

DESIGN DESIGNATION

A.A.D.T. - 2017 = 14,911  
 A.A.D.T. - 2036 = 20,875  
 T = 13.0%  
 V = 45 M.P.H.

FUNCTIONAL CLASSIFICATION - PRINCIPAL ARTERIAL

NO NEW RIGHT-OF-WAY WILL BE ACQUIRED FOR THIS PROJECT

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
 FINAL PLANS FOR PROPOSED  
 STATE HIGHWAY

ST. LOUIS COUNTY  
 SEC 14 TWP 44 N RGE 5 E

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (1 SHEET)----	2
QUANTITIES (QU) (3 SHEETS)-----	3
PLAN-PROFILE (PP)-----	4
COORDINATE POINTS (CP)-----	5
TRAFFIC CONTROL SHEETS (TC)-----	6-8
EROSION CONTROL (EC)-----	9
SIGNING & PAVEMENT MARKING (SN)-----	10
BRIDGE DRAWINGS (B)	
A8580-----	1-38
MSE WALL A8695-----	1-5
MSE WALL A8696-----	1-4
CROSS SECTIONS (XS)	
MO 366 E-----	1-10

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

DATE PREPARED

11/3/2017

ROUTE STATE

366 E MO

DISTRICT SHEET NO.

SL 1

COUNTY

ST. LOUIS

JOB NO.

J6S3140

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A8580

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

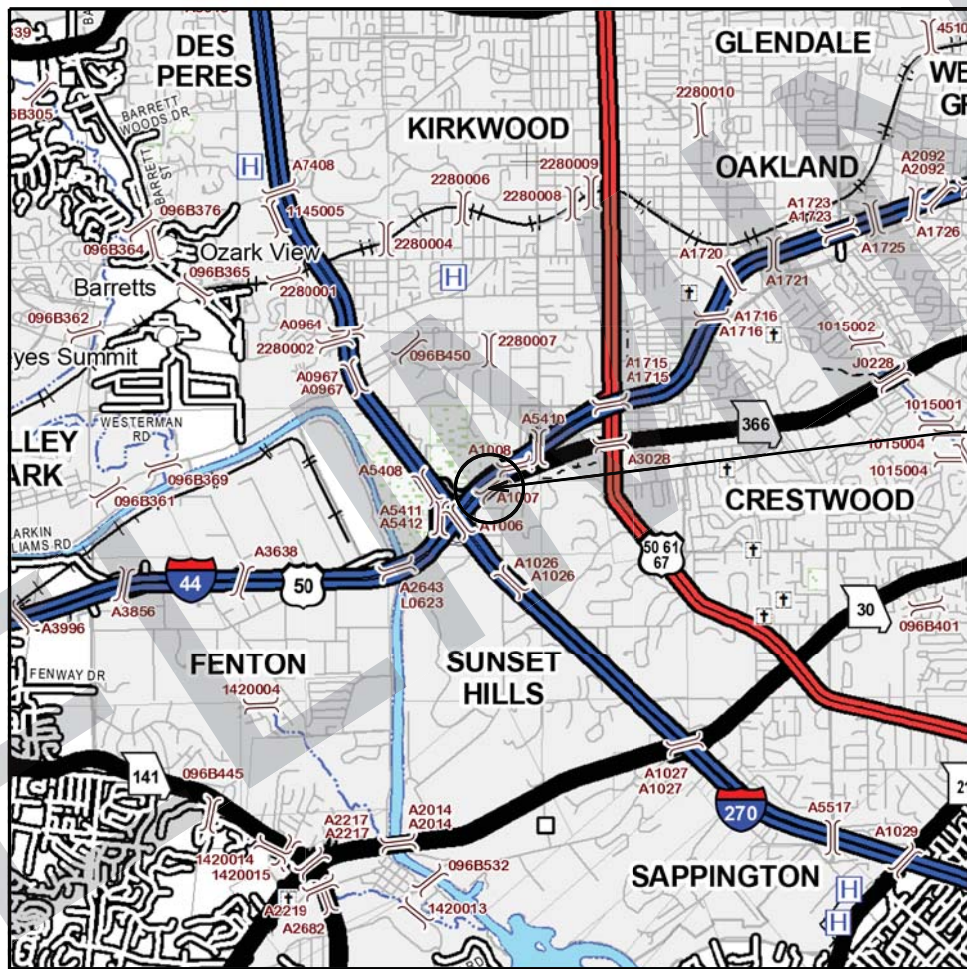
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

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

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

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

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



PROJECT LOCATION  
 REPLACE BRIDGE A1007  
 OVER EAST BOUND RAMP  
 TO I-44 WITH  
 BRIDGE A8580  
 BRIDGE, PAVING, AND  
 MSE WALL A8695 & A8696

CONVENTIONAL SYMBOLS  
 (USED IN PLANS)

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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

NOT TO SCALE

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 7+50.00
END OF PROJECT	STA. 18+75.00
APPARENT LENGTH	1125.00 FEET
EQUATIONS AND EXCEPTIONS:	NONE

TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	1125.00 FEET
STATE LENGTH	0.21 MILES

HNTB  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY  
 NO. 001270

NOT FOR CONSTRUCTION

11/3/2017



# MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

## SUMMARY OF QUANTITIES

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

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

CLEARING AND GRUBBING, AND SEEDING						
SHEET	FROM STATION	TO STATION	ROADWAY	CLEARING AND GRUBBING (ACRES)	SEEDING BERMUDA GRASS (ACRES)	REMARKS
4	7+50.00	13+43.00	MO 366 E	0.6	0.6	
4	14+23.00	18+75.00	MO 366 E	0.3	0.3	
SUBTOTAL				0.9	0.9	
TOTAL				1	0.9	

PAVEMENT, SHOULDER, AND BASE										
SHEET	FROM STATION	TO STATION	ROADWAY	LOCATION	OPTIONAL PAVEMENT (SY)	8" JPCP (SY)	TYPE 5 AGGREGATE FOR BASE (6IN. THICK) (SY)	A2 SHOULDER (SY)	CONCRETE APPROACH PAVEMENT (SY)	REMARKS
4	7+50.00	11+95.00	MO 366 E	RT./LT.	892.2		1387	495.0		
4	11+95.00	12+51.74	MO 366 E	RT./LT.		138.8	177	37.8		A2 SHOULDER LEFT SIDE ONLY
4	15+16.56	16+40.00	MO 366 E	RT./LT.		353.8	409	55.0		A2 SHOULDER RIGHT SIDE ONLY
4	16+40.00	18+75.00	MO 366 E	RT./LT.	608.6		871	262.7		
4	12+51.74	12+73.67	MO 366 E	RT./LT.					122.1	
4	14+60.00	15+16.56	MO 366 E	RT./LT.					122.5	
TOTAL FOR PLANS					1500.8	492.6	2844	850.5	244.6	

GUARDRAIL										
PLAN SHEET NO.	STATION	STATION	ROADWAY	LOCATION	MGS BRIDGE APPROACH TRANSITION SECTION (EA)	TYPE A CRASHWORTHY END SECTION (MASH) (EA)	MGS TERMINAL END ANCHOR (EA)	HEIGHT AND BLOCK TRANSITION (EA)	MGS GUARDRAIL (LF)	REMARKS
4	7+50.00	13+23.23	MO 366 E	LT.	1	0	0	1	511	
4	7+96.00	11+95.00	MO 366 E	RT.	1	1	0	0	311	
4	16+40.00	17+37.00	MO 366 E	LT.	1	0	1	0	47	
Totals					3	1	1	1	868	

EARTHWORK									
SHEET	FROM STATION	TO STATION	ROADWAY	LOCATION	CLASS A EXCAVATION C.Y.	CLASS C EXCAVATION C.Y.	COMPACTING EMBANKMENT C.Y.	EMBANKMENT IN PLACE C.Y.	REMARKS
XS	7+50.00	18+75.00	MO 366 E	LT. & RT.	344	702	275	4736	
TOTAL					344	702	275	4736	

COMPACTING IN CUT					
SHEET	FROM STATION	TO STATION	ROADWAY	LENGTH	REMARKS
XS	7+50.00	9+00.00	MO 366 E	1+50	
XS	17+00.00	18+75.00	MO 366 E	1+75	
TOTAL				3+25	

PERMANENT CONCRETE BARRIER						
SHEET	FROM STATION	TO STATION	ROADWAY	LOCATION	CONCRETE TRAFFIC BARRIER TYPE D (LF)	REMARKS
4	11+95.00	12+74.73	MO 366 E	RT.	80	
4	14+81.56	16+40.00	MO 366 E	LT.	158	
4	14+33.07	14+53.07	MO 366 E	RT.	20	
TOTAL					258	

MOBILIZATION	
PAY TOTAL	1 LUMP SUM

CONTRACTOR FURNISHED SURVEYING	
PAY TOTAL	1 LUMP SUM

CONCRETE MASONRY AND PROTECTION SYSTEM INCLUDES BOTH A8695 AND 8696	
PAY TOTAL	1 LUMP SUM

SACRIFICIAL GRAFFITI PROTECTION SYSTEM INCLUDES BOTH A8695 AND 8696	
PAY TOTAL	1 LUMP SUM

DATE PREPARED 11/3/2017	
ROUTE 366 E	STATE MO
DISTRICT SL	SHEET NO. 3
COUNTY ST. LOUIS	
JOB NO. J6S3140	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A8580	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY  
NO. 001270

MO 366 E  
QUANTITY SUMMARY  
SHEET 1 OF 3

NOT FOR  
CONSTRUCTION  
11/3/2017

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

# MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

## SUMMARY OF QUANTITIES

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

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

EROSION CONTROL												
SHEET	FROM STATION	TO STATION	ROADWAY	LOCATION	SILT FENCE LF	ROCK DITCH CHECK LF	SEDIMENT REMOVAL CY	TYPE 1 TURF REINFORCEMENT MAT SY	FURNISHING TYPE 2 ROCK BLANKET CY	PLACING TYPE 2 ROCK BLANKET CY	PERMANENT EROSION CONTROL GEOTEXTILE SY	REMARKS
10	7+50.00	13+45.00	MO 366 E	LT./RT.	1309	883	24					PROTECT EXISTING DITCHES WITH ROCK DITCH CHECKS
10	14+21.00	18+75.00	MO 366 E	LT./RT.	1001	1070	40					PROTECT EXISTING DITCHES WITH ROCK DITCH CHECKS
10	11+95.00	12+77.23	MO 366 E	RT.				37				
10	14+92.65	16+40.00	MO 366 E	LT.				66				
10	13+15.26	13+43.11	MO 366 E	LT.					116	116	175	
10	14+23.17	14+56.07	MO 366 E	RT.					81	81	120	
TOTAL					2310	1953	64	102	197	197	295	

PERMANENT PAVEMENT MARKINGS						
PLAN SHEET NO.	STATION	STATION	ROADWAY	HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT WITH TYPE L BEADS		REMARKS
				6" SOLID WHITE (LF)	6" SOLID YELLOW (LF)	
11	7+50	18+75	MO 366 E	1152	1125	INCLUDES INTERMITTENT STRIPING
TOTAL				1152	1125	

MSE WALLS						
SHEET	FROM STATION	TO STATION	ROADWAY	LOCATION	MECHANICALLY STABILIZED EARTH WALL SYSTEMS (SF)	REMARKS
4	11+95.00	12+77.23	MO 366 E	RT.	960	
4	14+92.65	16+40.00	MO 366 E	LT.	1797	
TOTAL					2757	

SIGNING				
SHEET	STATION	LOCATION	FLAT SHEET FLUORESCENT (SF)	REMARKS
11	-	LT.	6	SIGN 19 "45 M.P.H." MOUNTED TO OVERHEAD TRUSS APPROXIMATELY 600' WEST OF PROJECT BEGINNING
TOTAL			6	

REMOVAL OF IMPROVEMENTS - 1 LUMP SUM					
SHEET	FROM STATION	TO STATION	ROADWAY	LOCATION	REMARKS
4	7+50.00	13+35.00	MO 366 E	LT./RT.	PAVEMENT REMOVAL 1711 SY
4	14+31.00	18+75.00	MO 366 E	LT./RT.	PAVEMENT REMOVAL 1465 SY
4	7+96.36	12+51.21	MO 366 E	RT.	REMOVE 455' OF EXISTING GUARDRAIL
4	7+50.00	13+10.82	MO 366 E	LT.	REMOVE 561' OF EXISTING GUARDRAIL
4	15+07.53	17+37.13	MO 366 E	LT.	REMOVE 230' OF EXISTING GUARDRAIL
11	15+43.00	-	MO 366 E	RT.	REMOVE AND REINSTALL EXISTING DELINEATOR
11	16+46.00	-	MO 366 E	RT.	REMOVE AND REINSTALL EXISTING DELINEATOR
11	17+42.00	-	MO 366 E	RT.	REMOVE AND REINSTALL EXISTING DELINEATOR
4	7+50.00	-	MO 366 E	LT./RT.	18' SAW CUT
4	18+75.00	-	MO 366 E	LT./RT.	24' SAW CUT

DRAINAGE								
SHEET	FROM STATION	TO STATION	ROADWAY	LOCATION	FURNISHING TYPE 1 ROCK DITCH LINER (CY)	PLACING TYPE 1 ROCK DITCH LINER (CY)	CULVERT CLEANOUT (EA)	REMARKS
10	11+93.50	-	MO 366 E	RT.	3	3		DRAINAGE FLUME
10	12+14.00	12+80.00	MO 366 E	RT.			1	36" CULVERT
TOTAL					3	3	1	

DATE PREPARED  
11/3/2017

ROUTE  
366 E

STATE  
MO

DISTRICT  
SL

SHEET NO.  
3

COUNTY  
ST. LOUIS

JOB NO.  
J6S3140

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A8580

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-273-6636)

**HNTB**

715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY  
NO. 001270

MO 366 E  
QUANTITY SUMMARY  
SHEET 2 OF 3

**NOT FOR  
CONSTRUCTION**

11/3/2017

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







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

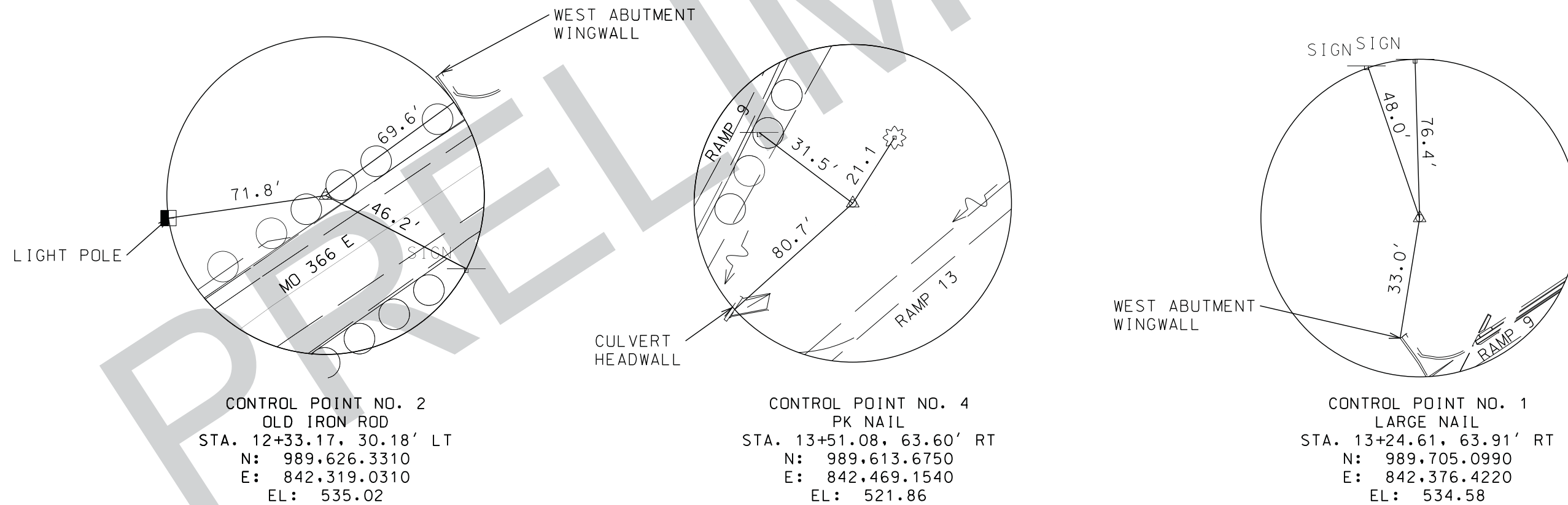
## COORDINATE POINT LISTING MISSOURI COORDINATE SYSTEM OF 1983

RECIPROCAL AVERAGE GRID FACTOR : 1/GRID = 1/0.999905609

SHEET NO.	STATION <sup>1</sup>	LOCATION	DESCRIPTION	NORTHING STATE PLANE	EASTING STATE PLANE
	0+00.00	MO 366 E	P.O.B. @ MO 366 E	988,763.48	841,441.26
	2+11.25	MO 366 E	P.C. CURVE 1 @ MO 366 E	988,928.68	841,572.92
	6+59.02	MO 366 E	P.I. CURVE 1 @ MO 366 E	989,278.84	841,852.00
	10+99.60	MO 366 E	P.T. CURVE 1 @ MO 366 E	989,527.14	842,224.61
	16+08.19	MO 366 E	P.C. CURVE 2 @ MO 366 E	989,809.17	842,647.84
	20+08.70	MO 366 E	P.I. CURVE 2 @ MO 366 E	990,031.27	842,981.13
	24+04.06	MO 366 E	P.T. CURVE 2 @ MO 366 E	990,153.46	843,362.56
	25+04.06	MO 366 E	P.O.E. @ MO 366 E	990,183.96	843,457.79
	32+41.91	RAMP 9	P.O.B. CURVE 1 @ RAMP 9	989,360.84	842,167.89
	34+33.97	RAMP 9	P.I. CURVE 1 @ RAMP 9	989,466.13	842,328.52
	36+17.22	RAMP 9	P.T. CURVE 1 @ RAMP 9	989,637.63	842,414.99
	37+16.22	RAMP 9	P.C. CURVE 2 @ RAMP 9	989,726.03	842,459.56
	39+01.11	RAMP 9	P.I. CURVE 2 @ RAMP 9	989,891.13	842,542.80
	40+77.13	RAMP 9	P.O.E. CURVE 2 @ RAMP 9	989,990.65	842,698.62

<sup>1</sup> Ground Distance

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



CONTROL POINT NO. 2  
 OLD IRON ROD  
 STA. 12+33.17, 30.18' LT  
 N: 989,626.3310  
 E: 842,319.0310  
 EL: 535.02

CONTROL POINT NO. 4  
 PK NAIL  
 STA. 13+51.08, 63.60' RT  
 N: 989,613.6750  
 E: 842,469.1540  
 EL: 521.86

CONTROL POINT NO. 1  
 LARGE NAIL  
 STA. 13+24.61, 63.91' RT  
 N: 989,705.0990  
 E: 842,376.4220  
 EL: 534.58

MO 366 E  
 COORDINATE POINTS  
 SHEET 1 OF 1

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."	
DATE PREPARED 11/3/2017	
ROUTE 366 E	STATE MO
DISTRICT SL	SHEET NO. 5
COUNTY ST. LOUIS	
JOB NO. J6S3140	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A8580	
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
 COMMISSION

105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-278-6636)

**HNTB**

715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY  
 NO. 001270

NOT FOR  
 CONSTRUCTION

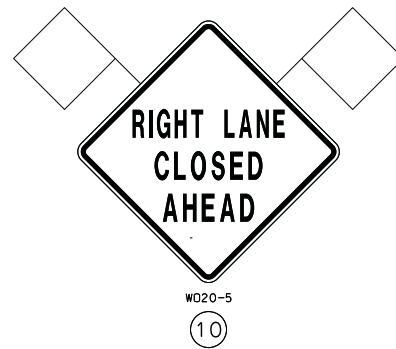
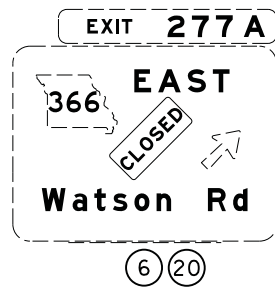
11/3/2017

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



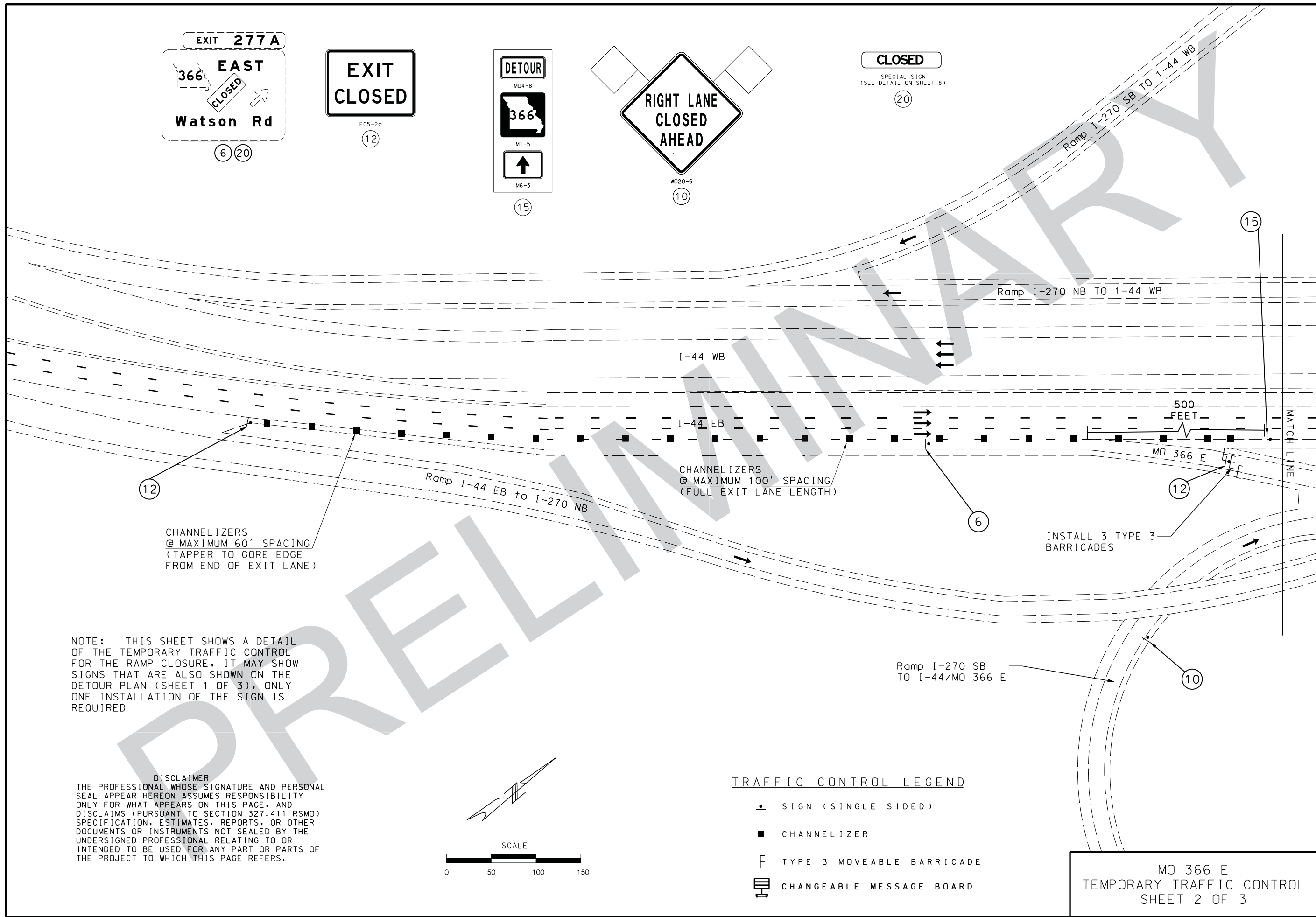






"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED  
11/3/2017  
ROUTE  
366 E MO  
DISTRICT  
SL SHEET NO.  
7  
COUNTY  
ST. LOUIS  
JOB NO.  
J6S3140  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO.  
A8580



12

6

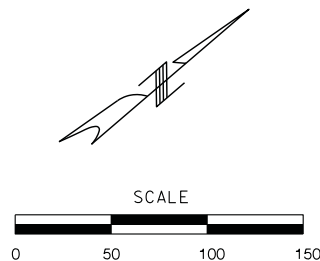
12

15

10

NOTE: THIS SHEET SHOWS A DETAIL OF THE TEMPORARY TRAFFIC CONTROL FOR THE RAMP CLOSURE. IT MAY SHOW SIGNS THAT ARE ALSO SHOWN ON THE DETOUR PLAN (SHEET 1 OF 3). ONLY ONE INSTALLATION OF THE SIGN IS REQUIRED

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



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- E TYPE 3 MOVEABLE BARRICADE
- ▬ CHANGEABLE MESSAGE BOARD

MO 366 E  
TEMPORARY TRAFFIC CONTROL  
SHEET 2 OF 3

DESCRIPTION  
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

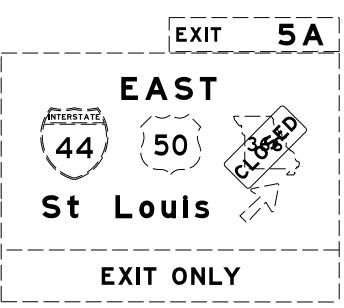


HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY NO. 001270

NOT FOR CONSTRUCTION

11/3/2017

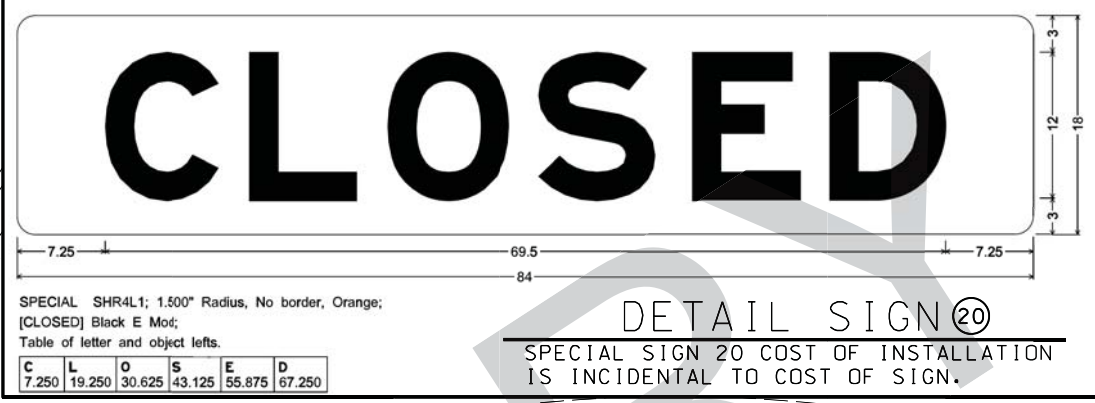
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



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

(8)(20)

NOTE: THIS SHEET SHOWS A DETAIL OF THE TEMPORARY TRAFFIC CONTROL FOR THE RAMP CLOSURE, IT MAY SHOW SIGNS THAT ARE ALSO SHOWN ON THE DETOUR PLAN (SHEET 1 & 2 OF 3), ONLY ONE INSTALLATION OF THE SIGN IS REQUIRED



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

DATE PREPARED 11/3/2017  
 ROUTE 366 E STATE MO  
 DISTRICT SL SHEET NO. 8  
 COUNTY ST. LOUIS  
 JOB NO. J6S3140  
 CONTRACT ID.

PROJECT NO.  
 BRIDGE NO. A8580

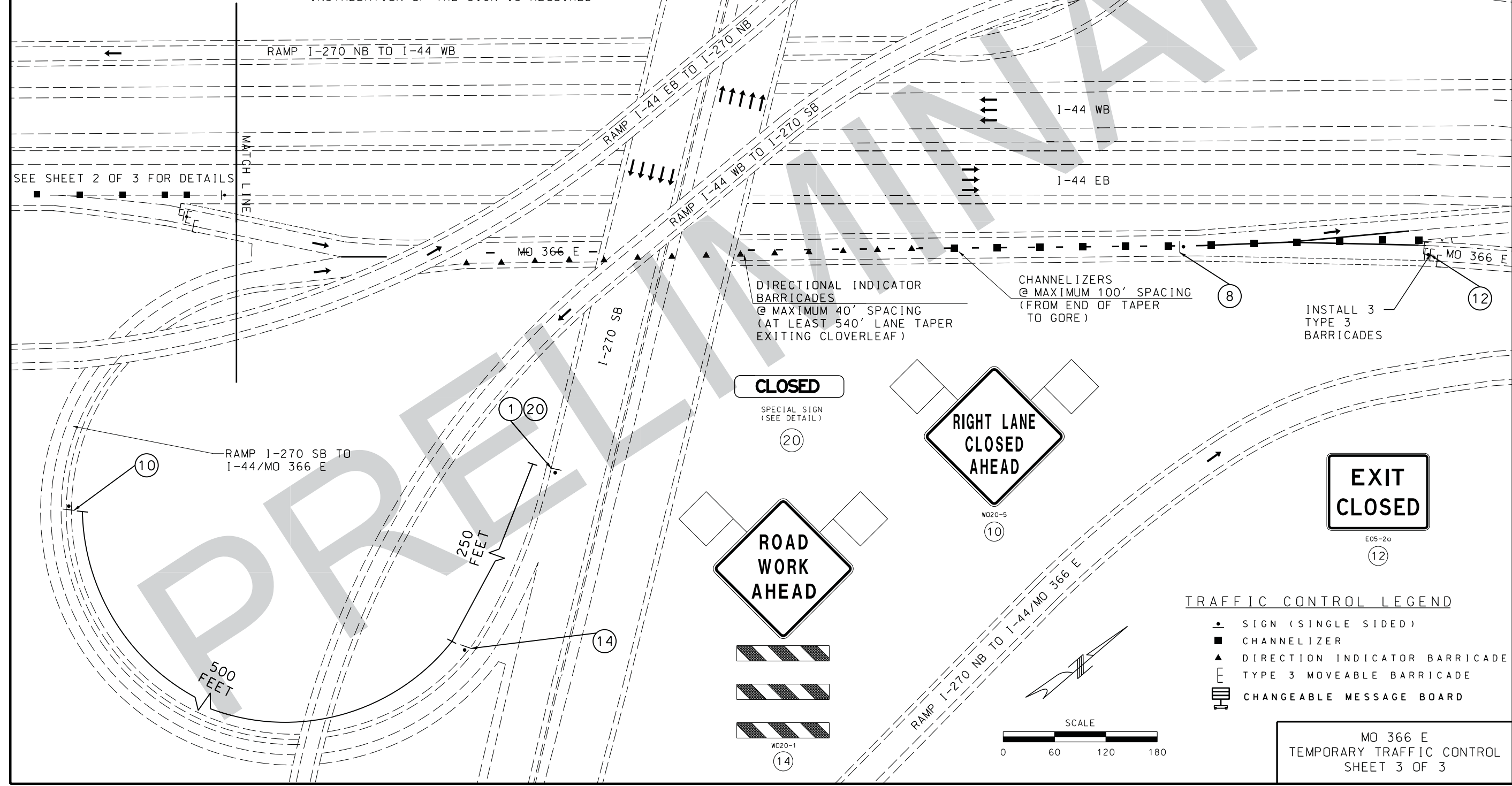
DATE	DESCRIPTION

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

HNTB  
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY NO. 001270

NOT FOR CONSTRUCTION

11/3/2017



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANNELIZER
- ▲ DIRECTION INDICATOR BARRICADE
- E TYPE 3 MOVEABLE BARRICADE
- CHANGEABLE MESSAGE BOARD

MO 366 E  
 TEMPORARY TRAFFIC CONTROL  
 SHEET 3 OF 3

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











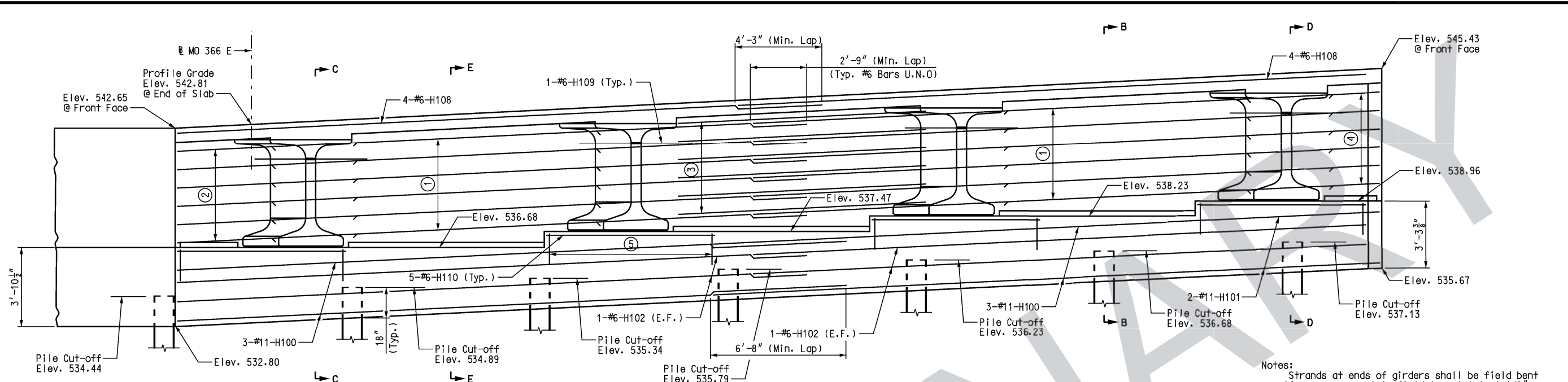








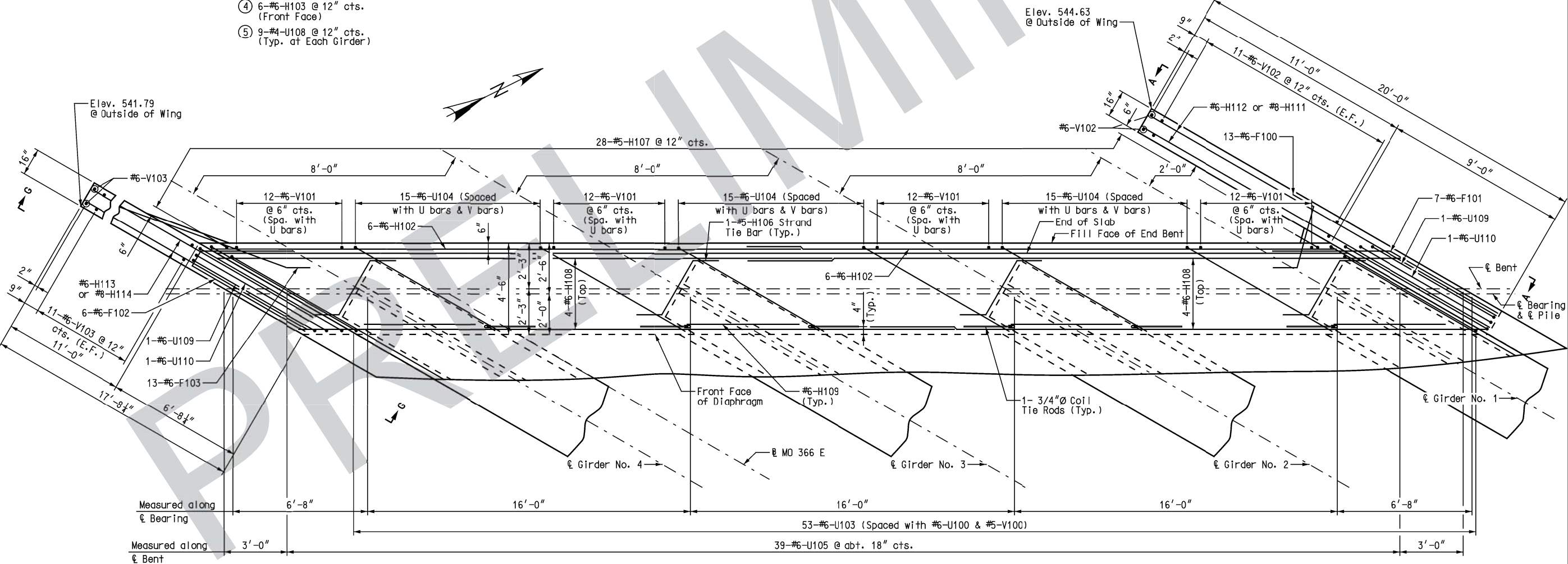




**ELEVATION NEAR END BENT**  
(Looking Back Station)

- ① 6-#6-H102 @ 12" cts. (Fill Face) Continuous
- ② 6-#6-H104 @ 12" cts. (Front Face)
- ③ 6-#6-H105 @ 12" cts. (Front Face Between Girders) (Typ.)
- ④ 6-#6-H103 @ 12" cts. (Front Face)
- ⑤ 9-#4-U108 @ 12" cts. (Typ. at Each Girder)

Notes:  
 Strands at ends of girders shall be field bent or, if necessary, cut in field to maintain 1-1/2" minimum clearance to fill face of end bent.  
 For Elevation A-A and G-G, see Sheet No. 7.  
 For Sections B-B, C-C, D-D and E-E, see Sheet No. 6.  
 For details of End Bent 1 not shown, see Sheets No. 4, 6 and 7.  
 All concrete in the end bent above top of beam and below top of slab shall be Class B-2.



**PART PLAN**

**DETAILS OF END BENT NO. 1**

Detailed AUG 2017  
 Checked SEP 2017

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

Sheet No. 5 of 37

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

DATE PREPARED: 11/3/2017

ROUTE: 366E STATE: MO DISTRICT: BR SHEET NO.: 5

COUNTY: St. Louis

JOB NO.: J6S3140 CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A8580

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

**MoDOT**

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-278-6636)

**HNTB**  
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY NO. 001270

**NOT FOR CONSTRUCTION**

11/3/2017

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



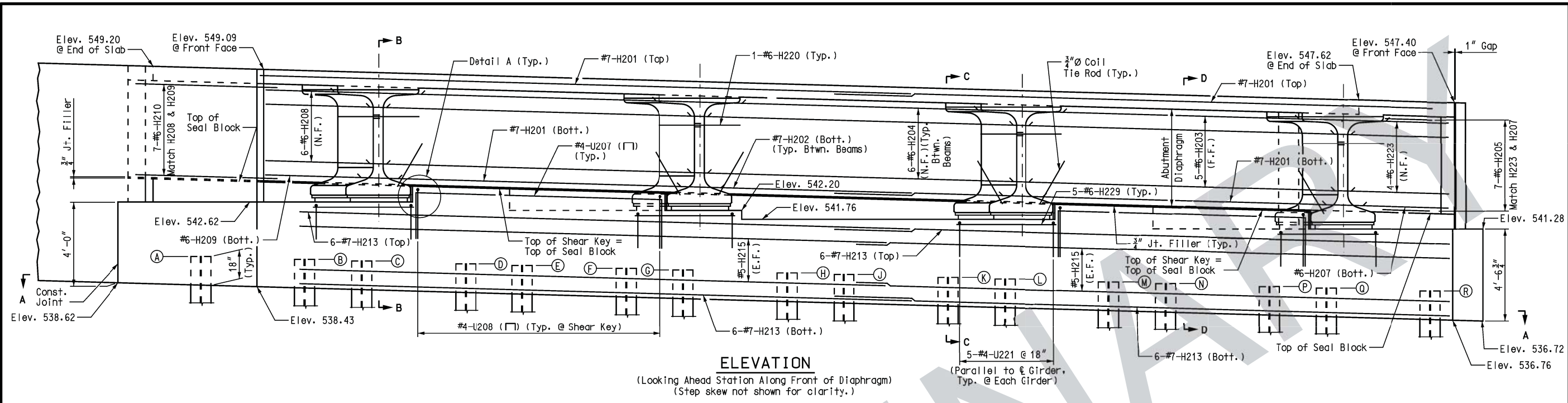




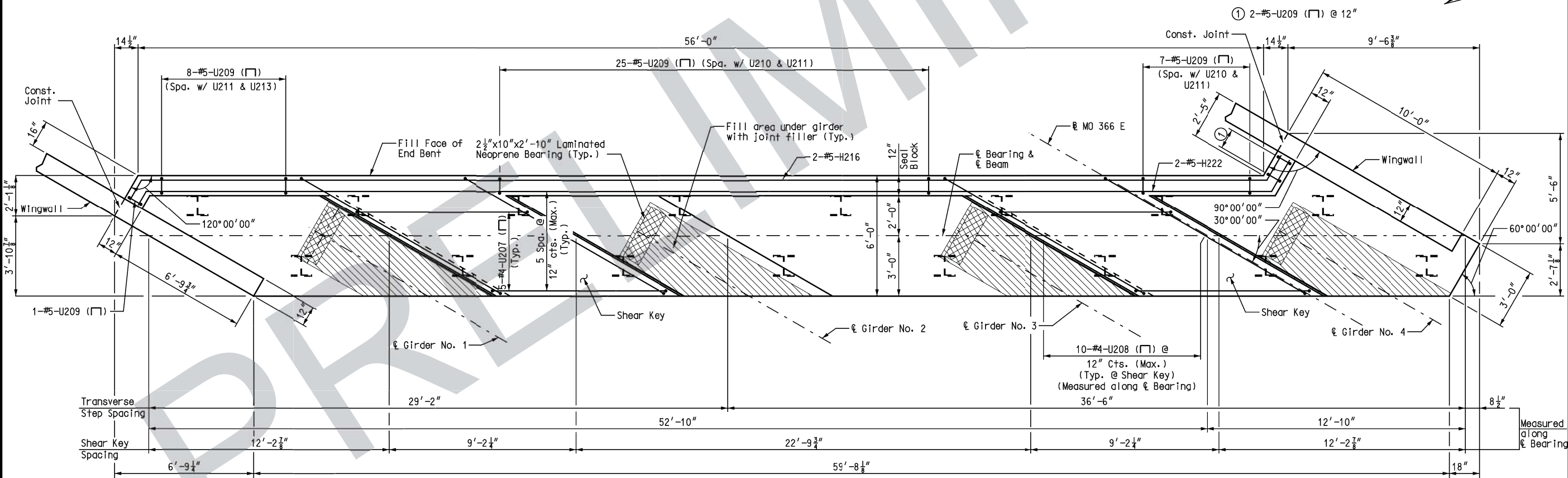








PILE CUTOFF ELEVATION															
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
540.00	539.86	539.78	539.64	539.56	539.41	539.33	539.19	539.11	538.97	538.89	538.74	538.66	538.52	538.44	538.30



**NOTES:**  
 For additional notes, see Sheet No. 9.  
 For details of End Bent 2 not shown, see Sheets No. 9 & 11 thru 13.  
 For Sections A-A thru D-D and Detail A, see Sheet No. 11.

**DETAILS OF END BENT NO. 2**

Detailed OCT 2017  
 Checked OCT 2017

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

Sheet No. 10 of 37

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

DATE PREPARED: 11/3/2017

ROUTE: 366E STATE: MO DISTRICT: BR SHEET NO.: 10 COUNTY: St. Louis JOB NO.: J6S3140 CONTRACT ID.: PROJECT NO.: BRIDGE NO.: A8580

DESCRIPTION: MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

DATE: [ ]

105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-278-6636)

715 KIRK DRIVE KANSAS CITY, MO 64105-1310 TELEPHONE (816) 472-1201 CERTIFICATE OF AUTHORITY NO. 001270

**NOT FOR CONSTRUCTION**

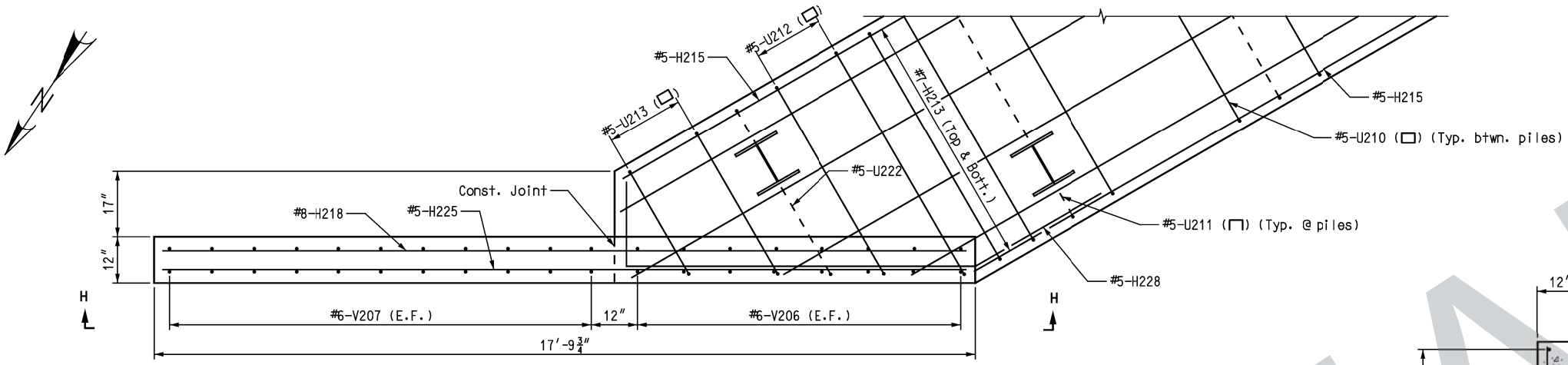
11/3/2017

REV.

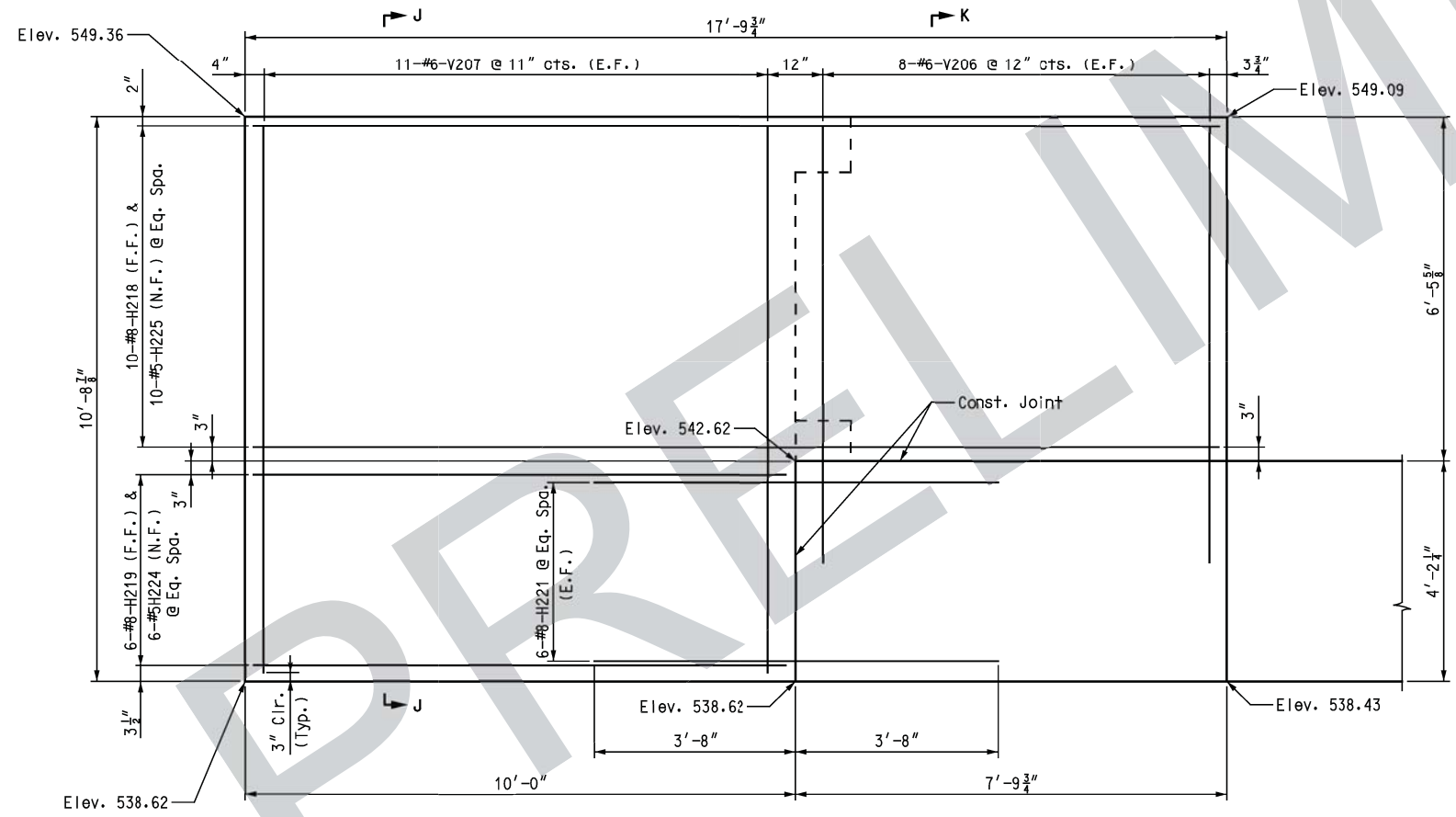




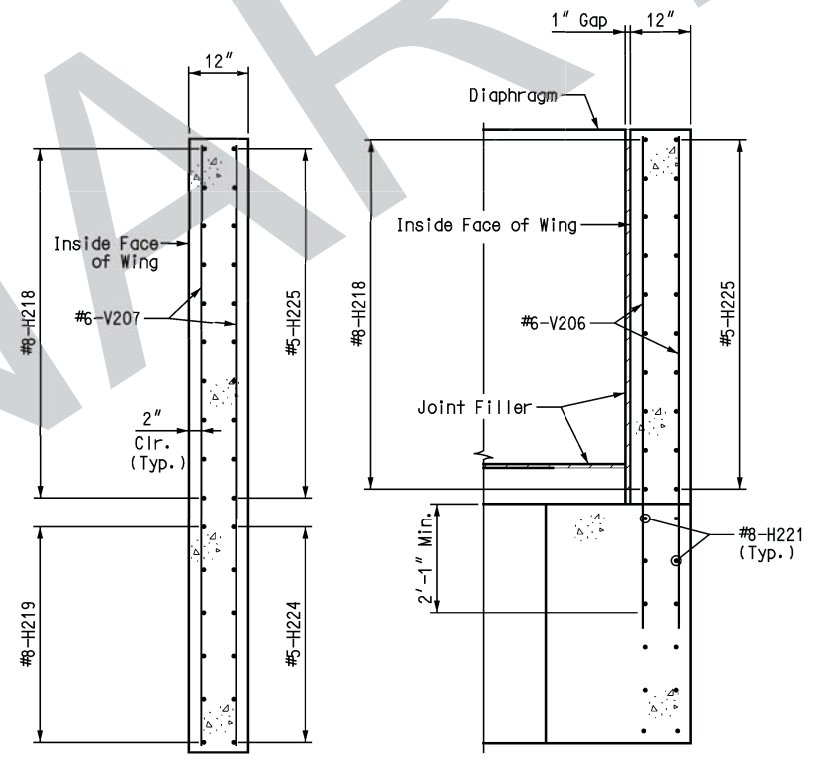




**NORTH BEAM PLAN**  
(Showing Top & Bottom Beam Reinforcement)



**VIEW H-H**  
(Piles and beam reinforcing not shown)



**SECTION J-J**      **SECTION K-K**  
(Beam reinforcing not shown)


Notes:  
For additional notes, see Sheet No. 9.

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

DATE PREPARED 11/3/2017	
ROUTE 366E	STATE MO
DISTRICT BR	SHEET NO. 13
COUNTY St. Louis	
JOB NO. J6S3140	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A8580	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-278-6636)

**HNTB**

715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY NO. 001270

**NOT FOR CONSTRUCTION**

11/3/2017

Detailed OCT 2017  
Checked OCT 2017

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

Sheet No. 13 of 37

**DETAILS OF END BENT NO. 2**

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





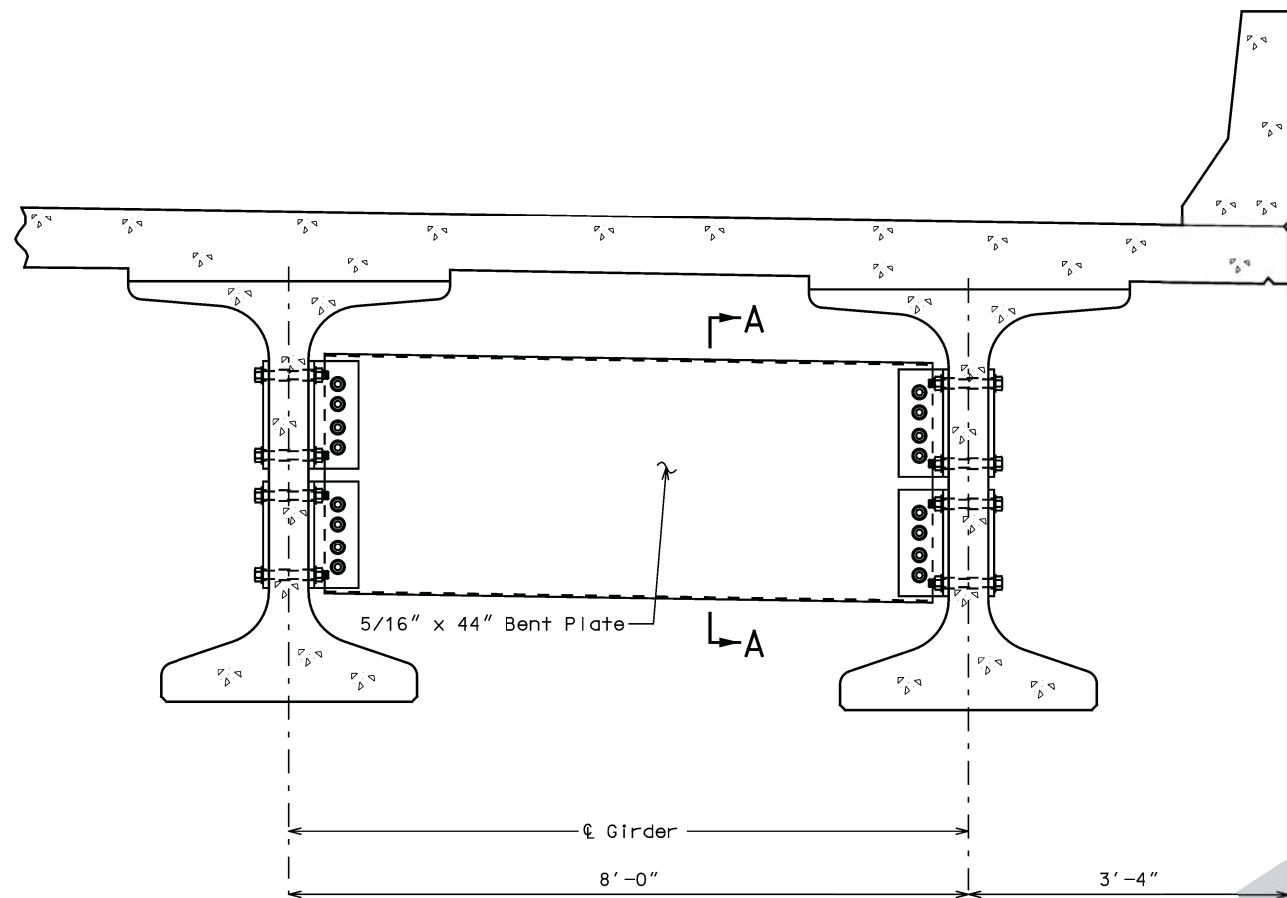




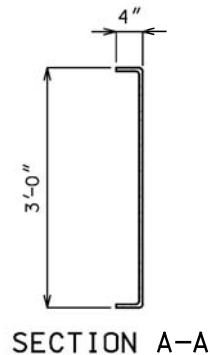




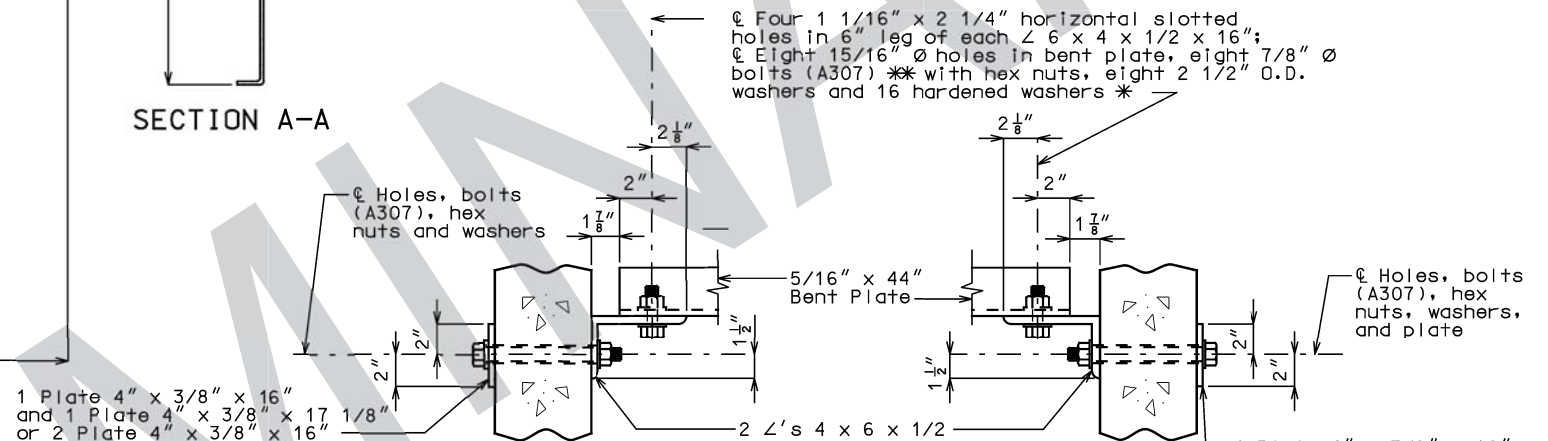




PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS

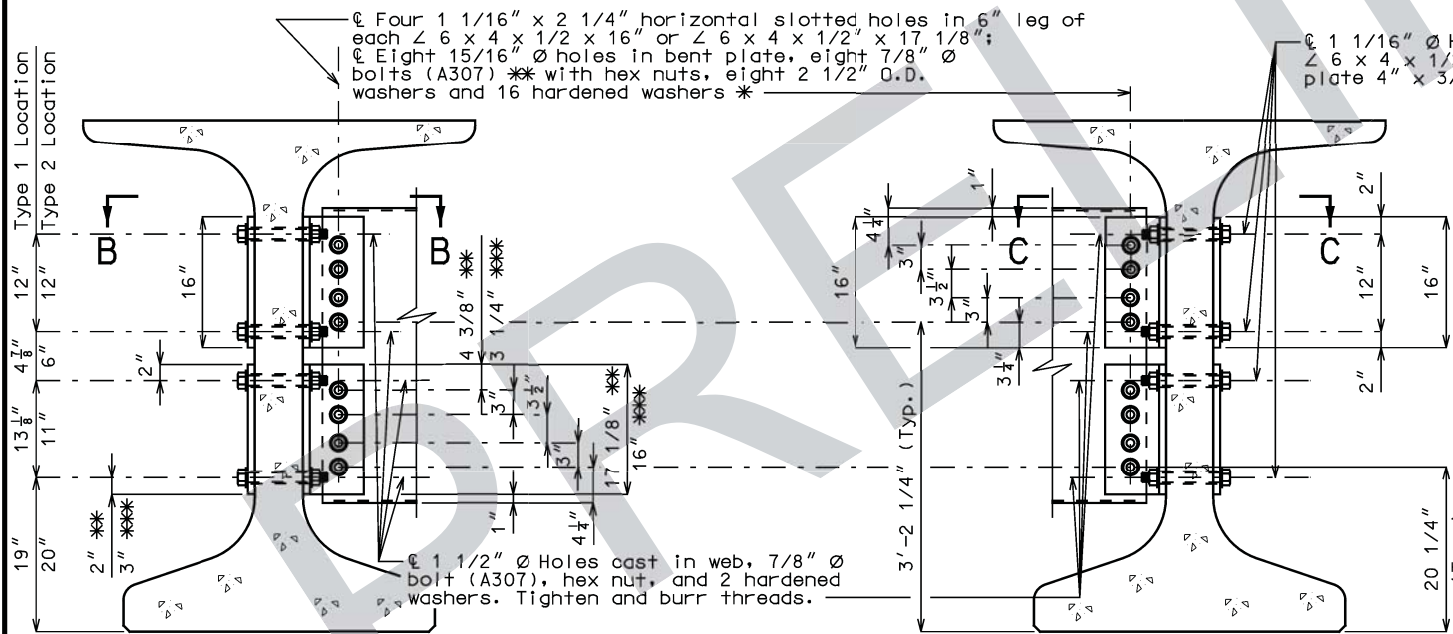


SECTION A-A



SECTION B-B

SECTION C-C



SECTION THRU INT. GIRDER AT DIAPHRAGM

SECTION THRU EXT. GIRDER AT DIAPHRAGM

\* Type 1 Location  
 \*\* Type 2 Location

Type 1 Location - Diaphragm location 32'-7 1/4" from  $\phi$  Bearing  
 Type 2 Location - Diaphragm location 46'-5 1/2" from  $\phi$  Bearing

**STEEL DIAPHRAGM NOTES:**

\* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16"  $\phi$  holes and one hardened washer per bolt.

\*\* Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. A325 bolts may be substituted for and installed in accordance with the requirements for the specified A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Payment for furnishing and installing steel intermediate diaphragms will be considered completely covered by the contract unit price for Steel Intermediate Diaphragm for P/S Concrete Girders.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.

For location of intermediate diaphragms, see Sheet No. 15.

**STEEL INTERMEDIATE DIAPHRAGM DETAILS**

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

DATE PREPARED  
 11/3/2017

ROUTE  
 366E MO

DISTRICT  
 BR SHEET NO.  
 18

COUNTY  
 St. Louis

JOB NO.  
 J6S3140

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
 A8580

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-278-6636)

**HNTB**

715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-4201  
 CERTIFICATE OF AUTHORITY NO. 001270

**NOT FOR CONSTRUCTION**

11/3/2017

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



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

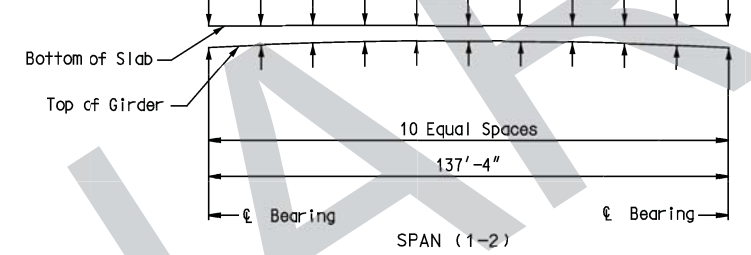
DATE PREPARED  
11/3/2017  
ROUTE  
366E MO  
DISTRICT SHEET NO.  
BR 20  
COUNTY  
St. Louis  
JOB NO.  
J6S3140  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO.  
A8580

**THEORETICAL BOTTOM OF SLAB ELEVATIONS AT  $\ell$  OF GIRDER (PRIOR TO FORMING FOR SLAB) \*\***

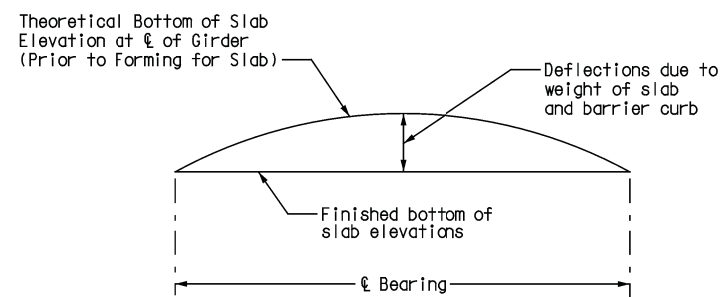
	Span (1-2) (137'-4" $\ell$ brg - $\ell$ brg.)										
	$\ell$ brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	$\ell$ brg.
Girder No. 1	544.36	544.98	545.56	546.09	546.56	546.98	547.35	547.66	547.91	548.12	548.29
Girder No. 2	543.63	544.29	544.90	545.47	545.98	546.43	546.83	547.16	547.44	547.68	547.87
Girder No. 3	542.87	543.56	544.21	544.80	545.34	545.83	546.25	546.62	546.94	547.20	547.42
Girder No. 4	542.08	542.80	543.47	544.09	544.66	545.17	545.63	546.03	546.38	546.68	546.94

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

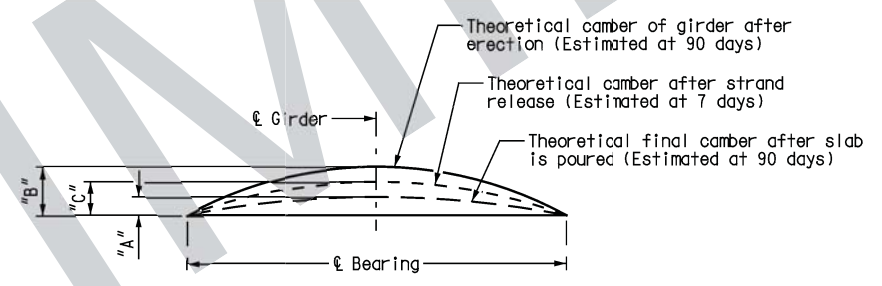
Girder 1	1"	2"	2 3/8"	2 5/8"	2 1/2"	2 5/8"	2 1/2"	2 5/8"	2 3/8"	2"	1"
Girder 2	1"	2"	2 1/2"	2 3/4"	2 3/4"	2 7/8"	2 3/4"	2 3/4"	2 1/2"	2"	1"
Girder 3	1"	2"	2 1/2"	2 3/4"	2 3/4"	2 7/8"	2 3/4"	2 3/4"	2 1/2"	2"	1"
Girder 4	1"	2"	2 3/8"	2 5/8"	2 1/2"	2 5/8"	2 1/2"	2 5/8"	2 3/8"	2"	1"



**THEORETICAL SLAB HAUNCHING DIAGRAM**



**TYPICAL SLAB ELEVATIONS DIAGRAM**



	Span (1-2)		
	"A"	"B"	"C"
$\ell$ Girder 1	1 7/8"	4 3/4"	2 3/4"
$\ell$ Girder 2	1 5/8"		
$\ell$ Girder 3	1 5/8"		
$\ell$ Girder 4	1 7/8"		

**GIRDER CAMBER DIAGRAM**

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder. Conversion factors for girder camber (Estimated at 90 days)  
 0.1 pt. = 0.314 x 0.5 pt.  
 0.2 pt. = 0.593 x 0.5 pt.  
 0.3 pt. = 0.813 x 0.5 pt.  
 0.4 pt. = 0.952 x 0.5 pt.

**THEORETICAL SLAB HAUNCHING DIAGRAM, THEORETICAL BOTTOM OF SLAB ELEVATIONS, AND GIRDER CAMBER DIAGRAM**

Detailed JUN 2017  
Checked SEP 2017

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

Sheet No. 20 of 37

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

PRELIMINARY

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-278-6636)

HNTB  
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY  
NO. 001270

NOT FOR CONSTRUCTION

11/3/2017





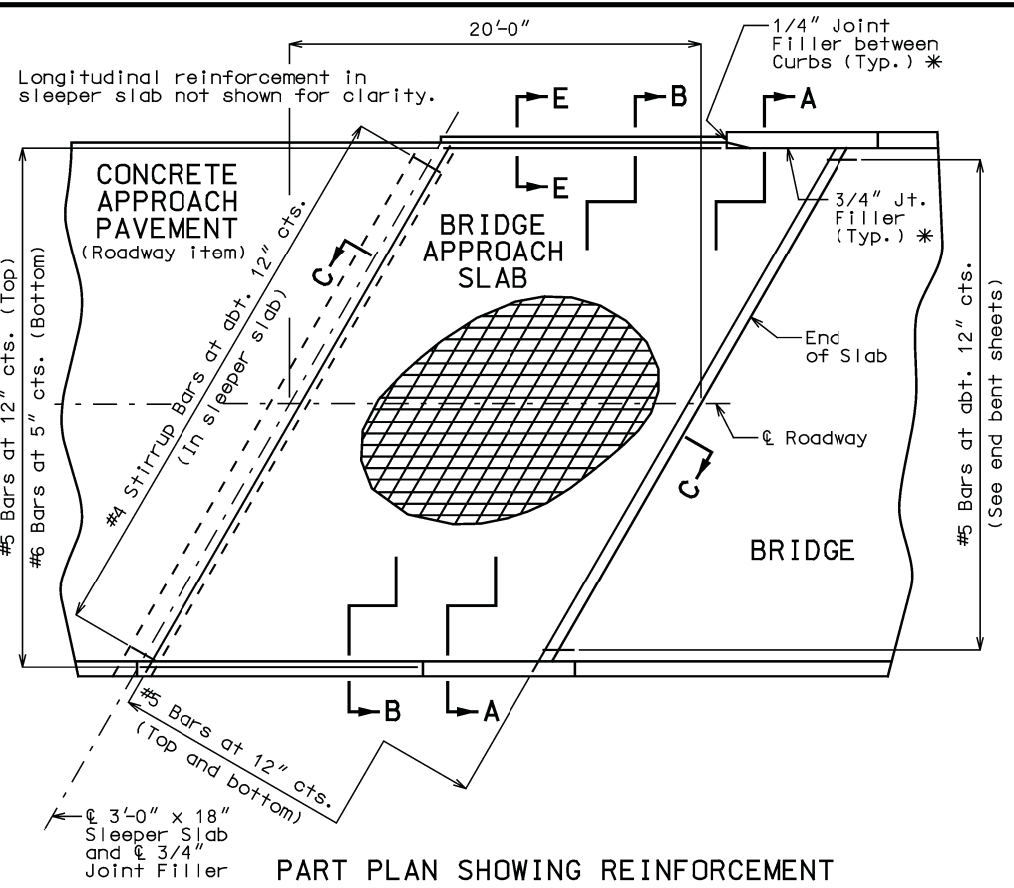




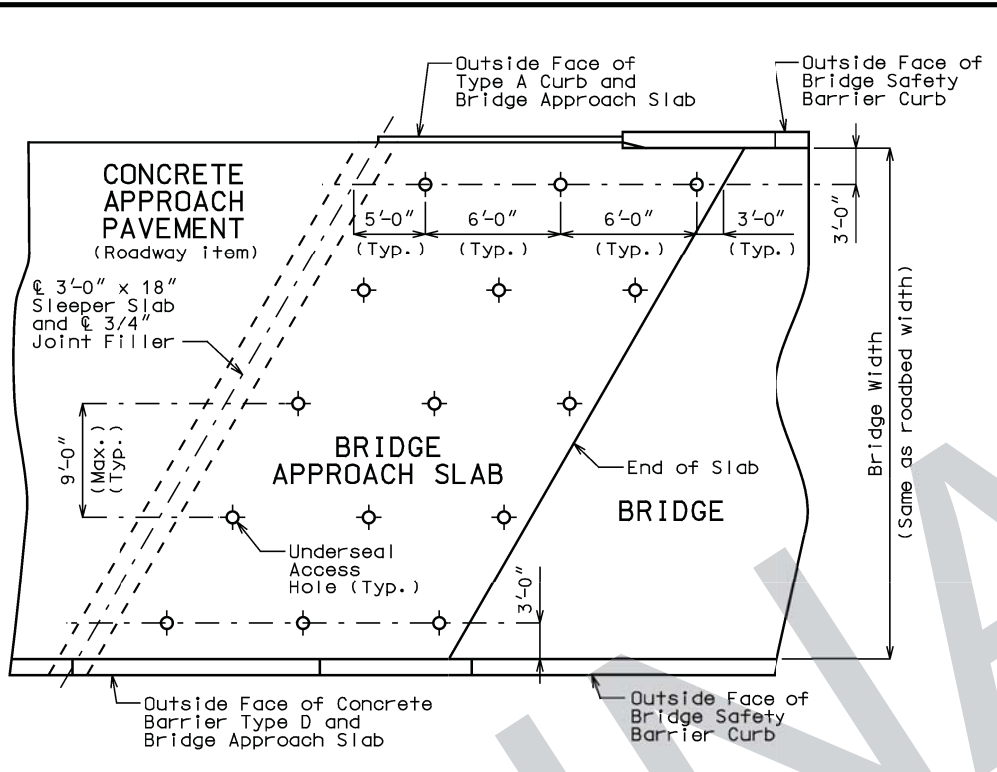




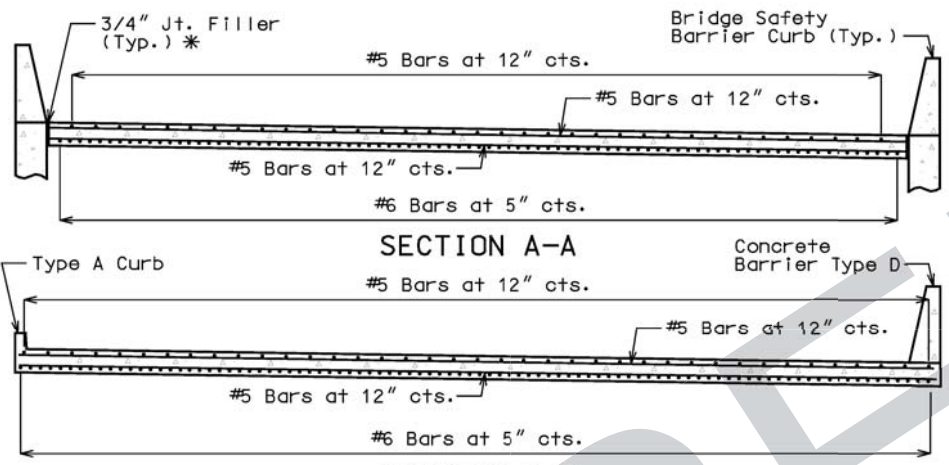




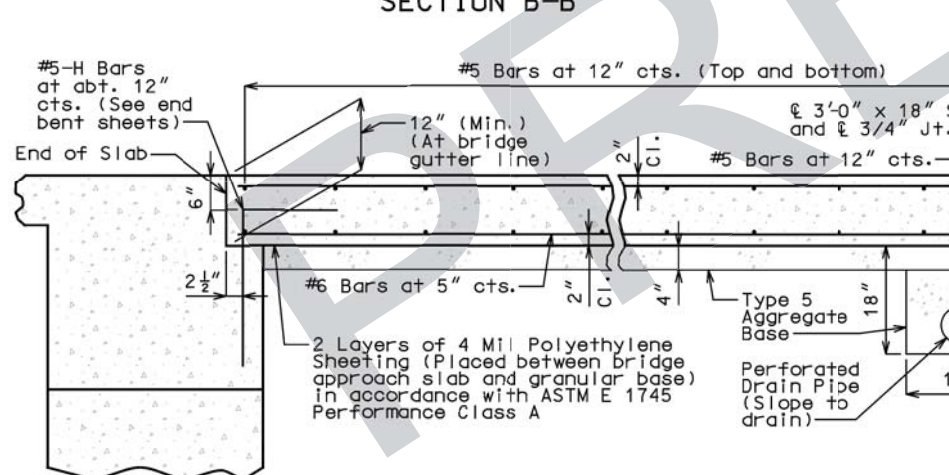
PART PLAN SHOWING REINFORCEMENT



PART PLAN SHOWING UNDERSEAL ACCESS HOLES



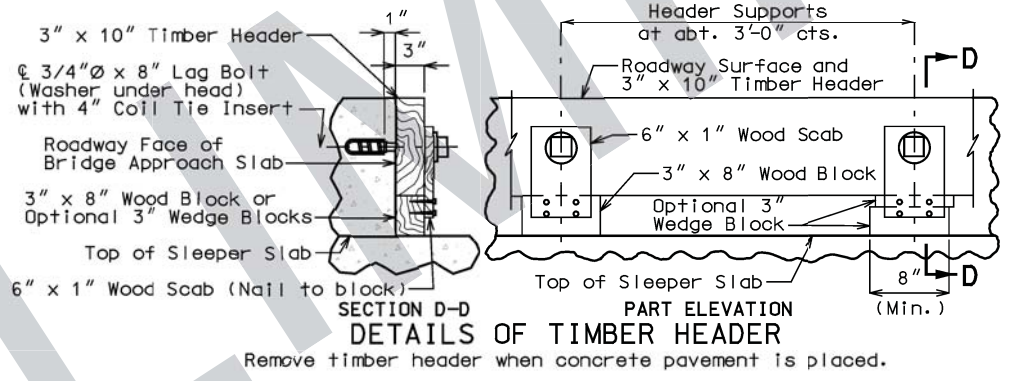
SECTION A-A



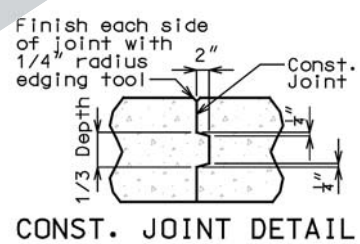
SECTION B-B



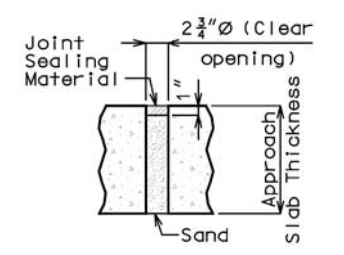
SECTION C-C



SECTION D-D  
PART ELEVATION  
DETAILS OF TIMBER HEADER



CONST. JOINT DETAIL



TYPICAL UNDERSEAL  
ACCESS HOLE DETAIL

**General Notes:**

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

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

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

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29".

Mechanical bar splices shall be in accordance with Sec 710.

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

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

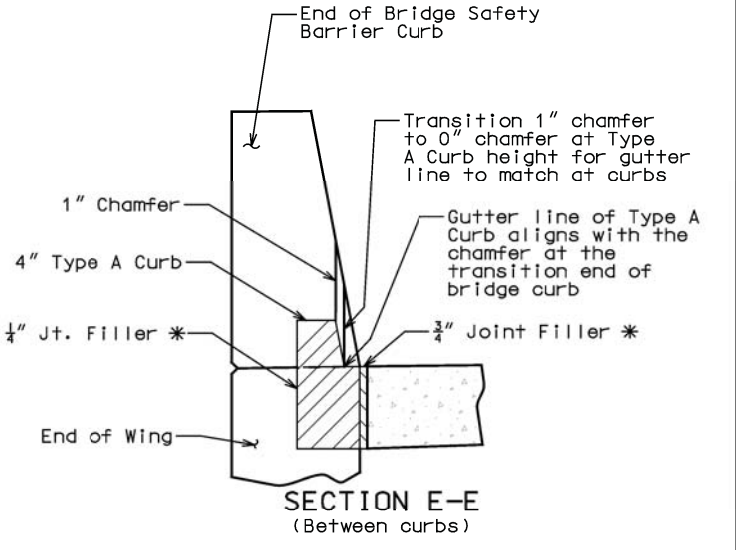
Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

For Concrete Approach Pavement details, see roadway plans.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb. For Concrete Barrier Type D, see roadway plans.

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

\* Seal joint between vertical face of approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.



SECTION E-E  
(Between curbs)

Detailed SEP 2017  
Checked SEP 2017

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

DETAILS OF END BENT 1 BRIDGE APPROACH SLAB (MAJOR ROAD)

Sheet No. 26 of 37

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

DATE PREPARED: 11/3/2017

ROUTE: 366E, STATE: MO, DISTRICT: BR, SHEET NO.: 26

COUNTY: St. Louis

JOB NO.: J6S3140

CONTRACT ID.

PROJECT NO.

BRIDGE NO.: A8580

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-278-6636)

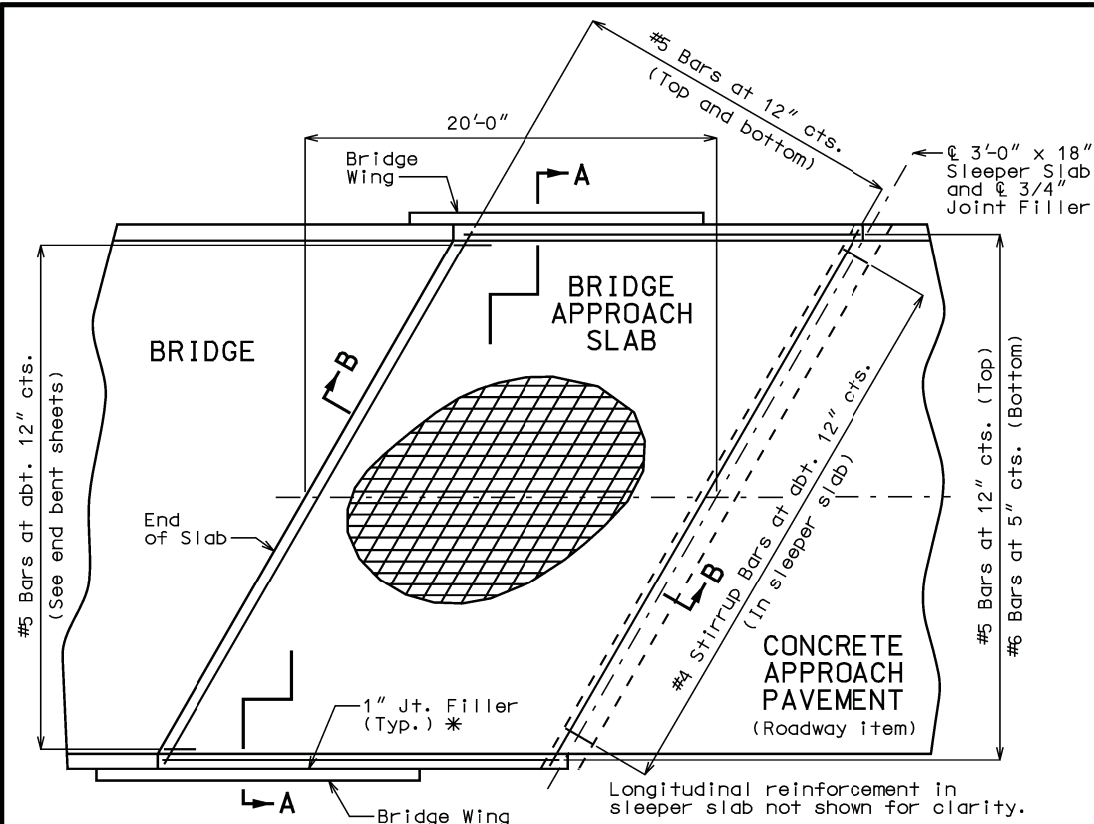
HNTB

715 KIRK DRIVE KANSAS CITY, MO 64105-1310 TELEPHONE (816) 472-1201 CERTIFICATE OF AUTHORITY NO. 001270

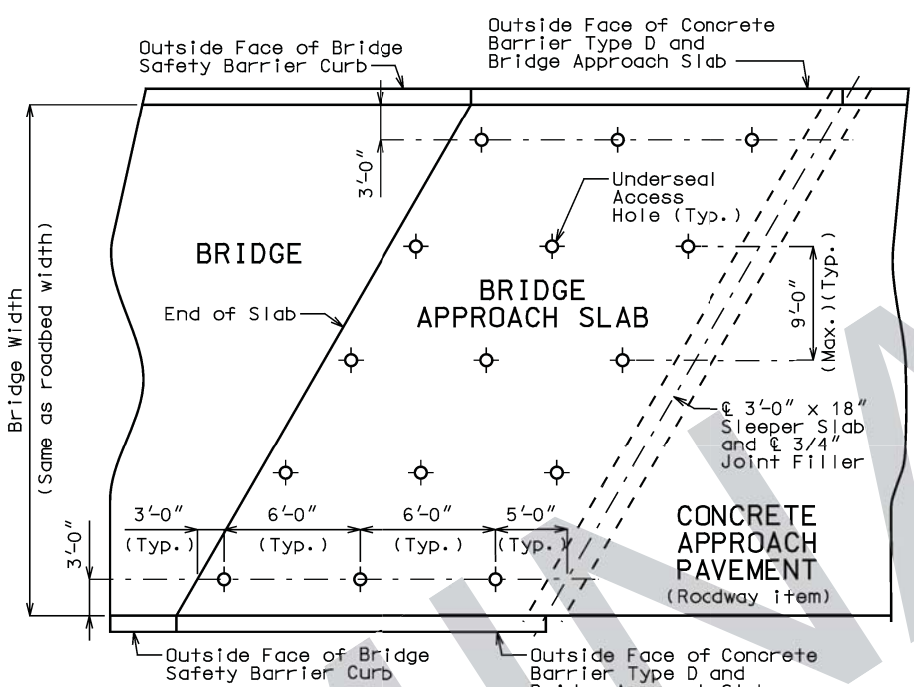
NOT FOR CONSTRUCTION

11/3/2017

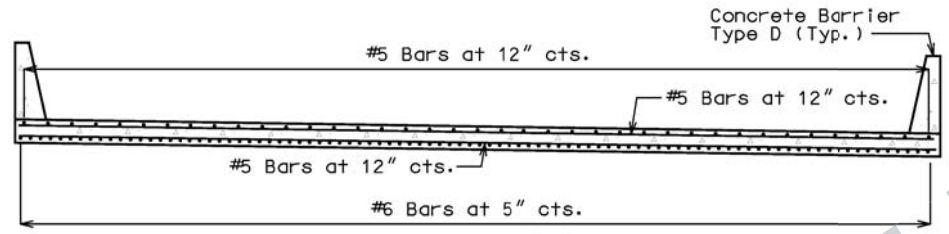




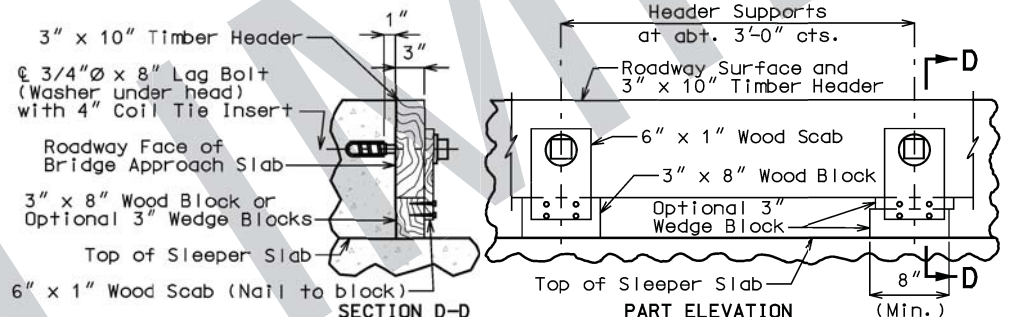
PART PLAN SHOWING REINFORCEMENT



PART PLAN SHOWING UNDERSEAL ACCESS HOLES

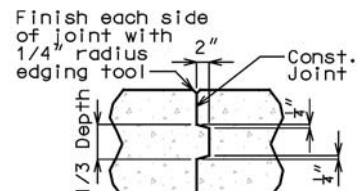


SECTION A-A

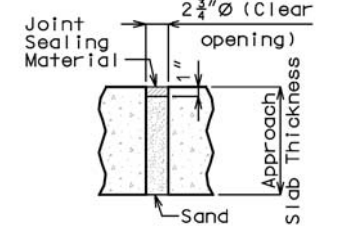


SECTION D-D DETAILS OF TIMBER HEADER

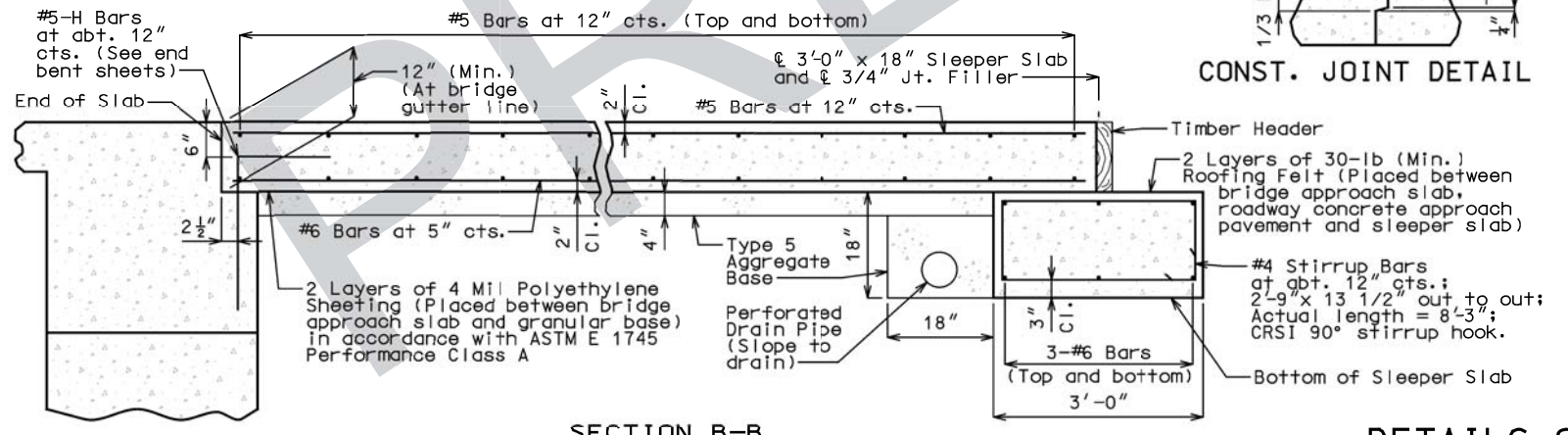
Remove timber header when concrete pavement is placed.



CONST. JOINT DETAIL



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



SECTION B-B

DETAILS OF END BENT 2 BRIDGE APPROACH SLAB (MAJOR ROAD)

**General Notes:**

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

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

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

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #5 bars 29".

Mechanical bar splices shall be in accordance with Sec 710.

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

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

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

For Concrete Approach Pavement details, see roadway plans.

For Concrete Barrier Type D, see roadway plans.

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

\* Seal joint between vertical face of approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

Detailed SEP 2017  
Checked SEP 2017

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

Sheet No. 27 of 37

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

DATE PREPARED 11/3/2017	
ROUTE 366E	STATE MO
DISTRICT BR	SHEET NO. 27
COUNTY St. Louis	
JOB NO. J6S3140	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A8580	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

**MoDOT**

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-278-6636)

**HNTB**

715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY NO. 001270

**NOT FOR CONSTRUCTION**

11/3/2017

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





BILL OF REINFORCING STEEL																		
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K			
SIZE	MARK								FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	LBS.
<b>SUBSTRUCTURE</b>																		
<b>END BENT NO. 2</b>																		
24	7H213	Footing		20	X				34'-9"						34'-9"	34'-9"	1705	
2	7H214	Footing		20	X				2'-6"						2'-6"	2'-6"	10	
16	5H215	Footing		20	X				31'-9"						31'-9"	31'-9"	530	
2	5H216	Footing		23	X				12"	56'-0"	16"	13 <sup>3</sup> / <sub>8</sub> "	8"	10 <sup>3</sup> / <sub>8</sub> "	6"	58'-4"	58'-4"	122
9	8H217	Wingwall		20	X				19'-8"						19'-8"	19'-8"	473	
10	8H218	Wingwall		20	X				17'-5"						17'-5"	17'-5"	465	
12	8H219	Wingwall		20	X				9'-8"						9'-8"	9'-8"	310	
24	8H221	Footing		20	X				7'-4"						7'-4"	7'-4"	470	
2	5H222	Footing		23	X				8"	56'-0"	20"	17 <sup>3</sup> / <sub>8</sub> "	10"	6 <sup>3</sup> / <sub>8</sub> "	4"	58'-4"	58'-4"	122
12	5H224	Wingwall		20	X				9'-8"						9'-8"	9'-8"	121	
10	5H225	Wingwall		20	X				17'-5"						17'-5"	17'-5"	182	
9	5H226	Wingwall		20	X				19'-8"						19'-8"	19'-8"	185	
6	5H227	Footing		5	X				10'-6"	2'-8"	2'-8"				15'-10"	15'-7"	98	
6	5H228	Footing		14	X				2'-0"	7'-6"	18"		9"	15 <sup>3</sup> / <sub>8</sub> "	11'-0"	10'-11"	68	
20	6H229	Footing		20	X				6'-9"						6'-9"	6'-9"	203	
10	4U207	Footing		5	S	X			8'-6"	2'-6"	2'-6"				13'-6"	13'-4"	89	
20	4U208	Footing		5	S	X			11'-4"	2'-6"	2'-6"				16'-4"	16'-2"	216	
43	5U209	Footing		5	S	X			8"	2'-6"	2'-6"				5'-8"	5'-5"	243	
44	5U210	Footing		53	S	X			5'-8"	3'-7"	3'-7"				19'-5"	19'-2"	880	
13	5U211	Footing		5	S	X			5'-8"	3'-7"	3'-7"				12'-10"	12'-7"	171	
3	5U212	Footing		53	S	X	V	1	4'-8"	3'-7"					17'-5"	17'-2"	57	
Increment = 11"																		
3	5U213	Footing		53	S	X	V	1	2'-7"	3'-7"					19'-3"	19'-0"	44	
Increment = 11"																		
5	5U214	Footing		53	S	X	V	1	3'-6"	3'-7"					15'-1"	14'-10"	95	
Increment = 11"																		
1	5U215	Footing		53	S	X			6'-1"	3'-7"					20'-3"	20'-0"	24	
1	5U216	Footing		53	S	X			7'-5"	3'-7"					22'-11"	22'-8"	23	
1	5U218	Footing		5	S	X			7'-3"	3'-7"					22'-7"	22'-4"	14	
1	5U219	Footing		5	S	X			6'-8"	3'-7"	3'-7"				13'-10"	13'-7"	11	
1	5U220	Footing		53	S	X			3'-8"	3'-7"	3'-7"				10'-10"	10'-7"	15	
20	4U221	Footing		5	X				3'-2"	3'-7"					14'-5"	14'-2"	156	
1	5U222	Footing		5	S	X			9'-4"	15"	15"				11'-10"	11'-8"	11	
2	6V102	Footing		20	X				4'-1"	3'-7"	3'-7"				11'-3"	11'-0"	11	
2	6V203	Footing		20	X				3'-7"						3'-7"	3'-7"	12	
20	6V204	Wingwall		20	X				4'-1"						4'-1"	4'-1"	248	
22	6V205	Wingwall		20	X				8'-3"						8'-3"	8'-3"	339	
16	6V206	Wingwall		20	X				10'-3"						10'-3"	10'-3"	202	
22	6V207	Wingwall		20	X				8'-5"						8'-5"	8'-5"	339	

BILL OF REINFORCING STEEL																			
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	
									B	C	D	E	F	H	K				
SIZE	MARK								FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	LBS.	
<b>SUPERSTRUCTURE</b>																			
<b>END BENT NO. 1</b>																			
13	6F100	Wingwall		15					14"	3'-2"	14"	13 <sup>1</sup> / <sub>2</sub> "	3 <sup>3</sup> / <sub>8</sub> "	13 <sup>1</sup> / <sub>2</sub> "	3 <sup>3</sup> / <sub>8</sub> "	5'-6"	5'-6"	107	
7	6F101	Diaphragm		2					4'-10"	6'-5"					5'-6 <sup>5</sup> / <sub>8</sub> "	3'-2 <sup>1</sup> / <sub>2</sub> "	11'-3"	11'-3"	118
6	6F102	Diaphragm		14					6'-5"	10"	4'-6"				3'-3"	3'-3"	11'-9"	11'-8"	105
13	6F103	Wingwall		15					14"	13'-3"	14"	4 <sup>3</sup> / <sub>4</sub> "	13 <sup>1</sup> / <sub>8</sub> "	4 <sup>3</sup> / <sub>4</sub> "	13 <sup>1</sup> / <sub>8</sub> "	15'-7"	15'-7"	304	
12	11H100	Beam		20					34'-0"						34'-0"	34'-0"	2168		
4	11H101	Beam		2					58'-9"	12"			6"	10 <sup>3</sup> / <sub>8</sub> "	59'-9"	59'-9"	1270		
20	6H102	Beam & Diaphragm		20					31'-0"						31'-0"	31'-0"	931		
6	6H103	Diaphragm		2					11"	12"			6"	10 <sup>3</sup> / <sub>8</sub> "	23"	23"	17		
6	6H104	Diaphragm		20					3'-1"						3'-1"	3'-1"	28		
18	6H105	Diaphragm		20					9'-4"						9'-4"	9'-4"	252		
4	5H106	Diaphragm		23					15"	3'-3"	15"	13"	7 <sup>1</sup> / <sub>2</sub> "	13"	7 <sup>1</sup> / <sub>2</sub> "	5'-9"	5'-9"	24	
28	5H107	Diaphragm	E	19					2'-0"	15"					3'-3"	3'-2"	92		
8	6H108	Diaphragm	E	20					33'-0"						33'-0"	33'-0"	397		
4	6H109	Diaphragm		20					5'-6"						5'-6"	5'-6"	33		
20	6H110	Beam		20					8'-3"						8'-3"	8'-3"	248		
8	8H111	Wingwall	E	20					19'-8"						19'-8"	19'-8"	420		
24	6H112	Wingwall		20					19'-8"						19'-8"	19'-8"	709		
24	6H113	Wingwall		20					17'-4"						17'-4"	17'-4"	625		
8	8H114	Wingwall	E	20					17'-4"						17'-4"	17'-4"	370		
32	6U100	Beam	S	5					8'-4"	5'-10"	5'-10"				20'-0"	19'-9"	949		
36	4U101	Beam	S	53					8'-4"	2'-7"					22'-7"	22'-4"	537		
12	4U102	Beam	S	5					8'-4"	2'-7"	2'-7"				13'-6"	13'-4"	107		
53	6U103	Diaphragm	E	5	S				7'-4"	5'-7"	5'-7"				18'-6"	18'-3"	1453		
45	6U104	Diaphragm	S	19					4'-8"	8'-0"					12'-8"	12'-7"	851		
39	6U105	Diaphragm	E	19	S				2'-11"	9'-10"					12'-9"	12'-8"	742		
2	6U106	Beam	S	5					6'-7"	5'-7"	5'-7"				17'-9"	17'-6"	53		
2	6U107	Beam	S	5					6'-2"	5'-7"	5'-7"				17'-4"	17'-1"	51		
36	4U108	Beam	S	5					8'-4"	18"	18"				11'-4"	11'-2"	269		
2	6U109	Diaphragm	S	5					6'-2"	5'-8"	5'-8"				17'-6"	17'-3"	52		
2	6U110	Diaphragm	S	5					6'-7"	5'-8"	5'-8"				17'-11"	17'-8"	53		
42	5V100	Beam		20					5'-10"						5'-10"	5'-10"	256		
48	6V101	Diaphragm		20					4'-8"						4'-8"	4'-8"	336		
24	6V102	Wingwall		20					8'-6"						8'-6"	8'-6"	306		
24	6V103	Wingwall		20					8'-7"						8'-7"	8'-7"	309		
<b>END BENT NO. 2</b>																			
16	7H201	Diaphragm	E	20					32'-8"						32'-8"	32'-8"	1068		
9	7H202	Diaphragm		20					14'-0"						14'-0"	14'-0"	258		
5	6H203	Diaphragm		20					58'-6"						58'-6"	58'-6"	439		
18	6H204	Diaphragm		20					14'-7"						14'-7"	14'-7"	394		
7	6H205	Diaphragm		5					9'-5"	12"	2'-0"				12'-5"	12'-2"	128		
3	6H207	Diaphragm		2					3'-2"	12"			10 <sup>3</sup> / <sub>8</sub> "	6"	4'-2"	4'-2"	19		
6	6H208	Diaphragm		20					5'-9"						5'-9"	5'-9"	52		
3	6H209	Diaphragm		20					5'-5"						5'-5"	5'-5"	24		
7	6H210	Diaphragm		14					13"	7'-2"	18"		9"	15 <sup>3</sup> / <sub>8</sub> "	9'-9"	9'-8"	102		
4	5H211	Diaphragm		23					15"	3'-3"	15"	13"	7 <sup>1</sup> / <sub>2</sub> "	13"	7 <sup>1</sup> / <sub>2</sub> "	5'-9"	5'-9"	24	
31	5H212	Diaphragm	E	19					2'-0"										

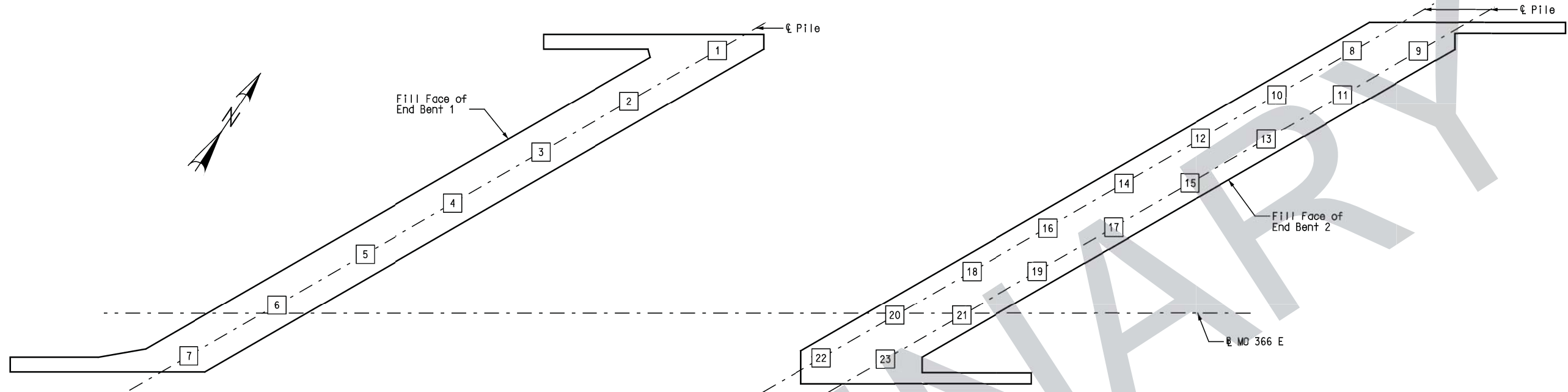
BILL OF REINFORCING STEEL																		
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K			
SIZE	MARK								FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	LBS.
<b>SLAB</b>																		
196	6S100	Slab	E	20					30'-5"							30'-5"	30'-5"	8954
40	6S101	Slab	E	20			V 1		17'-6"							17'-6"	17'-6"	1389
		Increment = 3 1/2"							28'-9"							28'-9"	28'-9"	
100	6S102	Slab	E	20			V 2		3'-0"							3'-0"	3'-0"	1521
		Increment = 3 1/2"							17'-3"							17'-3"	17'-3"	
40	6S103	Slab	E	20					6'-0"							6'-0"	6'-0"	360
44	6S104	Slab	E	20			V 1		6'-4"							6'-4"	6'-4"	829
		Increment = 3 1/2"							18'-9"							18'-9"	18'-9"	
40	6S105	Slab	E	20					17'-5"							17'-5"	17'-5"	1046
75	5S106	Slab	E	20					50'-5"							50'-5"	50'-5"	3944
48	5S107	Slab	E	20					30'-0"							30'-0"	30'-0"	1502
44	6S108	Slab	E	20			V 1		6'-4"							6'-4"	6'-4"	829
		Increment = 3 1/2"							18'-9"							18'-9"	18'-9"	
40	6S109	Slab	E	20					17'-5"							17'-5"	17'-5"	1046
40	6S110	Slab	E	20			V 1		17'-5"							17'-5"	17'-5"	1384
		Increment = 3 1/2"							28'-8"							28'-8"	28'-8"	
96	6S111	Slab	E	20			V 2		3'-7"							3'-7"	3'-7"	1496
		Increment = 3 1/2"							17'-2"							17'-2"	17'-2"	
138	5S112	Slab	E	20					30'-5"							30'-5"	30'-5"	4378
63	5S113	Slab	E	20			V 1		3'-6"							3'-6"	3'-6"	1062
		Increment = 4 7/8"							28'-10"							28'-10"	28'-10"	
63	5S114	Slab	E	20			V 1		3'-6"							3'-6"	3'-6"	1062
		Increment = 4 7/8"							28'-10"							28'-10"	28'-10"	
105	5S115	Slab	E	20					50'-10"							50'-10"	50'-10"	5567
<b>BARRIER CURB (TYPE D)</b>																		
6	5K101	Barrier Curb	E	19	S		V 1		2'-4 1/4"	7 1/4"						3'-0"	2'-10"	18
		Increment = 3/8"							2'-6 3/4"	6 1/8"						3'-2"	3'-0"	
6	5K102	Barrier Curb	E	25	S		V 1		8 1/2"	20 1/8"	7 1/4"			19 3/4"	3 3/4"	3'-0"	2'-11"	19
		Increment = 3/4"							0"	2'-9"	6 1/8"			2'-8 3/8"	6 1/8"	3'-4"	3'-3"	
1	5K103	Barrier Curb	E	19	S				2'-7 1/4"	6"						3'-2"	3'-0"	3
1	5K104	Barrier Curb	E	12	S				2'-9"	6 3/8"				2'-8 3/8"	6 1/8"	3'-4"	3'-4"	3
4	5K105	Barrier Curb	E	19	S		V 1		2'-7 3/4"	6 3/8"						3'-3"	3'-1 1/4"	13
		Increment = 5/8"							2'-10"	6 1/4"						3'-5"	3'-3"	
4	5K106	Barrier Curb	E	12	S		V 1		2'-8 3/4"	6 3/8"				2'-8 1/4"	6 1/8"	3'-4"	3'-4"	14
		Increment = 3/8"							2'-10 1/4"	6 1/4"				2'-9 3/8"	6 3/8"	3'-5"	3'-5"	
3	5K107	Barrier Curb	E	19	S		V 1		2'-11 1/2"	5 1/8"						3'-6"	3'-4"	11
		Increment = 1 1/2"							3'-2 1/2"	5 3/8"						3'-8"	3'-7"	
3	5K108	Barrier Curb	E	12	S		V 1		2'-11 3/4"	6"				2'-11 1/8"	6 3/8"	3'-6"	3'-6"	11
		Increment = 1 1/2"							3'-2 3/4"	5 3/8"				3'-1 3/8"	7 1/4"	3'-9"	3'-9"	
34	5K109	Barrier Curb	E	19	S				3'-3"	5"						3'-8"	3'-7"	127
34	5K110	Barrier Curb	E	12	S				3'-4"	5"				3'-3 1/2"	7 1/2"	3'-9"	3'-9"	133
6	5K111	Barrier Curb	E	40	S		V 1		9 1/8"	6 1/2"	3'-3 3/8"	2'-9 1/2"		6 3/8"	1 1/8"	7'-6"	7'-3"	46
		Increment = 1/4"							9 1/8"	16 3/8"	3'-3 3/8"	2'-0"		16 3/8"	3 1/8"	7'-7"	7'-4"	
40	5K112	Barrier Curb	E	40	S				9 1/8"	16 3/8"	3'-3 3/8"	2'-0"		16 1/2"	3 1/8"	7'-6"	7'-3"	302
1	5K113	Barrier Curb	E	54					10"	20"			12"	21"	4 1/4"	5'-4"	4'-11"	5
26	5K114	Barrier Curb	E	20					19'-8"							19'-8"	19'-8"	533
2	5K115	Barrier Curb	E	20					18'-10"							18'-10"	18'-10"	39
2	5K116	Barrier Curb	E	20					15'-10"							15'-10"	15'-10"	33
2	5K117	Barrier Curb	E	20					12'-10"							12'-10"	12'-10"	27
278	5R101	Barrier Curb	E	26					3'-3"	5 1/4"	3'-3 5/8"			3'-3"	7"	6'-9"	6'-9"	1957
278	5R102	Barrier Curb	E	19	S				20"	10"						2'-6"	2'-5"	701
278	5R103	Barrier Curb	E	27	S				6"	15 1/4"	12"	10"		3"	15"	3'-8"	3'-4"	967
60	5R104	Barrier Curb	E	20					50'-9"							50'-9"	50'-9"	3176
<b>SLIP FORM BARRIER CURB</b>																		
12	5C101	Slip Form	E	20					10'-0"							10'-0"	10'-0"	125

BILL OF REINFORCING STEEL																		
NO. REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS							NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B	C	D	E	F	H	K			
SIZE	MARK								FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	LBS.
<b>TOTALS</b>																		
4																		1374
5																		3320
5																		25972
6																		9956
6																		23651
7																		1973
7																		1068
8																		1718
8																		790
11																		3438
		TOTAL																21779
		TOTAL																51481
<b>SLAB ON CONCRETE NU-GIRDER</b>																		
4																		913
5																		304
5																		17709
6																		8602
6																		23651
7																		258
7																		1068
8																		790
11																		3438
		TOTAL																56733
<b>REINFORCING STEEL (BRIDGES)</b>																		
4																		461
5																		3016
6																		1354
7																		1715
8																		1718
		TOTAL																8264
<b>BARRIER CURB (TYPE D)</b>																		
5																		8138
		TOTAL																8138
<b>SLIP FORM OPTION</b>																		
5																		125
		TOTAL																125

Note: For bar bending diagram, see Sheet No. 28.

**BILL OF REINFORCING STEEL (2 OF 2)**





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

AS-BUILT PILE DATA					
Pile No.	Length in Place (ft)	PDA Nominal Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (Blows/In.)	Actual End of Drive Blow Count (Blows/In.)	Remarks
					END BENT 1
1					
2					
3					
4					
5					
6					
7					
					END BENT 2
8					
9					
10					
11					

Note:  
 Indicate in remarks column:  
 A. Pile type and grade  
 B. Batter  
 C. Driven to practical refusal  
 D. PDA test pile  
 E. Minimum tip elevation controlled

(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

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

AS-BUILT PILE DATA					
Pile No.	Length in Place (ft)	PDA Nominal Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (Blows/In.)	Actual End of Drive Blow Count (Blows/In.)	Remarks
					END BENT 2 CONTINUED
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

Note:  
 This sheet to be completed by MoDOT construction personnel.

AS BUILT PILE DATA

Detailed SEP 2017  
 Checked SEP 2017

Sheet No. 31 of 37

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

DATE PREPARED  
11/3/2017  
 ROUTE 366E STATE MO  
 DISTRICT BR SHEET NO. 31  
 COUNTY St. Louis  
 JOB NO. J6S3140  
 CONTRACT ID.  
 PROJECT NO.  
 BRIDGE NO. A8580

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
 MoDOT  
 105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-278-6636)

HNTB  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY NO. 001270

NOT FOR CONSTRUCTION

11/3/2017

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

**LOG OF BORING NO. B-2A**

Project Description: **I-44 Ramp 12 over Ramp 6 Bridge Replacement (A8580)**  
**Sunset Hills, Missouri**

TSI Geotechnical Inc.  
 1340 North Price Road  
 St. Louis, Missouri 63132  
 (314) 373-4000 (314) 227-6622 FAX

Depth, feet	Samples	Sample #	Graphic Log	Surface El.: <b>Approx. 536.189</b> Location: <b>See Site and Boring Location Plan</b>	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
MATERIAL DESCRIPTION														
				Asphaltic concrete (2.0")										
				Portland cement concrete with reinforcing steel (16.0")										
				Gray, weathered LIMESTONE										
5		RUN1		LIMESTONE, gray, hard, slightly weathered, medium crystalline, medium bedded, trace fossils	25	25								
				No recovery from 3.6 to 7.6 ft., possible clay/shale washout based on rod drop observed during coring										
10		RUN2		LIMESTONE, light gray to light brown, moderately hard, slightly weathered, finely crystalline, thin to thick bedded	68	68								
				- possibly dolomitic from 7.6 to 9.4 ft.										
15		RUN3		- hard, medium to thick bedded from 11.0 to 16.0 ft. - 1.0" gray, soft, clay seam at 11.7 ft. - gravel size fragments from 12.0 to 12.1 ft. - brownish-gray, possibly dolomitic from 12.8 to 12.9, 13.2 to 14.2 and 14.9 to 16.0 ft. - stylolite at 14.9 ft.	100	90								
20		RUN4		- light brown to gray, possibly dolomitic below 16.0 ft. - moderately hard to hard from 16.0 to 21.0 ft. - stylolite at 16.6 and 18.7 ft.	97	73								
25		RUN5		- gray from 20.2 to 20.5 ft. - no recovery from 20.5 to 20.7 ft., possible shale seam - pitted at 20.9 ft. - moderately to highly weathered, very finely crystalline, medium to thin bedded below 21.0 ft. - moderately hard below 21.0 ft. - near vertical fracture from 21.4 to 21.8 ft.	68	15								
Completion Depth: 31.0				Remarks: Boring drilled with CME-550 using CFA and auto SPT. Groundwater not encountered during drilling. Offset boring 12.0 ft. northwest and 10.5 ft. southwest of staked location. Auger refusal at 2.8 ft.										
Date Boring Started: 4/16/17														
Date Boring Completed: 4/17/17														
Engineer/Geologist: MDE														
Project No.: 20171039.01														

LOG WITH LAB. I-44 RAMP 12 OVER RAMP 6 GINT LOGS.GPJ 6/5/17

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

**LOG OF BORING NO. B-2A**

Project Description: **I-44 Ramp 12 over Ramp 6 Bridge Replacement (A8580)**  
**Sunset Hills, Missouri**

TSI Geotechnical Inc.  
 1340 North Price Road  
 St. Louis, Missouri 63132  
 (314) 373-4000 (314) 227-6622 FAX

Depth, feet	Samples	Sample #	Graphic Log	Surface El.: <b>Approx. 536.189</b> Location: <b>See Site and Boring Location Plan</b>	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
MATERIAL DESCRIPTION														
30		RUN6		LIMESTONE, light gray to light brown, moderately hard, slightly to moderately weathered, very finely to finely crystalline, thin to medium bedded, possibly dolomitic	100	85								
				- no recovery from 22.9 to 23.4 ft., from 24.0 to 24.3 ft., and from 24.7 to 25.0 ft.; possible shale washout										
				- highly weathered from 25.0 to 26.0 ft., gravel size fragments										
				- vuggy from 26.9 to 28.7 ft., and below 30.5 ft.										
Completion Depth: 31.0				Remarks: Boring drilled with CME-550 using CFA and auto SPT. Groundwater not encountered during drilling. Offset boring 12.0 ft. northwest and 10.5 ft. southwest of staked location. Auger refusal at 2.8 ft.										
Date Boring Started: 4/16/17														
Date Boring Completed: 4/17/17														
Engineer/Geologist: MDE														
Project No.: 20171039.01														

LOG WITH LAB. I-44 RAMP 12 OVER RAMP 6 GINT LOGS.GPJ 6/5/17

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

**BORING DATA**

Notes:  
 For locations of borings, see Sheet No. 2.  
 Use Northing and Easting coordinates for location of borings. Bent numbers, stations and offsets shown are from existing Bridge A1007.

**BORING DATA (1 OF 6)**

Detailed SEP 2017  
 Checked OCT 2017

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

Sheet No. 32 of 37

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

DATE PREPARED  
 11/3/2017

ROUTE 366E STATE MO  
 DISTRICT BR SHEET NO. 32

COUNTY  
 St. Louis

JOB NO.  
 J6S3140

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
 A8580

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

1-888-ASK-MODOT (1-888-278-6636)

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

















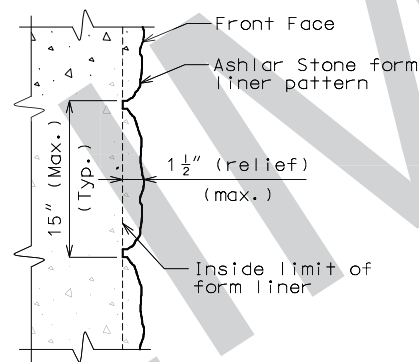
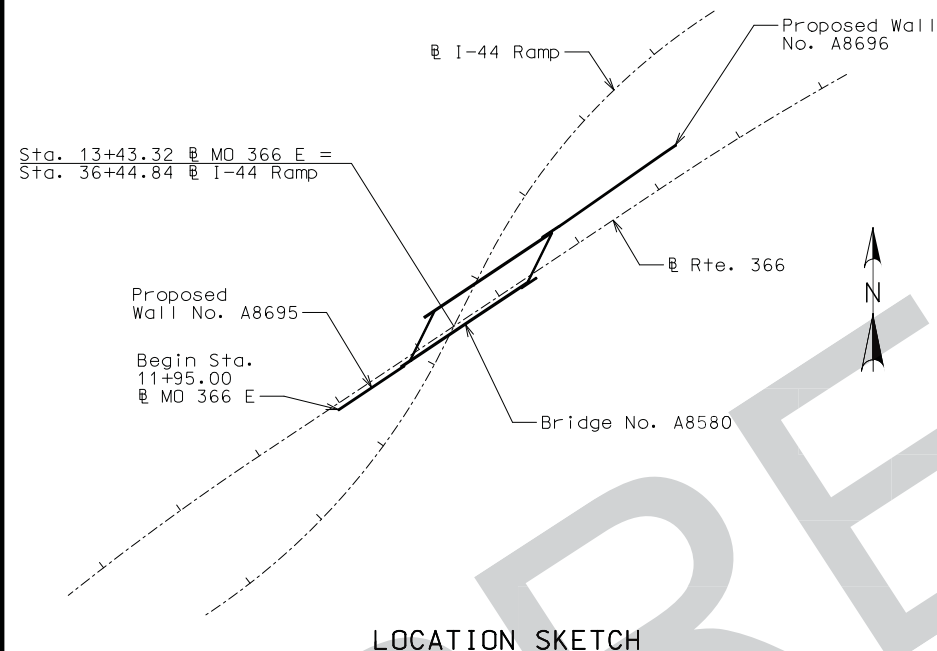




Estimated Quantities		
Item		Total
Concrete and Masonry Protection System	lump sum	1
Sacrificial Graffiti Protection System	lump sum	1
Mechanically Stabilized Earth Wall Systems	sq. foot	960

MSE Wall Systems Data Table					
Proprietary Wall Systems		Combination Wall Systems			
Manufacturer	System	Facing Unit Manufacturer	Facing Unit	Geogrid Manufacturer	Geogrid

MSE Wall Systems Data Table is to be completed by MoDOT construction personnel to record the manufacturer of the proprietary wall system or the manufacturers of the combination wall system that was used for constructing the MSE wall.



**Notes:**

The cost of form liners for MSE wall systems, complete in place, will be considered completely covered by the contract unit price for Mechanically Stabilized Earth Wall System.

Form liner shall be constructed in accordance with Special Provisions.

The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single 'stone' shall be 15" maximum.

- (1) Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"
- (2) Fitzgerald Formliners: Form liner pattern #16986 "Ashlar Stone"
- (3) Greenstreak: Form liner pattern #330 "Ashlar Stone"
- (4) Spec Formliners: Form liner pattern #1515 "Ashlar Stone"
- (5) An approved equal

**General Notes:**

**Design Specifications:**

2002 AASHTO LFD (17th Ed.) Standard Specifications (Section 5, ASD Design)  
Seismic Performance Category B

**Design Loading:**

$\phi_b = 26^\circ$  and Unit weight,  $\gamma_b = 120$  pcf for retained backfill material to be retained by the mechanically stabilized earth wall system.

$\phi_r = 35^\circ$  for unimproved foundation ground where wall is to rest.

Actual  $\phi_r \geq 34^\circ$  for the select granular backfill (reinforced backfill and wedge area backfill) for structural systems.

Design  $\phi_r = 34^\circ$  for the select granular backfill (reinforced backfill) only for structural systems.

The allowable bearing pressure for unimproved ground is 4.0 ksf.

Factor of safety shall be 2.0 for overturning and 1.5 for sliding.

For seismic design the factor of safety shall be 1.5 for overturning and 1.1 for sliding.

**Design Unit Stresses:**

All concrete for leveling pad and coping shall be Class B or B-1 with  $f'_c = 4000$  psi.

**Miscellaneous:**

The MSE wall system shall be built vertical.

The MSE wall system shall be built in accordance with Sec 720.

The MSE wall system shall be a large block wall system.

The cost of joint filler and joint seal, complete in place, will be considered completely covered by the contract unit price for Concrete Traffic Barrier (Type D). See Roadway Plans.

Panel and coping (or capstone) reinforcement shall be epoxy coated.

Anchorage reinforcement shall be spaced to avoid roadway drop inlet behind wall.

A filter cloth meeting the requirements for a Separation Geotextile material shall be placed between the select granular backfill for structural systems and the backfill being retained by the mechanically stabilized earth wall system.

Coping shall be required on this structure unless a small block system is used. Bond breaker (roofing felt or other approved alternate) between wall panel and coping required if coping is cast in place.

The top and bottom elevations are given for a vertical wall.

Minimum soil reinforcement length (L) shall be a ratio of the wall height (H), as measured from the top of the leveling pad. The minimum reinforcement length shall be 1.0 times H. The reinforcement length shall be uniform throughout the entire height of wall.

The contractor shall be solely responsible to coordinate construction of the wall with bridge and roadway construction and ensure that the bridge and roadway construction, resulting or existing obstructions, shall not impact the construction or performance of the wall. Soil reinforcement shall be designed and placed to avoid damage by pile driving, guardrail post installation, utility and sign foundations. (See Roadway and Bridge plans.)

All steel soil reinforcements shall be separated from other metallic elements by at least 3 inches.

The splay angle should be less than 15° and tensile capacity of splayed reinforcement shall be reduced by the cosine of the splay angle.

No reinforcement shall be left unconnected to the wall face or arbitrarily cut/bent in the field to avoid the obstruction.

Where interference between the vertical obstruction and the soil reinforcement is unavoidable, the design of the wall near the obstruction may be modified using one of the alternatives in FHWA-NHI-10-24, Section 5.4.2. Show detail layout on the drawings. For wall designs with horizontal obstructions in reinforced soil mass, see FHWA-NHI-10-24, Section 5.4.3.

Rock excavation is required for MSE wall construction. Rock shall not be removed beyond edge of leveling pad to face of rock ledge. Backfill between the excavation and face of wall to top of rock shall be backfilled with flowable fill. Flowable fill cost should be considered subsidiary to MSE Wall Systems.

Joints that are greater than 1 inch wide at the rock face and on top of the rock surface should be filled with neat cement grout. Grout cost should be considered subsidiary to MSE Wall Systems.

**GENERAL NOTES AND QUANTITIES**

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

Sheet No. 2 of 5

Detailed OCT 2017  
Checked OCT 2017

FOR INFORMATION ONLY NOT FOR CONSTRUCTION

DATE PREPARED  
11/3/2017

ROUTE STATE  
366 E MO

DISTRICT SHEET NO.  
BR 2

COUNTY  
ST. LOUIS

JOB NO.  
J6S3140

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A8695

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

EFK Moen, LLC

Civil Engineering Design

13523 Barrett Parkway Dr Suite 250 St. Louis, MO 63021

Phone 314-394-3100 Missouri Certificate of Authority: 001578

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

REV.





**LOG OF BORING NO. B-2A**

Project Description: **I-44 Ramp 12 over Ramp 6 Bridge Replacement (A8580)**  
**Sunset Hills, Missouri**

TSI Geotechnical Inc.  
 1340 North Price Road  
 St. Louis, Missouri 63132  
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Surface El.: <b>Approx. 536.189</b> Location: <b>See Site and Boring Location Plan</b>								
				Asphaltic concrete (2.0") Portland cement concrete with reinforcing steel (16.0") Gray, weathered LIMESTONE								
5		RUN1		LIMESTONE, gray, hard, slightly weathered, medium crystalline, medium bedded, trace fossils No recovery from 3.6 to 7.6 ft., possible clay/shale washout based on rod drop observed during coring	25	25						
10		RUN2		LIMESTONE, light gray to light brown, moderately hard, slightly weathered, finely crystalline, thin to thick bedded - possibly dolomitic from 7.6 to 9.4 ft.	68	68						
15		RUN3		- hard, medium to thick bedded from 11.0 to 16.0 ft. - 1.0" gray, soft, clay seam at 11.7 ft. - gravel size fragments from 12.0 to 12.1 ft. - brownish-gray, possibly dolomitic from 12.8 to 12.9, 13.2 to 14.2 and 14.9 to 16.0 ft. - stylolite at 14.9 ft.	100	90						
20		RUN4		- light brown to gray, possibly dolomitic below 16.0 ft. - moderately hard to hard from 16.0 to 21.0 ft. - stylolite at 16.6 and 18.7 ft.	97	73						
25		RUN5		- gray from 20.2 to 20.5 ft. - no recovery from 20.5 to 20.7 ft, possible shale seam - pitted at 20.9 ft. - moderately to highly weathered, very finely crystalline, medium to thin bedded below 21.0 ft. - moderately hard below 21.0 ft. - near vertical fracture from 21.4 to 21.8 ft.	68	15						
				Completion Depth: 31.0 Date Boring Started: 4/16/17 Date Boring Completed: 4/17/17 Engineer/Geologist: MDE Project No.: 20171039.01	Remarks: Boring drilled with CME-550 using CFA and auto SPT. Groundwater not encountered during drilling. Offset boring 12.0 ft. northwest and 10.5 ft. southwest of staked location. Auger refusal at 2.8 ft.							

LOG WITH LAB I-44 RAMP 12 OVER RAMP 6 GINT LOGS.GPJ 6/5/17

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

**LOG OF BORING NO. B-2A**

Project Description: **I-44 Ramp 12 over Ramp 6 Bridge Replacement (A8580)**  
**Sunset Hills, Missouri**

TSI Geotechnical Inc.  
 1340 North Price Road  
 St. Louis, Missouri 63132  
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Surface El.: <b>Approx. 536.189</b> Location: <b>See Site and Boring Location Plan</b>								
30		RUN6		- no recovery from 22.9 to 23.4 ft., from 24.0 to 24.3 ft., and from 24.7 to 25.0 ft.; possible shale washout LIMESTONE, light gray to light brown, moderately hard, slightly to moderately weathered, very finely to finely crystalline, thin to medium bedded, possibly dolomitic - highly weathered from 25.0 to 26.0 ft., gravel size fragments - vuggy from 26.9 to 28.7 ft., and below 30.5 ft.	100	85						
				Boring terminated at 31.0 ft.								
				Completion Depth: 31.0 Date Boring Started: 4/16/17 Date Boring Completed: 4/17/17 Engineer/Geologist: MDE Project No.: 20171039.01	Remarks: Boring drilled with CME-550 using CFA and auto SPT. Groundwater not encountered during drilling. Offset boring 12.0 ft. northwest and 10.5 ft. southwest of staked location. Auger refusal at 2.8 ft.							

LOG WITH LAB I-44 RAMP 12 OVER RAMP 6 GINT LOGS.GPJ 6/5/17

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

**BORING DATA**

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

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

Sheet No. 4 of 5

Detailed OCT 2017  
 Checked OCT 2017

FOR INFORMATION ONLY NOT FOR CONSTRUCTION

DATE PREPARED 11/3/2017	
ROUTE 366 E	STATE MO
DISTRICT BR	SHEET NO. 4
COUNTY ST. LOUIS	
JOB NO. J6S3140	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A8695	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

**EFK Moen, LLC**  
 Civil Engineering Design  
 13523 Barrett Parkway Dr  
 Suite 250  
 St. Louis, MO 63021 Phone 314-394-3100  
 Missouri Certificate of Authority: 001578

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



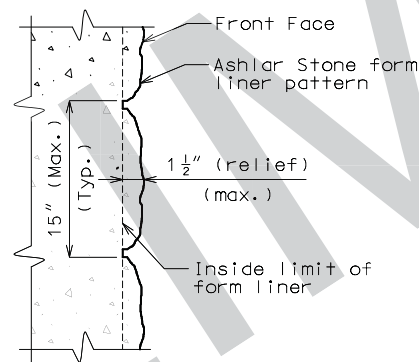
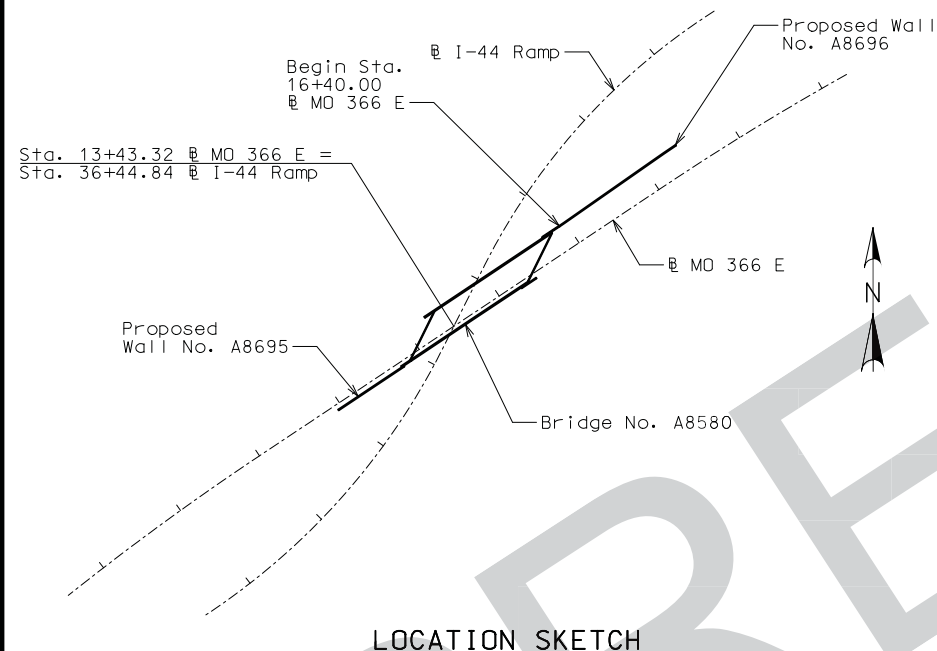




Estimated Quantities		
Item		Total
Concrete and Masonry Protection System	lump sum	1
Sacrificial Graffiti Protection System	lump sum	1
Mechanically Stabilized Earth Wall Systems	sq. foot	1,797

MSE Wall Systems Data Table					
Proprietary Wall Systems		Combination Wall Systems			
Manufacturer	System	Facing Unit Manufacturer	Facing Unit	Geogrid Manufacturer	Geogrid

MSE Wall Systems Data Table is to be completed by MoDOT construction personnel to record the manufacturer of the proprietary wall system or the manufacturers of the combination wall system that was used for constructing the MSE wall.



**Notes:**

The cost of form liners for MSE wall systems, complete in place, will be considered completely covered by the contract unit price for Mechanically Stabilized Earth Wall System.

Form liner shall be constructed in accordance with Special Provisions.

The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single 'stone' shall be 15" maximum.

- (1) Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"
- (2) Fitzgerald Formliners: Form liner pattern #16986 "Ashlar Stone"
- (3) Greenstreak: Form liner pattern #330 "Ashlar Stone"
- (4) Spec Formliners: Form liner pattern #1515 "Ashlar Stone"
- (5) An approved equal

**General Notes:**

**Design Specifications:**

2002 AASHTO LFD (17th Ed.) Standard Specifications (Section 5, ASD Design)  
Seismic Performance Category B

**Design Loading:**

$\phi_b = 26^\circ$  and Unit weight,  $\gamma_b = 120$  pcf for retained backfill material to be retained by the mechanically stabilized earth wall system.

$\phi_r = 35^\circ$  for unimproved foundation ground where wall is to rest.

Actual  $\phi_r \geq 34^\circ$  for the select granular backfill (reinforced backfill and wedge area backfill) for structural systems.

Design  $\phi_r = 34^\circ$  for the select granular backfill (reinforced backfill) only for structural systems.

The allowable bearing pressure for unimproved ground is 4.0 ksf.

Factor of safety shall be 2.0 for overturning and 1.5 for sliding.

For seismic design the factor of safety shall be 1.5 for overturning and 1.1 for sliding.

**Design Unit Stresses:**

All concrete for leveling pad and coping shall be Class B or B-1 with  $f'_c = 4000$  psi.

**Miscellaneous:**

The MSE wall system shall be built vertical.

The MSE wall system shall be built in accordance with Sec 720.

The MSE wall system shall be a large block wall system.

The cost of joint filler and joint seal, complete in place, will be considered completely covered by the contract unit price for Concrete Traffic Barrier (Type D). See Roadway Plans.

Panel and coping (or capstone) reinforcement shall be epoxy coated.

Anchorage reinforcement shall be spaced to avoid roadway drop inlet behind wall.

A filter cloth meeting the requirements for a Separation Geotextile material shall be placed between the select granular backfill for structural systems and the backfill being retained by the mechanically stabilized earth wall system.

Coping shall be required on this structure unless a small block system is used. Bond breaker (roofing felt or other approved alternate) between wall panel and coping required if coping is cast in place.

The top and bottom elevations are given for a vertical wall.

Minimum soil reinforcement length (L) shall be a ratio of the wall height (H), as measured from the top of the leveling pad. The minimum reinforcement length shall be 1.1 times H. The reinforcement length shall be uniform throughout the entire height of wall.

The contractor shall be solely responsible to coordinate construction of the wall with bridge and roadway construction and ensure that the bridge and roadway construction, resulting or existing obstructions, shall not impact the construction or performance of the wall. Soil reinforcement shall be designed and placed to avoid damage by pile driving, guardrail post installation, utility and sign foundations. (See Roadway and Bridge plans.)

All steel soil reinforcements shall be separated from other metallic elements by at least 3 inches.

The splay angle should be less than 15° and tensile capacity of splayed reinforcement shall be reduced by the cosine of the splay angle.

No reinforcement shall be left unconnected to the wall face or arbitrarily cut/bent in the field to avoid the obstruction.

Where interference between the vertical obstruction and the soil reinforcement is unavoidable, the design of the wall near the obstruction may be modified using one of the alternatives in FHWA-NHI-10-24, Section 5.4.2. Show detail layout on the drawings. For wall designs with horizontal obstructions in reinforced soil mass, see FHWA-NHI-10-024, Section 5.4.3.

Rock excavation is required for MSE wall construction. Rock shall not be removed beyond edge of leveling pad to face of rock ledge. Backfill between the excavation and face of wall to top of rock shall be backfilled with flowable fill. Flowable fill cost should be considered subsidiary to MSE Wall Systems.

Joints that are greater than 1 inch wide at the rock face and on top of the rock surface should be filled with neat cement grout. Grout cost should be considered subsidiary to MSE Wall Systems.

**GENERAL NOTES AND QUANTITIES**

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

Sheet No. 2 of 4

Detailed OCT 2017  
Checked OCT 2017

FOR INFORMATION ONLY NOT FOR CONSTRUCTION

DATE PREPARED  
11/3/2017

ROUTE STATE  
366 E MO

DISTRICT SHEET NO.  
BR 2

COUNTY  
ST. LOUIS

JOB NO.  
J6S3140

CONTRACT ID.

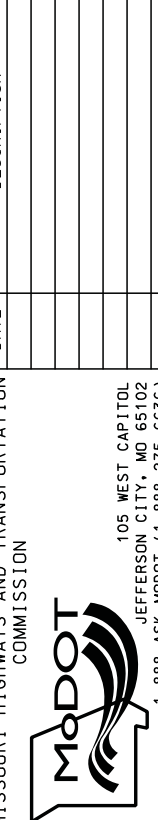
PROJECT NO.

BRIDGE NO.  
A8696

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



EFK Moen, LLC

Civil Engineering Design  
13523 Barrett Parkway Dr  
Suite 250  
St. Louis, MO 63021 Phone 314-394-3100  
Missouri Certificate of Authority: 001578

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

REV.





**LOG OF BORING NO. B-7**

Project Description: **I-44 Ramp 12 over Ramp 6 Bridge Replacement (A8580)**  
**Sunset Hills, Missouri**

TSI Geotechnical Inc.  
 1340 North Price Road  
 St. Louis, Missouri 63132  
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches Hand Penetrometer, Qu TSF	Un drained Shear Strength, TSF Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Surface El.: <b>544.8</b> Location: <b>See Site and Boring Location Plan</b>								
				Asphaltic concrete (2.0") Portland cement concrete with reinforcing steel (12.0")								
		SS-1		Crushed limestone pieces, and brown and gray, lean CLAY (CL) (FILL)	33		2 2 3	>4.5				
		SS-2		Brown and gray, shaley lean CLAY (CL) Gray, weathered LIMESTONE	33		4 3 5					
5				- trace clay below 6.0 ft.								
		SS-3			67		15 6 10					
		SS-4			56		11 30 15					
10				LIMESTONE, light gray to brown, moderately hard to hard, slightly to moderately weathered, finely crystalline, medium to thick bedded - moderately to highly weathered from 10.0 to 10.2 ft. - pitted at 10.6 ft. - moderately weathered, highly fractured from 11.1 to 11.5 ft. - 45° fracture from 12.3 to 12.5 ft.	100	70						
		RUN1										
				- medium crystalline from 15.0 to 20.0 ft. - slightly weathered below 15.0 ft. - 60° fracture from 15.3 to 15.6 ft.								
		RUN2			100	67						
				- 45° fracture from 18.0 to 18.2 ft., 18.3 to 18.7 ft. and from 19.6 to 19.8 ft.								
				- hard, banded to medium bedded, below 24.0 ft. - finely crystalline below 20.0 ft.								
		RUN3			100	80						
				- stylolite at 22.3 ft. - 45° fracture from 22.4 to 22.6 ft.								
				- highly weathered at 24.7 ft., trace brown shale								

Completion Depth: 30.0  
 Date Boring Started: 4/17/17  
 Date Boring Completed: 4/18/17  
 Engineer/Geologist: MDE  
 Project No.: 20171039.01

Remarks: Boring drilled with CME-550 using CFA and auto SPT. Groundwater not encountered during drilling. ST refusal at 3.1 ft.; drove SS from 3.5 to 5.0 ft. Offset boring 11.0 ft. southeast of staked location. Auger refusal at 10.0 ft.

LOG WITH LAB I-44 RAMP 12 OVER RAMP 6 GINT LOGS.GPJ 6/5/17

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

**LOG OF BORING NO. B-7**

Project Description: **I-44 Ramp 12 over Ramp 6 Bridge Replacement (A8580)**  
**Sunset Hills, Missouri**

TSI Geotechnical Inc.  
 1340 North Price Road  
 St. Louis, Missouri 63132  
 (314) 373-4000 (314) 227-6622 FAX



Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches Hand Penetrometer, Qu TSF	Un drained Shear Strength, TSF Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Surface El.: <b>544.8</b> Location: <b>See Site and Boring Location Plan</b>								
				LIMESTONE, light gray to brown, moderately hard to hard, slightly weathered, finely crystalline, banded to medium bedded - dark gray, coarsely crystalline from 25.5 to 25.7 ft. - shale parting at 25.7 ft. - chert seam from 25.7 to 26.0 ft. - chert seam from 27.0 to 27.1 ft., and from 28.2 to 28.3 ft. - stylolite at 28.9 ft. - no recovery below 29.6 ft. Boring terminated at 30.0 ft.	92	63						
		RUN4										

Completion Depth: 30.0  
 Date Boring Started: 4/17/17  
 Date Boring Completed: 4/18/17  
 Engineer/Geologist: MDE  
 Project No.: 20171039.01

Remarks: Boring drilled with CME-550 using CFA and auto SPT. Groundwater not encountered during drilling. ST refusal at 3.1 ft.; drove SS from 3.5 to 5.0 ft. Offset boring 11.0 ft. southeast of staked location. Auger refusal at 10.0 ft.

LOG WITH LAB I-44 RAMP 12 OVER RAMP 6 GINT LOGS.GPJ 6/5/17

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

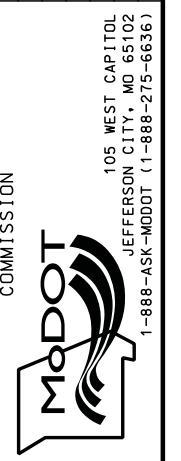
FOR INFORMATION ONLY NOT FOR CONSTRUCTION

DATE PREPARED 11/3/2017	
ROUTE 366 E	STATE MO
DISTRICT BR	SHEET NO. 4
COUNTY ST. LOUIS	
JOB NO. J6S3140	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A8696	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



**EFK Moen, LLC**  
 Civil Engineering Design  
 13523 Barrett Parkway Dr  
 Suite 250  
 St. Louis, MO 63021 Phone 314-394-3100  
 Missouri Certificate of Authority: 001578

**BORING DATA**

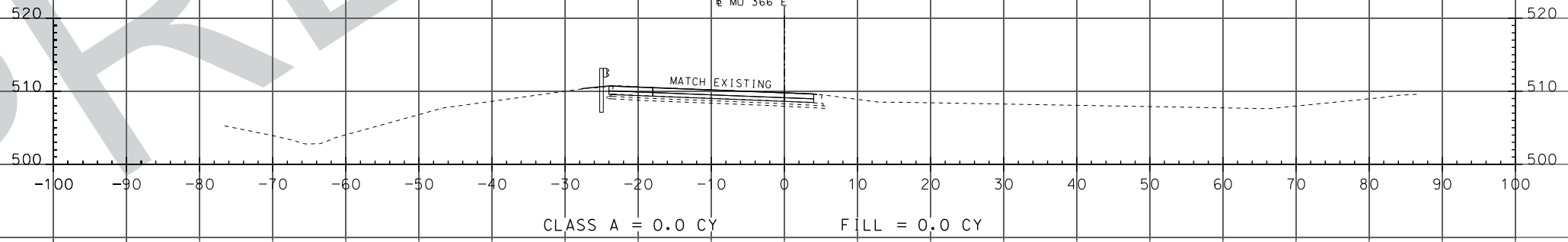
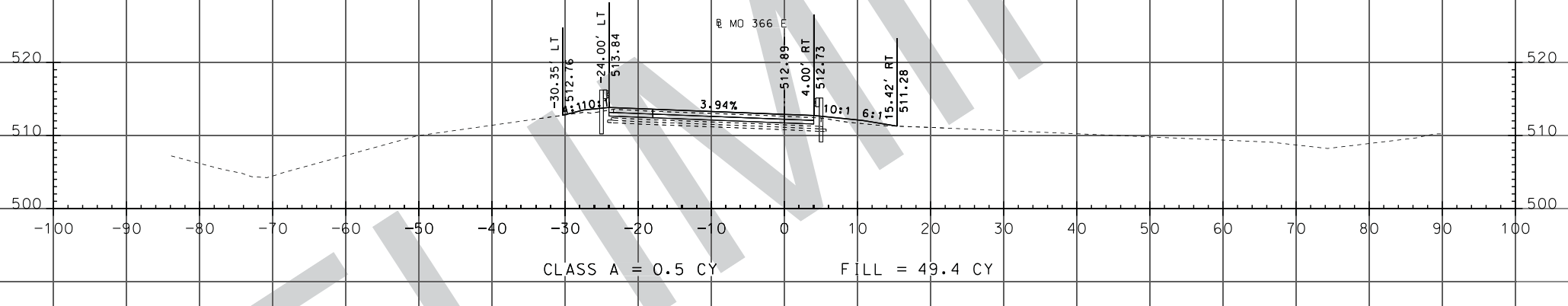
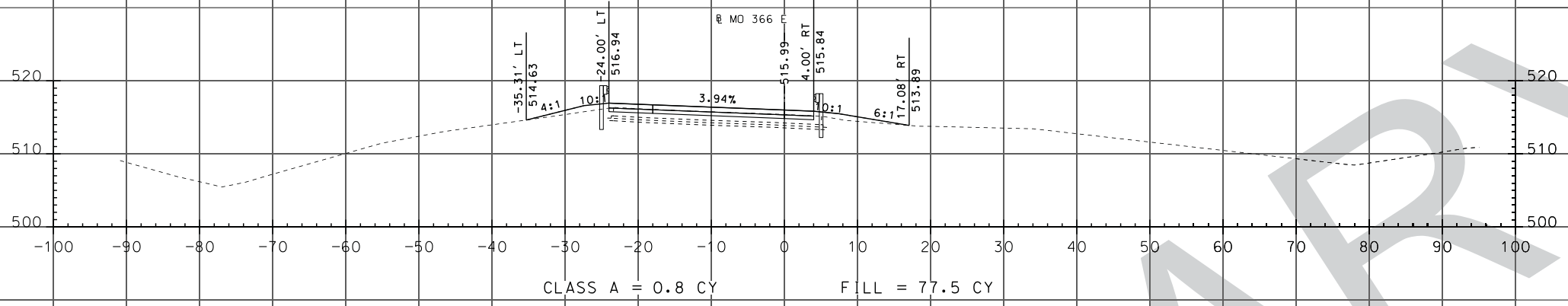
Note: For locations of borings, see sheet No. 1.

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

Sheet No. 4 of 4

Detailed OCT 2017  
 Checked OCT 2017

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



8+50

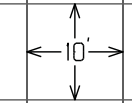
CLASS A = 0.4 SF  
FILL = 50.0 SF

8+00

CLASS A = 0.5 SF  
FILL = 33.7 SF

7+50

CLASS A = 0.0 SF  
FILL = 19.6 SF




MO 366 E  
CROSS SECTIONS  
SHEET 1 OF 10

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

DATE PREPARED 11/3/2017  
ROUTE 366 E STATE MO  
DISTRICT SL SHEET NO. 1  
COUNTY ST. LOUIS  
JOB NO. J6S3140  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO. A8580

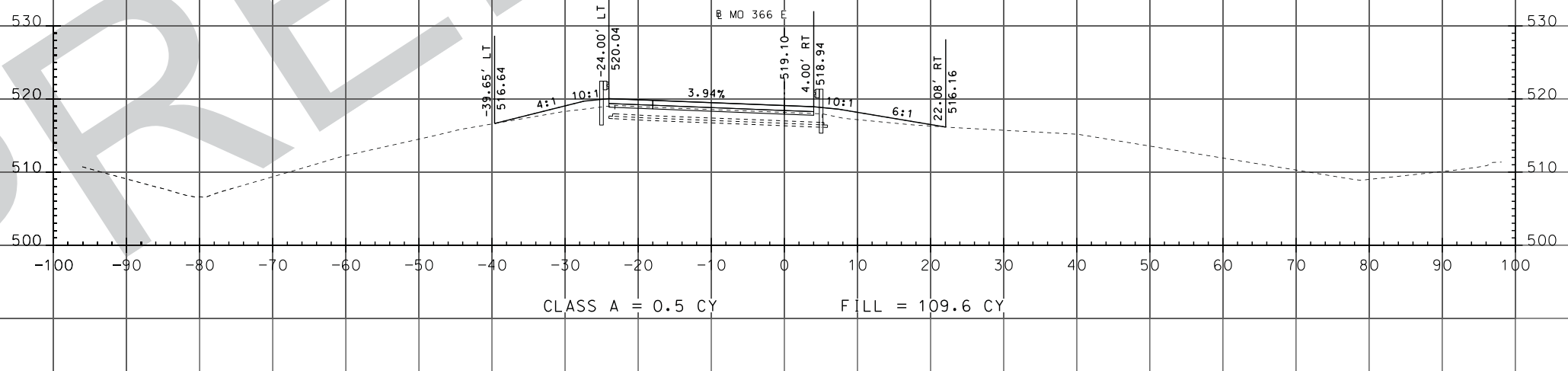
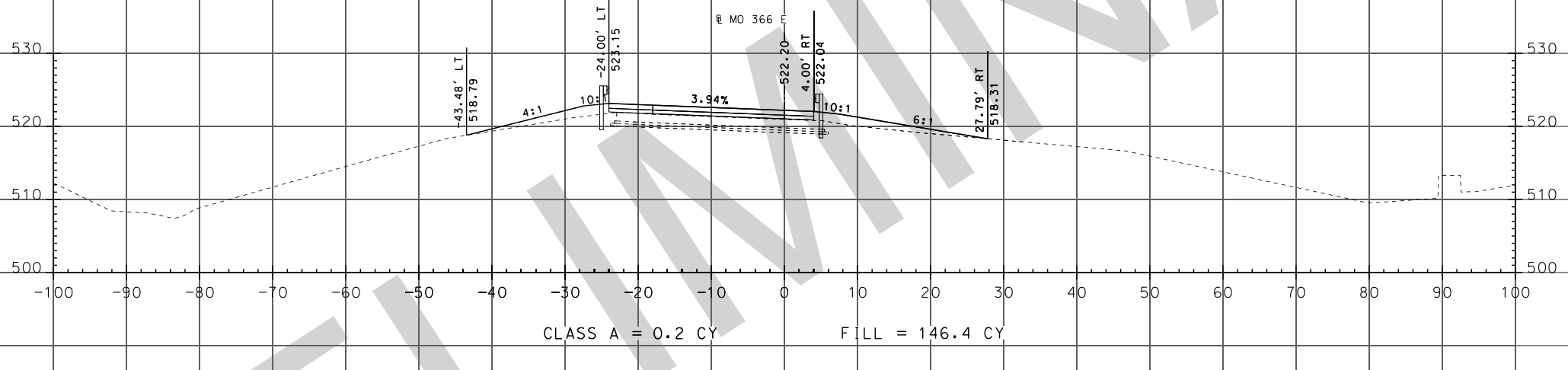
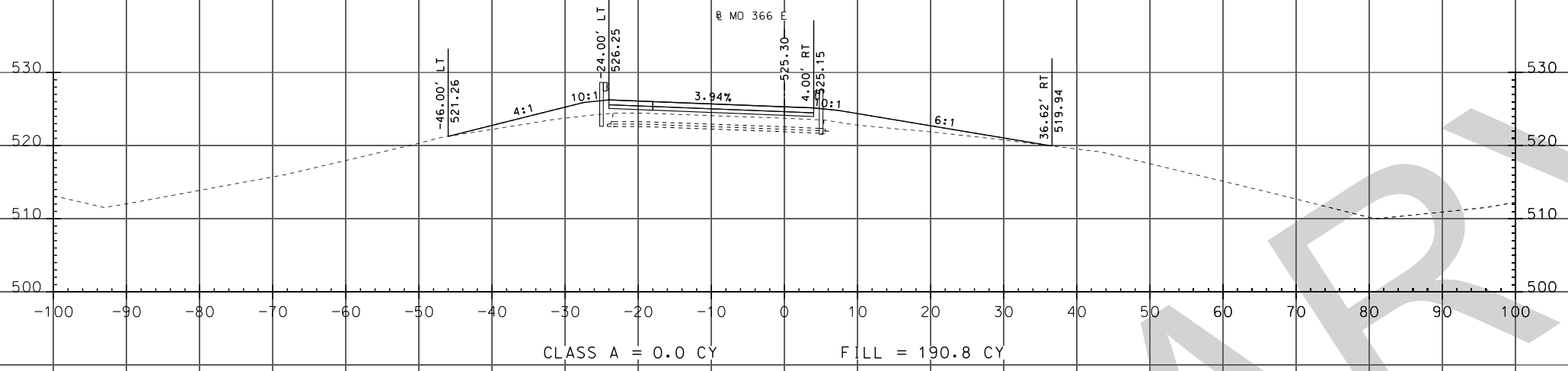
DESCRIPTION	DATE

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

**HNTB**  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY NO. 001270

**NOT FOR CONSTRUCTION**  
 11/3/2017

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



10+00  
CLASS A = 0.0 SF  
FILL = 116.5 SF

9+50  
CLASS A = 0.0 SF  
FILL = 89.7 SF

9+00  
CLASS A = 0.2 SF  
FILL = 68.4 SF

MO 366 E  
CROSS SECTIONS  
SHEET 2 OF 10

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

DATE PREPARED  
11/3/2017  
ROUTE  
366 E MO  
DISTRICT  
SL SHEET NO.  
2  
COUNTY  
ST. LOUIS  
JOB NO.  
J6S3140  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO.  
A8580

DATE	DESCRIPTION

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

**HNTB**  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY  
 NO. 001270

**NOT FOR CONSTRUCTION**  
 11/3/2017

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









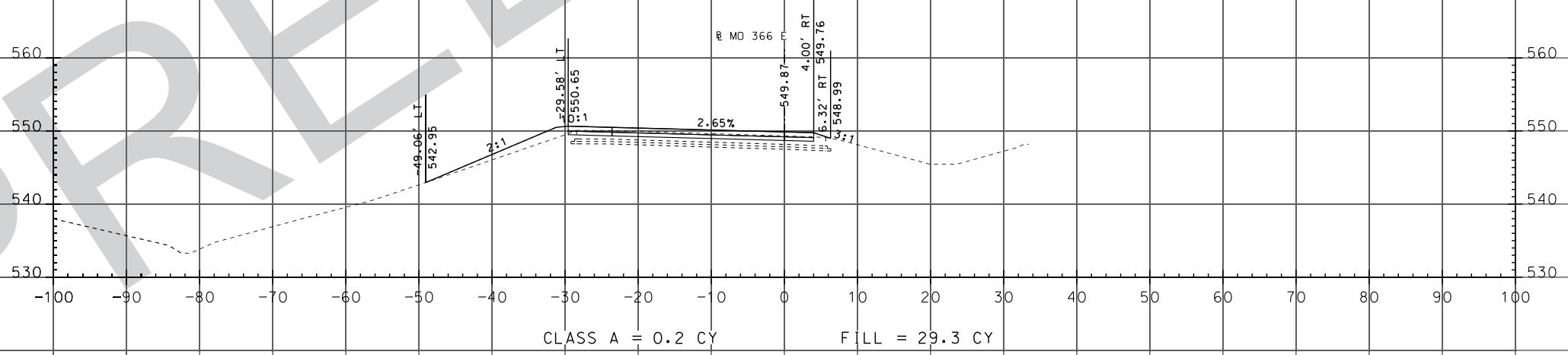
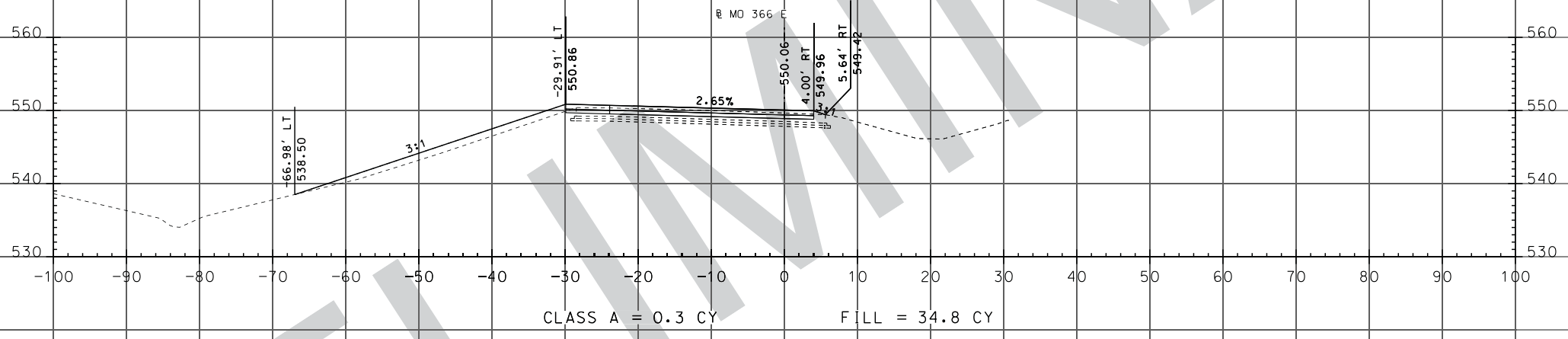
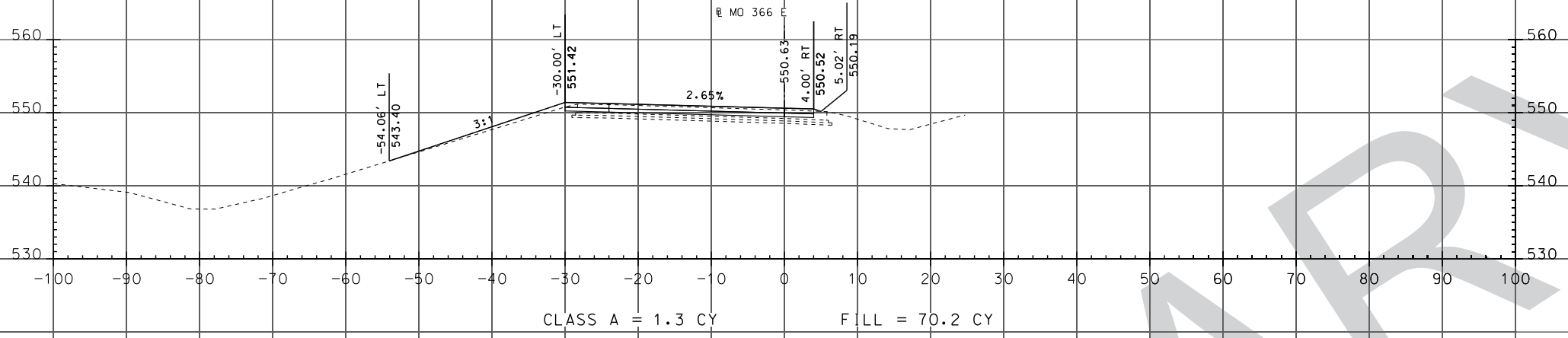












18+00

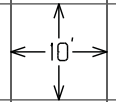
CLASS A = 1.3 SF  
FILL = 40.1 SF

17+65

CLASS A = 0.7 SF  
FILL = 68.2 SF

17+50

CLASS A = 0.5 SF  
FILL = 56.9 SF




MO 366 E  
CROSS SECTIONS  
SHEET 9 OF 10

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

DATE PREPARED  
11/3/2017  
ROUTE 366 E STATE MO  
DISTRICT SL SHEET NO. 9  
COUNTY ST. LOUIS  
JOB NO. J6S3140  
CONTRACT ID.

PROJECT NO.  
BRIDGE NO. A8580

DATE	DESCRIPTION

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

**HNTB**  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY NO. 001270

**NOT FOR CONSTRUCTION**  
 11/3/2017

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

