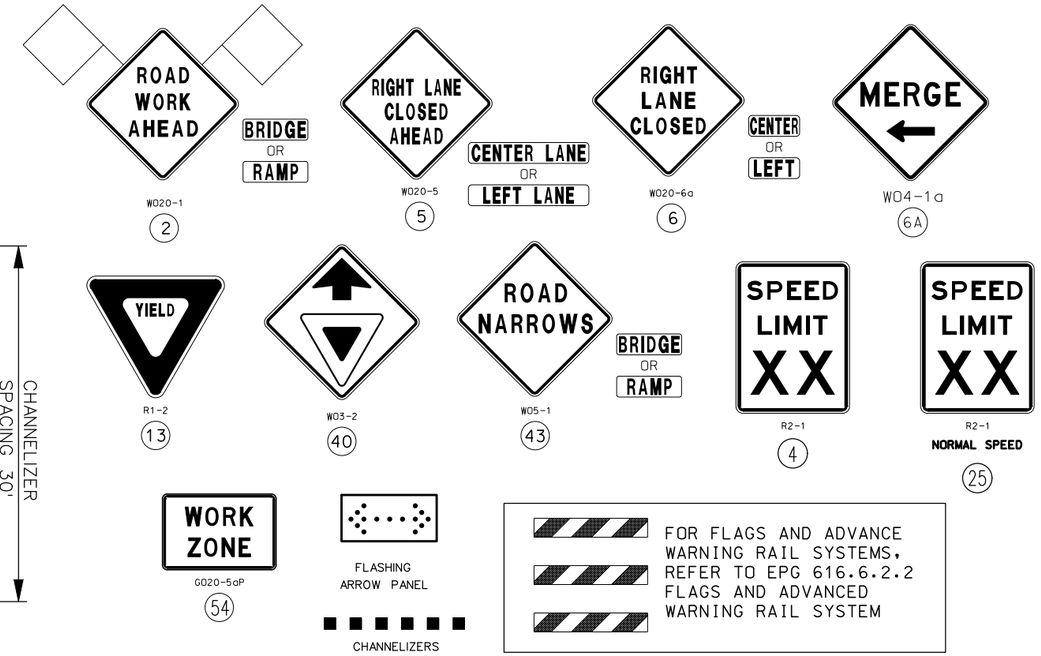
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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





LANE CLOSURE
ENTRANCE RAMP AREAS



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

RAMP NARROWS SIGN IS REQUIRED WHEN RAMP WIDTH IS REDUCED.

YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC. WHERE INADEQUATE ACCELERATION DISTANCE EXISTS FOR THE TEMPORARY ENTRANCE, THE YIELD SIGN SHALL BE REPLACED WITH STOP SIGNS (ONE EACH SIDE OF THE APPROACH).

THE LOCATION OF THE SIGN SEQUENCE AND MERGE TAPER SHOULD BE ADJUSTED SO THAT THE ARROW PANEL LOCATION IS NOT CONFUSING TO MOTORISTS ON THE RAMP.

THE YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVER NIGHT, UAW TRIM-LINE CHANNELIZERS.

WORK IN VICINITY
OF ENTRANCE RAMP
TEMPORARY
TRAFFIC CONTROL
SHEET 11 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 18
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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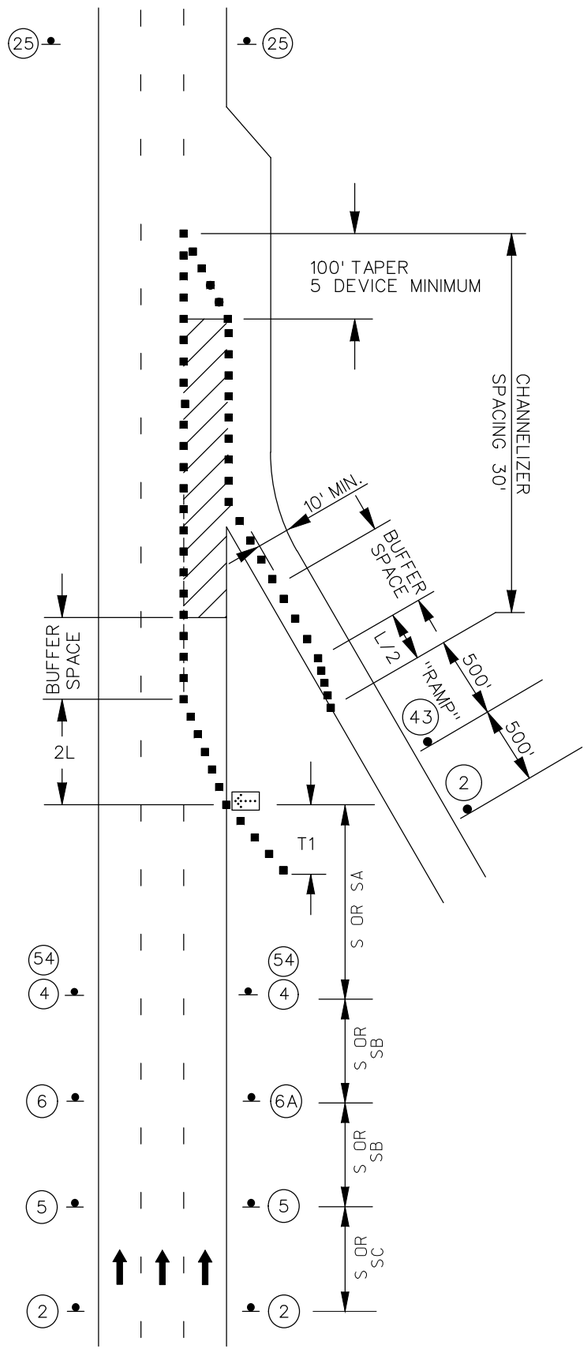
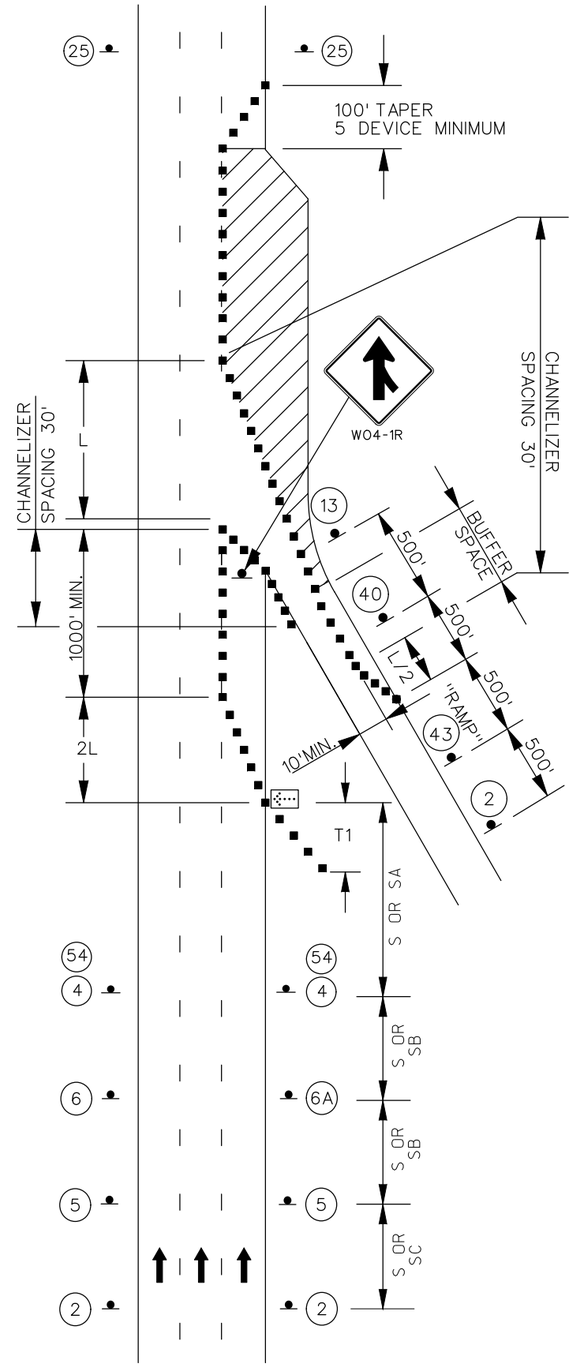
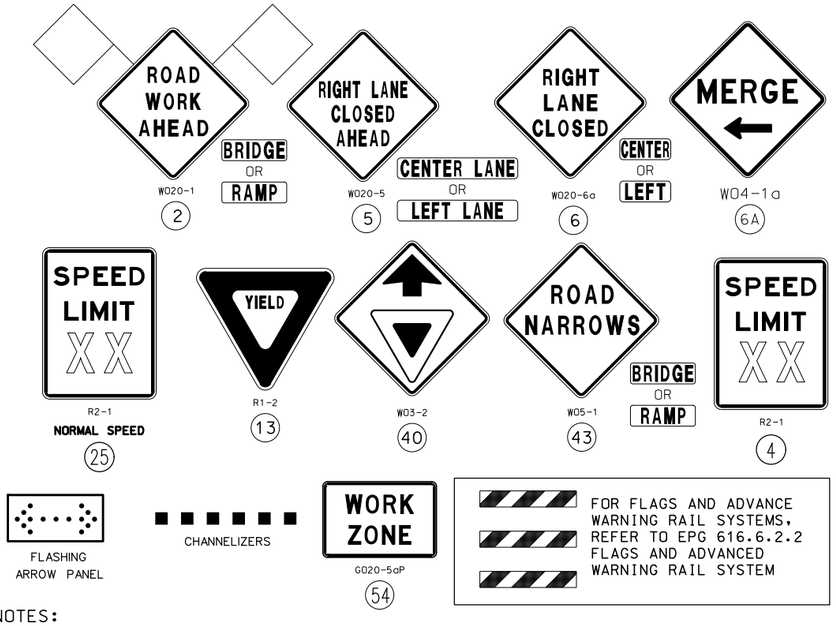




LANE CLOSURE
ENTRANCE RAMP AREAS



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

IF RUMBLE STRIPS ARE USED, REVIEW EPG 616.6.87 RUMBLE STRIPS

DIRECTIONAL INDICATOR BARRICADE WITH SEQUENTIAL FLASHING WARNING LIGHTS ARE TO BE USED AT TAPER LOCATIONS.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND AND GUIDELINES FOR THE DEVICE.

RAMP NARROWS SIGN IS REQUIRED WHEN RAMP WIDTH IS REDUCED.

YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC. WHERE INADEQUATE ACCELERATION DISTANCE EXISTS FOR THE TEMPORARY ENTRANCE, THE YIELD SIGN SHALL BE REPLACED WITH STOP SIGNS (ONE EACH SIDE OF THE APPROACH).

THE LOCATION OF THE SIGN SEQUENCE AND MERGE TAPER SHOULD BE ADJUSTED SO THAT THE ARROW PANEL LOCATION IS NOT CONFUSING TO MOTORISTS ON THE RAMP.

THE YEILD SIGN SHOULD BE PLACED ON THE RAMP TO PROVIDE ADEQUATE VISIBILITY OF MAINLINE TRAFFIC.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVER NIGHT, UAW TRIM-LINE CHANNELIZERS.

THE REDUCED SPEED LIMIT AND THE NORMAL SPEED LIMIT WILL VERY DEPENDING ON THE LOCATION OF THE TRAFFIC CONTROL SETUP. SEE THE 2BS SHEET FOR SIGN AVAILABILITY.

TEMPORARY
TRAFFIC CONTROL
WORK IN VICINITY
OF ENTRANCE RAMP
SHEET 12 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

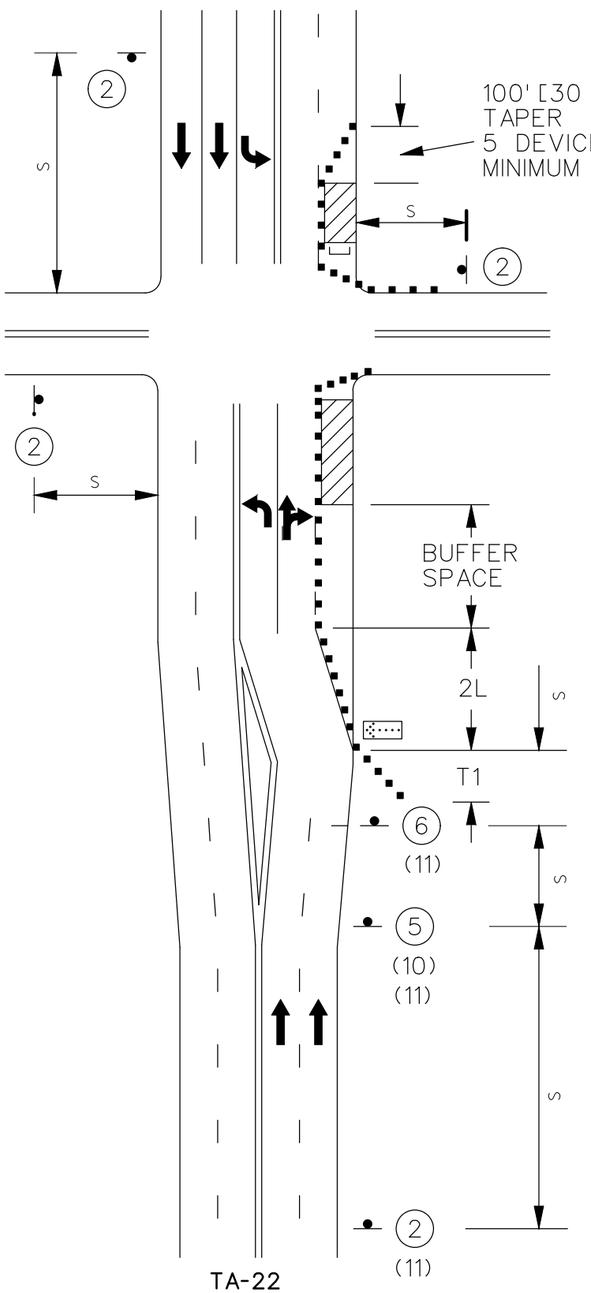
DATE PREPARED	9/30/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	19
COUNTY	CLAY
JOB NO.	J4S3147
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

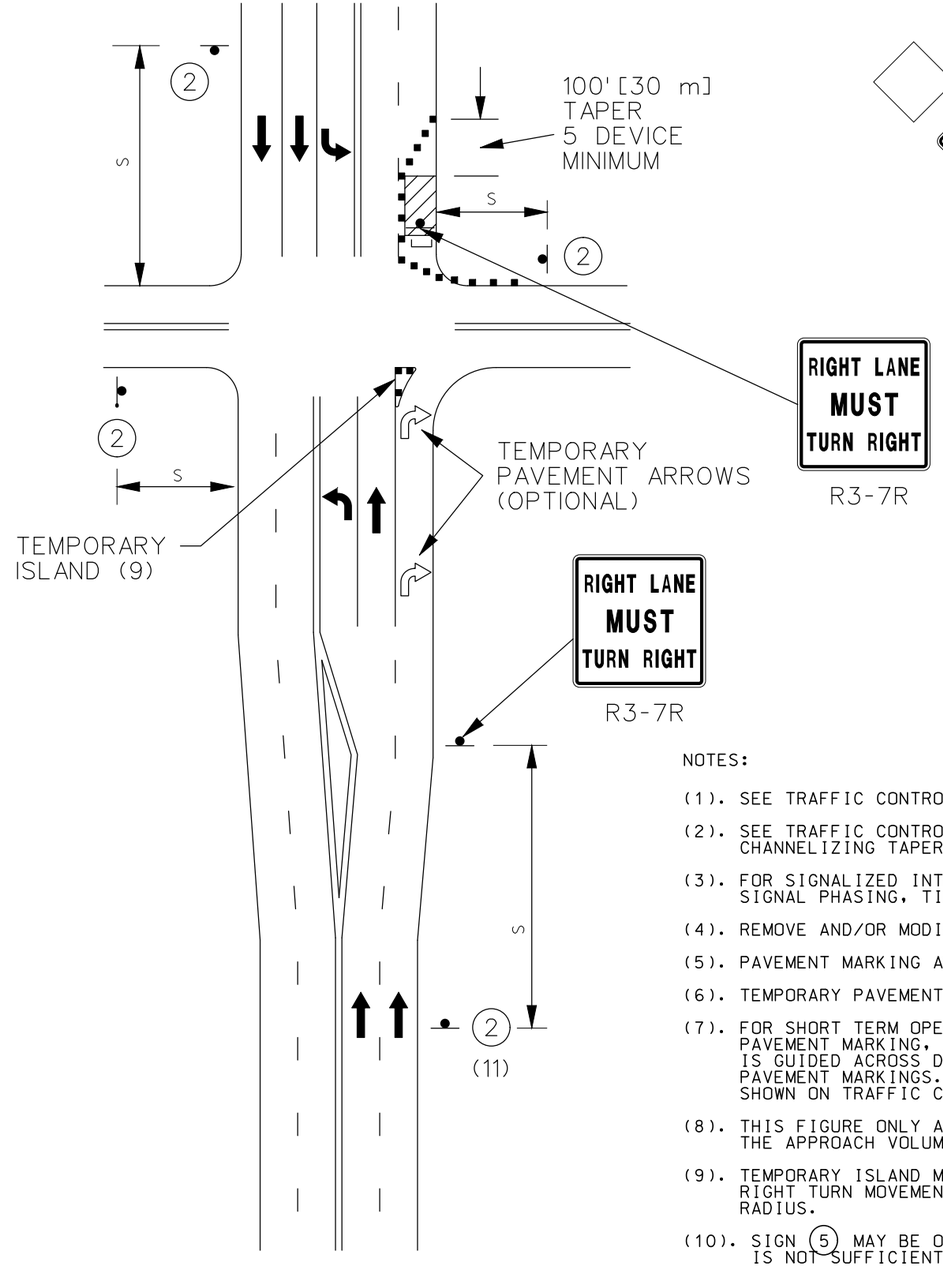
DATE

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

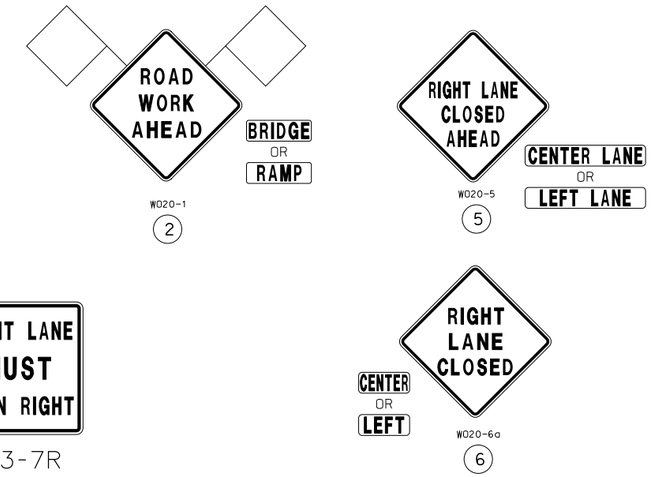
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



TA-22
WORK ON NEAR OR FAR SIDE



TA-22A
WORK ON FAR SIDE ONLY (8)



FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

NOTES:

(1). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(2). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(3). FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.

(4). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

(5). PAVEMENT MARKING AND BARRICADES OPTIONAL FOR SHORT TERM OPERATIONS.

(6). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

(7). FOR SHORT TERM OPERATIONS, WHERE IT IS NOT FEASIBLE TO MODIFY PAVEMENT MARKING, A 10' DEVICE SPACING IS USED WHERE TRAFFIC IS GUIDED ACROSS DOUBLE YELLOW LINES OR OTHER CONFLICTING PAVEMENT MARKINGS. ALL OTHER SPACINGS ARE ONE HALF OF THE SPACING SHOWN ON TRAFFIC CONTROL SHEET 1.

(8). THIS FIGURE ONLY APPLIES WHERE A SIGNIFICANT PERCENTAGE OF THE APPROACH VOLUME.

(9). TEMPORARY ISLAND MAY BE USED TO EMPHASIZE THE MANDATORY RIGHT TURN MOVEMENT WHERE THERE IS A SUFFICENT RIGHT TURN RADIUS.

(10). SIGN (5) MAY BE OMITTED IN LOW SPEED URBAN AREAS WHERE THERE IS NOT SUFFICIENT SPACE FOR THE FULL SIGN SERIES.

(11). SIGN MAY ALSO BE PLACED IN THE MEDIAN OF THE ROADWAY IF THERE IS SUFFICENT ROOM BETWEEN EASTBOUND AND WESTBOUND LANES.

LANE CLOSURE
RIGHT LANE CLOSURE AT INTERSECTION

RIGHT LANE CLOSURE
AT INTERSECTION
TEMPORARY
TRAFFIC CONTROL
SHEET 13 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

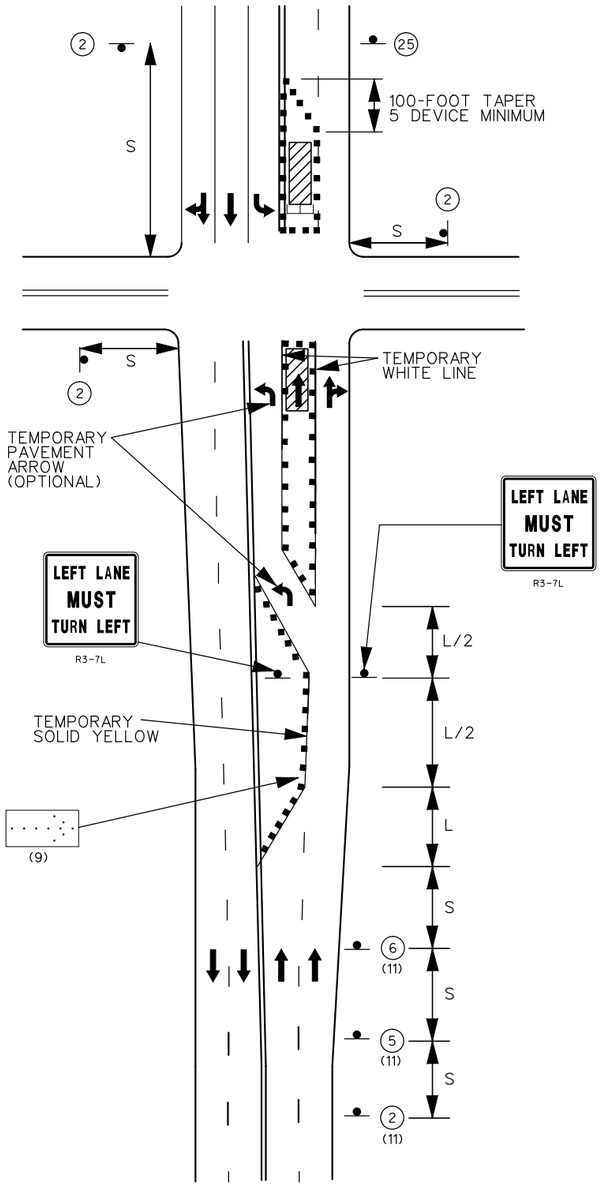
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 20
COUNTY CLAY	
JOB NO. J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

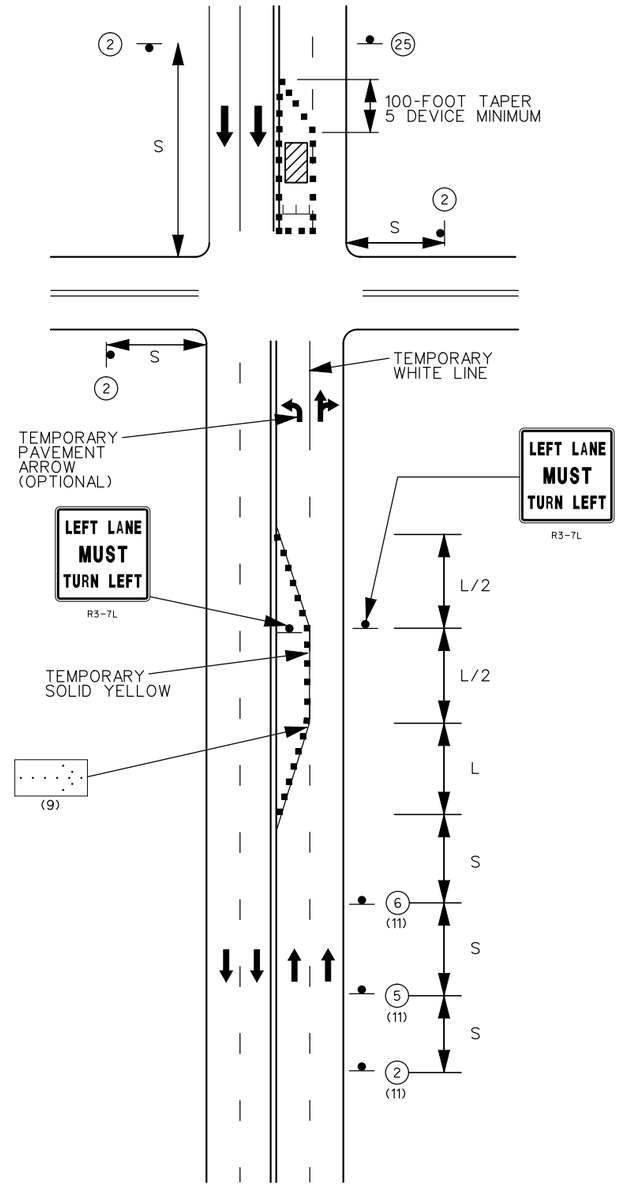
DATE	DESCRIPTION

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)



TA-23
LEFT LANE CLOSURE
AT INTERSECTION



TA-23A
LEFT LANE CLOSURE
AT INTERSECTION

NOTE:

(1). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(2). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(3). FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.

(4). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKINGS AS NEEDED.

(5). PAVEMENT MARKING AND BARRICADES OPTIONAL FOR SHORT TERM OPERATIONS.

(6). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

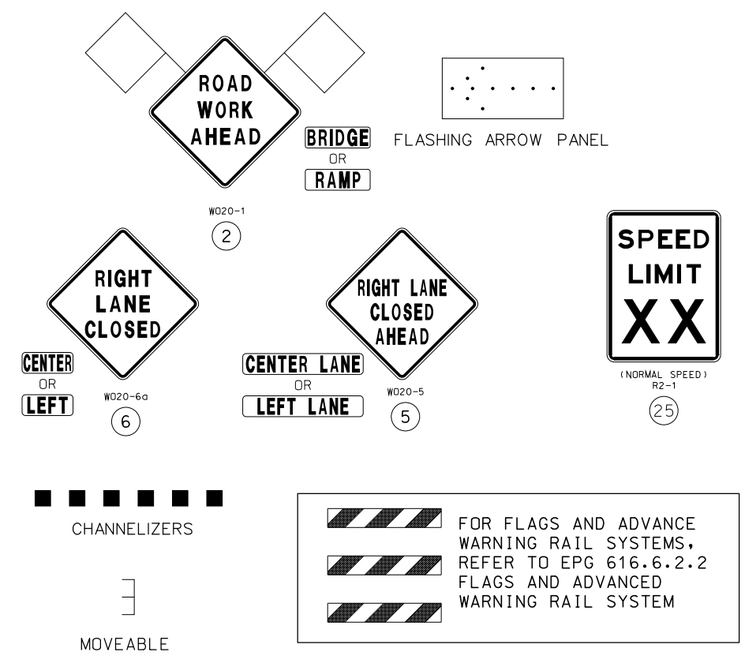
(7). FOR SHORT TERM OPERATION, WHERE IT IS NOT FEASIBLE TO MODIFY PAVEMENT MARKING, A 10-FEET DEVICE SPACING IS USED WHERE TRAFFIC IS GUIDED ACROSS DOUBLE YELLOW LINES OR OTHER CONFLICTING PAVEMENT MARKING. ALL OTHER SPACING ARE ONE-HALF OF THE SPACING.

(8). "LEFT LANE CLOSED AHEAD" SIGN MAY BE OMITTED IN LOW SPEED URBAN AREAS WHERE THERE IS NOT SUFFICIENT SPACE FOR THE FULL SIGN SERIES.

(9). THE FLASHING ARROW BOARD SHOULD BE LOCATED AT THE BEGINNING OF THE MERGING TAPER WHEN MEDIAN WIDTH ALLOW THIS PLACEMENT.

(10). IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.

(11). SIGN MAY ALSO BE PLACED IN THE MEDIAN OF THE ROADWAY IF THERE IS SUFFICENT ROOM BETWEEN EASTBOUND AND WESTBOUND LANES.



LEFT LANE CLOSURE AT INTERSECTION
WORK ON FAR SIDE ONLY
TEMPORARY
TRAFFIC CONTROL
SHEET 14 OF 17

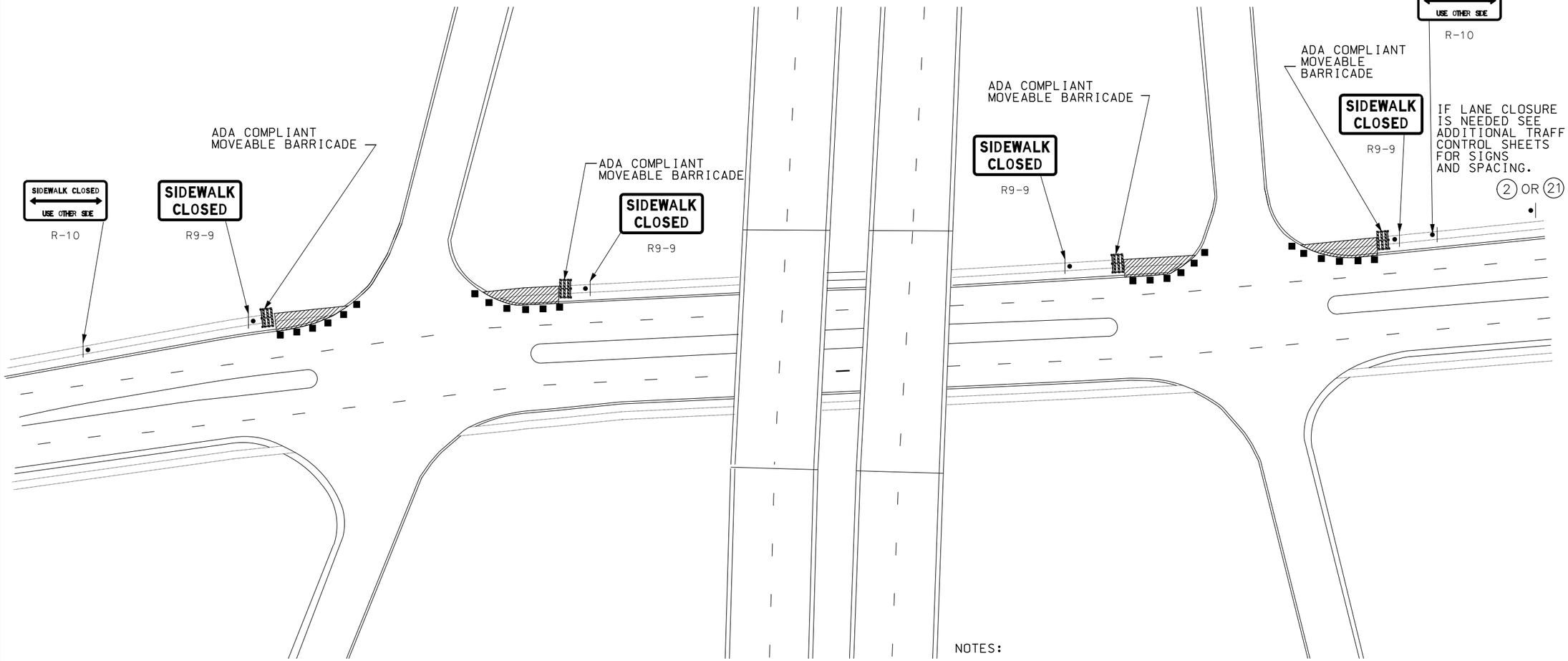
STATE OF MISSOURI
JUAN YIN
NUMBER PE-2011000967
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 21
COUNTY CLAY	
JOB NO. J4S3147	
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.



WORK AREA

W020-1
2

W021-5
21

NOTES:

(1). ALL SIGNS AND BARRICADES SHALL BE MOVED TO THE OPPOSITE SIDE OF THE ROADWAY WHEN SIDEWALK UPGRADES ARE REQUIRED FOR BOTH SIDES OF THE ROAD.

(2). ONLY THE TEMPORARY TRAFFIC CONTROL DEVICES RELATED TO PEDESTRIANS ARE SHOWN OTHER DEVICES MAY BE NECESSARY TO CONTROL TRAFFIC, SEE OTHER TRAFFIC CONTROL SHEETS FOR LANE CLOSURES

(3). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(4). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

(5). FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.

(6). REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKING AS NEEDED.

(7). PAVEMENT MARKING OPTIONAL FOR SHORT TERM OPERATIONS.

(8). TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.

(9). SIGNS MAY ALSO BE PLACED IN THE MEDIAN OF THE ROADWAY IF THERE IS SUFFICENT ROOM BETWEEN LANES

SIDEWALK WORK
AT INTERCHANGE
TEMPORARY
TRAFFIC CONTROL
SHEET 15 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	22
COUNTY	
CLAY	
JOB NO.	
J4S3147	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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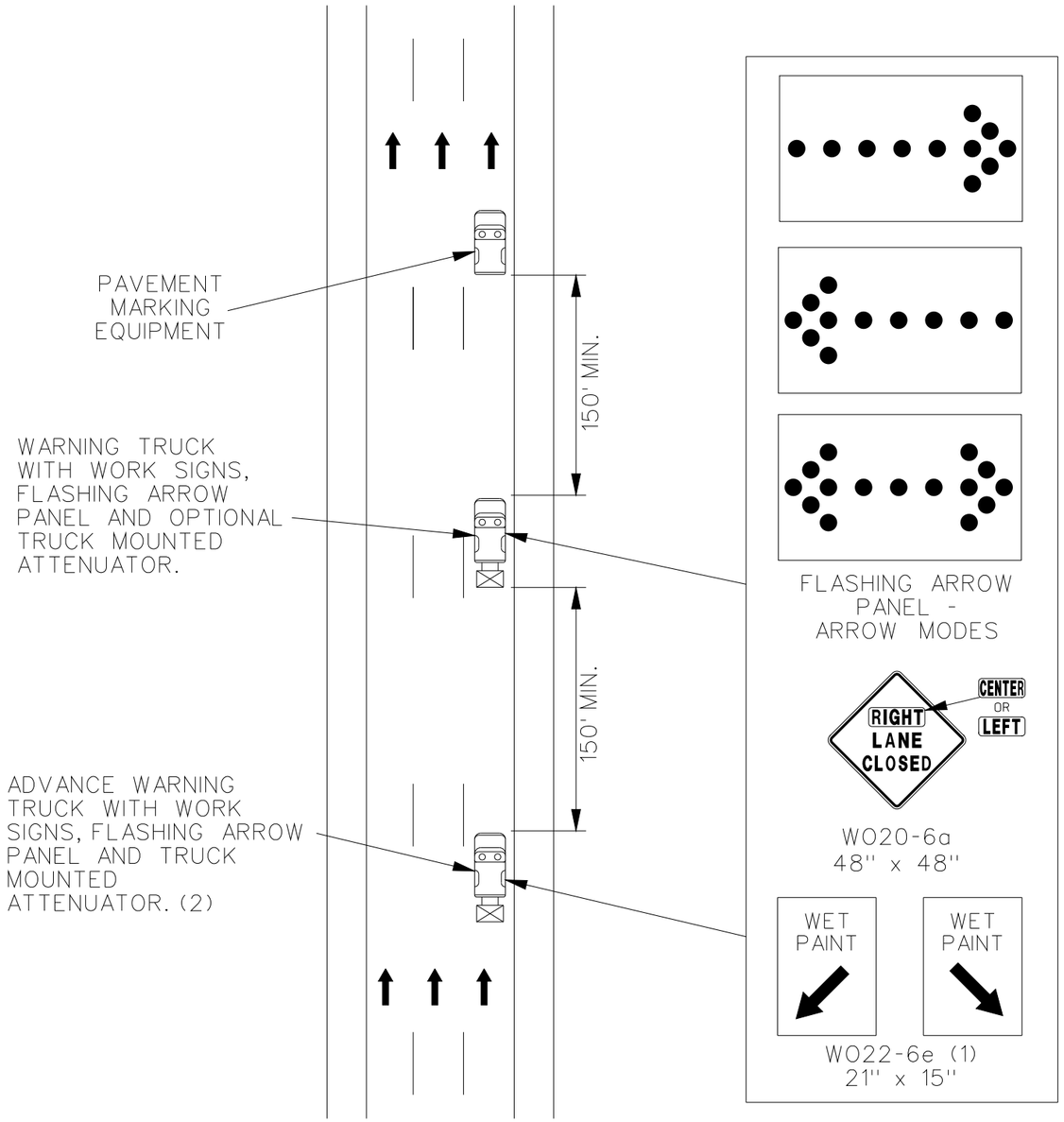


MOVING OPERATION ON HIGHWAY
OPEN TO TRAFFIC
MULTI-LANE DIVIDED HIGHWAY

NOTES:

ALL SIGNS HAVE TYPE 3 FLUORESCENT ORANGE RETROFLECTIVE SHEETING.

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

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

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

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

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

FLASHING ARROW PANELS SHALL, AS A MINIMUM, BE TYPE B, WITH A SIZE OF 60 X 30 INCHES.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

CENTERLINE AND/OR
LANE LINE STRIPING
ON MULTI-LANE
UNDIVIDED HIGHWAYS
TEMPORARY
TRAFFIC CONTROL
SHEET 16 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

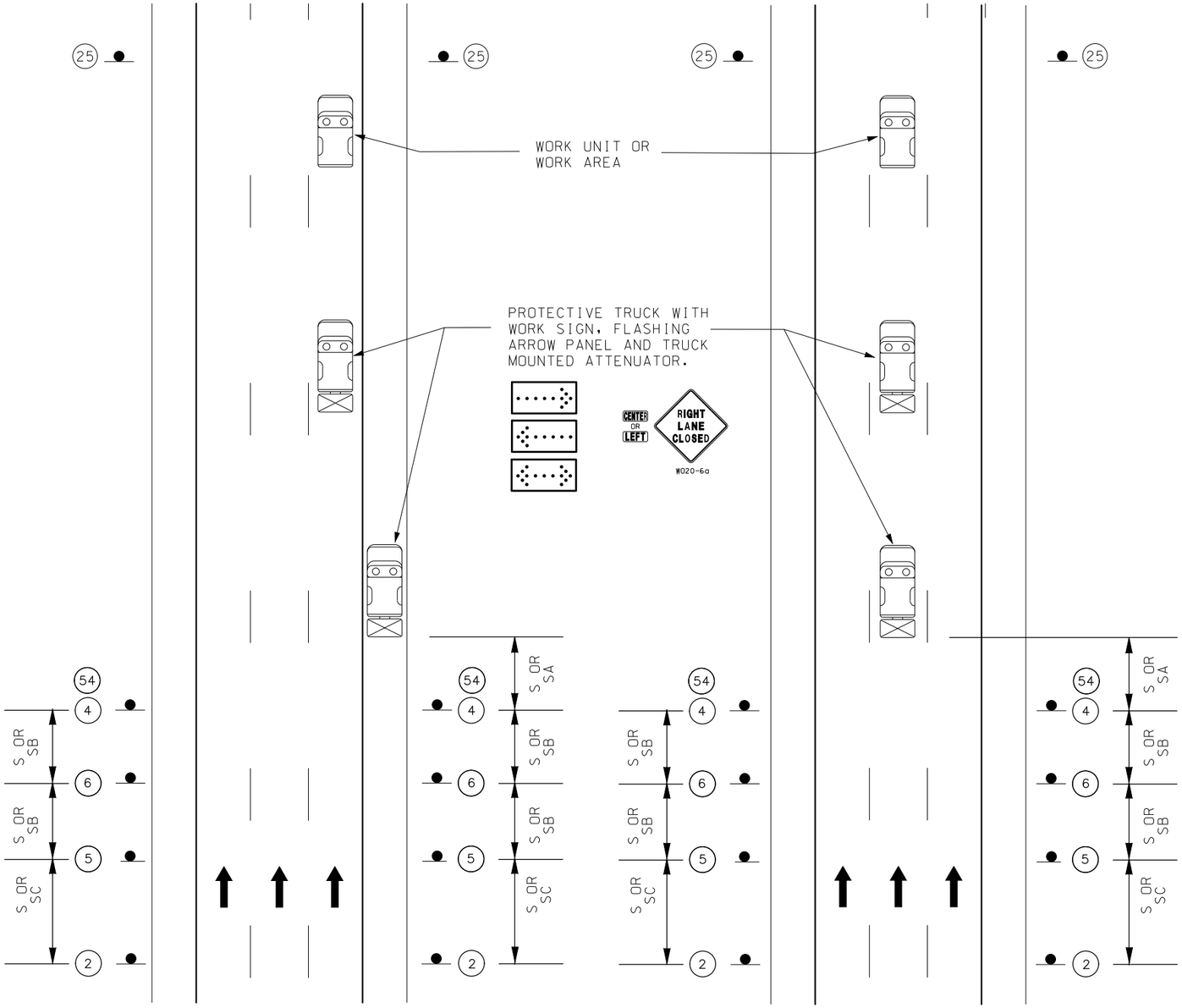
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	23
COUNTY	
CLAY	
JOB NO.	
J4S3147	
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)

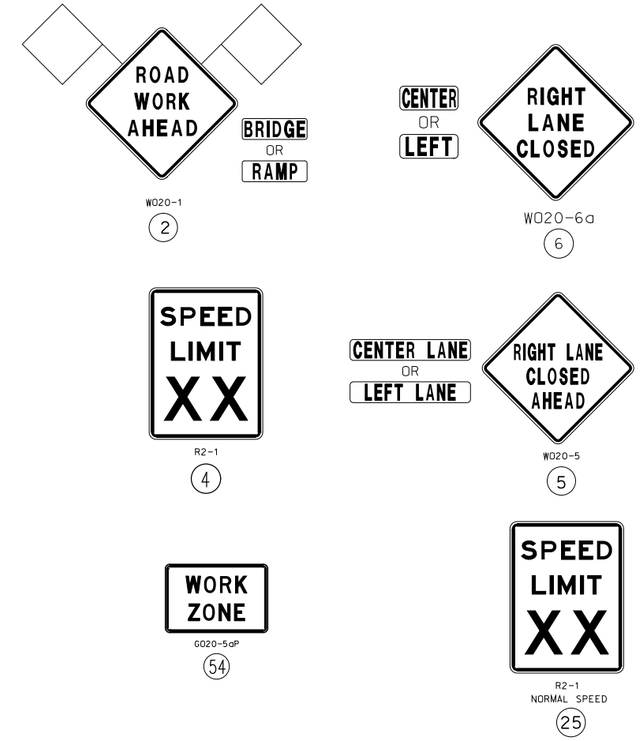
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



Right or Left Lane

Interior Lane

MOVING OPERATION ON MULTI-LANE DIVIDED HIGHWAY OPEN TO TRAFFIC



NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING CHANNELIZING TAPER LENGTHS.

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

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

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

FLASHING ARROW PANELS SHALL, AS A MINIMUM, BE TYPE B, WITH A SIZE OF 60 X 30 INCHES.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

MOBILE OPERATION
ON DIVIDED OR
MULTI-LANE HIGHWAYS
TEMPORARY
TRAFFIC CONTROL
SHEET 17 OF 17

STATE OF MISSOURI
JUAN YIN
NUMBER
PE-2011000967
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/30/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 24
COUNTY CLAY	
JOB NO. J4S3147	
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.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY

PLATTE/CLAY COUNTY

DESIGN DESIGNATION

A.A.D.T. - 2016 = 40,000
A.A.D.T. - 2026 = 59,500
T = 9%
V = 65 M.P.H.

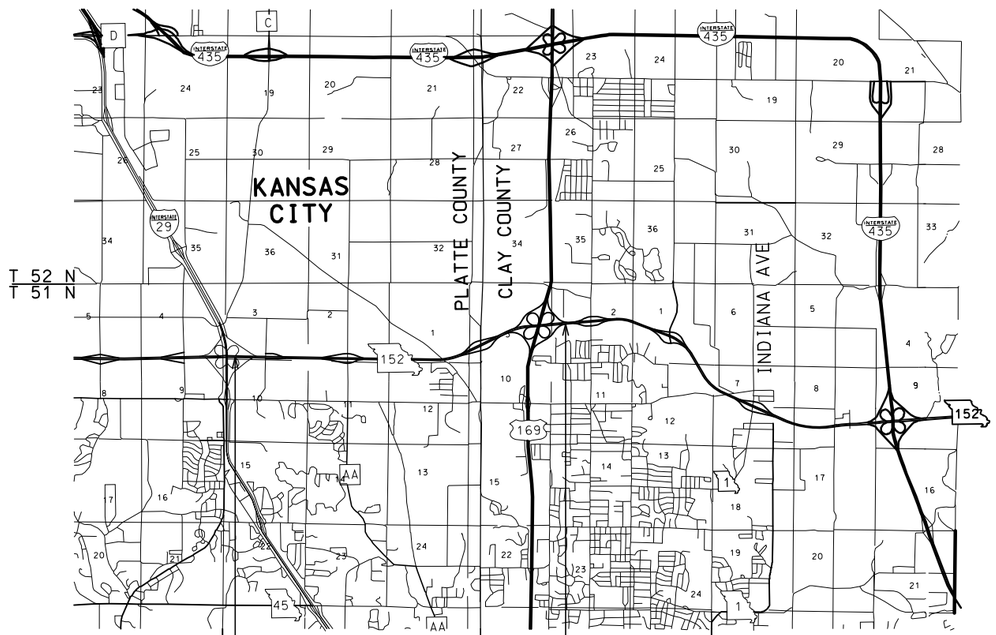
FUNCTIONAL CLASSIFICATION - FREEWAY

NO RIGHT OF WAY ACQUIRED

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



WB LOG 11.4
EB LOG 5.48

WB LOG 8.573
EB LOG 8.574

WB LOG 7.248
EB LOG 9.63

EB 3.094 MILES
WB 2.827 MILES
PLATTE COUNTY

EB 1.056
WB 1.325
CLAY COUNTY

EB&WB 4.15 MILES
TOTAL LENGTH

PROJECT LIMITS:
MO 152, FROM I-29 TO ROUTE 169
RESURFACING MAINLINE, SEAL COAT SHOULDERS
RESURFACING VARIOUS RAMPS
GUARDRAIL UPGRADES, SIGNING

1/2 0 1 2
SCALE IN MILES

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (TS) (3 SHEET)	2
QUANTITIES (QU) (4 SHEETS)	3
SPECIAL SHEETS (SS)	4
TRAFFIC CONTROL SHEETS (TC)	5-11
SIGNING (SN)	12-21

LENGTH OF PROJECT

BEGINNING OF PROJECT	LOG MILE 5.48	
END OF PROJECT	LOG MILE 9.63	
APPARENT LENGTH	4.15	MILES
EQUATIONS AND EXCEPTIONS:		
BRIDGES A6682 & A6683 OVER AMBASSADOR	126	FEET
BRIDGES A3634 & A6473 OVER LINE CREEK	188	FEET
TOTAL CORRECTIONS	314	FEET
NET LENGTH OF PROJECT	21,598.00	FEET
STATE LENGTH	4.09	MILES

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

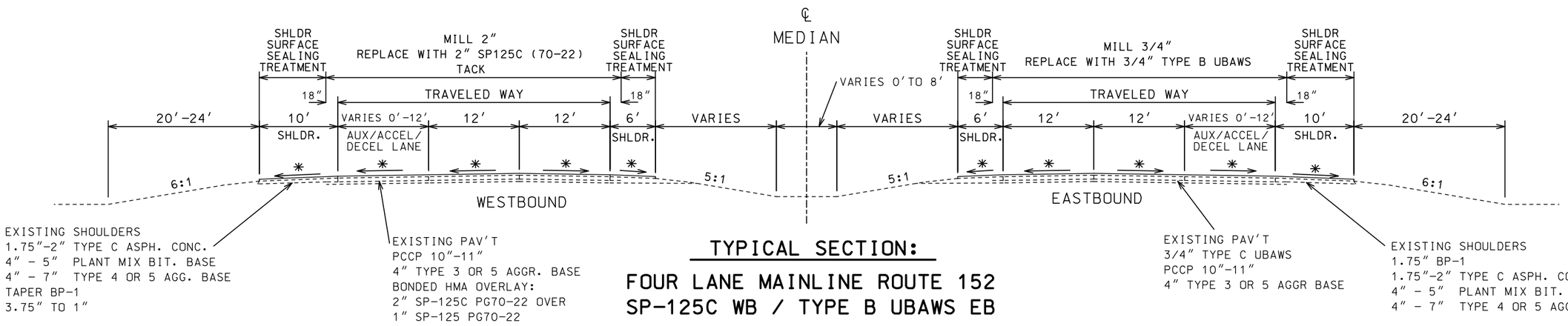
DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 1
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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 SECTION:

FOUR LANE MAINLINE ROUTE 152
SP-125C WB / TYPE B UBAWS EB

EB LOG MILE 5.48 (I-29 BR A3976 EAST SIDE) TO 9.63
WB LOG MILE 7.248 TO 11.4 (I-29 BR 3975 WEST SIDE)

NOTES:

✳ MATCH EXISTING CROSS SLOPE.

SEE SPECIAL PROVISIONS FOR SHOULDER SURFACE SEALING TREATMENT DETAILS.

ASPHALT ESTIMATE FACTORS (FOR INFORMATION PURPOSES ONLY)	
SP-125C (PG 70-22)	1.990 TONS/C.Y.
UBAWS	2.202 TONS/C.Y.
TACK COAT	0.10 GAL/S.Y.

NOT TO SCALE

TYPICAL SECTION
SHEET 1 OF 3

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/9/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	2

COUNTY: PLATTE/CLAY

JOB NO. J4S3149

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

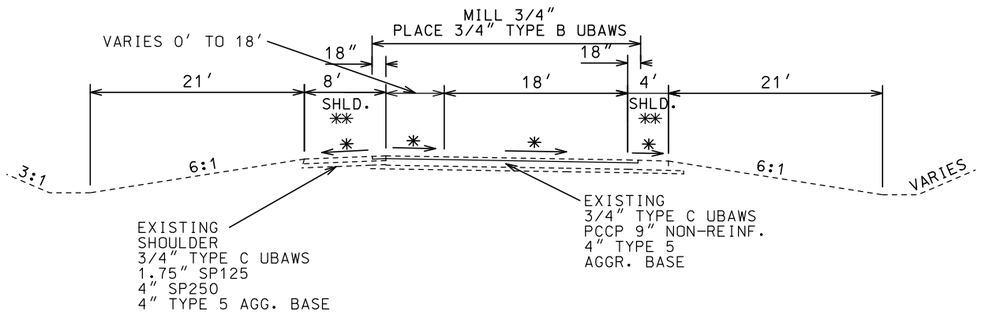
DATE	DESCRIPTION

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

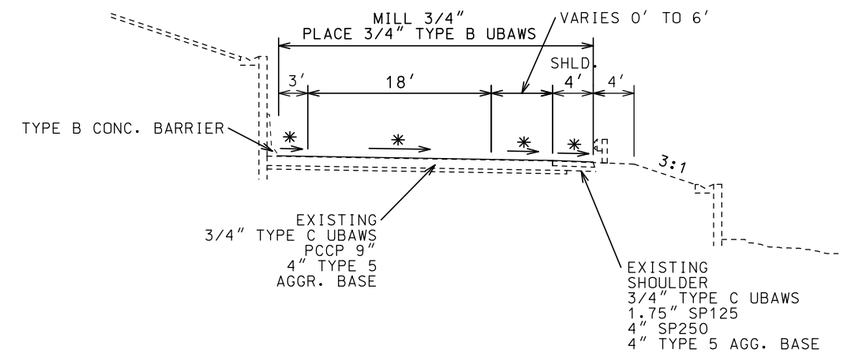
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

TYPICAL SECTION
AMBASSADOR DR RAMP 4 (OFF RAMP)
WESTBOUND ROUTE 152



TYPICAL SECTION
AMBASSADOR DR RAMP 3 (ON RAMP)
EASTBOUND ROUTE 152

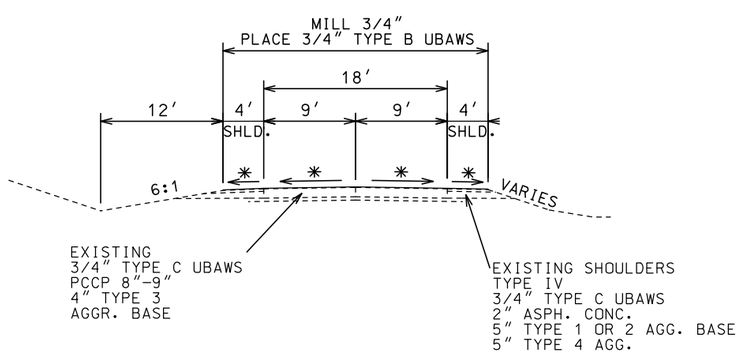


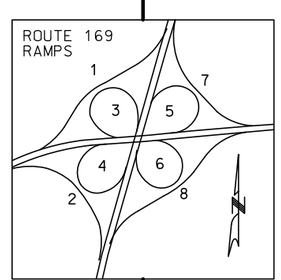
NOTES:

✱ MATCH EXISTING CROSS SLOPE

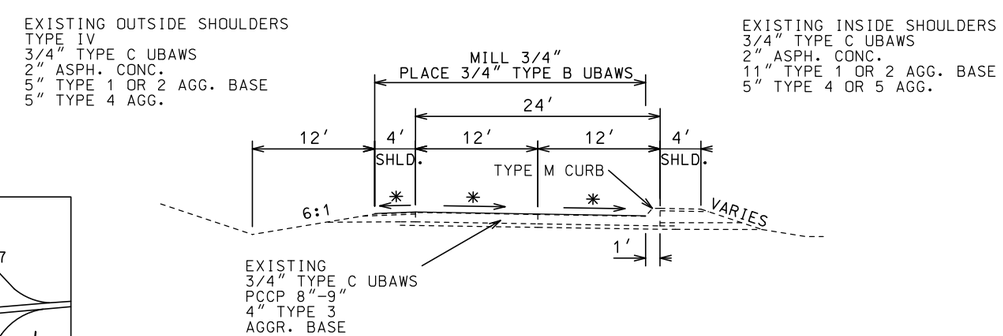
✱✱ REMAINING WIDTH OF SHOULDERS SHALL BE RESURFACE WITH SURFACE SEALING TREATMENT SEE SPECIAL PROVISIONS FOR DETAILS.

TYPICAL SECTION
169 RAMPS 1,2,7,8





TYPICAL SECTION
169 LOOP RAMPS 3,4,5,6



NOT TO SCALE
TYPICAL SECTION
SHEET 2 OF 3

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
10/12/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

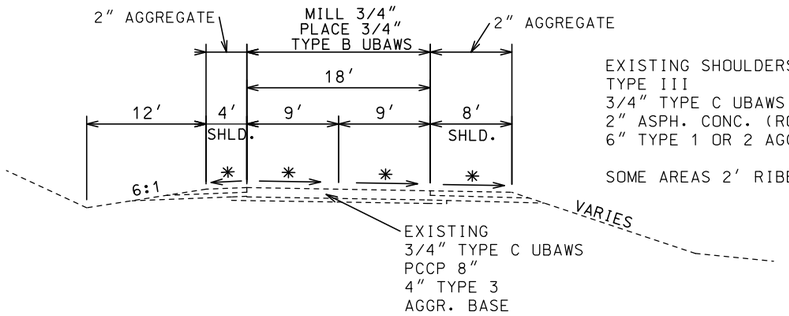
DATE	DESCRIPTION

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.

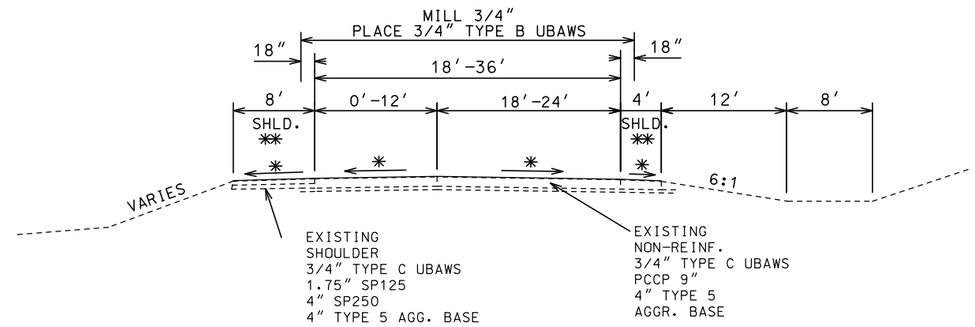
TYPICAL SECTION
PLATTE PURCHASE RAMPS 1,2,3,4



EXISTING SHOULDERS
TYPE III
3/4" TYPE C UBAWS
2" ASPH. CONC. (ROTO-MILLED)
6" TYPE 1 OR 2 AGG. BASE

SOME AREAS 2' RIBBON ONLY

TYPICAL SECTION
GREEN HILLS RD RAMPS 1 AND 4
RAMPS 2 AND 3 MIRRORED



NOTES:

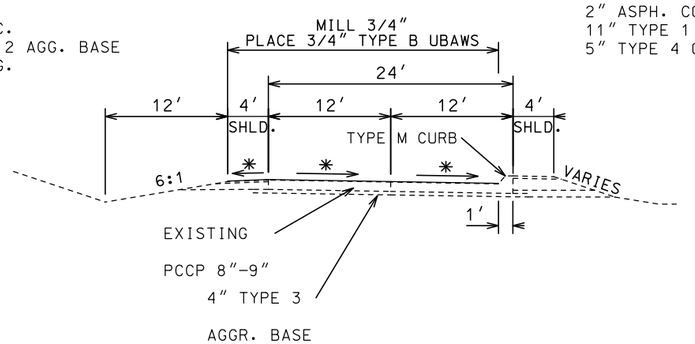
✳ MATCH EXISTING CROSS SLOPE

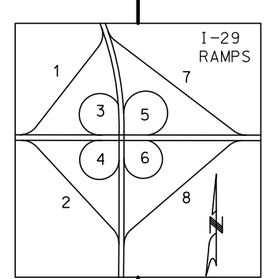
✳✳ REMAINING WIDTH OF SHOULDERS SHALL BE RESURFACE WITH SURFACE SEALING TREATMENT SEE SPECIAL PROVISIONS FOR DETAILS.

TYPICAL SECTION
I-29 LOOP RAMPS 5,6

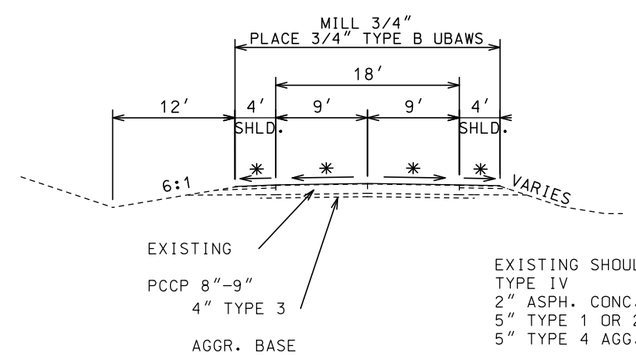
EXISTING OUTSIDE SHOULDERS
TYPE IV
2" ASPH. CONC.
5" TYPE 1 OR 2 AGG. BASE
5" TYPE 4 AGG.

EXISTING INSIDE SHOULDERS
2" ASPH. CONC.
11" TYPE 1 OR 2 AGG. BASE
5" TYPE 4 OR 5 AGG.





TYPICAL SECTION
I-29 RAMPS 7,8



EXISTING SHOULDERS
TYPE IV
2" ASPH. CONC.
5" TYPE 1 OR 2 AGG. BASE
5" TYPE 4 AGG.

TYPICAL SECTION
SHEET 3 OF 3

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
10/27/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 2
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
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.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

REMOVAL OF IMPROVEMENTS = 1 LUMP SUM	
GUARDRAIL END TERMINALS (EA)	24
GUARDRAIL END ANCHOR (EA)	10
GUARDRAIL TRANSITION SECTION (EA)	4
GUARDRAIL BRIDGE ANCHOR SECTION (EA)	4
GUARDRAIL TYPE A (LF)	5100
SIGN REMOVAL (EA)	2

NOTE: SEE GUARDRAIL QUANTITIES FOR LOCATIONS
GUARDRAIL REMOVAL QUANTITIES SHALL
BE FIELD MEASURED.

LOOP DETECTORS		
LOCATION	DETECTORS TO REPLACE EA	IN-DUCT LOOPS LF
AMBASSADOR DRIVE	3	1155
GREEN HILLS ROAD	4	1540
	TOTAL	2695
	PAY TOTAL	2700

MOBILIZATION
LUMP SUM = 1

HIGWAY SIGNING TRUSS
1 EACH

HIGWAY SIGNING CANTILEVER
1 EACH

FULL DEPTH PAVEMENT REPAIR						
AREA SY	FURNISHING AND PLACING CONC. MAT'L FULL DEPTH SY	SUBGRADE COMPACTION SY	TYPE 1 OR 5 AGGR. FOR BASE SY	SAW CUT LF	DOWEL BAR EA	LOCATION DESCRIPTION
115	115	11.5	11.5	540	450	MAINLINE
PAYTOTAL	115.0	12	12	540	450	

PARTIAL DEPTH PAVEMENT REPAIR				
AREA SY	FURNISHING AND PLACING BIT. MAT'L CLASS B (5" DEPTH) TON	REMOVAL FOR CLASS B SY	TACK COAT (0.10 GAL/SY) GAL	LOCATION DESCRIPTION
100	27.8	100.0	10	MAINLINE
PAY TOTAL	27.8	100.0	10	

GUARDRAIL								
LOCATION	MASH CRASHWORTHY END TERMINAL EA	MGS END ACHOR EA	MGS BRIDGE ANCHOR TRANSITION SECTION EA	MGS TRANSITION TO TYPE A GUARDRAIL LF	MGS GUARDRAIL 8' POSTS LF	MGS GUARDRAIL 6' POSTS LF	SHAPING SLOPES CLASS III 100FT	REMARKS
ROUTE 152 EASTBOUND								
AMBASSADOR BRIDGE	2			50			1.90	
AMBASSADOR ON RAMP		2			1175		11.75	RIGHT SIDE OF RAMP
LINE CREEK BRIDGE	2			50			1.90	
PLATTE PURCHASE OVERPASS	2		2		125.0		2.65	THIS IS ON THE OVERPASS BRIDGE OVER ROUTE 152
EX. SIGN TRUSS	2			50			1.90	
ROUTE 169 - RAMP 8	1	1			237.5		3.08	LEFT SIDE OF RAMP
ROUTE 169 - RAMP 8	1	1			1950	125	21.45	RIGHT SIDE OF RAMP
ROUTE 152 WESTBOUND								
ROUTE 169 RAMP 7	1	1			337.5		4.08	RIGHT SIDE OF RAMP
ROUTE 169 RAMP 7	1	1			300		3.70	LEFT SIDE OF RAMP
PLATTE PURCHASE OVERPASS	2		2		75		2.15	THIS IS ON THE OVERPASS BRIDGE OVER ROUTE 152
LINE CREEK BRIDGE	2			50			1.90	
NEW TRUSS SIGN	1	1				112.5	1.83	LEFT SIDE OF ROADWAY
NEW TRUSS SIGN	1	1				112.5	1.83	RIGHT SIDE OF ROADWAY
NEW CANTILEVER TRUSS SIGN	1	1				162.5	2.33	RIGHT SIDE OF ROADWAY
AMBASSADOR BRIDGE	2			50			1.90	
AMBASSADOR OFF RAMP	1	1			475		5.45	RIGHT SIDE OF RAMP
ROUTE I-29 BRIDGE	2			50			1.90	
TOTAL	24	10	4	300	4675	513	72	
PAY TOTAL	24	10	4	4975		513	72	

SUMMARY SHEET
SHEET 1 OF 4

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/12/2016
ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 3
COUNTY PLATTE/CLAY
JOB NO. J4S3149
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.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PAVEMENT MARKING													
LOG MILE	LOG MILE	LOCATION	LENGTH LF	WHITE 6" LF	WHITE INTERMITTENT 6" LF	WHITE DOTTED ✳ 6", 3'-9' SPACING LF	YELLOW 6" LF	WHITE 12" LF	WHITE DOTTED ✳ 12", 3'-9' SPACING LF	12" WHITE YIELD LINE TRIANGLE EA	STOP BAR 24" LF	ARROWS LEFT/ RIGHT EA	REMARKS
7.248	11.4	MAINLINE - WB	21607.56	21608	5402		21608						
5.48	9.63	MAINLINE - EB	21597.00	21597	5399		21597						
EASTBOUND 152													
		I-29	200			50							EB DECEL LANE TO I-29 LOOP RAMP
		I-29 RAMP	1500	1500			1500	325					LOOP RAMP (EB 152 TO NB I-29)
		I-29 RAMP	2500	2500			2500	325					NB I-29 TO EB 152
		I-29	600			150							ACCEL LANE FROM RAMP TO BRIDGE OVER AMBASSODOR
		AMBASSODOR	1200	1200			1200	460				6	ON RAMP AMBASSODOR
		AMBASSODOR	2440						610				ACCEL LANE AMBASSODOR TO GREEN HILLS
		GREEN HILLS	1600	1600			1600	690		10	36		OFF RAMP GREEN HILLS ROAD
		GREEN HILLS	835	835			835	374					ON RAMP GREEN HILLS
		GREEN HILLS	450			113							ON RAMP ACCEL LANE AT GREEN HILLS
		GREEN HILLS	300										ON RAMP ACCEL TAPER LANE AT GREEN HILLS
		PLATTE PURCHASE	250										ON RAMP DECEL TAPER LANE AT PLATTE PURCHASE
		PLATTE PURCHASE	500			125							ON RAMP DECEL LANE AT PLATTE PURCHASE
		PLATTE PURCHASE	1460	1460			1460	440			36		OFF RAMP PLATTE PURCHASE
		PLATTE PURCHASE	1560	1560			1560	280					ON RAMP PLATTE PURCHASE
		ROUTE 169	600						150				ACCEL/DECEL PLATTE PURCHASE TO ROUTE 169
		ROUTE 169	2540	2540			2540	315					RAMP EB 152 TO SB ROUTE 169
		ROUTE 169	1670	1670			1670	325					LOOP RAMP SB ROUTE 169 TO EB 152
		ROUTE 169	1020						255				LANE BETWEEN LOOP RAMPS FOR ROUTE 169
		ROUTE 169	1825	1825			1825	300					LOOP RAMP NB ROUTE 169 TO EB 152
		ROUTE 169	2440	2440			2440	240					RAMP NB ROUTE 169 TO EB 152
WESTBBOUND 152													
		ROUTE 169	2200	2200			2200	425					RAMP WB 152 TO NB ROUTE 169
		ROUTE 169	1650	1650			1650	350					LOOP RAMP NB ROUTE 169 TO WB 152
		ROUTE 169	1100						275				LANE BETWEEN LOOP RAMPS FOR ROUTE 169
		ROUTE 169	1850	1850			1850	300					LOOP RAMP WB 152 TO SB ROUTE 169
		ROUTE 169	2922	2922			2922	380					RAMP SB ROUTE 160 TO WB 152
		ROUTE 169	1450						363				ACCEL/DECE LANE ROUTE 169 TO PLATTE PURCHASE
		PLATTE PURCHASE	900	900			900	535			36		OFF RAMP PLATTE PURCHASE
		PLATTE PURCHASE	1480	1480			1480	375					ON RAMP PLATTE PURCHASE
		PLATTE PURCHASE	400			100							ACCEL LANE PLATTE PURCHASE
		PLATTE PURCHASE	300										ACCEL LANE TAPER PLATTE PURCHASE
		GREEN HILLS	250										DECEL LANE TAPER GREEN HILLS
		GREEN HILLS	375			94							DECEL LANE GREEN HILLS
		GREEN HILLS	1100	1100			1100	500		10	36	6	OFF RAMP GREEN HILLS
		GREEN HILLS	1500	1500			1500	920					ON RAMP GREEN HILLS
		GREEN HILLS	2650						663				ACCEL LANE GREEN HILLS TO AMBASSODOR
		AMBASSODOR	1200	1200			1200	360			36	6	OFF RAMP AMBASSODOR
		I-29	350										RAMP TAPER WB 152 TO NB i-29
		I-29	450			113							RAMP DECEL LANE WB 152 TO NB i-29
		I-29	2660	2660			2660	370					RAMP FROM WB 152 TO NB I-29
		I-29	1600	1600			1600	325					LOOP RAMP NB I-29 TO WB 152
		TOTAL	81397	10801		745	81397	8914	2316	20	180	18	
		PAY TOTAL	92943				81397	11230		20	180	18	

✳ CHANGE FROM EXISTING PAVEMENT MARKING, SEE STANDARD PLANS 620.00 FOR DETAILS

SUMMARY SHEET
SHEET 2 OF 4

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/12/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY PLATTE/CLAY

JOB NO. J4S3149

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.

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

PAVEMENT												
LOG MILE	LOG MILE	LOCATION	LENGTH LF	WIDTH MAINLINE LF	2.0" SP125C (70-22) TONS	TACK GAL	3/4" TYPE B UBAWS SY	SURFACE SEALING TREATMENT (SHLDRS) SY	COLDMILL SY	GRAVEL SY	RUMBLE STA	REMARKS
7.248	11.4	MAINLINE - WB	21608.56	27	7166.84	6482.57		31212.36	64825.68		432.17	BRIDGE LENGTHS SUBTRACTED
5.48	9.63	MAINLINE - EB	21598.00	27			64794.00	31197.11	64794.00		431.96	BRIDGE LENGTHS SUBTRACTED
						EASTBOUND 152						
		I-29	200	12			266.67		266.67			EB DECEL LANE TO NB I-29 LOOP RAMP
		I-29 RAMP	1500	27			4500.00		4500.00			LOOP RAMP (EB 152 TO NB I-29)
		I-29 RAMP	2500	27			7500.00		7500.00			NB I-29 TO EB 152
		I-29	600	12			900.00		900.00			ACCEL LANE FROM RAMP TO BRIDGE OVER AMBASSODOR
		AMBASSODOR	1200	25			3333.33		3333.33			ON RAMP AMBASSODOR (START AT CONC. AT BOTTOM OF RAMP)
		AMBASSODOR	2440	12			3660.00		3660.00			ACCEL LANE AMBASSODOR TO GREEN HILLS
		GREEN HILLS	1600	21			4366.67	1600.00	4366.67			OFF RAMP GREN HILLS ROAD (STOP AT CONC. AT TOP OF RAMP)
		GREEN HILLS	835	21			2081.67	835.00	2081.67			ON RAMP GREEN HILLS (START AT CONC. AT TOP OF RAMP)
		GREEN HILLS	450	12			600.00		600.00			ON RAMP ACCEL LANE AT GREEN HILLS
		GREEN HILLS	300	12			200.00		200.00			ON RAMP ACCEL TAPER LANE AT GREEN HILLS
		PLATTE PURCHASE	250	12			166.67		166.67			ON RAMP DECEL TAPER LANE AT PLATTE PURCHASE
		PLATTE PURCHASE	500	12			666.67		666.67			ON RAMP DECEL LANE AT PLATTE PURCHASE
		PLATTE PURCHASE	1460	18			3075.56		3075.56	2013.33		OFF RAMP PLATTE PURCHASE(STOP AT CONC. AT TOP OF RAMP)
		PLATTE PURCHASE	1560	18			3208.89		3208.89	2146.67		ON RAMP PLATTE PURCHASE(START AT CONC. AT TOP OF RAMP)
		ROUTE 169	600	12			800.00		800.00			ACCEL/DECEL PLATTE PURCHASE TO ROUTE 169
		ROUTE 169	2540	26			7337.78		7337.78			RAMP EB 152 TO SB ROUTE 169
		ROUTE 169	1670	27			5010.00		5010.00			LOOP RAMP SB ROUTE 169 TO EB 152
		ROUTE 169	1020	12			1360.00		1360.00			LANE BETWEEN LOOP RAMPS FOR ROUTE 169
		ROUTE 169	1825	27			5475.00		5475.00			LOOP RAMP NB ROUTE 169 TO EB 152
		ROUTE 169	2440	26			7048.89		7048.89			RAMP NB ROUTE 169 TO EB 152
						WESTBOUND 152						
		ROUTE 169	2200	26			6355.56		6355.56			RAMP WB 152 TO NB ROUTE 169
		ROUTE 169	1650	27			4950.00		4950.00			LOOP RAMP NB ROUTE 169 TO WB 152
		ROUTE 169	1100	12	162.15	146.67			1466.67			LANE BETWEEN LOOP RAMPS FOR ROUTE 169
		ROUTE 169	1850	27			5550.00		5550.00			LOOP RAMP WB 152 TO SB ROUTE 169
		ROUTE 169	2922	26			8441.33		8441.33			RAMP SB ROUTE 160 TO WB 152
		ROUTE 169	1450	12	213.74	193.33			1933.33			ACCEL/DECE LANE ROUTE 169 TO PLATTE PURCHASE
		PLATTE PURCHASE	900	18			1922.22		1922.22	1266.67		OFF RAMP PLATTE PURCHASE(STOP AT CONC. AT TOP OF RAMP)
		PLATTE PURCHASE	1480	18			3048.89		3048.89	2040.00		ON RAMP PLATTE PURCHASE(START AT CONC. AT TOP OF RAMP)
		PLATTE PURCHASE	400	12	58.96	53.33			533.33			ACCEL LANE PLATTE PURCHASE
		PLATTE PURCHASE	300	12	22.11	20.00			200.00			ACCEL LANE TAPER PLATTE PURCHASE
		GREEN HILLS	250	12	18.43	16.67			166.67			DECEL LANE TAPER GREEN HILLS
		GREEN HILLS	375	12	55.28	50.00			500.00			DECEL LANE GREEN HILLS
		GREEN HILLS	1100	21			3713.33	1344.44	3713.33			OFF RAMP GREEN HILLS (STOP AT CONC. AT TOP OF RAMP)
		GREEN HILLS	1500	27			4500.00	1833.33	4500.00			ON RAMP GREEN HILLS (START AT CONC. AT TOP OF RAMP)
		GREEN HILLS	2650	12	390.63	353.33			3533.33			ACCEL LANE GREEN HILLS TO AMBASSODOR
		AMBASSODOR	1200	24			3866.67	1333.33	3866.67			OFF RAMP AMBASSODOR (STOP AT CONC. AT BOTTOM OF RAMP)
		I-29	350	12	25.80	23.33			233.33			RAMP TAPER WB 152 TO NB I-29
		I-29	450	12	66.33	60.00			600.00			RAMP DECEL LANE WB 152 TO NB I-29
		I-29	2660	27			7980.00		7980.00			RAMP FROM WB 152 TO NB I-29
		I-29	1600	27			4800.00		4800.00			LOOP RAMP NB I-29 TO WB 152
				SUB TOTAL	8180.27	7399.23	181479.80	69355.57	255472.14	7466.67	864.13	
				PAV'T REPAIR		10.00						
				PAY TOTAL	8180.3	7410	181480	69356	255472	7467	864.1	

SUMMARY SHEET
SHEET 3 OF 4

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/9/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY: PLATTE/CLAY

JOB NO. J4S3149

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.

REV.

EFFECTIVE: 04-01-2016

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					REVERSE CURVE (SYMBOL LEFT ARROW)
W01-4R	48X48	16.00					REVERSE CURVE (SYMBOL RIGHT ARROW)
W01-4bL	48X48	16.00					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
W01-bR	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					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 BARRICADE
W01-8	18X24	3.00					CHEVRON (SYMBOL)
W01-8a	30X36	7.50					CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
W03-1	48X49	16.00					STOP AHEAD (SYMBOL)
W03-2	48X48	16.00	2	32			YIELD AHEAD (SYMBOL)
W03-3	48X48	16.00					SIGNAL AHEAD (SYMBOL)
W03-4	48X48	16.00					BE PREPARED TO STOP
W03-5	48X48	16.00					SPEED LIMIT AHEAD
W04-1L	48X48	16.00	2	32			MERGE (SYMBOL FROM LEFT)
W04-1R	48X48	16.00	2	32			MERGE (SYMBOL FROM RIGHT)
W05-1	48X48	16.00	2	32			ROAD/BRIDGE/RAMP NARROWS
W05-3	48X48	16.00					ONE LANE BRIDGE
W05-5	48X48	16.00	4	64			NARROW LANES
W06-1	48X48	16.00					DIVIDED HIGHWAY (SYMBOL)
W06-2	48X48	16.00					DIVIDED HIGHWAY END (SYMBOL)
W06-3	48X48	16.00					TWO WAY TRAFFIC (SYMBOL)
W07-3a	30X24	5.00	4	20			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	2	12.5			ADVISORY SPEED (PLAQUE)
W016-2	30X24	5.00					XXX FEET (PLAQUE)
W016-3	30X24	5.00					X MILE (PLAQUE)
W020-1	48X48	16.00	14	224			ROAD/BRIDGE/RAMP WORK AHEAD
W020-2	48X48	16.00					DETOUR AHEAD
W020-3	48X48	16.00	2	32			ROAD CLOSED AHEAD
W020-4	48X48	16.00	2	32			ONE LANE ROAD AHEAD
W020-5	48X48	16.00	4	64			RIGHT/CENTER/LEFT LANE CLOSED AHEAD

SIGN	SIZE (IN.)	AREA (SQ. FT.)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
W020-5a	48X48	16.00					2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
W020-6a	48X48	16.00	4	64			RIGHT/CENTER/LEFT LANE CLOSED
W020-7a	48X48	16.00					FLAGGER (SYMBOL)
W021-2	36X36	9.00					FRESH OIL
W021-5b	48X48	16.00	4	64			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	4	8.76			WET PAINT (ARROW PIVOTS)
GUIDE SIGNS							
SPECIAL	36X36	9.00					FRESH OIL / LOOSE GRAVEL
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			ROAD WORK NEXT 4 MILES
G020-2	48X24	8.00	4	32			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	4	24			WORK ZONE (PLAQUE)
M04-8a	24X18	3.00					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	2	13.86			YIELD
R1-2a	36X36	9.00					TO ONCOMING TRAFFIC (PLAQUE)
R1-3	30X9	1.25					X-WAY (PLAQUE)
R2-1	36X48	12.00	8	96			SPEED LIMIT 4-55, 4-65
R3-1	48X48	16.00					NO RIGHT TURN (SYMBOL)
R3-2	48X48	16.00					NO LEFT TURN (SYMBOL)
R3-3	36X36	9.00					NO TURNS
R3-4	48X48	16.00					NO U-TURN (SYMBOL)
R3-7L	30X30	6.25					LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25					RIGHT LANE MUST TURN RIGHT
R4-1	36X48	12.00					DO NOT PASS
R4-2	36X48	12.00					PASS WITH CARE
R4-7aL	36X48	12.00					KEEP LEFT (HORIZONTAL ARROW)
R4-7a	36X48	12.00					KEEP RIGHT (HORIZONTAL ARROW)
R5-1	30X30	6.25					DO NOT ENTER
R5-1a	36X24	6.00					WRONG WAY
R6-1L	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					STOP HERE ON RED (45° ARROW)
R11-2	48X30	10.00	2	20			ROAD CLOSED
R11-3a	60X30	12.50					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50					ROAD CLOSED TO THRU TRAFFIC
S4-4	36X15	3.75					WHEN FLASHING
CONST-3A	60X48	20.00					FINE SIGN
	57X12	4.67					SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS							
SPECIAL	36X48	12.00					POINT OF PRESENCE
SPECIAL	96X48	32.00	2	64			POINT OF PRESENCE
SPECIAL1	36X48	12.00	2	24			WORK ZONE NO PHONE ZONE
CONST-7-48	48X24	8.00					RATE OUR WORK ZONE
CONST-7-72	72X36	18.00	2	36			RATE OUR WORK ZONE
616-10.05 CONSTRUCTION SIGNS TOTAL				1063			
616-10.10 RELOCATED SIGNS TOTAL							

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		IMPACT ATTENUATOR (19 SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR ARRAY (RELOCATION)
6123000A	2	TRUCK MOUNTED ATTENUATOR (TMA)
6161007		SPEED LIMIT & STROBE LIGHT ASSEMBLY
6161008	14	ADVANCED WARNING RAIL SYSTEM
6161009	14	FLAG ASSEMBLY
6121020		CHANNELIZER (DRUM-LIKE)
6161022		CHANNELIZER (CONES)
6161024		CHANNELIZER (TRIM-LINE) WITH LIGHT
6161025	200	CHANNELIZER (TRIM-LINE)
6161026		CHANNELIZER (VERTICAL PANEL)
6161027		CHANNELIZER (VERTICAL PANEL) WITH LIGHT
6161028		CHANNELIZER
6161030	3	TYPE III MOVEABLE BARRICADE
6161031		TYPE III MOVEABLE BARRICADE WITH LIGHT
6161033	60	DIRECTION INDICATOR BARRICADE
6161034		DIRECTION INDICATOR BARRICADE, WITH LIGHT
6161040	4	FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161051		WARNING LIGHT, TYPE A
6161052		WARNING LIGHT, TYPE B
6161053		WARNING LIGHT, TYPE C
6161055	60	SEQUENTIAL FLASHING WARNING LIGHT
6161070		TUBULAR MARKER
6161095		RADAR SPEED ADVISORY SYSTEM
6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
6161098A		CHANGEABLE MESSAGE SIGN, W/O COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6161099	2	CHANGEABLE MESSAGE SIGN, W/COMM INTERFACE CONTRACTOR FURNISHED/RETAINED
6162010		WORK ZONE LIGHTING
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6173600D		CONTRACTOR FURNISHED/RETAINED TEMPORARY CONCRETE TRAFFIC BARRIER, TYPE F
6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED TEMPORARY CONCRETE TRAFFIC BARRIER, TYPE F
6174000A		TEMPORARY CONCRETE BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY CONCRETE TRAFFIC BARRIER
6176000B		COMMISSION FURNISHED/RETAINED TEMPORARY CONCRETE TRAFFIC BARRIER, TYPE F
6177000B		COMMISSION FURNISHED/RETAINED PRECAST BARRIER HEIGHT TRANSITION
6208065		TEMPORARY RAISED PAVEMENT MARKER
9019400		TEMPORARY LIGHTING
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING
6169901		WORK ZONE INTELLIGENT TRANSPORTATION SYSTEM

SUMMARY SHEET
SHEET 4 OF 4

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/12/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	3

COUNTY: PLATTE/CLAY

JOB NO. J4S3149

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

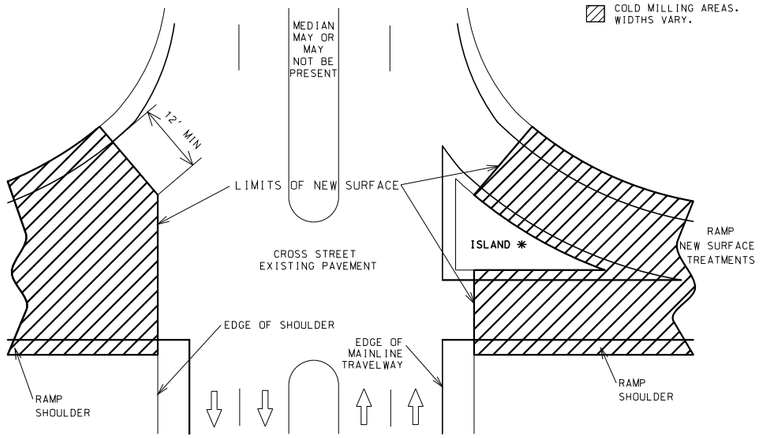
DATE	DESCRIPTION

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.

REV.



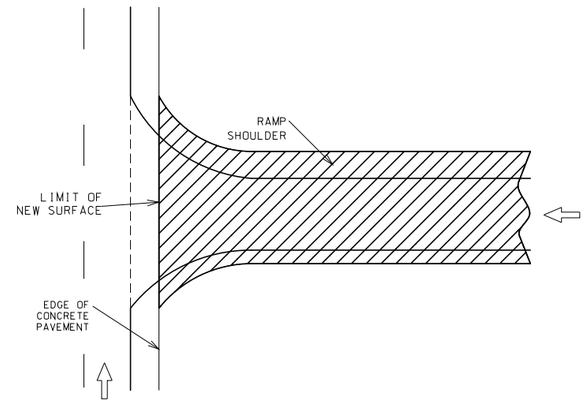
NOTES:

✳ ISLAND PRESENT AT:
ALL GREEN HILLS RAMPS AND PLATTE PURCHASE OFF RAMPS

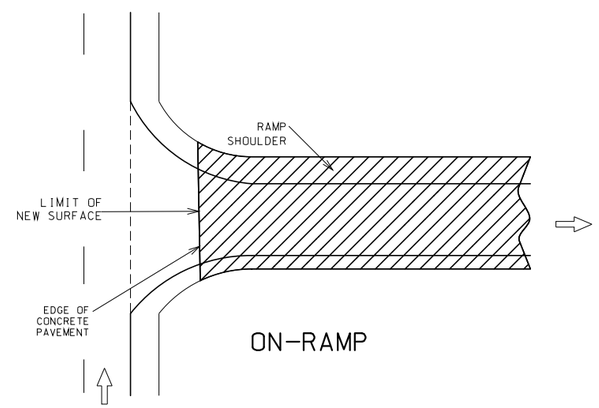
✳✳ LOOP DETECTORS PRESENT AT:
AMBASSADOR DRIVE (3 WB), GREEN HILLS RD (2 EB, 2 WB)

PLATTE PURCHASE RAMPS MILL AREAS WILL NOT INCLUDE SHOULDERS

MO 152 RAMP PLAN AT CROSS STREETS
GREEN HILLS ROAD AND PLATTE PURCHASE DR.

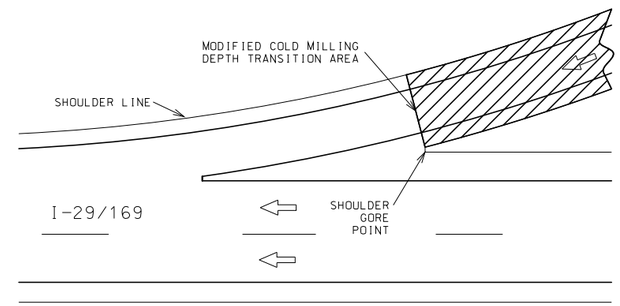


OFF-RAMP



ON-RAMP

MO 152 RAMP PLAN
AT AMBASSADOR DRIVE



MO 152 RAMP PLAN AT I-29 AND 169
RAMPS 2 AND 3
RAMPS 1 AND 4 SAME METHOD

NOT TO SCALE
PAVEMENT DETAILS AT RAMPS

SPECIAL SHEET
1 OF 1

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 4
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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

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REV.

Traffic Control Legend, Sign Spacing, Device Spacing, Channelizing Taper Lengths And Recommended Maximum Speed Reductions

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

TAPER LENGTHS AND END TREATEMENTS FOR CONCRETE BARRIER				
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (3)			END TREATMENT (4)
	10′	11′	12′	
β40	160′	168′	176′	BARRIER HEIGHT TRANSITION
₵40	160′	168′	176′	APPROVED CRASH CUSHION

TAPER LENGTHS AND SAPCING FOR CHANNELIZERS							
PERMANENT POSTED SPEED MPH	MINIMUM LANE TAPER LENGTH (3)			MINIMUM SHOULDER TAPER LENGTH BASED ON 10′ SHOULDER	BUFFER LENGTH FT	MAXIMUM CHANNELIZER SPACING	
	10′	11′	12′			THROUGH TAPER	THROUGH WORK AREA
0-35	205′	225′	245′	70′	280′	35′	40′
40-45	450′	495′	540′	150′	400′	40′	80′
50-55	550′	605′	660′	185′	560′	50′	80′
60-70	700′	770′	840′	235′	840′	60′	120′

** THE SA DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN.

THE SB DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS.

THE SC DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS.

(THE "FIRST SIGN" IS THE SIGN IN A THREE-SIGN SERIES THAT IS CLOSEST TO THE TEMPORARY TRAFFIC CONTROL ZONE. THE "THIRD SIGN" IS THE SIGN THAT IS FURTHEST UPSTREAM FROM THE TEMPORARY TRAFFIC CONTROL ZONE)

DETAILS NOTES:

(1) SPACING BETWEEN SIGNS AND SPACING BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER, OF SIGNED CONDITION.

(2) SPACING MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

(3) TAPER LENGTHS SHOWN INCLUDE LENGTH REQUIRED FOR LANE AND 10' SHOULDER

(4) CONCRETE BARRIER MAY BE INSTALLED AT 8:1 FLARE RATE FROM THE SHOULDER POINT OF THE LIMITS OF THE CLEAR ZONE WHERE THE SIDE SLOPE IS 6:1 OR FLATTER

TAPER LENGTH (L)

L = W X P FOR 40 MPH OR MORE

$L = \frac{WP^2}{60}$ FOR 35 MPH OR LESS

L = TAPER LENGTH IN FEET

W = LATERAL SHIFT IN FEET

P = POSTED SPEED PRIOR TO ROAD WORK IN MPH

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- PROTECTIVE VEHICLE WITH WORK SIGN, FLASHING ARROW PANEL AND REAR-MOUNTED IMPACT ATTENUATOR UNIT.
- FLASHING ARROW PANEL
- CHANGEABLE MESSAGE BOARD
- BARRICADE

LEGEND NOTE:

THE PROTECTIVE VEHICLE SIGN SHALL BE MOUNTED AT A RECOMMENDED HEIGHT OF 48 IN. ABOVE THE ROAD SURFACE.

GENERAL NOTES:

1. SEE STANDARD PLAN 616.10 FOR DETAILS AND ITEMS NOT SHOWN.
2. EXISTING SIGNS SHALL BE COVERED DURING WORKING HOURS ONLY IF IN CONFLICT WITH TRAFFIC CONTROL PLANS.
3. NO DIRECT PAYMENT WILL BE MADE FOR RELOCATING, COVERING, UNCOVERING OR REMOVING SIGNS.
4. CONES ALLOWABLE FOR DAYTIME OPERATIONS ONLY.
5. LOCATE FLASHING ARROW PANEL AT BEGINNING OF TAPER WHEN FEASIBLE, ARROW PANELS ARE ALWAYS LOCATED BEHIND CHANNELIZERS OR CONES.

EPG TABLE 616.29 RECOMMENDED MAXIMUM SPEED REDUCTIONS	
ACTIVITY (I.E. WORKERS, EQUIPMENT OR MATERIAL) LOCATION	RECOMMENDED WORK ZONE SPEED REDUCTION (WHEN APPLICABLE)
10 FT. BEYOND EDGE OF TRAVELWAY TO EDGE OF RIGHT OF WAY	NO SPEED REDUCTION
IN TRAFFIC LANE OR WITHIN 10FT. OF THE TRAFFIC LANE	10 MPH
HEAD-TO-HEAD ON MULTILANE	10 MPH
SPECIAL CIRCUMSTANCES WITHIN A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY WARRANT A LOWER SPEED LIMIT THAN RECOMMENDED ABOVE. ALL SPEED LIMIT REDUCTIONS GREATER THAN 10 MPH SHALL BE DOCUMENTED, SUBMITTED TO AND APPROVED BY THE DISTRICT WORK ZONE COORDINATOR.	

DEVICE SPACING
TEMPORARY
TRAFFIC CONTROL
SHEET 1 OF 7

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/9/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	5

COUNTY PLATTE/CLAY

JOB NO. J4S3149

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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

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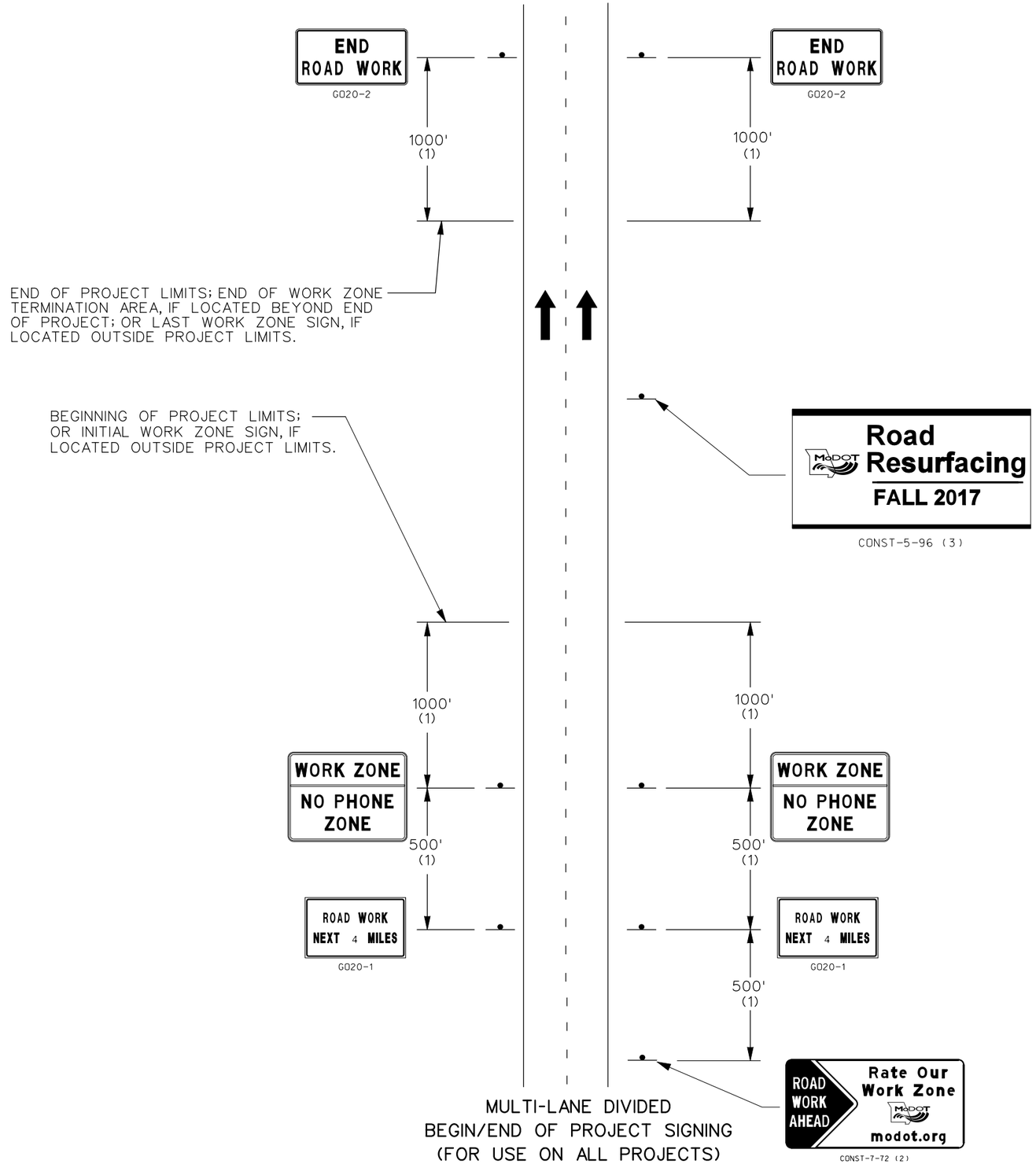
REV.



MULTI-LANE DIVIDED
BEGIN/END OF PROJECT SIGNING
(FOR USE ON ALL PROJECTS)

NOTES:

SIGN (1) IS REQUIRED PER EPG 616.2.3.

SIGN (26) IS USED ON ALL PROJECTS WHERE SIGN (1) IS USED.

OTHER SIGNS SUCH AS DETOUR OR ALTERNATE ROUTE SIGNING MAY BE USED OUTSIDE THE PROJECT LIMITS.

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

(1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.

(2) SIGN CONST-7-72 OR CONST-7-48 IS PLACED 500 FEET BEFORE THE BEGINNING OF PROJECT LIMITS OR THE ROAD WORK AHEAD SIGN OR ROAD WORK NEXT XX MILES SIGN, IF USED, WHEN THESE SIGNS ARE LOCATED OUTSIDE THE PROJECT LIMITS.

(3) SIGN CONST-5-96 IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATION WITHIN THE PROJECT IS NOT AVAILABLE, THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN CONST-7-72 OR CONST-7-48.

BEGIN/END
TEMPORARY
TRAFFIC CONTROL
SHEET 2 OF 7

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 6
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
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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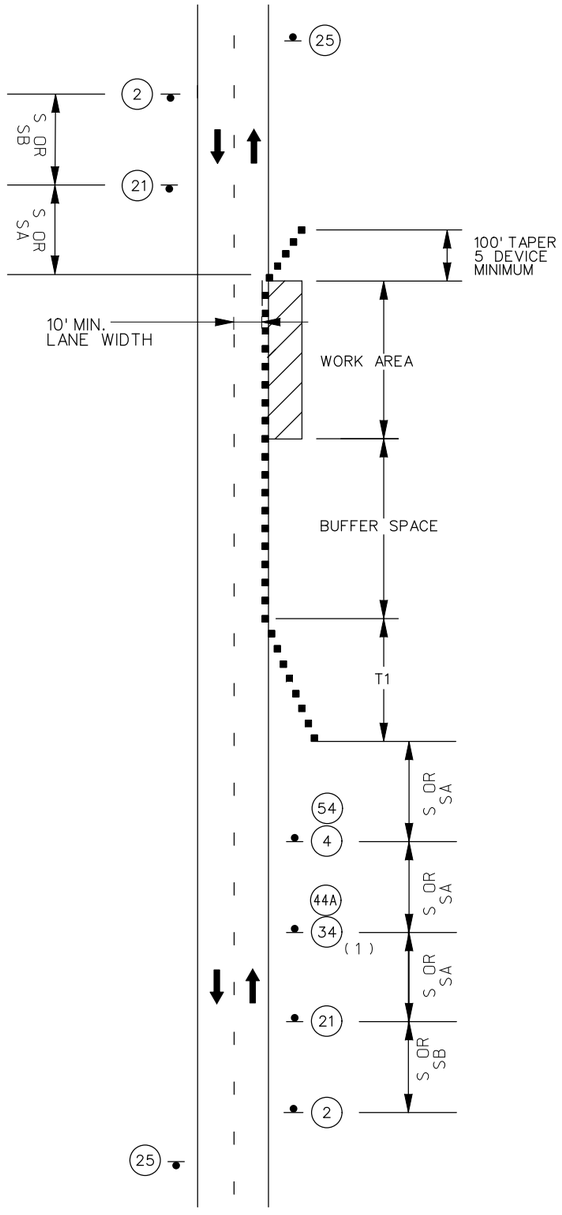
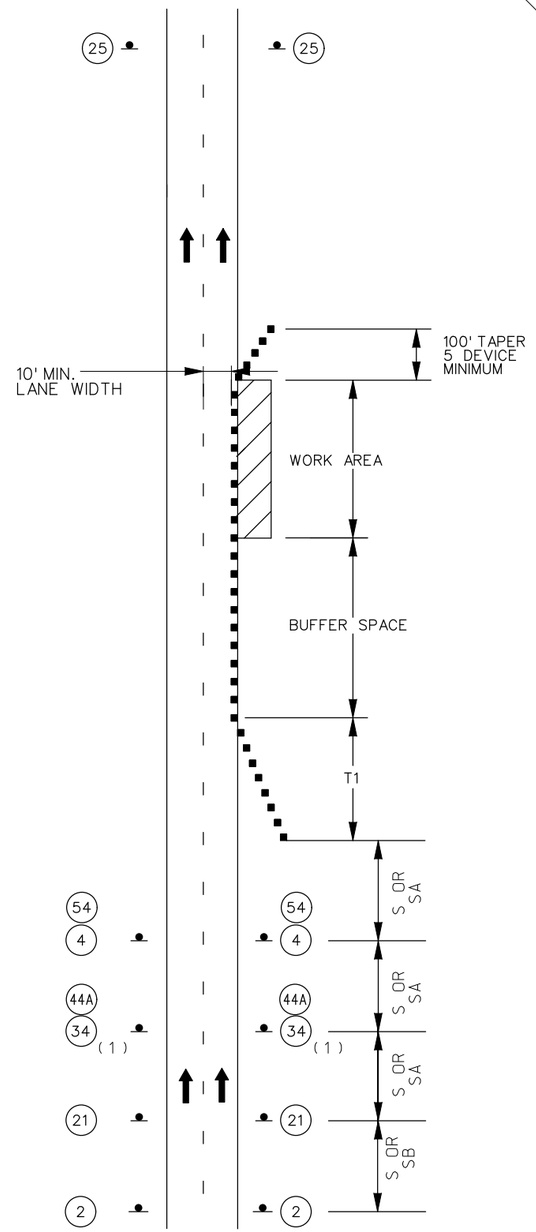
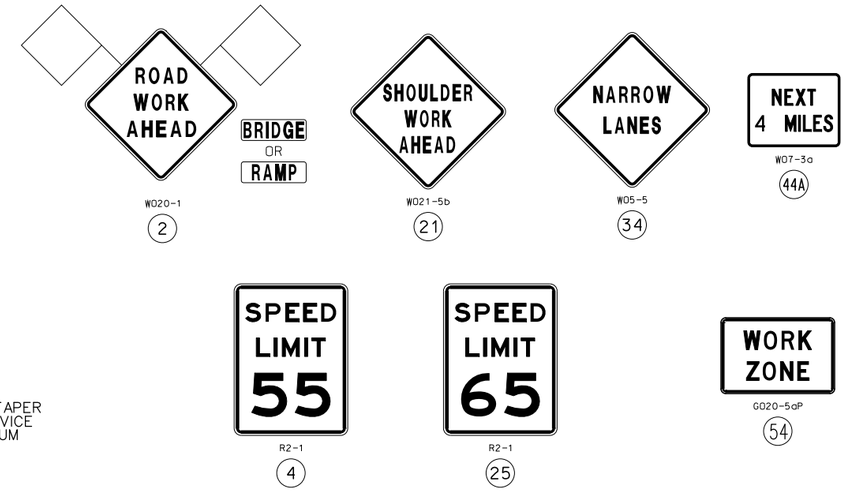


TWO LANE UNDIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



MULTI-LANE DIVIDED
SHOULDER WORK
MINOR TRAVELWAY ENCROACHMENT



FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORKZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

SIGN 2 NOT REQUIRED IF SHOULDER WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITY AREA WHERE ANOTHER SIGN 2 IS ALREADY USED.

THE PROTECTIVE VEHICLE MAY BE OMITTED IF A TAPER AND CHANNELIZING DEVICES ARE USED.

VEHICLE- MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGEND ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

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

SHADOW AND WORK VEHICLES SHALL DISPLAY HIGH-DENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

(1). SIGN 44A NOT REQUIRED FOR NARROW LANE SECTIONS LESS THAN ONE MILE.

SHOULDER WORK
MINOR ENCROACHMENT
TEMPORARY
TRAFFIC CONTROL
SHEET 3 OF 7

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

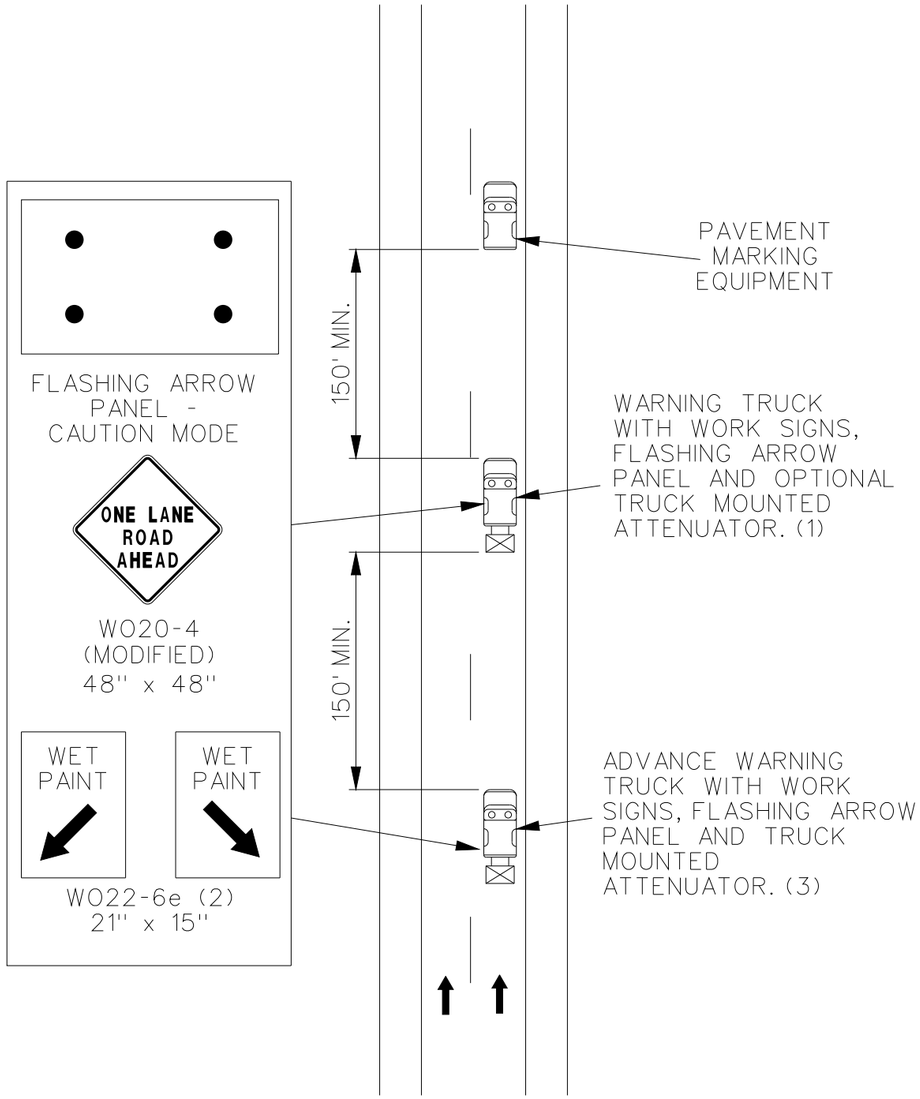
DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 7
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.

REV.



MOVING OPERATION ON HIGHWAY
OPEN TO TRAFFIC
TWO-LANE UNDIVIDED HIGHWAY

NOTES:

ALL SIGNS HAVE TYPE 3 FLUORESCENT ORANGE RETROFLECTIVE SHEETING.

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

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

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

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

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

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

MOVING OPERATION
OPEN TO TRAFFIC
TEMPORARY
TRAFFIC CONTROL
SHEET 4 OF 7

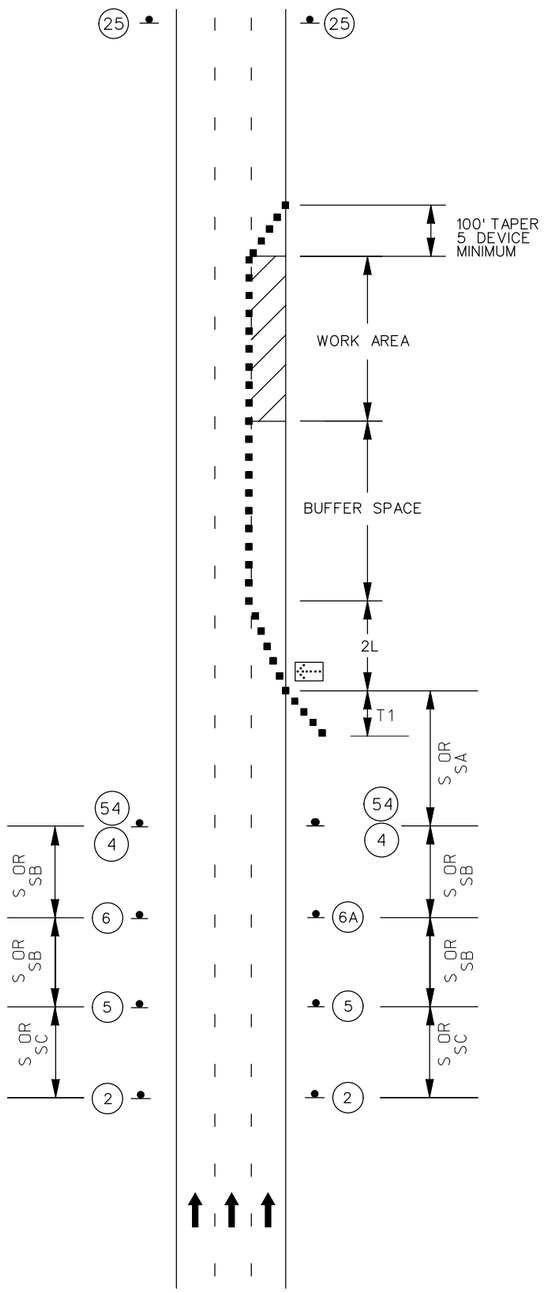
STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/9/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	8
COUNTY	PLATTE/CLAY
JOB NO.	J4S3149
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

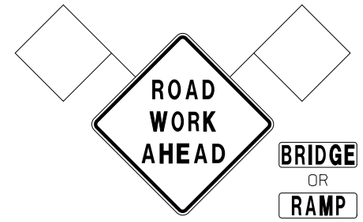
DATE	DESCRIPTION

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)



TYPICAL LEFT OR RIGHT LANE CLOSURE
MULTI-LANE DIVIDED HIGHWAY



W020-1
2

BRIDGE
OR
RAMP

W020-5
5

CENTER LANE
OR
LEFT LANE

W020-6a
6

CENTER
OR
LEFT

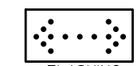
W04-1a
6A

FOR FLAGS AND ADVANCE WARNING RAIL SYSTEMS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCED WARNING RAIL SYSTEM

R2-1
4

R2-1
NORMAL SPEED
25

G020-5aP
54



FLASHING
ARROW PANEL

CHANNELIZERS

NOTES:

SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

REMOVE AND/OR MODIFY ANY EXISTING PAVEMENT MARKING AS NEEDED.

TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM CLOSURES.

ALTERNATIVE TEMPORARY TRAFFIC CONTROL SET-UPS SHOULD BE CONSIDERED WHEN REDUCTION IN CAPACITY CANNOT BE TOLERATED.

FOR NIGHT TIME OPERATIONS, REVIEW EPG 616.6.83 WARNING LIGHTS FOR USE OF SEQUENTIAL LIGHTS.

REVIEW EPG 616.6.63 CHANNELIZING DEVICES FOR DIFFERENT TYPES AND GUIDELINES FOR THE DEVICES.

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

LANE CLOSURE
MULTI LANE
TEMPORARY
TRAFFIC CONTROL
SHEET 5 OF 7

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

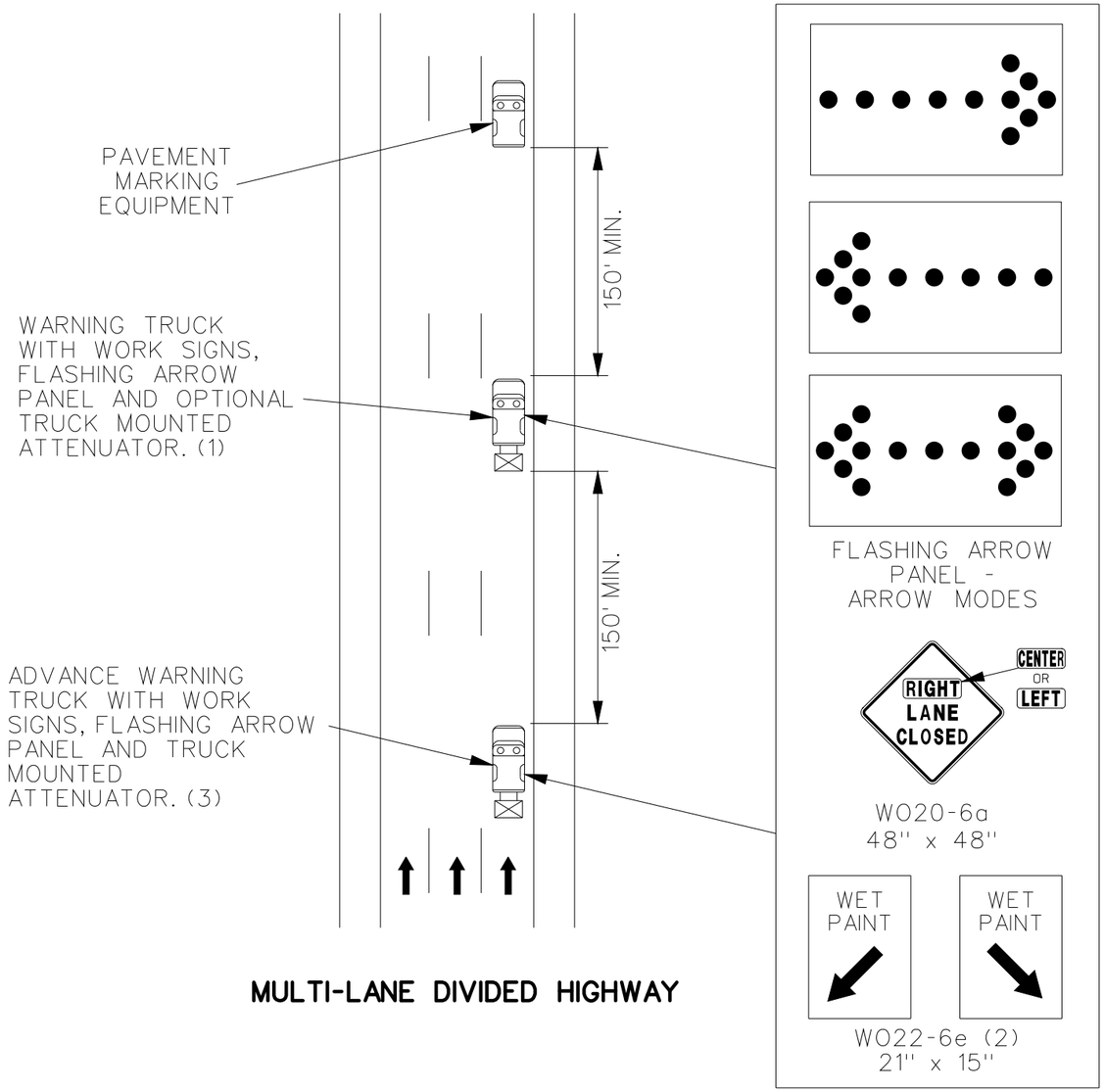
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 9
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
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.



MULTI-LANE DIVIDED HIGHWAY

MOVING OPERATION ON HIGHWAY OPEN TO TRAFFIC

NOTES:

ALL SIGNS HAVE TYPE 3 FLUORESCENT ORANGE RETROFLECTIVE SHEETING.

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

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

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

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

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

MOVING OPERATION
OPEN TO TRAFFIC
TEMPORARY
TRAFFIC CONTROL
SHEET 6 OF 7

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

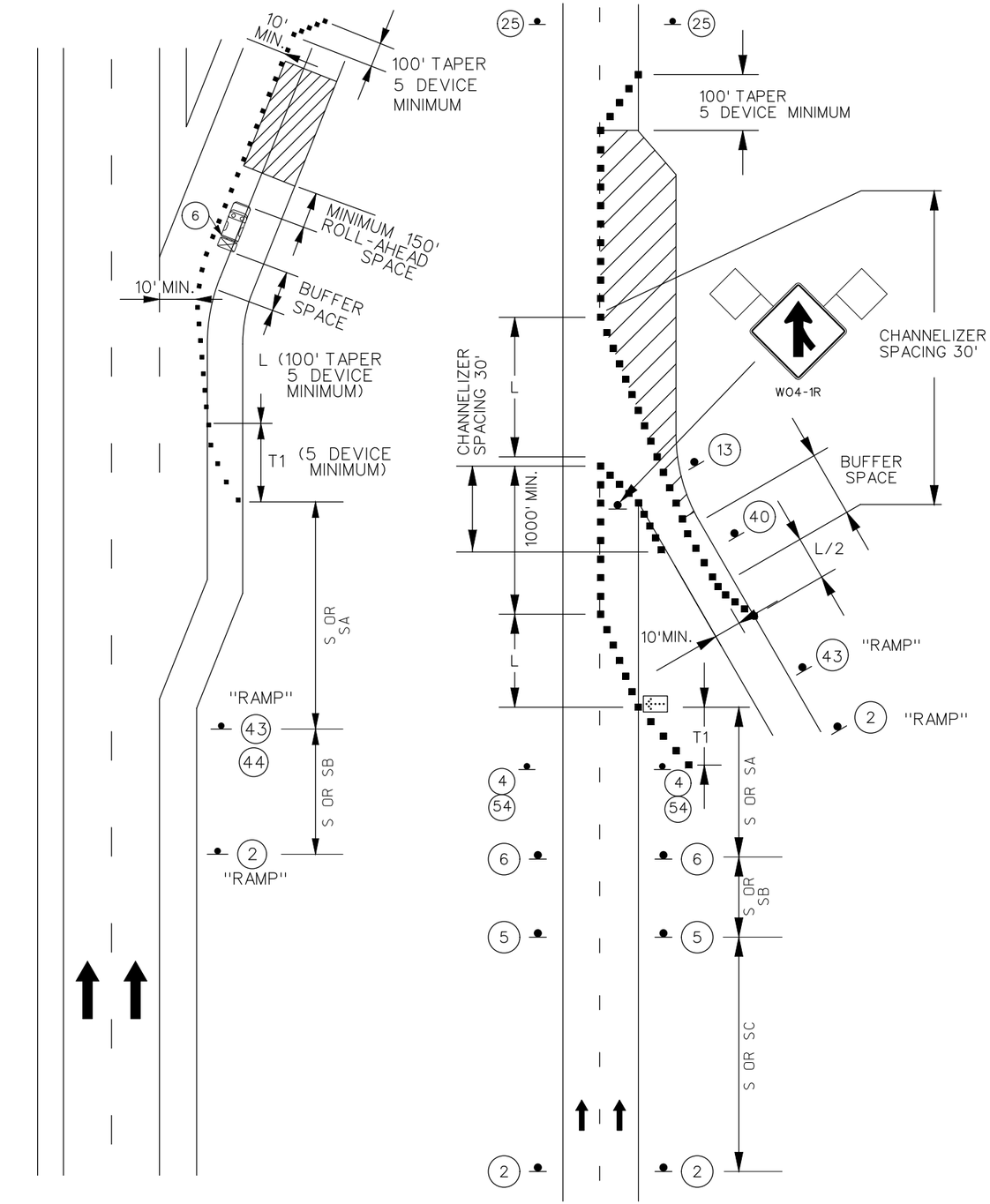
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 10
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

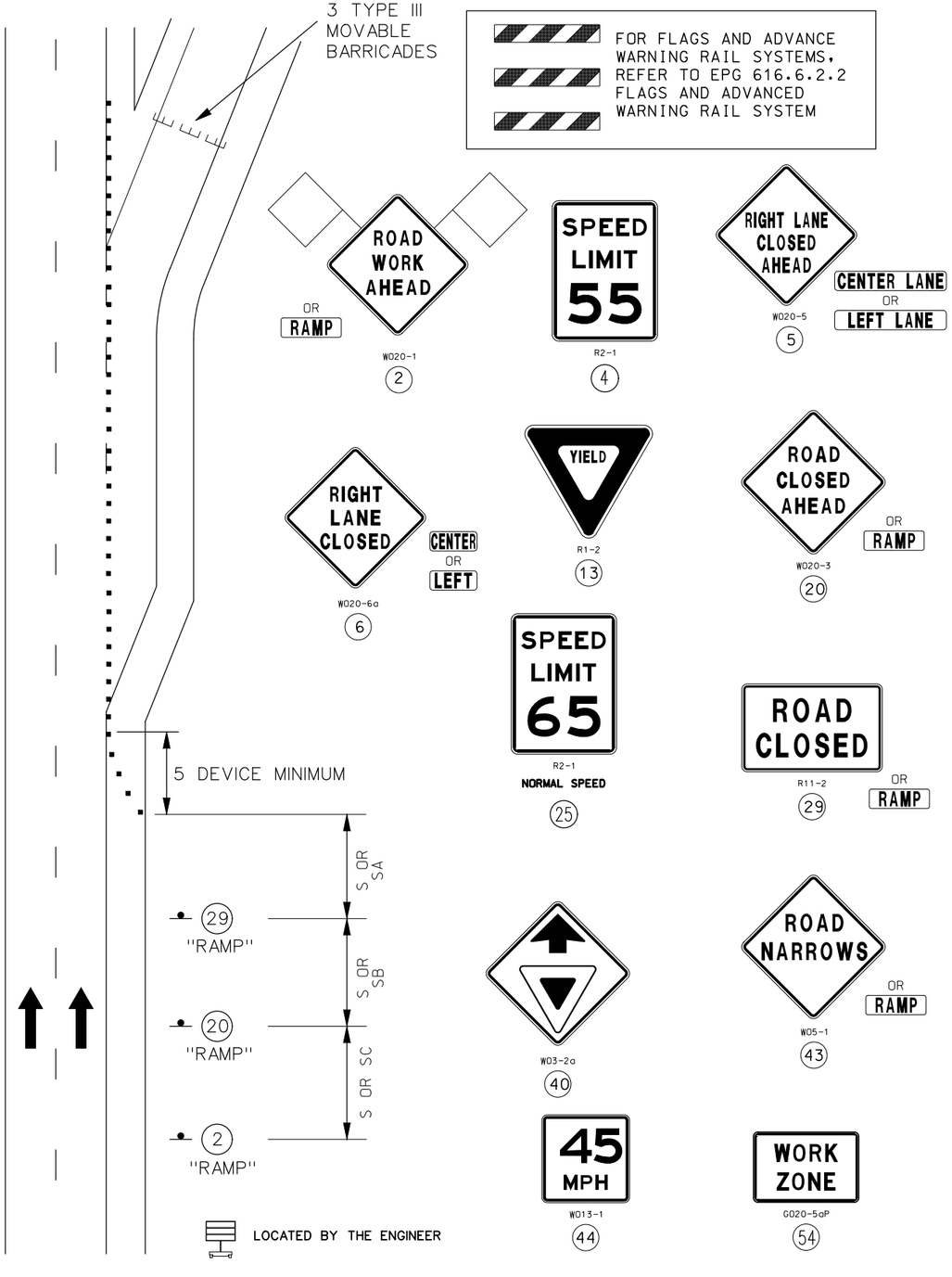
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



PARTIAL LANE CLOSURE
EXIT RAMP

PARTIAL LANE CLOSURE
ENTRANCE RAMP



ENTIRE RAMP CLOSURE

NOTES:

(1). SEE TRAFFIC CONTROL SHEET 1 FOR WORK ZONE SPEED LIMIT GUIDELINES.

(2). SEE TRAFFIC CONTROL SHEET 1 FOR SIGN SPACING, DEVICE SPACING AND CHANNELIZING TAPER LENGTHS.

RAMP WORK
PARTIAL AND TOTAL CLOSURE
TEMPORARY
TRAFFIC CONTROL
SHEET 7 OF 7

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 11
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
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.

REV.

EFFECTIVE 10-01-2016

SIGNS						PIPE POST ✳					STRUCTURAL STEEL											U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST														FOOTINGS		MAST ARM SIGN MOUNTING HARDWARE	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	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL	NO. EACH	LGTH	TOTAL	TOTAL	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	ITEM NO. 9035073	
						IN.	LF	LF		LBS		LF	LF	LF		LBS		IN.	LF	LBS	LBS	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EACH	CU YDS	CU YDS	EACH	
5	19X14	121+00		ROUTE 152							3	28.91	27.70	26.50	18	1496					1496																			
TOTAL																					1500																			

✳ BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 9/9/2016

ROUTE 152 | STATE MO
DISTRICT KC | SHEET NO. 12
COUNTY PLATTE/CLAY
JOB NO. J4S3149
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	TYPE: SIGN DESCRIPTION, SIZES & NUMBER OF EACH
1	77+00	WB ROUTE 152	
2	92+00	WB ROUTE 152	
3	92+00	WB ROUTE 152	
4	92+00	WB ROUTE 152	
5	121+00	WB ROUTE 152	

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH ITEM NO. 9035004	FLAT SHEET FLUORESCENT FSF ✳ ITEM NO. 9035069	STRUCTURAL ST ITEM NO. 9035011	STRUCTURAL FLUORESCENT STF ✳ ITEM NO. 9035071
	14	1	15X9			135	
	14	2	7X7			49	
	14	3	15X12			180	
	14	4	15X11			165	
	14	5	19X14			266	
			TOTAL			795	

✳ ORANGE, YELLOW & YELLOW/GREEN

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 10/12/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	13

COUNTY: PLATTE/CLAY

JOB NO. J4S3149

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

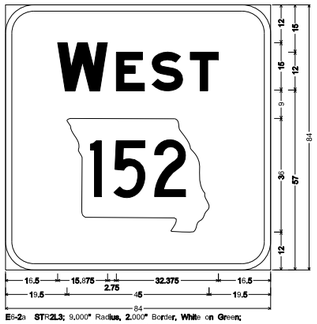
DATE	DESCRIPTION

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.

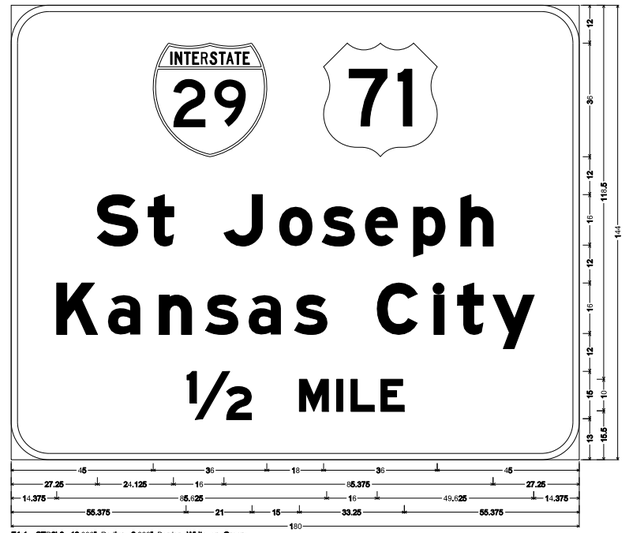
SIGN NO.	2
STATION	92+00
ROADWAY	WB RTE 152



E6-2a STR2L3; 9.000" Radius, 2.000" Border, White on Green;
[WEST] E Mod; State Highway 152 M1-6a4 18.000" C;
Table of letter and object lefts.

W	E	S	T
16.500	35.125	46.500	58.500
WB			
19.500			

SIGN NO.	3
STATION	92+00
ROADWAY	WB RTE 152



E1-1 STR2L3; 12.000" Radius, 2.000" Border, White on Green;
[St Joseph] E Mod; [Kansas City] E Mod; [1/2] E Mod; [MILE] E Mod;
Table of letter and object lefts.

ⓑ	ⓜ
45.000	99.000

S	t	J	o	s	e	p	h
27.250	43.375	67.375	84.875	98.500	112.125	127.375	142.500

K	a	n	s	a	s	s	C	I	t	Y
14.375	30.625	46.875	61.625	75.250	89.875	116.000	134.000	141.500	152.750	

1/2	M	I	L	E
55.375	91.375	103.125	107.625	117.125

SIGN NO.	4
STATION	92+00
ROADWAY	WB RTE 152

E1-1 STR2L3; 12.000" Radius, 2.000" Border, White on Green;
[Ambassador] E Mod; [Drive] E Mod; [1/4] E Mod; [MILE] E Mod;
STR-4L1; 12.000" Radius, 2.000" Border, Black on Yellow;
[EXIT] E Mod; Down Arrow 22.000" 270°; [ONLY] E Mod;
Table of letter and object lefts.

A	m	b	a	s	s	a	d	o	r
14.125	34.375	57.375	71.000	85.625	98.875	112.500	127.625	142.625	158.125

D	r	I	v	e
58.750	76.875	88.500	95.875	111.000

1/4	M	I	L	E
55.000	90.750	102.500	107.125	116.500

E	X	I	T	⇩	O	N	L	Y
19.250	30.625	43.500	48.375	69.250	113.250	126.375	139.000	148.750

SIGN NO.	5
STATION	112+00
ROADWAY	WB RTE 152

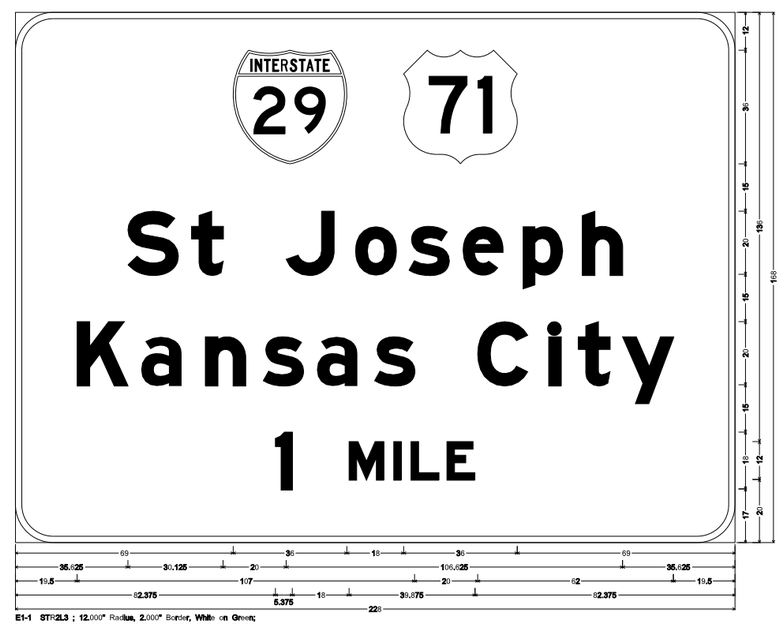
SIGN NO.	1
STATION	77+00
ROADWAY	WB RTE 152

E1-1 STR2L3; 12.000" Radius, 2.000" Border, White on Green;
[Ambassador] E Mod; [Drive] E Mod;
STR-4L1; 12.000" Radius, 2.000" Border, Black on Yellow;
[EXIT] E Mod; Arrow 160 - 35.000" 45°; [ONLY] E Mod;
Table of letter and object lefts.

A	m	b	a	s	s	a	d	o	r
14.125	34.375	57.375	71.000	85.625	98.875	112.500	127.625	142.625	158.125

D	r	I	v	e
58.750	76.875	88.500	95.875	111.000

E	X	I	T	⇗	O	N	L	Y
21.500	32.875	45.750	50.625	71.500	111.000	124.125	136.750	146.500



E1-1 STR2L3 ; 12.000" Radius, 2.000" Border, White on Green;
[St Joseph] E Mod; [Kansas City] E Mod; [1] E Mod; [MILE] E Mod;

Table of letter and object lefts.

ⓑ	ⓜ
69.000	123.000

S	t	J	o	s	e	p	h
35.625	55.750	85.750	107.625	124.750	141.750	160.750	179.625

K	a	n	s	a	s	C	I	t	Y
19.500	39.875	60.125	79.500	95.500	113.750	146.500	169.000	178.375	192.375

1	M	I	L	E
82.375	105.750	119.875	125.375	136.750

D-31

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 14
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
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.

REV.

SPECIAL SHR-4L1; 2.250" Radius, 0.625" Border, 0.375" Indent, Black on Orange;
[WORK ZONE] C; [NO PHONE] C; [ZONE] C;
Table of letter and object info.

W	O	R	K	Z	O	N	E
3.000	8.875	14.000	19.000	26.750	31.500	36.625	41.625

1.000

N	O	P	H	O	N	E	
5.625	10.625	19.000	23.875	28.875	34.125	39.000	

Z	O	N	E
14.875	19.625	24.750	29.750

SIGN NO.	SPECIAL
STATION	TRAFFIC CONTROL
ROADWAY	RTE 152

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
9/9/2016

ROUTE	STATE
152	MO
DISTRICT	SHEET NO.
KC	15

COUNTY
PLATTE/CLAY

JOB NO.
J4S3149

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

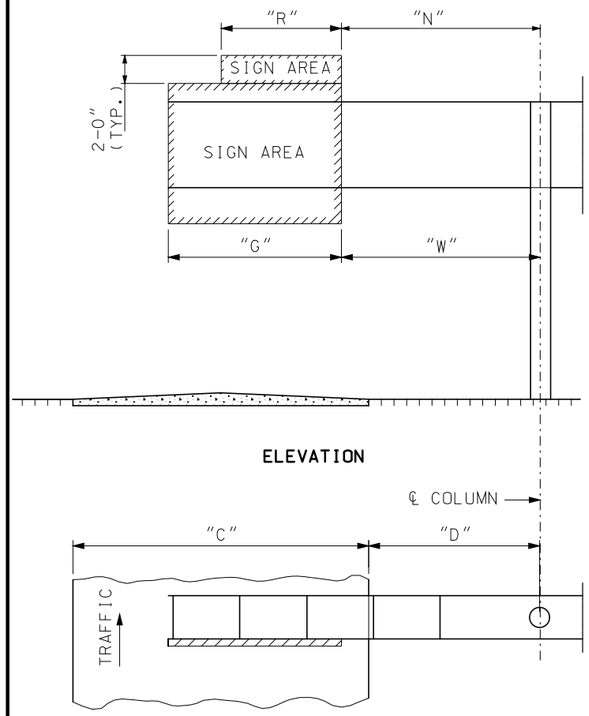
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

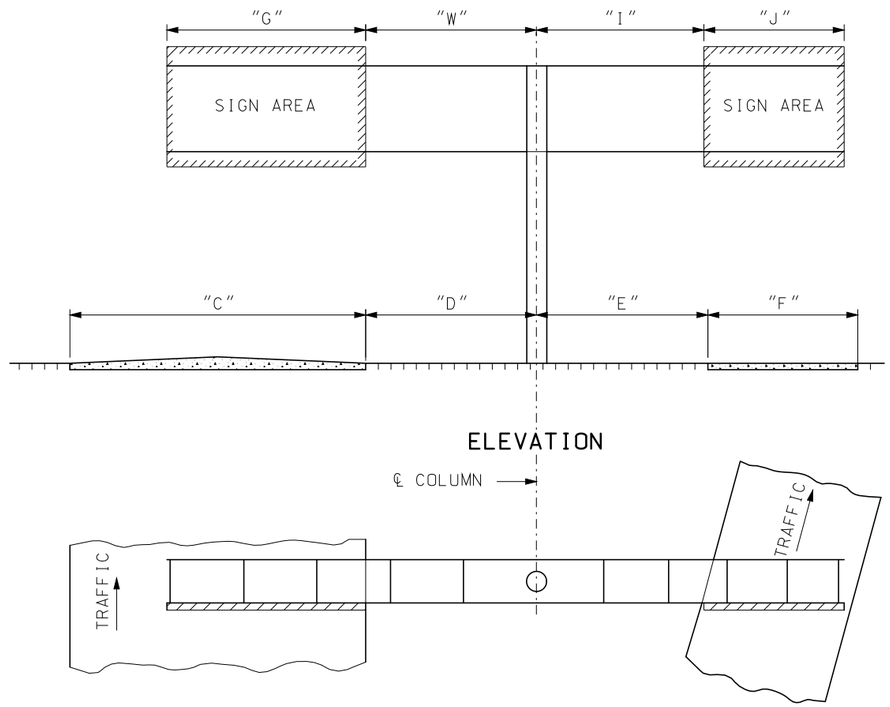
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

EFFECTIVE 10-01-2005



PLAN
CANTILEVER OVERHEAD SIGN TRUSS



PLAN
BUTTERFLY OVERHEAD SIGN TRUSS

GENERAL NOTES:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS. LUMINAIRES AND TRAFFIC SIGNALS - 2001 AND LATEST INTERIM.

STRUCTURAL CARBON STEEL (ASTM A709 GRADE 36) fy = 36,000 psi.

REINFORCING STEEL (GRADE 60) fY = 60,000 psi.

CLASS B CONCRETE f'c = 3,000 psi.

MINIMUM CLEARANCE: VERTICAL ROADWAY CLEARANCE = 17'-6".

MINIMUM CLEARANCE TO REINFORCING SHALL BE 3", UNLESS OTHERWISE SHOWN.

TRUSS SHALL BE ALL WELDED CONSTRUCTION. ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN.

QUALIFICATION OF WELDING OPERATORS WILL BE REQUIRED.

STRUCTURAL STEEL WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE A.W.S. D1.5 BRIDGE WELDING CODE AS AMMENDED BY THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS ON STRUCTURAL STEEL CONSTRUCTION.

ALUMINUM WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF A.W.S. D1.2 STRUCTURAL WELDING CODE - ALUMINUM, EXCEPT AS AMENDED BY SECTION 903 OF THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL ALUMINUM FILLET WELDS SHALL BE $\frac{3}{16}$" UNLESS OTHERWISE SHOWN.

COATING: ALL COLUMNS SHALL BE GALVANIZED AS PER AASHTO M 111. ALL STRUCTURAL STEEL (EXCEPT THE COLUMNS) SHALL BE CLEANED AND COATED WITH SYSTEM G IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 1081 AND 903 COLOR OF THE FINISHED COAT SHALL BE GRAY.

PAYMENT FOR GALVANIZING, CLEANING AND COATING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SIGN TRUSS. ALL THE STRUCTURAL STEEL MAY BE GALVANIZED IN LIEU OF COATING. PORTIONS OF THE STEEL MAY BE GALVANIZED WITH THE APPROVAL OF THE ENGINEER.

PERMITS MUST BE OBTAINED FOR ALL TRUCK LOADS OVER LEGAL LENGTH.

OVERHEAD SIGN DIMENSIONS

SIGN NO.	STATION NUMBER	TYPE SIGN		COL. H	COL. TYPE	ROADWAY DESCRIPTION				SIGN SPACING								CONCRETE FOOTINGS (CU. YD.)
		CANT.	BUTTER FLY			"C"	"D"	"E"	"F"	"G"	H†.	"W"	"I"	"J"	H†.	"R"	"N"	
1	77+00	X		17'8"	V	12'	16'7"			15'	9'	15'						16.5

BUTTERFLY AND CANTILEVER OVERHEAD SIGN TRUSSES

STRUCTURAL STEEL

DATA SHEET
(SEE STANDARD 903.12) D-32

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 16
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

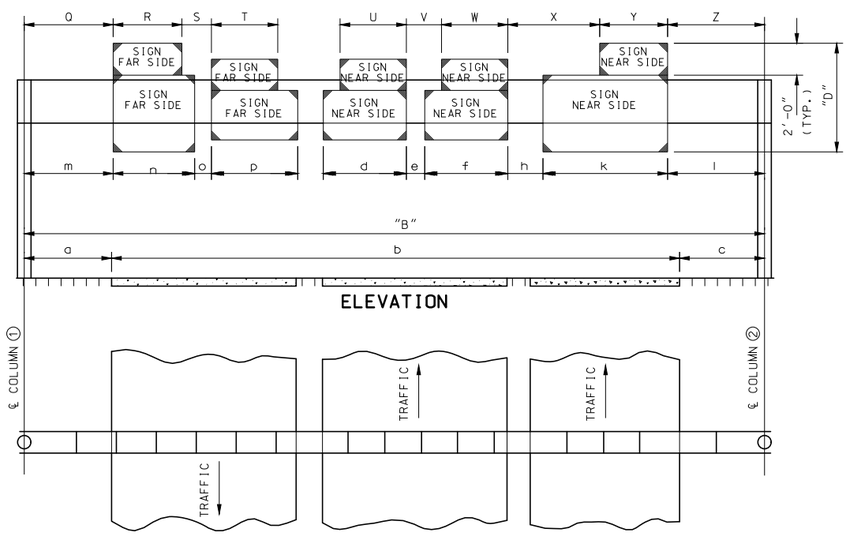
DATE	DESCRIPTION

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.

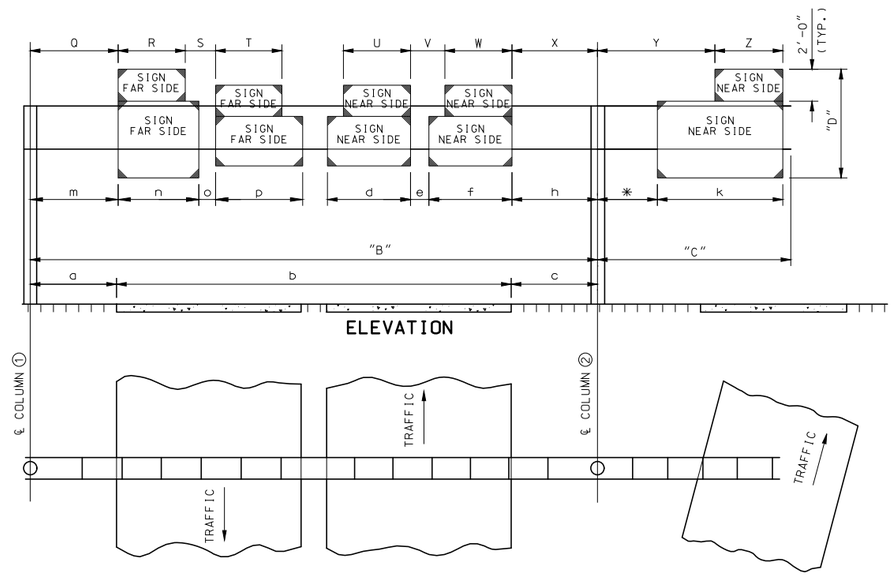
REV.

EFFECTIVE 04-01-1999



PLAN

DIMENSIONS
TYPE 'B' SIGN BRIDGE



PLAN

DIMENSIONS
TYPE 'BC' SIGN BRIDGE

NOTE: ABOVE MINIMUMS ARE RECOMMENDED DIMENSIONS.

✱ MINIMUM = 6'-0" WHEN ALUMINUM IS USED.

SIGN BRIDGE DIMENSIONS

SIGN NO.	STATION NUMBER	TRUSS DESCRIPTION					ROADWAY DESCRIPTION			"D"	SIGN SPACING																COLUMN DATA				
					CHORD						NEAR SIDE									FAR SIDE							COLUMN 1		COLUMN 2		CONCRETE FOOTINGS (CU. YD.)
		Type	"B"	"C"	ALUM.	STEEL	a	b	c		d	Ht.	e	f	Ht.	h	k	Ht.	l	m	n	Ht.	o	p	Ht.	H	TYPE	H	TYPE	
2.3.4	92+00	B	69'2"		4"Ø X .25	4"X4" X.5"	15'8"	36'6"	17'	12'	7'	7'	1'	15'	12'	1'	15'	11'	17'2"							19'8"	II	20'	II	26.4

SIGN BRIDGE DIMENSIONS

SIGN NO.	STATION NUMBER	TRUSS DESCRIPTION					ROADWAY DESCRIPTION			"D"	SIGN SPACING										
					CHORD						NEAR SIDE							FAR SIDE			
		Type	"B"	"C"	ALUM.	STEEL	a	b	c		U	V	W	X	Y	Z		Q	R	S	T

OVERHEAD SIGN TRUSSES
STRUCTURAL STEEL OR ALUMINUM

DATA SHEET
(SEE STANDARD 903.10 OR 903.60)

GENERAL NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS - 1985 AND LATEST INTERIM.

BASIC ASSUMPTIONS: WIND VELOCITY = 70 mph, WIND PRESSURE ON SIGN AREA = 27 psf, ICE LOAD = 3 psf.

STRUCTURAL ALUMINUM STRESS = 10,000 psi.

STRUCTURAL CARBON STEEL (ASTM A709 GRADE 36) fs = 20,000 psi.

REINFORCING STEEL (GRADE 40) fs= 20,000 psi.

CLASS B CONCRETE fc = 1,200 psi.

ALLOWABLE SOIL PRESSURE = 2,750 psf.

ALLOWABLE UNIT STRESSES DUE TO WIND LOAD OR WIND LOAD IN COMBINATION WITH OTHER FORCES ARE INCREASED 40%.

MINIMUM CLEARANCE: VERTICAL ROADWAY CLEARANCE = 17'-6".

MINIMUM CLEARANCE TO REINFORCING SHALL BE 2", UNLESS OTHERWISE SHOWN.

TRUSS SHALL BE ALL WELDED CONSTRUCTION. ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN.

QUALIFICATION OF WELDING OPERATORS WILL BE REQUIRED.

STRUCTURAL STEEL WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE A.W.S. D1.2 BRIDGE WELDING CODE AS AMENDED BY THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS ON STRUCTURAL STEEL CONSTRUCTION.

ALUMINUM WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF A.W.S. D1.2 STRUCTURAL WELDING CODE - ALUMINUM, EXCEPT AS AMENDED BY SECTION 903 OF THE MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL ALUMINUM FILLET WELDS SHALL BE $\frac{3}{16}$" UNLESS OTHERWISE SHOWN.

COATING: ALL COLUMNS SHALL BE GALVANIZED AS PER AASHTO M 111. ALL STRUCTURAL STEEL (EXCEPT THE COLUMNS) SHALL BE CLEANED AND COATED WITH SYSTEM G IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTIONS 712.12 AND 903.3.4. COLOR OF THE FINISHED COAT SHALL BE GRAY.

PAYMENT FOR GALVANIZING, CLEANING AND COATING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SIGN TRUSS. ALL THE STRUCTURAL STEEL MAY BE GALVANIZED IN LIEU OF COATING PORTIONS OF THE STEEL MAY BE GALVANIZED WITH THE APPROVAL OF THE ENGINEER.

PERMITS MUST BE OBTAINED FOR ALL TRUCK LOADS OVER LEGAL LENGTH.

STATE OF MISSOURI
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PROFESSIONAL ENGINEER

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DATE PREPARED	
9/9/2016	
ROUTE 152	STATE MO
DISTRICT KC	SHEET NO. 17
COUNTY PLATTE/CLAY	
JOB NO. J4S3149	
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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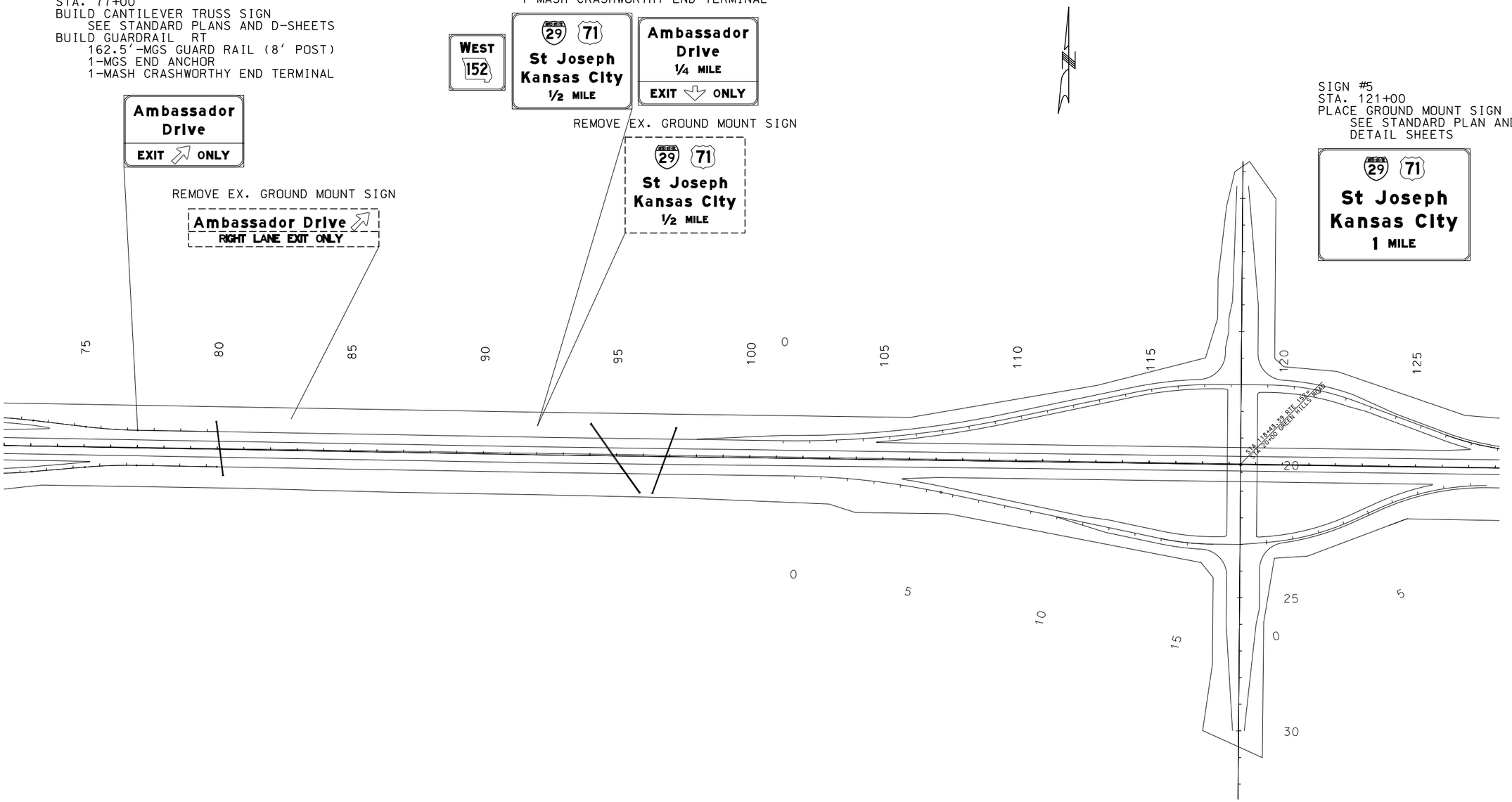
REV.

SIGN #1
STA. 77+00
BUILD CANTILEVER TRUSS SIGN
SEE STANDARD PLANS AND D-SHEETS
BUILD GUARDRAIL RT
162.5'-MGS GUARD RAIL (8' POST)
1-MGS END ANCHOR
1-MASH CRASHWORTHY END TERMINAL

SIGN #2, #3, #4
STA. 92+00
BUILD TRUSS SIGN
SEE STANDARD PLANS AND D-SHEETS
BUILD GUARDRAIL BOTH LT AND RT (8' POST)
112.5'-MGS GUARD RAIL
1-MGS END ANCHOR
1-MASH CRASHWORTHY END TERMINAL



SIGN #5
STA. 121+00
PLACE GROUND MOUNT SIGN
SEE STANDARD PLAN AND
DETAIL SHEETS

STATE OF MISSOURI
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PROFESSIONAL ENGINEER

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DATE PREPARED	9/9/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	18
COUNTY	PLATTE/CLAY
JOB NO.	J4S3149
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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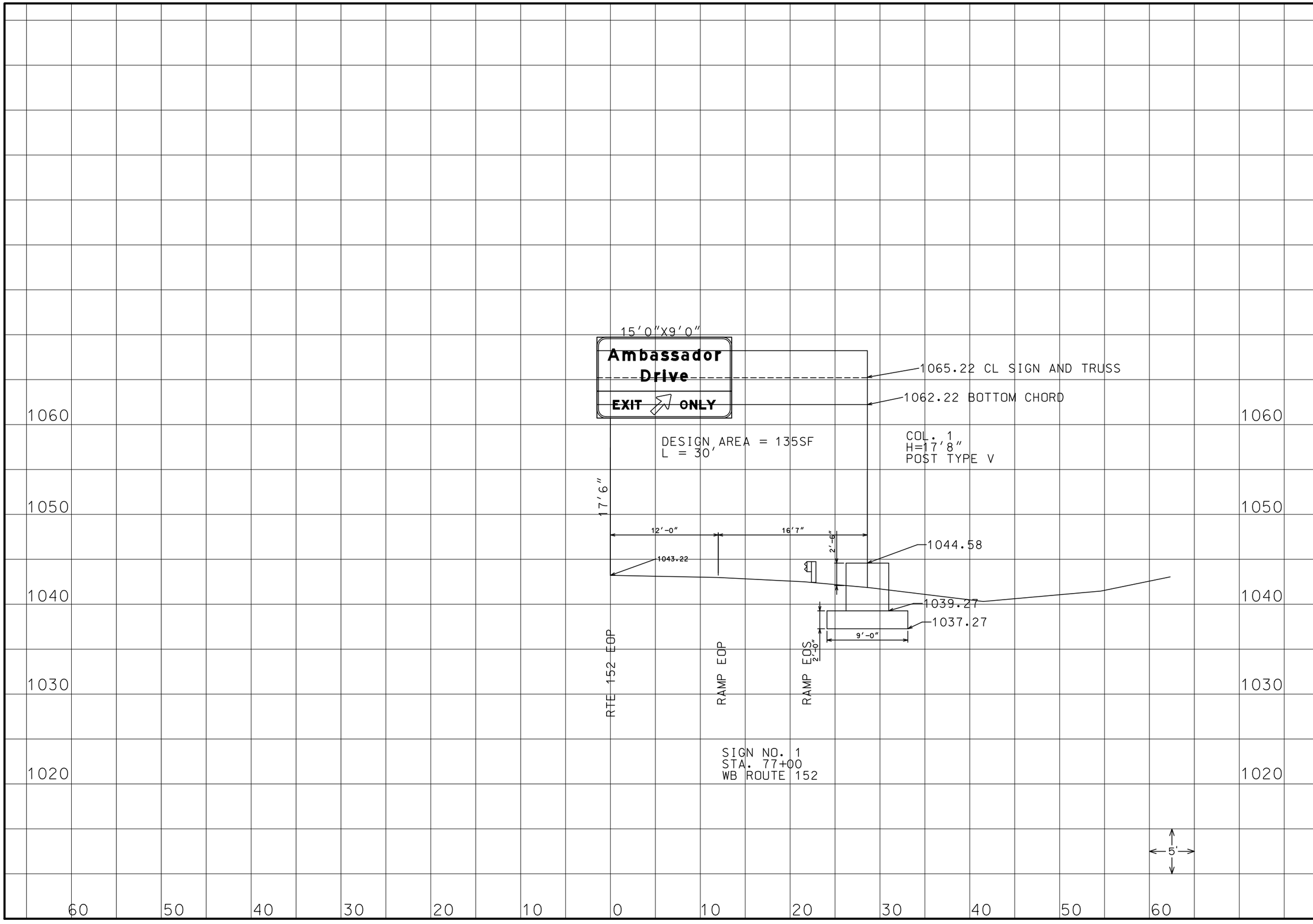

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	9/9/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	19
COUNTY	PLATTE/CLAY
JOB NO.	J4S3149
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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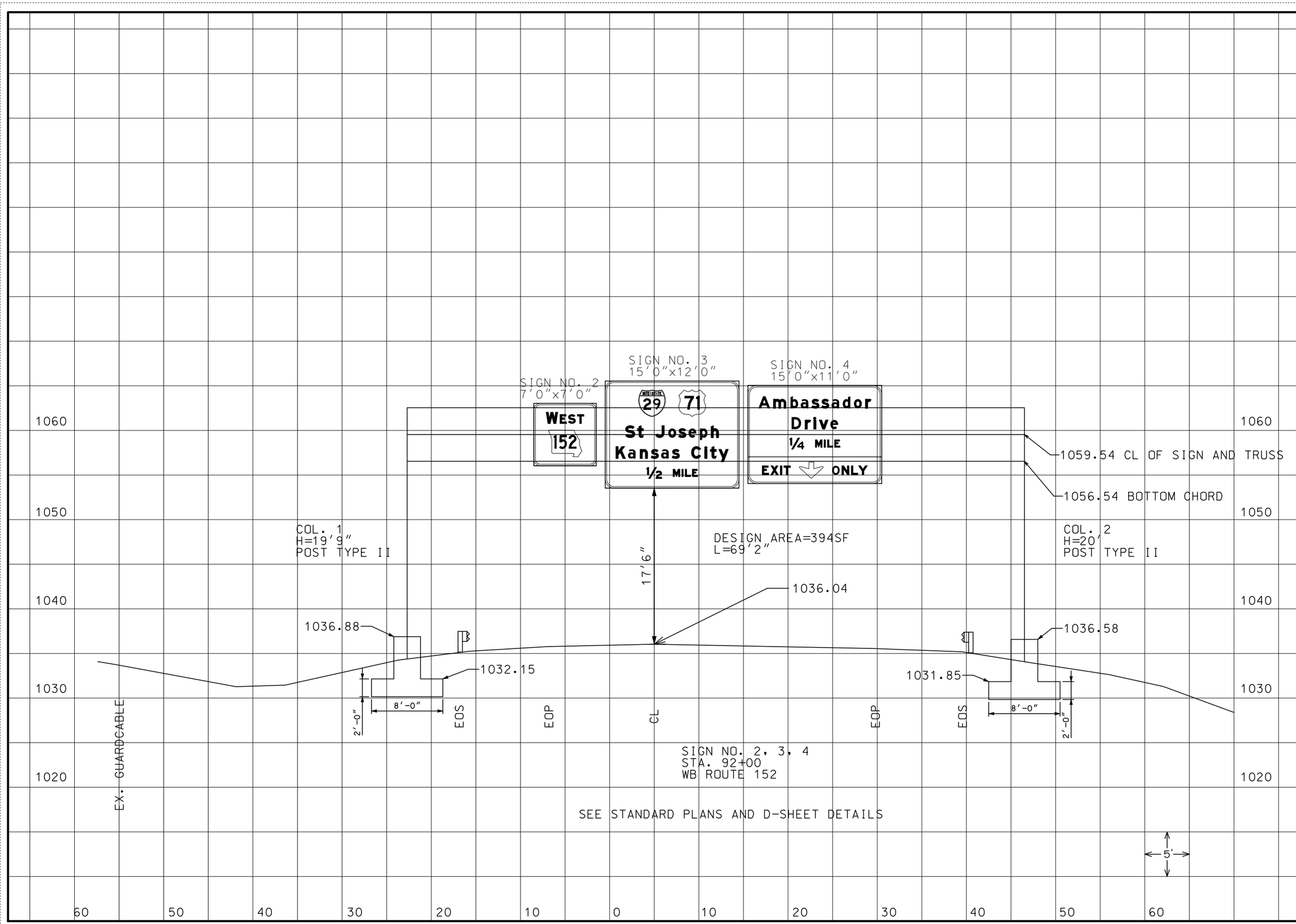

STATE OF MISSOURI
JAMES COLEY BURGESS
NUMBER PE-24596
PROFESSIONAL ENGINEER

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DATE PREPARED	9/9/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	20
COUNTY	PLATTE/CLAY
JOB NO.	J4S3149
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

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DATE PREPARED	9/9/2016
ROUTE	152
STATE	MO
DISTRICT	KC
SHEET NO.	21
COUNTY	PLATTE/CLAY
JOB NO.	J4S3149
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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REV.