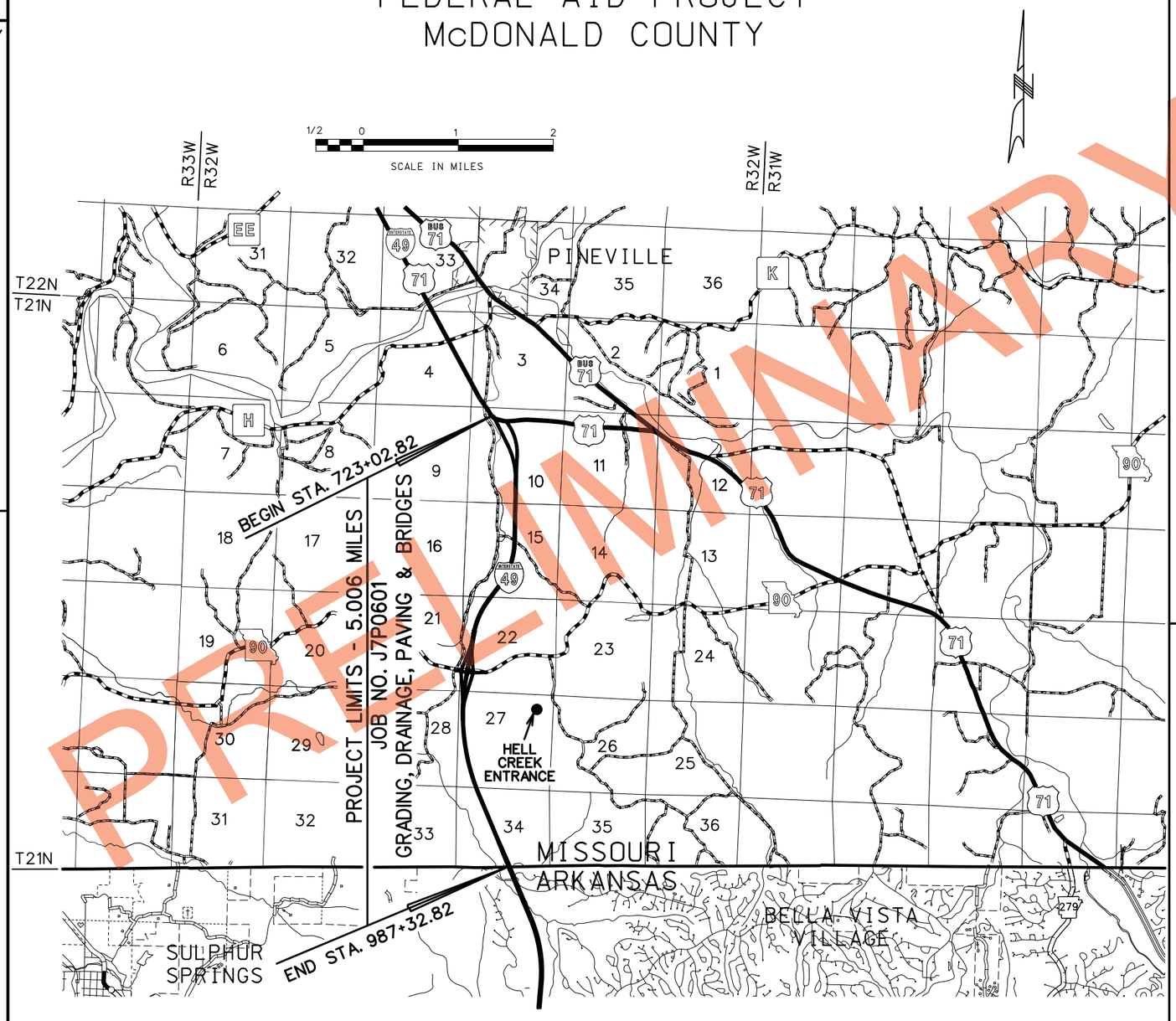
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED STATE HIGHWAY

FEDERAL AID PROJECT
McDONALD COUNTY



PRELIMINARY

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

DESIGN DESIGNATION

A.D.T. - 2021 = 21,035

A.D.T. - 2041 = 29,469

D.H.V. = 8%

T = 25%

V = 70 M.P.H.

FUNCTIONAL CLASSIFICATION - INTERSTATE

FULLY-CONTROLLED ACCESS HIGHWAY

THIS SHALL BE A FULLY CONTROLLED ACCESS HIGHWAY, BETWEEN STA. 735+90.89 (S.B.L.) AND STA. 988+65.36. NO ABUTTING OWNER SHALL HAVE THE RIGHT OF DIRECT ACCESS TO SAID HIGHWAY OR ITS RIGHT-OF-WAY EXCEPT THAT ACCESS WILL BE PERMITTED TO ANY ADJACENT OUTER ROADWAY OR SERVICE ROAD TO WHICH ACCESS IS NOT SPECIFICALLY PROHIBITED BY THE SPECIAL SYMBOL DENOTING "NO RIGHT OF ACCESS" AS SHOWN ON THE PLANS. NO ACCESS WILL BE PERMITTED FROM OUTER ROADWAYS AND SERVICE ROADS TO THROUGHWAYS EXCEPT ALONG ROUTES CONSTRUCTED FOR THAT PURPOSE. OUTER ROADWAYS AND SERVICE ROADS, AS THE CASE MAY BE, ARE SO DESIGNATED ON THE PLANS

- BEGINNING AND ENDING OF CONTROLLED ACCESS
- CONTROLLED ACCESS
- NO RIGHT OF ACCESS OR CROSSING OF LINES BEARING THIS SYMBOL WILL BE PERMITTED UNDER ANY CIRCUMSTANCES.
- TEMPORARY ACCESS THROUGH FUTURE NO RIGHT OF WAY

CONVENTIONAL SYMBOLS
(USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	-FO-
OVERHEAD CABLE TV	-OTV-	-OTV-
UNDERGROUND CABLE TV	-UTV-	-UTV-
OVERHEAD TELEPHONE	-OT-	-OT-
UNDERGROUND TELEPHONE	-UT-	-UT-
OVERHEAD POWER	-OE-	-OE-
UNDERGROUND POWER	-UE-	-UE-
SANITARY SEWER	-S-	-S-
STORM SEWER	-SS-	-SS-
GAS	-G-	-G-
WATER	-W-	-W-
MANHOLE	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

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1 - 1A
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COORDINATE POINTS (CP)	-
SPECIAL SHEETS (SS)	40 - 56
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LIGHTING (LT)	106 - 109
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BR A7000 (BR)	1 - 27
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BR A7054 (BR)	1 - 5
BR A7595 (BR)	1 - 3
BR A7596 (BR)	1 - 3
BR A7800 (BR)	1 - 3
BR A7801 (BR)	1 - 3

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 723+02.82	
END OF PROJECT	STA. 987+32.82	
APPARENT LENGTH	26,430.00	FEET
EQUATIONS AND EXCEPTIONS:		NONE
TOTAL CORRECTIONS	0.00	FEET
NET LENGTH OF PROJECT	26,430.00	FEET
TOTAL CORRECTIONS	0.00	FEET
NET LENGTH OF PROJECT	26,430.00	FEET
STATE LENGTH	5.006	MILES
FEDERAL LENGTH	5.006	MILES

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	1

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

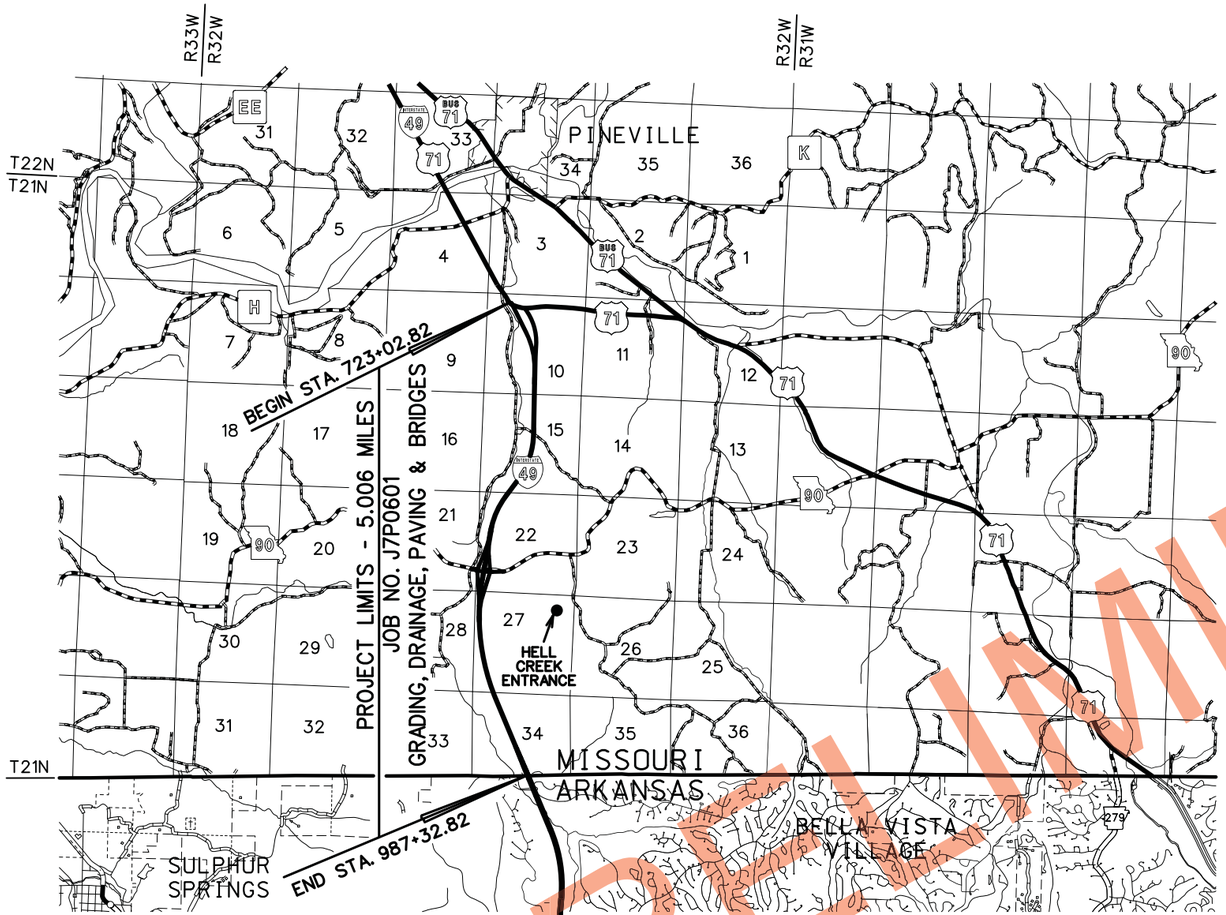
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

REV.

CROSS SECTION INDEX



PRELIMINARY

ALIGNMENT	DESCRIPTION	STATION RANGE	SHEET NO.
I-49 N.B.L.	NEW CONSTRUCTION	729+20.22 - 767+20.00	1 - 24
I-49 S.B.L.	NEW CONSTRUCTION	723+02.82 - 764+93.73	25 - 43
I-49	NEW CONSTRUCTION	764+93.73 - 987+32.82	44 - 249
ROUTE 90	RELOCATION	43+25.00 - 61+00.00	250 - 267
RAMP 1	NEW CONSTRUCTION	1000+00.00 - 1015+79.58	268 - 292
RAMP 2	NEW CONSTRUCTION	2000+00.00 - 2018+25.32	293 - 321
RAMP 3	NEW CONSTRUCTION	3000+12.06 - 3022+11.42	322 - 345
RAMP 4	NEW CONSTRUCTION	4000+11.97 - 4018+77.22	346 - 367
GARDNER RD.	RELOCATION	0+00.00 - 1+60.37	368 - 371
SUMNER RD.	NEW CONSTRUCTION	700+00.00 - 710+72.04	372 - 379

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	1A

COUNTY: McDONALD

JOB NO.: J7P0601

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.

CROSS SLOPE

(1) 2.0%
(2) S.E. SLOPE IF GREATER THAN 2.0%

[1] NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

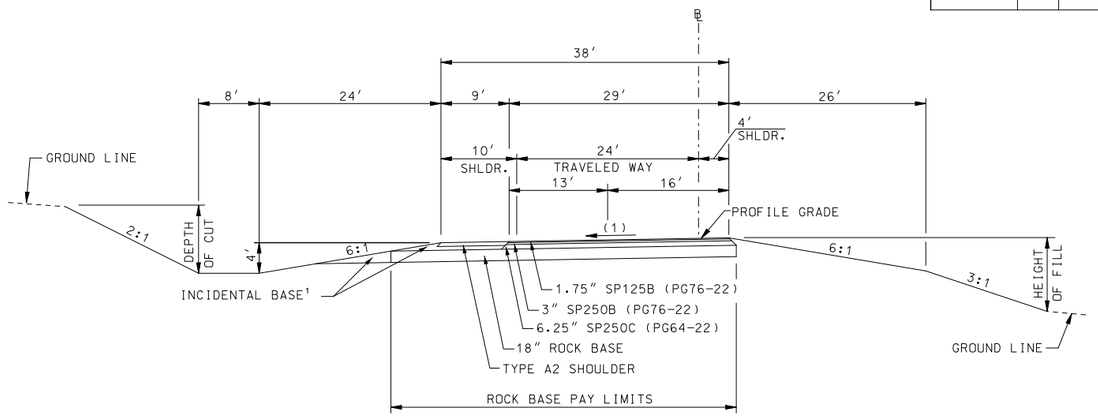
NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

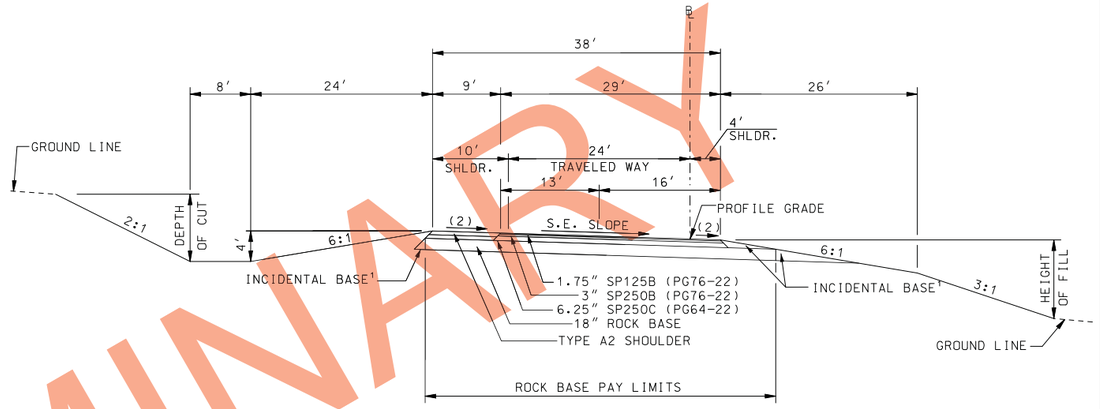
THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

I-49 N.B.L. SUPERELEVATION TRANSITIONS

STATION		SECTION	REMARKS
729+20.22		-0.29% -4.26% 10' 12' 12' 4'	MATCH EXIST. RTE. 71 (BEGIN PROJECT)
730+11.86	H-H	-6.3% 10' 12' 12' 4'	FULL SUPER
748+83.56	H-H	-6.3% 10' 12' 12' 4'	FULL SUPER
750+76.72	G-G	-2.0% 10' 12' 12' 4'	TRANSVERSE SLOPE
751+66.56		0.0% 10' 12' 12' 4'	
752+56.40		-2.0% 10' 12' 12' 4'	TRANSVERSE SLOPE
767+20.00		-2.0% 10' 12' 12' 6'	TRANSVERSE SLOPE

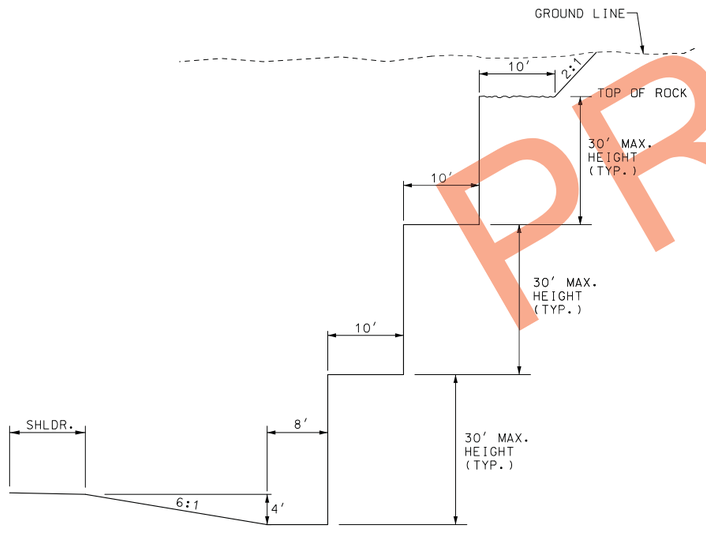


SECTION ON TANGENT

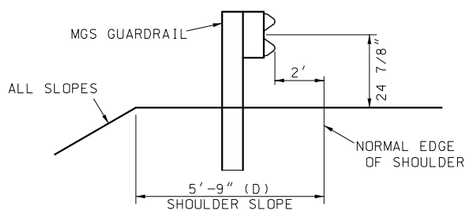


SECTION ON SUPERELEVATED CURVE

I-49 N.B.L. STA. 729+20.22 TO STA. 735+83.49, I-49 N.B.L. STA. 736+96.44 TO STA. 767+20.00

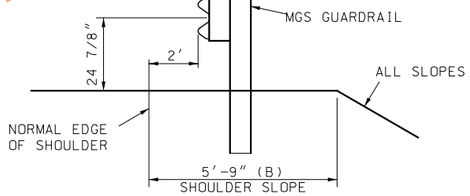


BENCHING SECTION
TYPICAL ROCK SECTION
I-49 N.B.L., I-49 S.B.L., I-49



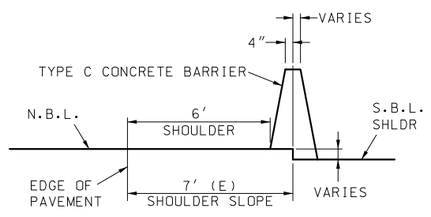
LT SHOULDER WIDENING
FOR GUARDRAIL
I-49 N.B.L. LT
STA. 766+27.50 TO STA. 767+20.00

(D) TAPER 0' TO 5'-9" FROM
STA. 766+27.50 TO STA. 767+10.00

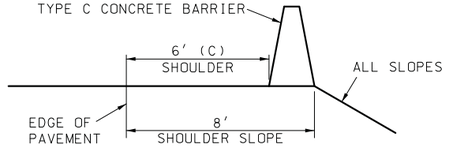


RT SHOULDER WIDENING
FOR GUARDRAIL
I-49 N.B.L. RT
STA. 736+67.50 TO STA. 741+49.09

(B) TAPER 5'-9" TO 0' FROM
STA. 740+66.59 TO STA. 741+49.09



RT SHOULDER WIDENING
FOR CONCRETE BARRIER
I-49 N.B.L. RT
STA. 761+04.93 TO STA. 767+20.00



RT SHOULDER WIDENING
FOR CONCRETE BARRIER
I-49 N.B.L. RT
STA. 756+50.00 TO STA. 761+04.93

(C) TAPER 4' TO 6' FROM
STA. 756+50.00 TO STA. 757+50.00

INCREASE SHOULDER WIDTH FROM
6' TO 8' AT STA. 757+50.00

(E) TAPER 8' TO 7' FROM
STA. 761+04.93 TO STA. 762+42.06

I-49 N.B.L.
ALTERNATE A (ASPHALT)
TYPICAL SECTION
SHEET 1 OF 13

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 2
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION | DATE | REV.

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

CROSS SLOPE

(1) 2.0%
(2) S.E. SLOPE IF GREATER THAN 2.0%

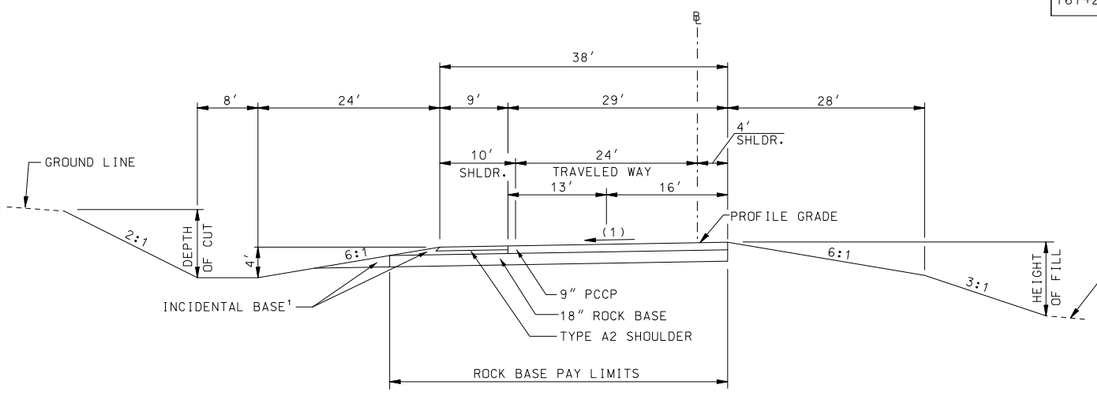
[1] NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

NOTES:

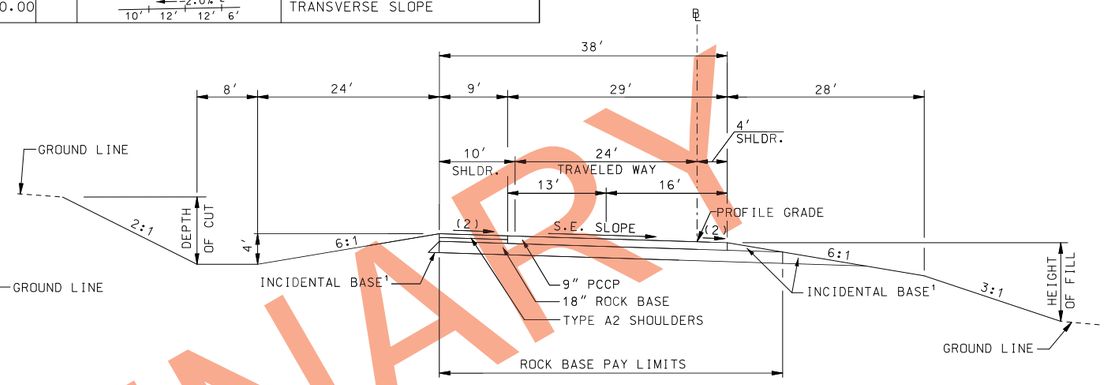
SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

I-49 N.B.L. SUPERELEVATION TRANSITIONS			
STATION		SECTION	REMARKS
729+20.22		-0.29% -4.26% (10′ 12′ 12′ 4′)	MATCH EXIST. RTE. 71 (BEGIN PROJECT)
730+11.86	H-H	-6.3% (10′ 12′ 12′ 4′)	FULL SUPER
748+83.56	H-H	-6.3% (10′ 12′ 12′ 4′)	FULL SUPER
750+76.72	G-G	-2.0% (10′ 12′ 12′ 4′)	TRANSVERSE SLOPE
751+66.56		0.0% (10′ 12′ 12′ 4′)	
752+56.40		-2.0% (10′ 12′ 12′ 4′)	TRANSVERSE SLOPE
767+20.00		-2.0% (10′ 12′ 12′ 6′)	TRANSVERSE SLOPE



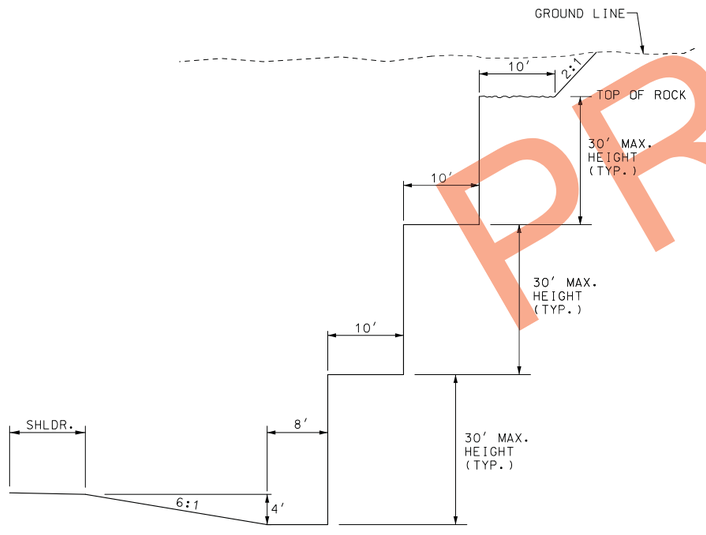
SECTION ON TANGENT



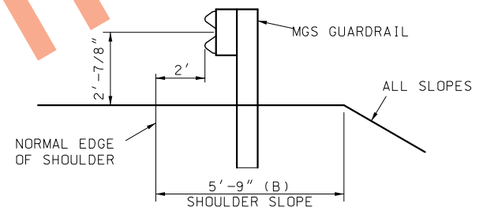
SECTION ON SUPERELEVATED CURVE

I-49 N.B.L. STA. 729+20.22 TO STA. 735+83.49, I-49 N.B.L. STA. 736+96.44 TO STA. 767+20.00

PRELIMINARY

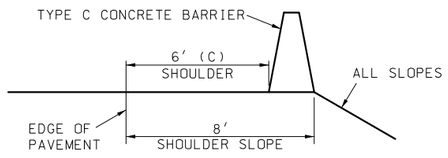


BENCHING SECTION
TYPICAL ROCK SECTION
I-49 N.B.L., I-49 S.B.L., I-49



RT SHOULDER WIDENING
FOR GUARDRAIL
I-49 N.B.L. RT
STA. 736+67.50 TO STA. 741+49.09

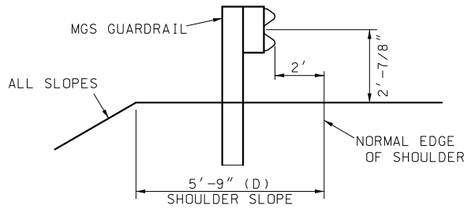
(B) TAPER 5′-9″ TO 0′ FROM
STA. 740+66.59 TO STA. 741+49.09



RT SHOULDER WIDENING
FOR CONCRETE BARRIER
I-49 N.B.L. RT
STA. 756+50.00 TO STA. 761+04.93

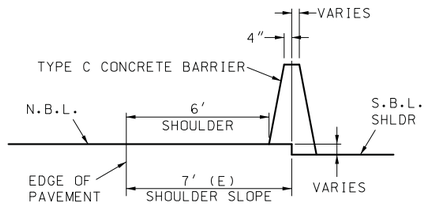
(C) TAPER 4′ TO 6′ FROM
STA. 756+50.00 TO STA. 757+50.00

INCREASE SHOULDER WIDTH FROM
6′ TO 8′ AT STA. 757+50.00



LT SHOULDER WIDENING
FOR GUARDRAIL
I-49 N.B.L. LT
STA. 766+27.50 TO STA. 767+20.00

(D) TAPER 0′ TO 5′-9″ FROM
STA. 766+27.50 TO STA. 767+20.00



RT SHOULDER WIDENING
FOR CONCRETE BARRIER
I-49 N.B.L. RT
STA. 761+04.93 TO STA. 767+20.00

(E) TAPER 8′ TO 7′ FROM
STA. 761+04.93 TO STA. 762+42.06

I-49 N.B.L.
ALTERNATE B (CONCRETE)
TYPICAL SECTION
SHEET 2 OF 13

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 2
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

REV.	DESCRIPTION	DATE

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

CROSS SLOPE

(1) 2.0%
(2) S.E. SLOPE IF GREATER THAN 2.0%

[1] NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

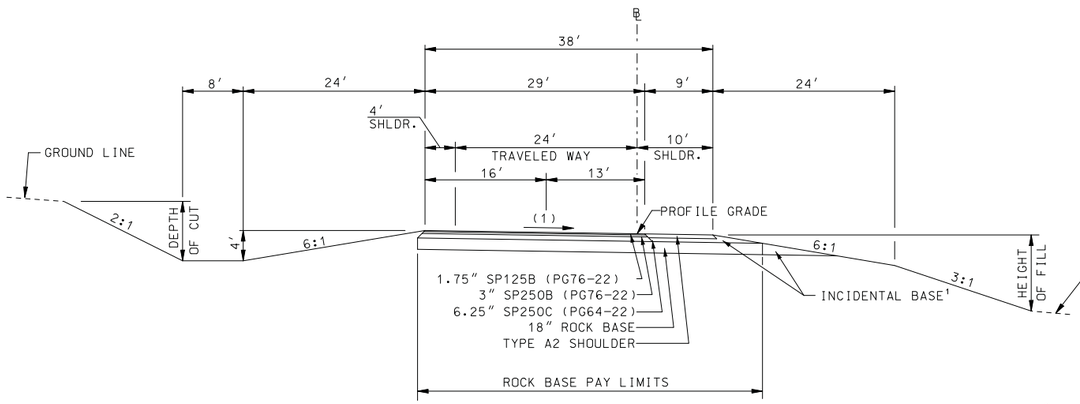
NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

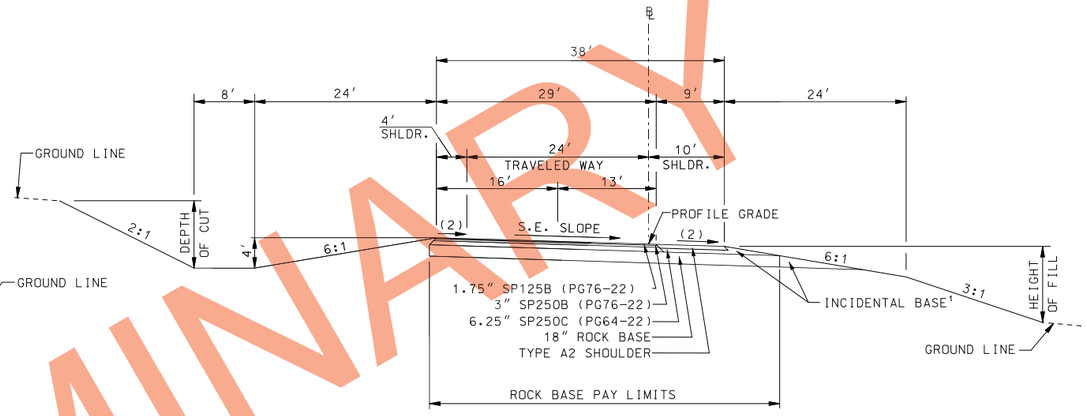
THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

I-49 S.B.L. SUPERELEVATION TRANSITIONS

STATION		SECTION	REMARKS
723+02.82		-2.0% → ℄ (4′ 12′ 12′ 10′)	TRANSVERSE SLOPE (BEGIN PROJECT)
740+30.91	G-G	-2.0% → ℄ (4′ 12′ 12′ 10′)	TRANSVERSE SLOPE
741+65.91	H-H	-5.0% → ℄ (4′ 12′ 12′ 10′)	FULL SUPER
759+40.79	H-H	-5.0% → ℄ (6′ 12′ 12′ 10′)	FULL SUPER
760+75.79	G-G	-2.0% → ℄ (6′ 12′ 12′ 10′)	TRANSVERSE SLOPE
764+93.73		-2.0% → ℄ (6′ 12′ 12′ 10′)	TRANSVERSE SLOPE

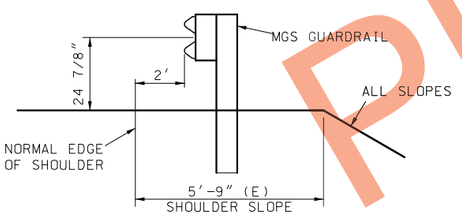


SECTION ON TANGENT



SECTION ON SUPERELEVATED CURVE

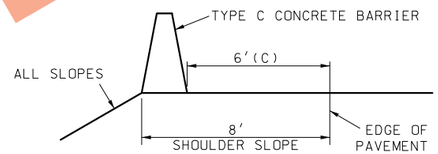
I-49 S.B.L. STA. 723+02.82 TO I-49 S.B.L. STA. 764+93.73



RT SHOULDER WIDENING
FOR GUARDRAIL

I-49 S.B.L. RT
STA. 760+82.50 TO STA. 764+93.73

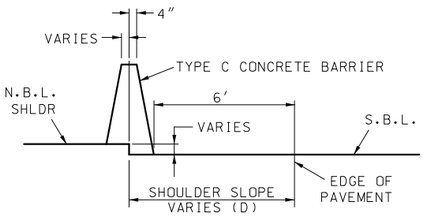
(E) TAPER 0′ TO 5′-9″ FROM
STA. 760+82.50 TO STA. 761+65.00



LT SHOULDER WIDENING
FOR CONCRETE BARRIER

I-49 S.B.L. LT
STA. 755+75.00 TO STA. 758+79.73

(C) TAPER 4′ TO 6′ FROM
STA. 753+75.00 TO STA. 755+25.00



LT SHOULDER WIDENING
FOR CONCRETE BARRIER

I-49 S.B.L. LT
STA. 758+79.73 TO STA. 764+93.73

(D) TAPER 8′-4″ TO 7′ FROM
STA. 758+79.73 TO STA. 760+15.79

I-49 S.B.L.
ALTERNATE A (ASPHALT)
TYPICAL SECTION
SHEET 3 OF 13

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 2
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

REV.

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

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

CROSS SLOPE

(1) 2.0%
(2) S.E. SLOPE IF GREATER THAN 2.0%

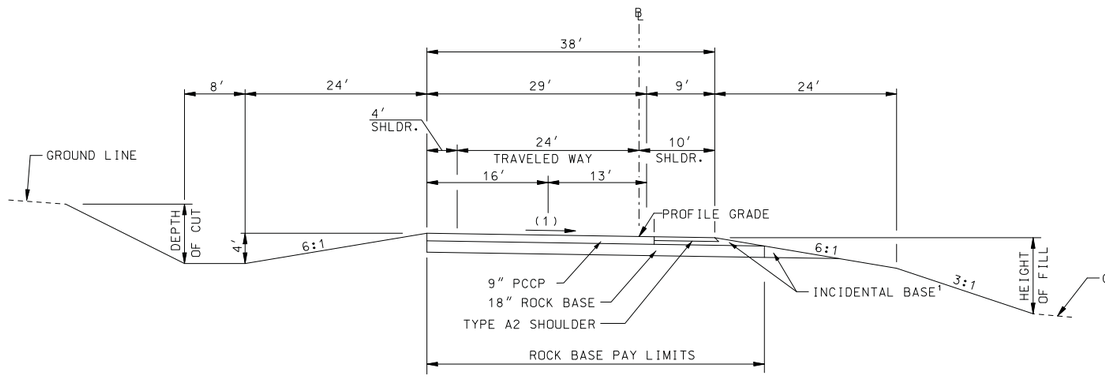
[1] NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

NOTES:

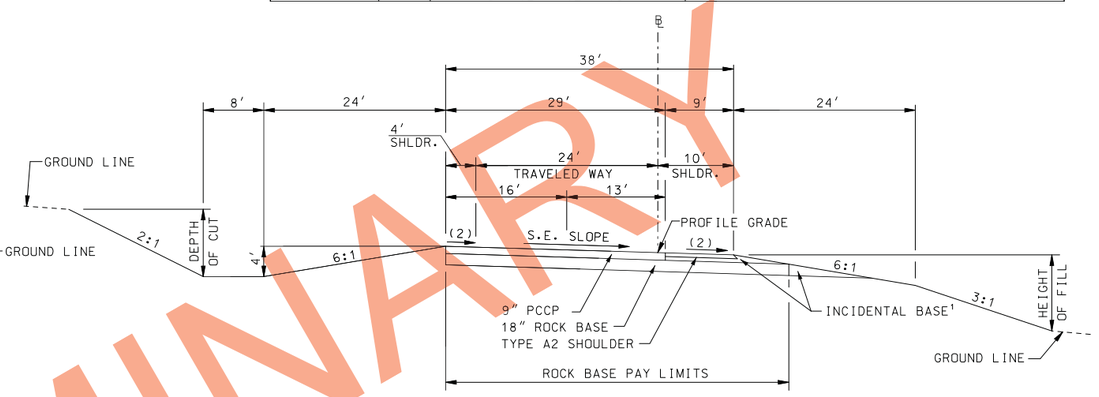
SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

I-49 S.B.L. SUPERELEVATION TRANSITIONS			
STATION		SECTION	REMARKS
723+02.82		-2.0% → ℄ 4′ 12′ 12′ 10′	TRANSVERSE SLOPE (BEGIN PROJECT)
740+30.91	G-G	-2.0% → ℄ 4′ 12′ 12′ 10′	TRANSVERSE SLOPE
741+65.91	H-H	-5.0% → ℄ 4′ 12′ 12′ 10′	FULL SUPER
759+40.79	H-H	-5.0% → ℄ 6′ 12′ 12′ 10′	FULL SUPER
760+75.79	G-G	-2.0% → ℄ 6′ 12′ 12′ 10′	TRANSVERSE SLOPE
764+93.73		-2.0% → ℄ 6′ 12′ 12′ 10′	TRANSVERSE SLOPE

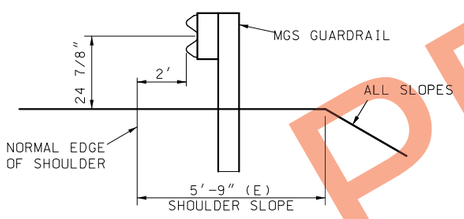


SECTION ON TANGENT



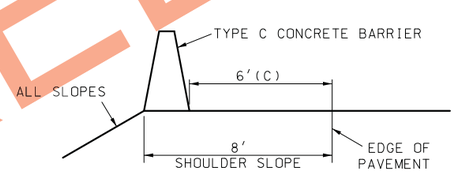
SECTION ON SUPERELEVATED CURVE

I-49 S.B.L. STA. 723+02.82 TO I-49 S.B.L. STA. 764+93.73



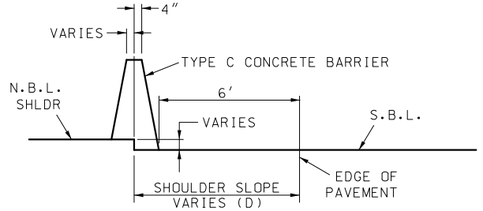
RT SHOULDER WIDENING
FOR GUARDRAIL
I-49 S.B.L. RT
STA. 760+82.50 TO STA. 764+93.73

(E) TAPER 0′ TO 5′-9″ FROM
STA. 760+82.50 TO STA. 761+65.00



LT SHOULDER WIDENING
FOR CONCRETE BARRIER
I-49 S.B.L. LT
STA. 755+75.00 TO STA. 758+79.73

(C) TAPER 4′ TO 6′ FROM
STA. 753+75.00 TO STA. 755+25.00



LT SHOULDER WIDENING
FOR CONCRETE BARRIER
I-49 S.B.L. LT
STA. 758+79.73 TO STA. 764+93.73

(D) TAPER 8′-4″ TO 7′ FROM
STA. 758+79.73 TO STA. 760+15.79

PRELIMINARY

I-49 S.B.L.
ALTERNATE B (CONCRETE)
TYPICAL SECTION
SHEET 4 OF 13

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

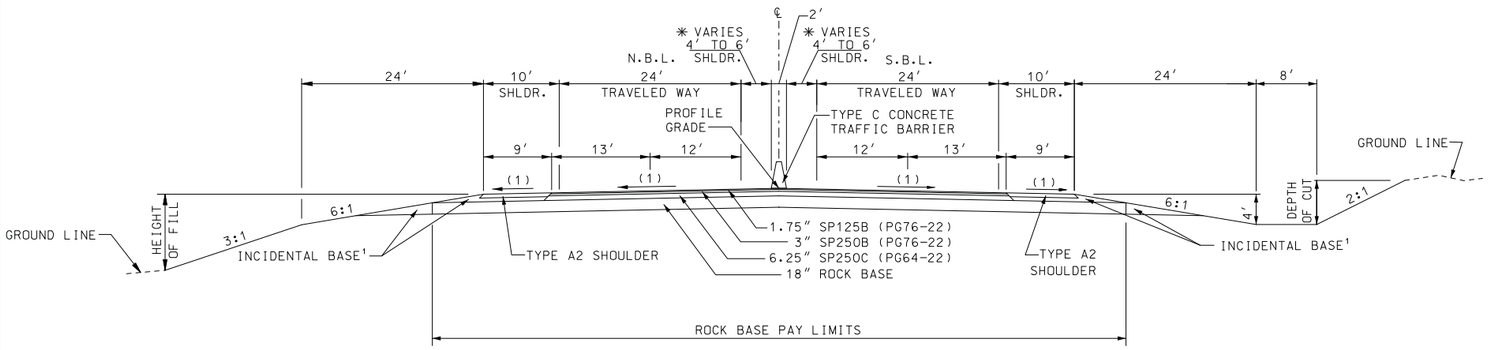
DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 2
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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.



SECTION ON TANGENT

TYPICAL SECTION I-49

STA. 764+93.73 TO STA. 791+82.33
STA. 823+42.05 TO STA. 829+00.52
STA. 854+14.36 TO STA. 869+00.00
STA. 944+14.86 TO STA. 969+00.00

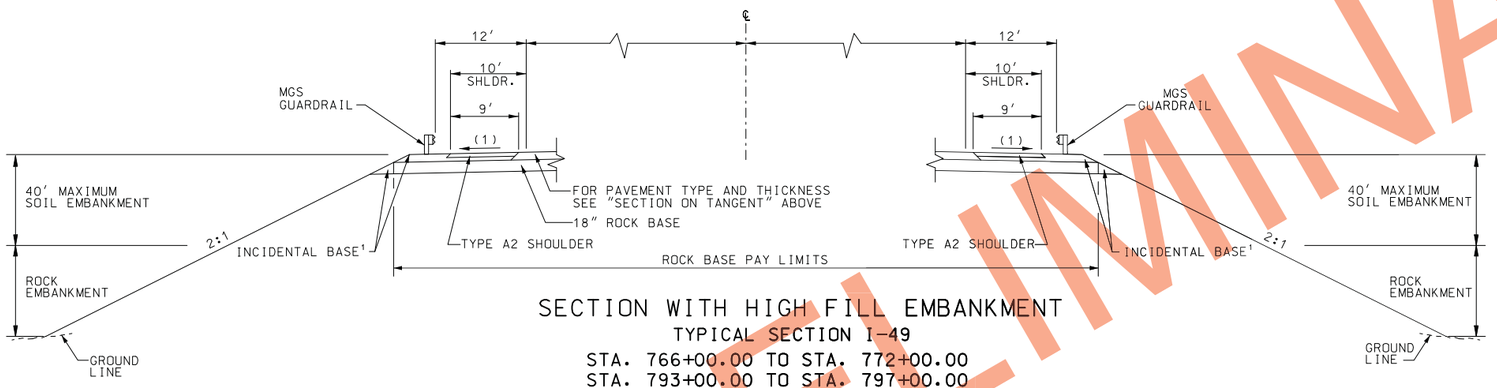
✳TAPER 6′ TO 4′ FROM
STA. 765+00.00 TO STA. 768+00.00

CROSS SLOPE

(1) 2.0%

(2) S.E. SLOPE IF GREATER THAN 2.0%

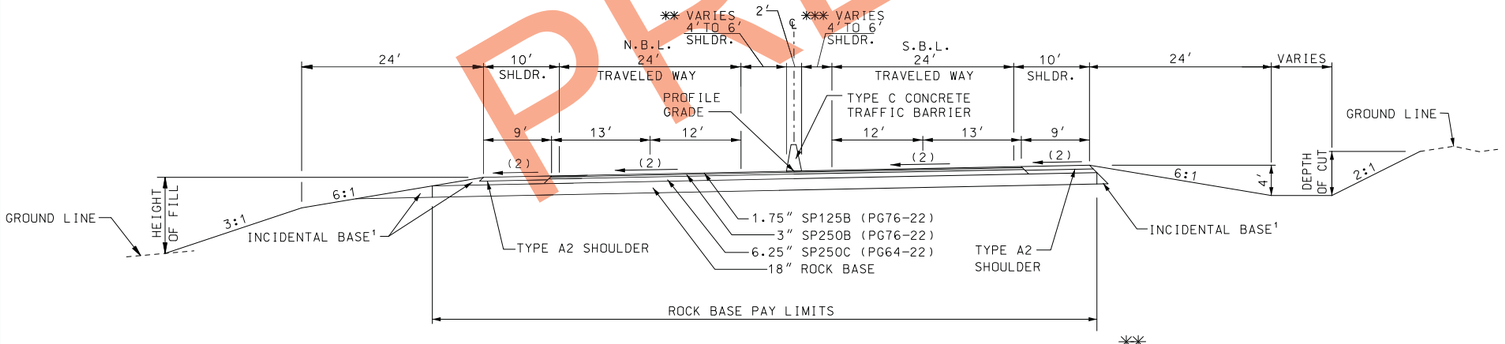
[1] NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.



SECTION WITH HIGH FILL EMBANKMENT

TYPICAL SECTION I-49

STA. 766+00.00 TO STA. 772+00.00
STA. 793+00.00 TO STA. 797+00.00
STA. 840+00.00 TO STA. 848+00.00
STA. 935+00.00 TO STA. 938+00.00
STA. 983+00.00 TO STA. 987+32.82



SECTION ON SUPERELEVATED CURVE

TYPICAL SECTION I-49

STA. 791+82.33 TO STA. 823+42.05
STA. 829+00.52 TO STA. 854+14.36

✳✳ TAPER 4′ TO 6′ FROM STA. 791+66.73 TO STA. 794+66.73

TAPER 6′ TO 4′ FROM STA. 820+57.65 TO STA. 823+57.65

✳✳✳ TAPER 4′ TO 6′ FROM STA. 828+84.92 TO 831+84.92

TAPER 6′ TO 4′ FROM STA. 851+29.96 TO STA. 854+21.96

NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING.

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

PLACING OF ROCK EMBANKMENT SHALL BE INCLUDED IN THE PAY ITEM FOR COMPACTING EMBANKMENT.

I-49
ALTERNATE A (ASPHALT)
TYPICAL SECTION
SHEET 5 OF 13

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

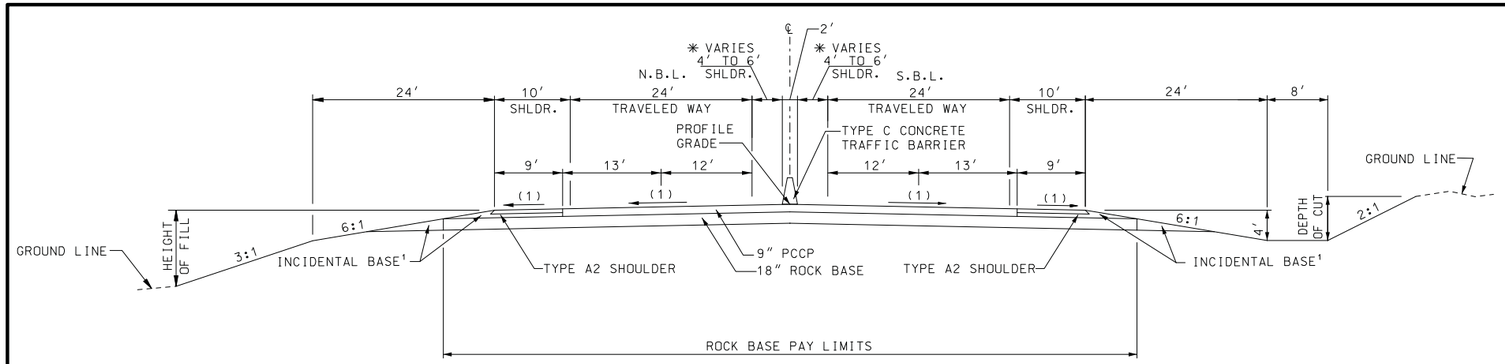
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	2

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



SECTION ON TANGENT

TYPICAL SECTION I-49

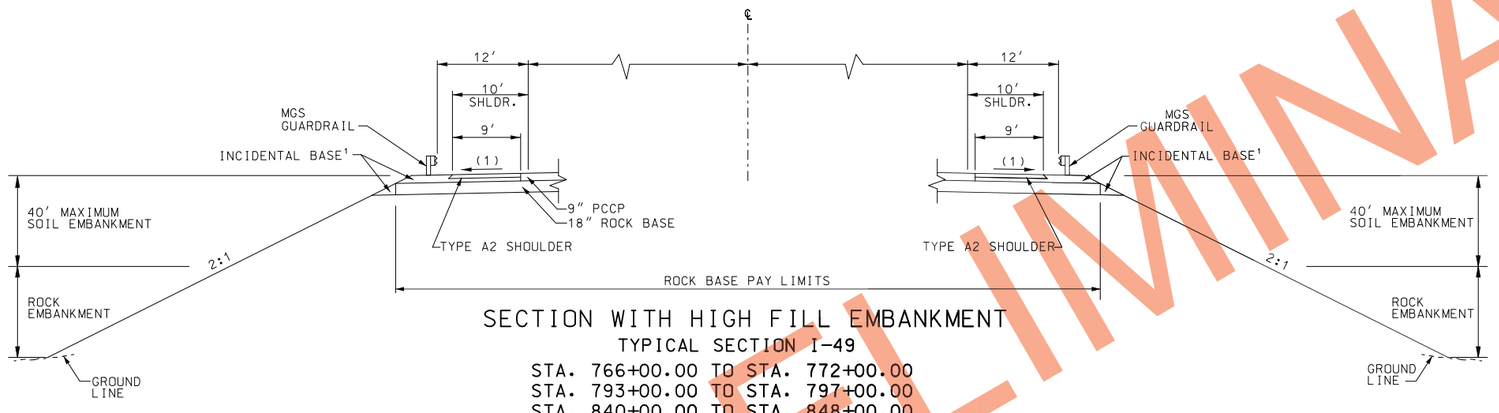
STA. 764+93.73 TO STA. 791+82.33
STA. 823+42.05 TO STA. 829+00.52
STA. 854+14.36 TO STA. 869+00.00
STA. 944+14.86 TO STA. 969+00.00

✳ TAPER 6′ TO 4′ FROM STA. 765+00.00 TO STA. 768+00.00

CROSS SLOPE

(1) 2.0%
(2) S.E. SLOPE IF GREATER THAN 2.0%

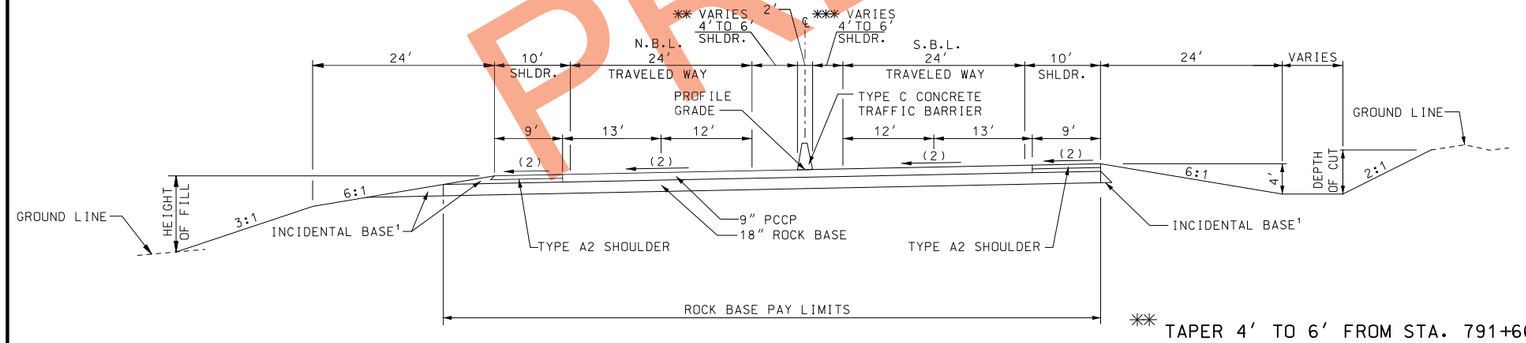
¹ NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.



SECTION WITH HIGH FILL EMBANKMENT

TYPICAL SECTION I-49

STA. 766+00.00 TO STA. 772+00.00
STA. 793+00.00 TO STA. 797+00.00
STA. 840+00.00 TO STA. 848+00.00
STA. 935+00.00 TO STA. 938+00.00
STA. 983+00.00 TO STA. 987+32.82



SECTION ON SUPERELEVATED CURVE

TYPICAL SECTION I-49

STA. 791+82.33 TO STA. 823+42.05
STA. 829+00.52 TO STA. 854+14.36

✳✳ TAPER 4′ TO 6′ FROM STA. 791+66.73 TO STA. 794+66.73
TAPER 6′ TO 4′ FROM STA. 820+57.65 TO STA. 823+57.65
✳✳✳ TAPER 4′ TO 6′ FROM STA. 828+84.92 TO 831+84.92
TAPER 6′ TO 4′ FROM STA. 851+29.96 TO STA. 854+21.96

NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING.

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

PLACING OF ROCK EMBANKMENT SHALL BE INCLUDED IN THE PAY ITEM FOR COMPACTING EMBANKMENT.

I-49
ALTERNATE B (CONCRETE)
TYPICAL SECTION
SHEET 6 OF 13

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

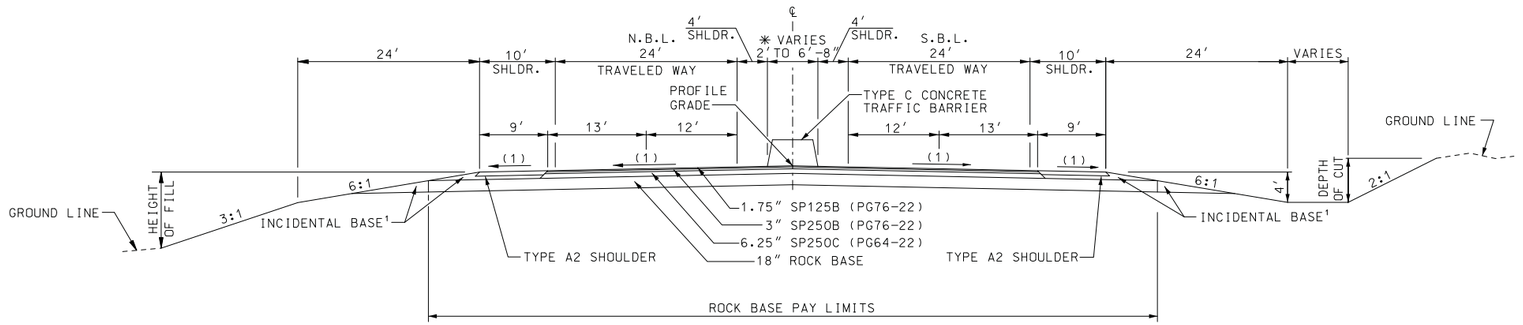
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	2

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

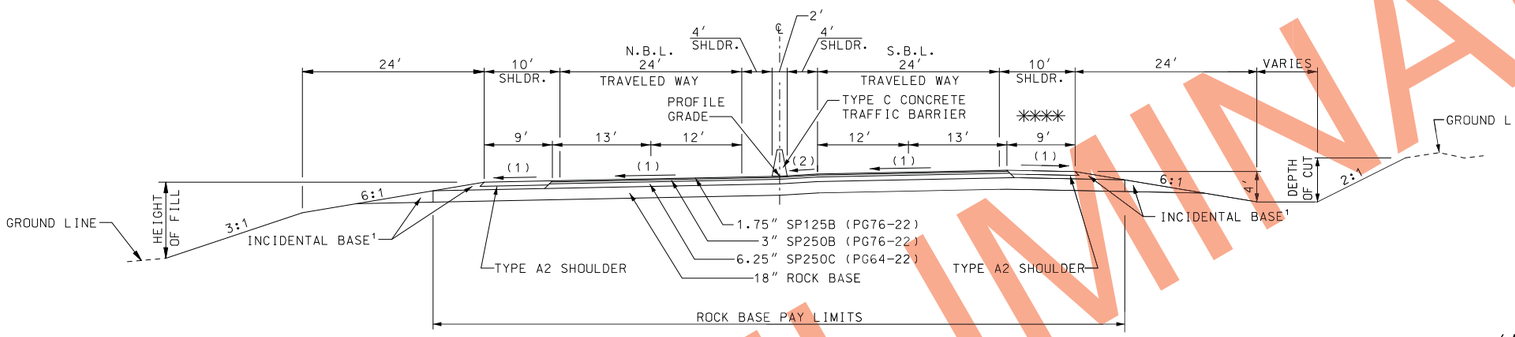
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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



SECTION ON TANGENT
TYPICAL SECTION I-49
STA. 869+00.00 TO STA. 877+50.00

✳ TAPER 2′ TO 6′-8″ FROM STA. 869+00.00 TO STA. 872+50.00
TAPER 6′-8″ TO 2′ FROM STA. 874+00.00 TO STA. 877+50.00



SECTION ON SUPERELEVATED CURVE
TYPICAL SECTION I-49
STA. 877+50.00 TO STA. 944+14.86

✳✳✳✳ MATCH S.E. SLOPE FROM STA. 877+50.00 TO STA. 887+77.39

CROSS SLOPE

(1) 2.0% (SEE TABLE FOR S.E. TRANSITION FROM STA. 874+95.92 TO STA. 877+11.92)

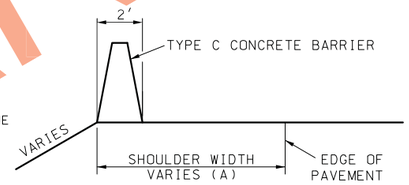
(2) 6.0% (TRANSITION FROM 2.0% TO 6.0% FROM STA. 877+50.00 TO STA. 878+00.00 AND TRANSITION FROM 6.0% TO 2.0% FROM STA. 941+48.86 TO STA. 941+98.86)

(3) SLOPE 2.0% TOWARD PAVEMENT FROM STA. 969+00.00 TO STA. 979+50.00. TRANSITION FROM SLOPE 2.0% TOWARD PAVEMENT AT STA. 979+50.00 TO SLOPE 2.0% TOWARD MEDIAN AT STA. 981+00.00. SLOPE 2.0% TOWARD MEDIAN FROM STA. 981+00.00 TO STA. 987+32.82.

NOTES:

SEE STANDARDS 203.20, 203.21, 606.00 AND 609.40 FOR SHOULDER WIDENING

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.



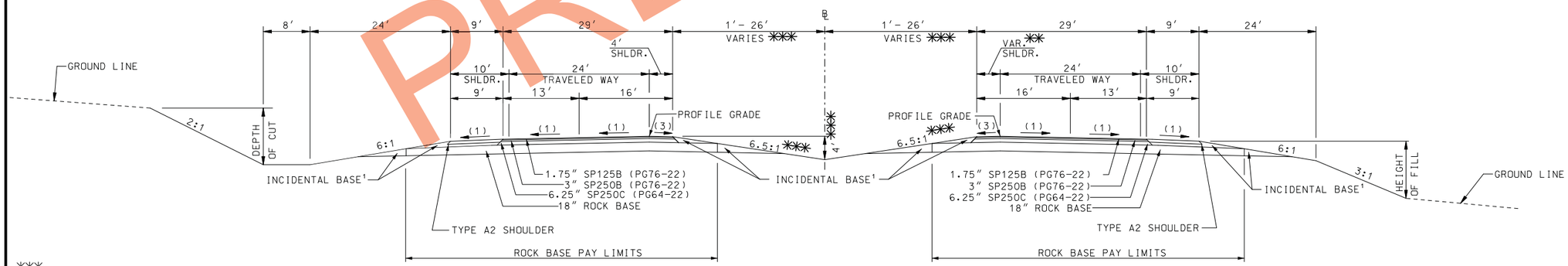
✳✳ LT SHOULDER WIDENING FOR CONCRETE BARRIER
I-49 S.B.L. LT

STA. 969+00.00 TO STA. 987+32.82

(A)¹ TAPER 6′ TO 7′-3″ FROM STA. 969+00.00 TO STA. 979+50.00

(A)² AT STA. 979+50.00 SHLDR. DROPS BACK TO 5′-3″ AND TAPERS TO 4′ AT STA. 981+00.00

(A)³ WIDTH = 4′ FROM STA.981+00.00 TO STA. 987+32.82.



✳✳✳ TRANSITION MEDIAN WIDTH:
FROM 2′ AT STA. 969+00.0 TO 52′ AT STA. 986+00.00
TRANSITION MEDIAN DEPTH:
FROM 0′ AT STA. 969+00.00 TO 4′ AT STA. 980+00.00
MEDIAN SLOPE: 4:1 FROM STA. 969+00.00 TO STA. 979+50.00
TRANSITION FROM 4:1 AT STA. 979+50.00 TO 6.5:1 AT STA. 986+00.00

SECTION ON TANGENT
TYPICAL SECTION I-49
STA. 969+00.00 TO STA. 987+32.82

¹ NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

I-49
ALTERNATE A (ASPHALT)
TYPICAL SECTION
SHEET 7 OF 13

PRELIMINARY

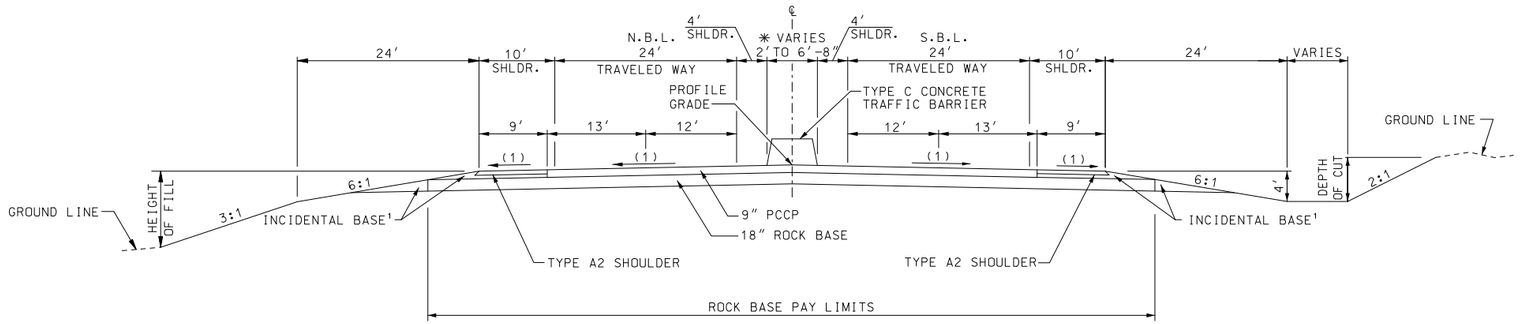
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 2
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

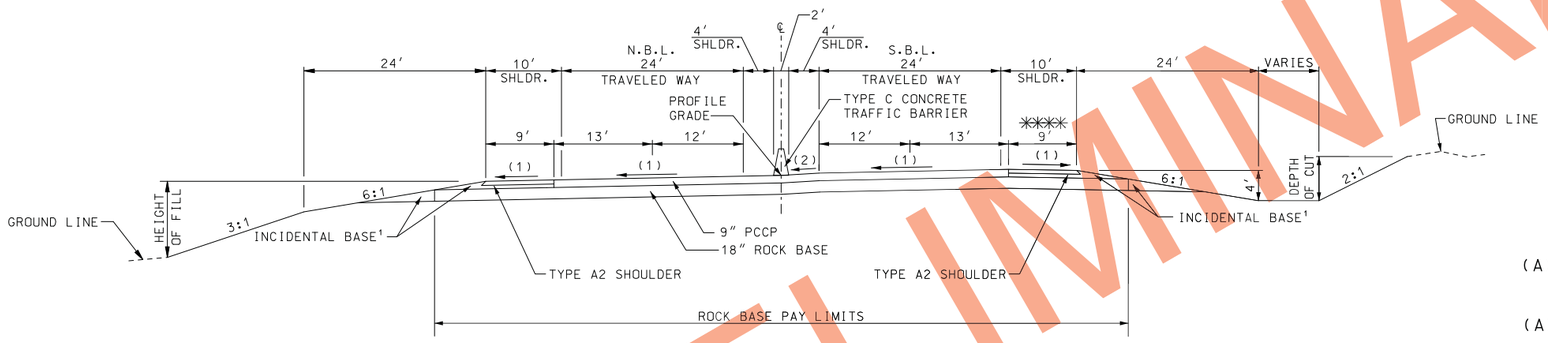
DESCRIPTION | DATE | REV.

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

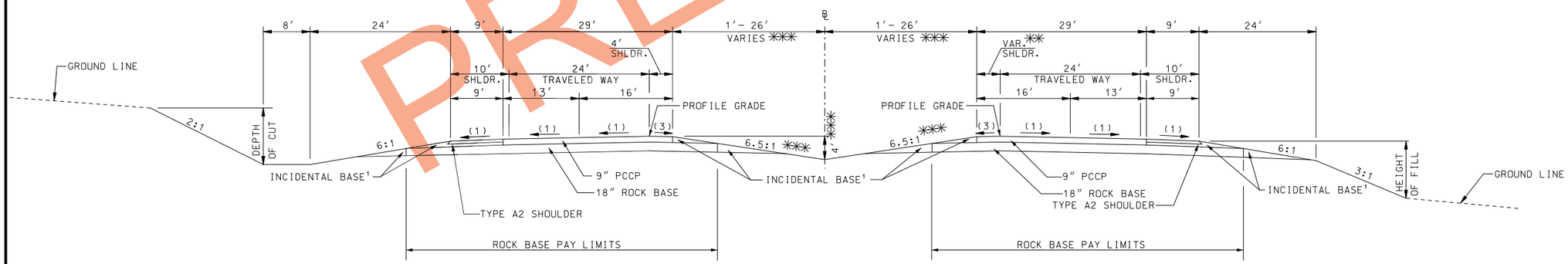


SECTION ON TANGENT
TYPICAL SECTION I-49
STA. 869+00.00 TO STA. 877+50.00

✳ TAPER 2′ TO 6′-8″ FROM STA. 869+00.00 TO STA. 872+50.00
TAPER 6′-8″ TO 2′ FROM STA. 874+00.00 TO STA. 877+50.00



SECTION ON SUPERELEVATED CURVE
TYPICAL SECTION I-49
STA. 877+50.00 TO STA. 944+14.86



✳✳✳ TRANSITION MEDIAN WIDTH:
FROM 2′ AT STA. 969+00.0 TO 52′ AT STA. 986+00.00
TRANSITION MEDIAN DEPTH:
FROM 0′ AT STA. 969+00.00 TO 4′ AT STA. 980+00.00
MEDIAN SLOPE: 4:1 FROM STA. 969+00.00 TO STA. 979+50.00
TRANSITION FROM 4:1 AT STA. 979+50.00 TO 6.5:1 AT STA. 986+00.00

SECTION ON TANGENT
TYPICAL SECTION I-49
STA. 969+00.00 TO STA. 987+32.82

✳✳✳✳ MATCH S.E. SLOPE FROM STA. 877+50.00 TO STA. 887+77.39

CROSS SLOPE

(1) 2.0% (SEE TABLE FOR S.E. TRANSITION FROM STA. 874+95.92 TO STA. 877+11.92)

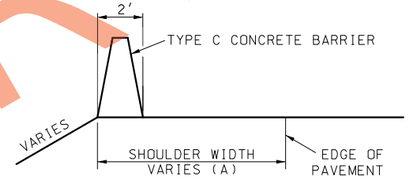
(2) 6.0% (TRANSITION FROM 2.0% TO 6.0% FROM STA. 877+50.00 TO STA. 878+00.00 AND TRANSITION FROM 6.0% TO 2.0% FROM STA. 941+48.86 TO STA. 941+98.86)

(3) SLOPE 2.0% TOWARD PAVEMENT FROM STA. 969+00.00 TO STA. 979+50.00. TRANSITION FROM SLOPE 2.0% TOWARD PAVEMENT AT STA. 979+50.00 TO SLOPE 2.0% TOWARD MEDIAN AT STA. 981+00.00. SLOPE 2.0% TOWARD MEDIAN FROM STA. 981+00.00 TO STA. 987+32.82.

NOTES:

SEE STANDARDS 203.20, 203.21, 606.00 AND 609.40 FOR SHOULDER WIDENING

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.



✳✳ LT SHOULDER WIDENING FOR CONCRETE BARRIER
I-49 S.B.L. LT

STA. 969+00.00 TO STA. 987+32.82

(A)¹ TAPER 6′ TO 7′-3″ FROM STA. 969+00.00 TO STA. 979+50.00

(A)² AT STA. 979+50.00 SHLDR. DROPS BACK TO 5′-3″ AND TAPERS TO 4′ AT STA. 981+00.00

(A)³ WIDTH = 4′ FROM STA.981+00.00 TO STA. 987+32.82.

¹ NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

I-49
ALTERNATE B (CONCRETE)
TYPICAL SECTION
SHEET 8 OF 13

PRELIMINARY

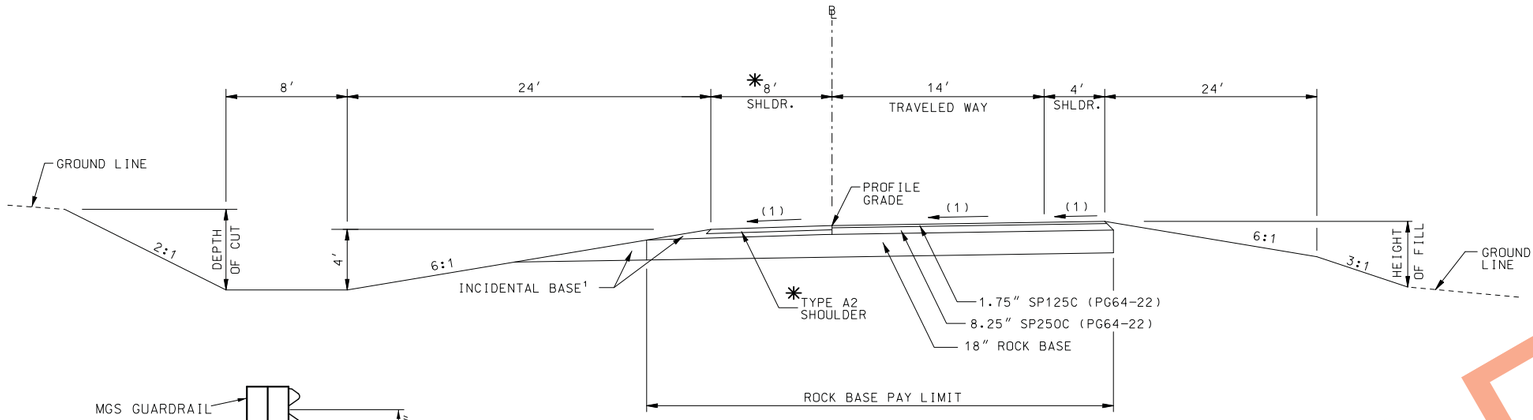
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

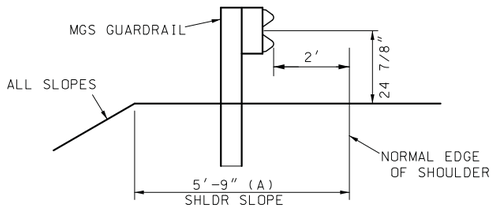
DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 2
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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





LT SHOULDER WIDENING FOR GUARDRAIL

RAMP 3 LT
STA. 3000+12.06 TO STA. 3017+79.76

(A) TAPER 0′ TO 5′-9″ FROM
STA. 2000+12.06 TO STA. 3000+80.00

SECTION ON TANGENT AND SUPERELEVATION CURVE
TYPICAL SECTION

RAMP 1

STA. 1003+22.28 TO STA. 1014+33.05
✱ STA. 1014+33.05 TO STA. 1015+67.89

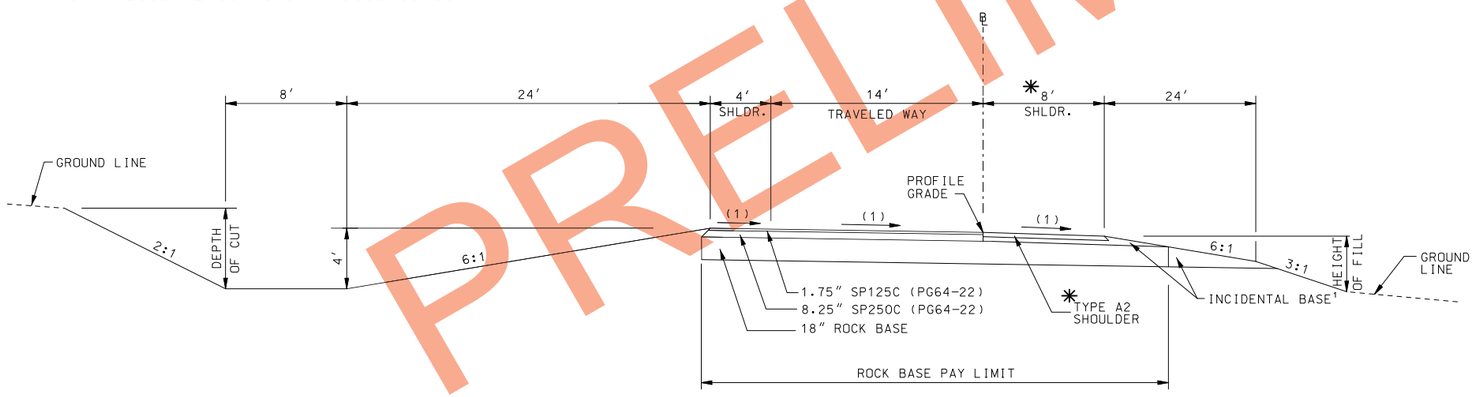
RAMP 3

✱ STA. 3000+12.06 TO STA. 3001+09.87
STA. 3001+09.87 TO STA. 3017+79.76

NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.



✱**FULL DEPTH SHOULDER**
8′ TYPE A2 SHOULDER CHANGES TO FULL DEPTH PAVEMENT THROUGHOUT THE RADIUS OF ALL RAMPS.

[1] NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

CROSS SLOPE

(1) SEE S.E. TABLE

SECTION ON TANGENT AND SUPERELEVATION CURVE
TYPICAL SECTION

RAMP 2

STA. 2003+82.39 TO STA. 2017+39.28
✱ STA. 2017+39.28 TO STA. 2018+25.32

RAMP 4

✱ STA. 4000+11.97 TO STA. 4001+08.00
STA. 4001+08.00 TO STA. 4015+00.89

RAMPS 1,2,3 & 4 AT ROUTE 90
ALTERNATE C (ASPHALT)
TYPICAL SECTION
SHEET 9 OF 13

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	2

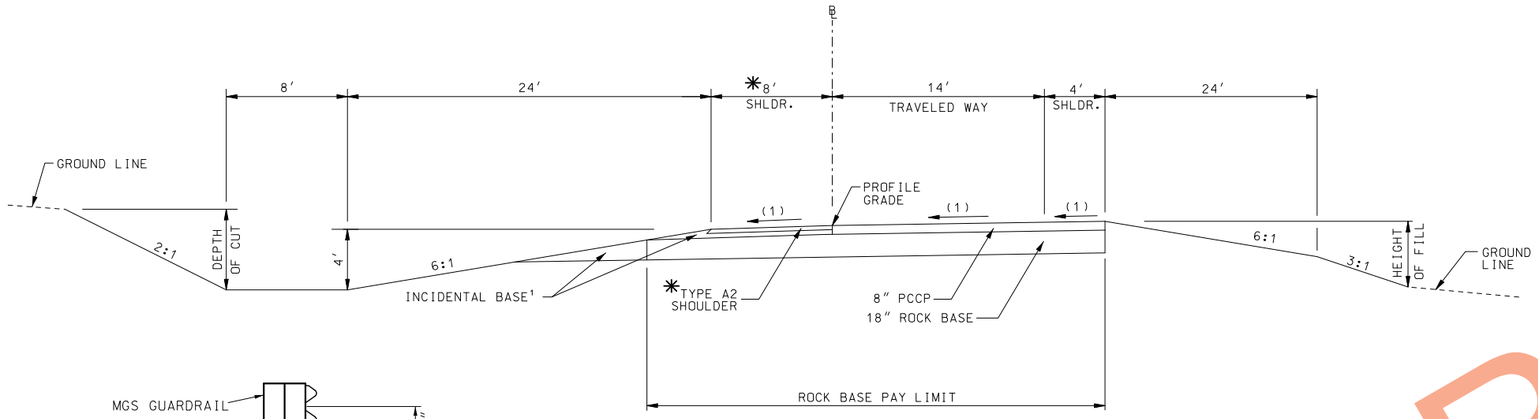
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

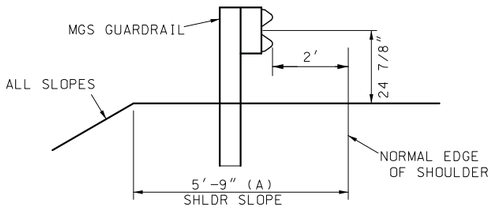
DESCRIPTION	DATE

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.





LT SHOULDER WIDENING FOR GUARDRAIL

RAMP 3 LT
STA. 3000+12.06 TO STA. 3017+79.76

(A) TAPER 0′ TO 5′-9″ FROM
STA. 2000+12.06 TO STA. 3000+80.00

SECTION ON TANGENT AND SUPERELEVATION CURVE

TYPICAL SECTION

RAMP 1

STA. 1003+22.28 TO STA. 1014+33.05
✱ STA. 1014+33.05 TO STA. 1015+67.89

RAMP 3

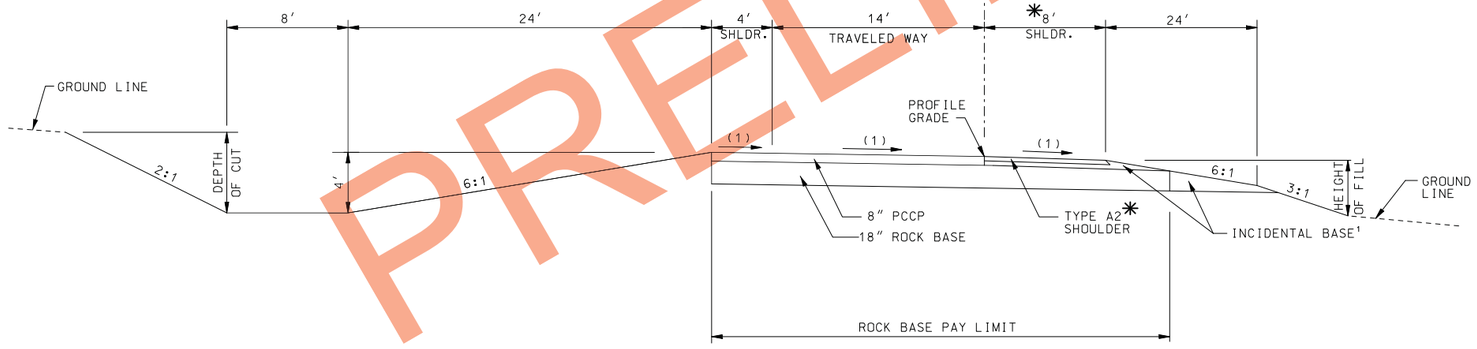
✱ STA. 3000+12.06 TO STA. 3001+09.87
STA. 3001+09.87 TO STA. 3017+79.76

NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET, THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

PRELIMINARY



SECTION ON TANGENT AND SUPERELEVATION CURVE

TYPICAL SECTION

RAMP 2

STA. 2003+82.39 TO STA. 2017+39.28
✱ STA. 2017+39.28 TO STA. 2018+25.32

RAMP 4

✱ STA. 4000+11.97 TO STA. 4001+08.00
STA. 4001+08.00 TO STA. 4015+00.89

✱ 8′ TYPE A2 SHOULDER CHANGES TO FULL DEPTH PAVEMENT THROUGHOUT THE RADIUS OF ALL RAMPS.

[1] NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

CROSS SLOPE

(1) SEE S.E. TABLE

RAMPS 1,2,3 & 4 AT ROUTE 90

ALTERNATE D (CONCRETE)
TYPICAL SECTION
SHEET 10 OF 13

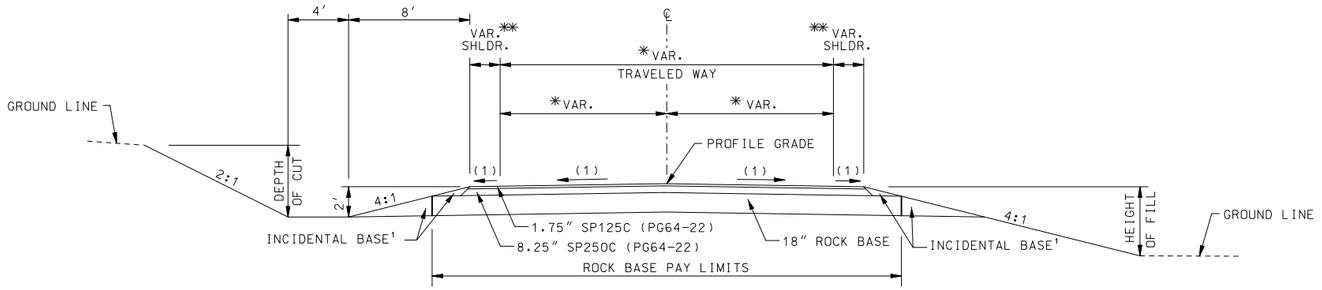
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	2
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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



SECTION ON TANGENT

TYPICAL SECTION ROUTE 90

STA. 43+25.00 TO STA. 46+56.09
STA. 55+36.31 TO STA. 58+91.18

CROSS SLOPE

(1) SEE S.E. TABLE BELOW

¹ NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

✳LANE WIDTHS:

TAPER 10′ TO 11′ FROM STA. 43+25.00 TO STA. 44+25.00 LT. AND RT.
11′ FROM STA. 44+25.00 TO STA. 45+55.19 LT.
STA. 44+25.00 TO STA. 45+59.51 RT.
TAPER 11′ TO 12′ FROM STA. 45+55.19 TO STA. 47+17.39 LT.
STA. 45+59.51 TO STA. 47+26.57 RT.
12′ FROM STA. 47+17.39 TO STA. 52+84.10 LT.
STA. 47+26.57 TO STA. 52+72.60 RT.
TAPER 12′ TO 11′ FROM STA. 52+84.10 TO STA. 54+65.99 LT.
STA. 52+72.60 TO STA. 54+32.77 RT.
11′ FROM STA. 54+65.99 TO STA. 60+00.00 LT.
STA. 54+32.77 TO STA. 60+00.00 RT.
TAPER 11′ TO 10′ FROM STA. 60+00.00 TO SA. 61+00.00 LT. AND RT.

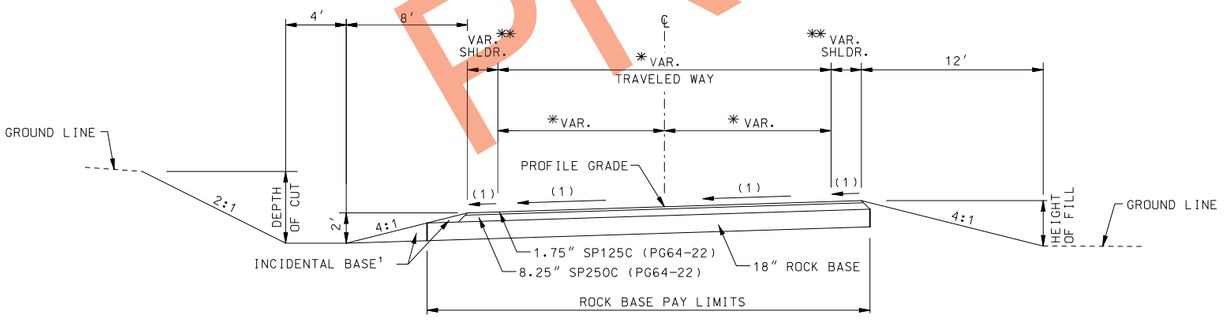
✳✳SHOULDER WIDTHS:

2′ FROM STA. 43+25.00 TO STA. 45+24.40 LT.
STA. 43+25.00 TO STA. 45+28.72 RT.
TAPER 2′ TO 4′ FROM STA. 45+24.40 TO STA. 47+18.55 LT.
STA. 45+28.72 TO STA. 47+27.73 RT.
4′ FROM STA. 47+18.55 TO STA. 52+83.00 LT.
STA. 47+27.73 TO STA. 52+71.44 RT.
TAPER 4′ TO 2′ FROM STA. 52+83.00 TO STA. 54+96.78 LT.
STA. 52+71.44 TO STA. 54+63.56 RT.
2′ FROM STA. 54+96.78 TO STA. 61+00.00 LT.
STA. 54+63.56 TO STA. 61+00.00 RT.

NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

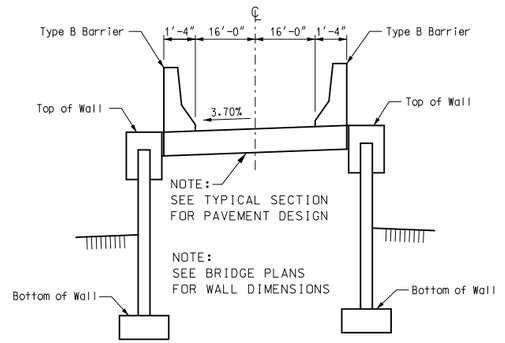
THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET. THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.



SECTION ON SUPERELEVATED CURVE

TYPICAL SECTION ROUTE 90
STA. 46+56.09 TO STA. 48+71.50
STA. 51+33.00 TO STA. 55+36.31
STA. 58+91.18 TO STA. 61+00.00

MSE WALL DETAIL



STA. 48+71.50 TO STA. 49+19.25
STA. 50+85.76 TO STA. 51+33.00

NOT TO SCALE

BRIDGE A7000 STA. 49+19.25 TO STA. 50+85.76

ROUTE 90

ALTERNATE C (ASPHALT)
TYPICAL SECTION
SHEET 11 OF 13

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

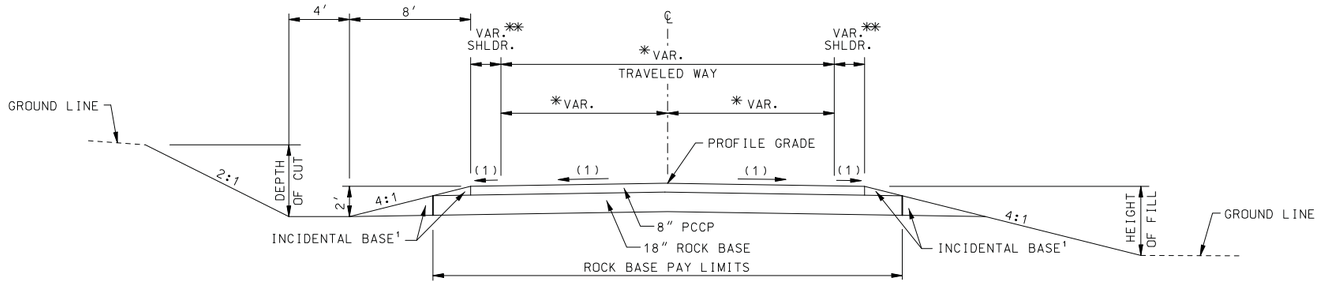
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED	
11/11/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	2

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION	DATE	REV.

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



SECTION ON TANGENT

TYPICAL SECTION ROUTE 90

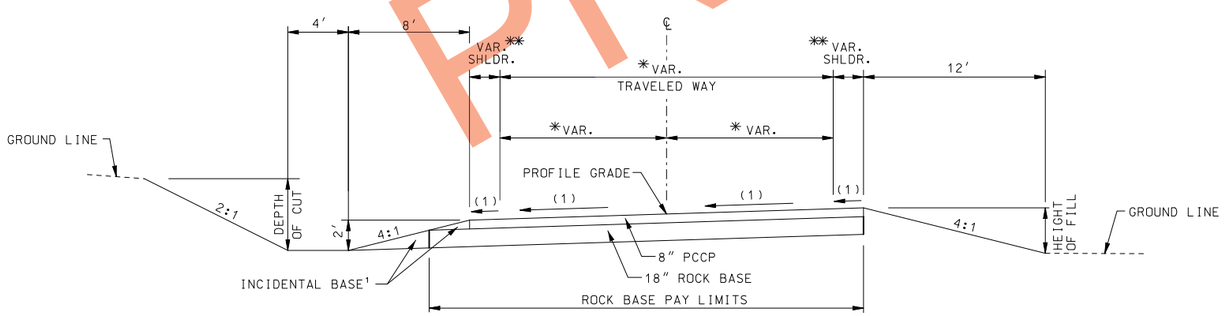
STA. 43+25.00 TO STA. 46+56.09
STA. 55+36.31 TO STA. 58+91.18

*LANE WIDTHS:

TAPER 10′ TO 11′ FROM STA. 43+25.00 TO STA. 44+25.00 LT. AND RT.
11′ FROM STA. 44+25.00 TO STA. 45+55.19 LT.
STA. 44+25.00 TO STA. 45+59.51 RT.
TAPER 11′ TO 12′ FROM STA. 45+55.19 TO STA. 47+17.39 LT.
STA. 45+59.51 TO STA. 47+26.57 RT.
12′ FROM STA. 47+17.39 TO STA. 52+84.10 LT.
STA. 47+26.57 TO STA. 52+72.60 RT.
TAPER 12′ TO 11′ FROM STA. 52+84.10 TO STA. 54+65.99 LT.
STA. 52+72.60 TO STA. 54+32.77 RT.
11′ FROM STA. 54+65.99 TO STA. 60+00.00 LT.
STA. 54+32.77 TO STA. 60+00.00 RT.
TAPER 11′ TO 10′ FROM STA. 60+00.00 TO SA. 61+00.00 LT. AND RT.

**SHOULDER WIDTHS:

2′ FROM STA. 43+25.00 TO STA. 45+24.40 LT.
STA. 43+25.00 TO STA. 45+28.72 RT.
TAPER 2′ TO 4′ FROM STA. 45+24.40 TO STA. 47+18.55 LT.
STA. 45+28.72 TO STA. 47+27.73 RT.
4′ FROM STA. 47+18.55 TO STA. 52+83.00 LT.
STA. 47+27.73 TO STA. 52+71.44 RT.
TAPER 4′ TO 2′ FROM STA. 52+83.00 TO STA. 54+96.78 LT.
STA. 52+71.44 TO STA. 54+63.56 RT.
2′ FROM STA. 54+96.78 TO STA. 61+00.00 LT.
STA. 54+63.56 TO STA. 61+00.00 RT.



SECTION ON SUPERELEVATED CURVE

TYPICAL SECTION ROUTE 90

STA. 46+56.09 TO STA. 48+71.50
STA. 51+33.00 TO STA. 55+36.31
STA. 58+91.18 TO STA. 61+00.00

CROSS SLOPE

(1) SEE S.E. TABLE BELOW

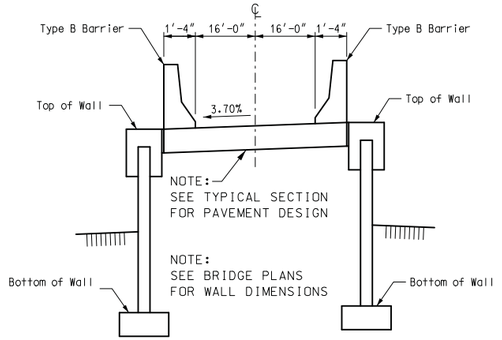
¹ NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS MATERIAL OR FOR THE PLACEMENT THEREOF.

NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

THE FILL SLOPE SHALL BE 6:1 OR FLATTER WHEN THE FILL HEIGHT IS EQUAL TO OR LESS THAN 4 FEET (I.E., THE OFFSET FROM THE TOE OF FILL TO THE SHOULDER POINT IS A MINIMUM OF 24 FEET). THE SLOPE MAY VARY TO MEET THIS REQUIREMENT. FOR FILL HEIGHTS GREATER THAN 4 FEET. THE SLOPE SHALL NOT EXCEED THE MAXIMUM SLOPE DETERMINED BY THE SOIL SURVEY.

MSE WALL DETAIL



STA. 48+71.50 TO STA. 49+19.25
STA. 50+85.76 TO STA. 51+33.00

NOT TO SCALE

BRIDGE A7000 STA. 49+19.25 TO STA. 50+85.76

PRELIMINARY

ROUTE 90
ALTERNATE D (CONCRETE)
TYPICAL SECTION
SHEET 12 OF 13

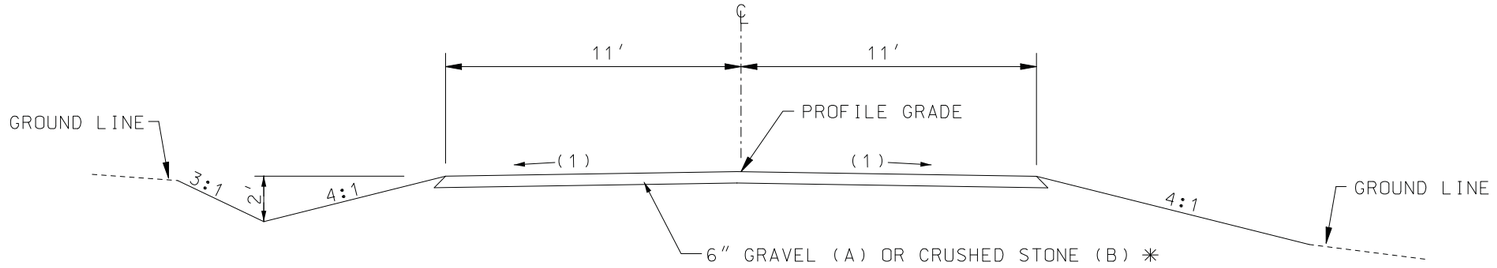
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 2
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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

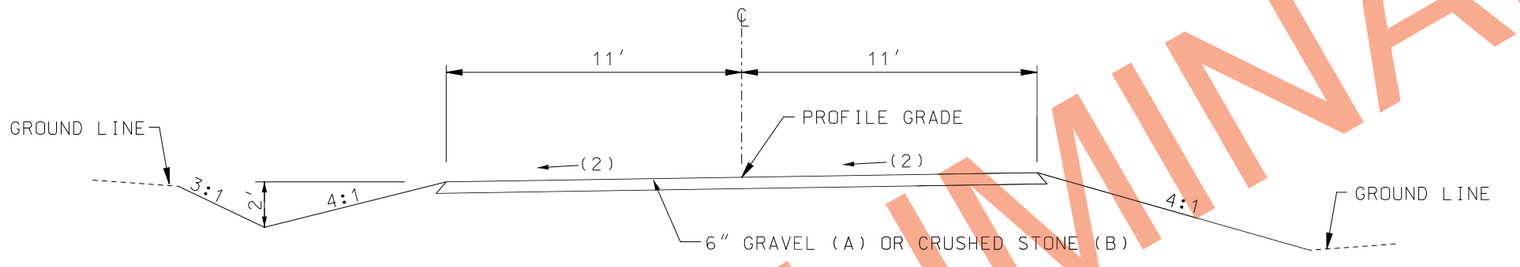


SECTION ON TANGENT

SUMNER CO. RD. – STA. 700+00.00 TO STA. 710+10.20

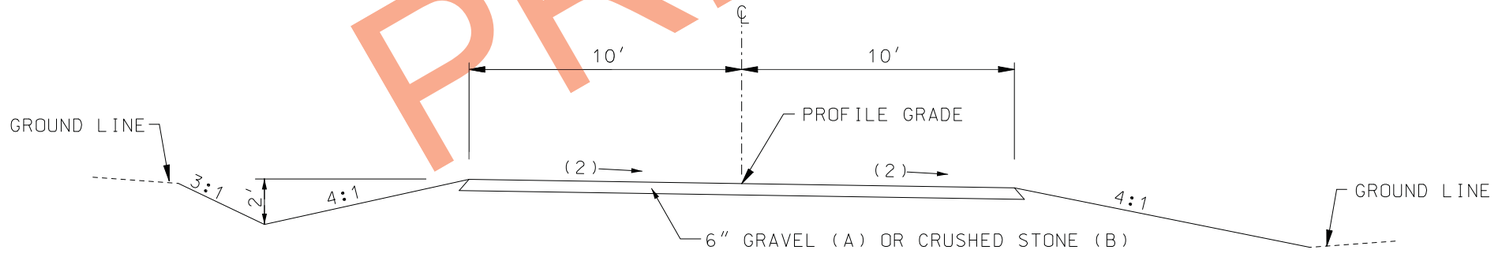
CROSS SLOPE
(1) 2.0%
(2) S.E. SLOPE IF GREATER THAN 2%

✳ PAVE WITH 1.75″ BP-1 OVER 4″ BIT. BASE OVER 4″ TYPE 5 AGGREGATE BASE FROM STA. 710+10.20 (RADIUS POINT) TO STA. 710+72.04 (EOP OF RTE. 90)



SECTION ON SUPERELEVATED CURVE

SUMNER CO. RD. – STA. 700+00.00 TO STA. 710+72.04



SECTION ON SUPERELEVATED CURVE

GARDNER PRIVATE ROAD STA. 0+00.00 TO STA. 1+59.37

NOTES:

SEE STANDARDS 203.20, 606.00 AND 609.40 FOR SHOULDER WIDENING

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SUMNER COUNTY ROAD &
GARDNER PRIVATE ROAD

TYPICAL SECTION

SHEET 13 OF 13

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	2

COUNTY
McDONALD

JOB NO.
J7P0601

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.

REMOVAL OF IMPROVEMENTS

STATION	LOCATION	QUANTITY	DESCRIPTION / REMARKS
666+82	S.B. RTE. I-49	1	EXISTING 22'x11' TRUSS SIGN
678+25	N.B. RTE. I-49 LT.	1	EXIST. SIGNS (12'x13') (7'x2'), POSTS, AND FOOTINGS
693+22	RTE. I-49/71	1	SIGN TRUSS (TRUSS, COLUMNS, FOOTINGS)
693+22	S.B. RTE. I-49	1	EXISTING 12'x7' TRUSS SIGN
693+22	S.B. RTE. I-49	1	EXISTING 13'x12' TRUSS SIGN
693+22	N.B. RTE. I-49	1	EXISTING 10'x10' TRUSS SIGN
700+00	N.B. RTE. I-49 LT.	1	EXIST. SIGN (12'x5'), POSTS, AND FOOTINGS
700+10	S.B. RTE. I-49 RT.	1	EXIST. SIGN (48"), POST, AND FOOTING
704+65	N.B. RTE. I-49 LT.	1	EXIST. SIGN (14'x13'), POSTS, AND FOOTINGS
704+80	S.B. RTE. I-49 RT.	1	EXIST. SIGN (16'x9'), POSTS, AND FOOTINGS
716+40	S.B. RTE. I-49. 5' RT.	1	IMPACT ATTENUATOR
716+58 - 724+01	S.B. RTE. 71, 44' RT.-38' RT	1	APPROX. 745' CONCRETE BARRIER
719+62	S.B. RTE. I-49	1	SIGN TRUSS (TRUSS, COLUMNS, FOOTINGS)
719+62	S.B. RTE. I-49	1	EXISTING 19'x10' TRUSS SIGN
723+39	N.B. RTE. I-49 LT.	1	EXIST. POST AND FOOTING (RELOC. SIGN)
715+66 - 723+46	S.B. RTE. I-49 RT.	1	BRIDGE ANCHOR, END ANCHOR, GUARDRAIL, APPROX. 780'
724+00	S.B. RTE. 71	1	EXIST. BARRICADE AND ROAD CLOSED SIGN
724+01 - 730+00	S.B. RTE. 71 RT.	1	CRASHWORTHY END, END ANCHOR, GUARDRAIL, APPROX. 615'
724+04	S.B. RTE. 71	1	EXIST. POST AND FOOTING (RELOC. SIGN)
725+63	N.B. RTE. 71	1	EXIST. SIGN (12'x6'), POSTS, AND FOOTINGS
731+05	N.B. RTE. 71	1	EXIST. SIGN (14'x13'), POSTS, AND FOOTINGS
736+42	S.B. RTE. 71	1	EXIST. SIGN (3'x4'), POST, AND FOOTING
736+62	S.B. RTE. 71	1	EXIST SIGN (4'x5'), POST AND FOOTING
42+86	RTE. 90 LT.	1	EXISTING STOP SIGN & POST
43+23	RTE. 90 RT.	1	EXISTING STOP SIGN & POST
43+93	RTE. 90	1	15"x 33' CROSSROAD PIPE
50+17	RTE. 90 58' LT.	1	12"x 26' ENTRANCE PIPE
56+90	RTE. 90, 45' LT.	1	15"x 32' CROSSROAD PIPE
59+52	RTE. 90, 17' RT.	1	12"x 25' ENTRANCE PIPE
60+66	RTE. 90	1	15"x 32' CROSSROAD PIPE
43+25 - 61+00	RTE. 90	1	APPROX. 4,340 SQ YD ASPHALT PAVEMENT
960+98	I-49, 123' LT	1	STUCK DRILL CORE BARREL
	TOTAL	32	
	LUMP SUM	1	

CLEARING AND GRUBBING
236 ACRES

TYPE 2 FIELD LABORATORY
LUMP SUM = 1

SEEDING COOL SEASON MIXTURES
45.3 ACRES

CONTRACTOR FURNISHED SURVEYING AND STAKING
LUMP SUM = 1

WILDLIFE CROSSINGS

STATION	LOCATION	WILDLIFE CROSSINGS (EA)	REMARKS
760+00 SBL	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
765+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
772+85.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
798+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
817+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
830+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
836+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
849+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
895+60.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
902+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
957+15.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
959+50.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
966+30.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
983+00.00	I-49 MEDIAN	5	SEE SPECIAL SHEET FOR SPACING
	TOTAL	70	
	USE	70	

DRIVEWAYS

STATION	LOCATION	TYPE	TOTAL LENGTH (FT)	WIDTH (FT)	RADIUS (FT)	6" THICK GRAVEL (A) OR CRUSHED STONE (B) (SQ YD)	BP-1 1 3/4" (CU YD)	BP-1 PG64-22 1.948 TONS/CY (TONS)	BIT. BASE 4" (CU YD)	BIT. BASE PG64-22 1.943 TONS/CY (TONS)	4" TYPE 5 AGG. BASE (SQ YD)	REMARKS
58+10.00	LT	1	82.03	20	10	160.1	1.32	2.6	3.12	6.1	28.6	RTE. 90
58+10.00	RT	1	66.93	20	10	126.5	1.32	2.6	3.12	6.1	28.6	RTE. 90
7+38.00 - 8+61.00	LT & RT	1	123.00	15	-	205.0	-	-	-	-	-	HELL CREEK PROPERTY
					TOTALS	491.6		5.2		12.2	57.2	
					USE	492		5.2		12.2	57	

MOBILIZATION
LUMP SUM = 1

ACCESS ROADS AND EMERGENCY CROSSOVER

BEGIN STATION	END STATION	LENGTH (FT)	WIDTH (FT)	6" THICK GRAVEL (A) OR CRUSHED STONE (B) (SQ YD)	BP-1 1 3/4" (CU YD)	BP-1 PG64-22 1.948 TONS/CY (TONS)	BIT. BASE 4" BASE (CU YD)	BIT. BASE PG64-22 1.943 TONS/CY (TONS)	4" TYPE 5 AGG. BASE (SQ YD)	REMARKS
700+00.00	710+10.20	1010.2	22	2469.4	-	-	-	-	-	SUMNER CO. RD.
710+10.20	710+86.05	75.9	VAR.	-	12.4	24.2	28.7	55.8	259.6	SUMNER CO. RD.
0+00.00	1+59.37	159.4	20	354.2	-	-	-	-	-	GARDNER PRIVATE RD.
896+40.50		52.0	20	1173.0	-	-	-	-	-	EMERGENCY CROSSOVER
			TOTALS	3996.6		24.2		55.8	259.6	
			USE	3997		24.2		55.8	260	

SUMMARY OF QUANTITIES
SHEET 1 OF 20

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	3

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

NO.	DESCRIPTION	DATE

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

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

REV.

BASE AND PAVEMENT QUANTITIES FOR ALTERNATE A (I-49 MAINLINE)

STATION	STATION	LENGTH (FT)	11" SP125B (PG76-22) (SQ YD)	PLACING 18" ROCK BASE (SQ YD)	REMARKS
729+20.22	729+60.88	40.7	136.8	206.5	I-49 NBL
729+60.88	735+39.27	578.4	1863.7	2854.7	I-49 NBL
737+43.14	756+50.00	1906.9	6144.5	9411.6	I-49 NBL
756+50.00	757+50.00	100.0	333.3	504.7	I-49 NBL
757+50.00	761+04.93	354.9	1301.3	1909.4	I-49 NBL
761+04.93	762+42.06	137.1	495.1	732.7	I-49 NBL
762+42.06	767+20.00	477.9	1699.2	2538.0	INCL. 20 S.Y. ROCK FOR G.R. WIDENING, I-49 NBL
723+02.82	753+75.00	3072.2	9899.3	15163.0	I-49 SBL
753+75.00	755+25.00	150.0	500.0	757.0	I-49 SBL
755+25.00	755+75.00	50.0	177.8	263.4	I-49 SBL
755+75.00	758+79.73	304.7	1117.2	1693.3	I-49 SBL
758+79.73	760+15.79	136.1	491.5	724.7	I-49 SBL
760+15.79	764+93.73	477.9	1699.2	2518.0	INCL. 78 S.Y. ROCK FOR G.R. WIDENING, I-49 SBL
764+93.73	765+00.00	6.3	44.8	68.1	INCL. 3 S.Y. ROCK FOR G.R. WIDENING, I-49
765+00.00	768+00.00	300.0	2066.7	3166.3	INCL. 133 S.Y. ROCK FOR G.R. WIDENING, I-49
768+00.00	791+66.73	2366.7	15778.0	23777.0	INCL. 373 S.Y. ROCK FOR G.R. WIDENING, I-49
791+66.73	794+66.73	300.0	2033.3	3000.0	INCL. 133 S.Y. ROCK FOR G.R. WIDENING, I-49
794+66.73	820+57.65	2590.9	17848.4	26322.9	INCL. 126 S.Y. ROCK FOR G.R. WIDENING, I-49
820+57.65	823+57.65	300.0	2033.3	3000.0	I-49
823+57.65	828+84.92	527.3	3515.3	5214.4	I-49
828+84.92	831+84.92	300.0	2033.3	3000.0	I-49
831+84.92	849+09.42	1724.5	11879.9	17933.6	INCL. 497 S.Y. ROCK FOR G.R. WIDENING, I-49
849+09.42	860+77.82	1168.4	11003.2	14213.7	INCL. 69 SY ROCK FOR G.R WIDENING, I-49
860+77.82	887+77.39	2699.6	18262.3	26960.9	I-49
887+77.39	900+94.87	1317.5	12205.9	15764.8	I-49
900+94.87	925+00.00	2405.1	16034.0	23783.8	I-49
925+00.00	948+00.00	2300.0	18333.3	22744.4	INCL. 592 S.Y. ROCK FOR G.R. WIDENING, I-49
948+00.00	969+00.00	2100.0	14000.0	20766.7	I-49
969+00.00	987+32.82	1832.8	12124.7	20398.0	INCL. 372 S.Y. ROCK FOR G.R. WIDENING, I-49
		TOTALS	185055.3	269391.6	
		USE	185055.3	269392	

BASE AND PAVEMENT QUANTITIES FOR ALTERNATE B (I-49 MAINLINE)

STATION	STATION	LENGTH (FT)	9" PCCP (SQ YD)	PLACING 18" ROCK BASE (SQ YD)	REMARKS
729+20.22	729+60.88	40.7	136.8	201.2	I-49 NBL
729+60.88	735+39.27	578.4	1863.7	2779.5	I-49 NBL
737+43.14	756+50.00	1906.9	6144.5	9163.7	I-49 NBL
756+50.00	757+50.00	100.0	333.3	491.7	I-49 NBL
757+50.00	761+04.93	354.9	1301.3	1863.2	I-49 NBL
761+04.93	762+42.06	137.1	495.1	712.2	I-49 NBL
762+42.06	767+20.00	477.9	1699.2	2487.9	INCL. 20 S.Y. ROCK FOR G.R. WIDENING, I-49 NBL
723+02.82	753+75.00	3072.2	9899.3	14763.6	I-49 SBL
753+75.00	755+25.00	150.0	500.0	737.5	I-49 SBL
755+25.00	755+75.00	50.0	177.8	256.9	I-49 SBL
755+75.00	758+79.73	304.7	1117.2	1599.7	I-49 SBL
758+79.73	760+15.79	136.1	491.5	707.0	I-49 SBL
760+15.79	764+93.73	477.9	1699.2	2533.9	INCL. 78 S.Y. ROCK FOR G.R. WIDENING, I-49 SBL
764+93.73	765+00.00	6.3	44.8	66.7	INCL. 3 S.Y. ROCK FOR G.R. WIDENING, I-49
765+00.00	768+00.00	300.0	2066.7	3099.7	INCL. 133 S.Y. ROCK FOR G.R. WIDENING, I-49
768+00.00	791+66.73	2366.7	15778.0	23251.1	INCL. 373 S.Y. ROCK FOR G.R. WIDENING, I-49
791+66.73	794+66.73	300.0	2033.3	3066.3	INCL. 133 S.Y. ROCK FOR G.R. WIDENING, I-49
794+66.73	820+57.65	2590.9	17848.4	25747.1	INCL. 126 S.Y. ROCK FOR G.R. WIDENING, I-49
820+57.65	823+57.65	300.0	2033.3	2933.3	I-49
823+57.65	828+84.92	527.3	3515.3	5097.2	I-49
828+84.92	831+84.92	300.0	2033.3	2933.3	I-49
831+84.92	849+09.42	1724.5	11879.9	17550.4	INCL. 497 S.Y. ROCK FOR G.R WIDENING, I-49
849+09.42	860+77.82	1168.4	11003.2	13977.0	INCL. 69 S.Y. ROCK FOR G.R. WIDENING, I-49
860+77.82	887+77.39	2699.6	18262.3	26361.1	I-49
887+77.39	900+94.87	1317.5	12205.9	15503.9	I-49
900+94.87	925+00.00	2405.1	16034.0	23249.3	I-49
925+00.00	948+00.00	2300.0	18333.3	22233.3	INCL. 592 S.Y. ROCK FOR G.R. WIDENING, I-49
948+00.00	969+00.00	2100.0	14000.0	20300.0	I-49
969+00.00	987+32.82	1832.8	12124.7	19255.9	INCL. 372 S.Y. ROCK FOR G.R. WIDENING, I-49
		TOTALS	185055.3	262923.6	
		USE	185055.3	262924	

BASE AND PAVEMENT QUANTITIES FOR ALTERNATE C (ROUTE 90 AND RAMPS)

STATION	STATION	LENGTH (FT)	10" SP125C (PG64-22) (SQ YD)	PLACING 18" ROCK BASE (SQ YD)	REMARKS
1003+22.28	1015+67.87	1245.6	3129.5	4974.5	RAMP 1
2003+82.39	2018+25.32	1442.9	3335.1	5517.5	RAMP 2
3000+12.06	3017+79.76	1767.7	3994.1	7684.0	INCL. 427 S.Y. ROCK FOR G.R. WIDENING, RAMP 3
4000+11.97	4015+00.89	1488.9	3469.7	5717.0	RAMP 4
43+25.00	49+19.25	594.3	1767.6	2126.7	RTE. 90
50+85.76	61+00.00	1014.2	2975.2	3145.4	RTE. 90
		TOTALS	18671.2	29165.1	
		USE	18671.2	29165	

BASE AND PAVEMENT QUANTITIES FOR ALTERNATE D (ROUTE 90 AND RAMPS)

STATION	STATION	LENGTH (FT)	8" PCCP (SQ YD)	PLACING 18" ROCK BASE (SQ YD)	REMARKS
1003+22.28	1015+67.87	1245.6	3129.5	4804.5	RAMP 1
2003+82.39	2018+25.32	1442.9	3335.1	5334.2	RAMP 2
3000+12.06	3017+79.76	1767.7	3994.1	6866.9	INCL. 427 S.Y. ROCK FOR G.R. WIDENING, RAMP 3
4000+11.97	4015+00.89	1488.9	3469.7	5524.7	RAMP 4
43+25.00	48+94.25	569.3	1671.3	2113.1	RTE. 90
51+10.76	61+00.00	989.2	2878.9	3091.6	RTE. 90
		TOTALS	18478.6	27735.0	
		USE	18478.6	27735	

ALTERNATE D MODIFIED BRIDGE APPROACH SLAB

STATION	TO	STATION	LOCATION	AREA (SQ YD)	PLACING 18" ROCK BASE (SQ YD)	REMARKS
48+94.25	-	49+19.25	RTE. 90	96.3	96.3	A7000 BRIDGE
50+85.76	-	51+10.76	RTE. 90	96.3	96.3	A7000 BRIDGE
			TOTALS	192.6	192.6	
			USE	193	193	

CONCRETE APPROACH PAVEMENT

STATION	TO	STATION	LOCATION	AREA (SQ YD)	PLACING 18" ROCK BASE (SQ YD)	REMARKS
735+39.27	-	735+58.49	I-49 NBL	147.1	147.1	A6380 BRIDGE
736+96.44	-	737+43.14	I-49 NBL	138.4	138.4	A6380 BRIDGE
			TOTALS	285.5	285.5	
			USE	286	286	

SUMMARY OF QUANTITIES
SHEET 2 OF 20

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/13/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 3
COUNTY: McDONALD
JOB NO.: J7P0601
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.

TYPE A2 SHOULDERS FOR ALTERNATES A AND B

BEGIN STATION	END STATION	LENGTH (FT)	SHOULDER WIDTH (FT)	NUMBER SIDES	TYPE A2 SHOULDER (SQ YD)	REMARKS
729+20.22	735+39.27	619.1	9	1	619.1	I-49 NBL
737+43.14	756+50.00	1906.9	9	1	1906.9	I-49 NBL
756+50.00	767+20.00	1070.0	9	1	1070.0	I-49 NBL
723+02.82	744+00.00	2097.2	9	1	2097.2	I-49 SBL
744+00.00	764+93.73	2093.7	9	1	2093.7	I-49 SBL
764+93.73	791+66.73	2673.0	9	2	5346.0	I-49
791+66.73	820+57.65	2890.9	9	2	5781.8	I-49
820+57.65	849+09.42	2851.8	9	2	5703.6	I-49
849+09.42	860+77.82	1168.4	AREA ANALYZED	1	1908.3	I-49, RP 1 ACCEL, RP 2 DECEL
860+77.82	887+77.39	2699.6	9	2	5664.1	I-49
887+77.39	900+94.87	1317.5	AREA ANALYZED	1	2122.7	I-49, RP 3 DECEL, RP 4 ACCEL
900+94.87	925+00.00	2405.1	9	2	4810.2	I-49
925+00.00	948+00.00	2300.0	9	2	4600.0	I-49
948+00.00	969+00.00	2100.0	9	2	4200.0	I-49
969+00.00	987+32.82	1832.8	9	2	3665.6	I-49
				TOTAL	51589.2	
				USE	51589	

TYPE A2 SHOULDERS FOR ALTERNATES C AND D

BEGIN STATION	END STATION	LENGTH (FT)	SHOULDER WIDTH (FT)	NUMBER SIDES	TYPE A2 SHOULDER (SQ YD)	REMARKS
1003+22.28	1014+33.05	1110.8	8	1	987.4	RAMP 1, LT
2003+82.39	2017+39.28	1356.9	8	1	1206.1	RAMP 2, RT
3001+09.87	3017+79.76	1669.9	8	1	1484.4	RAMP 3, LT
4001+08.00	4015+00.89	1392.9	8	1	1238.1	RAMP 4, RT
				TOTAL	4916.0	
				USE	4916	

RUMBLE STRIPS

BEGIN STATION	END STATION	ROUTE	LOCATION	ALTERNATE A BIT. RUMBLE STRIPS (FT)	ALTERNATE B CONC. RUMBLE STRIPS (FT)	ALTERNATE C BIT. RUMBLE STRIPS (FT)	ALTERNATE D CONC. RUMBLE STRIPS (FT)	REMARKS
729+20.22	735+39.27	I-49 NBL	LT EOP	619.05	619.05			I-49 N.B.L.
729+20.22	735+39.27	I-49 NBL	RT EOP	619.05	619.05			I-49 N.B.L.
737+43.14	767+20.00	I-49 NBL	LT EOP	2976.86	2976.86			I-49 N.B.L.
737+43.14	767+20.00	I-49 NBL	RT EOP	2976.86	2976.86			I-49 N.B.L.
723+02.82	764+93.73	I-49 SBL	LT EOP	4190.91	4190.91			I-49 S.B.L.
723+02.82	764+93.73	I-49 SBL	RT EOP	4190.91	4190.91			I-49 S.B.L.
764+93.73	849+59.42	I-49 (NBL)	LT EOP	8465.69	8465.69			I-49
859+26.32	891+19.16	I-49 (NBL)	LT EOP	3192.84	3192.84			I-49
900+44.87	987+32.82	I-49 (NBL)	LT EOP	8687.95	8687.95			I-49
764+93.73	987+32.82	I-49 (NBL)	RT EOP	22239.09	22239.09			I-49
764+93.73	987+32.82	I-49 (SBL)	LT EOP	22239.09	22239.09			I-49
764+93.73	849+64.32	I-49 (SBL)	RT EOP	8470.59	8470.59			I-49
858+37.82	889+36.17	I-49 (SBL)	RT EOP	3098.35	3098.35			I-49
899+33.33	987+32.82	I-49 (SBL)	RT EOP	8799.49	8799.49			I-49
43+25.00	45+24.40	RTE 90	LT EOP			199.40	199.40	RTE 90
43+25.00	45+28.72	RTE 90	RT EOP			203.72	203.72	RTE 90
47+18.55	49+19.25	RTE 90	LT EOP			200.70	200.70	RTE 90
47+27.73	49+19.25	RTE 90	RT EOP			191.52	191.52	RTE 90
50+85.76	52+83.00	RTE 90	LT EOP			197.24	197.24	RTE 90
50+85.76	52+71.44	RTE 90	RT EOP			185.68	185.68	RTE 90
54+96.78	57+90.00	RTE 90	LT EOP			293.22	293.22	RTE 90
54+63.56	57+90.00	RTE 90	RT EOP			326.44	326.44	RTE 90
58+30.00	61+00.00	RTE 90	LT EOP			270.00	270.00	RTE 90
58+30.00	61+00.00	RTE 90	RT EOP			270.00	270.00	RTE 90
			TOTALS	100766.73	100766.73	2337.92	2337.92	
			USE	1007.7 STA	1007.7 STA	23.4 STA	23.4 STA	

RELOCATED SIGNS

STATION	LOCATION	SIGN NO.	SIGNS (EA)	REMARKS
723+34.00	RTE. 71 NBL LT	9	1	EXIST. SIGN TO NEW POST
724+04.00	I-49 SBL RT	15	1	EXIST. SIGN TO NEW POST
		TOTAL	2	
		USE	2	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 3 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
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.

MGS GUARDRAIL

BEGIN STATION	END STATION	LOCATION	MGS GUARDRAIL 6' POSTS (FT)	MGS END ANCHOR (EA)	MGS BRIDGE APPROACH TRANS. (REGULAR/NO CURB) (EA)	MGS BRIDGE APPROACH TRANS. (EXTENDED CURB) (EA)	(MASH) TYPE A CRASHWORTHY END TERMINAL (EA)	REMARKS
715+65.57	730+28.07	I-49 SBL RT	1425.0	1		1		CONNECTS TO EXIST. BRIDGE
715+64.21	717+51.71	I-49 SBL LT	150.0	1		1		CONNECTS TO EXIST. BRIDGE
725+80.00	731+80.00	US 71 SBL RT	600.0	1			1	
733+87.10	736+49.60	US 71 SBL LT	225.0		1		1	CONNECTS TO TYPE D BARRIER
734+60.79	736+98.29	US 71 SBL RT	200.0		1		1	CONNECTS TO TYPE D BARRIER
734+47.50	734+85.00	I-49 NBL RT	0.0	1		1		CONNECTS TO BRIDGE A6380
736+81.26	739+68.76	I-49 NBL RT	250.0			1	1	CONNECTS TO BRIDGE A6380
737+17.17	739+54.67	I-49 NBL LT	200.0			1	1	CONNECTS TO BRIDGE A6380
755+12.50	755+75.00	I-49 SBL LT	25.0		1		1	CONNECTS TO TYPE C BARRIER
762+75.00	772+00.00	I-49 SBL & I-49 RT	925.0	1			1	
765+00.00	775+25.00	I-49 LT	1025.0	1			1	
789+75.00	797+00.00	I-49 RT	725.0	1			1	
793+00.00	800+25.00	I-49 LT	725.0	1			1	
836+75.00	846+00.00	I-49 RT	925.0	1			1	
840+00.00	850+87.50	I-49 LT	1087.5	1			1	
930+15.00	940+52.50	I-49 RT	1037.5	1			1	
932+55.00	944+42.50	I-49 LT	1187.5	1			1	
977+57.82	987+32.82	I-49 RT	975.0				1	CONNECTS TO AHTD JOB
982+45.32	987+32.82	I-49 LT	487.5	1				CONNECTS TO AHTD JOB
3001+09.34	3017+84.34	Ramp 3 LT	1675.0	1			1	
47+71.50	48+71.50	RTE. 90 LT	62.5		1		1	CONNECTS TO BRIDGE A7000
47+71.50	48+71.50	RTE. 90 RT	62.5		1		1	CONNECTS TO BRIDGE A7000
51+33.00	52+33.00	RTE. 90 LT	62.5		1		1	CONNECTS TO BRIDGE A7000
51+33.00	52+20.50	RTE. 90 RT	50.0		1		1	CONNECTS TO BRIDGE A7000
		TOTALS	14087.5	14	7	5	20	
		USE	14088	14	7	5	20	

INSTALLING 8" WELDED STEEL ENCASEMENT FOR UTILITY CROSSING

LOCATION	STATION	SKEW	ENCASEMENT LENGTH (FT)	REMARKS
I-49	853+00.00	0°	302	ENCASEMENT FURNISHED BY OTHERS
		TOTAL	302	
		USE	302	

PAVED DITCH

STATION	TO	STATION	LOCATION	BOTTOM WIDTH (FT)	LENGTH (FT)	AREA (SQ YD)	REMARKS
792+92.07	-	793+40.62	I-49 RT	VAR.	VAR.	61.4	DOWNSTREAM END BRIDGE A7052
					TOTAL	61.4	
					USE	61	

SLOTTED DRAINS

STATION	TO	STATION	LOCATION	SIZE	LENGTH (FT)	REMARKS
876+05.00	-	877+45.00	I-49 MEDIAN	15"	140	
				TOTAL	140	
				USE	140	

CONCRETE TRAFFIC BARRIER

STATION	TO	STATION	LOCATION	TYPE B (FT)	TYPE C (FT)	TYPE D (FT)	REMARKS
757+50.00	-	767+20.00	I-49 NBL RT		970.0		RT SIDE NBL
755+75.00	-	764+93.73	I-49 SBL LT		918.7		LT SIDE SBL
764+93.73	-	979+50.00	I-49		21456.3		MEDIAN
736+49.60	-	737+14.60	US 71 SBL LT			65.0	ADJACENT TO WALL A7800
736+98.29	-	737+63.29	US 71 SBL RT			65.0	ADJACENT TO WALL A7801
48+71.50	-	49+19.25	RTE. 90 LT	47.8			TOP OF WALL A7595
48+71.50	-	49+19.25	RTE. 90 RT	47.8			TOP OF WALL A7595
50+85.76	-	51+33.00	RTE. 90 LT	47.2			TOP OF WALL A7596
50+85.76	-	51+33.00	RTE. 90 RT	47.2			TOP OF WALL A7596
			TOTALS	190.0	23345.0	130.0	
			USE	190	23345	130	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 4 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	3

COUNTY
McDONALD

JOB NO.
J7P0601

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.

PLACING TYPE 2 ROCK DITCH LINER

STATION	TO	STATION	LOCATION	DEPTH (FT)	BOTTOM WIDTH (FT)	LENGTH (FT)	INSLOPE (X:1)	BACKSLOPE (X:1)	PLACING TYPE 2 (CU YD)	REMARKS
756+00	–	757+60	NBL LT	1.4	4	160.00	3	2	68.0	
742+50	–	747+50	SBL RT	1.0	8	500.00	3	2	248.0	
793+00	–	795+00	I-49 LT	1.5	8	216.00	2	2	117.6	
832+50	–	835+50	I-49 LT	1.8	8	300.00	3	2	196.7	
845+35	–	849+10	I-49 LT	2.4	4	376.00	2	2	204.7	
873+00	–	873+50	I-49 RT	2.0	0	50.00	6	2	31.0	
873+50	–	880+00	I-49 RT	2.0	8	650.00	3	2	453.0	
1011+20	–	1015+20	RAMP 1 RT	1.5	8	405.00	6	2	307.5	
2016+25	–	2017+78	RAMP 2 RT	1.0	8	153.00	3	2	76.0	
LENGTH MEASURED ALONG C/L OF DITCH								TOTAL	1702.5	
								USE	1703	

ENERGY DISSIPATORS

LOCATION	CENTERLINE STATION	CULVERT SIZE	CLASS 3 EXCAVATION (CU YD)	PLACING TYPE 2 ROCK BLANKET (CU YD)	REMARKS
I-49 SBL	731+00.00	36″	13	28	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49 SBL	739+41.86	5′x 5′	94	98	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49 NBL	758+17.83	30″	21	26	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49 NBL	760+00.63	24″	19	31	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	768+06.77	10′x 8′	403	530	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	783+66.96	30″	34	76	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	795+25.82	3 – 8′x 8′	340	1509	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	818+19.01	48″	78	183	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	831+22.78	36″	42	63	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	844+08.90	6′x 5′	187	192	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
RAMP 4	4007+25.00	24″	6	14	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	887+10.93	7′x 6′	318	323	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	899+93.87	4′x 4′	66	70	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	909+72.11	7′x 6′	258	279	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	958+02.44	42″	16	35	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
I-49	964+60.36	5′x 5′	101	148	SEE SPECIAL SHEET FOR BASIN & RIPRAP DIMENSIONS
		TOTAL	1996	3605	
		USE	1996	3605	

PLACING TYPE 3 ROCK DITCH LINER

STATION	TO	STATION	LOCATION	DEPTH (FT)	BOTTOM WIDTH (FT)	LENGTH (FT)	INSLOPE (X:1)	BACKSLOPE (X:1)	PLACING TYPE 3 (CU YD)	BEDDING MATERIAL (CU YD)	REMARKS
722+00	–	736+00	I-49 RT	7.5	VARIES	1400.00	2	2	6450.3	2345.8	RELOCATED GOODIN HOLLOW CREEK
793+20	–	796+00	I-49 RT	2.2	8	280.00	2	2	338.4	123.1	
846+50	–	848+00	I-49 RT	2.0	8	163.00	3	2	208.0	75.7	
865+00	–	867+10	I-49 LT	1.9	8	210.00	3	2	260.9	95.0	
867+10	–	869+16	I-49 LT	1.1	8	206.00	3	2	194.4	70.7	
875+00	–	877+00	I-49 LT	2.8	8	200.00	3	2	314.0	114.1	
880+00	–	882+00	I-49 RT	1.9	8	200.00	3	2	248.5	90.4	
934+50	–	938+50	I-49 LT	2.7	8	400.00	2	2	545.8	199.5	
976+50	–	980+00	I-49 RT	1.7	8	350.00	3	2	408.7	148.7	
1009+61	–	1015+21	RAMP 1 LT	1.4	2	562.00	6	2	519.0	189.0	
LENGTH MEASURED ALONG C/L OF DITCH								TOTALS	9488.0	3452.0	
								USE	9488	3452	

CONCRETE SLOPE PROTECTION

BEGIN STATION	END STATION	LENGTH (FT)	WIDTH (FT)	CONCRETE SLOPE PROTECTION (SQ YD)	REMARKS
49+21.80	49+27.00	6	37	24.7	RTE. 90, BR. A7000
50+78.00	50+84.00	6	37	24.7	RTE. 90, BR. A7000
735+86.00	735+94.50	6	58	38.7	NBL I-49, BR. A6380
736+60.60	736+69.00	6	55	36.7	NBL I-49, BR. A6380
			TOTAL	124.8	
			USE	125	

ROCK SLOPE PROTECTION

ROUTE	STATION	TO	STATION	THICKNESS (IN)	PLACING TYPE 2 ROCK BLANKET (CU YD)	SEPARATION GEOTEXTILE FABRIC (SQ YD)	REMARKS
I-49 SBL	750+70	–	751+00	24	26.4	39.5	DITCH OUTLET, 138′ RT.
I-49	779+69			24	136.8	205.1	FLUME, 98′ LT.
I-49	835+40			24	51.0	76.5	FLUME, 90′ LT.
I-49	858+88	–	859+12	24	25.3	67.8	DITCH OUTLET, 303′ RT.
RAMP 4	4004+07			24	22.4	33.6	FLUME, 255′ RT.
I-49	895+36			24	55.8	83.7	FLUME, 191′ LT.
I-49	915+54			24	236.1	354.1	FLUME, 156′ LT.
I-49	920+01			24	108.6	162.8	FLUME, 140′ LT.
I-49	928+65			24	88.8	133.2	FLUME, 141′ LT.
I-49	940+49			24	13.9	20.8	FLUME, 97′ LT.
I-49	948+21			24	73.5	110.2	FLUME, 115′ LT.
I-49	977+23			24	87.9	131.8	FLUME, 124′ LT.
90	50+72	–	50+75	24	21.3	32.0	AT MSE WALL A7596
				TOTALS	947.8	1451.1	
				USE	948	1451	

PLACING TYPE 4 ROCK DITCH LINER

STATION	TO	STATION	LOCATION	DEPTH (FT)	BOTTOM WIDTH (FT)	LENGTH (FT)	INSLOPE (X:1)	BACKSLOPE (X:1)	PLACING TYPE 4 (CU YD)	BEDDING MATERIAL (CU YD)	REMARKS
738+00	–	740+24	SBL LT	1.0	8	272.00	3	2	338.5	135.0	
745+00	–	751+80	SBL LT	1.3	8	708.00	3	2	983.3	393.3	
750+00	–	751+50	NBL RT	1.3	8	168.00	3	2	233.3	93.3	
761+01	–	764+00	NBL LT	1.0	4	332.00	3	2	289.0	115.6	
790+00	–	792+50	I-49 RT	1.0	8	282.00	3	2	349.9	140.0	
795+00	–	798+00	I-49 LT	2.0	8	320.00	2	2	500.7	200.3	
817+25	–	818+25	I-49 LT	1.0	8	133.00	3	2	145.3	58.2	
818+25	–	819+00	I-49 LT	1.6	8	82.00	3	2	126.0	50.4	
869+80	–	872+00	I-49 RT	1.3	8	227.00	3	2	315.3	126.1	
894+00	–	895+25	I-49 LT	1.0	8	139.00	3	2	172.5	69.0	
910+05	–	912+78	I-49 RT	1.0	8	345.00	3	2	428.1	171.2	
4001+00	–	4003+00	RAMP 4 LT	1.9	8	200.00	6	2	441.0	176.3	
4003+00	–	4007+25	RAMP 4 LT	1.9	8	425.00	3	2	720.2	288.1	
LENGTH MEASURED ALONG C/L OF DITCH								TOTALS	5043.1	2016.8	
								USE	5043	2017	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 5 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	3

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT WITH TYPE L BEADS

STATION	TO	STATION	ROUTE	LOCATION	6" SOLID WHITE (FT)	6" INT. WHITE (FT)	6" SOLID YELLOW (FT)	12" SOLID WHITE (FT)	12" DOTTED WHITE (FT)	REMARKS
670+72.60	-	672+25.00	I-49/71 NBL	31' LT				152.40		GORE LINE AT RAMP
670+70.75	-	675+75.00	I-49/71 NBL	31' LT.				504.25		LANE LINE, NB LANE DROP
675+75.00	-	698+34.75	I-49/71 NBL	31' LT.					564.94	LANE LINE, NB LANE DROP, 3' STRIPE 9' GAP
693+60.00	-	710+89.00	71 SBL	19' RT.					432.25	LANE LINE, 3' STRIPE 9' GAP
710+00.00	-	764+93.73	I-49 SBL	12' LT.		1373.43				C/L SB LANE
710+89.00	-	723+44.00	71 SBL	12' RT.				1255.00		C/L SB LANE
711+60.00	-	764+93.73	I-49 SBL	BASELINE	5333.73					RT. EDGE LINE
720+00.00	-	723+98.00	I-49 SBL	24' LT.				398.00		GORE LINE
720+00.00	-	724+00.00	71 SBL	24' RT.				400.00		GORE LINE
723+98.00	-	764+93.73	I-49 SBL	24' LT.			4095.73			LT. EDGE LINE
726+31.77	-	729+61.15	71 NBL	24' RT.				329.38		GORE LINE
726+31.77	-	729+57.75	I-49 NBL	24' LT.				325.98		GORE LINE
729+57.75	-	767+20.00	I-49 NBL	24' LT.	3762.25					LT. EDGE LINE
726+31.77	-	767+20.00	I-49 NBL	12' LT.		1022.06				C/L NB LANE
726+31.77	-	767+20.00	I-49 NBL	BASELINE			4088.23			RT. EDGE LINE
764+93.73	-	857+39.42	I-49 NBL	29' LT.	9245.69					LT. EDGE LINE
854+49.42	-	857+39.42	I-49 NBL	29' LT.		72.50				LT. EDGE LINE
857+39.42	-	860+63.03	I-49 NBL	29' LT.				323.61		GORE LINE
860+63.03	-	890+60.24	I-49 NBL	29' LT.	2997.21					LT. EDGE LINE
890+60.24	-	894+94.87	I-49 NBL	29' LT.				434.63		GORE LINE
894+94.87	-	896+69.87	I-49 NBL	29' LT.		43.75				LT. EDGE LINE
894+94.87	-	987+32.82	I-49 NBL	29' LT.	9237.95					LT. EDGE LINE
764+93.73	-	987+32.82	I-49 NBL	17' LT.		5559.77				C/L NB LANE
764+93.73	-	987+32.82	I-49 NBL	5' LT.			22239.09			RT. EDGE LINE
764+93.73	-	987+32.82	I-49 SBL	7' RT.			22239.09			LT. EDGE LINE
764+93.73	-	987+32.82	I-49 SBL	19' RT.		5559.77				C/L SB LANE
764+93.73	-	855+14.32	I-49 SBL	31' RT.	9020.59					RT. EDGE LINE
853+39.32	-	855+14.32	I-49 SBL	31' RT.		43.75				RT. EDGE LINE
855+14.32	-	858+91.26	I-49 SBL	31' RT.				376.94		GORE LINE
858+91.26	-	887+77.39	I-49 SBL	31' RT.	2886.13					RT. EDGE LINE
887+77.39	-	891+53.33	I-49 SBL	31' RT.				375.94		GORE LINE
891+53.33	-	894+43.33	I-49 SBL	31' RT.		72.50				RT. EDGE LINE
891+53.33	-	987+32.82	I-49 SBL	31' RT.	9579.49					RT. EDGE LINE
1000+00.00	-	1015+63.74	RAMP 1	BASELINE	1590.85					LT. EDGE LINE, INCL. RADIUS
1000+00.00	-	1003+22.28	RAMP 1	14' RT.				322.28		GORE LINE
1003+22.28	-	1015+61.99	RAMP 1	14' RT.			1261.07			RT. EDGE LINE, INCL. RADIUS
2000+00.00	-	2003+75.64	RAMP 2	14' LT.				375.64		GORE LINE
2003+75.64	-	2018+14.27	RAMP 2	14' LT.			1460.82			LT. EDGE LINE, INCL. RADIUS
2000+00.00	-	2018+24.19	RAMP 2	BASELINE	1844.24					RT. EDGE LINE, INCL. RADIUS
3000+10.23	-	3022+11.42	RAMP 3	BASELINE	2214.86					LT. EDGE LINE, INCL. RADIUS
3000+32.70	-	3017+79.75	RAMP 3	14' RT.			1774.19			RT. EDGE LINE, INCL. RADIUS
3017+79.75	-	3022+11.42	RAMP 3	14' RT.				431.67		GORE LINE
4000+30.88	-	4015+00.89	RAMP 4	14' LT.			1497.04			LT. EDGE LINE, INCL. RADIUS
4015+00.89	-	4018+77.22	RAMP 4	14' LT.				376.33		GORE LINE
4000+09.81	-	4018+77.22	RAMP 4	BASELINE	1883.72					RT. EDGE LINE, INCL. RADIUS
				TOTALS	59596.71	13747.53	58655.26	6382.05	997.19	
					73344.24			7379.24		
				USE	73344		58655	7379		

STANDARD WATERBORNE PAVEMENT MARKING PAINT with TYPE P BEADS

STATION	TO	STATION	ROUTE	LOCATION	4" SOLID WHITE (FT)	4" SOLID YELLOW (FT)	REMARKS
43+25.00	-	46+05.19	RTE. 90	11' LT.	280.19		LEFT EDGE LINE
47+19.05	-	52+82.35	RTE. 90	11' LT.	563.30		LEFT EDGE LINE
54+16.32	-	61+00.00	RTE. 90	11' LT.	683.68		LEFT EDGE LINE
43+25.00	-	61+00.00	RTE. 90	CENTERLINE		3550.00	DOUBLE SOLID YELLOW C/L
43+25.00	-	46+09.42	RTE. 90	11' RT.	284.42		RIGHT EDGE LINE
47+28.23	-	52+70.98	RTE. 90	11' RT.	542.75		RIGHT EDGE LINE
53+82.82	-	61+00.00	RTE. 90	11' RT.	717.18		RIGHT EDGE LINE
				TOTAL	3071.52	3550.00	
				USE	3072	3550	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 6 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	3

COUNTY
McDONALD

JOB NO.
J7P0601

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.

PAVEMENT MARKING REMOVAL

STATION	TO	STATION	LOCATION	DESCRIPTION	LENGTH (FT)	SYMBOLS (EA)	REMARKS
670+70.75	–	675+75.00	I-49/71 NBL, 31' LT.	LANE LINE	656.60		EXIST. 12" SOLID WHITE LINE, INCL. RAMP EDGE LINE
675+75.00	–	698+34.75	I-49/71 NBL, 31' LT.	LANE LINE	564.94		EXIST. 6" INT. WHITE LINE
693+60.00	–	723+44.00	I-49/71 SBL, 19' RT.	LANE LINE	746.00		EXIST. 6" INT. WHITE LINE
699+15.00			I-49/71 SBL, 38' RT.	LANE DROP ARROW		1	
703+15.00			I-49/71 SBL, 38' RT.	LANE DROP ARROW		1	
707+15.00			I-49/71 SBL, 38' RT.	LANE DROP ARROW		1	
711+60.00	–	720+00.00	I-49 SBL, RT. SIDE	LANE TRANSITION LINE	840.00		EXIST. 12" SOLID WHITE LINE
726+31.77	–	729+61.15	RTE. 71 NBL, RT. SIDE	LANE TRANSITION LINE	329.38		EXIST' 6" SOLID YELLOW
				TOTALS	3136.92	3	
				USE	3137	3	

SPECIAL DESIGN REINFORCED CONCRETE BOX CULVERTS (R.C.B.)

ROUTE	STATION	SKEW	FILL HEIGHT (FT)	SIZE	LENGTH (FT)	CLASS B-1 CONCRETE (CU YD)	REINFORCING STEEL (LB)	CLASS 4 EXCAVATION (CU YD)	CLASS 4 EXCAVATION IN ROCK (CU YD)	ROCK LINING (CU YD)	REMARKS
I-49 NBL	743+58.95	35° L.A.	73.7	4' X 4'	610	478.0	84970	1038		15	SEE SPECIAL SHEETS FOR DETAILS
I-49 SBL	739+41.86	20° L.A.	69.0	5' X 5'	519	514.0	97630	997			SEE SPECIAL SHEETS FOR DETAILS
I-49	768+06.77	8° R.A.	103.8	10' X 8'	504	1726.0	276840	1148			SEE SPECIAL SHEETS FOR DETAILS
I-49	842+96.71	32° R.A.	86.3	4' X 4'	319	275.3	50580	283			SEE SPECIAL SHEETS FOR DETAILS
I-49	844+08.90	30° L.A.	88.2	6' X 5'	495	738.4	113780	564			SEE SPECIAL SHEETS FOR DETAILS
I-49	887+10.93	32° R.A.	97.7	7' X 6'	909	1859.4	277440	1738			SEE SPECIAL SHEETS FOR DETAILS
I-49	899+93.87	13° R.A.	57.3	4' X 4'	473	356.8	64340	993			SEE SPECIAL SHEETS FOR DETAILS
I-49	909+72.11	6° R.A.	63.8	7' X 6'	484	738.6	122180	722			SEE SPECIAL SHEETS FOR DETAILS
I-49	964+60.36	19° R.A.	61.5	5' X 5'	501	413.6	66190	830	161		SEE SPECIAL SHEETS FOR DETAILS
					TOTALS	7100.1	1153950	8313	161	15	
					USE	7100.1	1153950	8313	161	15	

GROUP A PIPE (CROSSROAD PIPES)

LOCATION	STATION	SKEW	FILL HEIGHT (FT)	LENGTH (FT) 24"	30"	36"	42"	48"	GROUP A FLARED END SECTION (EA) 24"	30"	36"	42"	48"	ROCK LINING (CU YD)	CLASS 3 EXCAVATION (CU YD)	CLASS 3 EXCAVATION IN ROCK (CU YD)	REMARKS
I-49 NBL	735+67.55	46° L.A.	27.10		103												DRAIN UNDER MSE WALL
I-49 NBL	736+83.88	43° L.A.	25.90		97												DRAIN UNDER MSE WALL
I-49 SBL	731+00.00	0°	36.95			340					2				122	138	
I-49	783+66.96	13° R.A.	38.59		341					2					266		
I-49	794+39.04	37° R.A.	42.73					257					1		429		CONNECT TO BOX CULV. RT.
I-49	818+19.01	2° L.A.	37.45					327					2		108		
I-49	831+22.78	19° R.A.	49.97			421					2				436		
I-49	958+02.44	7° R.A.	32.74				297					2			258		
RAMP 1	1009+04.71	30° R.A.	18.32	183					2					3	244		RAMP 1 GORE DRAINAGE
RAMP 2	2012+30.00	57° L.A.	32.90	453					2					3	423		RAMP 2 GORE DRAINAGE
RAMP 3	3003+51.72	30° L.A.	48.40		331					2				4	64		RAMP 3 GORE DRAINAGE
RAMP 4	4007+25.00	0°	33.05	303					2						34		RAMP 4 GORE DRAINAGE
			TOTALS	939	872	761	297	584	6	4	4	2	3	10	2384	138	
			USE	939	872	761	297	584	6	4	4	2	3	10	2384	138	

SPECIAL DESIGN REINFORCED CONCRETE PIPE CULVERTS (R.C.P.)

ROUTE	STATION	SKEW	FILL HEIGHT (FT)	LENGTH (FT) 24"	30"	SPECIAL DESIGN FLARED END SECTION (EA) 24"	30"	CLASS 3 EXCAVATION (CU YD)	REMARKS
I-49 NBL	758+17.83	0°	64.79		527		2	1005	SEE JOB SPECIAL PROVISIONS FOR DETAILS
I-49 NBL	760+00.63	27° L.A.	64.26	584		2		859	SEE JOB SPECIAL PROVISIONS FOR DETAILS
			TOTALS	584	527	2	2	1864	
			USE	584	527	2	2	1864	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 7 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
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.

MEDIAN OUTLET PIPES

ROUTE	STATION	SKEW	FILL HEIGHT (FT)	GROUP A PIPE (FT) 15″	18″	24″	GROUP B PIPE (FT) 15″	24″	GROUP B F.E.S. (EA) 15″	24″	GROUP A F.E.S. (EA) 15″	18″	TYPE B PIPE COLLAR (EA)	ROCK LINING (CU YD)	CLASS 3 EXCAVATION (CU YD)	CLASS 3 EXCAVATION IN ROCK (CU YD)	REMARKS
I-49	795+00.00	0°	3.6	35			110		1				1	2	10		MEDIAN DRAIN OUTLET
I-49	798+53.65	0°	8.2			30		112		1			1		121	34	MEDIAN DRAIN OUTLET
I-49	818+00.00	0°	6.9	30			113		1				1	2	3		MEDIAN DRAIN OUTLET
I-49	830+63.00	0°	6.1	29			108		1				1	1	15		MEDIAN DRAIN OUTLET
I-49	840+50.00	0°	3.6	35			57		1				1	2	1		MEDIAN DRAIN OUTLET
I-49	844+25.00	0°	7.4	30			182		1				1	2	2		MEDIAN DRAIN OUTLET
I-49	847+50.00	0°	6.9	73							1			2	4		MEDIAN DRAIN OUTLET
I-49	850+75.00	0°	3.9	41			172		1				1	1	132		MEDIAN DRAIN OUTLET
I-49	877+75.00	0°	5.2	34			75		1				1	2	83		MEDIAN DRAIN OUTLET
I-49	884+00.00	0°	6.0	81							1			2			MEDIAN DRAIN OUTLET
I-49	893+00.00	0°	6.8	100							1			2	19		MEDIAN DRAIN OUTLET
I-49	896+00.00	0°	4.6	44			117		1				1	2	1		MEDIAN DRAIN OUTLET
I-49	899+00.00	0°	5.8	33			166		1				1	2	19		MEDIAN DRAIN OUTLET
I-49	902+00.00	0°	5.6	78							1				7	61	MEDIAN DRAIN OUTLET
I-49	906+00.00	0°	7.7	87							1					92	MEDIAN DRAIN OUTLET
I-49	914+00.00	0°	3.6	65							1					45	MEDIAN DRAIN OUTLET
I-49	918+00.00	0°	3.6	65							1					45	MEDIAN DRAIN OUTLET
I-49	922+00.00	0°	3.7	66							1					46	MEDIAN DRAIN OUTLET
I-49	929+41.92	0°	5.5		68							1				67	MEDIAN DRAIN OUTLET
I-49	934+25.00	0°	4.4	34			126		1				1		22	27	MEDIAN DRAIN OUTLET
I-49	938+00.00	0°	4.4	34			133		1				1	2	3		MEDIAN DRAIN OUTLET
I-49	978+00.00	0°	8.6	88							1			2	83	34	MEDIAN DRAIN OUTLET
I-49	986+00.00	0°	10.7	55			176		1				1	2	8		MEDIAN DRAIN OUTLET
			TOTALS	1137	68	30	1535	112	12	1	9	1	13	28	533	451	
			USE	1137	68	30	1535	112	12	1	9	1	13	28	533	451	

GROUP B PIPE (CROSSROAD PIPES)

ROUTE	STATION	SKEW	FILL HEIGHT (FT)	LENGTH (FT) 18″	18″ GROUP B FLARED END SEC. (EA)	ROCK LINING (CU YD)	CLASS 3 EXCAVATION (CU YD)	REMARKS
RTE. 90	56+50.00	0°	3.0	48	2	2	35	
RTE. 90	60+29.00	6° R.A	2.2	41	2	2	25	
			TOTALS	89	4	4	60	
			USE	89	4	4	60	

GROUP C PIPE (CROSSROAD PIPES)

LOCATION	STATION	SKEW	FILL HEIGHT (FT)	LENGTH (FT) 15″	18″	24″	GROUP C FLARED END SECTION (EA) 15″	18″	24″	ROCK LINING (CU YD)	CLASS 3 EXCAVATION (CU YD)	REMARKS
SUMNER CO. RD.	710+64.87	21° R.A.	2.3		77			2		2	29	
GARDNER RD.	0+90.30	5° R.A.	17.5	155			2			2		
HELL CREEK ENTRANCE	7+98.56	0°	1.5			40			4	8	0	DBL 24″x 20′
			TOTALS	155	77	40	2	2	4	12	29	
			USE	155	77	40	2	2	4	12	29	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 8 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
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.

PRECAST CONCRETE DROP INLETS

STATION	LOCATION	TYPE	PIPE OPENING (IN)	PRECAST CONC. DROP INLET 2′ X 2′ "D" (FT)	PRECAST CONC. DROP INLET 2′ X 2′ PAY "D"	PRECAST CONC. DROP INLET 4′ X 2′ "D" (FT)	PRECAST CONC. DROP INLET 4′ X 2′ PAY "D"	PRECAST CONC. DROP INLET 5′ X 3′ "D" (FT)	PRECAST CONC. DROP INLET 5′ X 3′ PAY "D"	CURVED VANE GRATE AND FRAME 2′ X 2′ (EA)	CURVED VANE GRATE AND FRAME 4′ X 2′ (EA)	GRATE AND BEARING PLATE 5′ X 3′ (EA)	CLASS 3 EXCAVATION (CU YD)	CLASS 3 EXCAVATION IN ROCK (CU YD)	REMARKS
736+20.26	I-49 NBL, 52.82′ LT	S-1	15					3.0	3			1			DRAIN BEHIND MSE WALL
736+61.90	I-49 NBL, 23.50′ RT	S-1	15					3.0	3			1			DRAIN BEHIND MSE WALL
795+00.00	I-49 ℄	B	15			4.5	5				1				MEDIAN RELIEF
797+33.00	I-49 ℄	B	15			4.5	5				1				MEDIAN RELIEF
798+53.65	I-49 ℄	B	15,24,24			6.0	6				1		11		MEDIAN RELIEF
799+74.00	I-49 ℄	B	24,24			5.0	5				1		6	3	MEDIAN RELIEF
802+00.00	I-49 ℄	B	18,24			5.0	5				1			9	MEDIAN RELIEF
806+00.00	I-49 ℄	B	15,18			4.5	5				1			9	MEDIAN RELIEF
810+00.00	I-49 ℄	B	15,15			4.5	5				1			9	MEDIAN RELIEF
814+00.00	I-49 ℄	B	15			4.5	5				1			9	MEDIAN RELIEF
818+00.00	I-49 ℄	B	15			4.5	5				1				MEDIAN RELIEF
830+63.00	I-49 ℄	B	15,15			5.5	6				1				MEDIAN RELIEF
830+78.00	I-49 ℄	B	15,15			4.5	5				1				MEDIAN RELIEF
831+10.00	I-49 ℄	B	15,15			4.5	5				1				MEDIAN RELIEF
831+50.00	I-49 ℄	B	15,15			4.5	5				1				MEDIAN RELIEF
833+00.00	I-49 ℄	B	15,15			4.5	5				1		3		MEDIAN RELIEF
835+50.00	I-49 ℄	B	15			4.5	5				1		4		MEDIAN RELIEF
840+50.00	I-49 ℄	B	15			4.5	5				1				MEDIAN RELIEF
844+25.00	I-49 ℄	B	15			4.5	5				1				MEDIAN RELIEF
847+50.00	I-49 ℄	B	15			4.5	5				1				MEDIAN RELIEF
850+75.00	I-49 ℄	B	15			4.5	5				1		9		MEDIAN RELIEF
877+75.00	I-49 ℄	B	15,15	5.5	6					1			8		MEDIAN RELIEF
879+25.00	I-49 ℄	B	15	4.0	4					1			7		MEDIAN RELIEF
880+50.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
882+00.00	I-49 ℄	B	15,15	5.0	5					1					MEDIAN RELIEF
883+00.00	I-49 ℄	B	15,15	5.5	6					1					MEDIAN RELIEF
884+00.00	I-49 ℄	B	15,15	6.0	6					1					MEDIAN RELIEF
885+75.00	I-49 ℄	B	15	4.5	5					1					MEDIAN RELIEF
887+25.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
889+25.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
891+25.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
893+00.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
894+50.00	I-49 ℄	B	15	4.5	5					1			7		MEDIAN RELIEF
896+00.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
897+50.00	I-49 ℄	B	15	4.5	5					1					MEDIAN RELIEF
899+00.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
900+50.00	I-49 ℄	B	15	4.5	5					1					MEDIAN RELIEF
902+00.00	I-49 ℄	B	15,15	4.5	5					1			5	2	MEDIAN RELIEF
904+00.00	I-49 ℄	B	15	4.5	5					1				7	MEDIAN RELIEF
906+00.00	I-49 ℄	B	15,15	4.5	5					1				7	MEDIAN RELIEF
908+00.00	I-49 ℄	B	15	4.5	5					1					MEDIAN RELIEF
910+00.00	I-49 ℄	B	15,15	4.5	5					1					MEDIAN RELIEF
912+00.00	I-49 ℄	B	15,15	4.5	5					1			7		MEDIAN RELIEF
914+00.00	I-49 ℄	B	15,15	4.5	5					1				7	MEDIAN RELIEF
916+00.00	I-49 ℄	B	15	4.5	5					1				7	MEDIAN RELIEF
918+00.00	I-49 ℄	B	15,15	4.5	5					1				7	MEDIAN RELIEF
920+00.00	I-49 ℄	B	15	4.5	5					1				7	MEDIAN RELIEF
922+00.00	I-49 ℄	B	15,15	4.5	5					1				7	MEDIAN RELIEF
925+00.00	I-49 ℄	B	15	4.5	5					1				7	MEDIAN RELIEF
926+25.00	I-49 ℄	B	15,15	4.5	5					1				7	MEDIAN RELIEF
927+50.00	I-49 ℄	B	15,15	4.5	5					1				7	MEDIAN RELIEF
928+50.00	I-49 ℄	B	15,15	5.0	5					1				7	MEDIAN RELIEF
929+00.00	I-49 ℄	B	15,15	6.0	6					1				8	MEDIAN RELIEF
929+41.92	I-49 ℄	B	15,15,18	6.5	7					1				9	MEDIAN RELIEF
929+87.00	I-49 ℄	B	15,15	6.0	6					1				8	MEDIAN RELIEF
930+75.00	I-49 ℄	B	15,15	5.0	5					1				7	MEDIAN RELIEF
931+75.00	I-49 ℄	B	15	4.5	5					1				7	MEDIAN RELIEF
934+25.00	I-49 ℄	B	15	4.5	5					1					MEDIAN RELIEF
936+00.00	I-49 ℄	B	15	4.5	5					1					MEDIAN RELIEF
938+00.00	I-49 ℄	B	15	4.5	5					1					MEDIAN RELIEF
940+50.00	I-49 ℄	B	15	4.5	5					1				7	MEDIAN RELIEF
978+00.00	I-49 ℄	S-2	15					6.0	6			1	1	7	MEDIAN RELIEF
986+00.00	I-49 ℄	S-2	15					6.0	6			1			MEDIAN RELIEF
				TOTALS	206		97		18	40	19	4	68	171	
				USE	206		97		18	40	19	4	68	171	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 9 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/13/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 3
COUNTY: McDONALD
JOB NO.: J7P0601
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.

GROUP B PIPE (MEDIAN DRAINS)

LOCATION	STATION	TO	STATION	GROUP B PIPE (FT) 15″	18″	24″	CLASS 3 EXCAVATION (CU YD)	CLASS 3 EXCAVATION IN ROCK (CU YD)	REMARKS
I-49 NBL, 52.82 LT	736+20.26			17					DROP INLET DRAIN
I-49 NBL, 23.50' RT	736+61.90			13					DROP INLET DRAIN
I-49 ℄	797+33.00	–	798+53.65	119			20		MEDIAN DRAIN
I-49 ℄	798+53.65	–	799+74.00			119	113	28	MEDIAN DRAIN
I-49 ℄	799+74.00	–	802+00.00			224	12	235	MEDIAN DRAIN
I-49 ℄	802+00.00	–	806+00.00		399			402	MEDIAN DRAIN
I-49 ℄	806+00.00	–	810+00.00	399				380	MEDIAN DRAIN
I-49 ℄	810+00.00	–	814+00.00	399				380	MEDIAN DRAIN
I-49 ℄	830+63.00	–	830+78.00	13					MEDIAN DRAIN
I-49 ℄	830+78.00	–	831+10.00	30					MEDIAN DRAIN
I-49 ℄	831+10.00	–	831+50.00	38					MEDIAN DRAIN
I-49 ℄	831+50.00	–	833+00.00	149			5		MEDIAN DRAIN
I-49 ℄	833+00.00	–	835+50.00	249			69		MEDIAN DRAIN
I-49 ℄	877+45.00	–	877+75.00	29			18		MEDIAN DRAIN
I-49 ℄	879+25.00	–	880+50.00	123			27		MEDIAN DRAIN
I-49 ℄	880+50.00	–	882+00.00	148					MEDIAN DRAIN
I-49 ℄	882+00.00	–	883+00.00	98					MEDIAN DRAIN
I-49 ℄	883+00.00	–	884+00.00	98					MEDIAN DRAIN
I-49 ℄	885+75.00	–	887+25.00	149					MEDIAN DRAIN
I-49 ℄	887+25.00	–	889+25.00	199					MEDIAN DRAIN
I-49 ℄	889+25.00	–	891+25.00	199					MEDIAN DRAIN
I-49 ℄	891+25.00	–	893+00.00	174					MEDIAN DRAIN
I-49 ℄	894+50.00	–	896+00.00	148			259		MEDIAN DRAIN
I-49 ℄	897+50.00	–	899+00.00	148					MEDIAN DRAIN
I-49 ℄	900+50.00	–	902+00.00	148			24		MEDIAN DRAIN
I-49 ℄	904+00.00	–	906+00.00	198				186	MEDIAN DRAIN
I-49 ℄	908+00.00	–	910+00.00	198					MEDIAN DRAIN
I-49 ℄	910+00.00	–	912+00.00	198			37		MEDIAN DRAIN
I-49 ℄	912+00.00	–	914+00.00	198			19	167	MEDIAN DRAIN
I-49 ℄	916+00.00	–	918+00.00	198				186	MEDIAN DRAIN
I-49 ℄	920+00.00	–	922+00.00	198				186	MEDIAN DRAIN
I-49 ℄	925+00.00	–	926+25.00	123				119	MEDIAN DRAIN
I-49 ℄	926+25.00	–	927+50.00	123				119	MEDIAN DRAIN
I-49 ℄	927+50.00	–	928+50.00	98				95	MEDIAN DRAIN
I-49 ℄	928+50.00	–	929+00.00	48				46	MEDIAN DRAIN
I-49 ℄	929+00.00	–	929+41.92	40				39	MEDIAN DRAIN
I-49 ℄	929+41.92	–	929+87.00	43				42	MEDIAN DRAIN
I-49 ℄	929+87.00	–	930+75.00	86				83	MEDIAN DRAIN
I-49 ℄	930+75.00	–	931+75.00	98				95	MEDIAN DRAIN
I-49 ℄	934+25.00	–	936+00.00	173					MEDIAN DRAIN
I-49 ℄	938+00.00	–	940+50.00	248			23	92	MEDIAN DRAIN
			TOTALS	5355	399	343	626	2880	
			USE	5355	399	343	626	2880	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 10 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
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.

TEMPORARY EROSION CONTROL (1)

STATION	TO	STATION	ROADWAY	LOCATION	SILT FENCE (FT)	NUMBER OF CHECKS	ROCK DITCH CHECK (FT)	INLET CHECK (FT)	SEDIMENT TRAP EXC. (CU YD)	SEDIMENT TRAP ROCK (CU YD)	TYPE "B" TEMP. BERM (FT)	SLOPE DRAIN (FT)	SEDIMENT BASIN EXC. (CU YD)	SEDIMENT BASIN ROCK (CU YD)	SEDIMENT REMOVAL (CU YD)	REMARKS
INITIAL STAGE																
729+20	–	732+50	I-49 NBL	RT.	334										3.3	
732+75	–		I-49 NBL	RT.		1	14								1.0	
750+58	–		I-49 SBL	RT.					5.0	5.0					10.0	
755+52	–		I-49 SBL	RT.					13.0	13.0					10.0	
750+00	–	750+56	I-49 SBL	RT.	96										1.0	
754+17	–	755+35	I-49 SBL	RT.	238										2.4	
764+93.73	–	767+80	I-49	RT.	344										3.4	
768+94	–	772+00	I-49	RT.	344										3.4	
764+93.73	–	767+06	I-49	LT.	269										2.7	
771+88	–	773+00	I-49	LT.	201										2.0	
783+49	–	784+00	I-49	LT.	63										0.6	
768+17	–		I-49	RT.					37.0	37.0					10.0	
778+62	–		I-49	RT.					8.0	8.0					10.0	
784+18	–		I-49	RT.					12.0	12.0					10.0	
791+94	–		I-49	RT.					43.0	43.0					10.0	
805+20	–		I-49	RT.					6.0	6.0					10.0	
809+90	–		I-49	RT.					2.0	2.0					10.0	
812+37	–		I-49	RT.					4.0	4.0					10.0	
818+35	–		I-49	RT.					18.0	18.0					10.0	
817+00	–	818+00	I-49	RT.	100										1.0	
832+28	–		I-49	RT.					13.0	13.0					10.0	
842+56	–		I-49	RT.					31.0	31.0					10.0	
829+90	–	830+57	I-49	LT.	104										1.0	
838+80	–	843+00	I-49	RT.	481										4.8	
840+45	–	842+20	I-49	LT.	205										2.1	
858+74	–		I-49	RT.					25.0	25.0					10.0	
2003+24	–	2004+39	RAMP 2	RT.	247										2.5	
889+15	–		I-49	RT.					31.0	31.0					10.0	
900+65	–		I-49	RT.					15.0	15.0					10.0	
889+89	–	894+28	I-49	RT.	560										5.6	
899+82	–	901+00	I-49	LT.	133										1.3	
900+65	–	902+08	I-49	RT.	269										2.7	
909+80	–		I-49	RT.					37.0	37.0					10.0	
920+37	–		I-49	RT.					10.0	10.0					10.0	
928+84	–		I-49	RT.					15.0	15.0					10.0	
935+90	–		I-49	RT.					38.0	38.0					10.0	
958+30	–		I-49	RT.					15.0	15.0					10.0	
958+36	–	958+77	I-49	RT.	94										0.9	
965+81	–		I-49	RT.					18.0	18.0					10.0	
970+65	–		I-49	RT.					7.0	7.0					10.0	
965+78	–	966+59	I-49	RT.	188										1.9	
986+53	–		I-49	RT.					42.0	42.0					10.0	
8+00	–		HELL CREEK ENT.	RT.					22.0	22.0					10.0	
7+35	–	7+87	HELL CREEK ENT.	LT.	52										0.5	
7+35	–	7+93	HELL CREEK ENT.	RT.	62										0.6	
8+08	–	8+65	HELL CREEK ENT.	LT.	57										0.6	
8+09	–	8+65	HELL CREEK ENT.	RT.	60										0.6	
TEMPORARY STAGE																
722+92	–	731+00	I-49 SBL	RT.	842										8.4	
731+00	–	742+05	I-49 SBL	RT.	1181										11.8	
724+05	–	742+01	I-49 SBL	RT.							1796					
724+75	–		I-49 SBL	RT.								145				
729+00	–		I-49 SBL	RT.								315				
734+00	–		I-49 SBL	RT.								365				
732+96	–	734+20	I-49 NBL	RT.		5	70								5.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
734+00	–		I-49 NBL	LT.		1	14								1.0	
734+27	–	735+02	I-49 NBL	LT.		5	70								5.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
728+50	–		I-49 SBL	LT.		1	14								1.0	
730+75	–		I-49 SBL	LT.		1	14								1.0	
731+00	–		I-49 SBL	LT.		1	14								1.0	
731+25	–		I-49 SBL	LT.		1	14								1.0	
732+13	–	735+93	I-49 SBL	LT.		21	294								21.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
736+18	–	736+96	I-49 SBL	LT.		4	56								4.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
			SUBTOTALS		6524		574	0	467	467	1796	825	0	0	346	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 11 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
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.

TEMPORARY EROSION CONTROL (2)

STATION	TO	STATION	ROADWAY	LOCATION	SILT FENCE (FT)	NUMBER OF CHECKS	ROCK DITCH CHECK (FT)	INLET CHECK (FT)	SEDIMENT TRAP EXC. (CU YD)	SEDIMENT TRAP ROCK (CU YD)	TYPE "B" TEMP. BERM (FT)	SLOPE DRAIN (FT)	SEDIMENT BASIN EXC. (CU YD)	SEDIMENT BASIN ROCK (CU YD)	SEDIMENT REMOVAL (CU YD)	REMARKS
735+71	–		I-49 SBL	RT.		1	14								1.0	
755+35	–	759+00	I-49 SBL	RT.	422										4.2	
750+10	–	752+35	I-49 SBL	RT.							225					
754+75	–	759+00	I-49 SBL	RT.							425					
739+00	–		I-49 SBL	RT.								345				
750+10	–		I-49 SBL	RT.								40				
755+05	–		I-49 SBL	RT.								280				
737+40	–		I-49 SBL	RT.		1	14								1.0	
738+42	–	742+38	I-49 SBL	RT.		36	504								36.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
742+87	–	749+75	I-49 SBL	RT.		17	238								17.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
750+94	–	751+96	I-49 SBL	RT.		10	140								10.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
752+06	–		I-49 SBL	RT.		1	14								1.0	
752+22	–		I-49 SBL	RT.		1	14								1.0	
752+45	–	753+83	I-49 SBL	RT.		7	98								7.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
755+86	–	759+05	I-49 SBL	RT.		29	406								29.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
759+24	–	760+00	I-49 SBL	RT.		5	70								5.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
761+50	–		I-49 SBL	RT.		1	14								1.0	
737+31	–		I-49 SBL	LT.		1	14								1.0	
737+67	–		I-49 SBL	LT.		1	14								1.0	
738+16	–	740+03	I-49 SBL	LT.		17	238								17.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
740+50	–	741+50	I-49 SBL	LT.									333.0	333.0	10.0	
741+64	–	744+87	I-49 SBL	LT.		20	280								20.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
745+03	–	745+96	I-49 SBL	LT.									333.0	333.0	10.0	
746+63	–	752+03	I-49 SBL	LT.		34	476								34.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
752+45	–	753+72	I-49 SBL	LT.		4	56								4.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
739+00	–	741+35	I-49 NBL	RT.		28	392								28.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
750+30	–	750+91	I-49 NBL	RT.		8	112								8.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
751+63	–	753+88	I-49 NBL	RT.		4	56								4.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
738+48	–		I-49 NBL	LT.		1	14								1.0	
739+00	–	739+96	I-49 NBL	LT.		6	84								6.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
742+00	–		I-49 NBL	LT.		1	14								1.0	
743+05	–	744+91	I-49 NBL	LT.		19	266								19.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
745+12	–		I-49 NBL	LT.		1	14								1.0	
745+33	–	748+14	I-49 NBL	LT.		35	490								35.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
748+25	–	749+00	I-49 NBL	LT.									229.0	229.0	10.0	
749+08	–	754+75	I-49 NBL	LT.		7	98								7.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
756+75	–		I-49 NBL	LT.		1	14								1.0	
757+50	–	758+08	I-49 NBL	LT.		7	98								7.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
758+29	–	758+92	I-49 NBL	LT.		9	126								9.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
759+67	–		I-49 NBL	LT.		1	14								1.0	
760+10	–	760+94	I-49 NBL	LT.		10	140								10.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
761+11	–	764+14	I-49 NBL	LT.		29	406								29.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
764+26	–		I-49 NBL	LT.		1	14								1.0	
739+50	–	750+00	I-49 NBL	RT.							1050					
756+00	–	763+75	I-49 NBL	LT.							775					
741+10	–		I-49 NBL	RT.								230				
746+10	–		I-49 NBL	RT.								210				
756+00	–		I-49 NBL	LT.								134				
758+75	–		I-49 NBL	LT.								148				
738+92	–	748+00	I-49 NBL	LT.	1067										10.7	
739+62	–	742+57	I-49 NBL	LT.	310										3.1	
748+00	–	755+00	I-49 NBL	LT.	711										7.1	
756+00	–	763+75	I-49 NBL	LT.	852										8.5	
767+06	–	771+88	I-49	LT.	494										4.9	
767+80	–	768+94	I-49	RT.	119										1.2	
773+25	–	778+50	I-49	RT.	525										5.3	
774+50	–	779+40	I-49	LT.	490										4.9	
780+00	–	783+10	I-49	LT.	334										3.3	
782+00	–	783+49	I-49	LT.	171										1.7	
784+00	–	792+50	I-49	LT.	719										7.2	
778+50	–	779+50	I-49	RT.	100										1.0	
781+60	–	785+85	I-49	RT.	518										5.2	
786+50	–	791+75	I-49	RT.	557										5.6	
790+25	–	797+75	I-49	RT.	799										8.0	
764+93.73	–	772+50	I-49	RT.							756					
			SUBTOTALS		8188		4956	0	0	0	3231	1387	895	895	466	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 12 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	3

COUNTY
McDONALD

JOB NO.
J7P0601

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.

TEMPORARY EROSION CONTROL (3)

STATION	TO	STATION	ROADWAY	LOCATION	SILT FENCE (FT)	NUMBER OF CHECKS	ROCK DITCH CHECK (FT)	INLET CHECK (FT)	SEDIMENT TRAP EXC. (CU YD)	SEDIMENT TRAP ROCK (CU YD)	TYPE "B" TEMP. BERM (FT)	SLOPE DRAIN (FT)	SEDIMENT BASIN EXC. (CU YD)	SEDIMENT BASIN ROCK (CU YD)	SEDIMENT REMOVAL (CU YD)	REMARKS
764+93.73	–	772+50	I-49	LT.							756					
767+00	–		I-49	RT.								200				
767+00	–		I-49	LT.								240				
772+00	–		I-49	RT.								65				
772+00	–		I-49	LT.								90				
781+50	–	786+00	I-49	RT.							450					
782+00	–	784+10	I-49	LT.							210					
784+00	–		I-49	LT.								35				
785+90	–		I-49	RT.								55				
790+00	–	798+00	I-49	RT.							800					
763+00	–		I-49	RT.		1	14								1.0	
767+88	–	771+26	I-49	LT.		9	126								9.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
774+25	–	783+21	I-49	LT.		23	322								23.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
774+25	–	784+00	I-49	RT.		31	434								31.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
784+27	–	792+20	I-49	RT.		52	728								52.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
784+50	–	793+89	I-49	LT.		32	448								32.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
791+32	–	799+73	I-49	LT.	869										8.7	
816+25	–	820+50	I-49	LT.	497										5.0	
818+00	–	820+88	I-49	RT.	418										4.2	
793+38	–		I-49	RT.								200				
797+90	–		I-49	RT.								60				
817+00	–	820+80	I-49	RT.							380					
817+00	–		I-49	RT.								60				
795+00	–		I-49	C/L		1		36							1.0	
797+33	–		I-49	C/L		1		36							1.0	
798+53.65	–		I-49	C/L		1		36							1.0	
799+74	–		I-49	C/L		1		36							1.0	
802+00	–		I-49	C/L		1		36							1.0	
806+00	–		I-49	C/L		1		36							1.0	
810+00	–		I-49	C/L		1		36							1.0	
814+00	–		I-49	C/L		1		36							1.0	
818+00	–		I-49	C/L		1		36							1.0	
794+85	–	796+09	I-49	RT.									489.0	489.0	10.0	
797+03	–	797+91	I-49	LT.									370.0	370.0	10.0	
793+50	–		I-49	RT.		1	14								1.0	
794+50	–		I-49	RT.		1	14								1.0	
796+24	–	798+00	I-49	RT.		18	252								18.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
798+75	–	803+08	I-49	RT.		5	70								5.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
803+84	–	805+37	I-49	RT.		4	56								4.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
805+88	–	816+81	I-49	RT.		26	364								26.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
818+37	–	820+88	I-49	RT.		26	364								26.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
793+13	–		I-49	LT.		1	14								1.0	
794+02	–	794+81	I-49	LT.		5	70								5.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
795+24	–	796+69	I-49	LT.		7	98								7.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
797+96	–	799+66	I-49	LT.		20	280								20.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
800+88	–	805+25	I-49	LT.		6	84								6.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
805+84	–	815+58	I-49	LT.		24	336								24.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
816+58	–		I-49	LT.		1	14								1.0	
817+33	–	818+16	I-49	LT.		11	154								11.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
818+39	–		I-49	LT.		1	14								1.0	
818+66	–	819+88	I-49	LT.		14	196								14.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
830+00	–	835+66	I-49	RT.	697										7.0	
843+00	–	847+69	I-49	RT.	527										5.3	
830+57	–	832+51	I-49	LT.	228										2.3	
832+51	–	835+33	I-49	LT.	278										2.8	
835+43	–	839+61	I-49	LT.	409										4.1	
842+20	–	849+00	I-49	LT.	695										7.0	
832+76	–	833+78	I-49	LT.									333.0	333.0	10.0	
845+58	–	846+64	I-49	LT.									278.0	278.0	10.0	
821+31	–	828+39	I-49	RT.		16	224								16.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
828+90	–		I-49	RT.		1	14								1.0	
829+31	–		I-49	RT.		1	14								1.0	
829+83	–	832+35	I-49	RT.		27	378								27.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
833+00	–	838+16	I-49	RT.		38	532								38.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
842+95	–	846+89	I-49	RT.		37	518								37.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
			SUBTOTALS		4618		6146	324	0	0	2596	1005	1470	1470	534	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 13 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	3

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

DESCRIPTION | DATE | REV.

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

TEMPORARY EROSION CONTROL (4)

STATION	TO	STATION	ROADWAY	LOCATION	SILT FENCE (FT)	NUMBER OF CHECKS	ROCK DITCH CHECK (FT)	INLET CHECK (FT)	SEDIMENT TRAP EXC. (CU YD)	SEDIMENT TRAP ROCK (CU YD)	TYPE "B" TEMP. BERM (FT)	SLOPE DRAIN (FT)	SEDIMENT BASIN EXC. (CU YD)	SEDIMENT BASIN ROCK (CU YD)	SEDIMENT REMOVAL (CU YD)	REMARKS
819+97	–	822+65	I-49	LT.		11	154								11.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
823+25	–	829+25	I-49	LT.		14	196								14.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
830+75	–	832+40	I-49	LT.		18	252								18.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
833+87	–	839+38	I-49	LT.		10	140								10.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
840+50	–		I-49	LT.		1	14								1.0	MEDIAN OUTLET, PLACE ON SLOPE
841+93	–	842+90	I-49	LT.		10	140								10.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
843+75	–	845+14	I-49	LT.		13	182								13.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
830+63	–		I-49	C/L		1		36							1.0	
830+78	–		I-49	C/L		1		36							1.0	
831+10	–		I-49	C/L		1		36							1.0	
831+50	–		I-49	C/L		1		36							1.0	
833+00	–		I-49	C/L		1		36							1.0	
835+50	–		I-49	C/L		1		36							1.0	
840+50	–		I-49	C/L		1		36							1.0	
844+25	–		I-49	C/L		1		36							1.0	
829+60	–	832+51	I-49	LT.							291					
829+60	–		I-49	LT.								45				
839+90	–	857+39.42	I-49	LT.							1749					
839+90	–		I-49	LT.								45				
843+41	–		I-49	LT.								135				
848+41	–		I-49	LT.								245				
853+41	–		I-49	LT.								65				
848+50	–	849+24	I-49	RT.									188.0	188.0	10.0	
853+49	–	854+79	I-49	LT.									289.0	289.0	10.0	
867+10	–	867+80	I-49	RT.									222.0	222.0	10.0	
1007+24	–	1008+45	RAMP 1	LT.									267.0	267.0	10.0	
1009+68	–	1010+68	RAMP 1	LT.									222.0	222.0	10.0	
2008+06	–	2009+06	RAMP 2	RT.									370.0	370.0	10.0	
2012+24	–	2013+24	RAMP 2	RT.									370.0	370.0	10.0	
847+50	–		I-49	C/L		1		36							1.0	
850+75	–		I-49	C/L		1		36							1.0	
1000+00	–	1009+59	RAMP 1	LT.							959					
1001+00	–		RAMP 1	LT.								65				
1006+00	–		RAMP 1	LT.								75				
2003+07	–	2016+50	RAMP 2	RT.							1343					
2003+24	–		RAMP 2	RT.								45				
2008+00	–		RAMP 2	RT.								115				
2013+00	–		RAMP 2	RT.								125				
849+00	–	856+00	I-49	RT.	702										7.0	
849+00	–	857+39.42	I-49	LT.	874										8.7	
853+42	–	857+39.42	I-49	LT.	397										4.0	
1000+00	–	1014+79	RAMP 1	LT.	1472										14.7	
1000+00	–	1009+59	RAMP 1	RT.	955										9.6	
2004+39	–	2015+93	RAMP 2	RT.	1186										11.9	
846+89	–	847+86	I-49	RT.		8	112								8.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
849+80	–	856+76	I-49	RT.		5	70								5.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
847+00	–	853+00	I-49	LT.		43	602								43.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
855+00	–		I-49	LT.		1	14								1.0	
857+63	–		I-49	LT.		1	14								1.0	
862+50	–	871+81	I-49	RT.		20	280								20.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
875+00	–		I-49	RT.		1	14								1.0	
864+50	–	871+25	I-49	LT.		12	168								12.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
873+75	–	876+60	I-49	LT.		11	154								11.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
1003+31	–		RAMP 1	LT.		1	14								1.0	
1005+20	–		RAMP 1	LT.		1	14								1.0	
1008+71	–	1009+47	RAMP 1	LT.		8	112								8.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
1011+04	–	1015+00	RAMP 1	LT.		8	112								8.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
1009+75	–	1015+00	RAMP 1	RT.		16	224								16.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
2004+49	–	2007+93	RAMP 2	RT.		28	392								28.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
2009+10	–	2012+10	RAMP 2	RT.		6	84								6.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
2013+47	–	2018+00	RAMP 2	RT.		21	294								21.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
2014+97	–	2017+75	RAMP 2	LT.		21	294								21.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
3000+50	–	3004+10	RAMP 3	LT.		25	350								25.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
4000+00	–	4002+89	RAMP 4	LT.		10	140								10.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
4000+50	–	4003+92	RAMP 4	RT.		34	476								34.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
			SUBTOTALS		5586		5012	360	0	0	4342	960	1928	1928	494	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 14 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	3

COUNTY
McDONALD

JOB NO.
J7P0601

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.

TEMPORARY EROSION CONTROL (5)

STATION	TO	STATION	ROADWAY	LOCATION	SILT FENCE (FT)	NUMBER OF CHECKS	ROCK DITCH CHECK (FT)	INLET CHECK (FT)	SEDIMENT TRAP EXC. (CU YD)	SEDIMENT TRAP ROCK (CU YD)	TYPE "B" TEMP. BERM (FT)	SLOPE DRAIN (FT)	SEDIMENT BASIN EXC. (CU YD)	SEDIMENT BASIN ROCK (CU YD)	SEDIMENT REMOVAL (CU YD)	REMARKS
3000+59	–	3002+11.42	RAMP 3	LT.	2203										22.0	
3000+00	–	3022+11.42	RAMP 3	LT.							2211					
3006+02	–		RAMP 3	LT.								190				
3010+98	–		RAMP 3	LT.								245				
3016+00	–		RAMP 3	LT.								85				
893+97	–		I-49	LT.								65				
4001+00	–	4018+77.22	RAMP 4	RT.							1777					
4006+00	–		RAMP 4	RT.								255				
4011+00	–		RAMP 4	RT.								215				
888+75	–		I-49	RT.								390				
891+53.33	–	894+17	I-49	RT.							264					
894+17	–		I-49	RT.								60				
4001+15.00	–	4014+92	RAMP 4	RT.	1479										14.8	
896+47	–	900+65	I-49	RT.	486										4.9	
894+94.87	–	899+82	I-49	LT.	492										4.9	
4004+41	–	4012+95	RAMP 4	RT.	859										8.6	
887+92	–	889+89	I-49	RT.	193										1.9	
901+00	–	911+37	I-49	LT.	1142										11.4	
901+35	–	907+86	I-49	LT.	681										6.8	
877+75	–	902+00	I-49	C/L		17		612							17.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
3004+40	–	3017+47	RAMP 3	LT.		75	1050								75.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
3010+09	–	3011+09	RAMP 3	LT.									317.0	317.0	10.0	
4003+19	–	4007+09	RAMP 4	LT.		14	196								14.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
4004+15	–	4014+93	RAMP 4	RT.		37	518								37.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
877+25	–	878+16	I-49	LT.									380.0	380.0	10.0	
878+43	–	879+43	I-49	RT.									296.0	296.0	10.0	
888+12	–	889+46	I-49	RT.									889.0	889.0	10.0	
878+00	–	881+85	I-49	RT.		3	42								3.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
880+00	–	886+00	I-49	LT.		3	42								3.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
891+00	–	902+68	I-49	LT.		44	616								44.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
894+79	–	900+50	I-49	RT.		43	602								43.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
895+95	–	899+07	I-49	LT.	314										3.1	
894+94.87	–	901+00	I-49	L.T.							605					
897+95	–		I-49	LT.								120				
901+00	–		I-49	LT.								60				
903+00	–	907+29	I-49	RT.	467										4.7	
906+05	–	912+71	I-49	RT.	806										8.1	
902+45	–	909+85	I-49	RT.		55	770								55.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
910+11	–	928+32	I-49	RT.		60	840								60.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
904+19	–	929+79	I-49	LT.		93	1302								93.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
904+00	–	930+75	I-49	C/L		18		648							18.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
906+00	–	911+33	I-49	LT.							533					
911+00	–		I-49	LT.								100				
931+75	–	940+50	I-49	C/L		5		180							5.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
933+14	–	941+82	I-49	RT.	957										9.6	
956+06	–	958+36	I-49	RT.	262										2.6	
933+29	–	940+47	I-49	LT.	754										7.5	
938+36	–	940+27	I-49	LT.	212										2.1	
936+34	–	937+42	I-49	RT.									489.0	489.0	10.0	
933+00	–	940+50	I-49	LT.							750					
933+00	–		I-49	LT.								65				
935+80	–		I-49	LT.								160				
956+00	–	959+00.00	I-49	RT.							300					
956+00	–		I-49	RT.								45				
931+30	–	935+04	I-49	RT.		23	322								23.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
936+19	–		I-49	RT.		1	14								1.0	
938+00	–	958+10	I-49	RT.		86	1204								86.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
932+90	–	935+06	I-49	LT.		20	280								20.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
935+79	–	954+50	I-49	LT.		61	854								61.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
957+98	–	958+41	I-49	LT.		6	84								6.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
958+62	–	963+54	I-49	LT.	528										5.3	
959+35	–	965+16	I-49	RT.	635										6.4	
962+65	–	965+78	I-49	RT.	373										3.7	
961+03	–	966+00	I-49	LT.	545										5.5	
966+00	–	985+42	I-49	LT.	1964										19.6	
			SUBTOTALS		15352		8736	1440	0	0	6440	2055	2371	2371	868	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 15 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/13/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	3

COUNTY
McDONALD

JOB NO.
J7P0601

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.

TEMPORARY EROSION CONTROL (6)

STATION	TO	STATION	ROADWAY	LOCATION	SILT FENCE (FT)	NUMBER OF CHECKS	ROCK DITCH CHECK (FT)	INLET CHECK (FT)	SEDIMENT TRAP EXC. (CU YD)	SEDIMENT TRAP ROCK (CU YD)	TYPE "B" TEMP. BERM (FT)	SLOPE DRAIN (FT)	SEDIMENT BASIN EXC. (CU YD)	SEDIMENT BASIN ROCK (CU YD)	SEDIMENT REMOVAL (CU YD)	REMARKS
966+59	–	976+51	I-49	RT.	998										10.0	
976+51	–	987+32.82	I-49	RT.	1118										11.2	
978+40	–	980+54	I-49	RT.	220										2.2	
983+34	–	987+32.82	I-49	LT.	431										4.3	
961+00	–	966+00	I-49	LT.							500					
966+00	–		I-49	LT.								35				
962+00	–	966+59	I-49	RT.							459					
966+59	–		I-49	RT.								40				
980+00	–	987+32.82	I-49	RT.							733					
985+00	–		I-49	RT.								190				
987+32.82	–		I-49	RT.								165				
983+00	–	987+32.82	I-49	LT.							433					
987+32.82	–		I-49	LT.								155				
984+23	–	985+38	I-49	RT.									511.0	511.0	10.0	
960+80	–	965+38	I-49	RT.		36	504								36.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
966+70	–	979+75	I-49	RT.		17	238								17.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
980+08	–	984+12	I-49	RT.		40	560								40.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
985+75	–		I-49	RT.		1	14								1.0	
960+55	–	963+67	I-49	LT.		28	392								28.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
964+07	–	986+65	I-49	LT.		73	1022								73.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
978+00	–		I-49	C/L		1		36							1.0	MEDIAN INLET
986+00	–		I-49	C/L		1		36							1.0	MEDIAN INLET
56+34.00	–		ROUTE 90	LT & RT		2	20								2.0	
56+64	–		ROUTE 90	LT & RT		2	20								2.0	
60+11	–		ROUTE 90	LT.		1	10								1.0	
60+18	–		ROUTE 90	RT.		1	10								1.0	
60+47	–		ROUTE 90	RT.		1	10								1.0	
700+00	–	710+82.32	SUMNER CO. RD.	RT.	1037										10.4	
700+00	–	710+82.32	SUMNER CO. RD.	LT.	1079										10.8	
700+00	–	710+82.32	SUMNER CO. RD.	LT & RT		22	308								22.0	SEE EROSION CONTROL SHEETS FOR LOCATIONS
			SUBTOTALS – 6		4883		3108	72	0	0	2125	585	511	511	285	
			SUBTOTALS – 5		15352		8736	1440	0	0	6440	2055	2371	2371	868	
			SUBTOTALS – 4		5586		5012	360	0	0	4342	960	1928	1928	494	
			SUBTOTALS – 3		4618		6146	324	0	0	2596	1005	1470	1470	534	
			SUBTOTALS – 2		8188		4956	0	0	0	3231	1387	895	895	466	
			SUBTOTALS – 1		6524		574	0	467	467	1796	825	0	0	346	
			TOTALS		45151		28532	2196	467	467	20530	6817	7175	7175	2993	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 16 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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

PREFORMED PULL BOX

P.B. NO.	ROUTE	STATION	LOCATION (FT)	DRAIN TYPE	CLASS 2 (EA)	CLASS 3 (EA)	REMARKS
1	I-49 NBL	728+00	100 LT	II		1	I-49 NBL AT RTE 71 NBL
2	I-49 NBL	721+50	56 LT	II	1		I-49 NBL AT RTE 71 NBL
3	I-49 NBL	729+10	12 RT	II	1		I-49 NBL AT RTE 71 NBL
4	I-49 NBL	726+25	150 RT	II	1		I-49 NBL AT RTE 71 NBL
5	I-49 SBL	724+00	80 LT	II	1		I-49 SBL AT RTE 71 SBL
6	I-49 NBL	724+00	14 RT	II	1		I-49 SBL AT RTE 71 SBL
7	RTE 90	54+80	101 LT	II		1	RTE 90 NEAR CONTROLLER
8	RTE 90	55+00	17 LT	II	1		RTE 90 NORTH SIDE
9	RAMP 1	1013+50	12 LT	II	1		RAMP 1 AT RTE 90
10	RAMP 1	1010+15	12 LT	II	1		RAMP 1 AT RTE 90
11	RAMP 1	1006+00	12 LT	II	1		RAMP 1 AT RTE 90
12	RAMP 1	1001+90	12 LT	II	1		RAMP 1 AT RTE 90
13	I-49	855+15	53 LT	II	1		RAMP 1 AT RTE 90
14	I-49	855+15	53 RT	II	1		RAMP 2 AT RTE 90
15	RTE 90	55+00	17 RT	II	1		RTE 90 SOUTH SIDE
16	RAMP 3	3001+10	14 LT	II	1		RAMP 3 AT RTE 90
17	RAMP 3	3001+10	22 RT	II	1		RAMP 3 AT RTE 90
18	I-49	874+00	54 LT	II	1		I-49 NBL
19	I-49	874+00	54 RT	II	1		I-49 SBL
20	RAMP 3	3005+50	14 LT	II	1		SEE NOTE ON SHEET 108
21	RAMP 3	3010+00	14 LT	II	1		RAMP 3 AT RTE 90
22	RAMP 3	3014+50	14 LT	II	1		RAMP 3 AT RTE 90
23	I-49	895+00	53 LT	II	1		RAMP 3 AT RTE 90
24	I-49	895+00	53 RT	II	1		RAMP 4 AT RTE 90
				TOTALS	22	2	

RIGID CONDUIT

ROUTE	STATION	LOCATION (FT)	CONDUIT NO.	3" PUSHED CONDUIT (FT)	3" CONDUIT IN TRENCH (FT)	2" CONDUIT IN TRENCH (FT)	REMARKS
I-49 NBL	728+10	140 LT	1			27.0	POWER SOURCE TO CONTROLLER 1
I-49 NBL	728+10	125 LT	2		32.0		CONTROLLER 1 TO PULL BOX 1
I-49 NBL	729+10	72 LT TO 12 RT	3	88.0			POLE 1 TO PULL BOX 3
I-49 SBL	724+00	80 LT TO 14 RT	4	92.0			PULL BOX 5 TO PULL BOX 6
RTE 90	55+30	104 LT	5			27.0	POWER SOURCE TO CONTROLLER 2
RTE 90	55+15	100 LT	6		44.0		CONTROLLER 2 TO PULL BOX 7
I-49	855+15	53 LT TO 53 RT	7		104.0		PULL BOX 12 TO PULL BOX 13
RTE 90	55+00	17 LT TO 17 RT	8		34.0		PULL BOX 8 TO PULL BOX 14
RAMP 3	3001+10	14 LT TO 22 RT	9		34.0		PULL BOX 15 TO PULL BOX 16
I-49	874+00	54 LT TO 54 RT	10		106.0		PULL BOX 17 TO PULL BOX 18
I-49	895+00	53 LT TO 53 RT	11		104.0		PULL BOX 22 TO PULL BOX 23
			TOTALS	180.0	458.0	54.0	
			USE	180	458	54	

TYPE 4 TURF MAT

STATION	TO	STATION	LOCATION	DEPTH (FT)	BOTTOM WIDTH (FT)	LENGTH (FT)	INSLOPE (X:1)	BACKSLOPE (X:1)	AREA (SQ YD)	REMARKS
738+95	-	741+54	NBL RT	1.5	6	316.00	3	2	495.1	
742+75	-	745+25	NBL LT	2.2	8	304.00	3	2	675.6	
745+25	-	748+25	NBL LT	1.4	8	384.00	3	2	640.0	
757+60	-	759+00	NBL LT	1.4	4	177.00	3	2	228.1	
740+24	-	745+00	SBL LT	1.7	8	476.00	3	2	909.7	
738+37	-	742+50	SBL RT	1.0	8	485.00	3	2	722.1	
755+75	-	759+25	SBL RT	1.0	6	409.00	3	2	518.1	
760+00	-	761+00	NBL LT	1.2	3	118.00	3	2	85.2	
767+75	-	771+75	I-49 LT	4.5	8	402.00	2	2	1255.1	
791+25	-	793+00	I-49 LT	1.3	8	213.00	3	2	317.1	
796+00	-	798+00	I-49 RT	1.0	8	208.00	2	2	288.9	
829+75	-	832+02	I-49 RT	1.4	8	289.00	3	2	500.1	
830+66	-	832+50	I-49 LT	1.8	8	215.00	3	2	422.8	
832+12	-	835+70	I-49 RT	2.6	8	427.00	3	2	1043.8	
842+50	-	845+35	I-49 LT	1.4	8	292.00	2	2	464.0	
842+80	-	846+50	I-49 RT	2.0	8	416.00	2	2	781.2	
849+00	-	853+00	I-49 LT	2.4	2	434.00	2	2	612.4	
868+00	-	869+80	I-49 RT	2.0	8	181.00	3	2	378.1	
874+00	-	875+00	I-49 LT	1.3	8	115.00	3	2	191.7	
896+25	-	897+60	I-49 RT	1.4	0	140.00	3	2	118.2	
897+60	-	900+56	I-49 RT	1.4	4	360.00	3	2	464.0	
898+25	-	899+50	I-49 LT	1.6	8	130.00	3	2	239.8	
905+50	-	909+95	I-49 RT	2.2	8	511.00	3	2	1129.9	
907+50	-	911+50	I-49 LT	1.3	8	473.00	3	2	788.3	
934+50	-	935+76	I-49 RT	1.4	8	129.00	2	2	205.0	
938+25	-	939+50	I-49 RT	1.0	8	138.00	2	2	191.7	
956+50	-	958+23	I-49 RT	1.4	8	202.00	3	2	350.2	
963+25	-	966+00	I-49 LT	1.3	8	237.00	3	2	561.7	
964+25	-	965+23	I-49 RT	1.0	8	150.00	3	2	223.3	
981+00	-	986+30	I-49 RT	1.9	8	546.00	2	2	1001.0	
983+00	-	986+89	I-49 LT	2.8	8	415.00	2	2	945.3	
1008+59	-	1009+61	RAMP 1 LT	1.3	2	113.00	3	2	113.0	
1009+62	-	1011+20	RAMP 1 RT	1.5	8	167.00	3	2	298.7	
2004+34	-	2007+75	RAMP 2 RT	1.9	8	357.00	3	2	725.9	
2012+50	-	2016+25	RAMP 2 RT	1.5	8	392.00	3	2	701.2	
2014+75	-	2017+20	RAMP 2 LT	1.5	8	268.00	3	2	479.4	
3000+50	-	3004+18	RAMP 3 LT	1.6	0	380.00	3	2	363.1	
3004+18	-	3009+50	RAMP 3 LT	2.5	8	543.00	2	2	1158.4	
3009+50	-	3010+77	RAMP 3 LT	3.3	8	127.00	2	2	321.1	
3010+77	-	3011+25	RAMP 3 LT	3.6	8	48.00	2	2	128.5	
3011+25	-	3017+00	RAMP 3 LT	2.5	8	588.00	2	2	1254.4	
4001+00	-	4004+25	RAMP 4 RT	1.1	8	386.00	3	2	596.2	
4012+50	-	4015+00	RAMP 4 RT	2.0	8	286.00	3	2	597.4	
4015+00	-	4016+16	RAMP 4 RT	4.2	8	148.00	3	2	504.8	
LENGTH MEASURED ALONG C/L OF DITCH								TOTAL	23989.6	
								USE	23990	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 17 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
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.

CONDUCTORS

ROUTE	CIRCUIT	CENTER-TO-CENTER CONTROLLER OR POLE TO POLE (FT)	1" CABLE-CONDUIT 2 COND. AND 1 BARE NEUTRAL #6 AWG (FT)	POWER CABLE 1-CONDUCTOR #8 AWG (FT)	TYPE I TRENCHING (FT)	REMARKS
I-49 NBL	PWR	15.0		93.0	13.0	POWER SUPPLY TO CONTROLLER
I-49 NBL	1	133.8	159.5		131.8	I-49 NBL, CONTROLLER 1 TO POLE 1
I-49 NBL	1	404.0	434.2		402.0	I-49 NBL, POLE 1 TO POLE 2
I-49 NBL	1	700.1	746.1		698.1	I-49 NBL, POLE 2 TO POLE 3
I-49 NBL	2	824.6	902.8		734.6	I-49 SBL, CONTROLLER 1 TO PULL BOX 5
I-49 NBL	2	250.9	274.4		248.9	I-49 SBL, PULL BOX 5 TO POLE 4
I-49 NBL	2	343.9	378.1		251.9	I-49 SBL, PULL BOX 5 TO POLE 5
RTE 90	PWR	14.8		92.4	12.8	POWER SUPPLY TO CONTROLLER 2
RTE 90	1	2015.9	2171.7		2013.9	RAMP 1, CONTROLLER 2 TO PULL BOX 12
RTE 90	1	355.0	383.8		353.0	RAMP 1, PULL BOX 12 TO POLE 6
RTE 90	1	424.1	467.3		318.1	RAMP 1 & 2, PULL BOX 12 TO POLE 7
RTE 90	2	2106.6	2266.9		2070.6	RAMP 3, CONTROLLER 2 TO POLE 10
RTE 90	2	712.4	770.0		606.4	RAMP 3 & 4, POLE 10 TO POLE 11
RTE 90	3	510.8	579.3		474.8	CONTROLLER 2 TO POLE 9
RTE 90	3	549.2	598.7		441.2	POLE 9 TO POLE 8
		TOTALS	10132.8	185.4	8771.1	
		USE	10133	185	8771	

POLES, FOUNDATIONS AND APPURTENANCES FOR 45' MOUNTING HEIGHT

POLE NO.	ROUTE	CIRCUIT	STATION	LOCATION (FT)	45' M.H. TYPE A.T. LIGHT POLE DESIGN 2 (EA)	45' M.H. TYPE A.T. LIGHT POLE DESIGN 3 (EA)	BRACKET ARM 15 FT (EA)	LUMINAIRE LED-B (EA)	#10 AWG CABLE 1 COND. POLE AND BRACKET (FT)	POLE FOUNDATION 45 FT M.H. (EA)	REMARKS
1	I-49 NBL	1	729+00	72 LT		1	1	1	120	1	I-49 NBL AT RTE 71 NBL
2	I-49 NBL	1	725+00	62 LT		1	1	1	120	1	I-49 NBL AT RTE 71 NBL
3	I-49 NBL	1	718+00	51 LT		1	1	1	120	1	I-49 NBL AT RTE 71 NBL
4	I-49 SBL	2	721+50	64 LT		1	1	1	120	1	I-49 SBL AT RTE 71 SBL
5	I-49 SBL	2	721+50	14 RT		1	1	1	120	1	I-49 SBL AT RTE 71 SBL
6	I-49 NBL	1	851+60	53 LT		1	1	1	120	1	I-49 RAMP 1 AT RTE 90
7	RAMP 2	1	2003+20	12 RT		1	1	1	120	1	I-49 RAMP 2 AT RTE 90
8	RTE 90	3	47+35	22 RT	1		1	1	120	1	RAMP 4 END AT RTE 90
9	RTE 90	3	52+60	22 RT		1	1	1	120	1	RAMP 3 END AT RTE 90
10	RAMP 3	2	3018+40	14 LT		1	1	1	120	1	I-49 RAMP 3 AT RTE 90
11	I-49 SBL	2	897+30	53 RT		1	1	1	120	1	I-49 RAMP 4 AT RTE 90
				TOTALS	1	10	11	11	1320	11	
				USE	1	10	11	11	1320	11	

POWER SUPPLY ASSEMBLY

ROUTE	STATION	LOCATION (FT)	BASE MOUNTED POWER SUPPLY 240 / 120 VOLT TYPE 2 (EA)	REMARKS
I-49 NBL	728+10	140 LT	1	FOR CONTROLLER 1, RTE. 71 INTERCHANGE
RTE 90	55+30	104 LT	1	FOR CONTROLLER 2, RTE. 90 INTERCHANGE
		TOTAL	2	

BASE MOUNTED CONTROL STATION

ROUTE	STATION	LOCATION (FT)	BASE MOUNTED CONTROL STATION 240 VOLT STD. 901.30 (EA)	REMARKS
I-49 NBL	728+10	125 LT	1	CONTROLLER 1, RTE. 71 INTERCHANGE
RTE 90	55+15	100 LT	1	CONTROLLER 2, RTE. 90 INTERCHANGE
		TOTAL	2	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 18 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED: 11/13/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 3
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE | REV.

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

COMPACTING IN CUT

STATION	TO	STATION	ROUTE	LENGTH (STA)	REMARKS
746+82.76	–	750+71.86	I-49 NBL	3.9	
750+88.38	–	751+52.04	I-49 NBL	0.6	
754+87.76	–	756+93.98	I-49 NBL	2.1	
761+76.62	–	763+31.55	I-49 NBL	1.5	
765+17.98	–	767+20.00	I-49 NBL	2	
736+15.06	–	736+73.83	I-49 SBL	0.6	
737+36.04	–	738+25.20	I-49 SBL	0.9	
741+65.33	–	742+97.44	I-49 SBL	1.3	
749+69.71	–	752+59.87	I-49 SBL	2.9	
754+32.27	–	755+00.47	I-49 SBL	0.7	
759+12.37	–	764+93.73	I-49 SBL	5.8	
764+93.73	–	765+18.80	I-49	0.3	
772+46.32	–	777+02.91	I-49	4.6	
778+59.38	–	780+09.93	I-49	1.5	
782+38.83	–	783+18.80	I-49	0.8	
783+88.90	–	784+66.04	I-49	0.8	
792+34.99	–	793+12.63	I-49	0.8	
797+77.02	–	800+26.09	I-49	2.5	
816+74.57	–	817+62.32	I-49	0.9	
818+86.78	–	819+73.00	I-49	0.9	
829+41.00	–	830+49.27	I-49	1.1	
835+04.10	–	839+98.75	I-49	4.9	
848+27.80	–	860+21.92	I-49	11.9	
866+01.76	–	879+95.43	I-49	13.9	
893+53.03	–	895+73.98	I-49	2.2	
901+22.13	–	902+06.39	I-49	0.8	
907+25.77	–	907+97.55	I-49	0.7	
911+00.97	–	911+66.67	I-49	0.7	
933+86.79	–	934+56.13	I-49	0.7	
938+57.57	–	939+99.59	I-49	1.4	
956+69.37	–	957+81.97	I-49	1.1	
958+14.95	–	959+39.63	I-49	1.2	
962+97.57	–	963+66.18	I-49	0.7	
965+74.95	–	966+72.83	I-49	1	
975+62.81	–	983+72.11	I-49	8.1	
43+25.00	–	48+92.93	RTE. 90	5.7	
53+31.00	–	61+00.00	RTE. 90	7.7	
1004+12.57	–	1007+95.82	RAMP 1	3.8	
1009+24.61	–	1015+67.89	RAMP 1	6.4	
2016+37.30	–	2018+25.32	RAMP 2	1.9	
3000+12.06	–	3000+68.05	RAMP 3	0.6	
4000+11.97	–	4001+17.81	RAMP 4	1.1	
700+00.00	–	710+72.04	SUMNER RD.	10.7	
			TOTAL	123.7	
			USE	123.7	

EARTHWORK SUMMARY

STATION	TO	STATION	LOCATION	UNCLASSIFIED EXCAVATION (CU YD)	COMPACTING EMBANKMENT (CU YD)	REMARKS
729+20.22	–	767+20.00	I-49 NBL	219,201	370,737	INCLUDES EARTHWORK BEHIND 2 MSE WALLS
723+02.82	–	764+93.73	I-49 SBL	214,105	677,013	
764+93.73	–	848+76.08	I-49	1,473,952	1,091,762	
848+76.08	–	987+32.82	I-49	2,600,819	1,131,827	
43+25.00	–	61+00.00	RTE. 90	10,858	9,764	INCLUDES 2 DRIVEWAYS
48+71.75	–	49+25.50	RTE. 90	1,078	0	EARTHWORK BEHIND MSE WALL
50+79.50	–	51+50.00	RTE. 90	693	1,539	EARTHWORK BEHIND MSE WALL
1000+00.00	–	1015+79.58	RAMP 1	89,018	8,539	
2000+00.00	–	2018+25.32	RAMP 2	23,323	196,410	
3000+12.06	–	3022+11.42	RAMP 3	15,452	643,871	
4000+11.97	–	4018+77.22	RAMP 4	26,162	675,832	
700+00.00	–	710+72.04	SUMNER CO. RD.	1,773	312	
0+00.00	–	1+60.37	GARDNER PRIVATE RD.	214	3,455	
7+38.00	–	8+61.00	HELL CREEK ENTRANCE	0	142	
			SUBTOTAL	4,676,648	4,811,203	
			ROUNDING	3,866		ESTIMATED AT 500 CU.YD. PER MILE
			TOTAL	4,680,514	4,811,203	

SUBGRADING AND SHOULDERING – CLASS 1

STATION	TO	STATION	ROUTE	LENGTH (STA)	REMARKS
729+20.22	–	734+10.94	I-49 NBL	4.9	
739+04.98	–	741+03.12	I-49 NBL	2.0	
723+02.82	–	724+34.49	I-49 SBL	1.3	
			TOTAL	8.2	
			USE	8	

INTERCEPTION DITCHES

STATION	TO	STATION	LOCATION	INTERCEPTION DITCH (STA)	REMARKS
749+50	–	754+50	I-49 NBL LT	5.0	
735+00	–	738+00	I-49 SBL LT	3.0	
784+00	–	789+50	I-49 LT	5.5	
798+25	–	801+00	I-49 RT	2.8	
813+75	–	816+00	I-49 LT	2.3	
835+00	–	838+50	I-49 LT	3.5	
901+75	–	904+00	I-49 LT	2.3	
911+50	–	925+00	I-49 LT	13.5	
913+50	–	915+50	I-49 RT	2.0	
945+25	–	953+75	I-49 LT	8.5	
951+00	–	954+00	I-49 RT	3.0	
972+00	–	983+00	I-49 LT	11.0	
			TOTAL	62.4	
			USE	62	

SUBGRADE COMPACTION (6 INCH DEPTH)

STATION	TO	STATION	ROUTE	LENGTH (STA)	REMARKS
729+20.22	–	734+10.94	I-49 NBL	4.9	
739+04.98	–	741+03.12	I-49 NBL	2.0	
723+02.82	–	724+34.49	I-49 SBL	1.3	
			TOTAL	8.2	
			USE	8	

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 19 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/13/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

DESCRIPTION | DATE | REV.

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

EFFECTIVE: 10-01-2019

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	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 LT ARROWS)
W01-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
W01-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)
W01-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)
W01-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)
W01-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)
W01-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W01-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)
W01-8	18X24	3.00						CHEVRON (SYMBOL)
W01-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)
W03-1	48X48	16.00						STOP AHEAD (SYMBOL)
W03-2	48X48	16.00						YIELD AHEAD (SYMBOL)
W03-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)
W03-4	48X48	16.00						BE PREPARED TO STOP
W03-5	48X48	16.00	2	32.00				SPEED LIMIT 35 AHEAD
W04-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)
W04-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)
W04-1aL	48X48	16.00	1	16.00				MERGE (ARROW SYMBOL)
W04-1aR	48X48	16.00						MERGE (ARROW SYMBOL)
W05-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS
W05-3	48X48	16.00						ONE LANE BRIDGE
W05-5	48X48	16.00						NARROW LANES
W06-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)
W06-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)
W06-3	48X48	16.00						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
W08-6c	48X48	16.00						TRUCK ENTRANCE
W08-7	36X36	9.00						LOOSE GRAVEL
W08-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL
W08-9	48X48	16.00						LOW SHOULDER
W08-11	48X48	16.00						UNEVEN LANES
W08-12	48X48	16.00						NO CENTER LINE
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)
W10-1	42RND.	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)
W012-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD
W012-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD
W013-1	30X30	6.25						ADVISORY SPEED (PLAQUE)
W016-2	30X24	5.00						XXX FEET (PLAQUE)
W016-3	30X24	5.00						X MILE (PLAQUE)
W020-1	48X48	16.00	6	96.00				ROAD/BRIDGE/RAMP WORK AHEAD
W020-2	48X48	16.00	4	64.00				DETOUR AHEAD
W020-3	48X48	16.00	4	64.00				ROAD CLOSED AHEAD
W020-4	48X48	16.00	4	64.00				ONE LANE ROAD AHEAD
W020-5	48X48	16.00	2	32.00				RIGHT/CENTER/LEFT LANE CLOSED AHEAD
W020-5a	48X48	16.00						2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD
W020-6a	48X48	16.00	2	32.00				RIGHT/CENTER/LEFT LANE CLOSED
W020-7a	48X48	16.00	2	32.00				FLAGGER (SYMBOL) WITH FLAGS
W021-2	36X36	9.00						FRESH OIL
W021-5	48X48	16.00						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
G022-1	21X15	2.19						WET PAINT (ARROW PIVOTS)

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION
GUIDE SIGNS								
E05-1	36X48	12.00						GORE EXIT
E05-2	48X36	12.00						EXIT OPEN
E05-2a	48X36	12.00						EXIT CLOSED
G020-1	60X24	10.00						ROAD WORK NEXT XX MILES
G020-2	48X24	8.00						END ROAD WORK
G020-4	36X18	4.50						PILOT CAR FOLLOW ME
G020-4a	42X30	8.75						PILOT CAR IN USE WAIT & FOLLOW
G020-4a	18X12	1.50						PILOT CAR IN USE WAIT & FOLLOW
G020-5aP	36X24	6.00	8	48.00				WORK ZONE (PLAQUE)
M04-8a	24X18	3.00	2	6.00				END DETOUR
M04-9L	48X36	12.00						DETOUR (LEFT ARROW)
M04-9R	48X36	12.00						DETOUR (RIGHT ARROW)
M04-9P	48X12	4.00						STREET NAME (PLAQUE)
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	48TRI.	6.93						YIELD
R1-2a	36X36	9.00						TO ONCOMING TRAFFIC (PLAQUE)
R1-3P	30X12	2.50						ALL WAY (PLAQUE)
R2-1	36X48	12.00	8	96.00				SPEED LIMIT (2-35,2-55,2-65,2-70)
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	2	24.00				DO NOT PASS
R4-2	36X48	12.00	2	24.00				PASS WITH CARE
R4-8a	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	54X18	6.75						ONE WAY ARROW (LEFT)
R6-1R	54X18	6.75						ONE WAY ARROW (RIGHT)
R6-2L	24X30	5.00						ONE WAY (LEFT)
R6-2R	24X30	5.00						ONE WAY (RIGHT)
R9-9	24X12	2.00						SIDEWALK CLOSED
R9-11L	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE
R9-11R	24X18	3.00						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE
R10-6	24X36	6.00						STOP HERE ON RED (45° ARROW)
R11-2	48X30	10.00	4	40.00				ROAD CLOSED
R11-3a	60X30	12.50	4	50.00				ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY (2-3,1-5,1-7)
R11-4	60X30	12.50	2	25.00				ROAD CLOSED TO THRU TRAFFIC
CONST-3A	60X48	20.00	2	40.00				FINE SIGN
CONST-3X	56X12	4.67	2	9.34				SPEEDING/PASSING (PLATE)
MISCELLANEOUS SIGNS								
CONST-5	48X36	12.00						POINT OF PRESENCE
CONST-5	96X48	32.00	4	128.00				POINT OF PRESENCE
CONST-7	48X24	8.00						RATE OUR WORK ZONE
CONST-7	72X36	18.00	2	36.00				RATE OUR WORK ZONE
CONST-8	48X36	12.00	4	48.00				WORK ZONE NO PHONE ZONE
	36X78	19.50	28	546.00				DETOUR SIGNS

616-10.05 CONSTRUCTION SIGNS	TOTAL
	1552

616-10.10 RELOCATED SIGNS	TOTAL
	0

ITEM NUMBER	TOTAL QTY	DESCRIPTION
6122008		IMPACT ATTENUATOR 40 MPH (SAND BARRELS)
6122009		IMPACT ATTENUATOR 45 MPH (SAND BARRELS)
6122010		IMPACT ATTENUATOR 50 MPH (SAND BARRELS)
6122012		IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
6122014		IMPACT ATTENUATOR 60 MPH (SAND BARRELS)
6122017		IMPACT ATTENUATOR 65 MPH (SAND BARRELS)
6122019		IMPACT ATTENUATOR 70 MPH (SAND BARRELS)
6122020		REPLACEMENT SAND BARREL
6122030		IMPACT ATTENUATOR (RELOCATION)
6123000A	1	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY
6161008	10	ADVANCED WARNING RAIL SYSTEM
6161009	6	FLAG ASSEMBLY
6161012		BUOYS (BOATS KEEP OUT)
6161013		BUOYS (NO WAKE)
6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
6161024	50	CHANNELIZER (TRIM LINE) WITH LIGHT
6161025		CHANNELIZER (TRIM LINE)
6161030		TYPE III MOVEABLE BARRICADE
6161031	16	TYPE III MOVEABLE BARRICADE WITH LIGHTS
6161033		DIRECTION INDICATOR BARRICADE
6161034		DIRECTION INDICATOR BARRICADE, WITH LIGHT
6161040	1	FLASHING ARROW PANEL
6161047		TYPE III OBJECT MARKER
6161052		WARNING LIGHT, TYPE B
6161055		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	4	CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
6162000A		WORK ZONE TRAFFIC SIGNAL SYSTEM
6162002	4	TEMPORARY LONG-TERM RUMBLE STRIPS (I-49)
6162004	4	TEMPORARY SHORT-TERM RUMBLE STRIPS (MO 90)
6173600D		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED
6173602B		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/COMMISSION RETAINED
6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
6176000B		TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED
6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION COMMISSION FURNISHED/RETAINED
6208064A		TEMPORARY RAISED PAVEMENT MARKER
9029400		TEMPORARY TRAFFIC SIGNALS
9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING

PRELIMINARY

SUMMARY OF QUANTITIES
SHEET 20 OF 20

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY McDONALD
JOB NO. J7P0601
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.

UTILITIES

ELECTRIC
NEW-MAC ELECTRIC COOPERATIVE
12105 E. HIGHWAY 86
NEOSHO, MO 64850
(417) 451-1515

PIPELINE
SOUTHERN STAR CENTRAL GAS PIPELINE
6300 S. RANGE LINE ROAD
JOPLIN, MO 64804
(270) 852-5125

TELECOMMUNICATIONS
MCDONALD COUNTY TELEPHONE COMPANY
704 MAIN STREET
PINEVILLE, MO 64856
(417) 223-4313

SGO BROADBAND
SENECA, GOODMAN, OZARK TELEPHONE
816 ONEIDA STREET
SENECA, MO 64865
(417) 776-1807

GAS
SPIRE ENERGY
520 E. 5TH STREET
JOPLIN, MO 64801
(417) 626-4831

STA. 736+20.26 I-49 N.B.L.
5' X 3' TYPE S-1 D.I. 52.82' LT
D = 3'

DROP INLET DRAIN
15" X 17' GROUP B PIPE

STA. 736+61.90 I-49 N.B.L.
5' X 3' TYPE S-1 D.I. 23.50' RT
D = 3'

DROP INLET DRAIN
15" X 13' GROUP B PIPE

STA. 729+20.22
END PROJ. J7P0601C
BEGIN PROJ. J7P0601

EXIST. R/W

SE^4SW^4 3-21-32

SW^4SW^4 3-21-32

NE^4NW^4 10-21-32

NW^4NE^4 10-21-32

SE^4NW^4 10-21-32

SW^4NW^4 10-21-32

NW^4NW^4 10-21-32

PT STA 716+97.14

I-49 N.B.L./EXISTING ROUTE 71 N.B.L.

S 41° 33' 58.1" E

723 (N.B.L.) ± ¼ SECTION LINE

717+51.71
END G.R.

715+64.21
BEGIN G.R.

+48 (N.B.L.)

I-49 S.B.L./EXISTING ROUTE 71 S.B.L.

715+65.57
BEGIN G.R.

+72 (S.B.L.)

U.I.P. EXIST. CONCRETE BARRIER AND IMPACT ATTENUATOR UNTIL I-49 IS READY TO OPEN TO TRAFFIC.

GRADE TO DRAIN

GOODIN HOLLOW CREEK

PT STA 722+77.90

+45 (S.B.L.)

STA. 723+02.82
END PROJ. J7P0601C
BEGIN PROJ. J7P0601

725+80.00
BEGIN G.R.

PC STA 727+42.03

ROUTE 71 N.B.L.

℄ I-49 N.B.L.

STA. 736+07.75
℄ I-49 N.B.L. =
STA. 736+69.46
℄ ROUTE 71 S.B.L.

733+87.10
BEGIN G.R.

731+80.00
END G.R.

ROUTE 71 S.B.L.

734+60.19
BEGIN G.R.

736+46.60
END G.R.

65' TYPE D BARRIER

737+17.17
BEGIN G.R.

PT A6380

736+98.29
END G.R.

736+81.26
BEGIN G.R.

MATCHLINE STA. 737+62.64

MATCHLINE STA. 737+05.46

I-49 N.B.L.	
PI	739+20.39
PC	727+42.03
PT	749+77.89
Δ	44° 43' 02.0"(RT)
D	2° 00' 00.0"
L	2,235.86'
T	1,178.36'
R	2,864.79'
SE	6.3%
W	0'

GRADE TO DRAIN

℄ I-49 SBL

S 26° 25' 15" E

736+94.55
(S.B.L.)
129.23'

RELOCATED GOODIN HOLLOW CREEK
35' WIDE A CHANNEL BOTTOM

735+23.69
(S.B.L.)
322.13'

730+28.07
END G.R.

GOODIN HOLLOW CO. RD.

ENERGY DISSIPATOR

733+75.34
(S.B.L.)
489.64'

735+90.89
(SBL)
430.00'

EXIST. R/W

TRAIL

S.L.

PC STA 712+52.88
I-49 S.B.L. =
STA 712+52.88, 36'RT.
RTE. 71 S.B.L.

GENERAL NOTES:

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT

ALL BEARINGS ARE BASED ON STATE PLANE BEARINGS, WESTERN ZONE

RIGHT OF WAY LIMITS FOR THIS PROJECT EXTEND FROM STA. 735+90.89 TO STA. 988+65.36, A DISTANCE OF 4.787 MI.

SEE JOB J7P0601C FOR EXISTING RIGHT OF WAY

SEE PERMANENT STAGE EROSION CONTROL SHEETS FOR PERMANENT DITCH TREATMENT TYPES AND LOCATIONS

SEE SPECIAL SHEETS AND QUANTITIES FOR LOCATIONS OF WILDLIFE CROSSINGS

I-49 S.B.L.	
PI	717+65.48
PC	712+52.88
PT	722+77.90
Δ	2° 33' 45.2"(RT)
D	0° 15' 00.0"
L	1,025.02'
T	512.59'
R	22,918.32'

CERTIFIED LAND CORNER

FROM STA. 750+00.00 N.B.L., 75.26'
N 18° 14' 47.4" W TO CENTER OF SEC. 10
T 21 N, R 32 W.
RECORDED IN McDONALD CO.
BOOK NO. RANGE 32A LAND SURVEYS AT
PAGE 37.

BRIDGE #A6380
STA. 735+83.49 FILL FACE OF END BENT 1
STA. 736+71.44 FILL FACE OF END BENT 2
83'-0" SINGLE SPAN
COMPOSITE P/S CONCRETE I-GIRDER SPANS

STA. 732+61.90 I-49 N.B.L.
EXIST. 24" X 488' R.C.P.
(U.I.P.)

STA. 735+67.55 I-49 N.B.L.
30" X 103' GROUP A PIPE
SKEW 46° L.A.
1 - 30"/15" TEE (N.D.P.)
(SEE WALL PLANS FOR DETAILS)

STA. 736+83.88 I-49 N.B.L.
30" X 97' GROUP A PIPE
SKEW 43° L.A.
1 - 30"/15" TEE (N.D.P.)
(SEE WALL PLANS FOR DETAILS)

STA. 731+00.00 I-49 S.B.L.
36" X 340' GROUP A PIPE
2 - 36" GROUP A F.E.S.
D.A. = 11.1 Ac.
Q_{50} = 49 cfs (DESIGN)
Q_{100} = 57 cfs (OVERTOPPING>100 YR.)

SCALE
0 100 200 300 400 500

(25)
MISSOURI HIGHWAYS & TRANSPORTATION COMMISSION

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	4

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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

PRELIMINARY

STA. 729+20.22 END PROJ. J7P0601C
BEGIN PROJ. J7P0601

PROJ. J7P0601C
(BY OTHERS)

K = 276
1,500.00' V.C.

-1.88% +3.56%

VPI 715+30.00
EL 961.13

VPT 722+80.00

1010.67

VPC 729+70.00

APPROX.
ROCK LIMIT

BRIDGE #A6380

STA. 736+07.75, B.L. I-49 N.B.L.=
STA. 736+69.46, ℄ ROUTE 71 S.B.L.

+25.00
1,032.65
SPECIAL
DITCH RT.

SSD = 1243'
K = 1163
3,750.00' V.C.

BENCHMARKS

BM-71-77-97 R.R. SPIKE IN WEST FACE OF CORNER POST 0.9 MILES SOUTH OF RTE. H ON CO. RD. SW OF H-21, EAST OF COUNTY ROAD
ELEV. 925.19
STA. 731+36

BM-49-01-01 R.R. SPIKE EAST OF ROOT OF 1.2' WILD CHERRY WITH BLAZED " " ON WEST SIDE OF CO. RD. SQ OF H-21, WEST OF GARDNER'S CHICKEN HOUSES, 1.475 MILES SOUTH OF RTE. H
ELEV. 949.43

PROFILE GRADE
I-49 N.B.L.

1,100 1,090 1,080 1,070 1,060 1,050 1,040 1,030 1,020 1,010 1,000 990 980 970 960 950 940 930 920

725 726 727 728 729 730 731 732 733 734 735 736 737 738

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	5

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

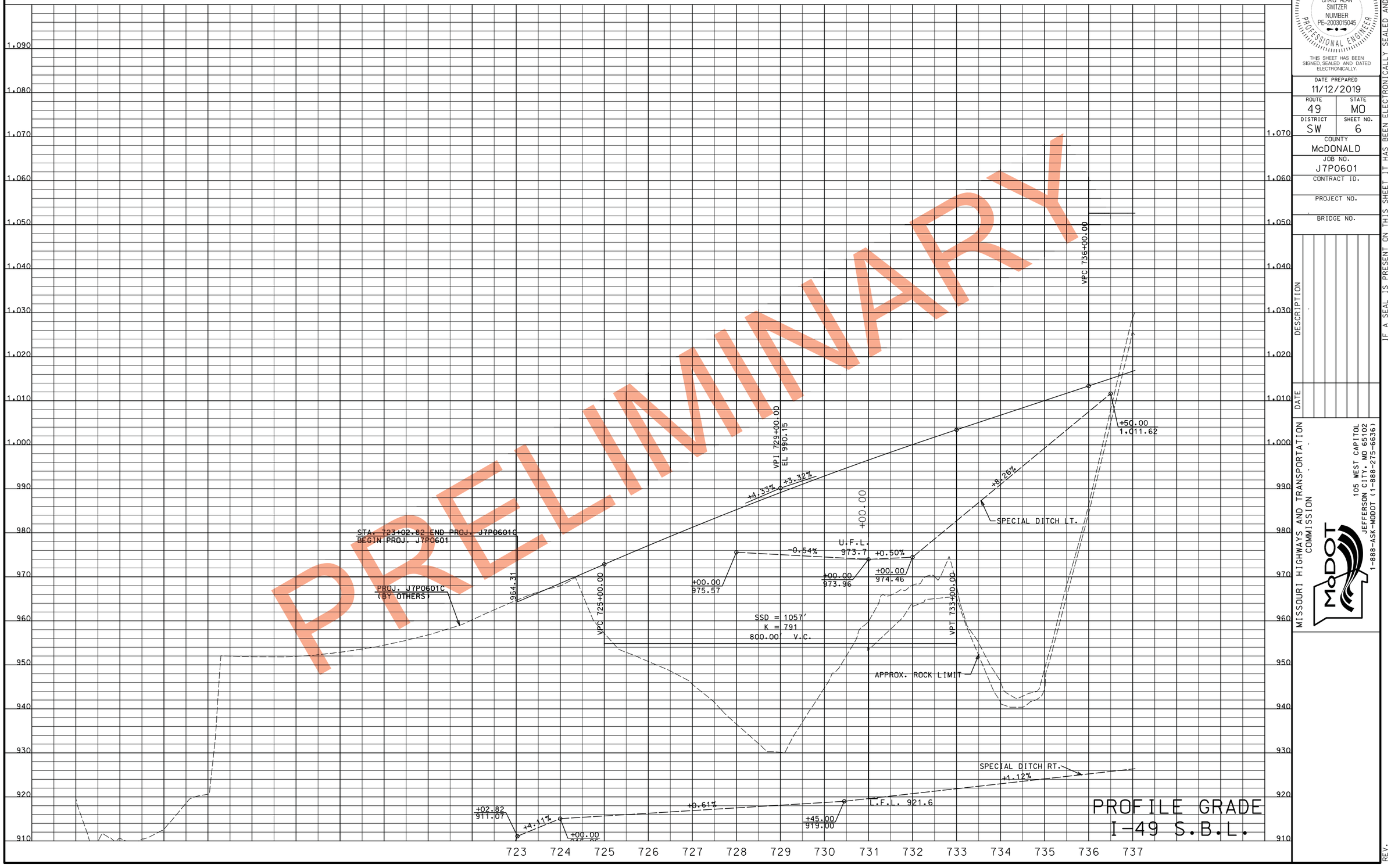
REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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

PRELIMINARY



STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	6
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

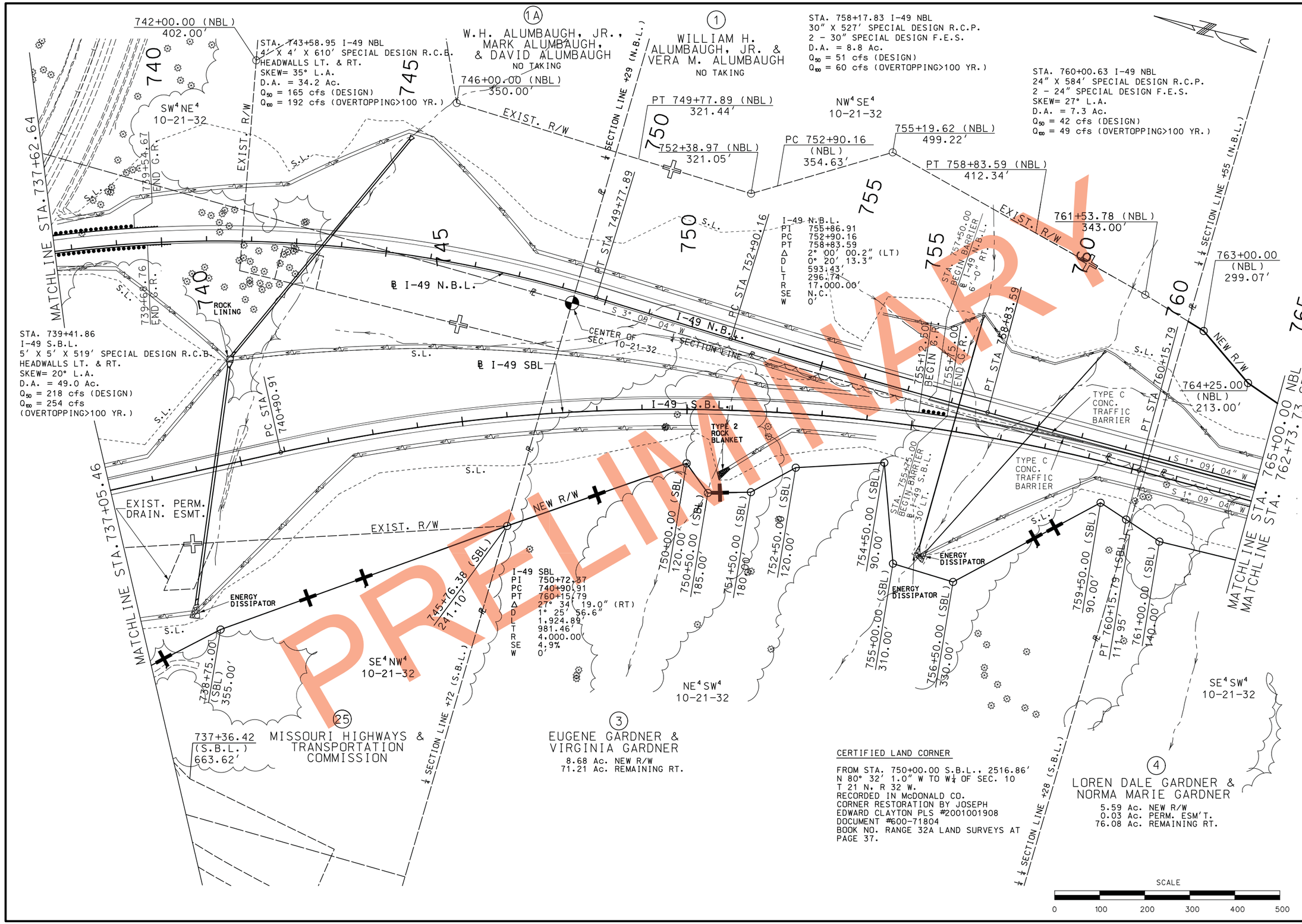
DESCRIPTION	DATE

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.



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
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DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	7

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

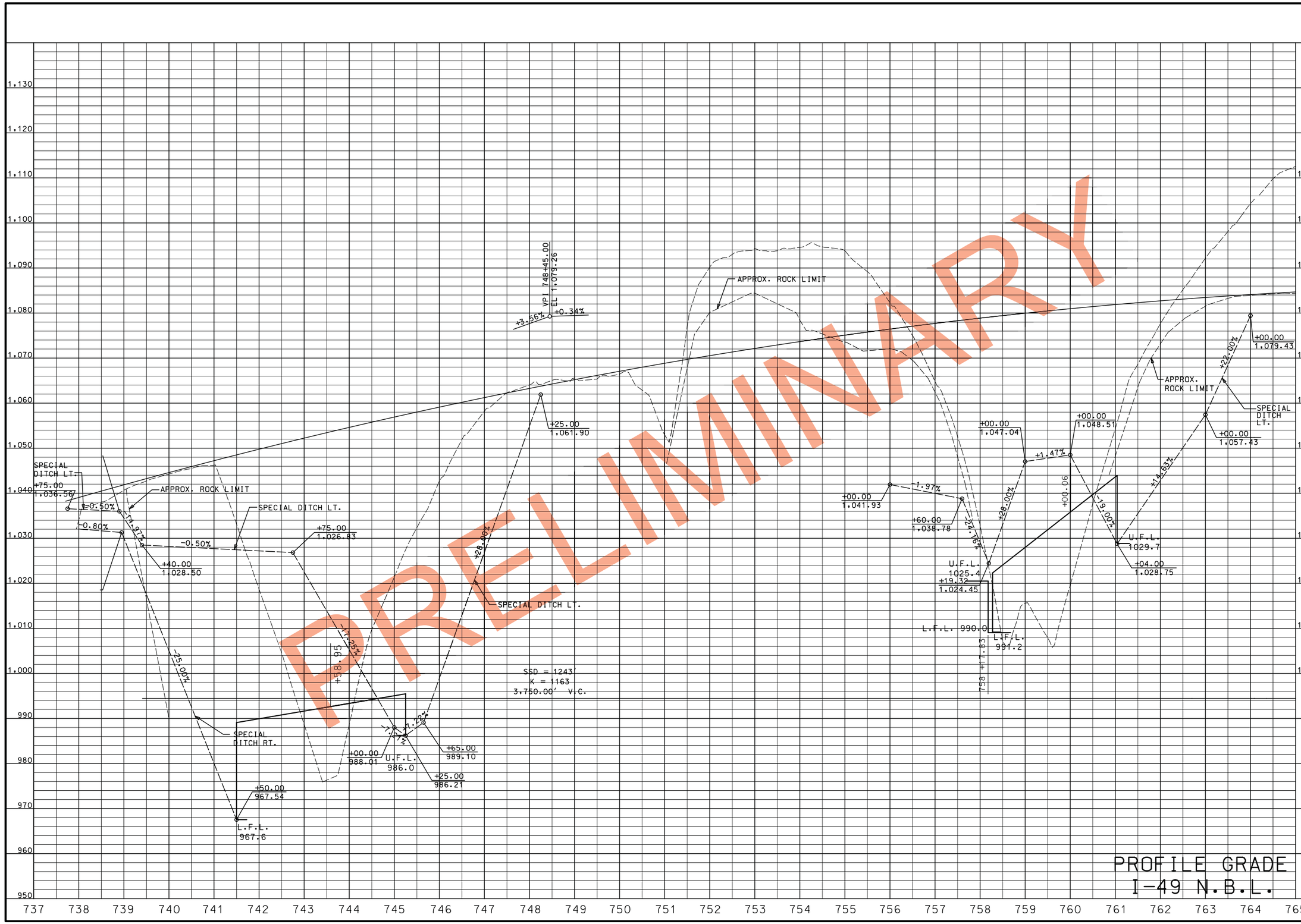
PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	8

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

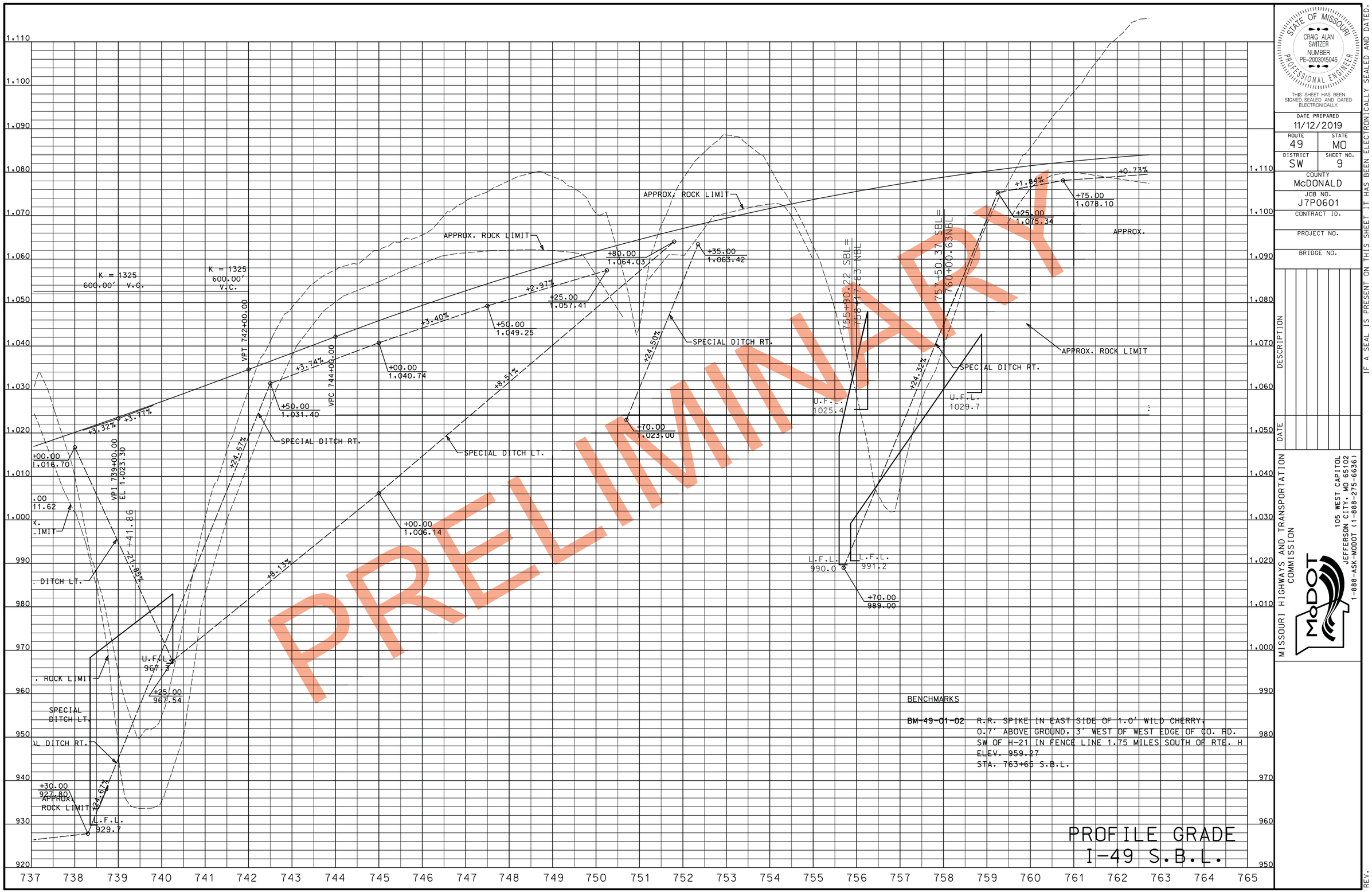
DATE

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.



PRELIMINARY

BENCHMARKS

BM-49-01-02 R.R. SPIKE IN EAST SIDE OF 1.0' WILD CHERRY, 0.7' ABOVE GROUND, 3' WEST OF WEST EDGE OF CO. RD. SW OF H-21 IN FENCE LINE 1.75 MILES SOUTH OF RTE. H
ELEV. 959.27
STA. 763+65 S.B.L.

PROFILE GRADE
I-49 S.B.L.

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	9

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

REV.

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

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

STA. 768+06.77 I-49
10' X 8' X 504' SPECIAL DESIGN R.C.B.
HEADWALLS LT. & RT.
SKEW= 8° R.A.
D.A. = 280.0 Ac.
Q_{50} = 903 cfs (DESIGN)
Q_{100} = 1085 cfs (OVERTOPPING>100 YR.)

SW¼ SE¼
10-21-32

SECTION LINE +50

⑥
JOHN M. BROWN &
CHARLOTTE R. BROWN
5.62 Ac. NEW R/W
79.58 Ac. REMAINING LT.

NW¼ NE¼
15-21-32

¼ ¼ SECTION LINE +74

SW¼ NE¼
15-21-32

STA. 767+20.00 END BARRIER ℄ I-49 N.B.L. =
STA. 764+93.73 END BARRIER ℄ I-49 S.B.L. =
STA. 764+93.73 ℄ I-49 BEGIN BARRIER 0'-0" LT & RT

POT STA. 767+20.00, ℄ I-49 N.B.L.=
POT STA. 764+93.73, 7' LT. ℄ I-49

② RONALD D. PARMLEY & CAROL E. PARMLEY
8.13 Ac. NEW R/W
71.88 Ac. REMAINING LT.

GARDNER PRIVATE ROAD
PI 1+51.67
PC 0+00.00
PT 1+59.37
Δ 130° 26' 58.3" (RT)
D 81° 51' 04.0"
L 159.37'
T 151.67'
R 70.00'

⑤ RUSSELL VAN ELK
2.18 Ac. NEW R/W
2.83 Ac. REMAINING LT.

⑥A MARK WATKINS & CYNTHIA WATKINS
3.92 Ac. NEW R/W
6.09 Ac. REMAINING LT.

765 | 770 | 775 | 780 | 785 | 790

764+93.73 115.00'
765+00.00 BEGIN G.J.R.
767+00.00 290.00'
769+75.00 330.00'
772+00.00 270.00'
772+50.00 140.00'
775+25.00 END G.R.
783+00.00 200.00'

NEW R/W
S.L.
TYPE 2 ROCK BLANKET
DRAIN & MUCK
SOUTH¼ COR. OF SEC.10-21-32
TYPE C CONC. TRAFFIC BARRIER
℄ I-49
I-49 N.B.L.
I-49 S.B.L.
S 1° 09' 04" W
¼ SECTION LINE

STA. 783+66.96 I-49
30" X 341' GROUP A PIPE
2 - 30" GROUP A F.E.S.
SKEW= 13° R.A.
D.A. = 12.7 Ac.
Q_{50} = 71 cfs (DESIGN)
Q_{100} = 83 cfs (OVERTOPPING>100 YR.)

MATCH LINE STA. 765+00.00 N.B.L.
MATCH LINE STA. 762+73.73 S.B.L.

762+75.00 BEGIN G.R.
765+50.00 160.00'
767+50.00 350.00'
769+00.00 350.00'
772+00.00 END G.R.
772+50.00 115.00'
775+50.00 165.00'
779+50.00 110.00'
783+50.00 285.00'
784+50.00 270.00'
786+00.00 140.00'
789+75.00 BEGIN G.R.

STA. 765+00.00, ℄ I-49 BEGIN INSIDE SHLDR. TRANSITION FROM 6'-0" TO 4'-0" LT. & RT.
STA. 768+00.00 END INSIDE SHLDR. TRANSITION TO 4'-0" LT. & RT.
ENERGY DISSIPATOR
PERM. UTIL. ESM'T. 0.03 Ac.
DO NOT DISTURB GAS LINE CROSSING AT APPROX. STA. 773+25
PERM. UTIL. ESM'T. 0.04 Ac.
TEMP. CONSTR. ESM'T. 1.21 Ac.
PC STA. 0+00.00
PT STA. 1+59.37
≤ 46° 30' 28" E
ENERGY DISSIPATOR
TYPE C CONC. TRAFFIC BARRIER
NEW R/W

POT STA. 764+93.73, ℄ I-49 S.B.L.=
POT STA. 764+93.73, 31' RT. ℄ I-49

⑧ RAYMOND C. GARDNER & LYNDA GARDNER
3.81 Ac. NEW R/W
0.04 Ac. PERM. ESM'T.
1.21 Ac. TEMP. ESM'T.
76.96 Ac. REMAINING RT.

㉖ DONALD GARDNER & BETTY GARDNER
16.01 Ac. NEW R/W
77.57 Ac. REMAINING LT.
67.45 Ac. REMAINING RT.

SE¼ SW¼
10-21-32

NE¼ NW¼
15-21-32

SE¼ NW¼
15-21-32

STA. 0+00.00 GARDNER PRIVATE RD. = STA. 778+30.99, 154.87' RT. I-49

CERTIFIED LAND CORNER

FROM STA. 770+00.00, 350.85' S7°40'19.0"W TO S¼ COR. OF SEC. 10, T 21 N, R 32 W. CORNER RESTORATION BY JOSEPH EDWARD CLAYTON, PLS #2001001908 RECORDED IN McDONALD CO. DOCUMENT #600-71516 BOOK NO. RANGE 32A LAND SURVEYS AT PAGE 37.

PERM. UTIL. ESM'T. (GAS LINE) 0.03 Ac.
① TO ② N87°43'58"W - 30.32'
② TO ③ N10°36'48"E - 46.84'
③ TO ④ S88°50'56"E - 30.41'
④ TO ① S10°36'48"W - 47.44'

PERM. UTIL. ESM'T. (GAS LINE) 0.04 Ac.
① TO ② S10°36'48"W - 53.94'
② TO ③ N88°50'56"W - 30.41'
③ TO ④ N10°36'48"E - 54.53'
④ TO ① S87°43'58"E - 30.32'

TEMP. CONSTR. ESM'T. 1.21 Ac.
① TO ② N88°51'00"W - 140.00'
② TO ③ N01°09'03"E - 334.55'
③ TO ④ S88°51'00"E - 140.00'
④ TO ⑤ S06°40'44"E - 256.94'
⑤ TO ① S24°46'54"W - 87.32'

STA. 0+90.30 GARDNER ROAD
15" X 155' GROUP C PIPE
SKEW = 5°R.A.
2 - 15" GROUP C F.E.S.

SCALE
0 100 200 300 400 500

PRELIMINARY

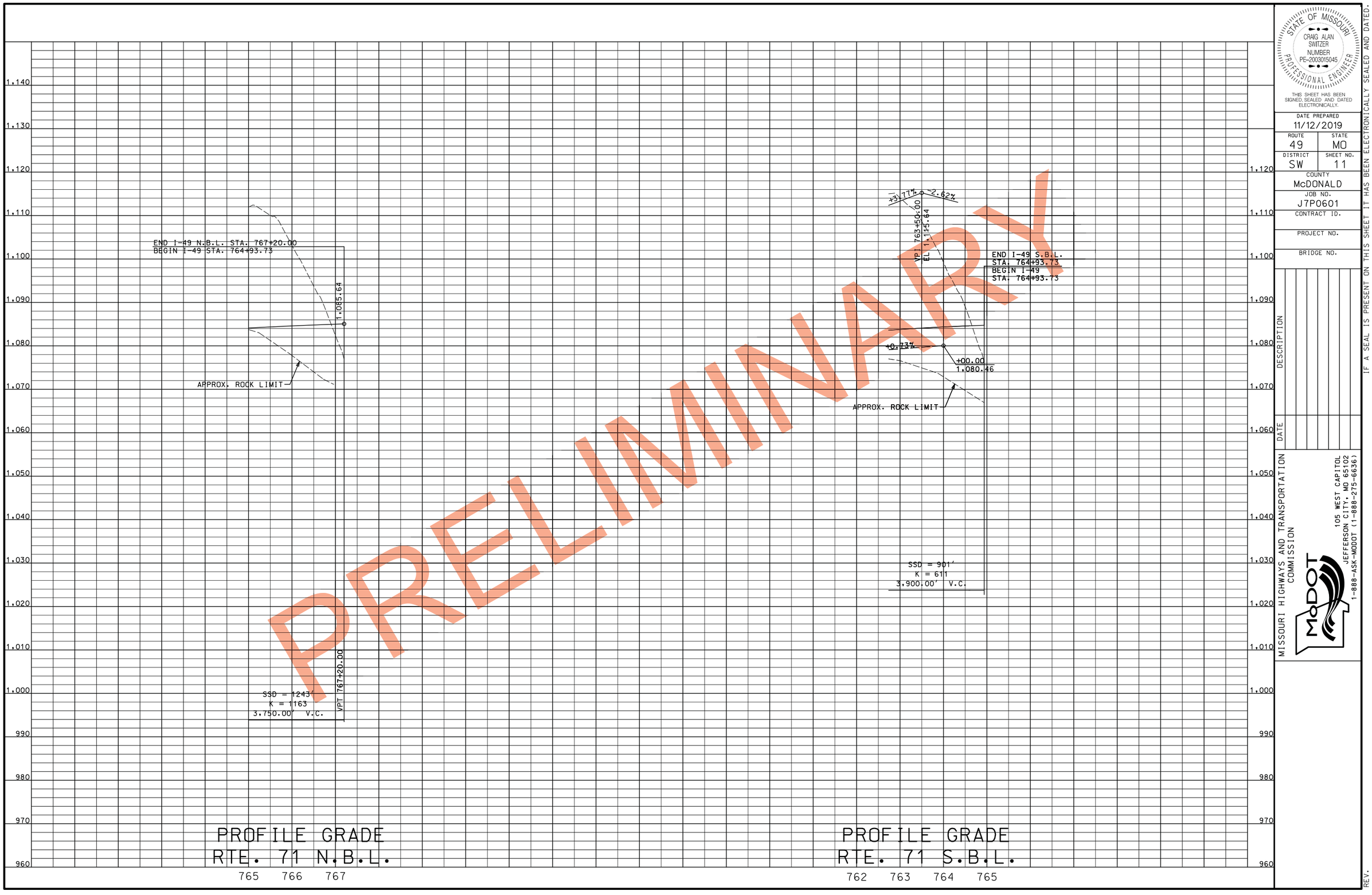
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 10
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	11

COUNTY
McDONALD

JOB NO.
J7P0601

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.

BENCHMARKS

BM-49-01-03 R.R. SPIKE IN EAST ROOT OF 1.3' HACKBERRY WITH BLAZED "Δ", TREE IS 3' WEST OF EDGE OF CO. RD. SW OF H-21, 2.0 MILES SOUTH OF RTE. H & 125' SOUTH OF GAS LINE X CO. RD.
ELEV. 979.80
STA. 775+22

BM-49-01-04 R.R. SPIKE IN EAST SIDE OF P.P. ON WEST SIDE OF CO. RD. POLE IS 2' WEST OF RD. SPIKE IS 0.9' ABOVE GROUND, POLE IS NORTH OF DON GARDNER HOUSE, 2.3 MILES SOUTH OF RTE. H
ELEV. 996.57
STA. 785+50

BEGIN I-49 STA. 764+93.73
END I-49 N.B.L. STA. 767+20.00
END I-49 S.B.L. STA. 764+93.73

1,085.78

APPROX. ROCK LIMIT

-1.64%

+00.00
1,076.13

-1.68%

+00.00
1,074.49

+50.00
1,070.30

-2.40%

SPECIAL DITCH RT.

VPT 783+00.00

APPROX. ROCK LIMIT

+50.00
1,064.17

+00.00
1,062.96

25.00%

SPECIAL DITCH RT.

SPECIAL DITCH LT.

25.00%

+66.96

+00.00
1,052.58

+23.68%

SPECIAL DITCH RT.

U.F.L. 1033.9

+37.00
1,033.39

+15.00
1,034.21

+00.00
1,041.99

SPECIAL DITCH RT.

SPECIAL D

APPROX.
ROCK
LIMIT

SSD = 901'
K = 611
3,900.00' V.C.

K = 7
100.00' V.C.

1,078.79
VPI 0+25.00
EL 1,078.00

-3.1%

-12.00%

+3.1%

1,070.88

+65.00
1,010.42

+2.79%

L.F.L. 1009.0

+16.00
1,009.00

SSD = 147'
K = 6
50.00' V.C.

VPI 1+00.00
EL 1,069.00

+25.00
984.49

+6.72%

+1.36%

+75.00
993.25

+75.00
986.53

+4.56%

+06.77

SPECIAL DITCH LT.

U.F.L. 977.2

+65.00
977.20

L.F.L. 969.7

0 1
GARDNER PRIVATE DRIVE
(RELOCATION)

PROFILE GRADE
I-49

PRELIMINARY

765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791

1,140 1,130 1,120 1,110 1,100 1,090 1,080 1,070 1,060 1,050 1,040 1,030 1,020 1,010 1,000 990 980 970 960

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	12
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

REV.

STA. 797+33.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 797+33.00 TO 798+53.65 I-49
15" x 119' GROUP B PIPE

(27)
RICHARD D. BAILEY &
JOHNIE M. BAILEY
10 Acres
(ACCESS RIGHTS ONLY)

STA. 799+74.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 798+53.65 TO 799+74.00 I-49
24" x 119' GROUP B PIPE

STA. 802+00.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 799+74.00 TO 802+00.00 I-49
24" x 224' GROUP B PIPE

STA. 806+00.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 802+00.00 TO 806+00.00 I-49
18" x 399' GROUP B PIPE

STA. 810+00.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 806+00.00 TO 810+00.00 I-49
15" x 399' GROUP B PIPE

STA. 814+00.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 810+00.00 TO 814+00.00 I-49
15" x 399' GROUP B PIPE

SW¼ NE¼
15-21-32

STA. 794+39.04 I-49
48" X 257' GROUP A PIPE
1 - 48" GROUP A F.E.S. LT.
CONNECT TO BOX CULV. RT.
SKEW= 37° R.A.
D.A. = 38.6 Ac.
Q_{50} = 168 cfs (DESIGN)
Q_{100} = 198 cfs (OVERTOPPING>100 YR.)

BRIDGE #A7052
GOODIN HOLLOW TRIBUTARY
STA. 795+25.82 I-49
TPL. 8' X 8' R.C.B.
SLOPE TAPERED INLET LT.
HEADWALL RT.
SKEW= 54° L.A.
D.A. = 884.0 Ac.
Q_{50} = 2187 cfs (DESIGN)
Q_{100} = 3063 cfs (OVERTOPPING>500 YR.)

NW¼ SE¼
15-21-32

SW¼ SE¼
15-21-32

(7)
MARY LOU DURBIN
4.46 Ac. NEW R/W
5.56 Ac. REMAINING LT.

I-49
PI 808+04.90
PC 794+66.73
PT 820+57.65
Δ 35° 20' 41.5"(RT)
D 1° 21' 51.1"
L 2,590.91'
T 1,338.16'
R 4,200.00'
SE 4.9%
W 0'

795
PC 794+66.73
237.46'

793+00.00
250.00'

798+00.00
225.00'

800
800+00.00
165.00'

805
805+00.00
180.00'

810
810+00.00
187.89'

815

SECTION LINE +40

(9)
MICHAEL RUSSELL &
SUSAN RUSSELL
SEE SHEET 15

818+00.00
230.00'

NEW R/W

STA. 791+66.73
BEGIN INSIDE SHLDR.
TRANSITION FROM
4'-0" TO 6'-0"LT.

793+00.00
BEGIN G.R.

PC STA 794+66.73

S.L.

TYPE C CONC.
TRAFFIC BARRIER

I-49 N.B.L.
I-49 S.B.L.

℄ I-49

MATCHLINE STA. 791+00.00

ENERGY
DISSIPATOR

PAVED
DITCH

CENTER OF
SEC. 15-21-32

797+00.00
END G.R.

797+00.00
190.00'

STA. 794+66.73
END INSIDE SHLDR.
TRANSITION TO 6'-0"LT.

PC 794+66.73
237.46'

793+50.00
250.00'

792+50.00
330.00'

STA. 798+53.65 I-49
4' X 2' PRECAST D. I. TYPE B
24" X 30' GROUP A PIPE
TYPE B PIPE COLLAR
24" X 112' GROUP B PIPE
1 - 24" GROUP B F.E.S.

805+50.00
160.00'

812+50.00
150.00'

817+00.00
150.00'

817+50.00
240.00'

ENERGY
DISSIPATOR

MATCHLINE STA. 819+00.00

SECTION LINE +40

(26)
DONALD GARDNER &
BETTY GARDNER
SEE SHEET 10

(10)
KAREN R. BUTLER
SEE SHEET 15

STA. 818+00.00 I-49
4' X 2' PRECAST D. I. TYPE B
15" X 30' GROUP A PIPE
TYPE B PIPE COLLAR
15" X 113' GROUP B PIPE
1 - 15" GROUP B F.E.S.

STA. 795+00.00 I-49
4' X 2' PRECAST D. I. TYPE B
15" X 35' GROUP A PIPE
TYPE B PIPE COLLAR
15" X 110' GROUP B PIPE
1 - 15" GROUP B F.E.S.

STA. 818+19.01 I-49
48" X 327' GROUP A PIPE
2 - 48" GROUP A F.E.S.
SKEW= 2° L.A.
D.A. = 33.2 Ac.
Q_{50} = 158 cfs (DESIGN)
Q_{100} = 185 cfs (OVERTOPPING>100 YR.)

SE¼ NW¼
15-21-32

NE¼ SW¼
15-21-32

NW¼ SW¼
15-21-32

GOODIN HOLLOW CO. RD.

SCALE
0 100 200 300 400 500

CERTIFIED LAND CORNER

FROM STA. 800+00.00, 51.48'
N85°19'27.8"W TO CENTER OF SEC. 15
T 21 N, R 32 W.
RECORDED IN McDONALD CO.
BOOK NO. RANGE 32A LAND SURVEYS AT
PAGE 37.

ACCESS IS ALLOWED THROUGH THE CULVERT AT STA. 795+25.82; HOWEVER, NO ATTACHMENTS MAY BE MADE TO THE STRUCTURE.

¼ ¼ SECTION LINE

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	13

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

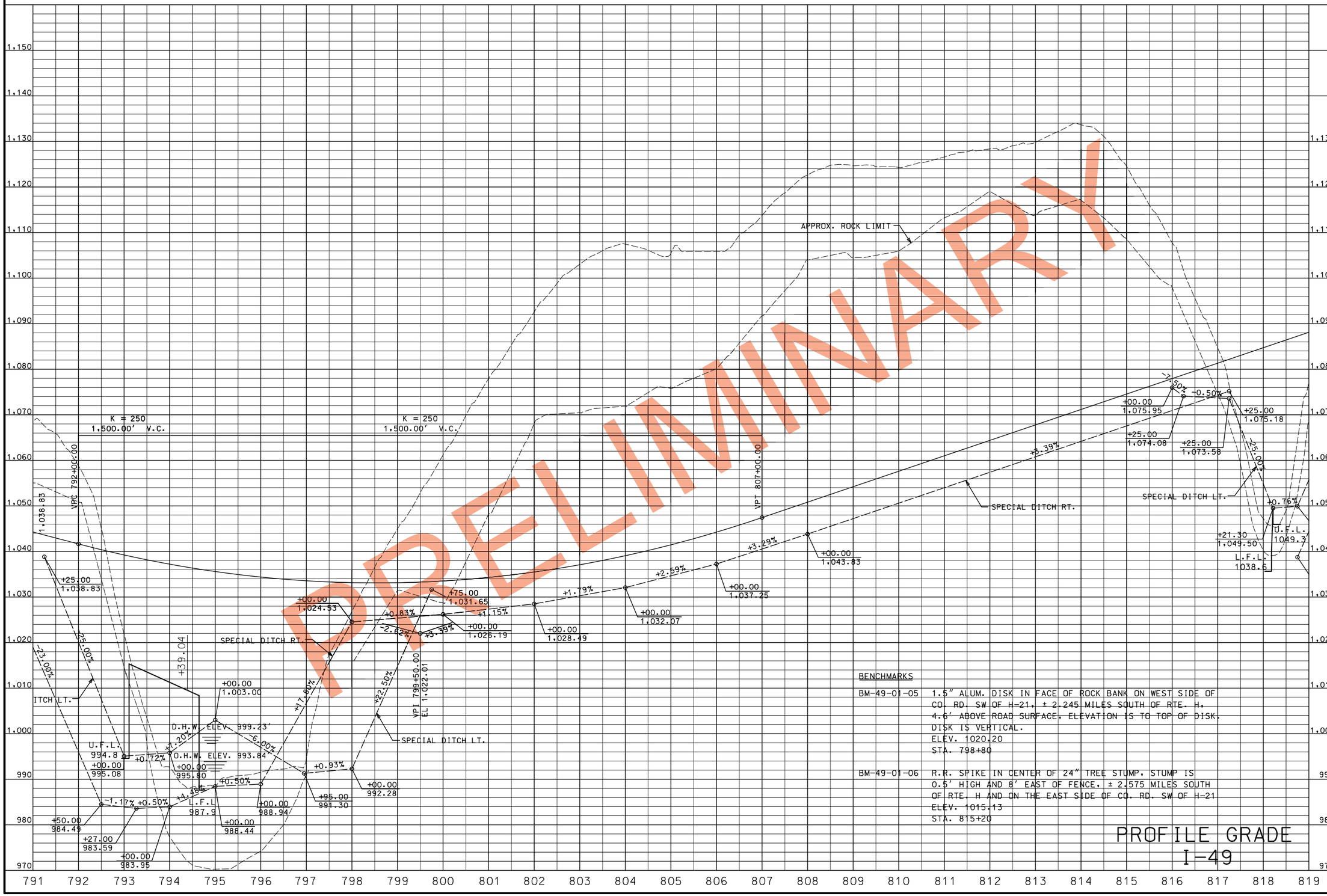
PROJECT NO.

BRIDGE NO.

REV.	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)



BENCHMARKS

BM-49-01-05 1.5" ALUM. DISK IN FACE OF ROCK BANK ON WEST SIDE OF CO. RD. SW OF H-21, ± 2.245 MILES SOUTH OF RTE. H, 4.6' ABOVE ROAD SURFACE, ELEVATION IS TO TOP OF DISK. DISK IS VERTICAL.
ELEV. 1020.20
STA. 798+80

BM-49-01-06 R.R. SPIKE IN CENTER OF 24" TREE STUMP, STUMP IS 0.5' HIGH AND 8' EAST OF FENCE, ± 2.575 MILES SOUTH OF RTE. H AND ON THE EAST SIDE OF CO. RD. SW OF H-21
ELEV. 1015.13
STA. 815+20

PROFILE GRADE
I-49

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/12/2019	
ROUTE 49	STATE MO
DISTRICT SW	SHEET NO. 14
COUNTY McDONALD	
JOB NO. J7P0601	
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.

STA. 830+78.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 830+63.00 TO 830+78.00 I-49
15" x 13' GROUP B PIPE

STA. 831+10.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 830+78.00 TO 831+10.00 I-49
15" x 30' GROUP B PIPE

STA. 831+50.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 831+10.00 TO 831+50.00 I-49
15" x 38' GROUP B PIPE

STA. 833+00.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 831+50.00 TO 833+00.00 I-49
15" x 149' GROUP B PIPE

STA. 835+50.00 I-49
4' x 2' PRECAST D.I. TYPE B

STA. 833+00.00 TO 835+50.00 I-49
15" x 249' GROUP B PIPE

CAUTION:
16" H.P. GAS LINE
SOUTHERN STAR
CENTRAL GAS PIPELINE
(DO NOT DISTURB)

STA. 842+96.71 I-49
4' X 4' 319' SPECIAL DESIGN R.C.B.
HEADWALL LT.
CONNECT TO BOX CULV. RT.
SKEW= 32° R.A.
D.A. = 21.3 Ac.
Q_{50} = 105 cfs (DESIGN)
Q_{100} = 122 cfs (OVERTOPPING>100 YR.)

STA. 844+08.90 I-49
6' X 5' X 495' SPECIAL DESIGN R.C.B.
HEADWALLS LT. & RT.
SKEW= 30° L.A.
D.A. = 100.9 Ac.
Q_{50} = 369 cfs (DESIGN)
Q_{100} = 432 cfs (OVERTOPPING>100 YR.)

I-49
PI 841+75.20
PC 831+84.92
PT 851+29.96
Δ 26°32'02.2"(LT)
D 1°21'51.1"
L 1,945.04'
T 990.28'
R 4,200.00'
SE 4.9%
W 0'

STA. 831+22.78 I-49
36" X 421' GROUP A PIPE
2 - 36" GROUP A F.E.S.
SKEW= 19° R.A.
D.A. = 17.7 Ac.
Q_{50} = 95 cfs (DESIGN)
Q_{100} = 110 cfs (OVERTOPPING>100 YR.)

(9)
MICHAEL RUSSELL &
SUSAN RUSSELL
5.89 Ac. NEW R/W
13.77 Ac. REMAINING LT.
0.91 Ac. REMAINING RT.

(11C)
DONNIE RAY SUMNER
14.08 Ac. NEW R/W
40.34 Ac. REMAINING LT.
27.94 Ac. REMAINING RT.

(28)
DONALD GARDNER &
BETTY GARDNER
SEE SHEET 17

(11B)
DALE CLARK
SEE SHEET 17

(10)
KAREN R. BUTLER
6.83 Ac. NEW R/W
1.34 Ac. REMAINING LT.
26.90 Ac. REMAINING RT.

SE¼SW¼ 15-21-32
NE¼NW¼ 22-21-32
SW¼SW¼ 15-21-32
NW¼NW¼ 22-21-32

¼ ¼ SECTION LINE
SECTION LINE +34
SECTION LINE +29

STA. 823+57.65
END INSIDE SHLDR.
TRANSITION TO 4'-0" LT.

STA. 820+57.65
BEGIN INSIDE SHLDR.
TRANSITION FROM
6'-0" TO 4'-0" LT.

STA. 828+84.92
BEGIN INSIDE SHLDR. TRANS.
4'-0" TO 6'-0" RT.

STA. 831+84.92
END INSIDE SHLDR. TRANS.
6'-0" RT.

819+00.00
240.00'
820
PT 820+57.65
140.00'
825
826+50.00
180.00'
830
830+00.00
160.00'
830+50.00
235.00'
831+25.00
250.00'
831+84.92
217.19'
833+00.00
155.00'
835
840
840+00.00
150.00'
841+00.00
260.00'
842+00.00
260.00'
843+50.00
200.00'
844+75.00
275.00'
845
847+00.00

819+00.00
255.00'
PT 820+57.65
150.00'
830+00.00
160.00'
831+50.00
300.00'
833+50.00
310.00'
835+75.00
120.00'
839+00.00
120.00'
842+00.00
300.00'
843+50.00
315.00'
846+00.00

PC 831+84.92
PC STA 831+84.92

NEW R/W
S.L.
TYPE C CONC. TRAFFIC BARRIER
S 36° 29' 45" W
℄ I-49
TYPE 2 ROCK BLANKET
I-49 N.B.L.
I-49 S.B.L.
MATCHLINE STA. 819+00.00
MATCHLINE STA. 847+00.00
ENERGY DISSIPATOR
EXIST. UTIL. ESMT.
UNDERGROUND GAS LINE (BY OTHERS)
EXISTING UTILITY CROSSING (TO BE ABANDONED)
BEGIN G.R.
END G.R.

PROPOSED GAS PIPELINE EASEMENT
(ACQUIRED BY OTHERS)
0.17 Ac.
①TO②S23°20'00.00"W - 66.95'
②TO③S22°54'27.56"E - 137.76'
③TO④S30°34'30.20"W - 65.04'
④TO①S24°27'12.42"E - 145.41'

PROPOSED GAS PIPELINE EASEMENT
(ACQUIRED BY OTHERS)
0.44 Ac.
①TO②S22°26'41.01"E - 84.45'
②TO③S28°57'27.75"W - 388.46'
③TO④S54°25'44.46"W - 153.47'
④TO①S28°57'27.75"W - 197.23'

STA. 830+63.00 I-49
4' X 2' PRECAST D.I. TYPE B
15" X 29' GROUP A PIPE
TYPE B PIPE COLLAR
15" X 108' GROUP B PIPE
1 - 15" GROUP B F.E.S.

STA. 840+50.00 I-49
4' X 2' PRECAST D.I. TYPE B
15" X 35' GROUP A PIPE
TYPE B PIPE COLLAR
15" X 57' GROUP B PIPE
1 - 15" GROUP B F.E.S.

STA. 844+25.00 I-49
4' X 2' PRECAST D.I. TYPE B
15" X 30' GROUP A PIPE
TYPE B PIPE COLLAR
15" X 182' GROUP B PIPE
1 - 15" GROUP B F.E.S.

EXIST. UTIL. ESMT.
GOODIN HOLLOW CO. RD.

SCALE
0 100 200 300 400 500

PRELIMINARY

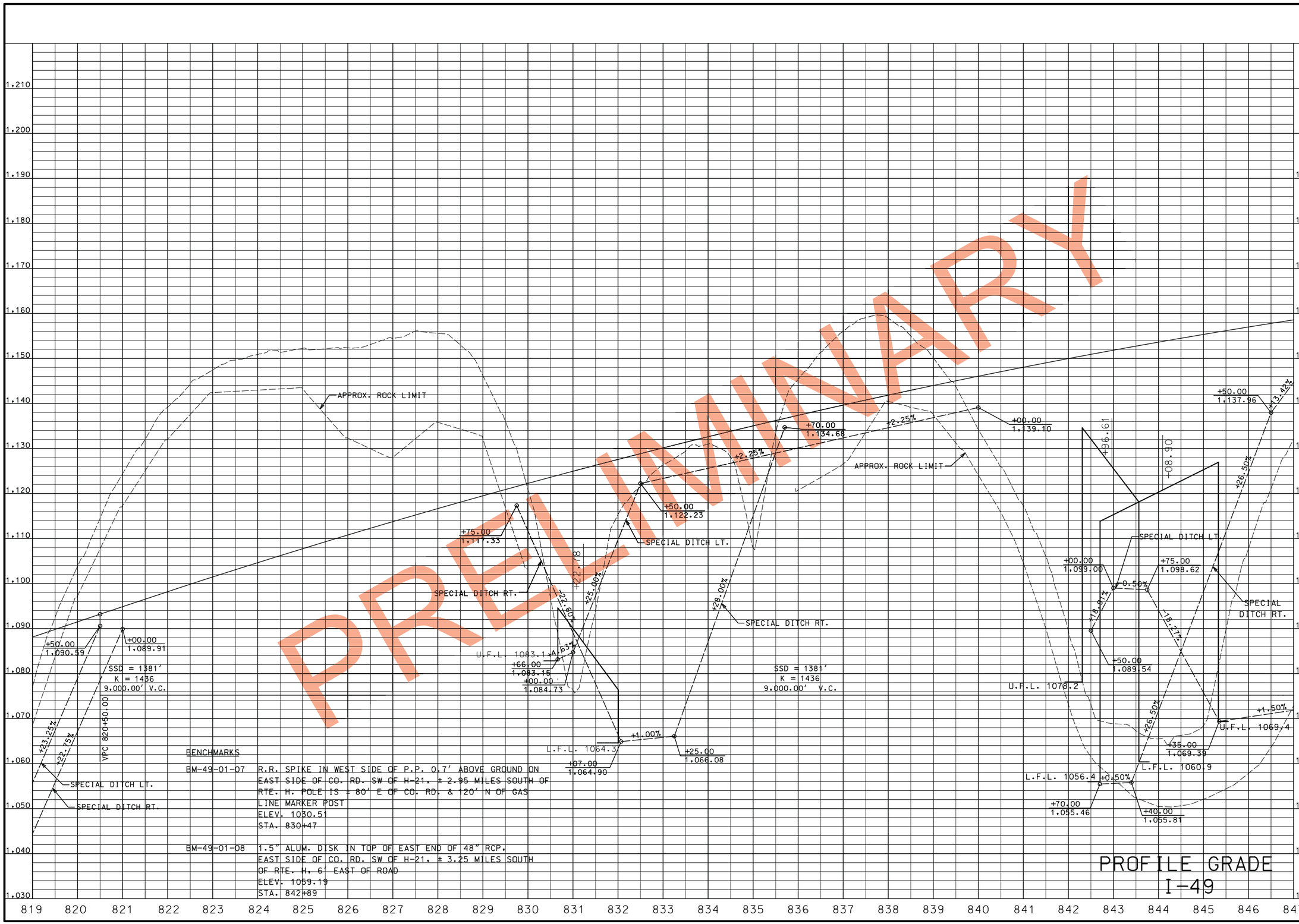
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 15
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

DESCRIPTION | DATE | REV.

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



PRELIMINARY

BENCHMARKS

BM-49-01-07 R.R. SPIKE IN WEST SIDE OF P.P. 0.7' ABOVE GROUND ON EAST SIDE OF CO. RD. SW OF H-21, ± 2.95 MILES SOUTH OF RTE. H. POLE IS ± 80' E OF CO. RD. & 120' N OF GAS LINE MARKER POST
ELEV. 1030.51
STA. 830+47

BM-49-01-08 1.5" ALUM. DISK IN TOP OF EAST END OF 48" RCP, EAST SIDE OF CO. RD. SW OF H-21, ± 3.25 MILES SOUTH OF RTE. H, 6' EAST OF ROAD
ELEV. 1059.19
STA. 842+89

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	16

COUNTY
McDONALD

JOB NO.
J7P0601

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.

STA. 853+00.00 I-49
INSTALL 8" X 302' WELDED STEEL
ENCASEMENT FOR UTILITY CROSSING
(FURNISHED BY OTHERS)

RAMP 1
PI 1003+73.50
PC 1000+00.00
PT 1007+42.91
Δ 14° 40' 40.3" (LT)
D 1° 58' 32.6"
L 742.91'
T 373.50'
R 2,900.00'
SE 5.0%

STA. 1009+04.71 RAMP 1
24" X 183' GROUP A PIPE
2 - 24" GROUP A F.E.S.
SKEW = 30° R.A.
D.A. = 4.2 Ac.
Q_{50} = 19 cfs (DESIGN)
Q_{∞} = 22 cfs (OVERTOPPING>100 YR.)

NOTE: SEE OTHER SHEETS FOR RIGHT OF WAY STATIONS / OFFSETS ALONG RTE. 90

(28) DONALD GARDNER & BETTY GARDNER
NO TAKING

SE¼NW¼ 22-21-32

¼ ¼ SECTION LINE+52

¼ SECTION LINE+80

(11B) DALE CLARK
12.47 Ac. NEW R/W
0.33 Ac. PERM. ESM'T LT.
0.44 Ac. PERM. ESM'T RT.
12.23 Ac. REMAINING LT.
14.51 Ac. REMAINING RT.

PERM. UTIL. ESM'T. (TELEPHONE) 0.33 Ac.
① TO ② N06°52'47"E - 458.42'
② TO ③ N38°21'05"E - 57.46'
③ TO ④ S06°52'47"W - 505.14'
④ TO ① N87°28'25"W - 30.09'

PERM. UTIL. ESM'T. 0.33 Ac.

(11A) LLOYD SUMNER
SEE SHEET 33

PERM. UTIL. ESM'T. 0.98 Ac. (SEE SHEET 33)

(12A) JERRY W. WATKINS & JOANNE WATKINS
0.41 Ac. NEW R/W
1.34 Ac. REMAINING LT.

(29) E.L. GRAHAM
NO TAKING

(13) JOHN MICHAEL BROWN & CHARLOTTE R. BROWN
SEE SHEET 21

℄ ROUTE 90

STA. 53+49.97 ℄ ROUTE 90 =
STA. 1015+79.58 ℄ RAMP 1 =
STA. 3000+00.00 ℄ RAMP 3

NE¼SW¼ 22-21-32

NE¼NW¼ 22-21-32

SW¼NW¼ 22-21-32

℄ I-49

℄ RAMP 1

℄ RAMP 2

℄ RAMP 3

℄ RAMP 4

RAMP 1
PC STA. 1000+00.00 ℄ RAMP 1 =
STA. 857+39.42, 41' LT. ℄ I-49
PI STA. 1007+42.91
PT STA. 1005+83.19

RAMP 2
PC STA. 2000+00.00 ℄ RAMP 2 =
STA. 855+14.32, 41' RT. ℄ I-49
PI STA. 2002+92.58
PT STA. 2005+83.19

RAMP 3
73°00'00" LOCAL TAN.

RAMP 4
80°00'00" LOCAL TAN.
75°00'00" LT LOCAL TAN.

847+75.00 270.00'
849+00.00 350.00'
850+87.50 END G.R.
853+00.00 150.00'
856+00.00 150.00'
859+50.00 185.00'
861+25.00 300.00'
863+50.00 300.00'
865+50.00 340.00'
866+75.00 300.00'
868+00.00 446.00'
871+25.00 440.00'
873+84.74 460.00'
3001+09.34 BEGIN G.R.

NEW R/W
EXIST. R/W
OE
S.L.
TYPE C CONC. TRAFFIC BARRIER
TYPE 2 ROCK BLANKET
ROCK LINING
30' PERM. UTIL. ESM'T. (TELEPHONE)

S 9° 57' 43" W
S 21° 29' 03" W
S 4° 42' 57" E

I-49 N.B.L.
I-49 S.B.L.

STA. 872+50.00 BEGIN 6'-8" BARRIER
STA. 874+00 END 6'-8" BARRIER - S.L. BEGIN BARRIER TRANS. 6'-8" TO 2'-0"
STA. 869+00.00 BEGIN TYPE C BARRIER TRANS. 2'-0" TO 6'-8"
STA. 851+29.96 BEGIN INSIDE SHLDR. TRANSITION FROM 6'-0" TO 4'-0" RT.
STA. 854+29.96 END INSIDE SHLDR. TRANSITION TO 4'-0" RT.

PERM. UTIL. ESM'T. 0.44 Ac.

PERM. UTIL. ESM'T. 0.13 Ac.

PERM. UTIL. ESM'T. (TELEPHONE) 0.44 Ac.
① TO ② N48°37'18"E - 306.81'
② TO ③ N09°57'43"E - 339.48'
③ TO ④ S80°02'17"E - 30.00'
④ TO ⑤ S09°57'43"W - 350.00'
⑤ TO ⑥ S48°37'18"W - 286.16'
⑥ TO ① N87°28'25"W - 43.26'

PERM. UTIL. ESM'T. (TELEPHONE) 0.13 Ac.
① TO ② S87°28'25"E - 43.26'
② TO ③ S48°37'18"W - 130.04'
③ TO ④ S11°57'15"W - 64.25'
④ TO ⑤ N29°46'41"W - 69.79'
⑤ TO ① N48°37'18"E - 136.37'

STA. 847+50.00 I-49
4' X 2' PRECAST D.I. TYPE B
15" X 73' GROUP A PIPE
1 - 15" GROUP A F.E.S.

STA. 850+75.00 I-49
4' X 2' PRECAST D.I. TYPE B
15" X 41' GROUP A PIPE
TYPE B PIPE COLLAR
15" X 172' GROUP B PIPE
1 - 15" GROUP B F.E.S.

RAMP 2
PI 2002+92.58
PC 2000+00.00
PT 2005+83.19
Δ 11° 31' 20.0" (RT)
D 1° 58' 32.6"
L 583.19'
T 292.58'
R 2,900.00'
SE 5.0%

STA. 2012+30.00 RAMP 2
24" X 453' GROUP A PIPE
2 - 24" GROUP A F.E.S.
SKEW = 57° L.A.
D.A. = 7.2 Ac.
Q_{50} = 31 cfs (DESIGN)
Q_{∞} = 36 cfs (OVERTOPPING>100 YR.)

(16) VIOLA MAE JOSS ADAMS ET.AL.
0.90 Ac. NEW R/W
550.10 Ac. REMAINING RT.

STA. 46+49.97 ℄ ROUTE 90=
STA. 2018+37.09 ℄ RAMP 2=
STA. 4000+00.00 ℄ RAMP 4

44+38.21 RTE. 90 60.00'
44+00.00 RTE. 90 60.00'

DO NOT DISTURB EXIST. TELEPHONE CABINET

UPPER MILL CREEK ROAD

GOODIN HOLLOW CO. RD.

BR# A7000

MATCHLINE STA. 847+00.00

MATCHLINE STA. 875+00.00

WEST¼ COR. OF SEC. 22-21-32

SECTION LINE

NE¼SE¼ 21-21-32

SE¼NE¼ 21-21-32

CERTIFIED LAND CORNER

FROM STA. 860+00.00, 600.79' N 66° 14' 16.7" W TO W¼ OF SEC. 22 T 21 N, R 32 W.
RECORDED IN McDONALD CO. BOOK NO. RANGE 32A LAND SURVEYS AT PAGE 37.

SCALE
0 100 200 300 400 500

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

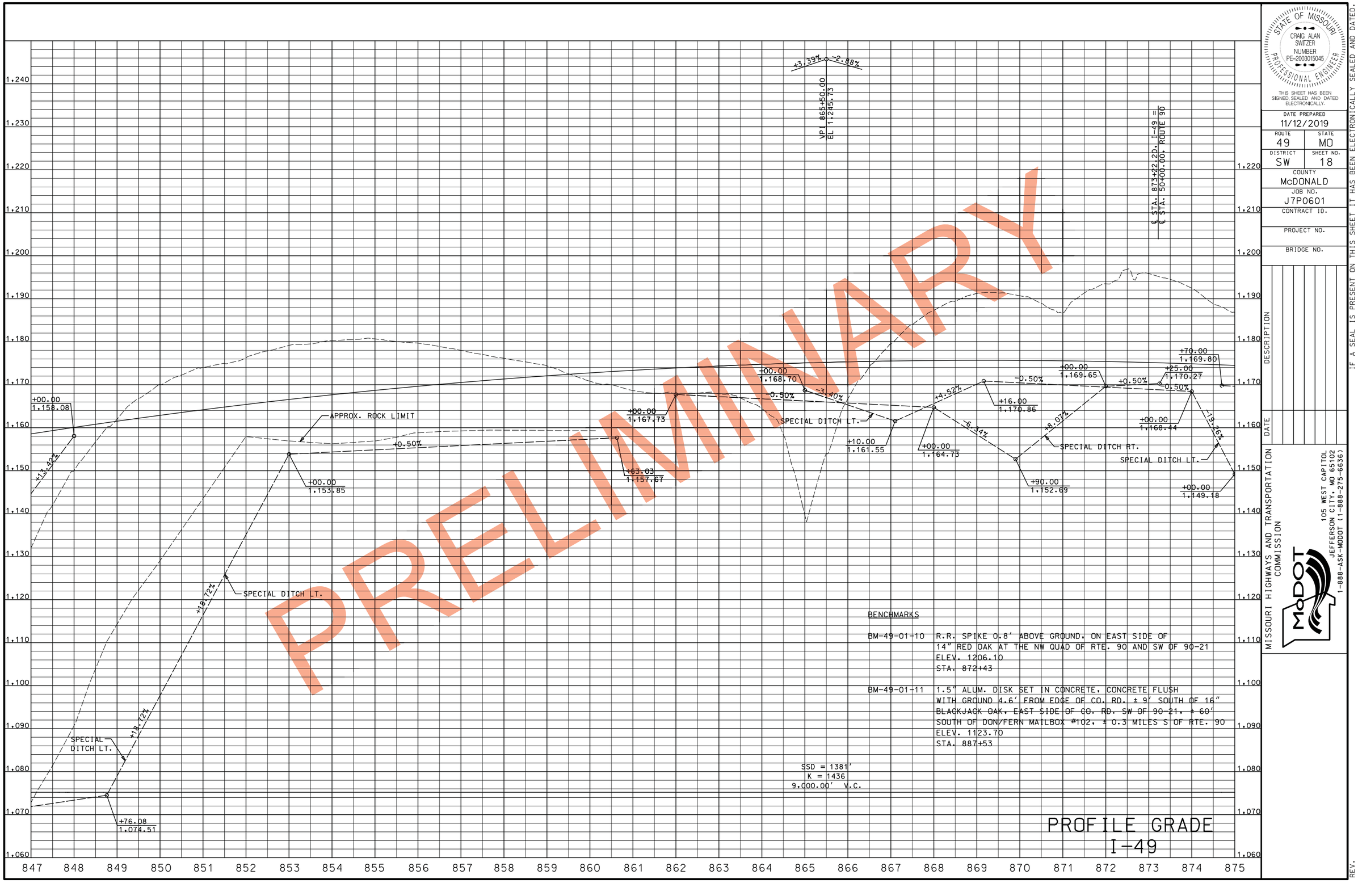
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	17

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

REV. | DESCRIPTION | DATE

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



BENCHMARKS

BM-49-01-10 R.R. SPIKE 0.8′ ABOVE GROUND, ON EAST SIDE OF 14″ RED OAK AT THE NW QUAD OF RTE. 90 AND SW OF 90-21
ELEV. 1206.10
STA. 872+43

BM-49-01-11 1.5″ ALUM. DISK SET IN CONCRETE, CONCRETE FLUSH WITH GROUND 4.6′ FROM EDGE OF CO. RD. ± 9′ SOUTH OF 16″ BLACKJACK OAK, EAST SIDE OF CO. RD. SW OF 90-21, ± 60′ SOUTH OF DON/FERN MAILBOX #102, ± 0.3 MILES S OF RTE. 90
ELEV. 1123.70
STA. 887+53

SSD = 1381′
K = 1436
9,000.00′ V.C.

PROFILE GRADE
I-49

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	18

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

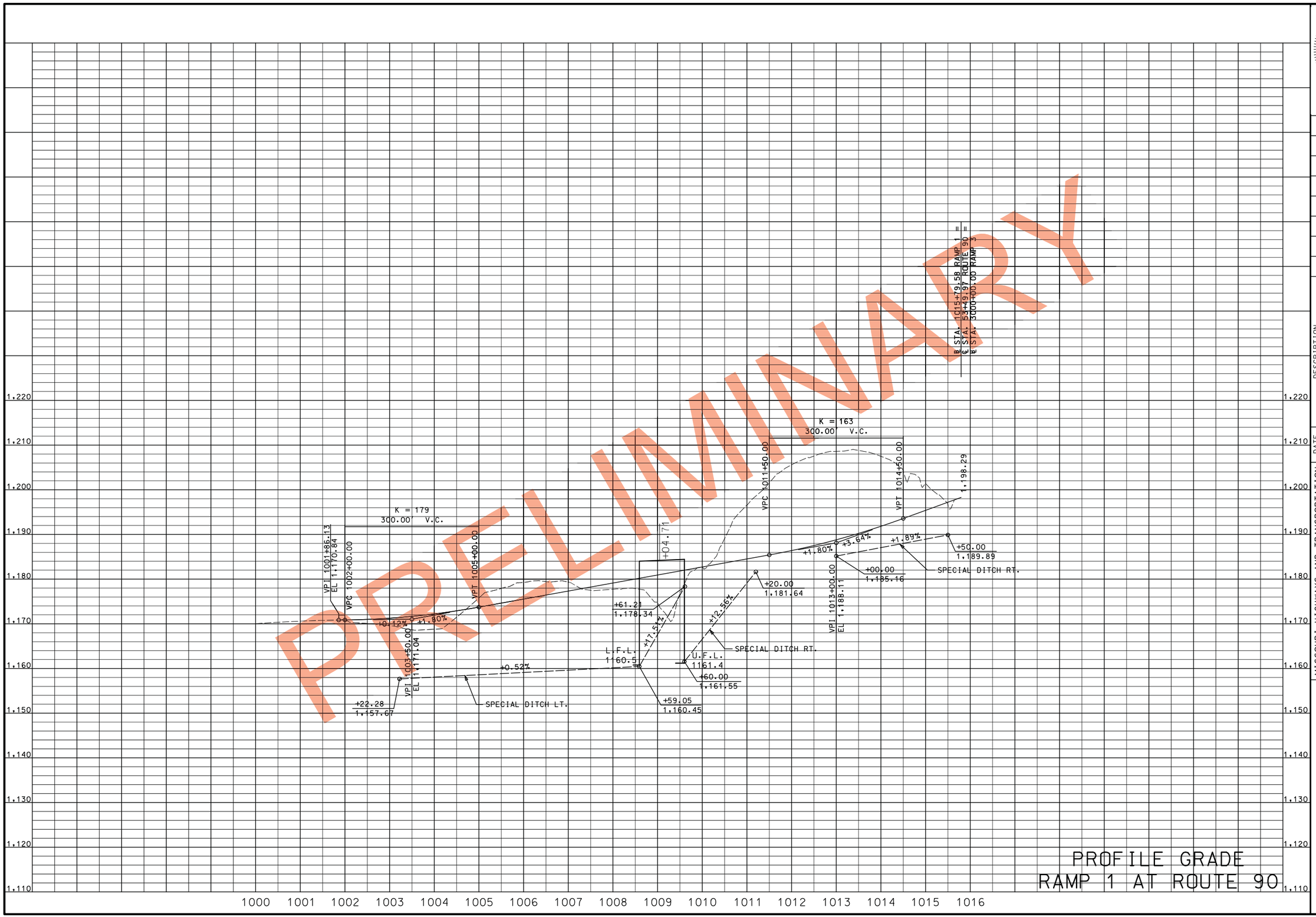
DESCRIPTION

DATE

REV.

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

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



PRELIMINARY

PROFILE GRADE
RAMP 1 AT ROUTE 90

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	19

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

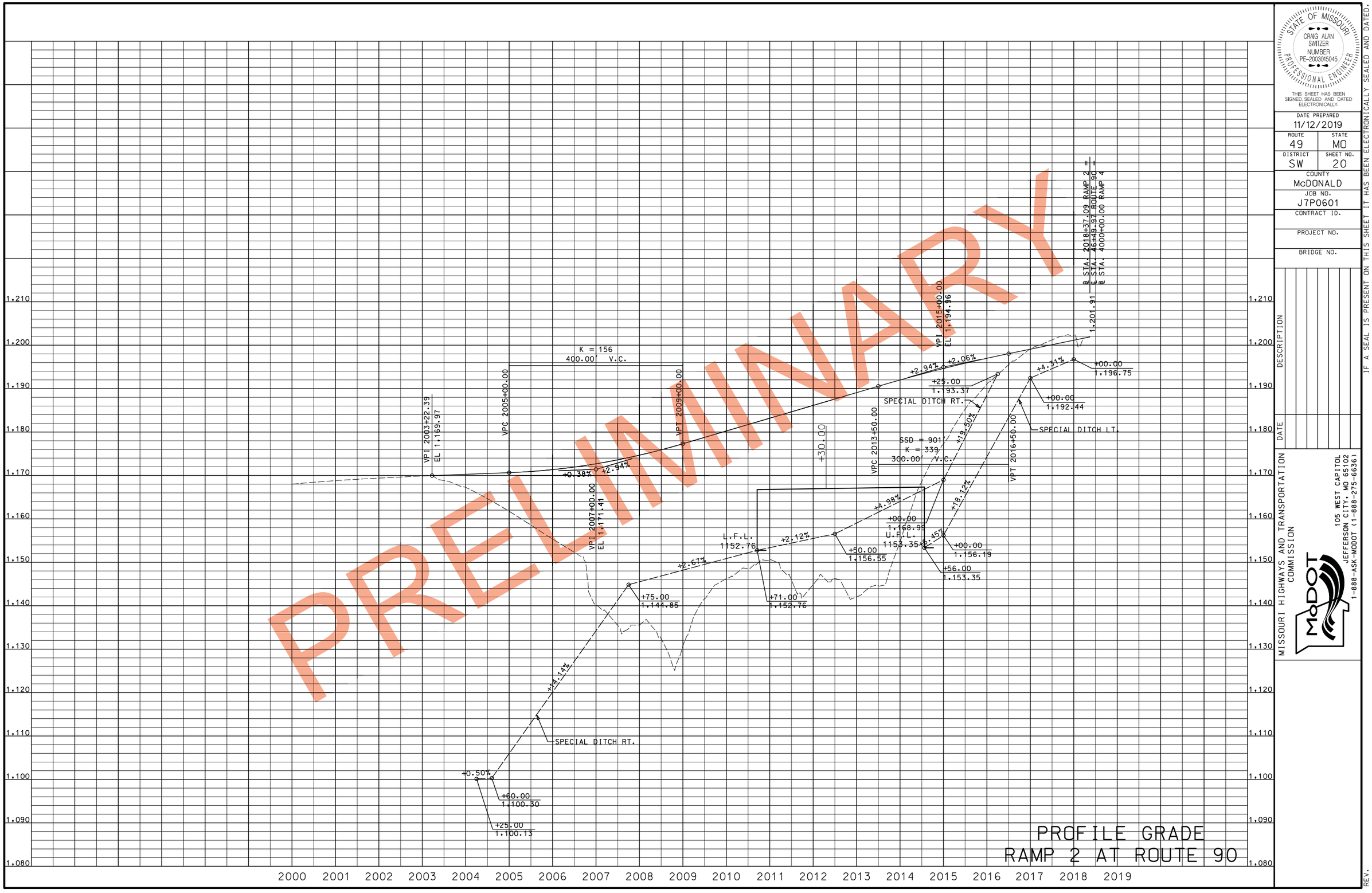
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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.

PRELIMINARY



PROFILE GRADE
RAMP 2 AT ROUTE 90

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	20

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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

STA. 876+05.00 TO 877+45.00 I-49
15" x 140' SLOTTED DRAIN (MEDIAN)

STA. 877+45.00 TO 877+75.00 I-49
15" x 29' GROUP B PIPE

STA. 879+25.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 879+25.00 TO 880+50.00 I-49
15" x 123' GROUP B PIPE

STA. 3003+51.72 RAMP 3
30" X 331' GROUP A PIPE
2 - 30" GROUP A F.E.S.
SKEW = 30° L.A.
D.A. = 9.5 Ac.
Q_{50} = 38 cfs (DESIGN)
Q_{∞} = 44 cfs (OVERTOPPING>100 YR.)

STA. 880+50.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 880+50.00 TO 882+00.00 I-49
15" x 148' GROUP B PIPE

STA. 882+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 882+00.00 TO 883+00.00 I-49
15" x 98' GROUP B PIPE

STA. 883+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 883+00.00 TO 884+00.00 I-49
15" x 98' GROUP B PIPE

STA. 885+75.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 885+75.00 TO 887+25.00 I-49
15" x 149' GROUP B PIPE

STA. 887+25.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 887+25.00 TO 889+25.00 I-49
15" x 199' GROUP B PIPE

STA. 889+25.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 889+25.00 TO 891+25.00 I-49
15" x 199' GROUP B PIPE

STA. 891+25.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 891+25.00 TO 893+00.00 I-49
15" x 174' GROUP B PIPE

STA. 894+50.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 894+50.00 TO 896+00.00 I-49
15" x 148' GROUP B PIPE

STA. 897+50.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 897+50.00 TO 899+00.00 I-49
15" x 148' GROUP B PIPE

STA. 900+50.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 900+50.00 TO 902+00.00 I-49
15" x 148' GROUP B PIPE

STA. 896+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 44' GROUP A PIPE
TYPE B PIPE COLLAR
15" x 117' GROUP B PIPE
1 - 15" GROUP B F.E.S.

STA. 899+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 33' GROUP A PIPE
TYPE B PIPE COLLAR
15" x 166' GROUP B PIPE
1 - 15" GROUP B F.E.S.

STA. 902+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 78' GROUP A PIPE
1 - 15" GROUP A F.E.S.

(13)
JOHN MICHAEL BROWN &
CHARLOTTE R. BROWN
27.67 Ac. NEW R/W
51.16 Ac. REMAINING LT.
1.95 Ac. REMAINING RT.

(30)
EDWIN KELLEY &
DIXIE KELLEY
0.05 Ac. NEW R/W
0.17 Ac. TEMP. ESM'T.
0.25 Ac. PERM. ESM'T. LT.
403.87 Ac. REMAINING LT.

(15)
RICHARD E. O'BRIEN
14.46 Ac. NEW R/W
4.61 Ac. REMAINING LT.
1.01 Ac. REMAINING RT.

RAMP 3
PI 3017+99.62
PC 3013+82.12
PT 3022+11.42
Δ 16° 23' 04.5" (LT)
D 1° 58' 32.6"
L 829.30'
T 416.50'
R 2,900.00'
SE 5.0%

RAMP 4
PI 4015+57.24
PC 4012+36.65
PT 4018+77.22
Δ 6° 07' 01.1" (RT)
D 0° 57' 17.7"
L 640.57'
T 320.59'
R 6,000.00'
SE 2.7%

I-49
PI 910+47.28
PC 876+75.92
PT 942+34.86
Δ 32° 40' 41.7" (LT)
D 0° 29' 53.6"
L 6,558.94'
T 3,371.36'
R 11,500.00'
SE 2.0%
W 0'

STA. 887+10.93 I-49
7' X 6' X 909' SPECIAL DESIGN R.C.B.
HEADWALLS LT. & RT.
SKEW= 32° R.A.
D.A. = 143.5 Ac.
Q_{50} = 561 cfs (DESIGN)
Q_{∞} = 655 cfs (OVERTOPPING>100 YR.)

STA. 899+93.87 I-49
4' X 4' X 473' SPECIAL DESIGN R.C.B.
HEADWALLS LT. & RT.
SKEW= 13° R.A.
D.A. = 29.8 Ac.
Q_{50} = 147 cfs (DESIGN)
Q_{∞} = 171 cfs (OVERTOPPING>100 YR.)

STA. 4007+25.00 RAMP 4
24" X 303' GROUP A PIPE
2 - 24" GROUP A F.E.S.
D.A. = 6.1 Ac.
Q_{50} = 22 cfs (DESIGN)
Q_{∞} = 26 cfs (OVERTOPPING>100 YR.)

STA. 884+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 81' GROUP A PIPE
1 - 15" GROUP A F.E.S.

STA. 877+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 34' GROUP A PIPE
TYPE B PIPE COLLAR
15" x 75' GROUP B PIPE
1 - 15" GROUP B F.E.S.

(16)
VIOLA MAE JOSS ADAMS ET. AL.
SEE SHEET 17

(31)
DONALD & FERN HOWARTH
3.36 Ac. NEW R/W
16.64 Ac. REMAINING RT.

(19)
THE JAMES ALLEN KEMP REVOCABLE TRUST &
KEMP LAND CO. L.L.C.
SEE SHEET 27

CERTIFIED LAND CORNER

FROM STA. 885+00.00, 252.75'
N78°54'5.0"W TO NW COR. OF SEC. 27
T 21 N, R 32 W.
RECORDED IN McDONALD CO.
BOOK NO. RANGE 32A LAND SURVEYS AT
PAGE 37.

PT STA. 3022+11.42 ℄ RAMP 3 =
STA. 894+94.87, 41' LT.
℄ I-49

PT STA. 4018+77.22 ℄ RAMP 4 =
STA. 891+53.33, 41' RT. ℄ I-49

NW⁴ NW⁴ 27-21-32
SW⁴ SW⁴ 22-21-32
SW⁴ NW⁴ 27-21-32
NE⁴ NE⁴ 28-21-32
SE⁴ NE⁴ 28-21-32
SE² SE⁴ 21-21-32

SECTION LINE +62
¼ SECTION LINE +82
MATCHLINE STA. 875+00.00
MATCHLINE STA. 903+00.00

NEW R/W
ROCK LINING
S.L.
℄ RAMP 3
RAMP 3
S 17° 17' 03" W
TYPE C CONC. TRAFFIC BARRIER
STA. 877+50.00 END TYPE C BARRIER TRANS. 6'-8" TO 2'-0"
RAMP 4
S 3° 30' 57" E
NW COR. OF SEC. 27-21-32
SECTION LINE
℄ RAMP 4
ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET
UPPER MILL CREEK RD.
EXIST. R/W
I-49 N.B.L.
I-49 S.B.L.
℄ I-49
CAVE FOOTPRINT (UNDERGROUND) DO NOT DISTURB

SCALE
0 100 200 300 400 500

PRELIMINARY

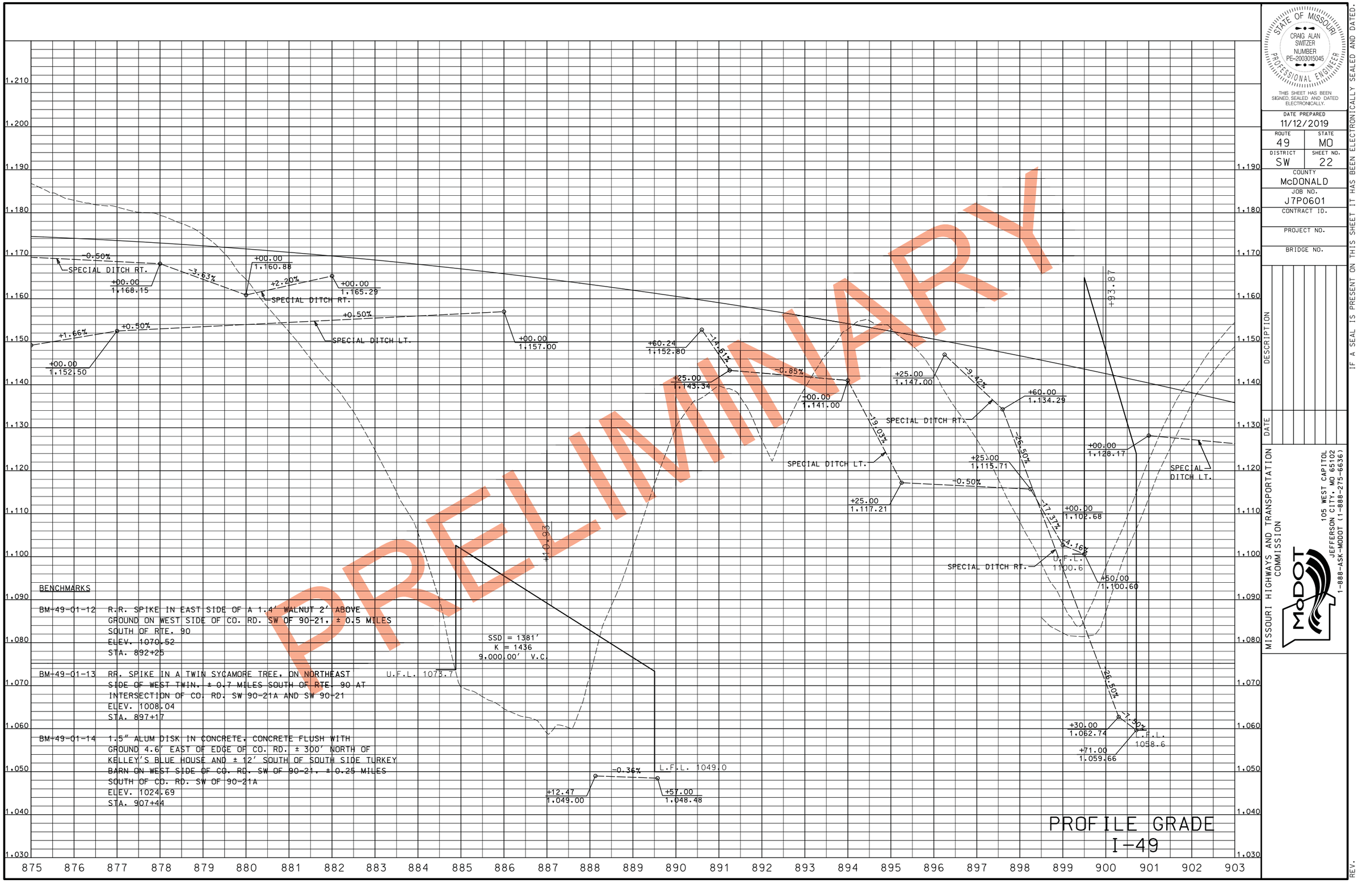
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 21
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



BENCHMARKS

BM-49-01-12 R.R. SPIKE IN EAST SIDE OF A 1.4' WALNUT 2' ABOVE GROUND ON WEST SIDE OF CO. RD. SW OF 90-21. ± 0.5 MILES SOUTH OF RTE. 90
ELEV. 1070.52
STA. 892+25

BM-49-01-13 RR. SPIKE IN A TWIN SYCAMORE TREE, ON NORTHEAST SIDE OF WEST TWIN, ± 0.7 MILES SOUTH OF RTE. 90 AT INTERSECTION OF CO. RD. SW 90-21A AND SW 90-21
ELEV. 1008.04
STA. 897+17

BM-49-01-14 1.5" ALUM DISK IN CONCRETE, CONCRETE FLUSH WITH GROUND 4.6' EAST OF EDGE OF CO. RD. ± 300' NORTH OF KELLEY'S BLUE HOUSE AND ± 12' SOUTH OF SOUTH SIDE TURKEY BARN ON WEST SIDE OF CO. RD. SW OF 90-21. ± 0.25 MILES SOUTH OF CO. RD. SW OF 90-21A
ELEV. 1024.69
STA. 907+44

PRELIMINARY

PROFILE GRADE
I-49

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	22

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

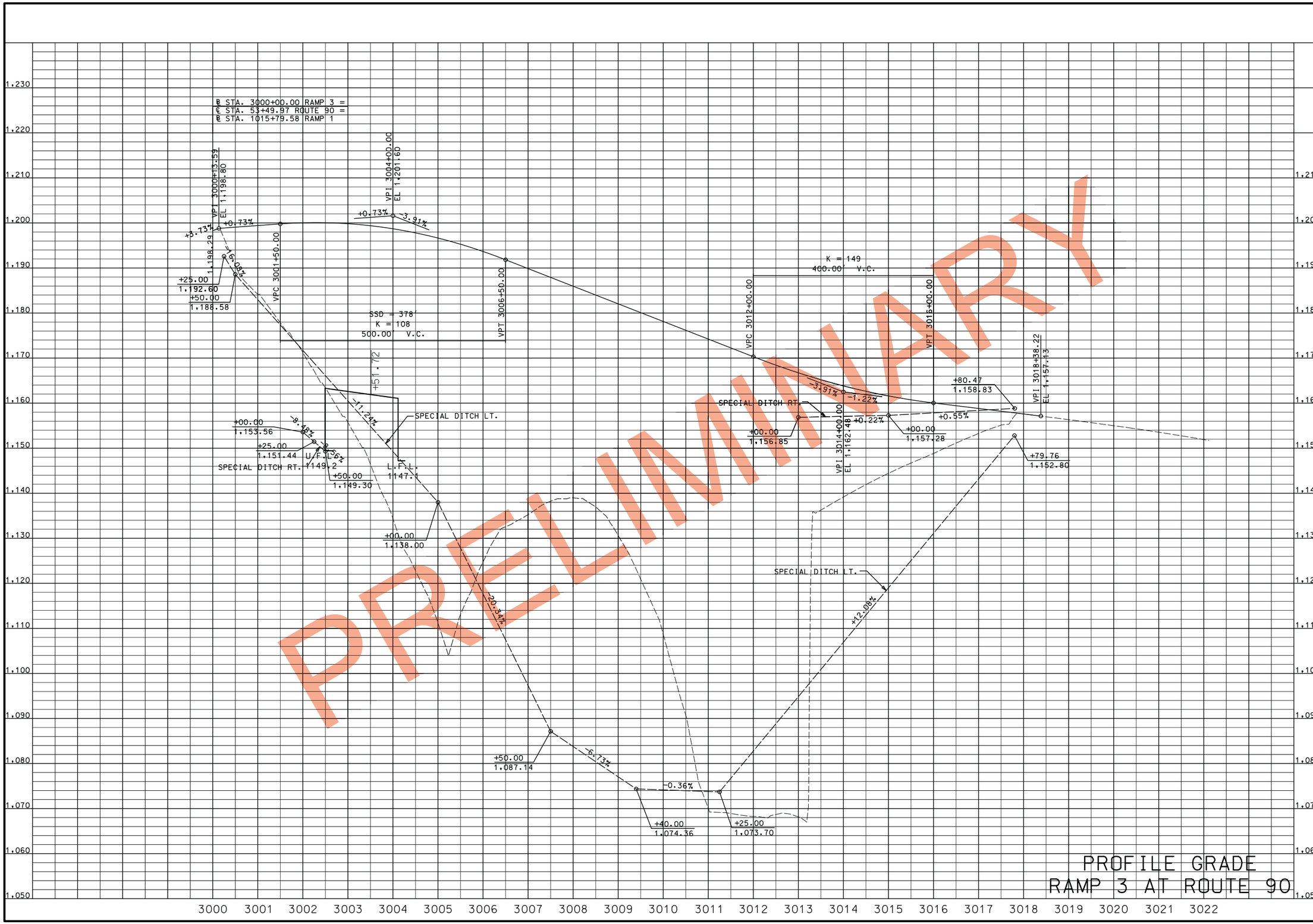
BRIDGE NO.

REV.	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)



PROFILE GRADE
RAMP 3 AT ROUTE 90

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/12/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	23
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

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

REV.

℄ STA. 4000+00.00 RAMP 4 =
℄ STA. 46+49.97 ROUTE 90 =
℄ STA. 2018+37.09 RAMP 2

VPI 4002+50.00
EL 1,196.91

1,201.91

-2.00%

-3.31%

+00.00
1,196.20

+00.00
1,182.39

-6.90%

+00.00
1,195.68

VPC 4001+00.00

SSD = 976'
K = 230
300.00' V.C.

VPT 4004+00.00

SPECIAL DITCH LT.

-5.06%

U.F.L.
1160.9

+25.00
1,160.88

+25.00

-25.00%

SPECIAL DITCH RT.

L.F.L.-0.50%
1112.9

+25.00
1,114.43

K = 127
300.00' V.C.

VPC 4009+95.00

VPT 4012+95.00

-3.31%

-0.94%

0.94%

+0.44%

VPI 4011+45.00
EL 1,167.32

VPC 4013+00.00

-0.25%

-1.25%

-1.27%

VPI 4014+75.00
EL 1,154.20

VPI 4016+59.91
EL 1,161.88

1,161.37

+50.00
1,110.30

SSD = 3662'
ex = 0.14'
K = 1131
350.00' V.C.

VPT 4016+50.00

+50.00
1,110.30

SPECIAL DITCH RT.

-24.24%

-0.32%

+00.89
1,049.50

+61.07
1,048.98

PRELIMINARY

PROFILE GRADE
RAMP 4 AT ROUTE 90

1,220 1,210 1,200 1,190 1,180 1,170 1,160 1,150 1,140 1,130 1,120 1,110 1,100 1,090 1,080 1,070 1,060 1,050 1,040

4000 4001 4002 4003 4004 4005 4006 4007 4008 4009 4010 4011 4012 4013 4014 4015 4016 4017 4018 4019

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	24

COUNTY
McDONALD

JOB NO.
J7P0601

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.

STA. 904+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 904+00.00 TO 906+00.00 I-49
15" x 198' GROUP B PIPE

STA. 908+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 908+00.00 TO 910+00.00 I-49
15" x 198' GROUP B PIPE

STA. 910+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 910+00.00 TO 912+00.00 I-49
15" x 198' GROUP B PIPE

STA. 912+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 912+00.00 TO 914+00.00 I-49
15" x 198' GROUP B PIPE

STA. 916+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 916+00.00 TO 918+00.00 I-49
15" x 198' GROUP B PIPE

STA. 920+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 920+00.00 TO 922+00.00 I-49
15" x 198' GROUP B PIPE

STA. 925+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 925+00.00 TO 926+25.00 I-49
15" x 123' GROUP B PIPE

STA. 926+25.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 926+25.00 TO 927+50.00 I-49
15" x 123' GROUP B PIPE

STA. 927+50.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 927+50.00 TO 928+50.00 I-49
15" x 98' GROUP B PIPE

STA. 928+50.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 928+50.00 TO 929+00.00 I-49
15" x 48' GROUP B PIPE

STA. 929+00.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 929+00.00 TO 929+41.92 I-49
15" x 40' GROUP B PIPE

STA. 929+87.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 929+41.92 TO 929+87.00 I-49
15" x 43' GROUP B PIPE

STA. 930+75.00 I-49
2' x 2' PRECAST D.I. TYPE B

STA. 929+87.00 TO 930+75.00 I-49
15" x 86' GROUP B PIPE

PERM. UTIL. ESM'T.
(OVERHEAD ELECTRIC)
0.27 Ac.

① TO ② N19°17'50"E - 204.46'
② TO ③ N06°06'03"W - 97.48'
③ TO ④ N21°08'52"W - 20.48'
④ TO ⑤ S76°05'35"E - 6.03'
⑤ TO ⑥ N16°37'13"E - 71.20'
⑥ TO ⑦ S08°50'27"E - 123.53'
⑦ TO ⑧ S11°11'37"W - 238.00'
⑧ TO ⑨ N75°44'23"E - 7.55'
⑨ TO ⑩ S14°15'37"E - 20.00'
⑩ TO ⑪ S75°44'23"W - 17.07'
⑪ TO ⑫ S11°11'37"W - 16.61'
⑫ TO ⑬ S75°44'23"W - 16.61'
⑬ TO ⑭ S11°11'36"W - 17.07'
⑭ TO ⑮ N78°48'23"W - 14.81'
⑮ TO ① N11°37'02"W - 36.50'

PERM. UTIL. ESM'T.
(OVERHEAD ELECTRIC)
0.25 Ac.

① TO ② N08°50'27"W - 123.53'
② TO ③ N16°37'13"E - 167.54'
③ TO ④ S73°22'47"E - 50.00'
④ TO ⑤ S16°37'13"W - 246.38'
⑤ TO ① S11°11'37"W - 32.84'

PERM. UTIL. ESM'T.
(OVERHEAD ELECTRIC)
0.31 Ac.

① TO ② S10°17'39"E - 44.15'
② TO ③ N53°00'33"W - 369.94'
③ TO ④ N36°59'27"E - 15.00'
④ TO ⑤ N53°00'33"W - 40.00'
⑤ TO ⑥ N36°59'27"E - 20.00'
⑥ TO ⑦ S53°00'33"E - 40.00'
⑦ TO ⑧ N36°59'27"E - 15.00'
⑧ TO ⑨ S53°00'33"E - 35.80'
⑨ TO ⑩ S06°28'08"E - 27.62'
⑩ TO ① S53°00'33"E - 223.20'

(30) EDWIN KELLEY & DIXIE KELLEY
SEE SHEET 21

(19) THE JAMES ALLEN KEMP REVOCABLE TRUST & KEMP LAND CO. L.L.C.
SEE SHEET 27

(17) EXCELL LAFAYETTE, JR. & JOSEPHINE P. LAFAYETTE
6.00 Ac. NEW R/W
7.66 Ac. REMAINING LT.
13.34 Ac. REMAINING RT.

STA. 906+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 87' GROUP A PIPE
1 - 15" GROUP A F.E.S.

STA. 909+72.11 I-49
7' X 6' X 484' SPECIAL DESIGN R.C.B.
HEADWALLS LT. & RT.
SKEW = 6° R.A.
D.A. = 122.2 Ac.
Q_{50} = 505 cfs (DESIGN)
Q_{∞} = 589 cfs (OVERTOPPING>100 YR.)

ACCESS IS ALLOWED THROUGH THE CULVERT AT 909+72.11; HOWEVER, NO ATTACHMENTS MAY BE MADE TO THE STRUCTURE.

CERTIFIED LAND CORNER

FROM STA. 910+00.00, 383.54'
S 77° 0' 51.4" W TO W¼ COR. OF SEC. 27
T 21 N, R 32 W.
RECORDED IN McDONALD CO.
BOOK NO. RANGE 32A LAND SURVEYS AT
PAGE 37.

STA. 914+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 65' GROUP A PIPE
1 - 15" GROUP A F.E.S.

STA. 918+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 65' GROUP A PIPE
1 - 15" GROUP A F.E.S.

STA. 922+00.00 I-49
2' x 2' PRECAST D.I. TYPE B
15" x 66' GROUP A PIPE
1 - 15" GROUP A F.E.S.

STA. 929+41.92 I-49
2' x 2' PRECAST D.I. TYPE B
18" x 68' GROUP A PIPE
1 - 18" GROUP A F.E.S.

SCALE
0 100 200 300 400 500

PRELIMINARY

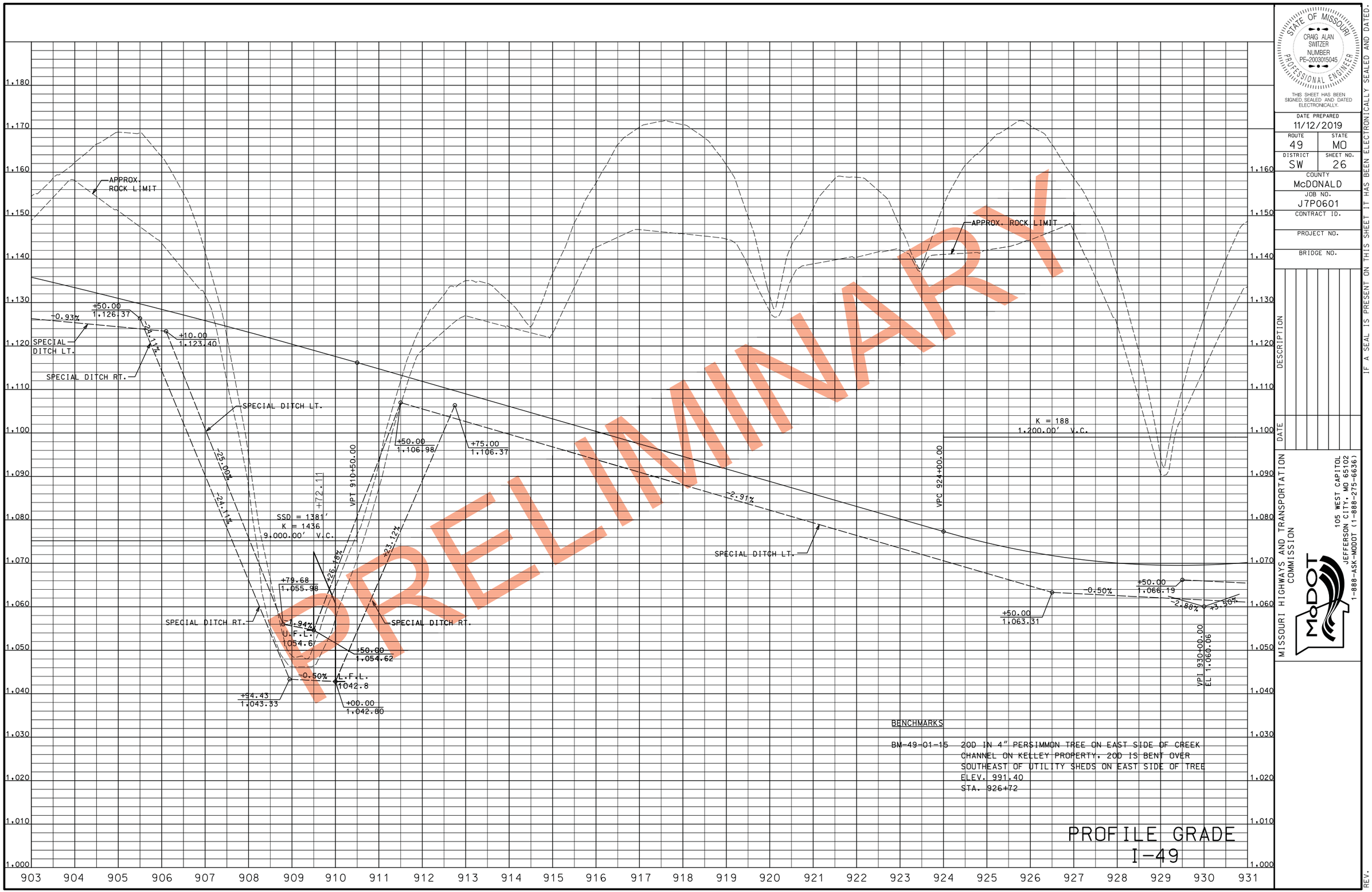
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 25
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

BENCHMARKS

BM-49-01-15 20D IN 4" PERSIMMON TREE ON EAST SIDE OF CREEK CHANNEL ON KELLEY PROPERTY. 20D IS BENT OVER SOUTHEAST OF UTILITY SHEDS ON EAST SIDE OF TREE
ELEV. 991.40
STA. 926+72

PROFILE GRADE
I-49

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	26

COUNTY
McDONALD

JOB NO.
J7P0601

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.

STA. 931+75.00 I-49
2′ x 2′ PRECAST D.I. TYPE B

STA. 930+75.00 TO 931+75.00 I-49
15″ x 98′ GROUP B PIPE

STA. 936+00.00 I-49
2′ x 2′ PRECAST D.I. TYPE B

STA. 934+25.00 TO 936+00.00 I-49
15″ x 173′ GROUP B PIPE

STA. 940+50.00 I-49
2′x 2′ PRECAST D.I. TYPE B

STA. 938+00.00 TO 940+50.00 I-49
15″ x 248′ GROUP B PIPE

BRIDGE #A7053
WHITE OAK HOLLOW CREEK
STA. 935+56.97 I-49
TPL. 6′ X 7′ R.C.B.
SLOPE TAPERED INLET LT.
HEADWALL RT.
SKEW= 8° R.A.
D.A. = 554.1 Ac.
Q_{100} = 1819 cfs (DESIGN)
Q_{500} = 2568 cfs (OVERTOPPING>500 YR.)

STA. 934+25.00 I-49
2′x 2′ PRECAST D.I. TYPE B
15″ x 34′ GROUP A PIPE
TYPE B PIPE COLLAR
15″ X 126′ GROUP B PIPE
1 – 15″ GROUP B F.E.S.

STA. 938+00.00 I-49
2′x 2′ PRECAST D.I. TYPE B
15″ x 34′ GROUP A PIPE
TYPE B PIPE COLLAR
15″ X 133′ GROUP B PIPE
1 – 15″ GROUP B F.E.S.

STA. 958+02.44 I-49
42″ X 297′ GROUP A PIPE
2 – 42″ GROUP A F.E.S.
SKEW = 7° R.A.
D.A. = 11.2 Ac.
Q_{50} = 62 cfs (DESIGN)
Q_{100} = 72 cfs (OVERTOPPING>100 YR.)

SECTION LINE

SE^4SW^4
27-21-32

NE^4NW^4
34-21-32

931+00.00
MATCHLINE STA. 931+00.00

932+55.00
BEGIN G.R.

932+50.00
175.00′

934+50.00
230.00′

935

939+00.00
245.00′

940

941+00.00
130.00′

TYPE 2
ROCK
BLANKET

STA 942+34.86

944+42.50
END G.R.

945

945+50.00
220.00′

948+50.00
180.00′

950

954+00.00
180.00′

955

959+00.00
MATCHLINE STA. 959+00.00

NEW R/W

S.L.

℄ I-49

I-49 N.B.L.

I-49 S.B.L.

S 22° 42′ 59″ E

TYPE C CONC.
TRAFFIC BARRIER

ENERGY
DISSIPATOR

ROCK LINING

940+52.50
END G.R.

PT 942+34.86
140.00′

CAVE FOOTPRINT
(UNDERGROUND)

935+00.00
230.00′

935+25.00
260.00′

936+50.00
260.00′

939+00.00
270.00′

MUCK
AND
DRAIN

TEMP. CONSTR. ESM′T.
0.57 Ac.

ROCK SHELTER
(DO NOT DISTURB)

953+50.00
190.00′

955+50.00
160.00′

958+00.00
230.00′

958+50.00
230.00′

(18)
LINDA GAYLE TIPTON
6.20 Ac. NEW R/W
9.08 Ac. REMAINING LT.
14.72 Ac. REMAINING RT.

SW^4SW^4
27-21-32

NW^4NW^4
34-21-32

(19)
THE JAMES ALLEN KEMP
REVOCABLE TRUST &
KEMP LAND CO. L.L.C.
55.23 Ac. NEW R/W
0.57 Ac. TEMP. ESM′T.
0.27 Ac. PERM. ESM′T. LT.
0.31 Ac. PERM. ESM′T. RT.
132.45 Ac. REMAINING LT.
1221.32 Ac. REMAINING RT.

SE^4NW^4
34-21-32

SW^4NW^4
34-21-32

¼ ¼ SECTION LINE +91

¼ ¼ SECTION LINE +13

TEMP. CONSTR. ESM′T.
0.57 Ac.

① TO ② S42°45′31″E – 107.64′
② TO ③ S68°57′07″W – 62.20′
③ TO ④ N51°23′23″W – 115.87′
④ TO ⑤ N64°17′34″W – 61.31′
⑤ TO ⑥ N18°11′10″W – 61.02′
⑥ TO ⑦ N26°33′34″E – 88.10′
⑦ TO ⑧ N68°57′07″E – 63.06′
⑧ TO ① S18°11′10″E – 165.21′

CERTIFIED LAND CORNER

FROM STA. 950+00.00, 1463.61′
N 47° 21′ 28.8″ E TO N¼ COR. OF SEC. 34
T 21 N., R 32 W.
RECORDED IN McDONALD CO.
BOOK NO. RANGE 32A LAND SURVEYS AT
PAGE 37.

ACCESS IS ALLOWED THROUGH THE CULVERT AT 935+56.97; HOWEVER, NO ATTACHMENTS MAY BE MADE TO THE STRUCTURE.

SCALE
0 100 200 300 400 500

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	27

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

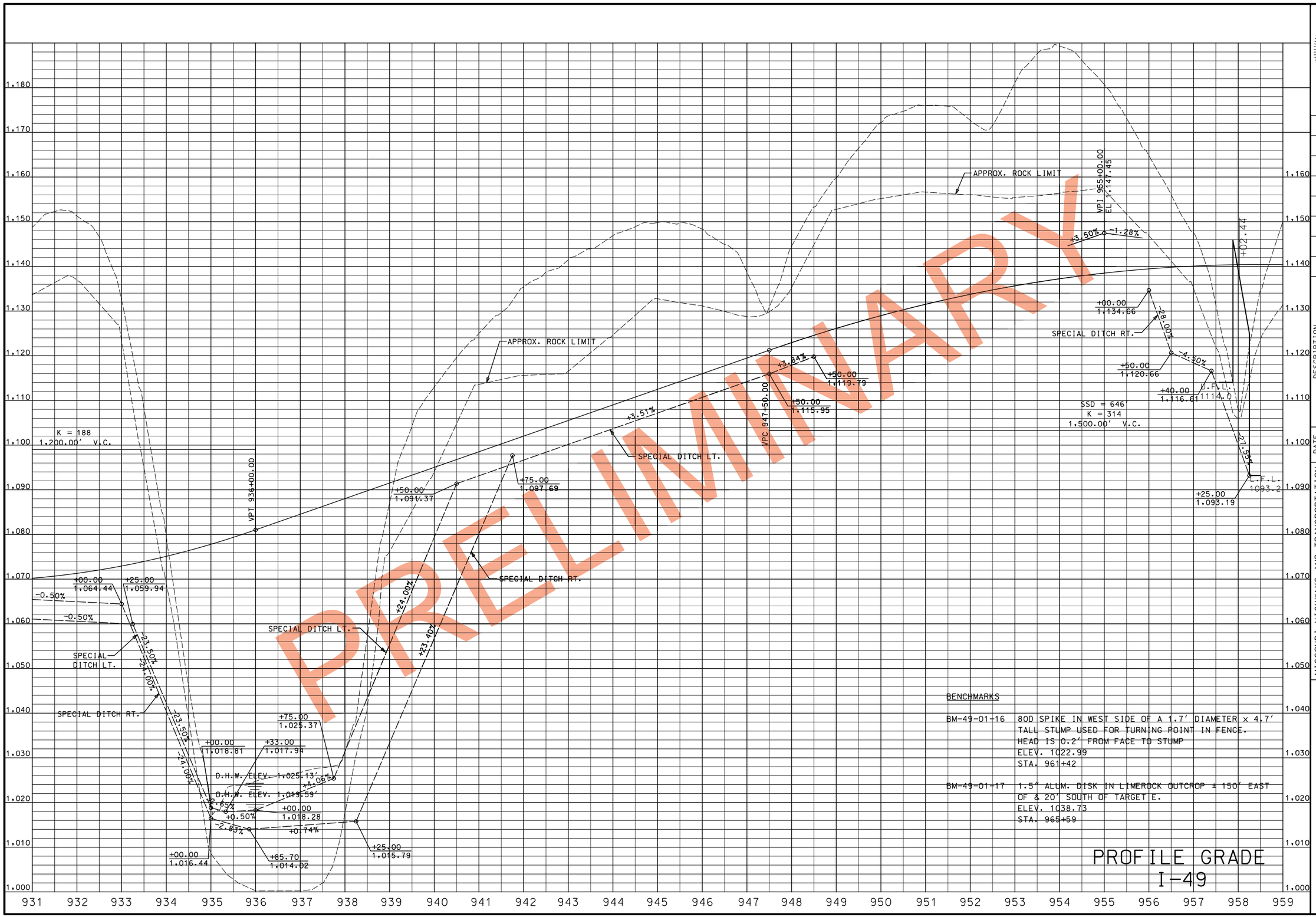
PROJECT NO.

BRIDGE NO.

REV.	DESCRIPTION	DATE

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

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



PRELIMINARY

BENCHMARKS

BM-49-01-16 80D SPIKE IN WEST SIDE OF A 1.7' DIAMETER x 4.7' TALL STUMP USED FOR TURNING POINT IN FENCE. HEAD IS 0.2' FROM FACE TO STUMP
ELEV. 1022.99
STA. 961+42

BM-49-01-17 1.5" ALUM. DISK IN LIMEROCK OUTCROP ± 150' EAST OF & 20' SOUTH OF TARGET E.
ELEV. 1038.73
STA. 965+59

PROFILE GRADE
I-49

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	28

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

REV.

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

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

STA. 964+60.36 I-49
5' X 5' X 501' SPECIAL DESIGN R.C.B.
SEE SPECIAL SHEET FOR DETAILS
HEADWALLS LT. & RT.
SKEW = 19° R.A.
D.A. = 55.4 Ac.
Q_{50} = 246 cfs (DESIGN)
Q_{50} = 286 cfs (OVERTOPPING>100 YR.)

(22)
THE BARBARA CHANCE TRUST
21.16 Ac. NEW R/W
87.40 Ac. REMAINING LT.
8.64 Ac. REMAINING RT.

SW⁴ NE⁴
34-21-32

W² SE⁴
34-21-32

¼ SECTION LINE

¼ SECTION LINE +01

960 965 970 975 980

STUCK DRILL CORE BARREL
BORING MC-253A - REMOVE
CORE BARREL AND BACKFILL

961+85.35
187.02'

963+00.00
290.00'

966+00.00
180.00'

970+00.00
235.00'

977+50.00
180.00'

979+00.00
420.00'

NEW R/W

CENTER OF
SEC. 34-21-32

S.L.

TYPE 2
ROCK
BLANKET

BEGIN BARRIER TAPER
STA. 969+00.00
BEGIN MEDIAN TRANS.
2' TO 52'

¼ SECTION LINE+60

℄ I-49

I-49 N.B.L.

S122° 42' 59" E N.B.

I-49 S.B.L.

END BARRIER
STA. 979+50.00
BEGIN INSIDE SHLDR. TRANS.
5'-3" TO 4'-0"

MATCHLINE STA. 959+00.00

MATCHLINE STA. 981+00.00

959+00.00
140.00'

962+50.00
170.00'

965+00.00
340.00'

966+00.00
340.00'

966+50.00
200.00'

977+00.00
140.00'

977+57.82
BEGIN G.R.

980+00.00
180.00'

TYPE C CONC.
TRAFFIC BARRIER

TYPE C CONC.
TRAFFIC BARRIER

ENERGY
DISSIPATOR

NEW R/W

STA. 981+00.00
END INSIDE SHLDR.
TRANS. TO 4'-0"

¼ SECTION LINE +60

SE⁴ NW⁴
34-21-32

E² SW⁴
34-21-32

(19)
THE JAMES ALLEN KEMP
REVOCABLE TRUST &
KEMP LAND CO. L.L.C.
SEE SHEET 27

¼ ¼ SECTION LINE+13

¼ SECTION LINE +01

STA. 978+00.00 I-49
5'x 3' PRECAST D.I. TYPE S-2 LT.
15" x 88' GROUP A PIPE
1 - 15" GROUP A F.E.S. RT.

ACCESS IS ALLOWED THROUGH THE CULVERT AT
964+60.36; HOWEVER, NO ATTACHMENTS MAY BE MADE
TO THE STRUCTURE.

SCALE
0 100 200 300 400 500

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	29

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

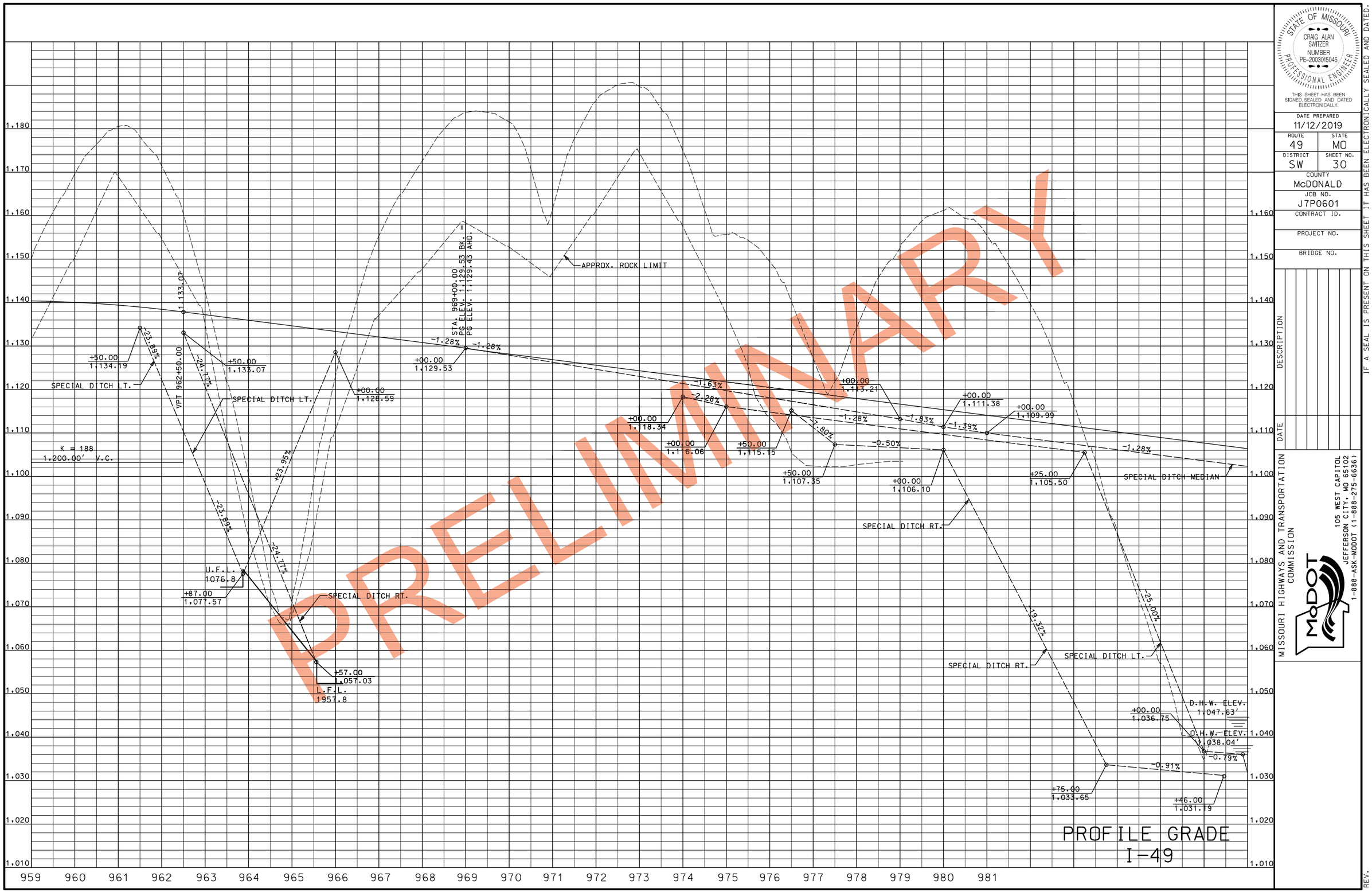
PROJECT NO.

BRIDGE NO.

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

DATE	DESCRIPTION	REV.

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



PRELIMINARY

PROFILE GRADE
I-49

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/12/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	30
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

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

(22)
THE BARBARA CHANCE TRUST
SEE SHEET 29

STA. 986+40.50 EMERGENCY CROSSOVER
WIDTH = 20', 10' RADII
2% DOWNGRADE FROM E.O.S. (BOTH SIDES)
NO PIPE
AGGREGATE SURFACE

RATTLESNAKE HOLLOW
MISSOURI / ARKANSAS
W² SE⁴ 34-21-32
982+00.00 420.00'
983+00.00 325.00'
988+65.36 325.00'
985
NEW R/W
990
995
1000
1005
BRIDGE #A7054
RATTLESNAKE HOLLOW CREEK
STA. 986+67.90 I-49
TPL. 10' x 8' R.C.B.
HEADWALLS LT. & RT.
SKEW = 6° L.A.
D.A. = 1359.7 Ac.
Q_{100} = 2812 cfs (DESIGN)
Q_{500} = 3931 cfs (OVERTOPPING>500 YR.)
982+45.32 BEGIN G.R.
S.L.
987+32.82 END G.R.
MATCHLINE STA 981+00.00
I-49 N.B.L.
S 22° 42' 59" E
I-49 S.B.L.
STA. 986+00.00 BEGIN 60' MEDIAN
987+32.82 END G.R.
END OF PROJECT
STA. 987+32.82
MODOT JOB NO. J7P0601 =
BEGINNING OF PROJECT
STA. 410+00.64
AHTD JOB NO. CA0905
(BY OTHERS)
EDINBURGH RD.
S.L.
ROCK LINING
NEW R/W
¼ SEC LINE +60
984+00.00 350.00'
985+90.09 350.00'
E² SW⁴ 34-21-32
SECTION LINE+33
STA. 986+00.00 I-49
5'x 3' PRECAST D.I. TYPE S-2
15" x 55' GROUP A PIPE
TYPE B PIPE COLLAR
15" x 176' GROUP B PIPE
1 - 15" GROUP B F.E.S.
STATE LINE IN SOUTH ½ OF SEC. 34-21-32

(19)
THE JAMES ALLEN KEMP REVOCABLE TRUST & KEMP LAND CO. L.L.C.
SEE SHEET 27

SCALE
0 100 200 300 400 500

CERTIFIED LAND CORNER

FROM STA. 987+32.82, 537.40'
N 89° 28' 11.8" E TO THE STATE LINE
SEC. 34, T 21 N, R 32 W.
RECORDED IN McDONALD CO.
BOOK NO. RANGE 32A LAND SURVEYS AT
PAGE 37.

CERTIFIED LAND CORNER

FROM STA. 987+32.82, 3669.65'
N 58° 49' 16.0" W TO W¼ OF SEC. 34
T 21 N, R 32 W.
RECORDED IN McDONALD CO.
BOOK NO. RANGE 32A LAND SURVEYS AT
PAGE 37.

ACCESS IS ALLOWED THROUGH THE CULVERT AT 986+67.90; HOWEVER, NO ATTACHMENTS MAY BE MADE TO THE STRUCTURE.

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

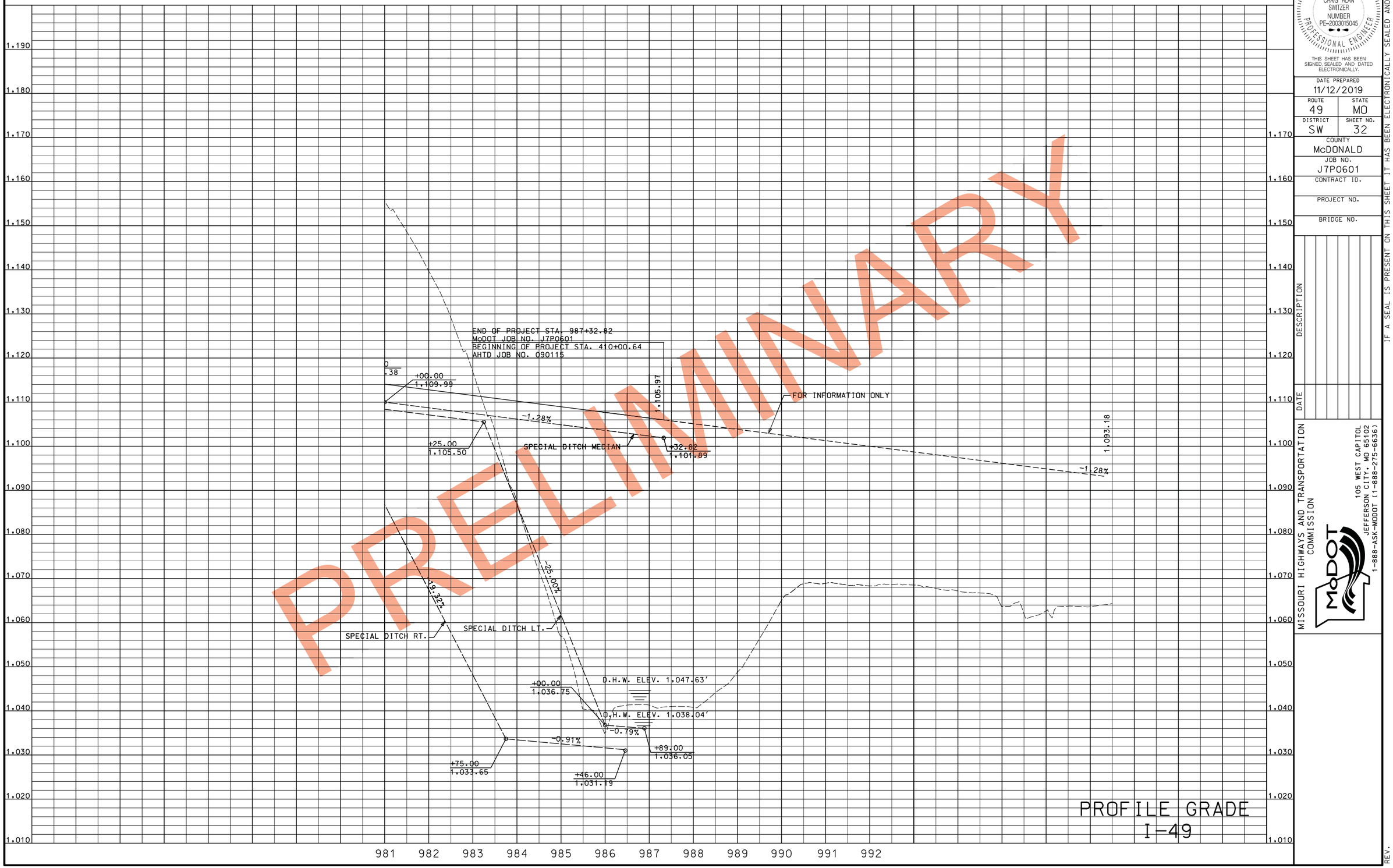
DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 31
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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.



PRELIMINARY

PROFILE GRADE
I-49

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	32

COUNTY
McDONALD

JOB NO.
J7P0601

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.

STA. 56+50.00 RTE. 90
18" X 48' GROUP B PIPE
2 - 18" GROUP B F.E.S.
D.A. = 0.5 Ac.
Q_{50} = 2 cfs (DESIGN)
Q_{00} = 3 cfs (OVERTOPPING>100 YR.)

STA. 60+29.00 RTE. 90
SKEW 6° R.A.
18" X 41' GROUP B PIPE
2 - 18" GROUP B F.E.S.
D.A. = 0.4 Ac.
Q_{50} = 2 cfs (DESIGN)
Q_{00} = 3 cfs (OVERTOPPING>100 YR.)

NOTE: SEE OTHER SHEETS FOR RIGHT OF WAY STATIONS / OFFSETS ALONG I-49

(16)
VIOLA MAE JOSS ADAMS ET.AL.
SEE SHEET 17

PERM. UTIL. ESM'T.
(TELEPHONE)
0.98 Ac.

① TO ② S87°28'25"E - 30.09'
② TO ③ S06°52'47"W - 191.08'
③ TO ④ S04°31'22"E - 625.37'
④ TO ⑤ S27°42'25"W - 130.44'
⑤ TO ⑥ S07°19'10"E - 469.29'
⑥ TO ⑦ N83°18'51"W - 30.92'
⑦ TO ⑧ N07°19'10"W - 471.27'
⑧ TO ⑨ N27°42'25"E - 131.24'
⑨ TO ⑩ N04°31'22"W - 619.70'
⑩ TO ① N06°52'47"E - 192.52'

NE¼SE¼
21-21-32

STA. 50+00.00 ℄ ROUTE 90=
STA. 873+22.20 ℄ I-49

STA 43+25
BEGIN PAVING

ROUTE 90
PI 50+97.57
PC 47+63.54
PT 54+28.87
Δ 12° 42' 24.7" (LT)
D 1° 54' 35.5"
L 665.33'
T 334.04'
R 3,000.00'

GOODIN HOLLOW CO. RD.
EXIST. R/W
NEW R/W
RAMP 1
RAMP 2
I-49 S.B.L.
I-49 N.B.L.
RAMP 1 ℄
RAMP 2 ℄
RAMP 3 ℄
RAMP 4 ℄
℄ I-49
S 9° 57' 43" W
S 2° 29' 03" W
S 48° 42' 57" E
S 3° 30' 57" E
S 17° 03' 00" W
S.L.
TYPE B BARRIER
BEGIN G.R.
END G.R.
BR # A7000
PC STA 876+75.92
PT STA 1007+42.91
SECTION LINE
¼ ¼ SECTION LINE
¼ ¼ SEC. LINE
EXIST. R/W
NEW R/W
RISER
FOR S.L.
ROCK LINING
GUIDE BLADE STEEL POST MARKER
TYPE I DRWY. LT.
STA. 58+10.00
W = 20', +10.0% GR.
AGGR. SURFACE
NO PIPE
TYPE I DRWY. RT.
STA. 58+10.00
W = 20', +7.8% GR.
AGGR. SURFACE
NO PIPE
STA. 53+49.97 ℄ ROUTE 90 =
STA. 1015+79.58 ℄ RAMP 1 =
STA. 3000+00.00 ℄ RAMP 3
PERM. UTIL. ESM'T.
0.98 Ac.
STA 61+00
END PAVING

11A
LLOYD SUMNER
23.40 Ac. NEW R/W
0.98 Ac. PERM. ESM'T LT.
0.13 Ac. PERM. ESM'T RT.
14.93 Ac. REMAINING LT.
2.20 Ac. REMAINING RT.

12A
JERRY W. WATKINS &
JOANNE WATKINS
SEE SHEET 17

29
E.L. GRAHAM
NO TAKING

NW¼SW¼
22-21-32

NE¼SW¼
22-21-32

SW¼SW¼
22-21-32

SE¼SW¼
22-21-32

13
JOHN MICHAEL BROWN &
CHARLOTTE R. BROWN
SEE SHEET 21

ROUTE 90
PI 61+39.27
PC 59+95.05
PCC 62+80.13
Δ 21° 22' 50.0" (LT)
D 7° 30' 00.0"
L 285.07'
T 144.21'
R 763.94'

ROUTE 90
PI 63+84.13
PCC 62+80.13
PT 64+87.83
Δ 7° 44' 02.6" (LT)
D 3° 43' 25.1"
L 207.70'
T 104.01'
R 1,538.70'

STA. 46+49.97 ℄ ROUTE 90=
STA. 2018+37.09 ℄ RAMP 2=
STA. 4000+00.00 ℄ RAMP 4

BR # A7000
STA. 49+19.25 FILL FACE OF END BENT 1
STA. 50+85.76 FILL FACE OF END BENT 3
SPAN LENGTH = 79'-0" - 84'-0"
P/S CONCRETE I-GIRDER SPANS

ENTRANCES CONSTRUCTED THROUGH NEW LIMITED ACCESS RIGHT OF WAY BETWEEN STA. 43+25.00 TO STA. 61+00.00 MUST BE WIDENED BY PERMIT TO A MAXIMUM WIDTH OF 60 FT. UNLESS OTHERWISE NOTED.

SCALE
0 100 200 300 400 500

PRELIMINARY

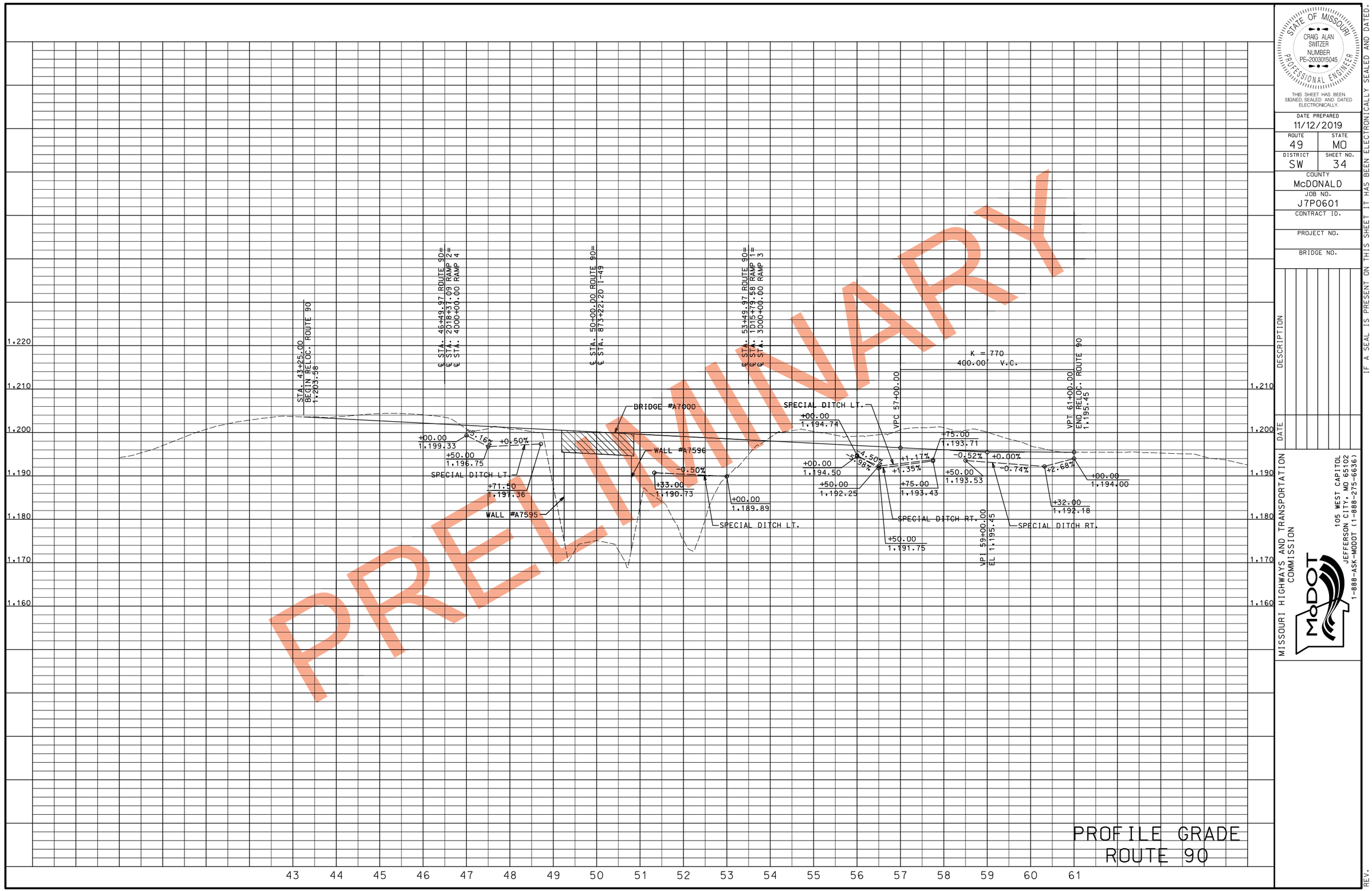
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 33
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	34

COUNTY
McDONALD

JOB NO.
J7P0601

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.

PRELIMINARY

11A
LLOYD SUMNER
SEE SHEET 33

29
E.L. GRAHAM
SEE SHEET 33

12A
JERRY W. WATKINS &
JOANNE WATKINS
SEE SHEET 17

28
DONALD GARDNER &
BETTY GARDNER
NO TAKING

13
JOHN MICHAEL BROWN &
CHARLOTTE R. BROWN
SEE SHEET 21

36
C.P.E.
NO TAKING

11D
TOMMIE LEE SUMNER
NO NEW R/W
0.47 Ac. TEMP. ESM'T
80.98 Ac. REMAINING LT.

35
RONNIE G. GIBSON
& JOYCE GIBSON
1.03 Ac. NEW R/W
0.04 Ac. REMAINING RT.
104.95 Ac. REMAINING LT.

TEMP. CONSTRUCTION ESM'T.
0.47 Ac.

① TO ② N02°21'12"E - 339.80'
② TO ③ S87°38'48"E - 60.00'
③ TO ④ S02°21'12"W - 339.87'
④ TO ① N87°34'27"W - 60.00'

TEMP. CONSTRUCTION ESM'T.
0.47 Ac.

EXIST. UTILITY ESM'T.

SUMNER COUNTY ROAD
PI 709+07.40
PC 708+55.45
PT 709+58.98
Δ 11° 51' 48.4" (LT)
D 11° 27' 33.0"
L 103.53'
T 51.95'
R 500.00'
SE 3.1%

STA. 60+29.00 ROUTE 90
18" R.C.P.
2 - 18" F.E.S.
SKEW = 6° R.A.
D.A. 0.43 Ac.
Q_{50} = 2.19 cfs (DESIGN)
Q_{100} = 2.45 cfs (OVERTOPPING>100 YR.)

ROUTE 90
PI 63+84.13
PCC 62+80.13
PT 64+87.83
Δ 7° 44' 02.6" (LT)
D 3° 43' 25.1"
L 207.70'
T 104.01'
R 1,538.70'

ROUTE 90
PI 61+39.27
PC 59+95.05
PCC 62+80.13
Δ 21° 22' 50.0" (LT)
D 7° 30' 00.0"
L 285.07'
T 144.21'
R 763.94'

STA. 75+41.56 ℄ ROUTE 90 =
STA. 710+82.32 ℄ SUMNER CO. RD.

STA. 710+52.99, 40.00' RT.
SUMNER CO. RD. =
STA. 75+14.58, 41.62' LT.
ROUTE 90

STA. 710+23.35, 40.00' LT.
SUMNER CO. RD. =
STA. 75+99.89, 40.92' LT.
ROUTE 90

STA. 700+00.00 SUMNER CO. RD. =
STA. 851+84.50, 2035.40' LT.
℄ I-49

STA. 710+64.87 SUMNER CO. RD.
18" X 77' GROUP C PIPE
2 - 18" GROUP C F.E.S.
SKEW = 21° R.A.
D.A. 0.4 Ac.
Q_{50} = 2 cfs (DESIGN)
Q_{100} = 3 cfs (OVERTOPPING>100 YR.)

SE⁴NW⁴ 22-21-32
SW⁴NE⁴ 22-21-32
NW⁴SW⁴ 22-21-32
NE⁴SW⁴ 22-21-32
SE⁴SW⁴ 22-21-32
NW⁴SE⁴ 22-21-32

℄ SUMNER CO. RD.
℄ ROUTE 90
EXIST. R/W
EXIST. R/W
1/4 SECTION LINE
1/4 SECTION LINE
1/4 SECTION LINE
22' AGGR. ROADWAY
ROCK LINING
GRDR BLADE STEEL ROW MARKER
SCALE 0 100 200 300 400 500

PROFILE GRADE
SUMNER CO. RD.

K = 113
200.00' V.C.
VPI 707+00.00
EL 1,221.03
+3.64%
-2.14%
1,213.07
VPC 702+00.00
VPT 704+00.00
VPI 703+00.00
EL 1,206.48
VPC 704+50.00
VPT 709+50.00
SSD = 432'
K = 87
500.00' V.C.
1,200.47
VPI 700+50.00
EL 1,201.80
+2.66%
+1.87%
+1.87%
+3.64%
VPC 700+35.00
VPT 700+65.00
SSD = 1387'
K = 38
30.00' V.C.
1,220
1,210
1,200
1,190
1,180
1,170
700 701 702 703 704 705 706 707 708 709 710 711

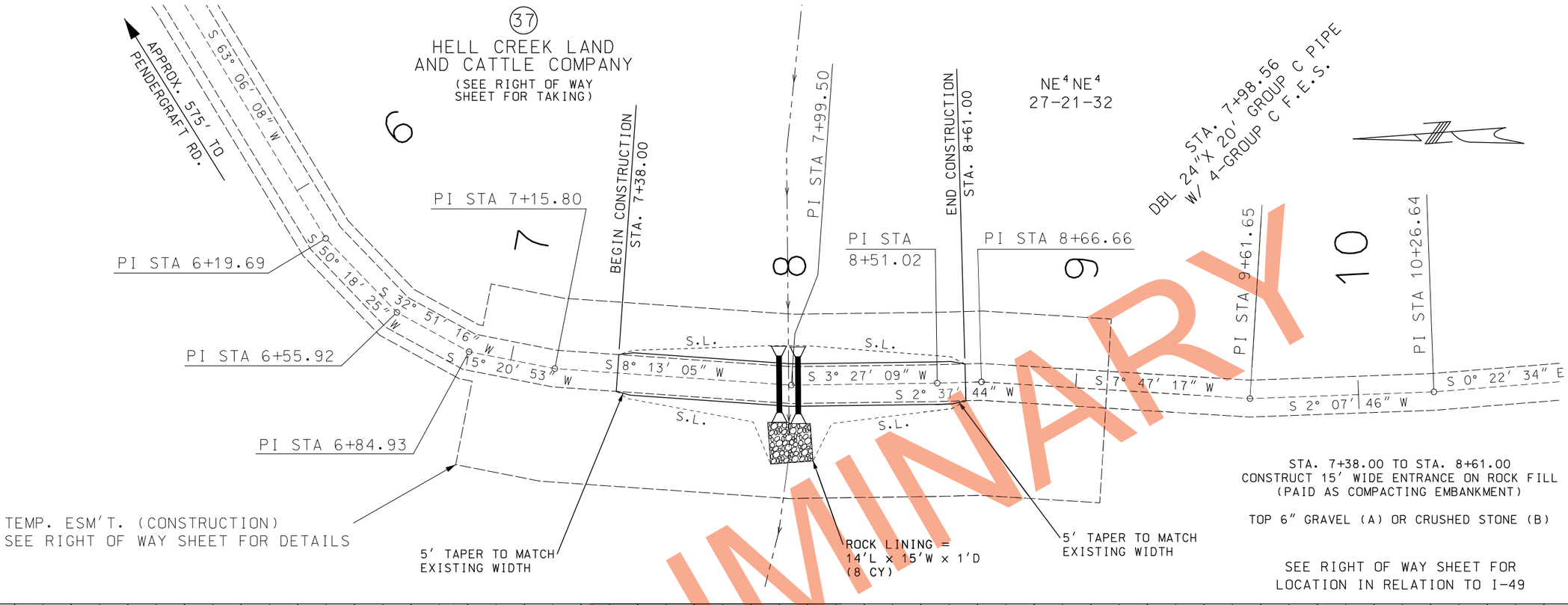
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 35
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

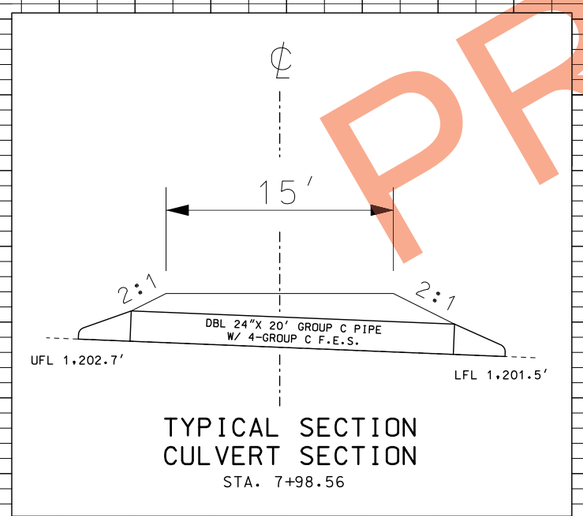
DESCRIPTION
DATE
REV.

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

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

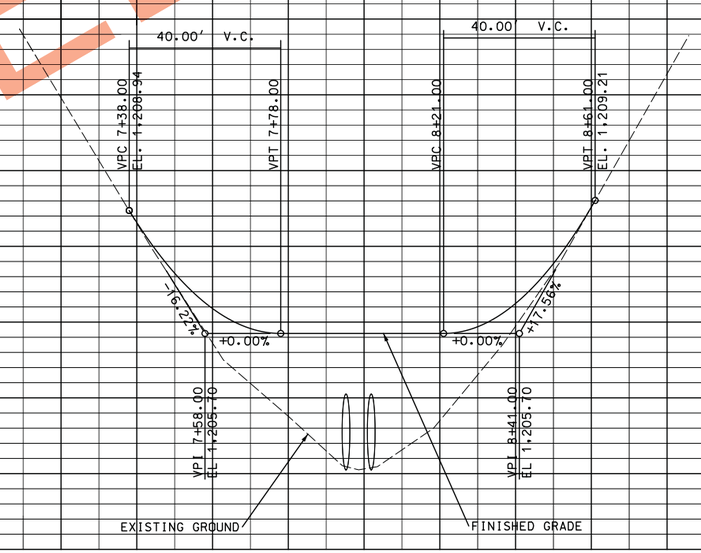


PRELIMINARY



TYPICAL SECTION
CULVERT SECTION
STA. 7+98.56

ELEVATIONS BASED ON INDEPENDENT VERTICAL DATUM
CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO STARTING CONSTRUCTION



PROFILE GRADE
HELL CREEK ENTRANCE

1,216
1,214
1,212
1,210
1,208
1,206
1,204
1,202
1,200

7 8 9

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

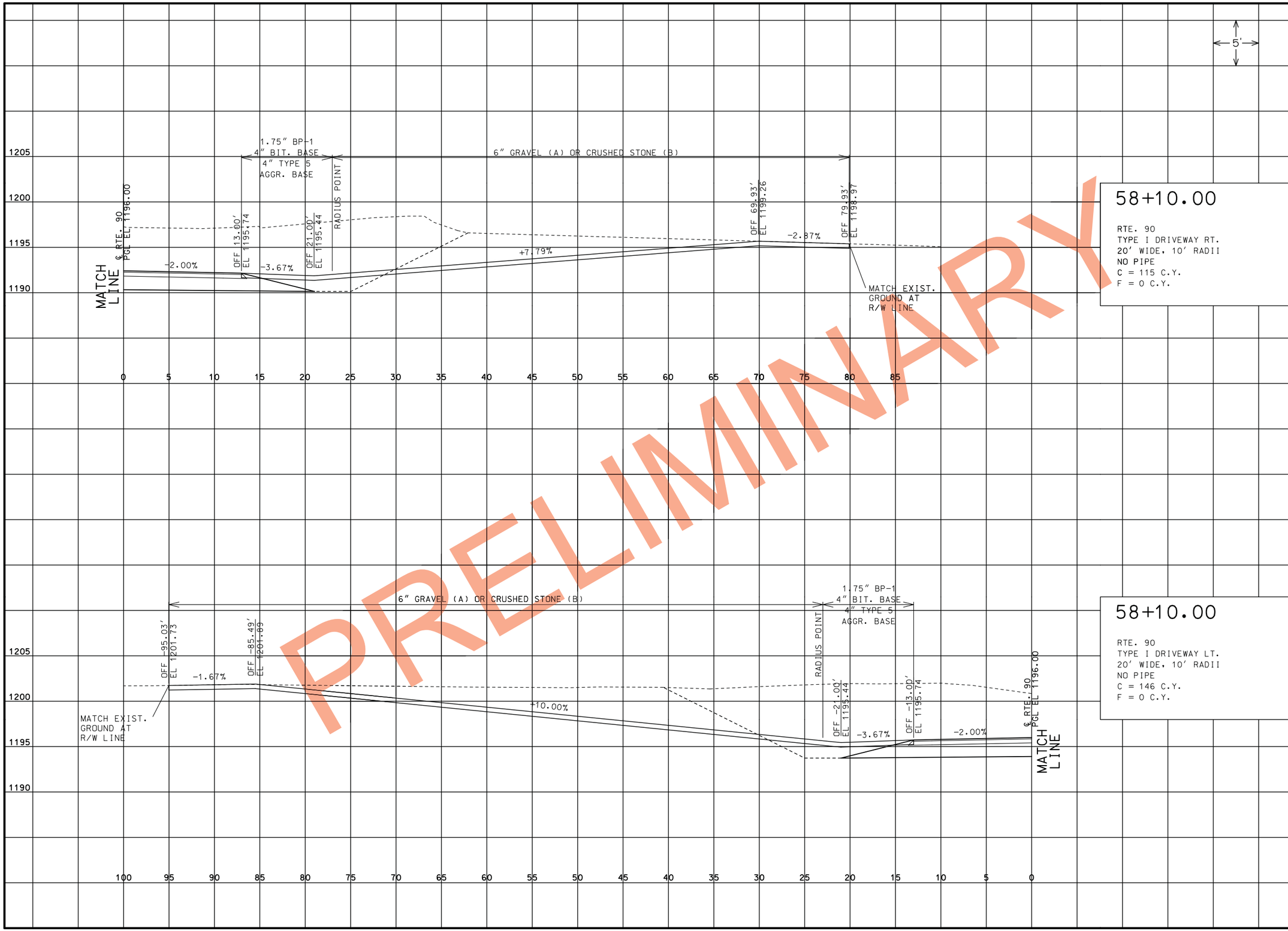
DATE PREPARED 11/12/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 36
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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.



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	37

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

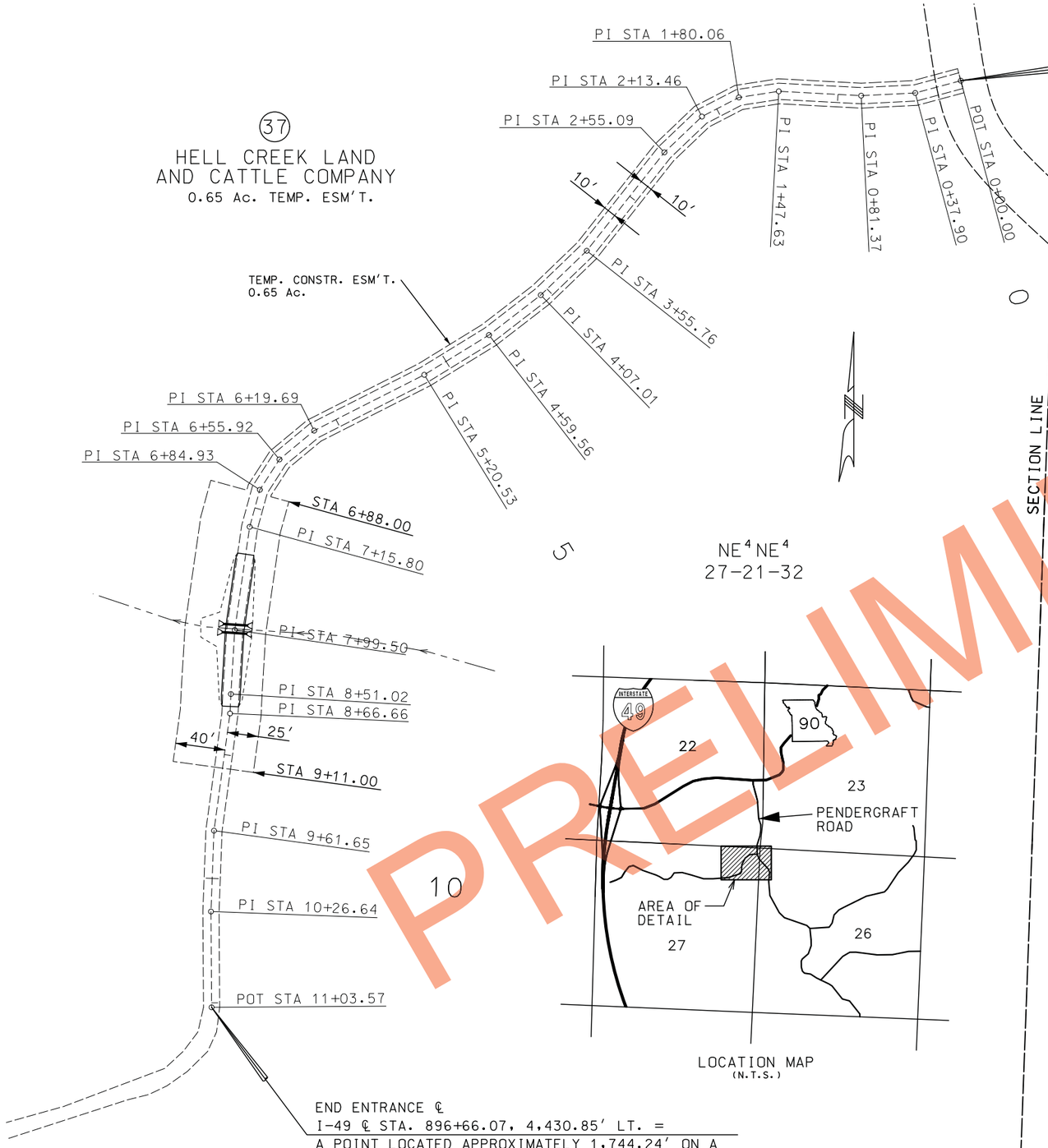
DESCRIPTION	DATE

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.



PRELIMINARY

CENTERLINE BEARINGS

STATION	TO	STATION	BEARING
0+00.00	–	0+37.90	S 74° 56' 12" W
0+37.90	–	0+81.37	S 87° 07' 23" W
0+81.37	–	1+47.63	N 86° 57' 23" W
1+47.63	–	1+80.06	S 81° 13' 17" W
1+80.06	–	2+13.46	S 62° 37' 29" W
2+13.46	–	2+55.09	S 46° 20' 38" W
2+55.09	–	3+55.76	S 38° 16' 32" W
3+55.76	–	4+07.01	S 46° 04' 05" W
4+07.01	–	4+59.56	S 52° 20' 40" W
4+59.56	–	5+20.53	S 58° 25' 38" W
5+20.53	–	6+19.69	S 63° 06' 08" W
6+19.69	–	6+55.92	S 50° 18' 25" W
6+55.92	–	6+84.93	S 32° 51' 16" W
6+84.93	–	7+15.80	S 15° 20' 53" W
7+15.80	–	7+99.50	S 08° 13' 05" W
7+99.50	–	8+51.02	S 03° 27' 09" W
8+51.02	–	8+66.66	S 02° 37' 44" W
8+66.66	–	9+61.65	S 07° 47' 17" W
9+61.65	–	10+26.64	S 02° 07' 46" W
10+26.64	–	11+03.57	S 00° 22' 34" E

RIGHT OF WAY
SHEET 1 OF 2

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 38
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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

PRELIMINARY

FOR INFORMATION ONLY
(NOT FOR CONSTRUCTION)

(32)
VIRGIL CANOY, SR.
0.82 Ac. NEW R/W
119.18 Ac. REMAINING RT.

NE¼NE¼
27-21-32

CURVE KELLEY RD-C2
PI 705+63.26
PC 704+47.02
PT 706+64.63
Δ 49° 52′ 24.4″ (RT)
D 22° 55′ 05.9″
L 217.61′
T 116.24′
R 250.00′
SE 8.0%

CURVE KELLEY RD-C1
PI 702+40.73
PC 701+50.00
PT 703+24.08
Δ 39° 53′ 43.4″ (RT)
D 22° 55′ 05.9″
L 174.08′
T 90.73′
R 250.00′
SE 8.0%

TEMP. CONSTR. ESM'T.
0.17 Ac.
① TO ② S02°19′10″W – 125.00′
② TO ③ N87°40′50″W – 60.00′
③ TO ④ N02°19′10″E – 125.00′
④ TO ① S87°40′50″E – 60.00′

℄ KELLEY COUNTY ROAD

PC STA 701+50.00
30.00′ LT. & RT.④

PT STA 703+24.08
30.00′ LT. & RT.

PC STA 704+47.02
30.00′ LT. & RT.

PT STA 706+64.63
30.00′ LT. & RT.

707+42.09
30.00′ LT.

709+93.39
30.26′ LT.

POT STA 709+93.39

POT STA 710+74.13 =
E.O.P. PENDERGRAFT RD.

711+90.42
75.63′ LT.

NEW R/W

S 87° 54′ 42″ E

NEW R/W

709+93.39
30.00′ RT.

710+39.86
87.82′ RT.

N 42° 12′ 53″ E

SECTION LINE

80″ OAK

PENDERGRAFT RD.

POT STA 700+50.00
BEGIN SURFACING

POT STA 700+00.00

N 2° 19′ 10″ E

TEMP. CONSTR. ESM'T.
0.17 Ac.

STA. 700+00.00
BEGIN KELLEY CO. RD. =
STA. 904+22.51, 4,646.50′ LT.
I-49

STA. 700+00.00
END KELLEY CO. RD. =
STA. 896+36.09, 5,417.73′ LT.
I-49

NW¼NW¼
26-21-32

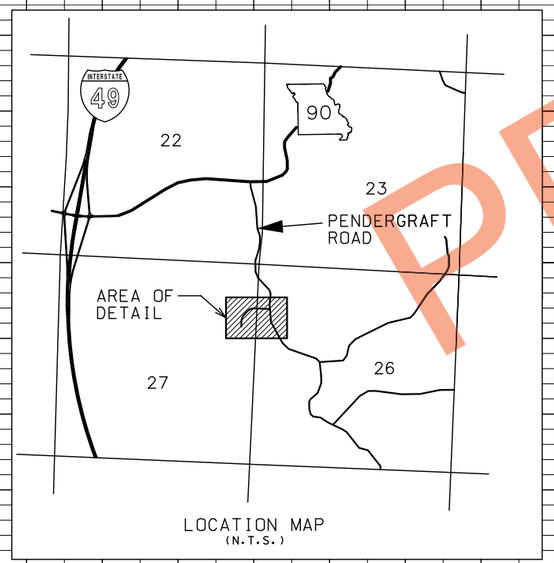
(33)
MIKE BROWN
0.53 Ac. NEW R/W
39.47 Ac. REMAINING RT.

(30)
EDWIN & DIXIE KELLEY
SEE SHEET 21

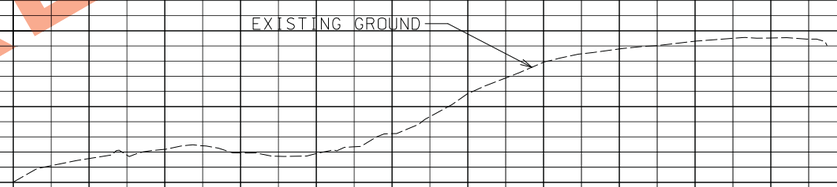
SE¼NE¼
27-21-32

(34)
J.R. PENDERGRAFT
NO TAKING

SW¼NW¼
26-21-32



LOCATION MAP
(N.T.S.)



1,290
1,280
1,270
1,260
1,250
1,240
1,230

700 701 702 703 704 705 706 707 708 709 710

RIGHT OF WAY
SHEET 2 OF 2

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	39

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

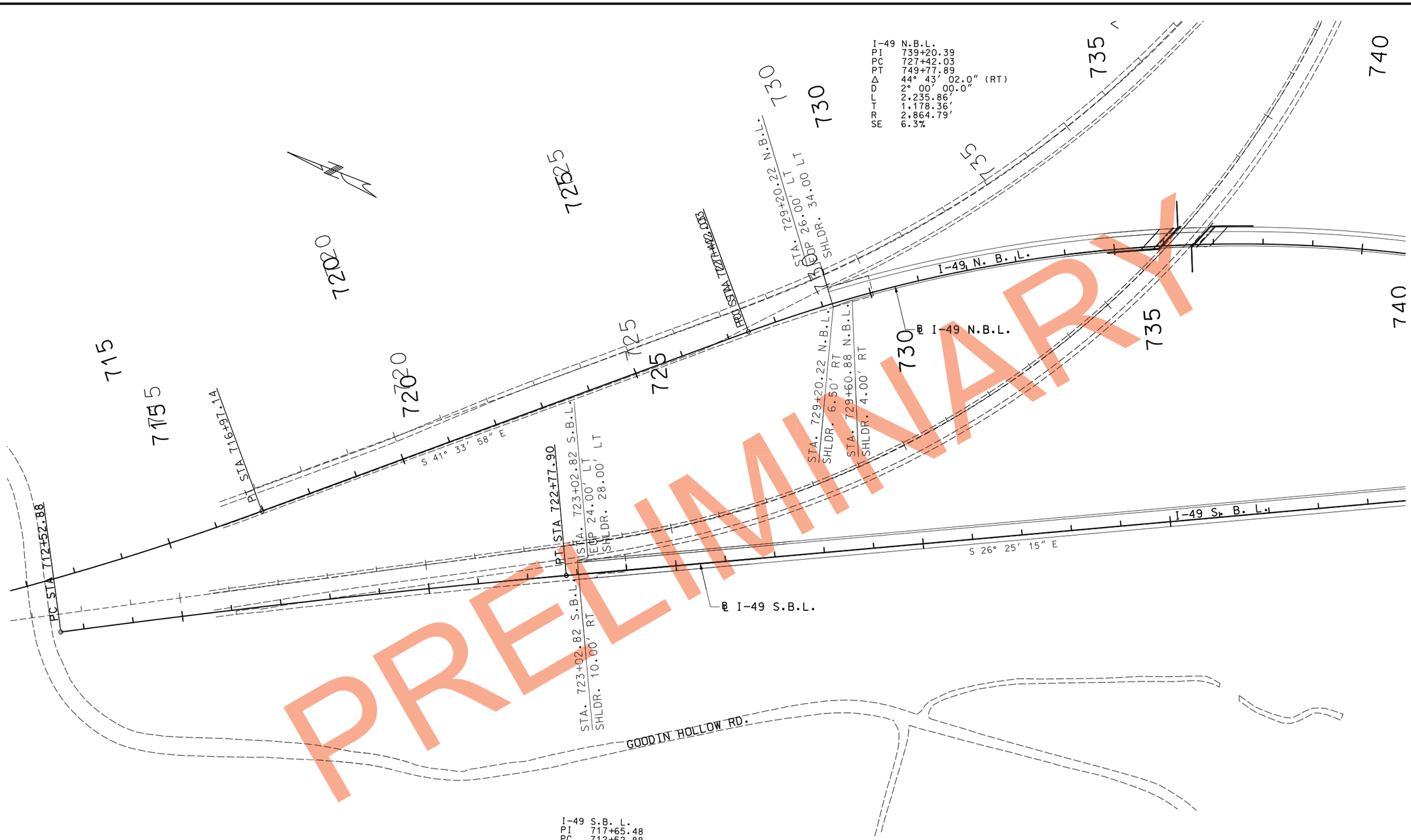
BRIDGE NO.

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)



PRELIMINARY

I-49 S.B. L.
PI 717+65.48
PC 712+52.88
PT 722+77.90
Δ 2° 33' 45.2" (RT)
D 0° 15' 00.0"
L 1,025.02'
T 512.59'
R 22,918.31'

I-49 N.B.L. & S.B.L.
PAVEMENT TRANSITION DETAILS

SPECIAL SHEET
SHEET 1 OF 16

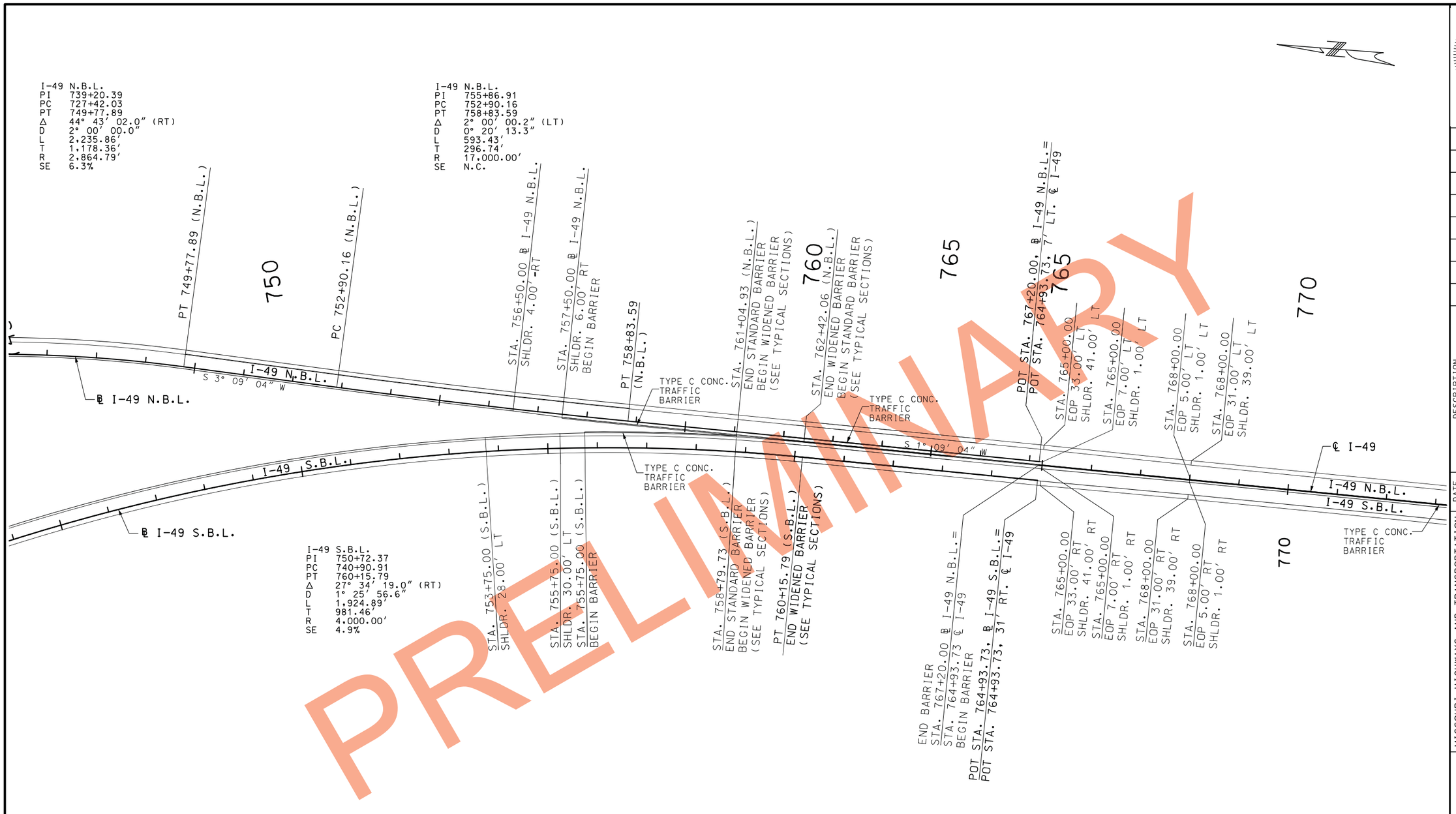
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49
STATE MO
DISTRICT SW
SHEET NO. 40
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE
REV.

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	41

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

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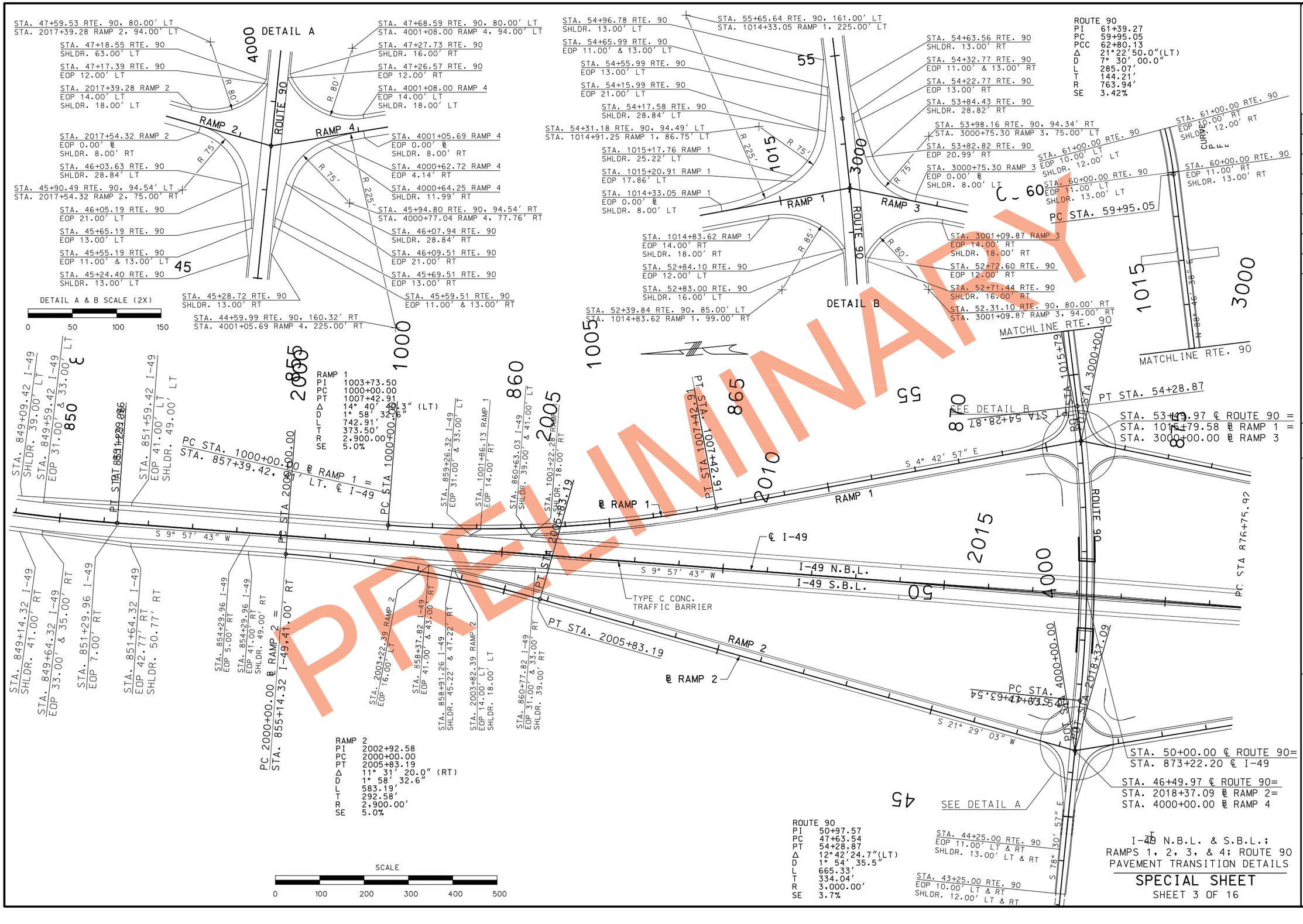
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
(1-888-ASK-MODOT (1-888-275-6636)

I-49 N.B.L. & S.B.L.
PAVEMENT TRANSITION DETAILS

SPECIAL SHEET

SHEET 2 OF 16

REV.



STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	42

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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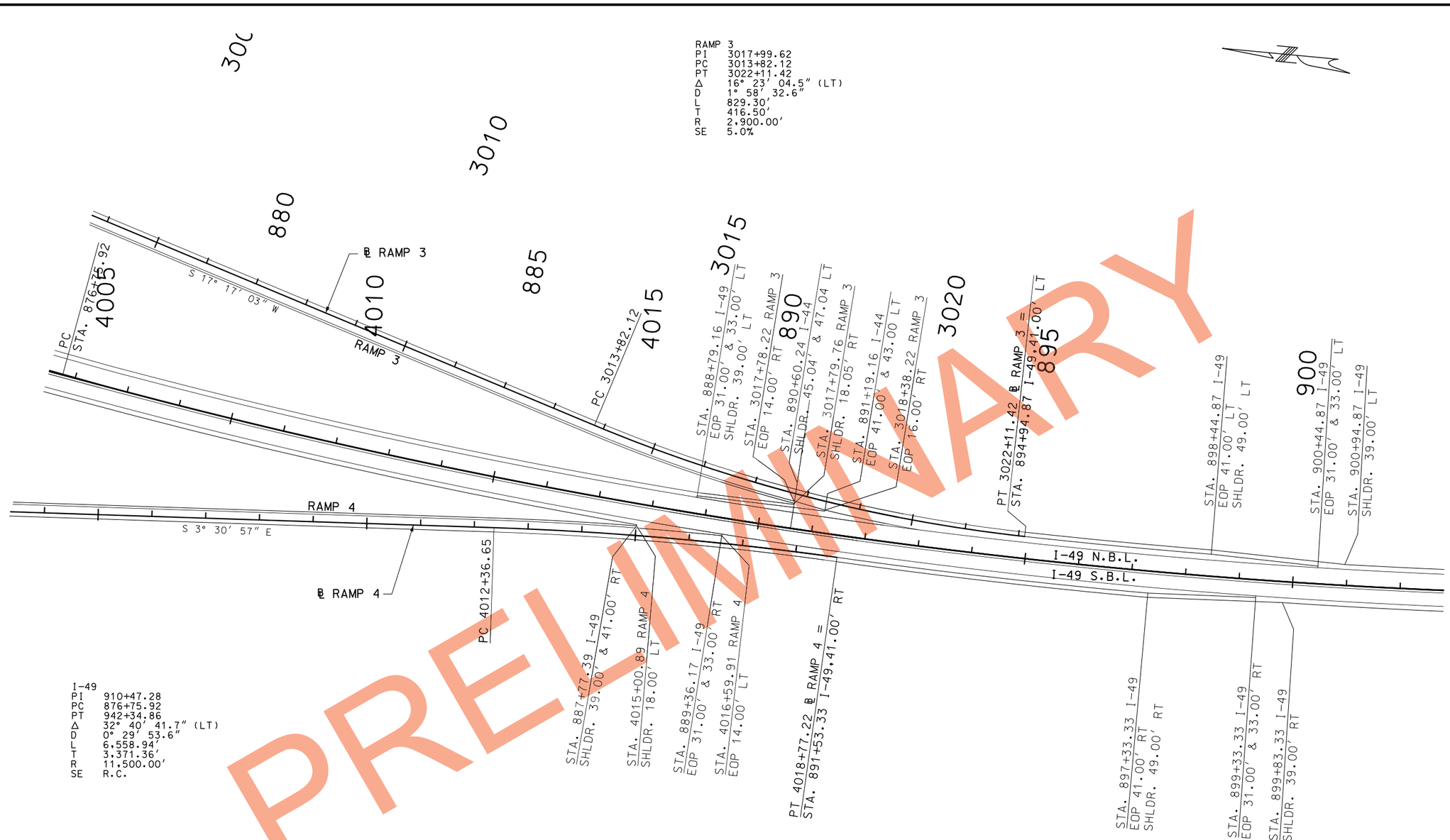
REV.	DESCRIPTION	DATE

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



PRELIMINARY

I-49 N.B.L. & S.B.L.;
RAMPS 3 & 4
PAVEMENT TRANSITION DETAILS

SPECIAL SHEET

SHEET 4 OF 16

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

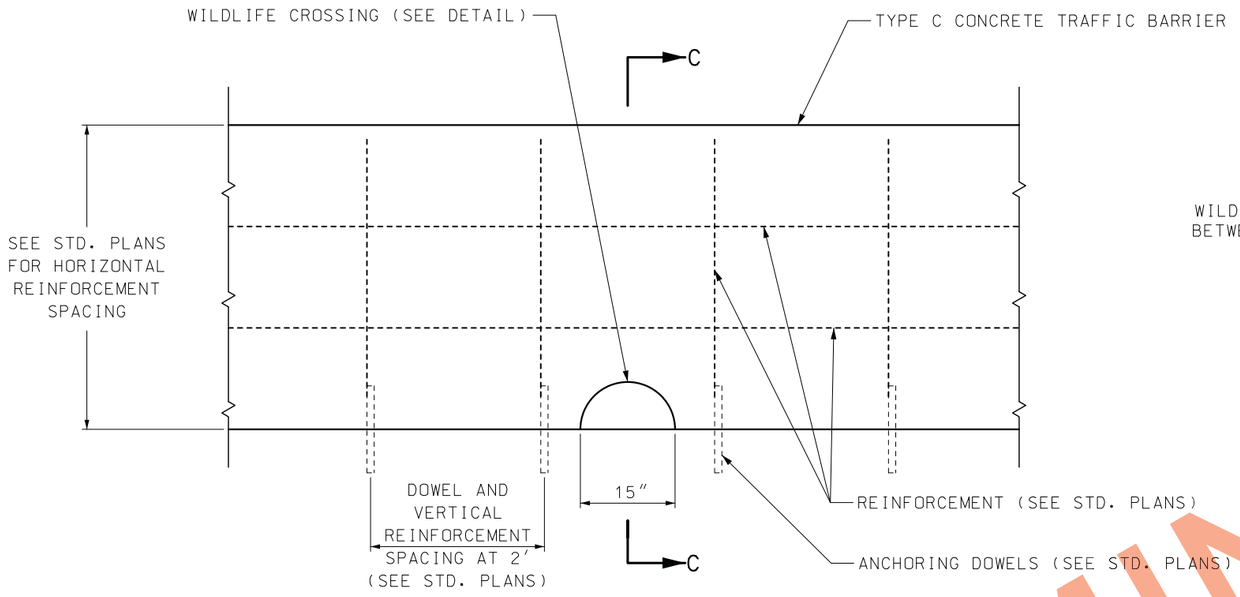
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	43
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

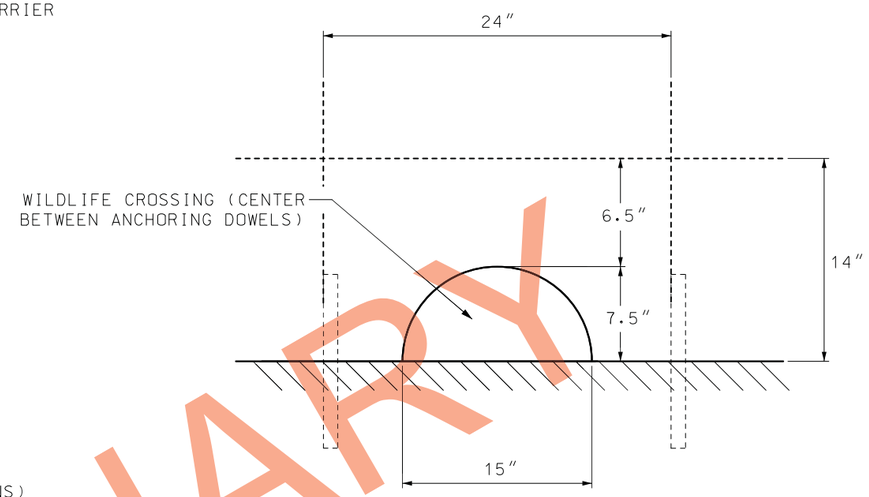
DATE | DESCRIPTION | REV.

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

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



ELEVATION VIEW
(WILDLIFE CROSSING THROUGH TYPE C CONCRETE TRAFFIC BARRIER)



ELEVATION VIEW
(WILDLIFE CROSSING DETAIL)

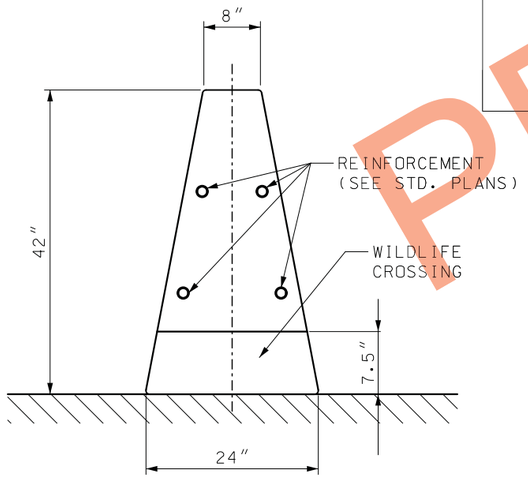
WILDLIFE CROSSING LOCATIONS ✳	
760+00 SBL	849+00
765+00	895+60
772+85	902+00
798+00	957+15
817+00	959+50
830+00	966+30
836+00	983+00

NOTES:

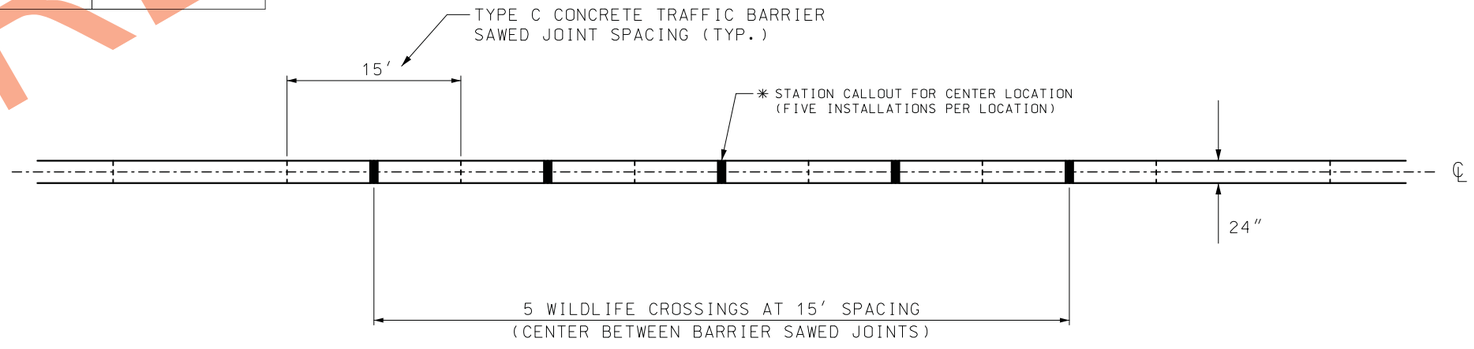
(1) SEE STANDARD PLAN 617.10 FOR DETAILS OF TYPE C CONCRETE TRAFFIC BARRIER, REINFORCEMENT SIZE / SPACING, AND ANCHORING DOWEL SIZE / SPACING.

(2) CENTER WILDLIFE CROSSINGS AT CUT / FILL TRANSITION AREAS. SPACING MAY BE ADJUSTED TO FIELD CONDITIONS UPON APPROVAL OF THE ENGINEER.

(3) SEE JOB SPECIAL PROVISIONS FOR CONSTRUCTION DETAILS.



SECTION C–C



PLAN VIEW – TYPICAL INSTALLATION
(BARRIER SYMMETRICAL ABOUT CENTERLINE)

I-49 WILDLIFE CROSSING DETAILS

SPECIAL SHEET
SHEET 4A OF 16

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 44
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

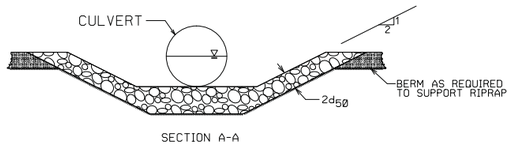
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

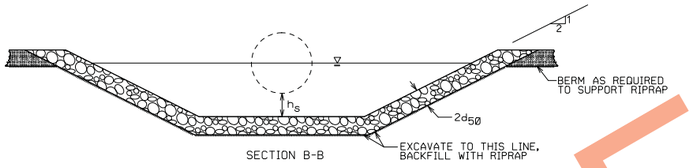
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.

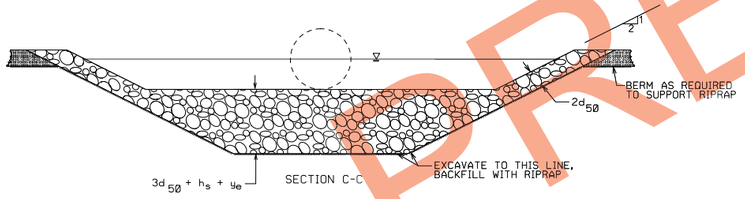
	CULVERT DETAILS		BASIN DIMENSIONS (FT)						RIPRAP DIMENSIONS (FT)																	
										DOWNSLOPE			DISSIPATOR POOL			WIER			APRON w/o TOE			TOE			SIDE SLOPES		
RTE.	CENTERLINE STATION	CULVERT WIDTH DO	hs	Ye	TW	LS	LA	LT	d50	DEPTH	LENGTH	WIDTH	DEPTH	LENGTH	WIDTH	DEPTH	LENGTH	WIDTH	DEPTH	LENGTH	WIDTH	DEPTH	LENGTH	WIDTH	DEPTH	LENGTH	WIDTH
I-49 SBL	731+00.00	36″	0.96	1.88	0.89	10	5	1.69	0.85	2.54	1.92	3.6	1.69	5.75	6.2	5.38	1.92	8.8	1.69	3.10	9.9	3.38	1.7	12.30	1.69	15.15	8.58
I-49 SBL	739+41.86	5′x 5′	1.26	3.15	1.48	15	6	2.84	1.42	4.25	2.52	5.8	2.84	9.96	10.0	8.66	2.52	14.2	2.84	3.47	15.2	5.67	2.8	18.73	2.84	22.45	12.10
I-49 NBL	758+17.83	30″	1.10	1.57	1.25	11	5	1.41	0.70	2.11	2.19	3.2	1.41	6.58	6.2	4.78	2.19	9.1	1.41	4.07	10.7	2.82	1.4	13.23	1.41	17.33	8.19
I-49 NBL	760+00.63	24″	1.50	1.25	1.27	15	8	1.13	0.56	1.69	3.01	3.0	1.13	9.02	7.0	4.45	3.01	11.0	1.13	6.39	13.8	2.26	1.1	16.85	1.13	23.77	8.40
I-49	768+06.77	10′x 8′	2.30	5.12	1.07	30	12	4.61	2.30	6.91	4.61	11.5	4.61	20.78	20.0	14.34	4.61	28.5	4.61	6.91	30.8	9.22	4.6	36.91	4.61	43.76	18.84
I-49	783+66.96	30″	2.19	1.57	1.69	22	11	1.41	0.70	2.11	4.39	4.0	1.41	13.16	9.8	5.87	4.39	15.7	1.41	9.55	19.8	2.82	1.4	24.19	1.41	34.66	10.64
I-49	795+25.82	3 - 8′x 8′	1.58	5.28	5.42	66	22	4.75	2.38	7.13	3.17	23.1	4.75	59.66	44.0	13.99	3.17	64.9	4.75	17.25	70.2	9.50	4.8	79.87	4.75	92.74	17.59
I-49	818+19.01	48″	2.63	2.51	0.48	26	13	2.26	1.13	3.38	5.26	5.8	2.26	15.79	12.8	8.52	5.26	19.8	2.26	10.90	24.4	4.51	2.3	29.94	2.26	41.60	13.73
I-49	831+22.78	36″	1.69	1.88	1.87	17	8	1.69	0.85	2.54	3.38	4.1	1.69	10.15	8.6	6.11	3.39	13.1	1.69	6.77	16.0	3.38	1.7	19.63	1.69	26.74	10.22
I-49	844+08.90	6′x 5′	1.79	3.90	2.65	18	9	3.51	1.76	5.27	3.59	7.2	3.51	10.82	12.0	10.96	3.59	16.8	3.51	5.46	18.7	7.02	3.5	23.40	3.51	28.42	14.97
RAMP 4	4007+25.00	24″	0.86	1.25	0.68	9	4	1.13	0.56	1.69	1.73	2.6	1.13	5.19	4.9	3.81	1.73	7.2	1.13	3.20	8.5	2.26	1.1	10.46	1.13	13.67	6.97
I-49	887+10.93	7′x 6′	2.17	4.62	3.15	22	11	4.16	2.08	6.24	4.34	8.4	4.16	13.03	14.2	13.03	4.34	20.0	4.16	6.70	22.3	8.32	4.2	28.02	4.16	34.33	17.43
I-49	899+93.87	4′x 4′	1.27	2.76	1.30	13	6	2.48	1.24	3.73	2.54	4.8	2.48	7.62	8.2	7.76	2.54	11.6	2.48	3.86	12.9	4.97	2.5	16.28	2.18	20.07	11.25
I-49	909+72.11	7′x 6′	2.01	4.38	3.03	21	10	3.64	1.97	5.91	4.03	8.3	3.94	12.94	14.0	12.31	4.03	19.7	3.64	6.13	21.7	7.88	3.9	27.06	3.94	32.75	16.54
I-49	958+02.44	42″	0.88	2.19	1.39	11	4	1.97	0.99	2.96	1.75	4.1	1.97	6.99	7.0	6.03	1.75	9.9	1.97	2.41	10.6	3.95	2.0	13.09	1.97	15.69	9.10
I-49	964+60.36	5′x 5′	1.88	3.13	2.68	19	9	2.82	1.41	4.23	3.76	6.3	2.82	11.28	11.3	9.24	3.76	16.3	2.82	6.58	18.8	5.64	2.8	23.33	2.82	29.71	13.45



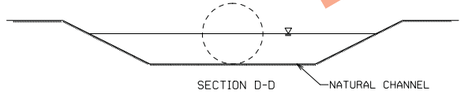
SECTION A-A



SECTION B-B



SECTION C-C



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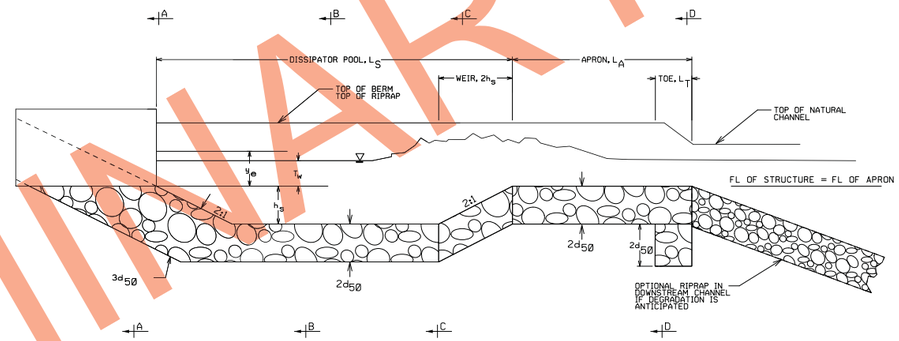
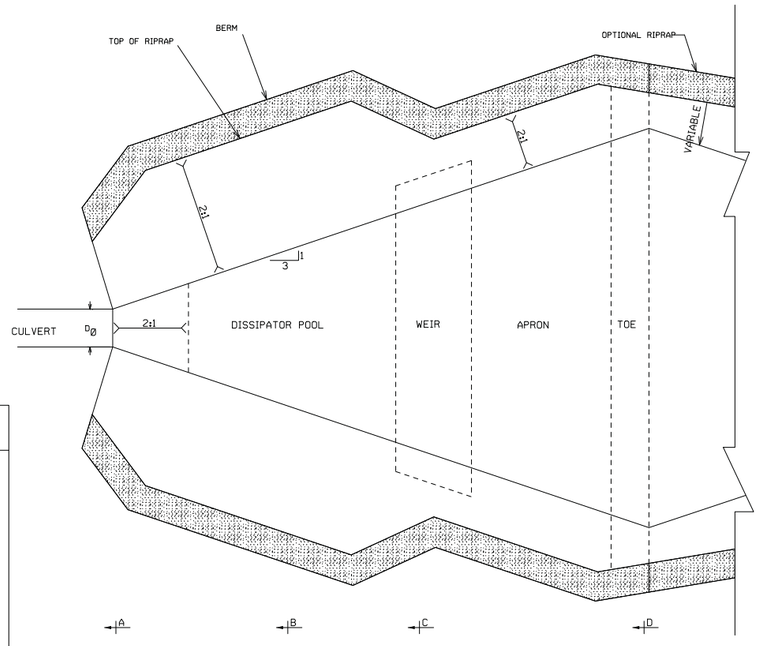


℄ SECTION



PLAN VIEW

GENERAL NOTES

THE MATERIALS FOR ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF SEC. 611.30 FOR TYPE 2 ROCK BLANKET

ALL EXCAVATION REQUIRED TO CONSTRUCT THE ENERGY DISSIPATORS SHALL BE COVERED UNDER THE PAY ITEM FOR CLASS 3 EXCAVATION.

WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL. TOP OF RIPRAP IN FLOOR OF BASIN DISSIPATOR POOL OR APRON SHALL BE AT THE SAME OR LOWER ELEVATION THAN THE NATURAL CHANNEL BOTTOM SECTION D-D. MODIFY FLAT BOTTOM WIDTH IF THE OPTIONAL EXTENDED TRANSITION IS REQUIRED.

MODIFY THE BASIN DIMENSIONS AS REQUIRED TO MATCH THE CONFIGURATION OF CULVERT END TREATMENTS.

REFER TO FHWA HEC-14 MANUAL FOR HYDRAULIC DESIGN PROCEDURES OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS.

DESIRABLE SLOPE IS 0.0% IN DISSIPATOR POOL AND IN APRON FLAT BOTTOM.

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	45

COUNTY
McDONALD

JOB NO.
P6P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

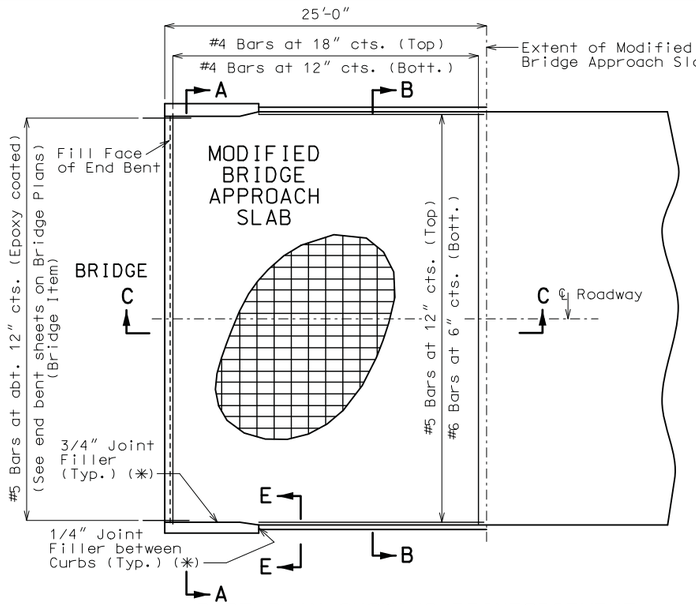
DESCRIPTION | DATE | REV.

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

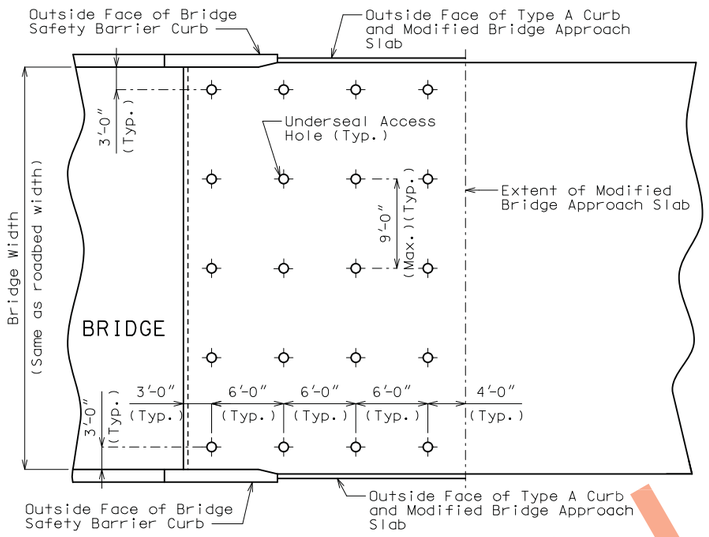
SPECIAL SHEET

ENERGY DISSIPATOR

SHEET 5 OF 16



PART PLAN SHOWING REINFORCEMENT
(SQUARE STRUCTURE SHOWN)



PART PLAN
(SHOWING TYPICAL UNDERSEAL ACCESS HOLE LOCATIONS)
(SQUARE STRUCTURE SHOWN)

GENERAL NOTES:

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

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

The reinforcing steel in the modified bridge approach slab shall be uncoated Grade 60 with Fy = 60,000 psi, except as shown.

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

The reinforcing steel in the modified bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the bars 21" min.

Plain or deformed welded wire fabric of same strength and area per foot of slab may be substituted with the approval of the engineer. Sheets of WWF shall be lapped in accordance with CRSI.

Mechanical bar splices shall be in accordance with Sec 706.

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

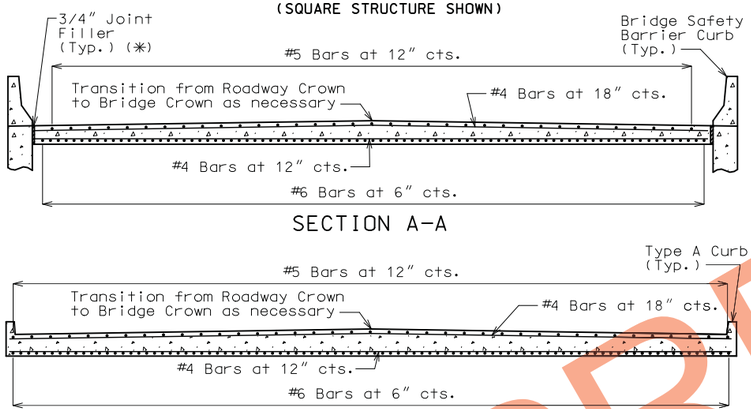
The contractor shall pour and satisfactorily finish the bridge or semi-deep slab before pouring the modified bridge approach slab.

Longitudinal construction joints in modified bridge approach slab shall be aligned with longitudinal construction joints in bridge or semi-deep slab.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

At the contractor's option, Grade 40 reinforcement may be substituted for the Grade 60 #5 dowel bars connecting the modified bridge approach slab to the bridge abutment. No additional payment will be made for this substitution.

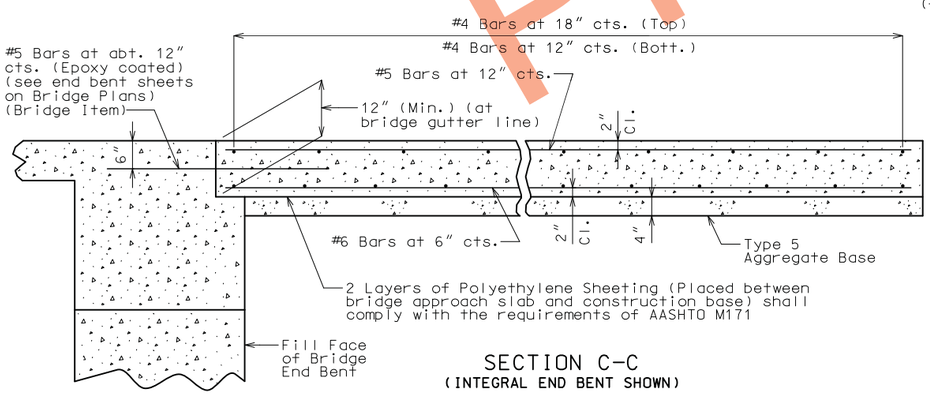
When Grade 40 reinforcement is substituted for the Grade 60 #5 dowel bars connecting the modified bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90 degrees with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired in accordance with Sec 710.



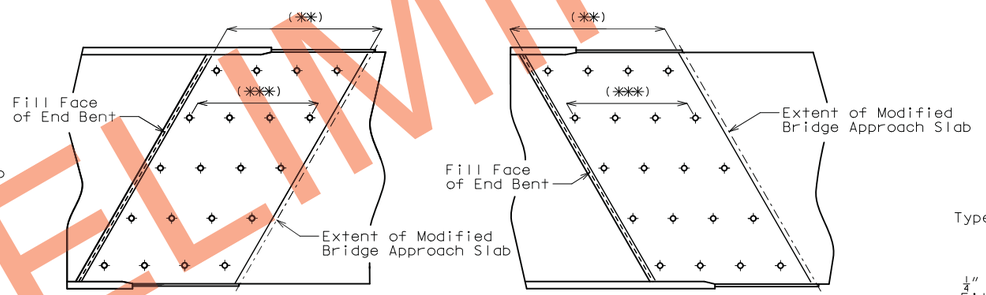
SECTION A-A

SECTION B-B

Note: With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION C-C
(INTEGRAL END BENT SHOWN)



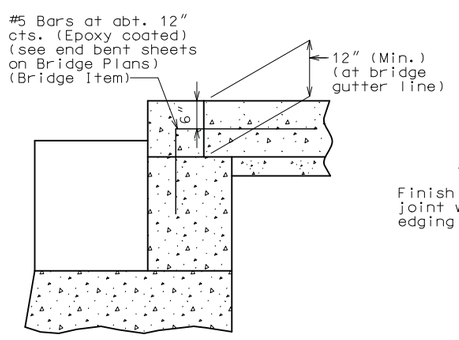
LEFT ADVANCED STRUCTURE

RIGHT ADVANCED STRUCTURE

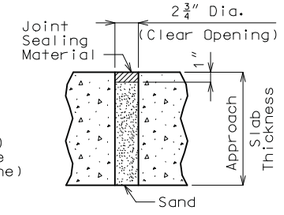
PART GENERAL PLANS OF SKEWED STRUCTURES

(**) Transverse reinforcing bars shall be placed parallel to End Bents.

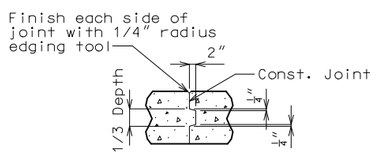
(***) Underseal access holes shall be laid out parallel to End Bents.



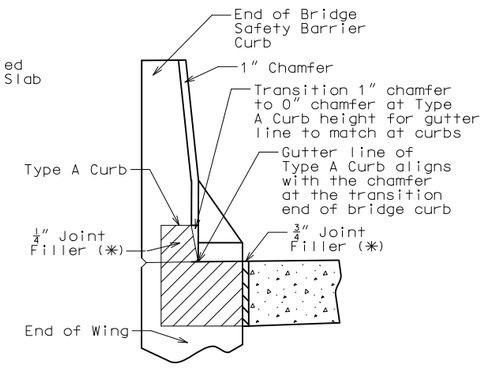
PART SECTION C-C
(NON-INTEGRAL END BENT SHOWN)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL



CONST. JOINT DETAIL
(IF REQUIRED)



SECTION E-E
(BETWEEN CURBS)

RTE. 90 BR A7000
(ALTERNATE D ONLY)

MODIFIED BRIDGE APPROACH SLAB

SPECIAL SHEET
SHEET 6 OF 16

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	46

COUNTY: McDONALD
JOB NO.: J7P0601
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.

GENERAL NOTES:

Design Specifications:

2010 - AASHTO LRFD Bridge Design Specifications and
2010 Interim Revisions

Design Loading:

Vehicular = HL-93 Minus Lane Load
Earth = 120 lb/cf
Equivalent Fluid Pressure = 30 lb/cf (min.), 60 lb/cf (max.)

Design Unit Stresses:

Class B-1 Concrete (Box Culvert) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Reinforcing Steel:

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

Miscellaneous:

For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

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

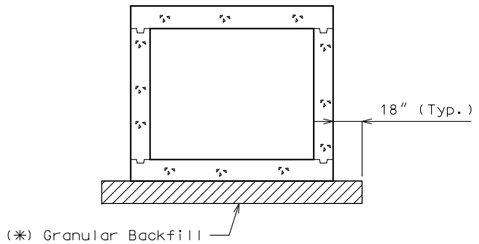
Precast Box Option:

When alternate precast concrete box culvert sections are used, the minimum distance from inside face of headwalls to precast sections measured along the shortest wall shall be 3 feet. Reinforcement and dimensions for wings and headwalls shall be in accordance with Missouri Standard Plans.

If precast option is used, collars shall be provided between all precast pieces.

MoDOT Construction personnel will indicate the type of box culvert constructed:

☐ Precast Concrete Box used
☐ Cast-in-Place Concrete Box used



SECTION THRU BOX
(Normal to ℄ Structure)

(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

Note:

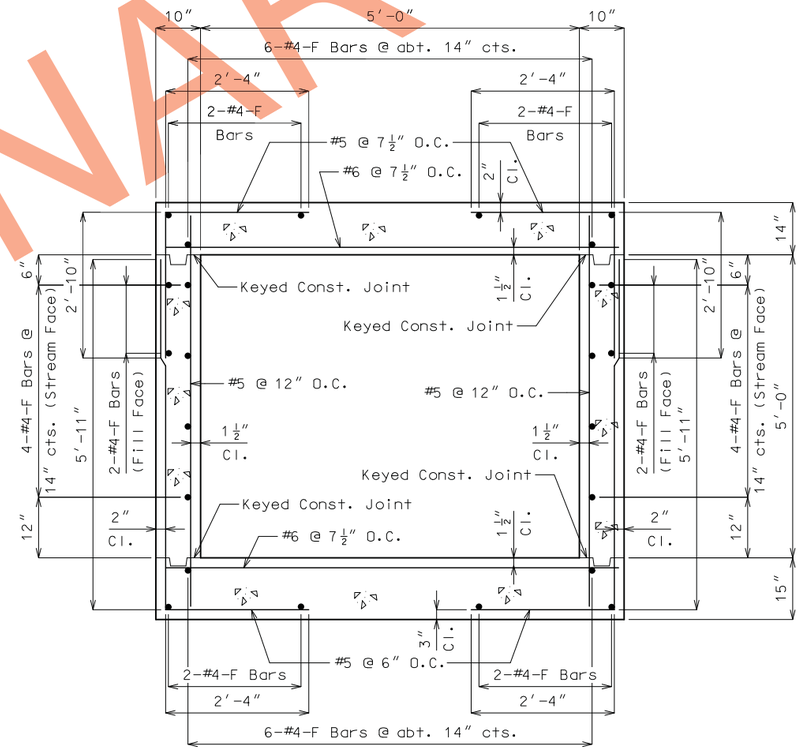
For details of 5' x 5' Box Culvert Sections A, B, C, H, I, J & K, see Missouri Standard Plans.

Collar Beams are required at all Transverse Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.15E for box culvert wingwall and head wall details.

COLLAR BEAM QUANTITIES		
CULVERT @ STATION	CONCRETE (cu. yds.)	REINFORCING STEEL (lbs.)
964+60.36	29.52	11,880

DATA FOR MISSOURI STANDARD PLANS			
SECTION	DESIGN FILL (ft.)	CONCRETE (cu. yds./ft.)	REINFORCING STEEL (lbs./ft.)
A & B	22	0.58	90
C	38	0.70	107
H	48	0.80	109
I	34	0.66	102
J & K	18	0.56	92



5' x 5' BOX CULVERT SECTION
SECTIONS D, E, F & G

Design Fill = 61.50'
Concrete = 0.91 cu. yard/ft.
Reinforcing Steel = 117 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

PRELIMINARY

5' x 5' x 501' BOX CULVERT SECTION
@ STA. 964+60.36 RTE. I-49

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

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 6A OF 16

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER PE-28985
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 46A
COUNTY: McDONALD
JOB NO.: J7P0601
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.

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equilavlent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

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

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

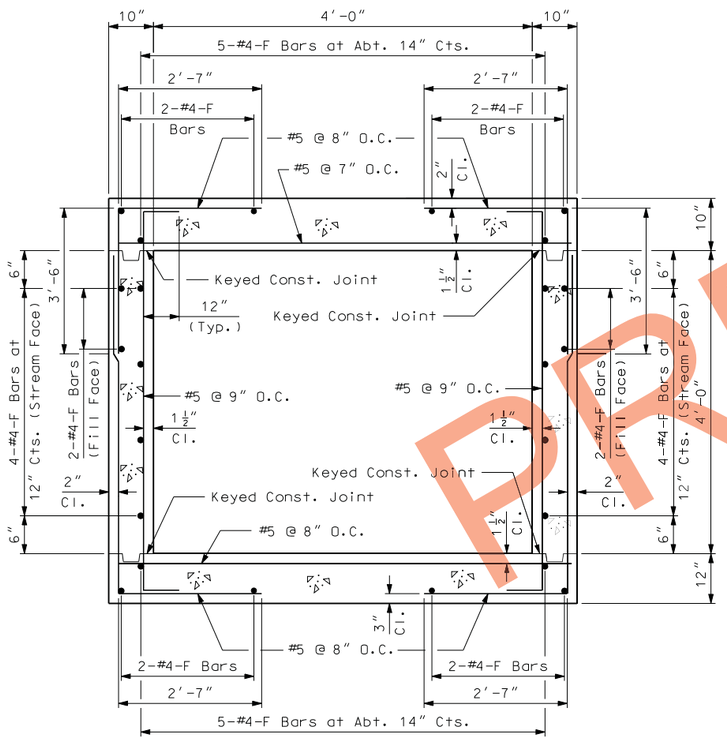
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

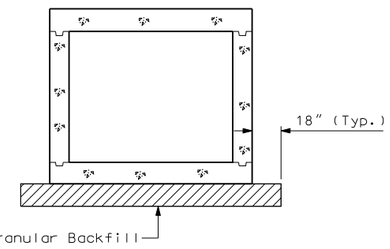
The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



4' x 4' BOX CULVERT SECTION
SECTIONS A, B, C, K, L, M & N

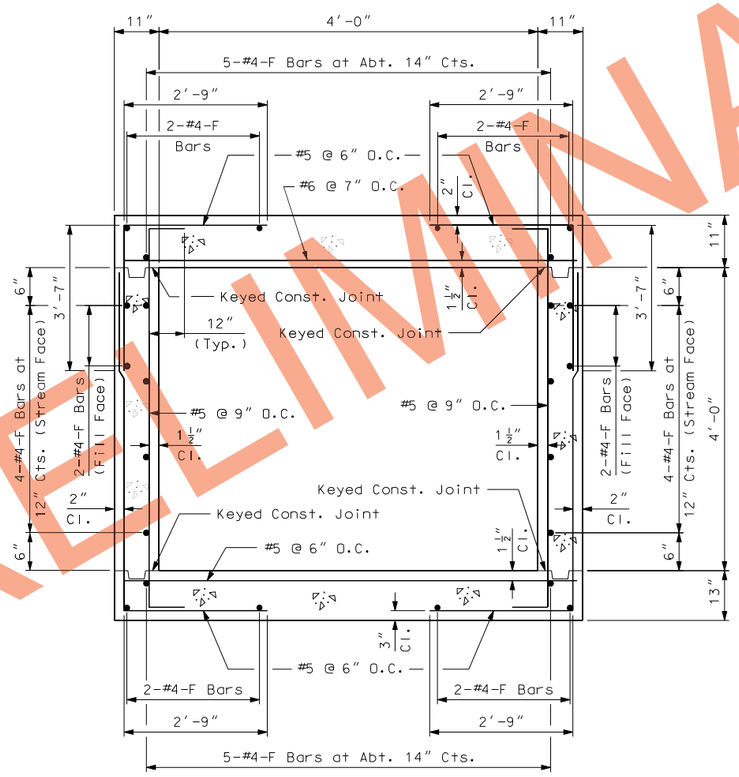
Design Fill = 35.25'
Concrete = 0.63 cu. yard/ft.
Reinforcing Steel = 100 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



SECTION THRU BOX
(Normal to ℄ Structure)

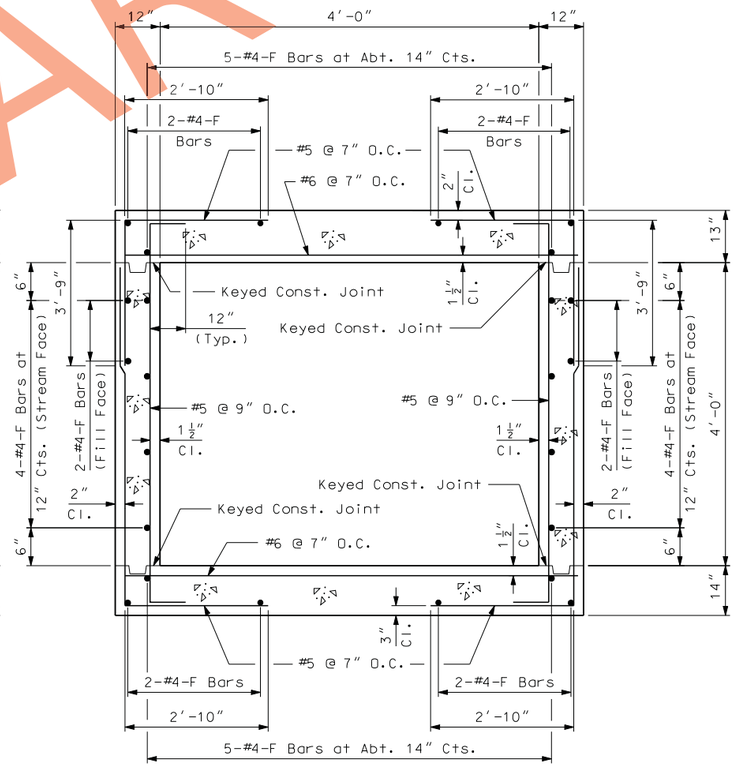
(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.



4' x 4' BOX CULVERT SECTION
SECTIONS D, E, I & J

Design Fill = 59.75'
Concrete = 0.70 cu. yard/ft.
Reinforcing Steel = 124 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



4' x 4' BOX CULVERT SECTION
SECTIONS F, G & H

Design Fill = 73.75'
Concrete = 0.80 cu. yard/ft.
Reinforcing Steel = 122 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

4' x 4' x 610' BOX CULVERT SECTION
@ STA. 743+58.95 RTE. I-49 N.B.L.

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

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.

PRELIMINARY

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 7 OF 16

STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER
06-17-09

DATE
06-17-09
DATE PREPARED
05/08/2009
ROUTE 49 / STATE MO
DISTRICT 7 / SHEET NO. 47
COUNTY McDONALD
JOB NO. J7P0601
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)

TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET. KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equilavlent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

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

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

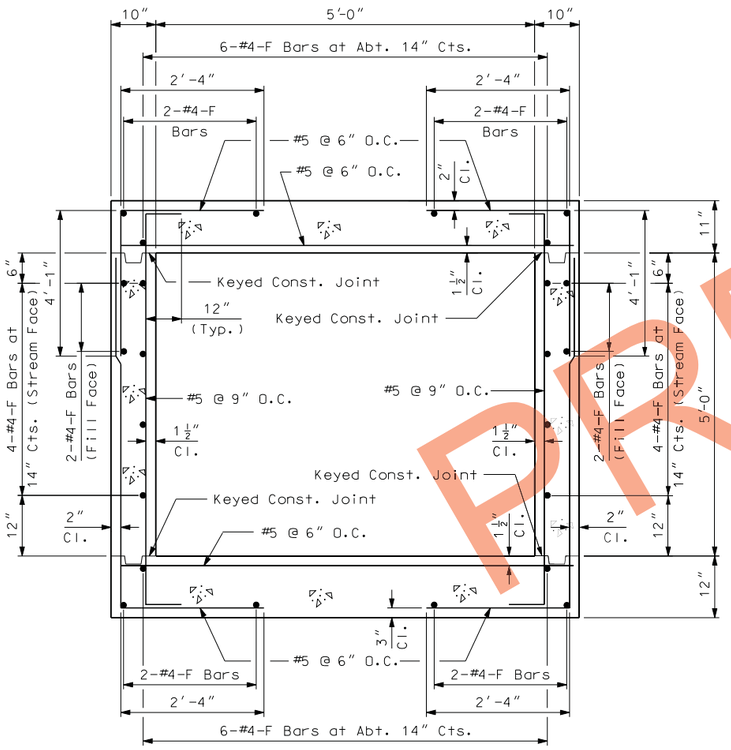
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

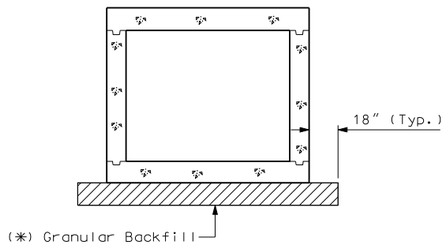
The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



5' x 5' BOX CULVERT SECTION
SECTIONS A, B, I, J & K

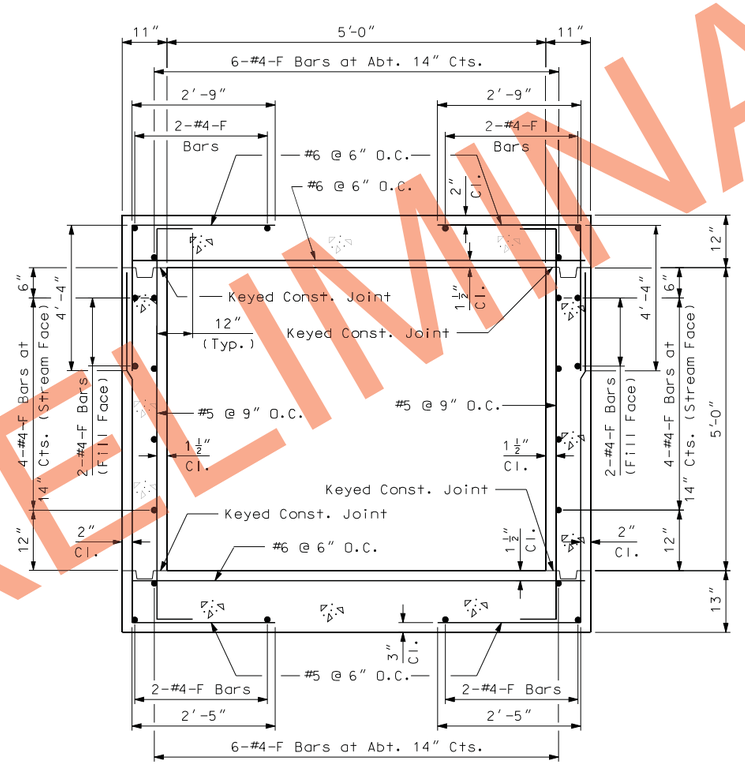
Design Fill = 34.50'
Concrete = 0.78 cu. yard/ft.
Reinforcing Steel = 131 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



SECTION THRU BOX
(Normal to ℄ Structure)

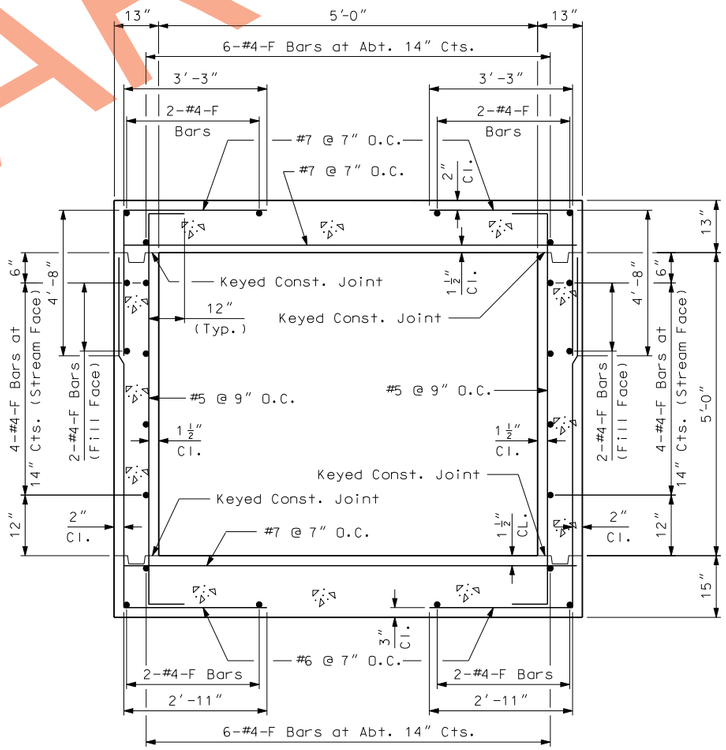
(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.



5' x 5' BOX CULVERT SECTION
SECTIONS C & H

Design Fill = 52.75'
Concrete = 0.87 cu. yard/ft.
Reinforcing Steel = 161 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



5' x 5' BOX CULVERT SECTION
SECTIONS D, E, F & G

Design Fill = 69.00'
Concrete = 1.02 cu. yard/ft.
Reinforcing Steel = 195 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.

PRELIMINARY

5' x 5' x 519' BOX CULVERT SECTION @ STA. 739+41.86 RTE. I-49 S.B.L.

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

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 8 OF 16

STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER

DATE	06-17-09
DATE PREPARED	05/08/2009
ROUTE	49
STATE	MO
DISTRICT	7
SHEET NO.	48
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

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

TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET. KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102
TAI

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equivalent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

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

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

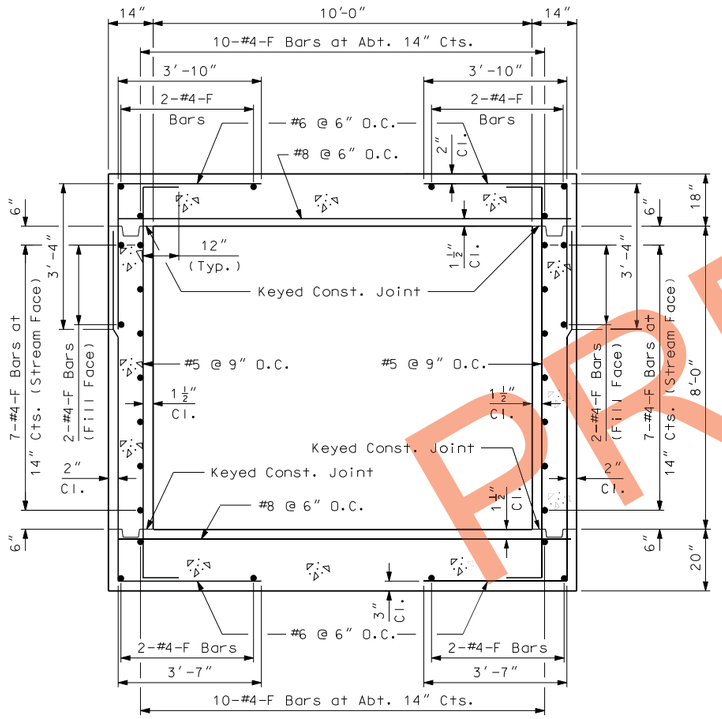
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

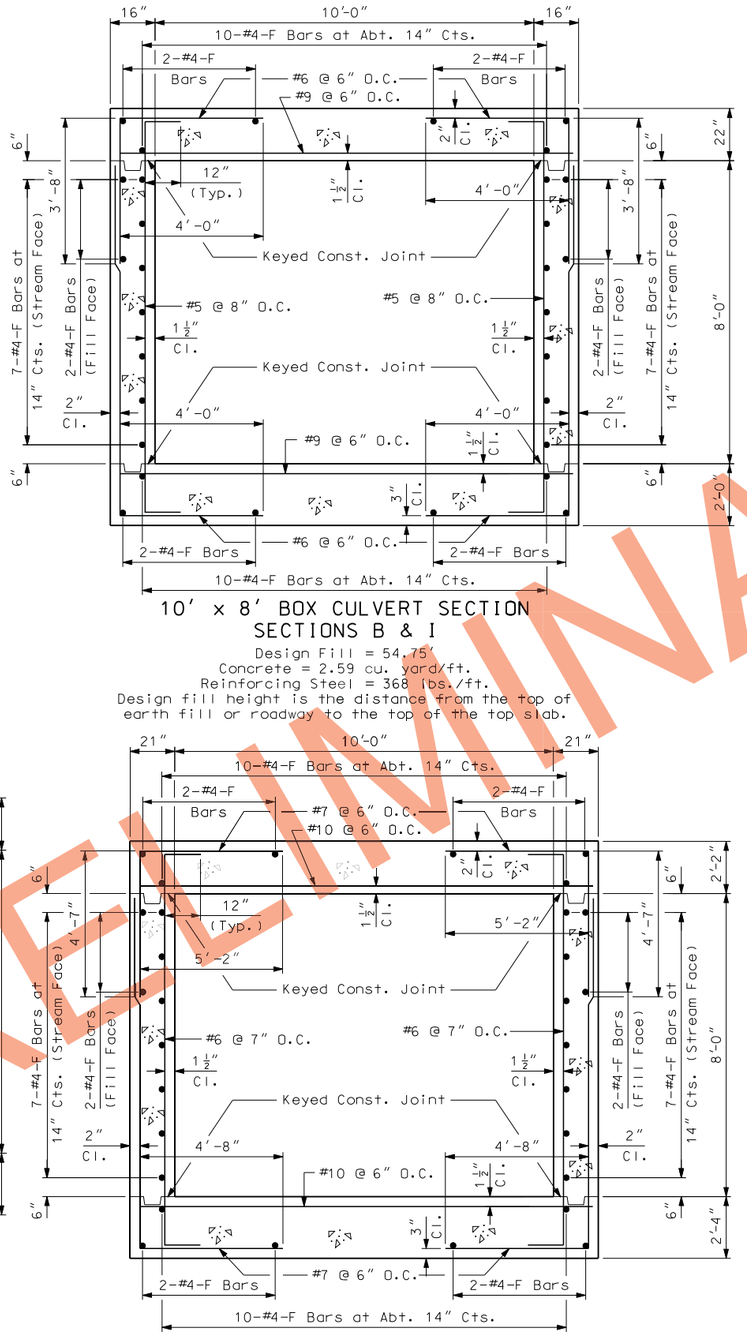
The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



10' x 8' BOX CULVERT SECTION
SECTIONS A, J & K

Design Fill = 35.50'
Concrete = 2.14 cu. yard/ft.
Reinforcing Steel = 315 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



10' x 8' BOX CULVERT SECTION
SECTIONS B & I

Design Fill = 54.75'
Concrete = 2.59 cu. yard/ft.
Reinforcing Steel = 368 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

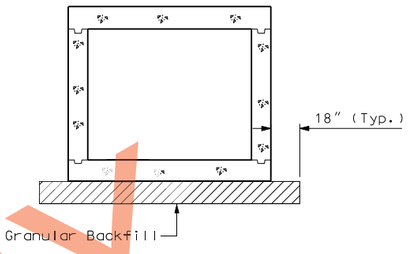
10' x 8' BOX CULVERT SECTION
SECTIONS C & H

Design Fill = 79.00'
Concrete = 3.29 cu. yard/ft.
Reinforcing Steel = 529 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

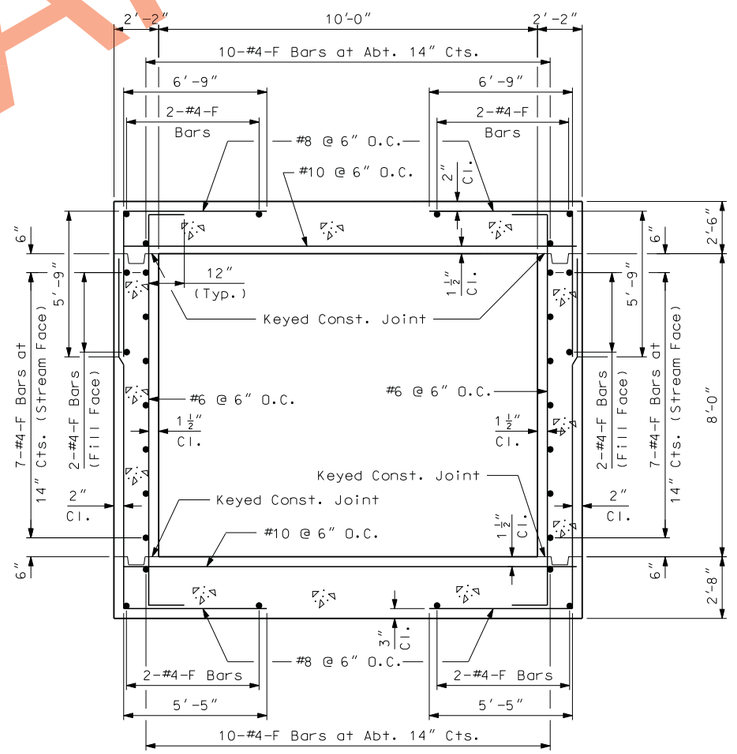
The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.



SECTION THRU BOX
(Normal to ℄ Structure)

(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.



10' x 8' BOX CULVERT SECTION
SECTIONS D, E, F & G

Design Fill = 103.75'
Concrete = 4.03 cu. yard/ft.
Reinforcing Steel = 662 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 9 OF 16

10' x 8' x 504' BOX CULVERT SECTION @ STA. 768+06.77 RTE. I-49

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

PRELIMINARY

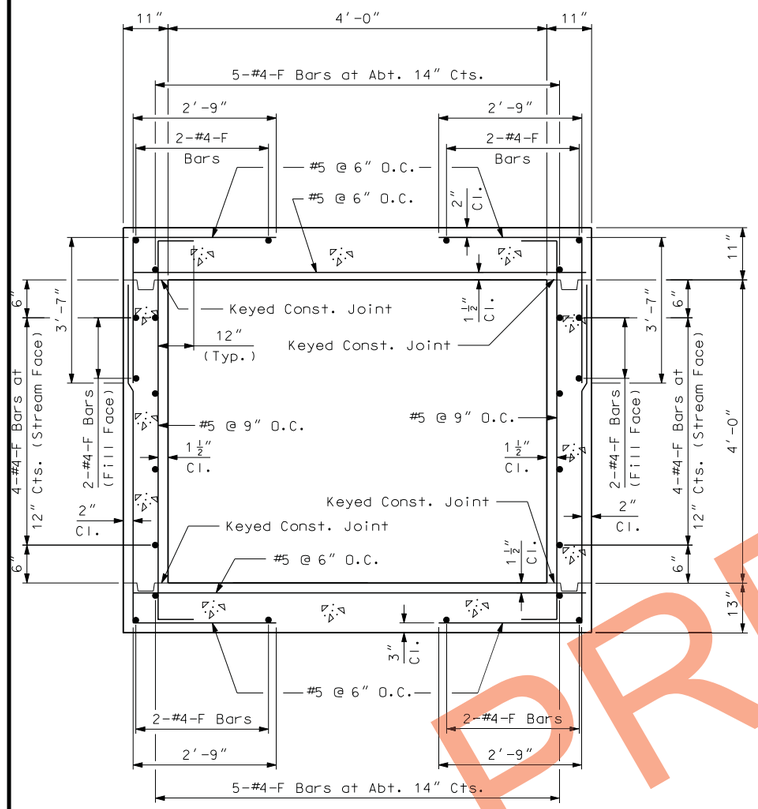
STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER
07/09

DATE: 06-17-09
DATE PREPARED: 05/08/2009
ROUTE: 49
STATE: MO
DISTRICT: 7
SHEET NO.: 49
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

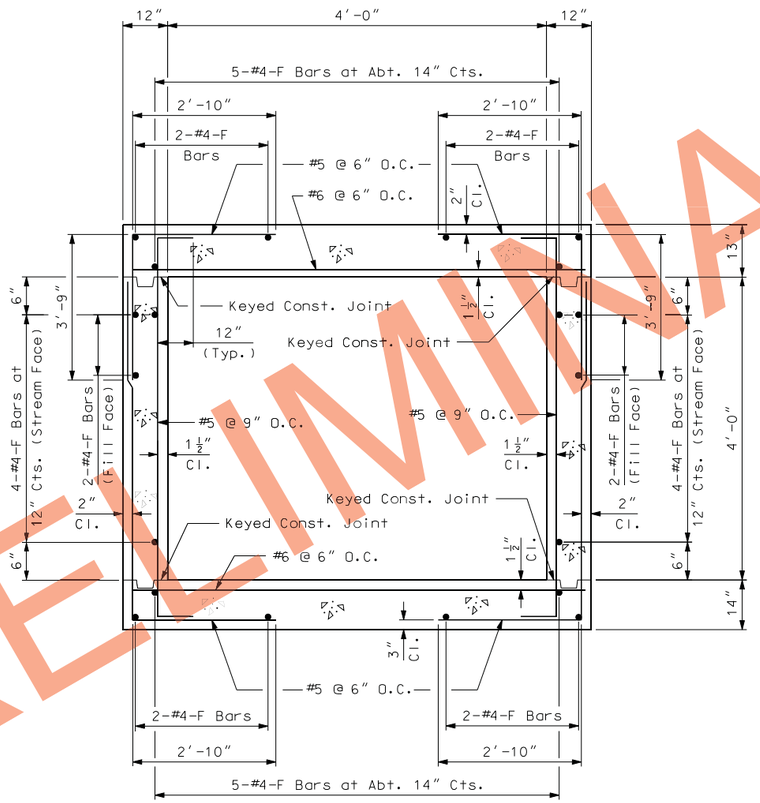
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET, KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102



4' x 4' BOX CULVERT SECTION
SECTIONS A, B & C

Design Fill = 53.00'
Concrete = 0.70 cu. yard/ft.
Reinforcing Steel = 122 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



4' x 4' BOX CULVERT SECTION
SECTIONS D, E, F, G, & H

Design Fill = 86.25'
Concrete = 0.80 cu. yard/ft.
Reinforcing Steel = 135 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

4' x 4' x 319' BOX CULVERT SECTION @ STA. 842+96.71 RTE. I-49

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

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equivalent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

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

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

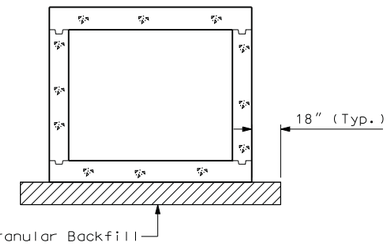
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



SECTION THRU BOX
(Normal to ℄ Structure)

(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 10 OF 16

PRELIMINARY

STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER

DATE
06-17-09
DATE PREPARED
05/08/2009
ROUTE 49 | STATE MO
DISTRICT 7 | SHEET NO. 50
COUNTY
McDONALD
JOB NO.
J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET. KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102
TAI

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equilavlent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

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

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

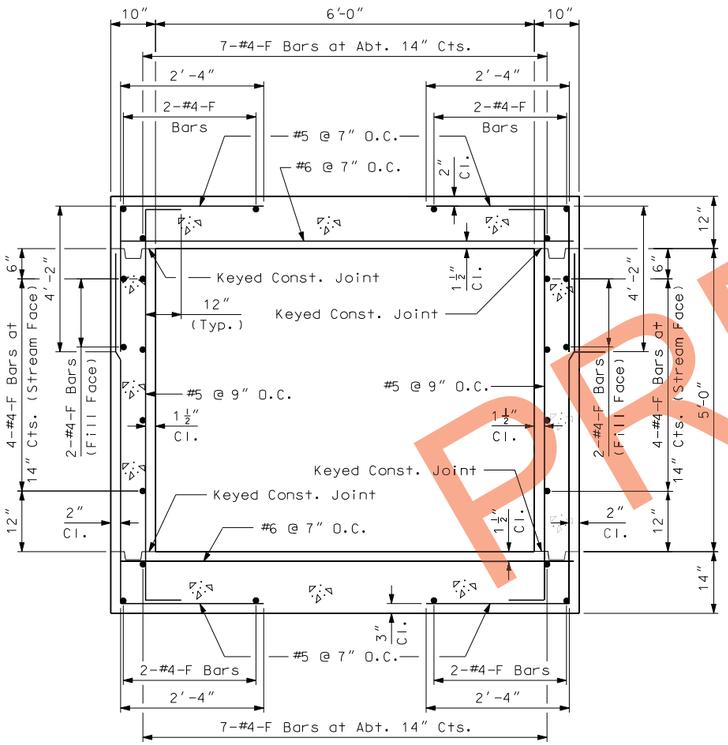
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

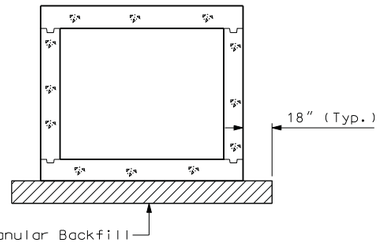
The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



6' x 5' BOX CULVERT SECTION SECTIONS A, J, & K

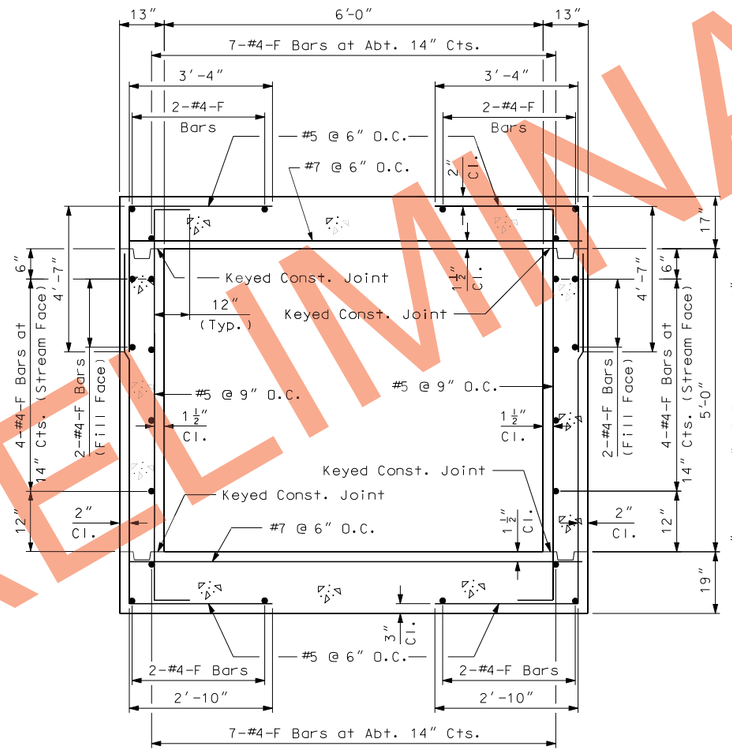
Design Fill = 30.25'
Concrete = 0.92 cu. yard/ft.
Reinforcing Steel = 137 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



SECTION THRU BOX
(Normal to ℄ Structure)

(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.



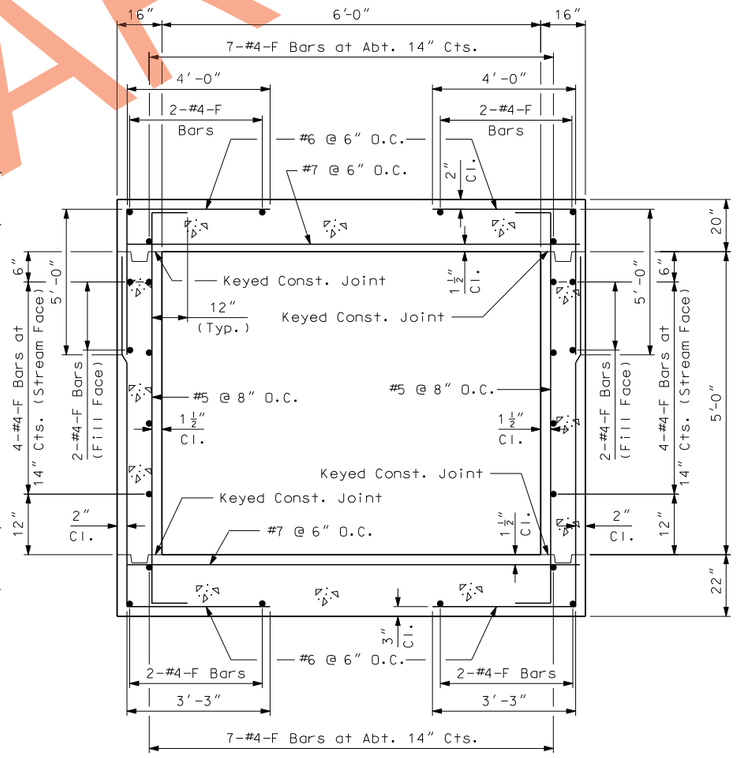
6' x 5' BOX CULVERT SECTION SECTIONS B, C, H, & I

Design Fill = 68.25'
Concrete = 1.31 cu. yard/ft.
Reinforcing Steel = 184 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.



6' x 5' BOX CULVERT SECTION SECTIONS D, E, F, & G

Design Fill = 88.17'
Concrete = 1.62 cu. yard/ft.
Reinforcing Steel = 236 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

6' x 5' x 495' BOX CULVERT SECTION @ STA. 844+08.90 RTE. I-49

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

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 11 OF 16

PRELIMINARY

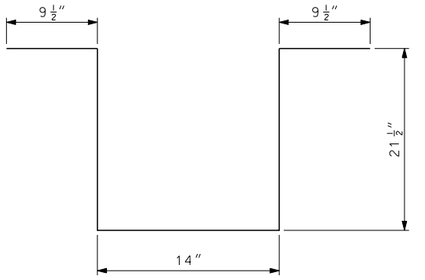
STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER

DATE	06-17-09
DATE PREPARED	05/08/2009
ROUTE	49
STATE	MO
DISTRICT	7
SHEET NO.	51
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

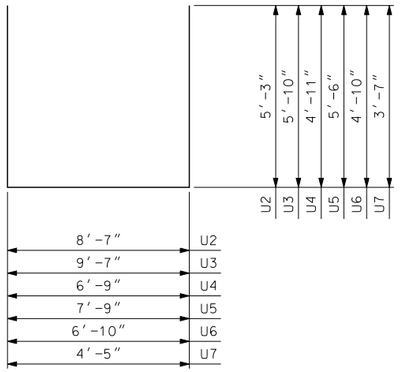
DESCRIPTION | DATE

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

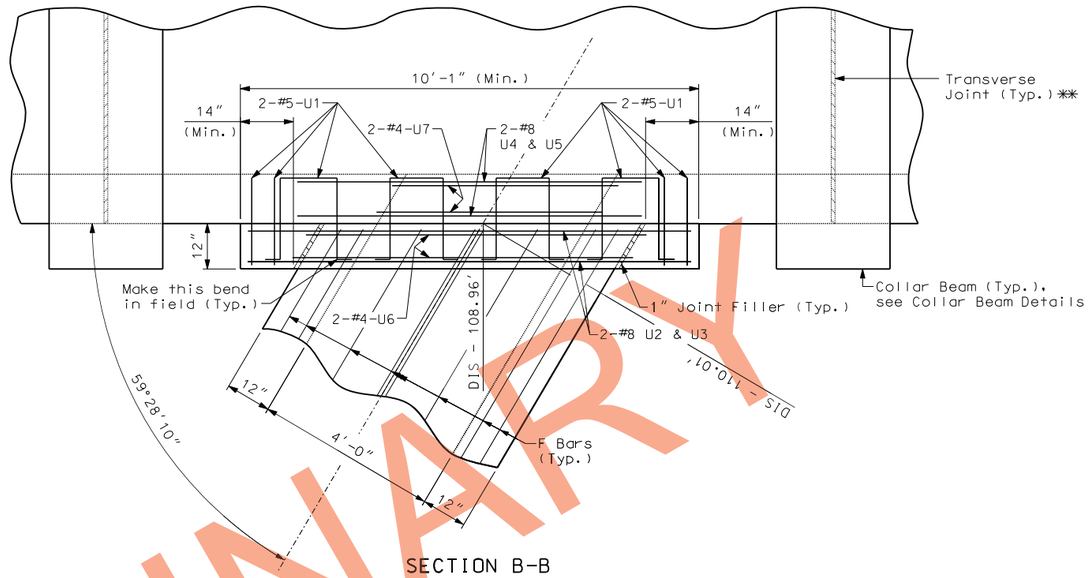
TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET. KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102
TAI



U1 BARS



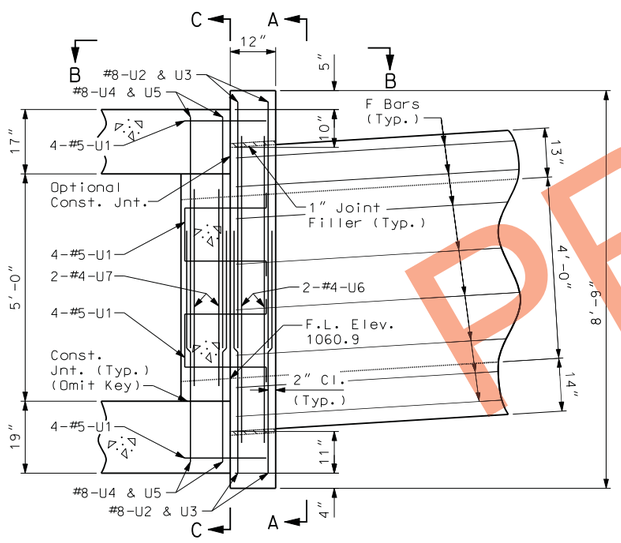
BENDING DIAGRAMS



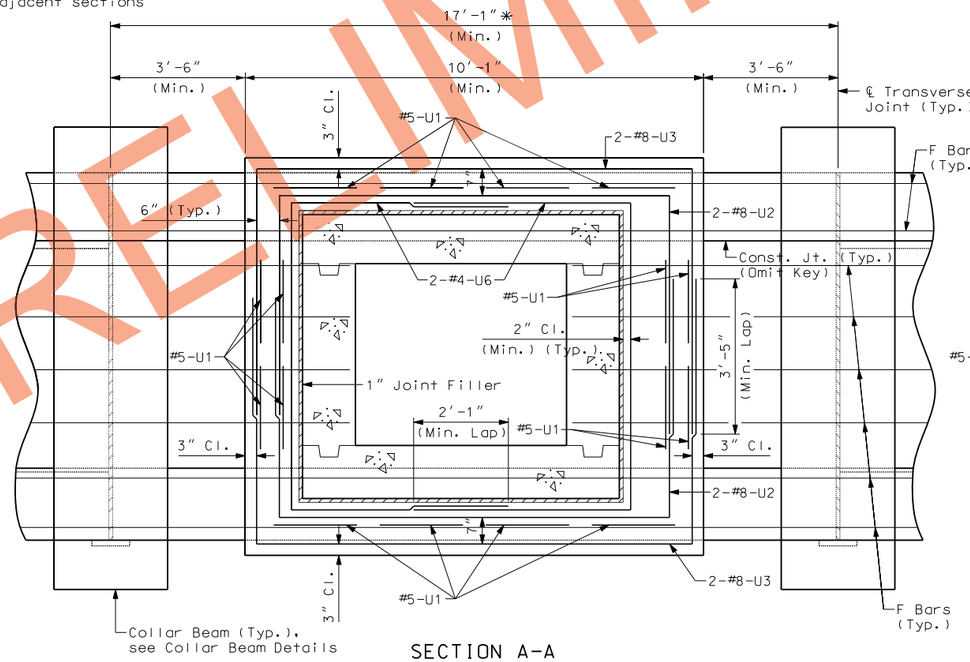
SECTION B-B

* The use of precast box section shall not be allowed within this limit. Use cast -in-place concrete only.

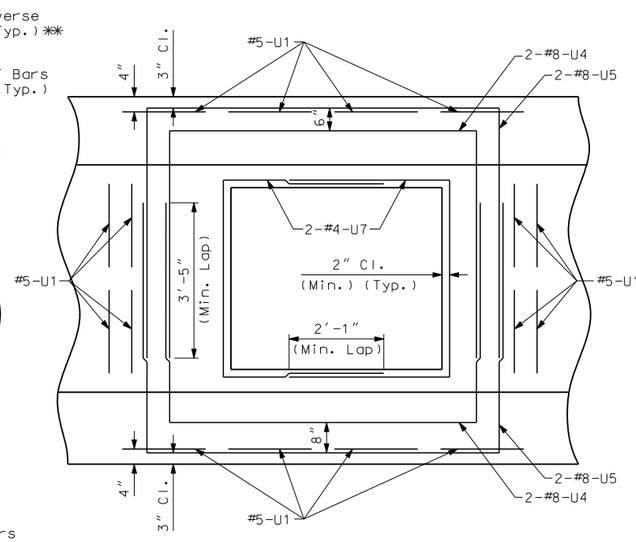
** This joint can be eliminated if adjacent sections are cast-in-place concrete.



DETAIL OF INTERSECTION



SECTION A-A



SECTION C-C

6' x 5' x 495' BOX CULVERT SECTION @ STA. 844+08.90 RTE. I-49

Note:

Cut or bend rebars in box culvert when necessary to miss opening for 4'-0" x 4'-0" intersecting culvert.

For regular culvert reinforcing, see Sheet No. 51.

QUANTITIES FOR ATTACHMENT

Concrete = 1.57 cu. yard
Reinforcing Steel = 989 lbs.

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 12 OF 16

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

PRELIMINARY

STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER

DATE 06-17-09
DATE PREPARED 05/08/2009
ROUTE 49 | STATE MO
DISTRICT 7 | SHEET NO. 52
COUNTY McDONALD
JOB NO. J7P0601
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)

TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET. KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equivalent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

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

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

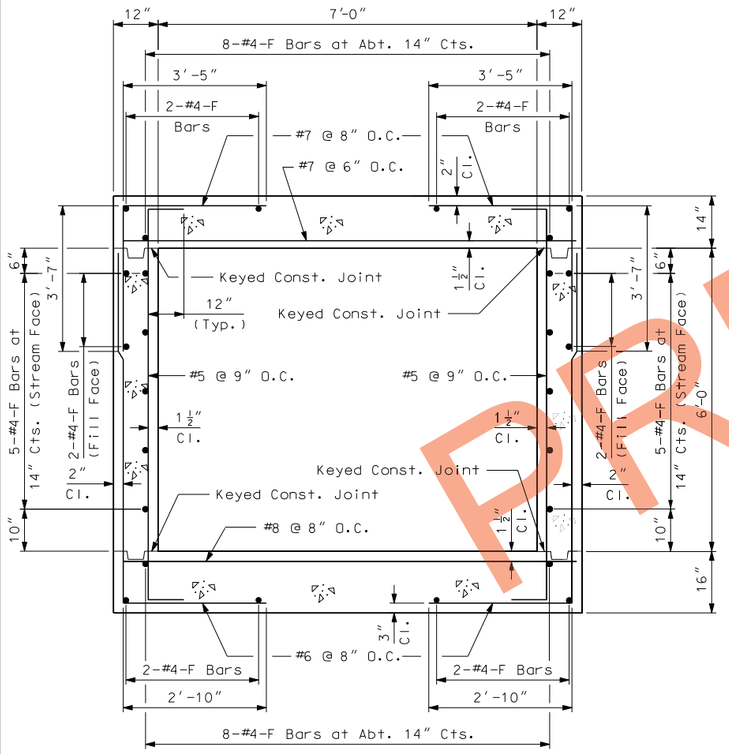
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

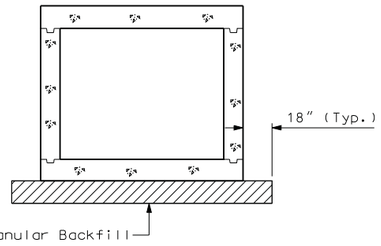
The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



7' x 6' BOX CULVERT SECTION
SECTIONS A, B, C, R, S & T

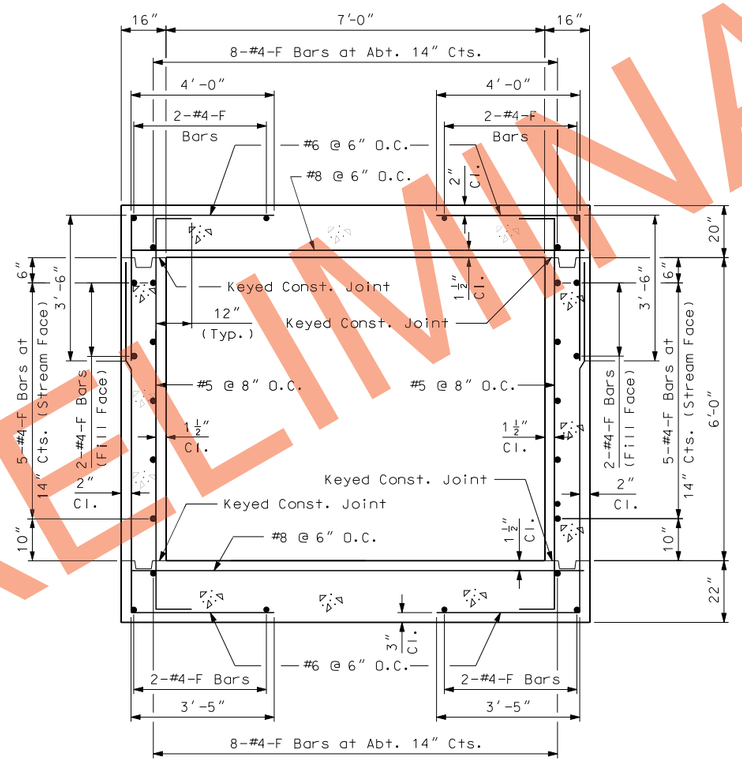
Design Fill = 41.00'
Concrete = 1.28 cu. yard/ft.
Reinforcing Steel = 211 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



SECTION THRU BOX
(Normal to ℄ Structure)

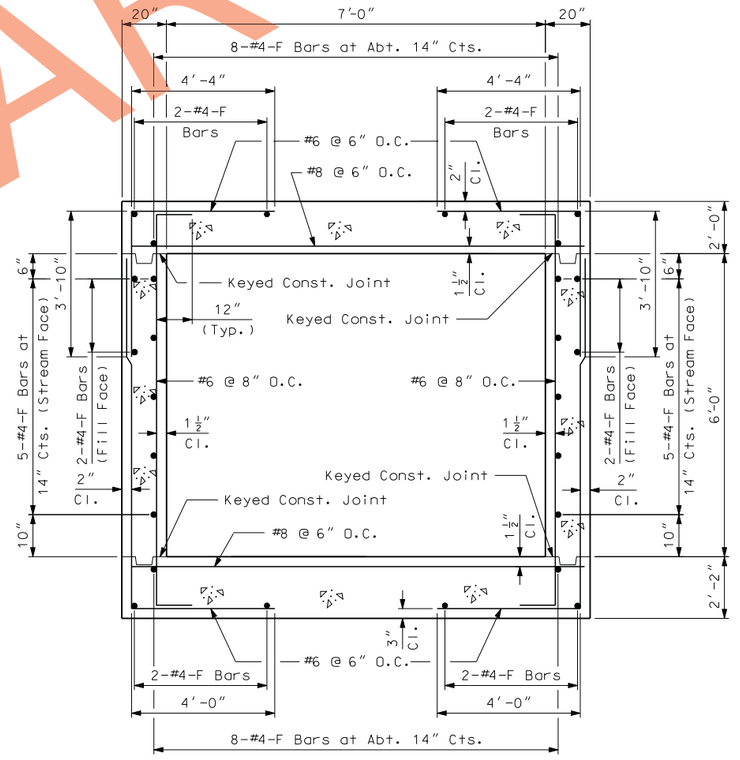
(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.



7' x 6' BOX CULVERT SECTION
SECTIONS D, E, O, P & Q

Design Fill = 76.50'
Concrete = 1.85 cu. yard/ft.
Reinforcing Steel = 270 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



7' x 6' BOX CULVERT SECTION
SECTIONS F, G, H, I, J, K, L, M & N

Design Fill = 97.66'
Concrete = 2.34 cu. yard/ft.
Reinforcing Steel = 305 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

7' x 6' x 909' BOX CULVERT SECTION
@ STA. 887+10.93 RTE. I-49

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

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.

PRELIMINARY

STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER
06-17-09

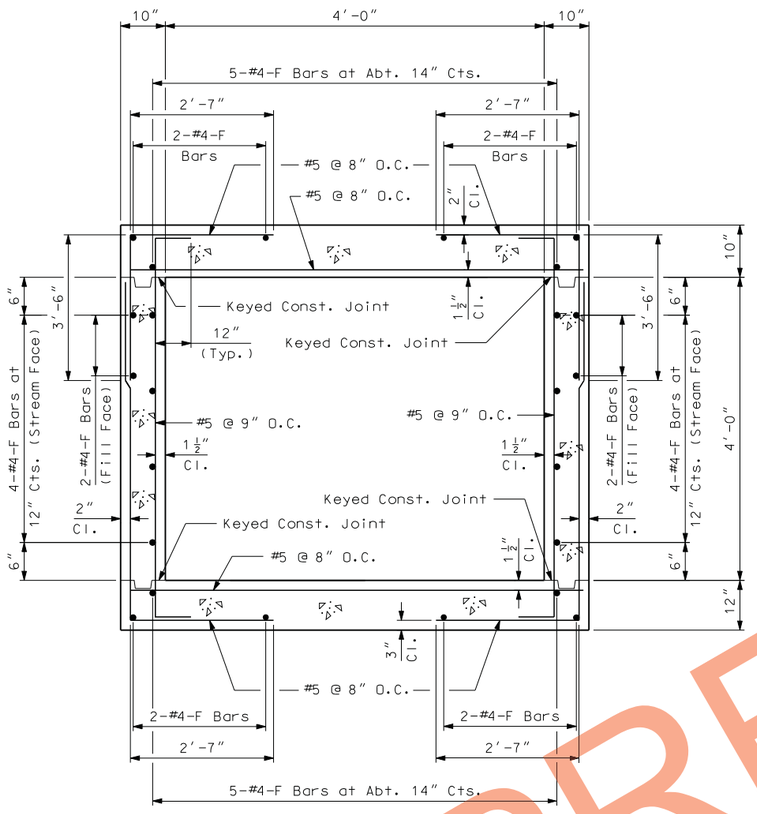
DATE	06-17-09
DATE PREPARED	05/08/2009
ROUTE	49
STATE	MO
DISTRICT	7
SHEET NO.	53
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION
DATE

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

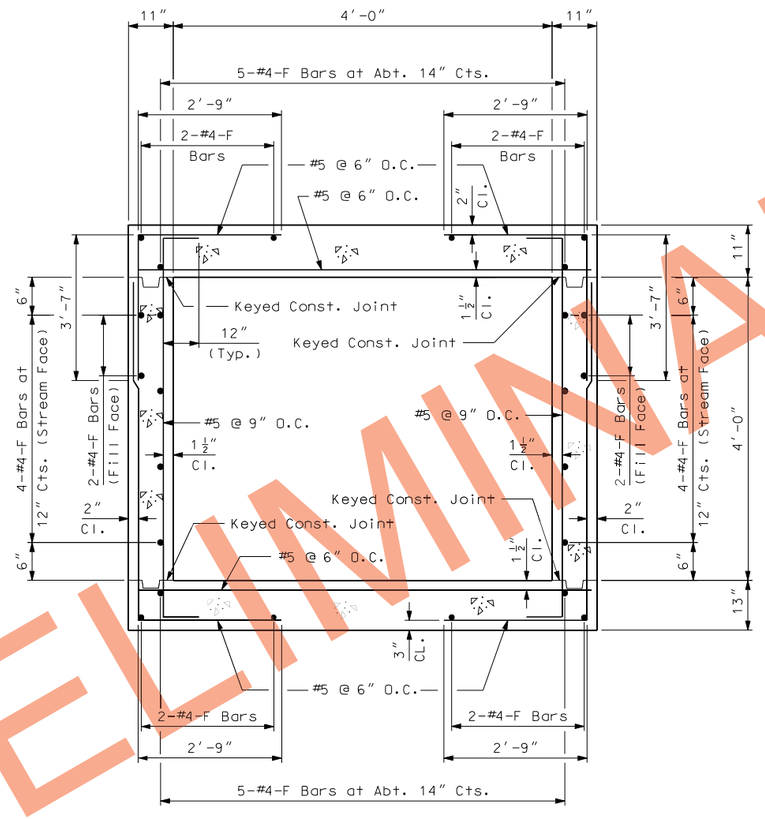
TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET. KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 13 OF 16



4′ x 4′ BOX CULVERT SECTION
SECTIONS A, B, H, I, J & K

Design Fill = 35.00′
Concrete = 0.63 cu. yard/ft.
Reinforcing Steel = 99 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



4′ x 4′ BOX CULVERT SECTION
SECTIONS C, D, E, F & G

Design Fill = 57.25′
Concrete = 0.70 cu. yard/ft.
Reinforcing Steel = 122 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

4′ x 4′ x 473′ BOX CULVERT SECTION @ STA. 899+93.87 RTE. I-49

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

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equivalent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1-1/2″, unless otherwise shown.

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

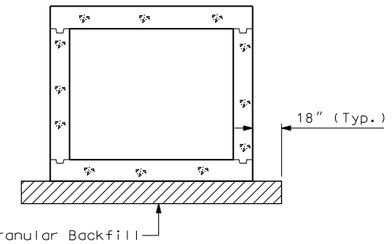
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3′-2″. Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



SECTION THRU BOX
(Normal to ℄ Structure)

(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 14 OF 16

PRELIMINARY

STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER

DATE
06-17-09
DATE PREPARED
05/08/2009
ROUTE 49 | STATE MO
DISTRICT 7 | SHEET NO. 54
COUNTY
McDONALD
JOB NO.
J7P0601
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)

TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET, KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102

GENERAL NOTES:

Design Specifications:
2002 - AASHTO 17th Edition and Interims thru 2006
Load Factor Design

Design Loading:
HS20-44 Modified
Earth 120 #/Cu. Ft.
Equivalent Fluid Pressure 30#/Cu. Ft. (Min.) - 60#/Cu. Ft. (Max.)

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

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

Miscellaneous:
For headwall cross sections, details of transverse joint and keyed construction joints, and other details not shown, see Missouri Standard Plans Drawing.

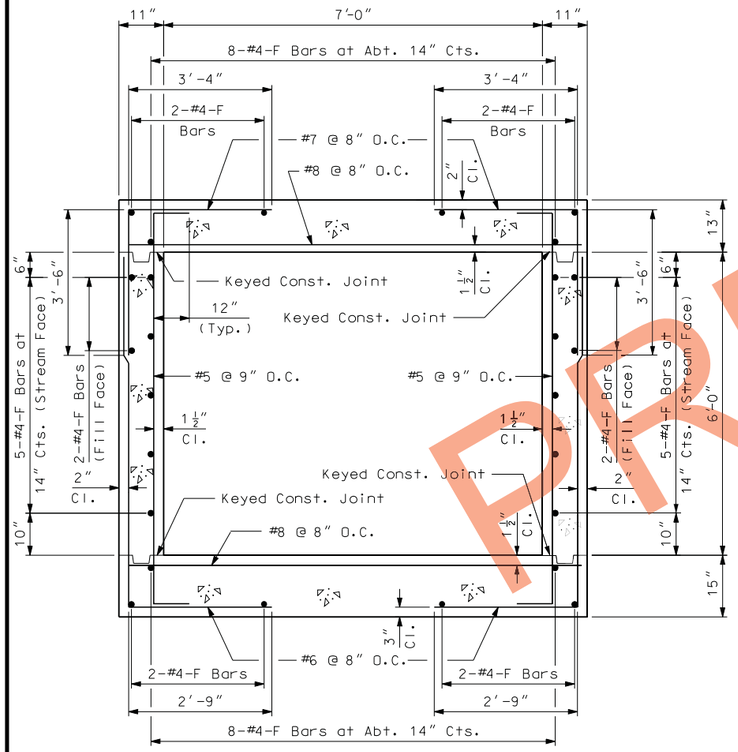
Contractor shall verify all dimensions in field before ordering new material.

Precast Box Option:
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the headwall, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans Drawing.

If precast option is used, collars shall be provided between all precast pieces.

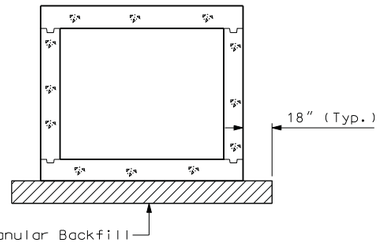
The box shown below indicating whether a precast or cip box was used should be checked by MoDot Construction personnel:

☐ Precast Box used
☐ Cast-in-Place Box used



7' x 6' BOX CULVERT SECTION
SECTIONS A, B, I, J & K

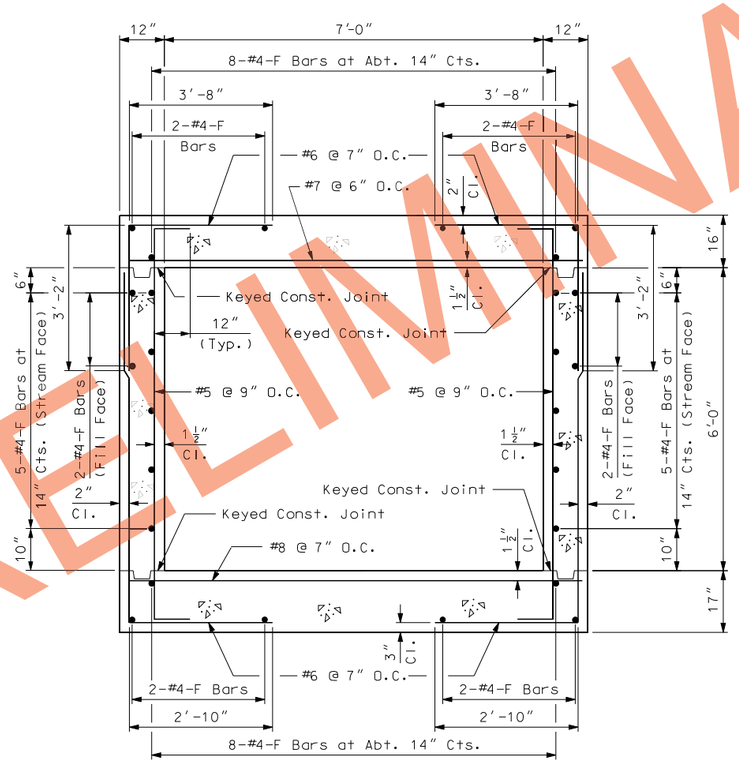
Design Fill = 36.50'
Concrete = 1.17 cu. yard/ft.
Reinforcing Steel = 206 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



SECTION THRU BOX
(Normal to ℄ Structure)

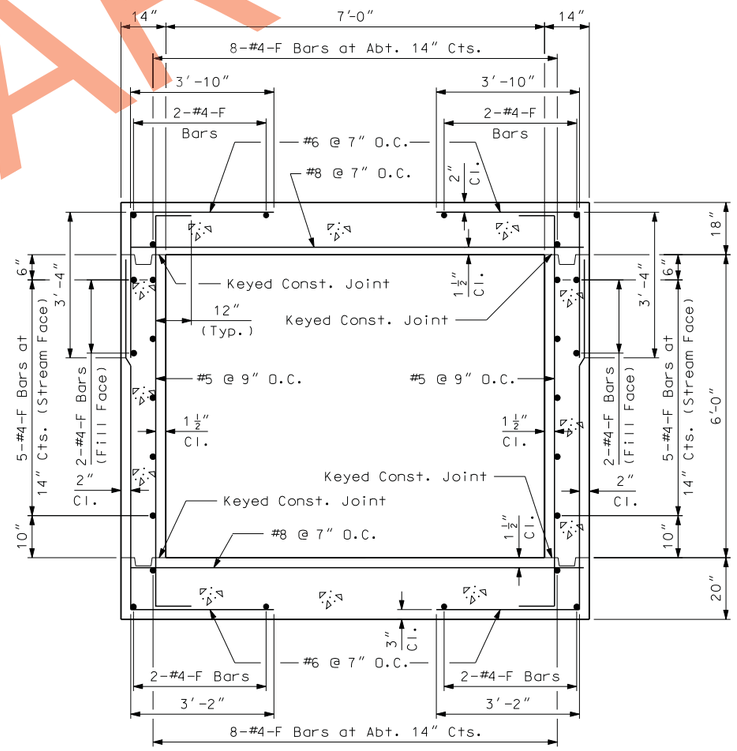
(*) If unsuitable material is encountered, excvation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.



7' x 6' BOX CULVERT SECTION
SECTIONS C & H

Design Fill = 52.00'
Concrete = 1.36 cu. yard/ft.
Reinforcing Steel = 215.0 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.



7' x 6' BOX CULVERT SECTION
SECTIONS D, E, F & G

Design Fill = 63.75'
Concrete = 1.61 cu. yard/ft.
Reinforcing Steel = 228 lbs./ft.
Design fill height is the distance from the top of earth fill or roadway to the top of the top slab.

Note:

Collar Beams are required at all Transvers Joints. For details of Collar Beams, see Sheet No. 56.

The reinforcement size and the spacing in the wingwalls is the same as shown in the Box Culvert End Section. Refer to reinforcement details in Standard 703.14G for box culvert wingwall and head wall details.

7' x 6' x 484' BOX CULVERT SECTION @ STA. 909+72.11 RTE. I-49

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

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 15 OF 16

PRELIMINARY

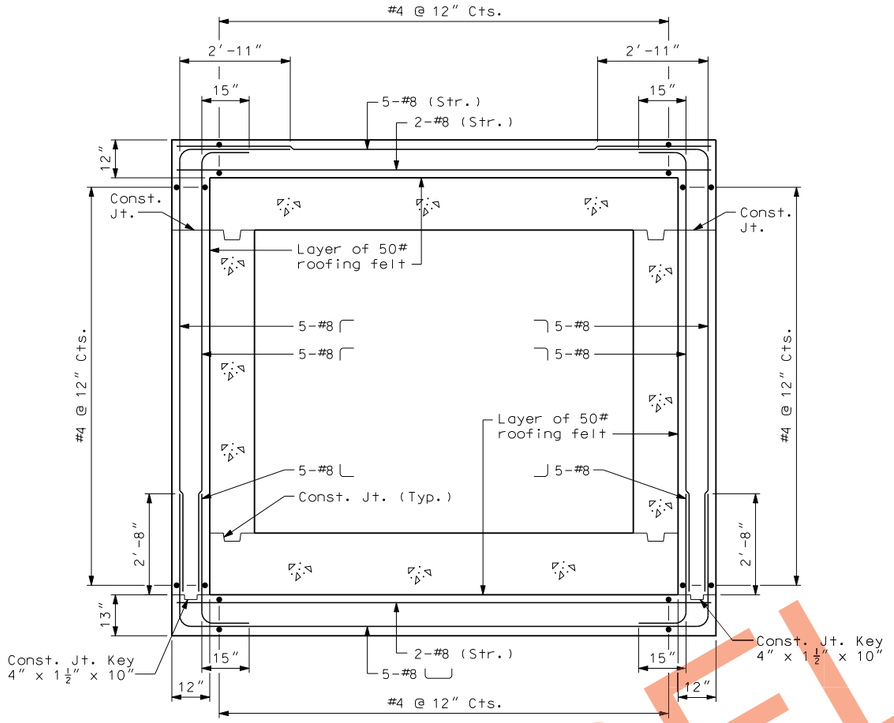
STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER

DATE: 06-17-09
DATE PREPARED: 05/08/2009
ROUTE: 49
STATE: MO
DISTRICT: 7
SHEET NO.: 55
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

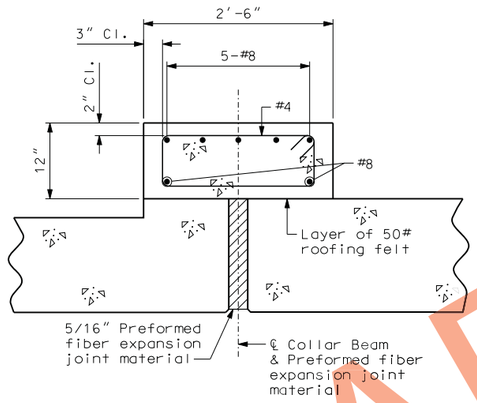
DESCRIPTION
DATE

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

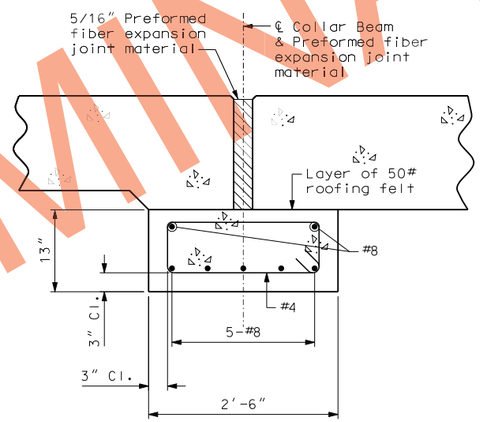
TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET. KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102
TAI



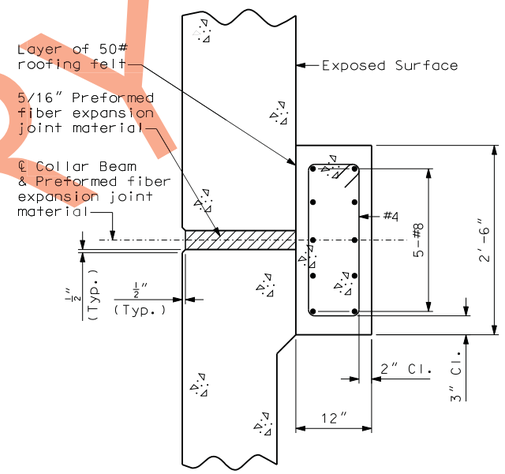
SECTION THRU BOX AT COLLAR



SECTION THRU TOP SLAB



SECTION THRU BOTTOM SLAB



SECTION THRU WALL

COLLAR BEAM QUANTITIES		
CULVERT @ STATION	CONCRETE (cu. yds.)	REINFORCING STEEL (lbs.)
743+58.95 NBL	34.09	14139
739+41.86 SBL	30.52	12069
768+06.77	53.43	18356
842+96.71	18.75	7694
844+08.90	35.12	13279
887+10.93	77.45	28255
899+93.87	25.97	10703
909+72.11	37.80	14026

Note:

If precast option is used, collars shall be provided between all precast pieces.

PRELIMINARY

DETAILS OF COLLAR BEAM

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

BOX CULVERT STRUCTURAL DETAILS
SPECIAL SHEET
SHEET 16 OF 16

STATE OF MISSOURI
DIPANKAR SENGUPTA
NUMBER PE-2002000611
PROFESSIONAL ENGINEER

DATE
06-17-09

DATE PREPARED
05/08/2009

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
7	56

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

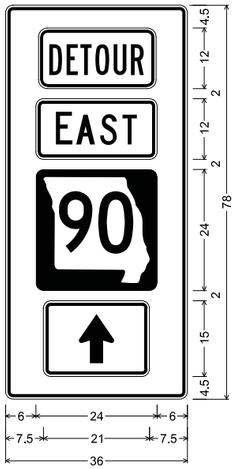
BRIDGE NO.

DESCRIPTION	DATE

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

TapanAm Associates, Inc.
Consulting Engineers
CERTIFICATE OF AUTHORITY #E-786-F
201 WEST 135th STREET, KANSAS CITY, MO. 64145
OFFICE (816)-941-6100 FAX (816)-941-6102

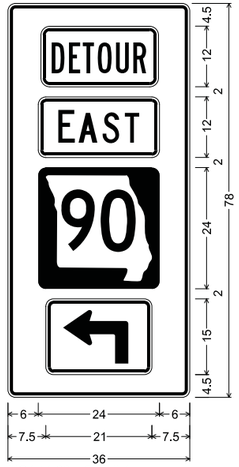
DETOUR SIGN DETAILS



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	
6.000	
6.000	
7.500	

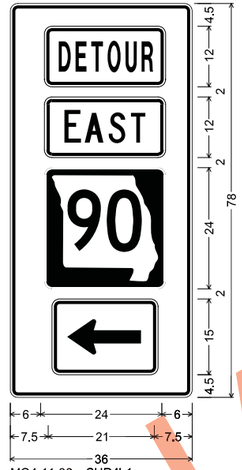
50A



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	
6.000	
6.000	
7.500	

50B



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

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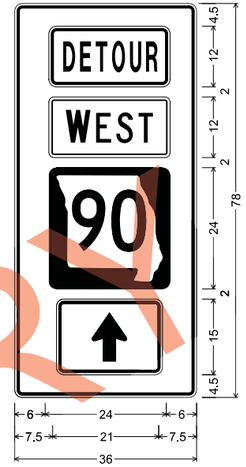
6.000	
7.500	

50C



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

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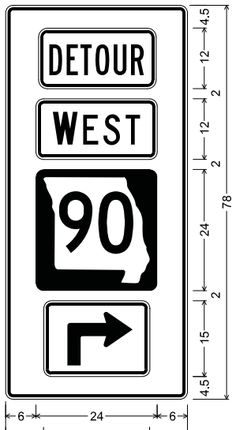

MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

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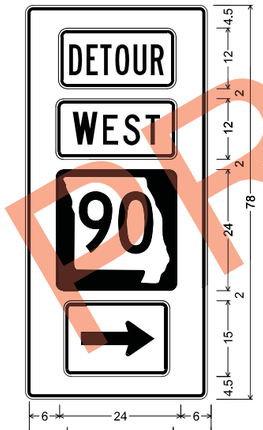
6.000	
6.000	
7.500	

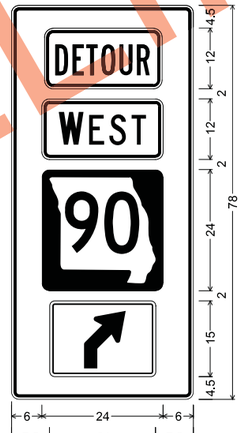
50E



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	
6.000	
6.000	
7.500	

50F



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

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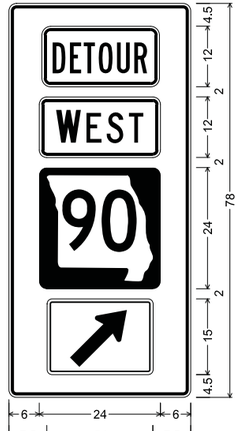
6.000	
7.500	

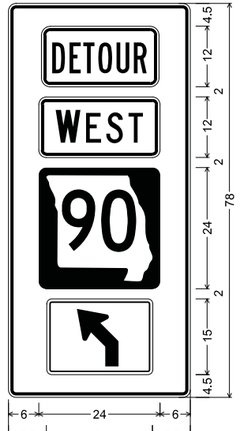
50G



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	
6.000	
6.000	
7.500	

50H



MO4-11-36 SHR4L1;
2.250" Radius, 0.875" Border, 0.625" Indent, Black on Orange;
Table of letter and object lefts.

6.000	
6.000	
6.000	
7.500	

50J

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	57

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

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

TRAFFIC CONTROL SHEET
SHEET 1 OF 9

REV.

TWO-WAY SINGLE LANE OPERATION
TWO-LANE UNDIVIDED HIGHWAY

SPEED	SIGN SPACING (FT) (1)	CHANNELIZER SPACING (FT)		OPTION BUFFER LENGTH (FT)	TAPER LENGTH, FT	
PERMANENT POSTED (MPH)	NON-DIVIDED HIGHWAYS (S)	TAPERS	BUFFER/ WORK AREAS		SHOULDER	LANE
0-35	200	35	40	280	70	245
40-45	350	40	80	400	150	540
50-55	500	50	80	560	185	660
60-70	1000	60	120	840	235	840

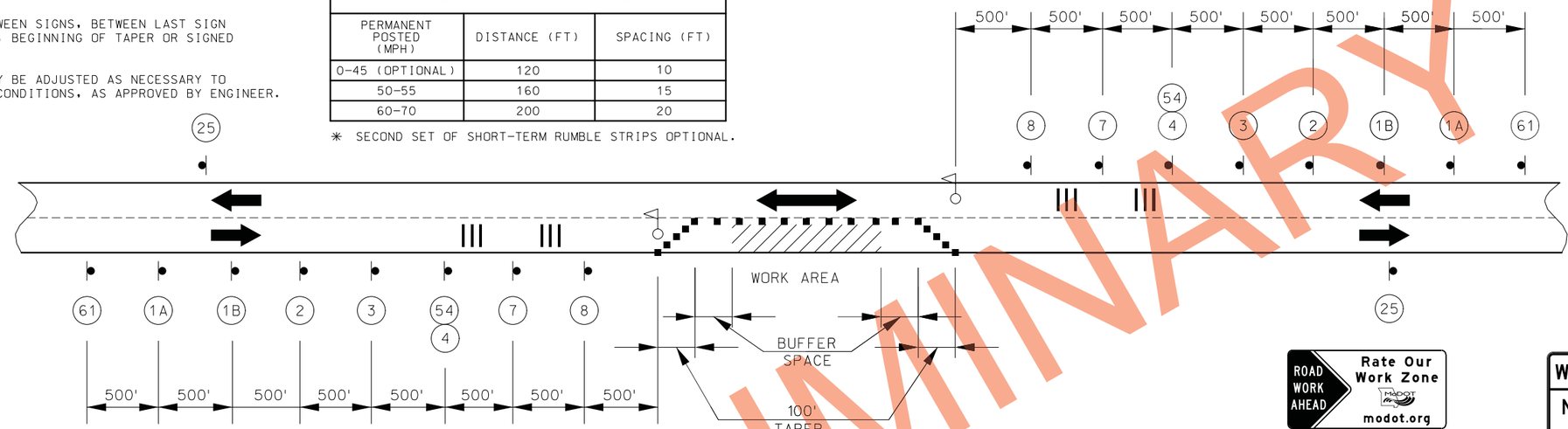
NOTES:

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

SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS, AS APPROVED BY ENGINEER.

SHORT-TERM RUMBLE STRIPS		
PERMANENT POSTED (MPH)	DISTANCE (FT)	SPACING (FT)
0-45 (OPTIONAL)	120	10
50-55	160	15
60-70	200	20

* SECOND SET OF SHORT-TERM RUMBLE STRIPS OPTIONAL.





WO20-1

(2)



WO3-5

(3)



R2-1

(4)



WO20-4

(7)



WO20-7a

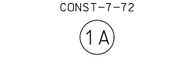
(8)



(NORMAL SPEED)

R2-1

(25)



CONST-7-72

(1A)



CONST-8

(1B)



GO20-5aP

(54)

ADVANCE WARNING RAIL SYSTEM (AWRS)

TO BE INSTALLED ON THE FIRST OCCURENCE OF THE ROAD WORK AHEAD (WO20-1) SIGNS IF SIGNS WILL BE STATIONARY FOR MORE THAN 3 DAYS.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- TRIM-LINE CHANNELIZER
- ||| - TEMPORARY SHORT-TERM RUMBLE STRIPS

Road Improvements

MoDOT **FALL 2021**

CONST-5-96

(61)

NOTES:

THIS SHEET IS TO BE USED FOR DAYLIGHT FLAGGING OPERATIONS ONLY.

USE DRUM-LIKE CHANNELIZERS AND WORK ZONE LIGHTING FOR NIGHTTIME FLAGGING OPERATIONS (NO DIRECT PAY).

SPACING OF DEVICES MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS.

ANY SIGN THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING SHALL BE COVERED.

TRAFFIC CONTROL SHEET
SHEET 2 OF 9

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	58

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

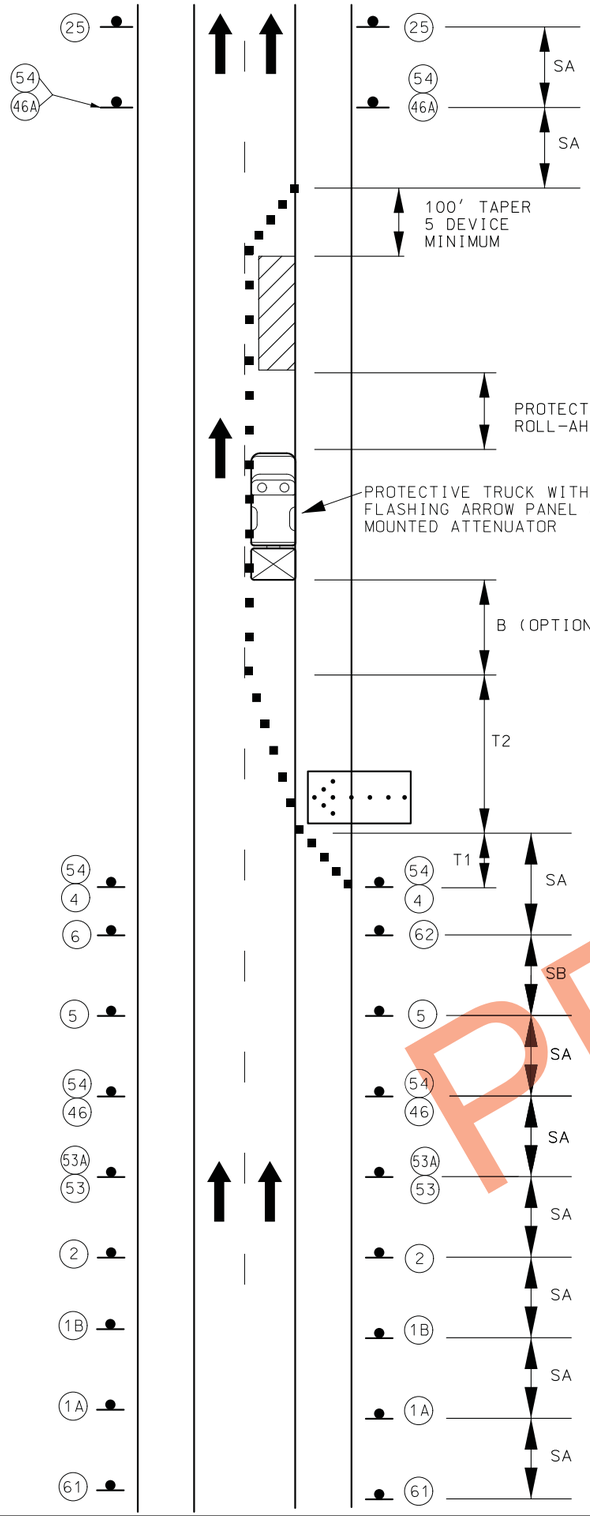
PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- SIGN (DOUBLE SIDED)
- FLAGGER
- CONE
- CHANNELIZER
- BARRICADE
- CHANGEABLE MESSAGE BOARD
- FLASHING ARROW BOARD

SPEED	SIGN SPACING (FT)		TAPER LENGTH (FT)		OPT. BUFFER LENGTH (FT)	CHANNELIZER SPACING (FT)	
	UNDIVIDED (S)	DIVIDED (S)	SHLDR (T1)	LANE (T2)	(B)	TAPERS	BUFFER/ WORK AREAS
0-35	-	200	70	245	280	35	40
40-45	-	500	150	540	400	40	80
50-55	-	1000	185	660	560	50	80
60-70	SA-1000, SB-1500, AND SC-2640		235	840	840	60	120

ROADWAY TYPE	SIGN HEIGHT	MAX. WORK ZONE LENGTH (L)
URBAN	1' PORTABLE 7' POST	1 MILE
RURAL DIVIDED	1' PORTABLE 7' POST	2 MILES
RURAL UNDIVIDED	1' PORTABLE 5' POST	3 MILES

Road Improvements
MoDOT **FALL 2021**

CONST-5-96
61

ROAD WORK AHEAD
WO20-1
2

WORK ZONE
DO NOT PASS
G020-5aP
54
R4-1
46

MIN. $250 FINE
SPEEDING WHEN WORKERS PRESENT
CONST-3A
53
SPEEDING/PASSING
CONST-3X
53A

RIGHT LANE CLOSED AHEAD
WO20-5
5

CENTER LANE
OR
LEFT LANE

RIGHT LANE CLOSED
WO20-6a
6

CENTER
OR
LEFT

MERGE
WO4-1a
62

NOTES:

A PROTECTIVE VEHICLE IS REQUIRED WHILE WORK IS IN PROGRESS ON US-71/I-49. THE PROTECTIVE VEHICLE SHALL BE EQUIPPED WITH A TMA AND FLASHING ARROW PANEL AND POSITIONED AT LEAST 150 FT. IN ADVANCE OF THE WORK SPACE. THE PROTECTIVE VEHICLE MAY BE ELIMINATED IF THE ROADWAY IS POSTED AT 45 MPH OR BELOW, THE WORK VEHICLE IS POSITIONED IN ADVANCE OF THE WORK SPACE, AND THE WORK VEHICLE IS EQUIPPED WITH A FLASHING ARROW PANEL AND USES ACTIVATED ROTATING LIGHTS OR STROBE LIGHTS.

ALL VEHICLES, EQUIPMENT, WORKERS AND THEIR ACTIVITIES SHOULD BE RESTRICTED TO ONE SIDE OF THE PAVEMENT.

THE OPEN LANE SHALL BE PROVIDED WITH A 12 FT. MINIMUM DRIVING SURFACE AT ALL TIMES. THIS MAY INCLUDE A PORTION OF THE SHOULDER, PROVIDED THE SHOULDER IS OF ADEQUATE STRENGTH TO HANDLE TRAFFIC.

FOR MOBILE OPERATIONS WHERE WORKERS ARE ON FOOT AND MOVE WITH THE OPERATION, CHANNELIZERS MAY BE REDUCED OR ELIMINATED.

FOR OPERATIONS IN WHICH CHANNELIZERS ARE NOT USED, THE ARROW MODE SHALL BE DISPLAYED ON ANY FLASHING ARROW PANEL LOCATED DOWNSTREAM OF THE TAPER.

SUPPLEMENTAL WARNING METHODS MAY BE USED TO CALL ATTENTION TO THE WORK ZONE.

PROVIDE SIGNS ON LEFT AND RIGHT SIDES OF DIVIDED HIGHWAYS

SIGN 2, 25, 46, AND 53 NOT NEEDED IF WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITY AREA WHERE ANOTHER SIGN 2, 25, 46, AND 53 IS ALREADY USED

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

SIGN 6, AND 62 SHOWN FOR RIGHT LANE CLOSURE. FOR LEFT LANE CLOSURE, MOVE SIGN 6, AND 62 TO OPPOSITE SIDES.

WORK ZONE
SPEED LIMIT 60
G020-5aP
54
R2-1
4

WORK ZONE
PASS WITH CARE
G020-5aP
54
R4-2
46A

(I-49 SB)
SPEED LIMIT 65
R2-1
OR
(I-49 NB)
SPEED LIMIT 70
R2-1
25

ROAD WORK AHEAD
Rate Our Work Zone
modot.org
CONST-7-T2
1A

WORK ZONE
NO PHONE ZONE
CONST-8
1B

TRAFFIC CONTROL SHEET
SHEET 3 OF 9

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	58A

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

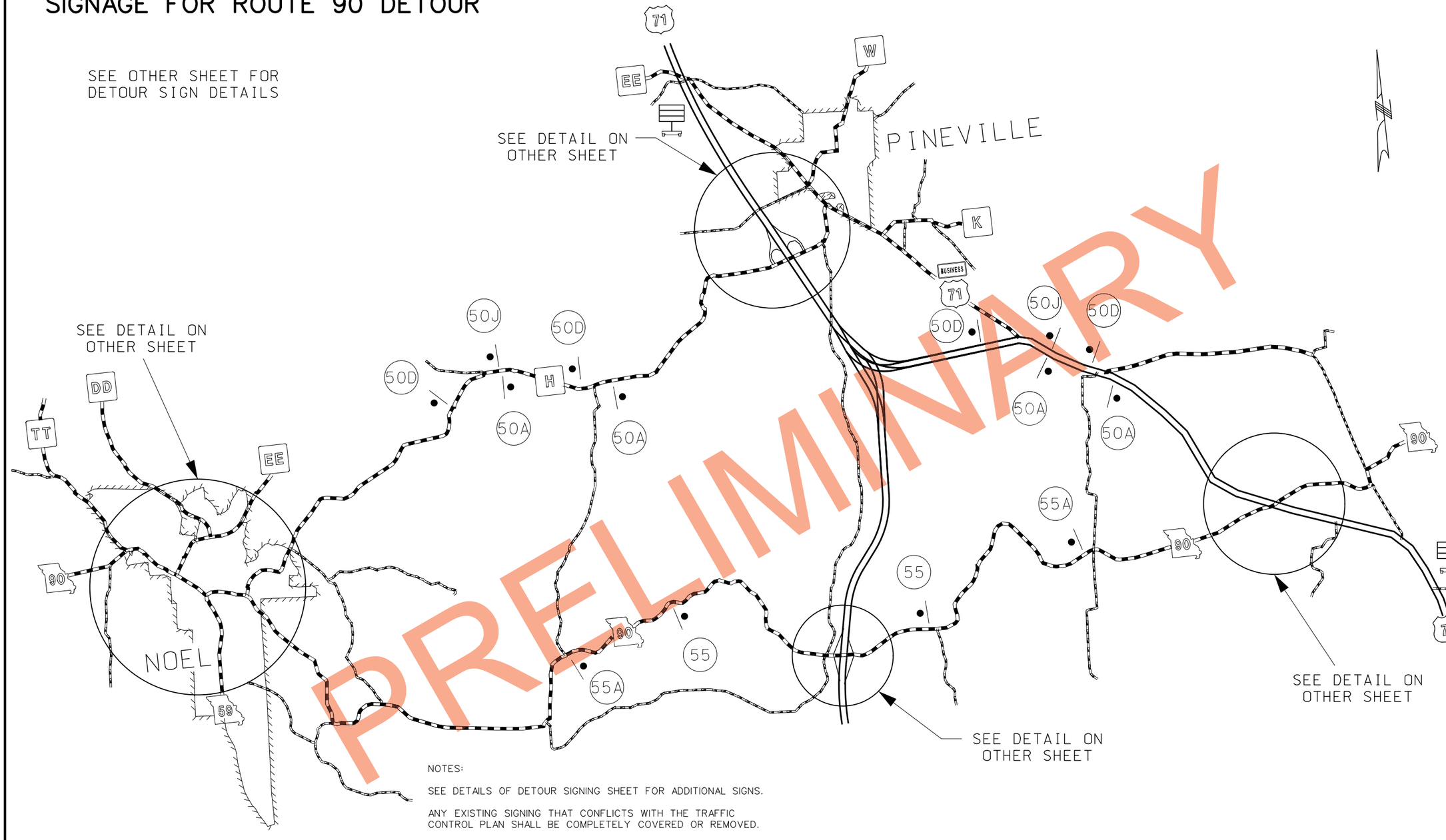
DESCRIPTION | DATE | REV.

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

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

SIGNAGE FOR ROUTE 90 DETOUR

SEE OTHER SHEET FOR
DETOUR SIGN DETAILS



PRELIMINARY

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANGEABLE MESSAGE BOARD

NOTES:

SEE DETAILS OF DETOUR SIGNING SHEET FOR ADDITIONAL SIGNS.

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

SPACING OF SIGNS MAY BE ADJUSTED TO MEET FIELD CONDITIONS WITH APPROVAL OF THE ENGINEER.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVERNIGHT, ON RAMPS, OR AT INTERSECTIONS, TRIM-LINE CHANNELIZERS SHALL BE USED.

ALL LANE CLOSURES SHALL CONFORM WITH TIME GUIDELINES SET FORTH IN THE JSP.

TEMPORARY LIGHTING SHALL BE USED WITH ALL NIGHTTIME FLAGGING OPERATIONS (NO DIRECT PAY).

CMS BOARDS MAY BE USED TO GIVE ADVANCED NOTICE OF CHANGING TRAFFIC PATTERNS OR DETOURS AS NECESSARY.

ROAD CLOSED TO THRU TRAFFIC
R11-4
55

ROAD CLOSED
3 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3a
55A

DRAWING NOT TO SCALE

TRAFFIC CONTROL SHEET
SHEET 4 OF 9

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	59

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

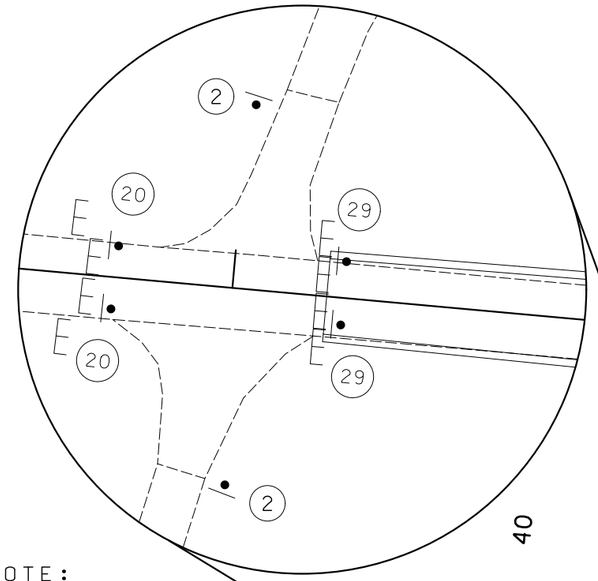
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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.

DETAIL FOR ROAD CLOSURE ON ROUTE 90



NOTE:
SIGNS 20 TO BE LOCATED 1,000' BEFORE SIGN 29



WO20-1

2

NOTE:
SIGNS 20 TO BE LOCATED 1,000' BEFORE SIGN 29



WO20-3

20

R11-2

29

NOTES:

SEE DETAILS OF DETOUR SIGNING SHEET FOR ADDITIONAL SIGNS.

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SPACING OF SIGNS MAY BE ADJUSTED TO MEET FIELD CONDITIONS WITH APPROVAL OF THE ENGINEER.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVERNIGHT, ON RAMPS, OR AT INTERSECTIONS, TRIM-LINE CHANNELIZERS SHALL BE USED.

ALL LANE CLOSURES SHALL CONFORM WITH TIME GUIDELINES SET FORTH IN THE JSP.

TEMPORARY LIGHTING SHALL BE USED WITH ALL NIGHTTIME FLAGGING OPERATIONS (NO DIRECT PAY).

CMS BOARDS MAY BE USED TO GIVE ADVANCED NOTICE OF CHANGING TRAFFIC PATTERNS OR DETOURS AS NECESSARY.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- TYPE 3 MOVEABLE BARRICADE WITH LIGHT
- CHANGEABLE MESSAGE BOARD

TRAFFIC CONTROL SHEET
SHEET 5 OF 9

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	60
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

MoDOT

REV.

DETAIL FOR DETOUR SIGNAGE ON ROUTE 90 WEST OF PROJECT



W020-2
18



M04-8a
52



R11-3a
55C

SEE OTHER SHEETS FOR
DETOUR SIGN DETAILS

NOTES:

SEE DETAILS OF DETOUR SIGNING SHEET FOR ADDITIONAL SIGNS.

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

SPACING OF SIGNS MAY BE ADJUSTED TO MEET FIELD CONDITIONS WITH APPROVAL OF THE ENGINEER.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVERNIGHT, ON RAMPS, OR AT INTERSECTIONS, TRIM-LINE CHANNELIZERS SHALL BE USED.

ALL LANE CLOSURES SHALL CONFORM WITH TIME GUIDELINES SET FORTH IN THE JSP.

TEMPORARY LIGHTING SHALL BE USED WITH ALL NIGHTTIME FLAGGING OPERATIONS (NO DIRECT PAY).

CMS BOARDS MAY BE USED TO GIVE ADVANCED NOTICE OF CHANGING TRAFFIC PATTERNS OR DETOURS AS NECESSARY.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANGEABLE MESSAGE BOARD

PRELIMINARY

TRAFFIC CONTROL SHEET
SHEET 6 OF 9

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	61

COUNTY: McDONALD

JOB NO.: J7P0601

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.

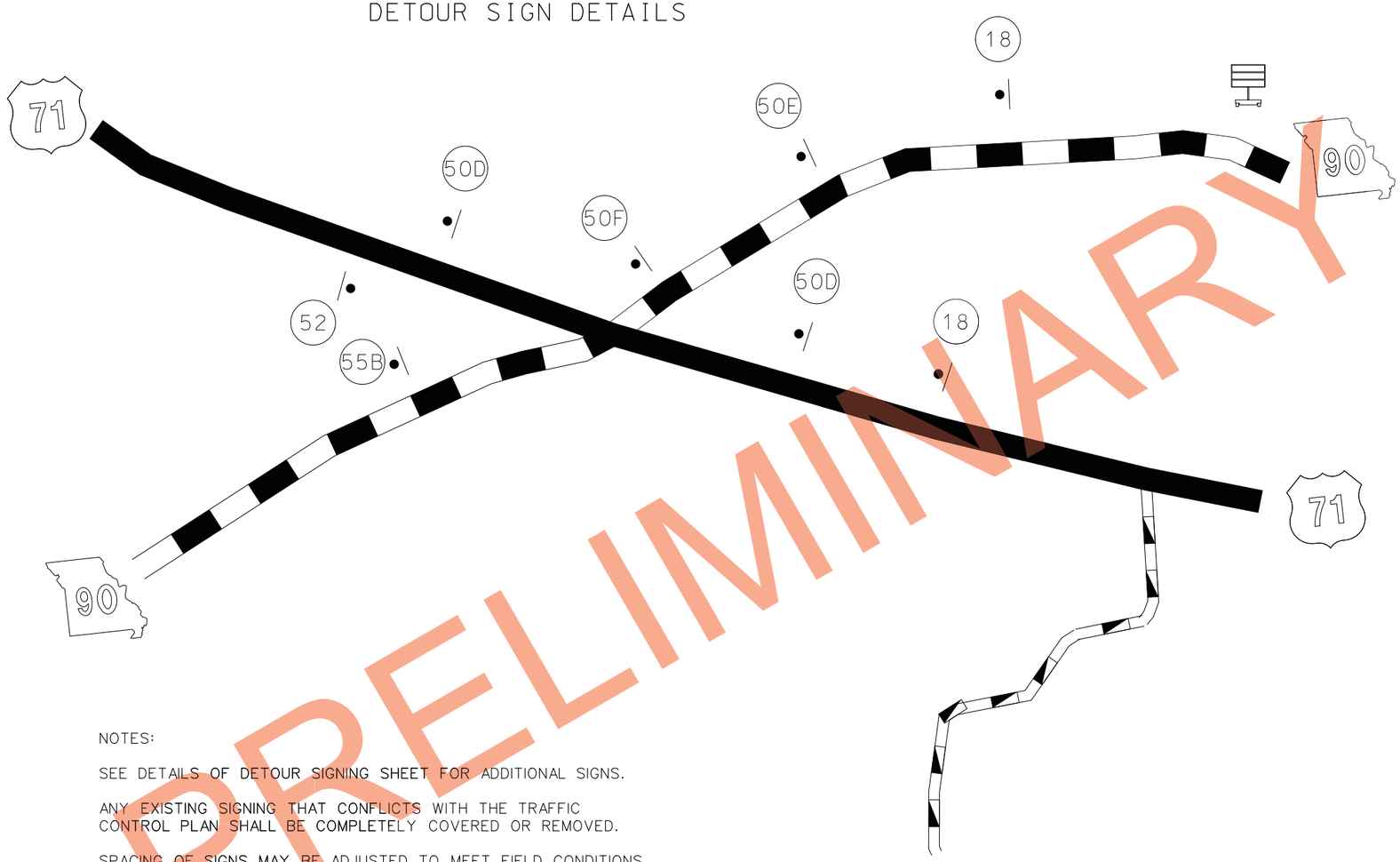
DETAIL FOR DETOUR SIGNAGE AT ROUTE 90 EAST OF PROJECT

SEE OTHER SHEETS FOR
DETOUR SIGN DETAILS









PRELIMINARY

NOTES:

SEE DETAILS OF DETOUR SIGNING SHEET FOR ADDITIONAL SIGNS.

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

SPACING OF SIGNS MAY BE ADJUSTED TO MEET FIELD CONDITIONS WITH APPROVAL OF THE ENGINEER.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVERNIGHT, ON RAMPS, OR AT INTERSECTIONS, TRIM-LINE CHANNELIZERS SHALL BE USED.

ALL LANE CLOSURES SHALL CONFORM WITH TIME GUIDELINES SET FORTH IN THE JSP.

TEMPORARY LIGHTING SHALL BE USED WITH ALL NIGHTTIME FLAGGING OPERATIONS (NO DIRECT PAY).

CMS BOARDS MAY BE USED TO GIVE ADVANCED NOTICE OF CHANGING TRAFFIC PATTERNS OR DETOURS AS NECESSARY.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- CHANGEABLE MESSAGE BOARD

DRAWING NOT TO SCALE

TRAFFIC CONTROL SHEET
SHEET 7 OF 9

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	62

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

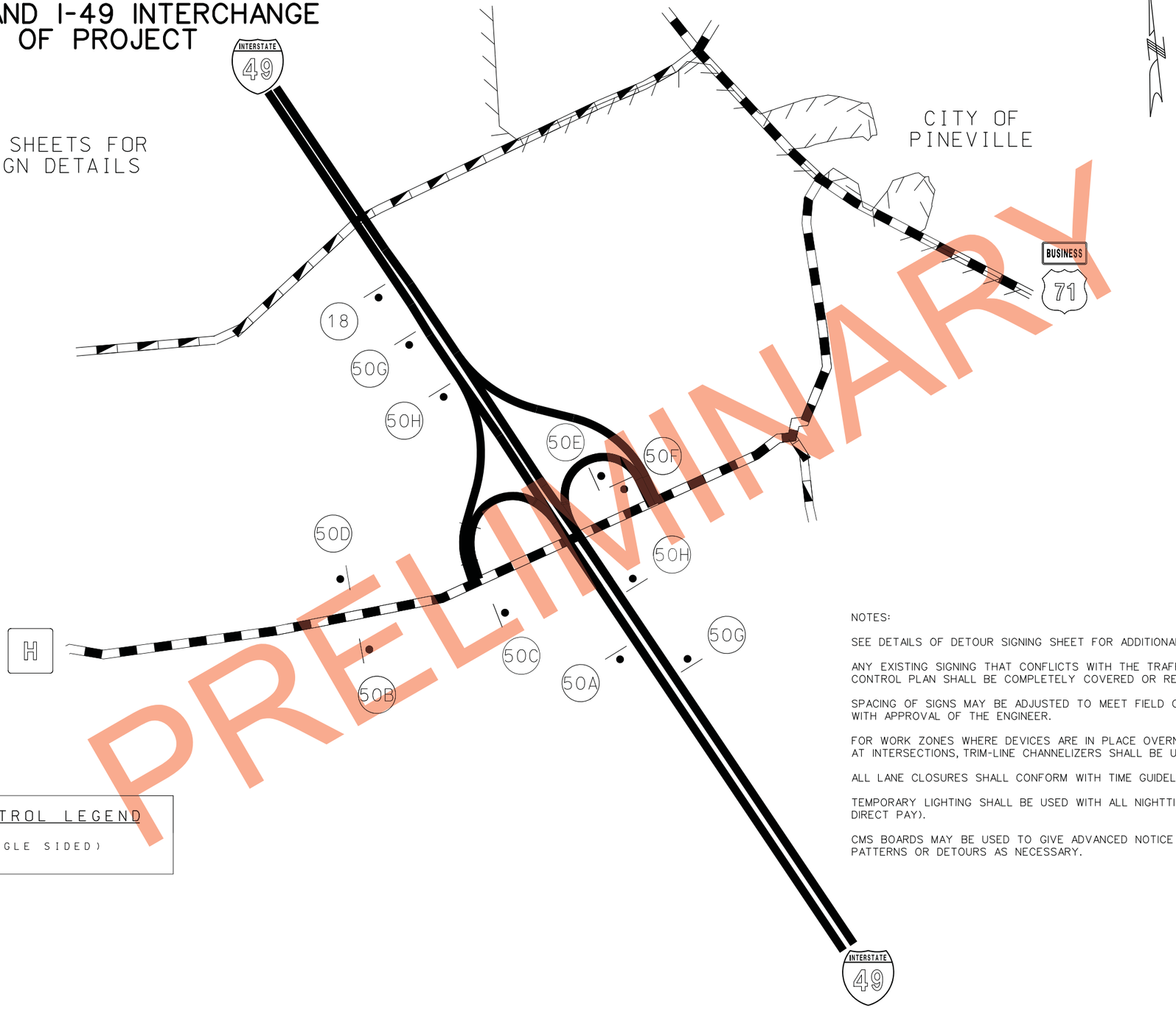
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

REV.

DETAIL FOR DETOUR SIGNAGE AT ROUTE H AND I-49 INTERCHANGE NORTH OF PROJECT

SEE OTHER SHEETS FOR DETOUR SIGN DETAILS



PRELIMINARY

TRAFFIC CONTROL LEGEND

• SIGN (SINGLE SIDED)

NOTES:

SEE DETAILS OF DETOUR SIGNING SHEET FOR ADDITIONAL SIGNS.

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

SPACING OF SIGNS MAY BE ADJUSTED TO MEET FIELD CONDITIONS WITH APPROVAL OF THE ENGINEER.

FOR WORK ZONES WHERE DEVICES ARE IN PLACE OVERNIGHT, ON RAMPS, OR AT INTERSECTIONS, TRIM-LINE CHANNELIZERS SHALL BE USED.

ALL LANE CLOSURES SHALL CONFORM WITH TIME GUIDELINES SET FORTH IN THE JSP.

TEMPORARY LIGHTING SHALL BE USED WITH ALL NIGHTTIME FLAGGING OPERATIONS (NO DIRECT PAY).

CMS BOARDS MAY BE USED TO GIVE ADVANCED NOTICE OF CHANGING TRAFFIC PATTERNS OR DETOURS AS NECESSARY.

DRAWING NOT TO SCALE

TRAFFIC CONTROL SHEET
SHEET 8 OF 9

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	63

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

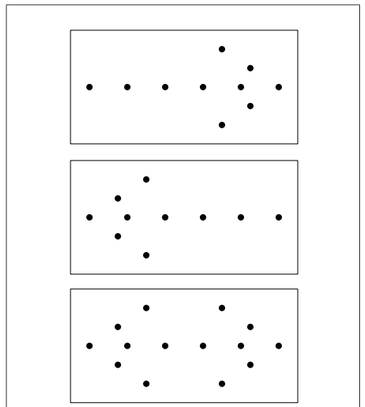
DESCRIPTION	DATE

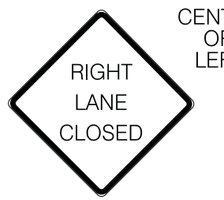
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

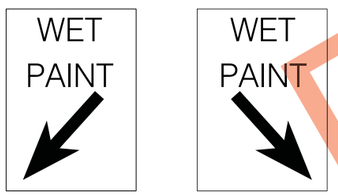
REV.





CENTER
OR
LEFT

W020-6a
48" X 48"



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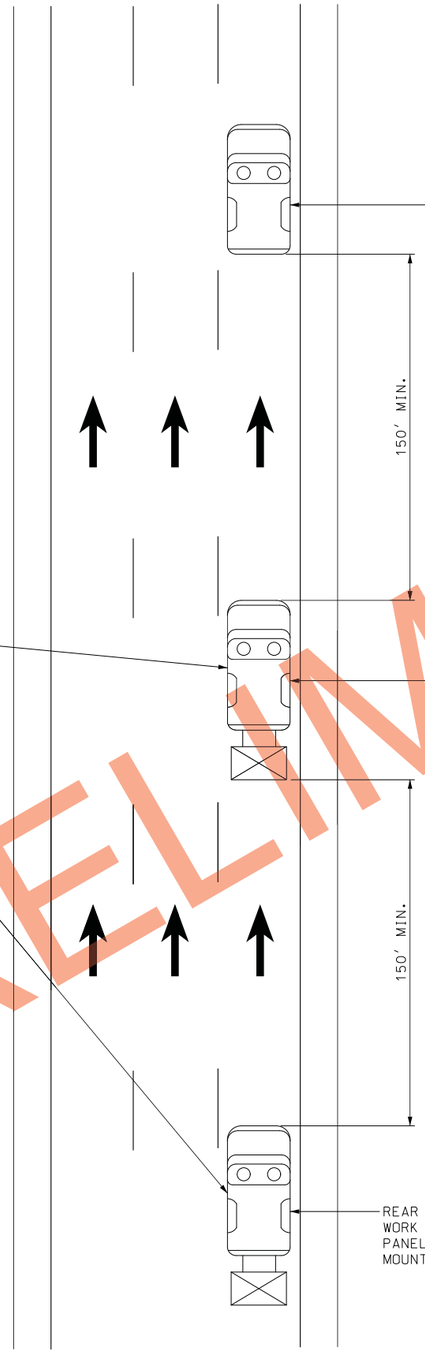


PRELIMINARY

NOTES:
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, OSCILLATING, OR STROBE LIGHTS.

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

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

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 CLOSED, A SEPARATE FLASHING ARROW PANEL BOARD SHALL BE USED FOR EACH CLOSED LANE.

NOT TO SCALE

CENTERLINE AND/OR LANE LINE STRIPING ON MULTI-LANE UNDIVIDED HIGHWAYS

TRAFFIC CONTROL SHEET
SHEET 9 OF 9

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	63A

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

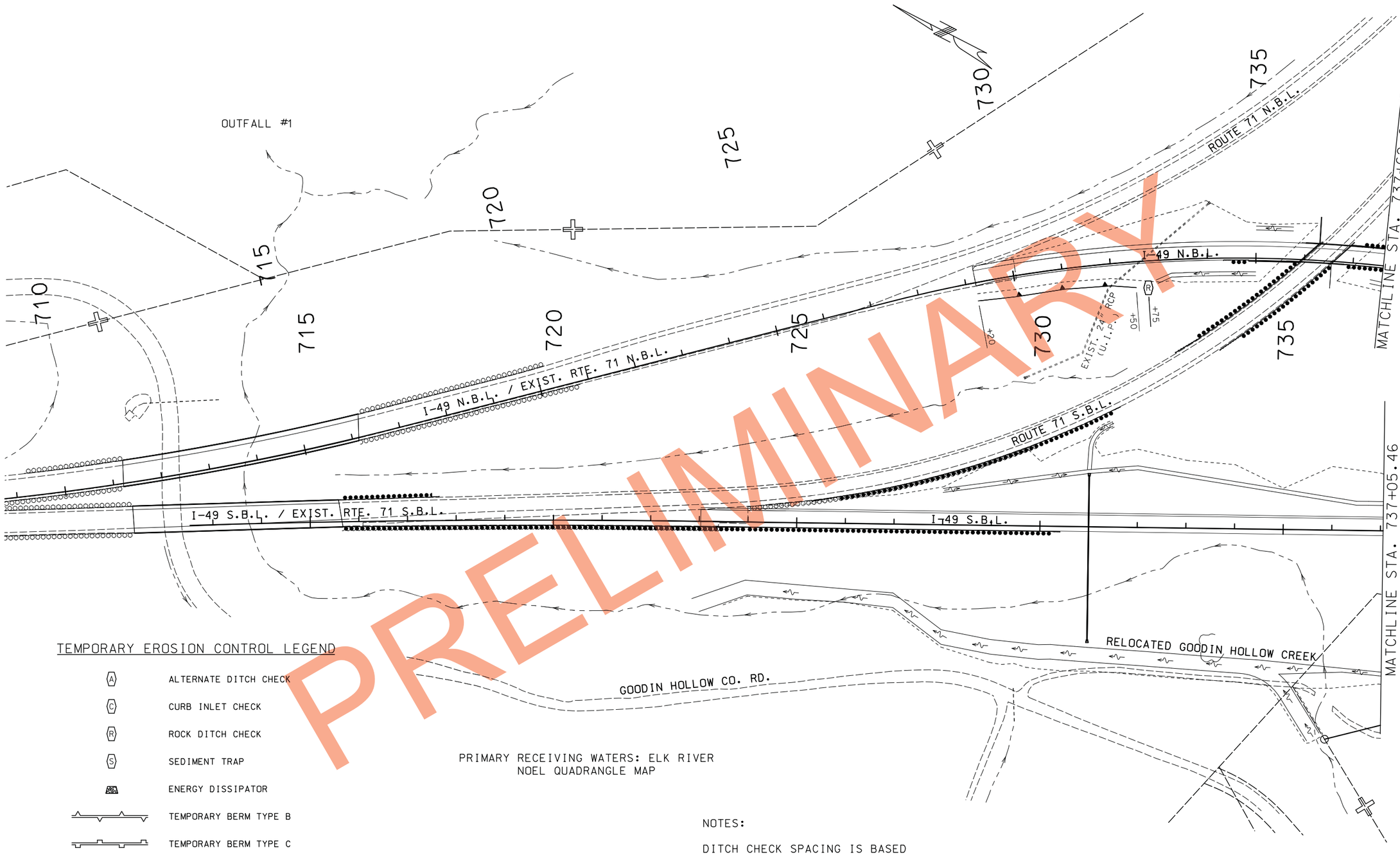
DESCRIPTION	DATE

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.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 1 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	64
COUNTY	McDONALD
JOB NO.	J7P0601
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)

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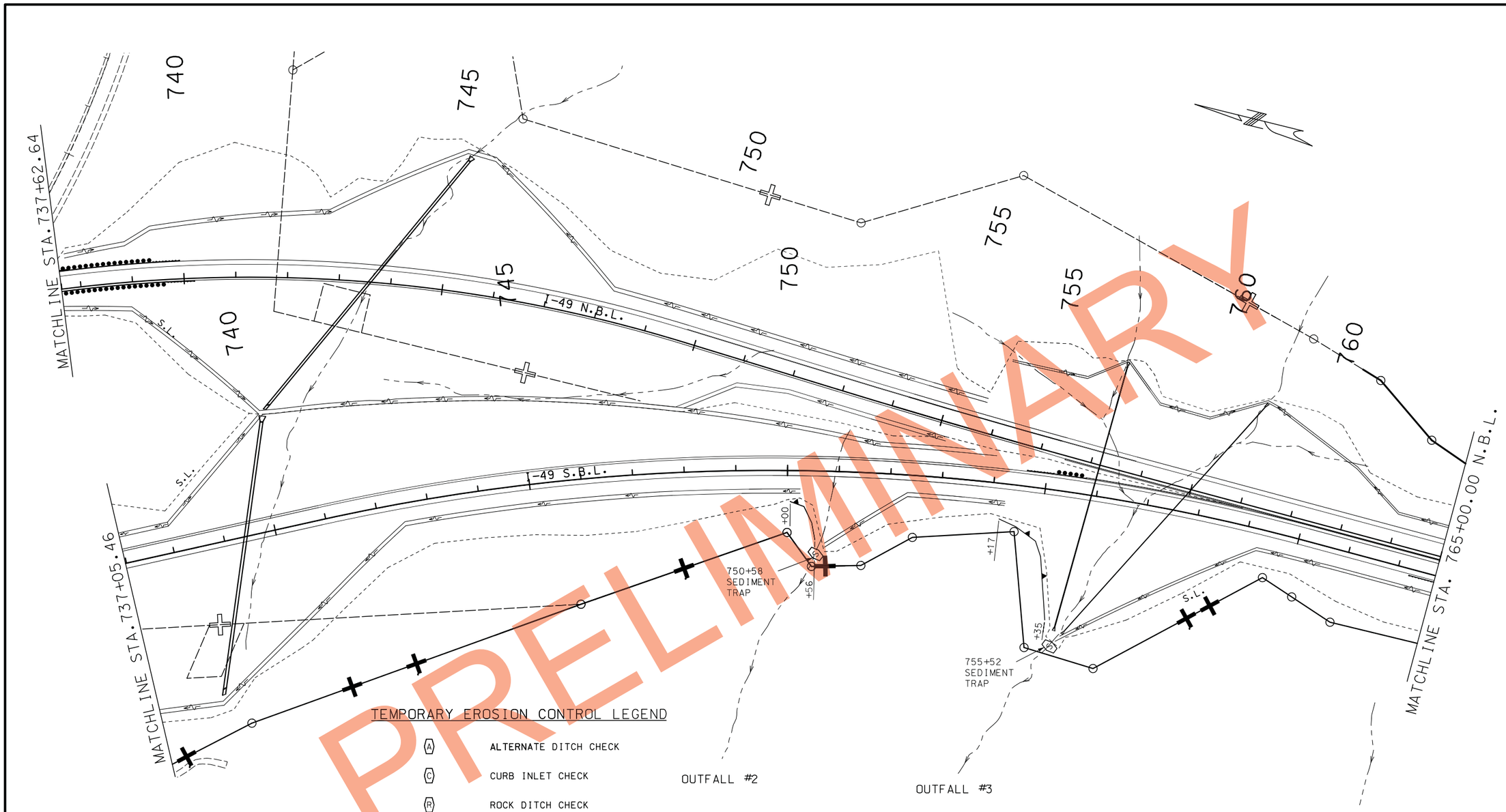

PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 2 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	65
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

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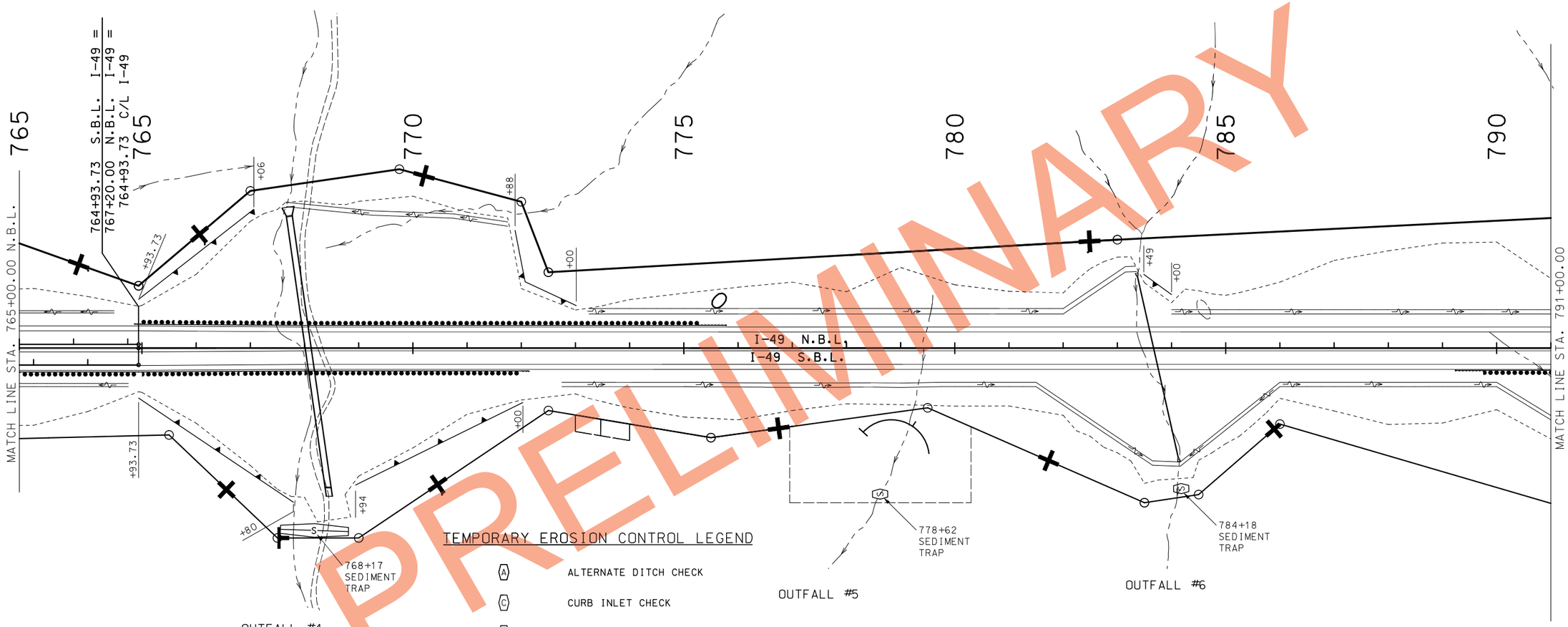


PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- ALTERNATE DITCH CHECK
- CURB INLET CHECK
- ROCK DITCH CHECK
- SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE

0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 3 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	66

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

PROJECT NO.:

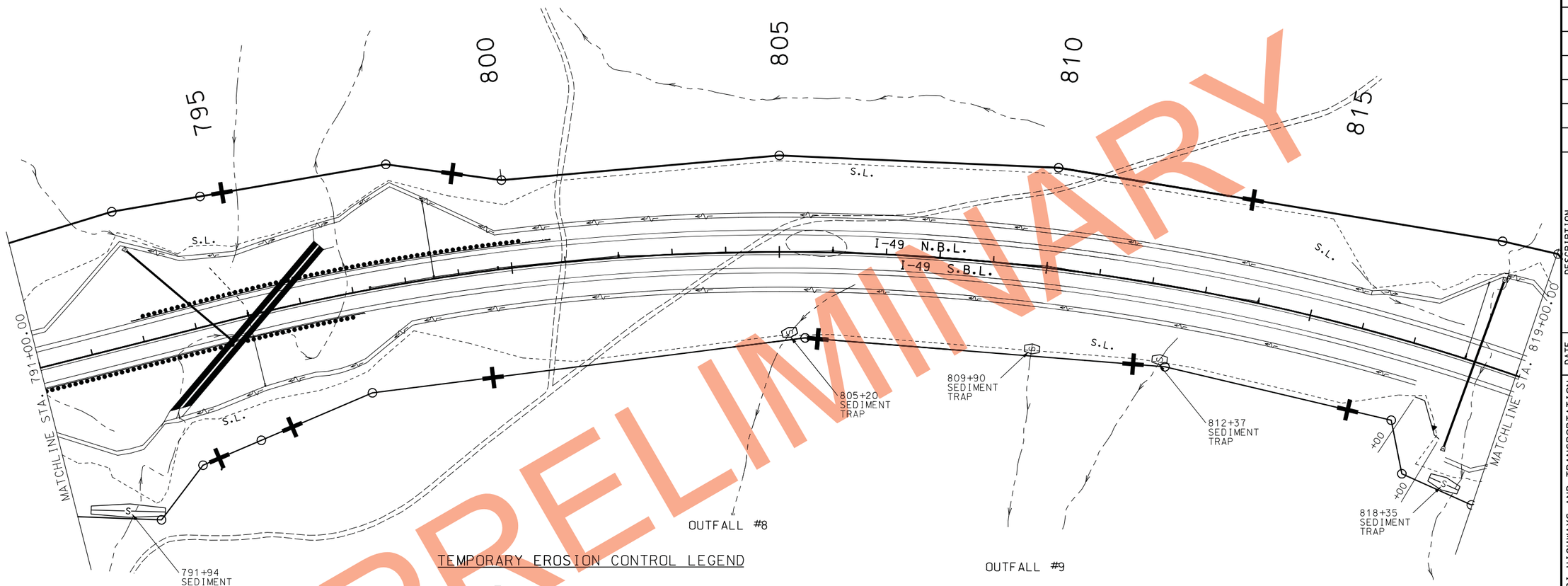
BRIDGE NO.:

DATE	DESCRIPTION

REV.

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 4 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

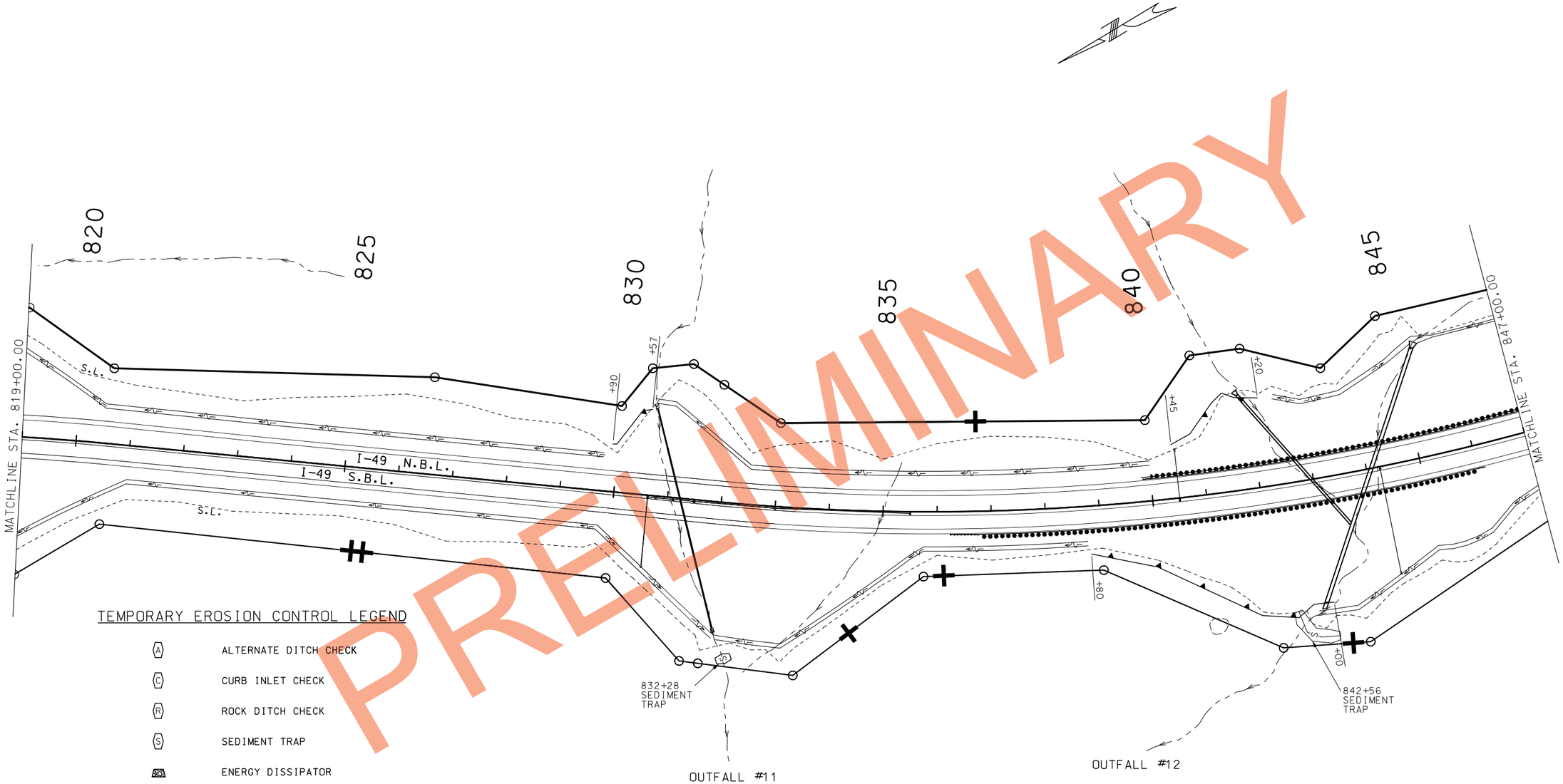
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	67

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION	REV.

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 5 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

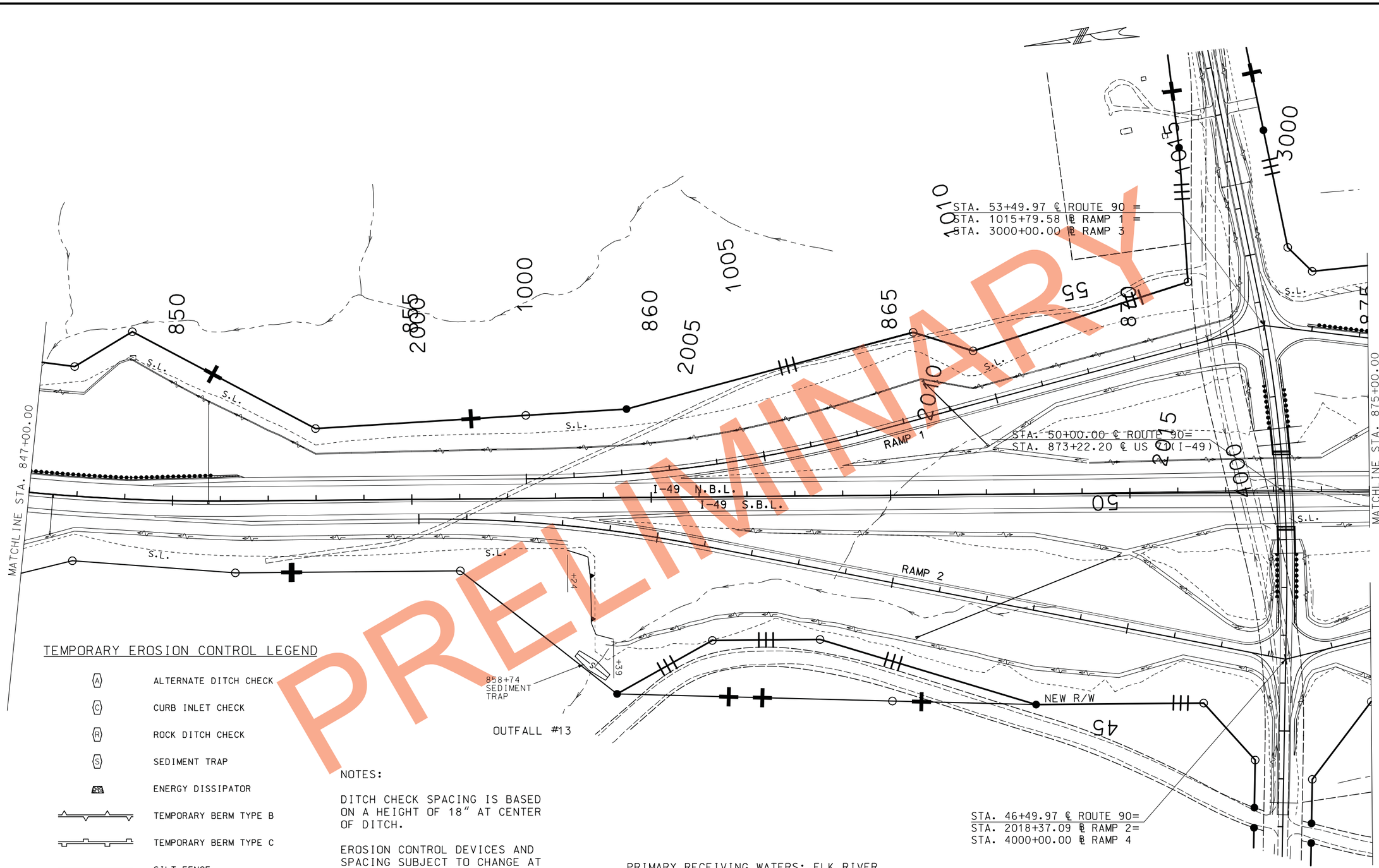
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	68
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

REV.	DESCRIPTION	DATE

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 6 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

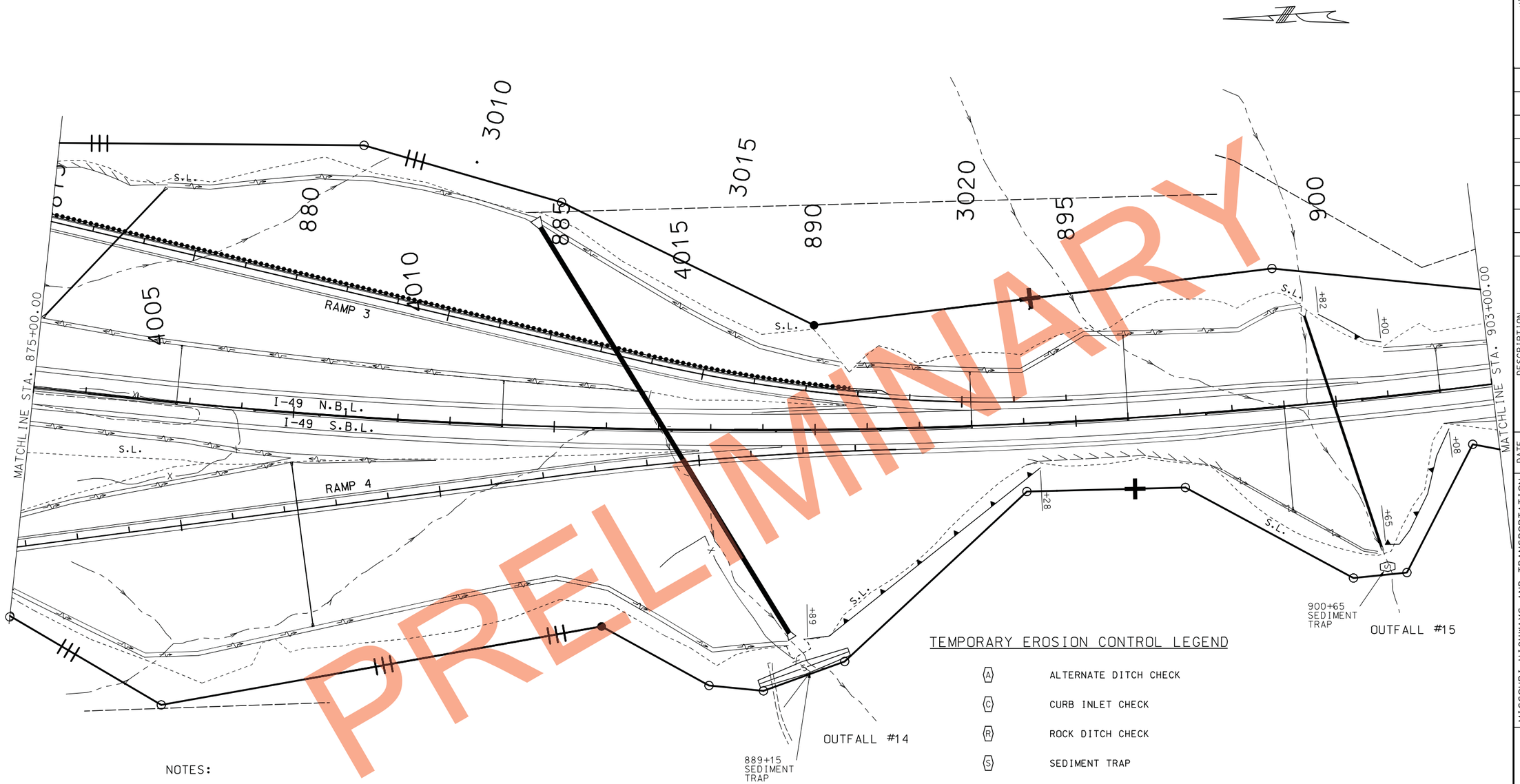
DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	69
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 7 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	70

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

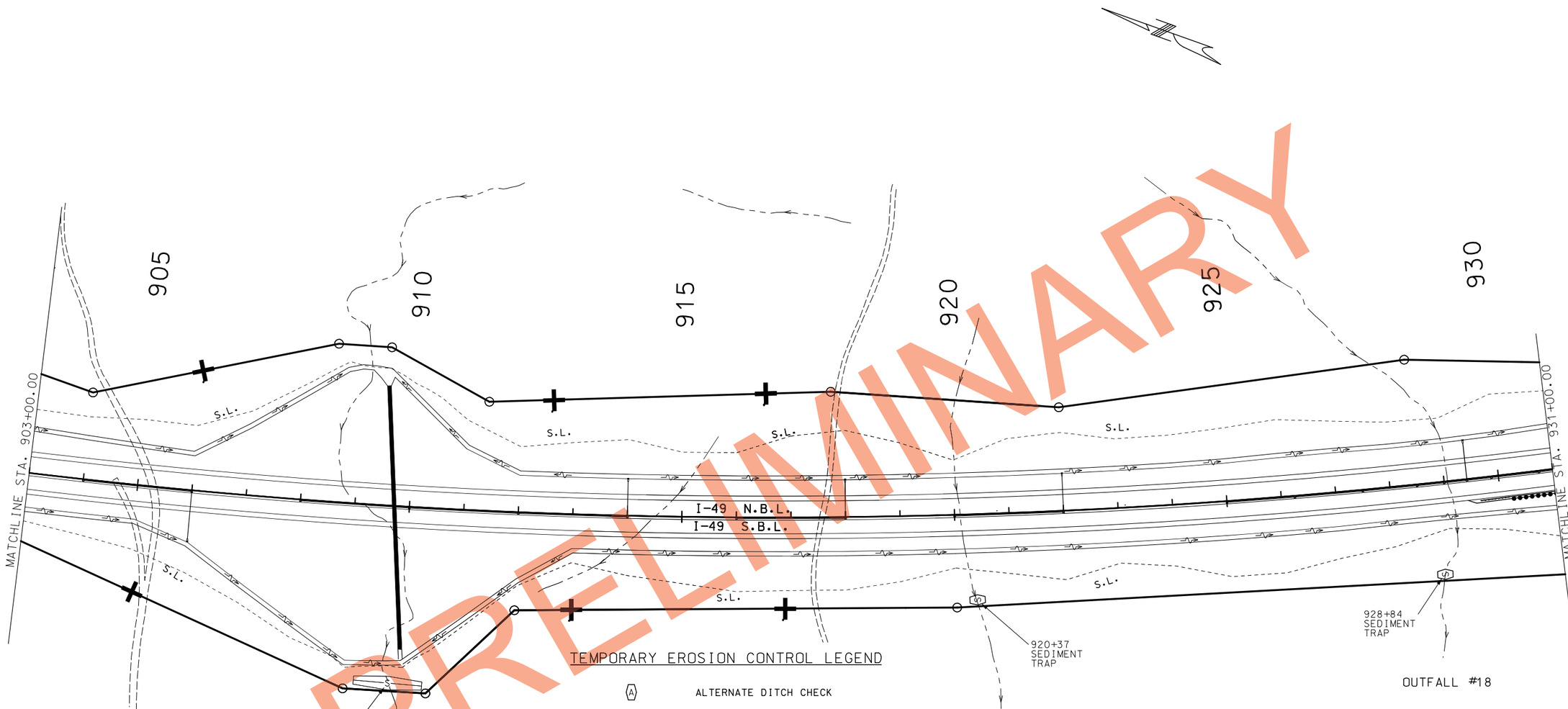
BRIDGE NO.

DATE	DESCRIPTION	REV.

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

A	ALTERNATE DITCH CHECK
C	CURB INLET CHECK
R	ROCK DITCH CHECK
S	SEDIMENT TRAP
	ENERGY DISSIPATOR
	TEMPORARY BERM TYPE B
	TEMPORARY BERM TYPE C
	SILT FENCE
	TEMPORARY SEDIMENT BASIN
	PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

ACCESS IS ALLOWED THROUGH THE CULVERT; HOWEVER, NO ATTACHMENTS MAY BE MADE TO THE STRUCTURE.

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 8 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	71

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

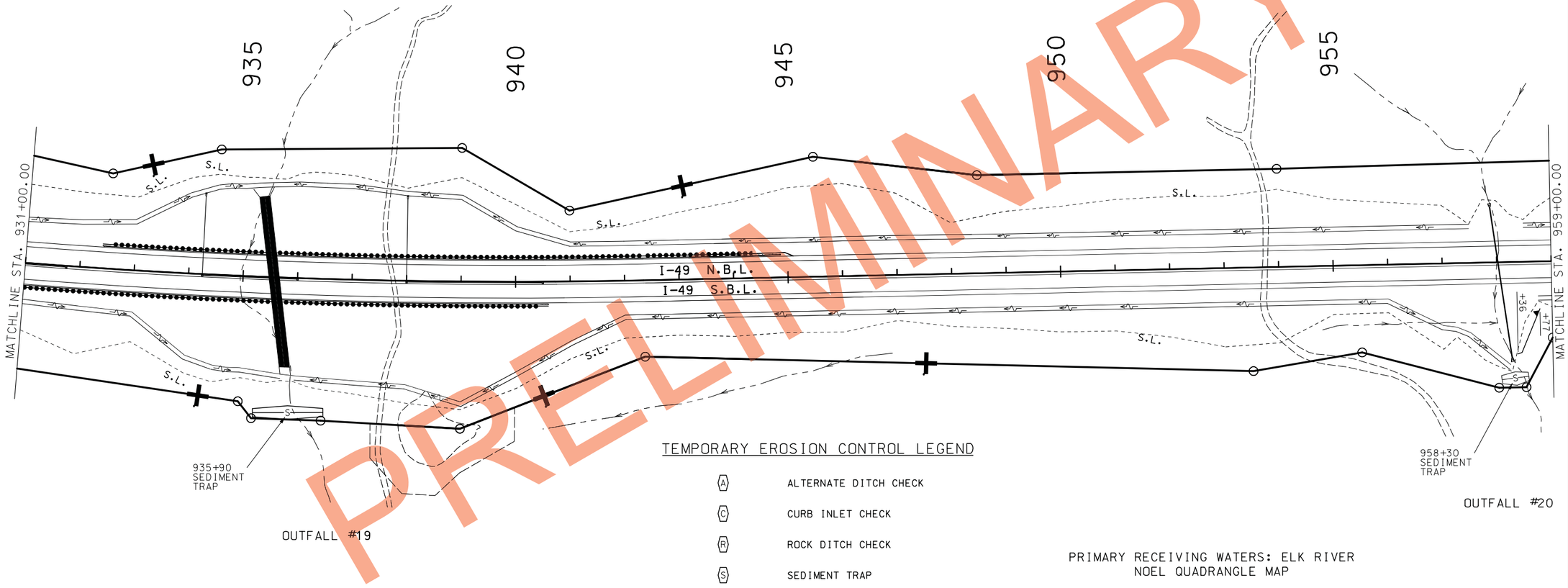
BRIDGE NO.

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 9 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	72

COUNTY
J7P0601
JOB NO.
McDONALD
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

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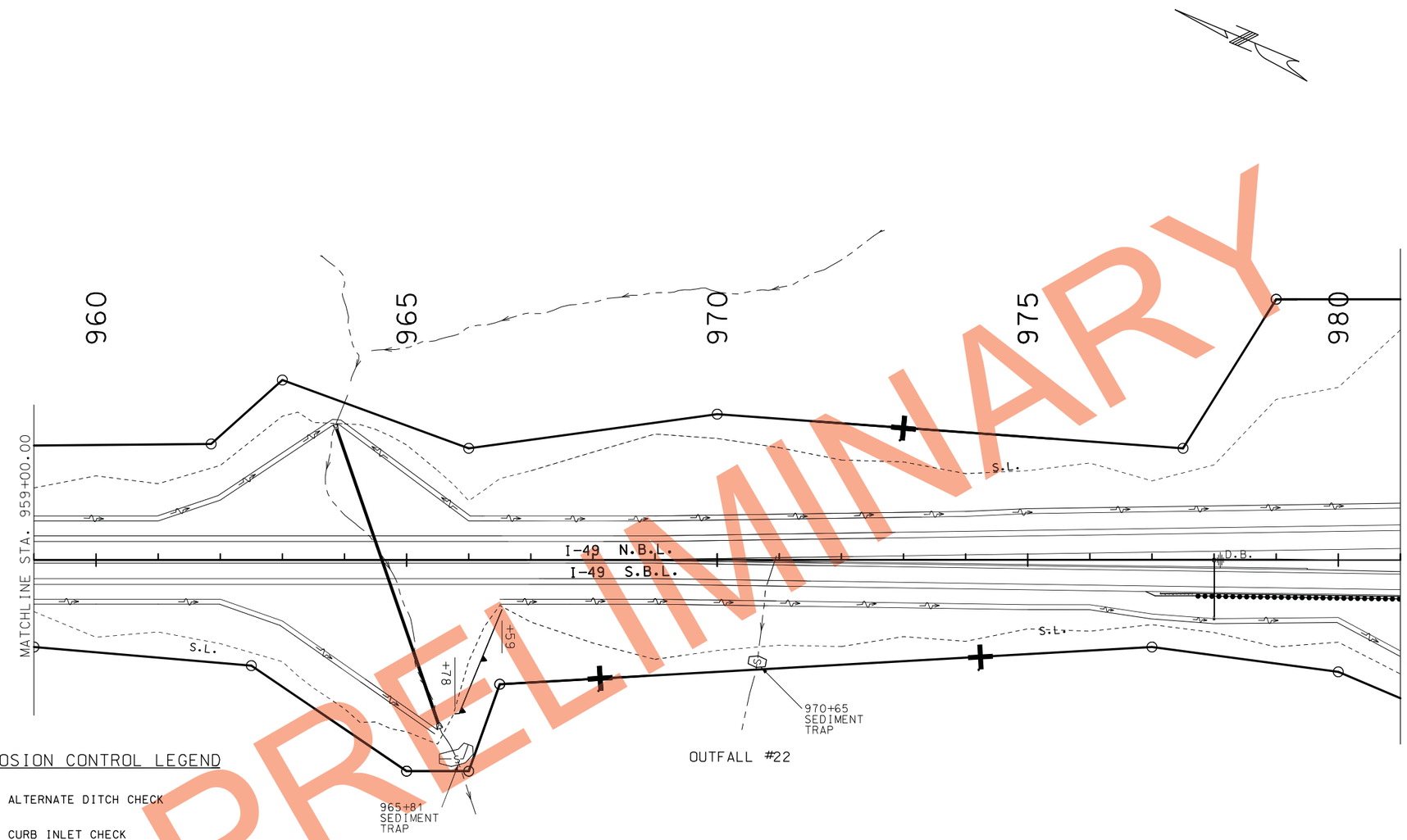
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

REV.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 10 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

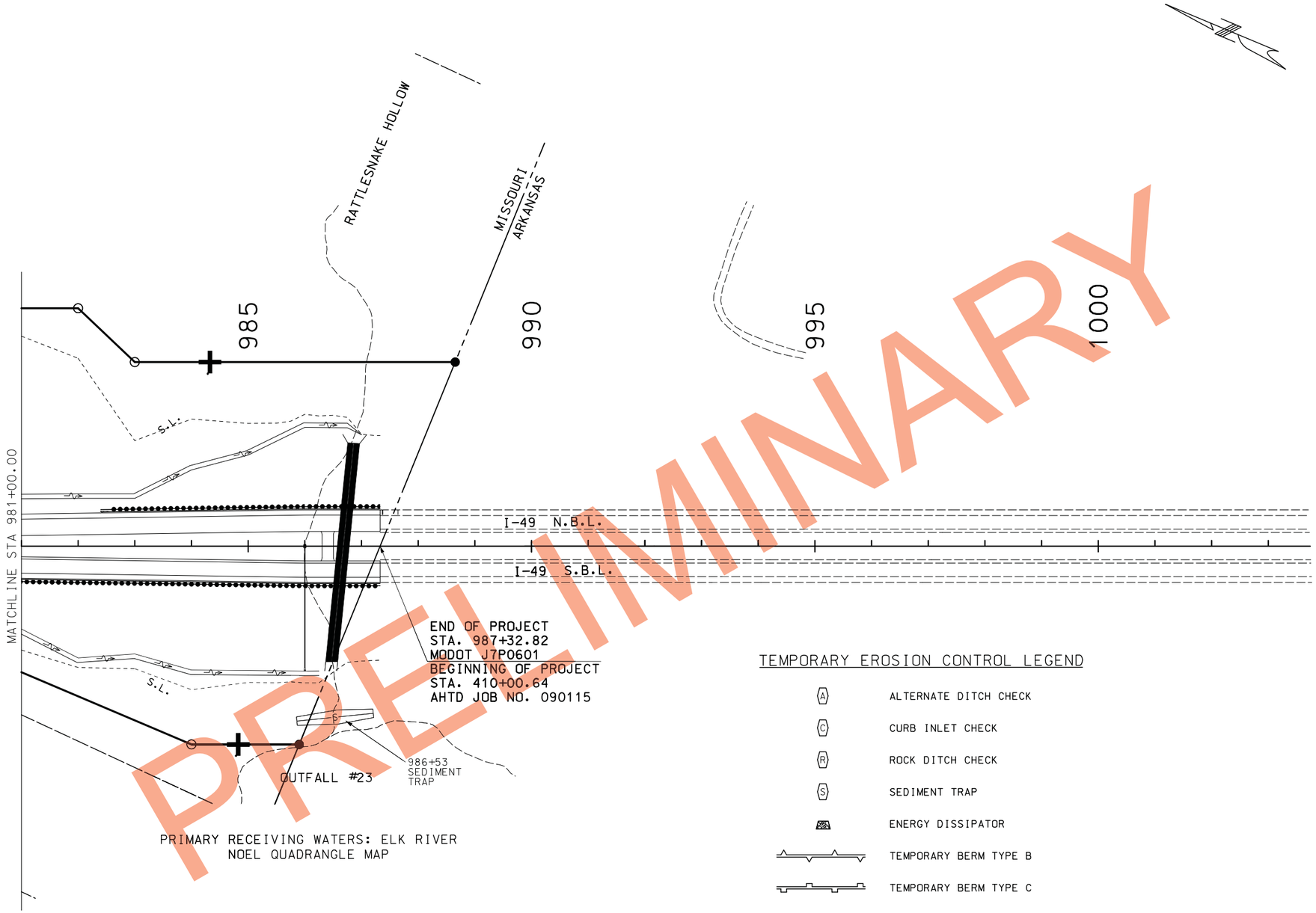
DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	73
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.



PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

PRELIMINARY

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE

0 100 200 300 400 500

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 11 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	74

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

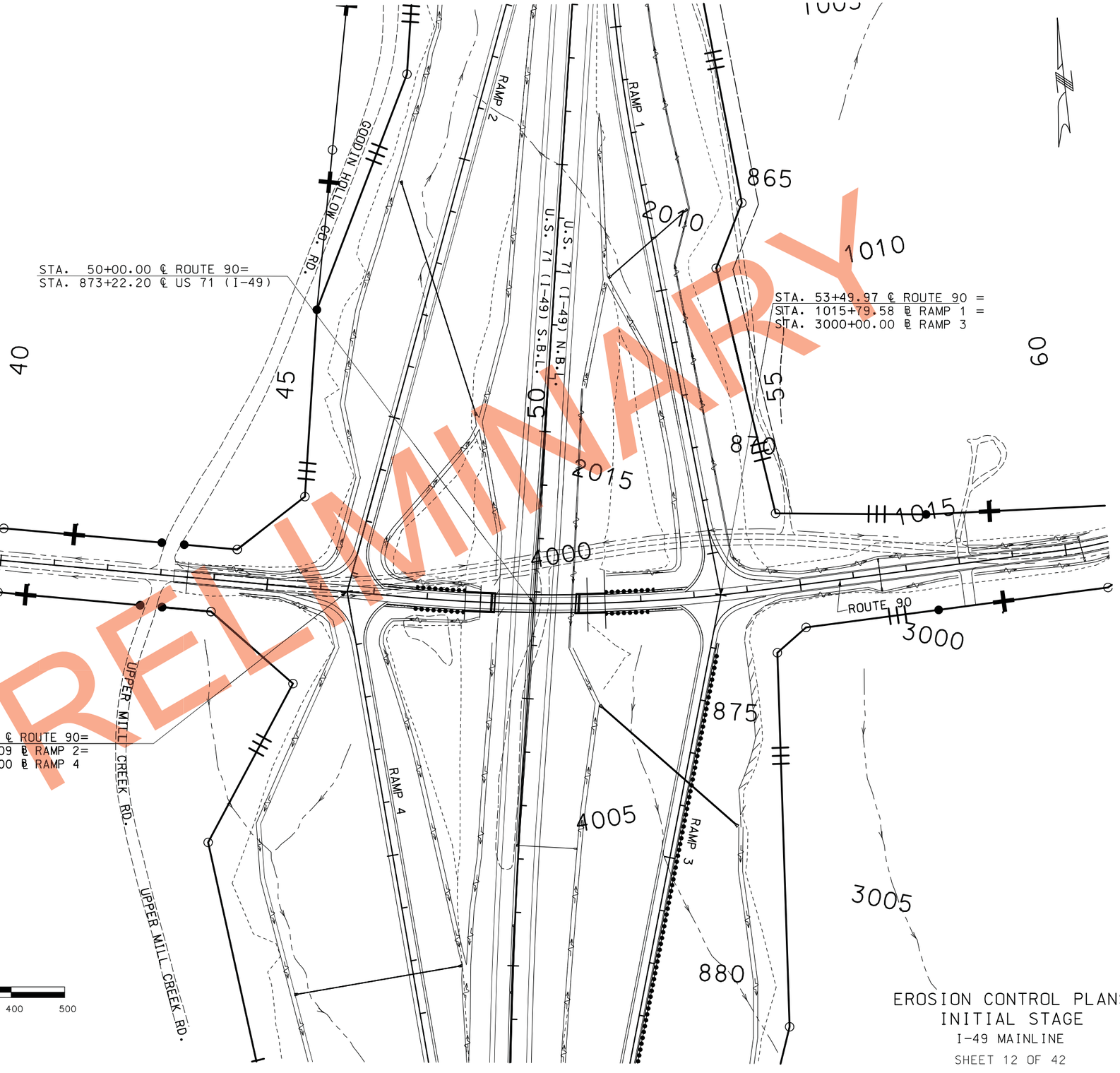
DESCRIPTION | DATE | REV.

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

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

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN



PRELIMINARY

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
INITIAL STAGE
I-49 MAINLINE

SHEET 12 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

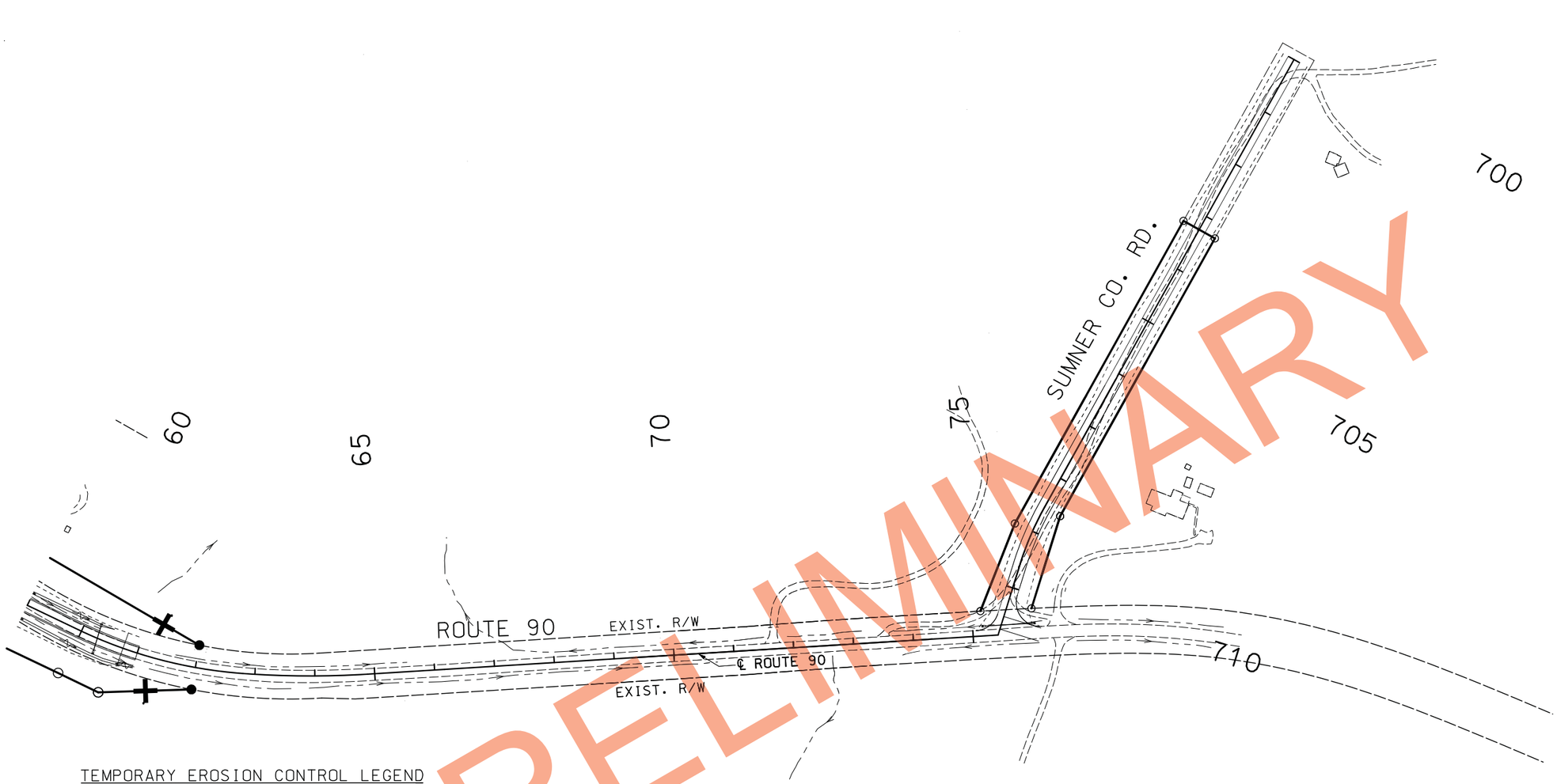
DATE PREPARED	
11/11/2019	
ROUTE 49	STATE MO
DISTRICT SW	SHEET NO. 75
COUNTY McDONALD	
JOB NO. J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE	REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
INITIAL STAGE

SUMNER CO. RD. & PART ROUTE 90

SHEET 13 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

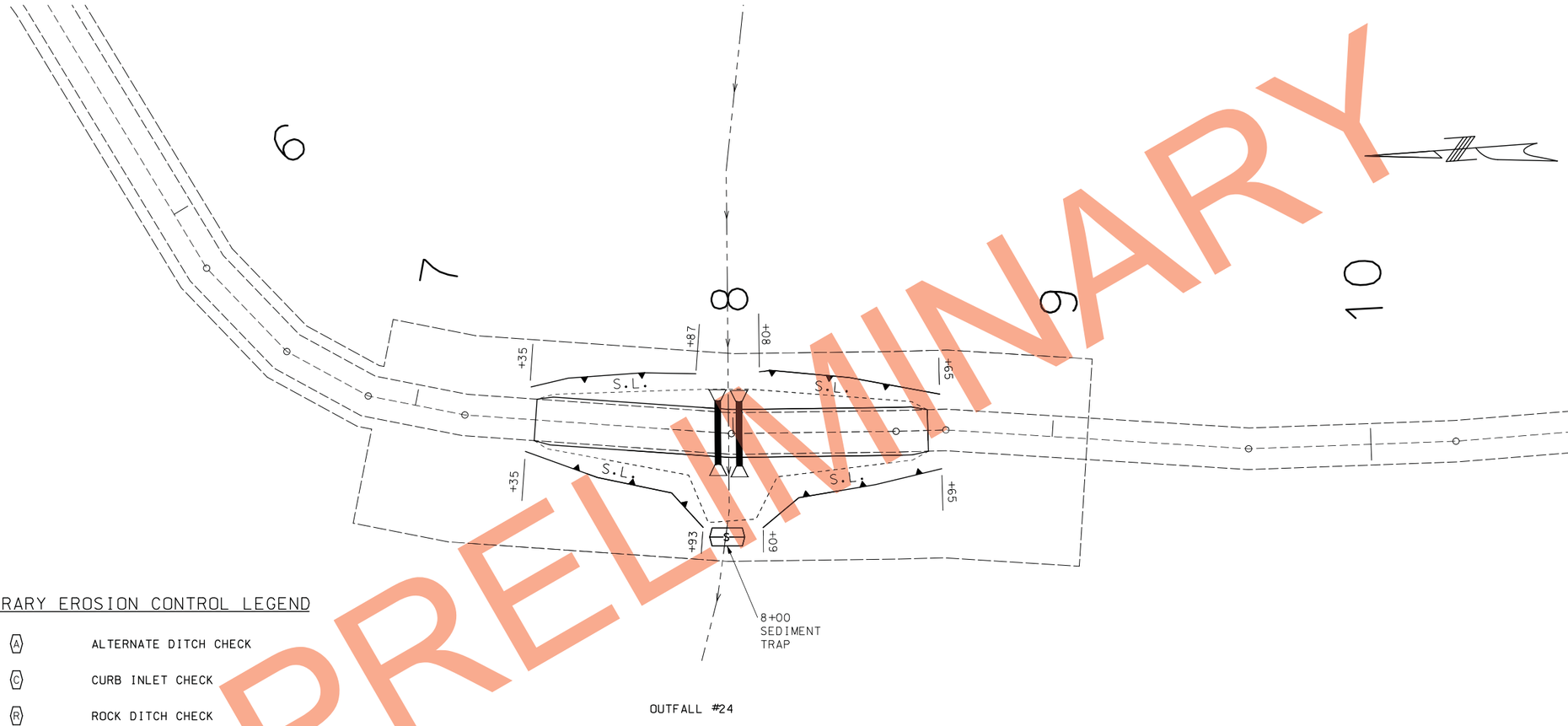
DATE PREPARED	
11/11/2019	
ROUTE 49	STATE MO
DISTRICT SW	SHEET NO. 76
COUNTY McDONALD	
JOB NO. J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

REV.



OUTFALL #24

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
INITIAL STAGE
HELL CREEK ENTRANCE

SHEET 14 OF 42

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	77

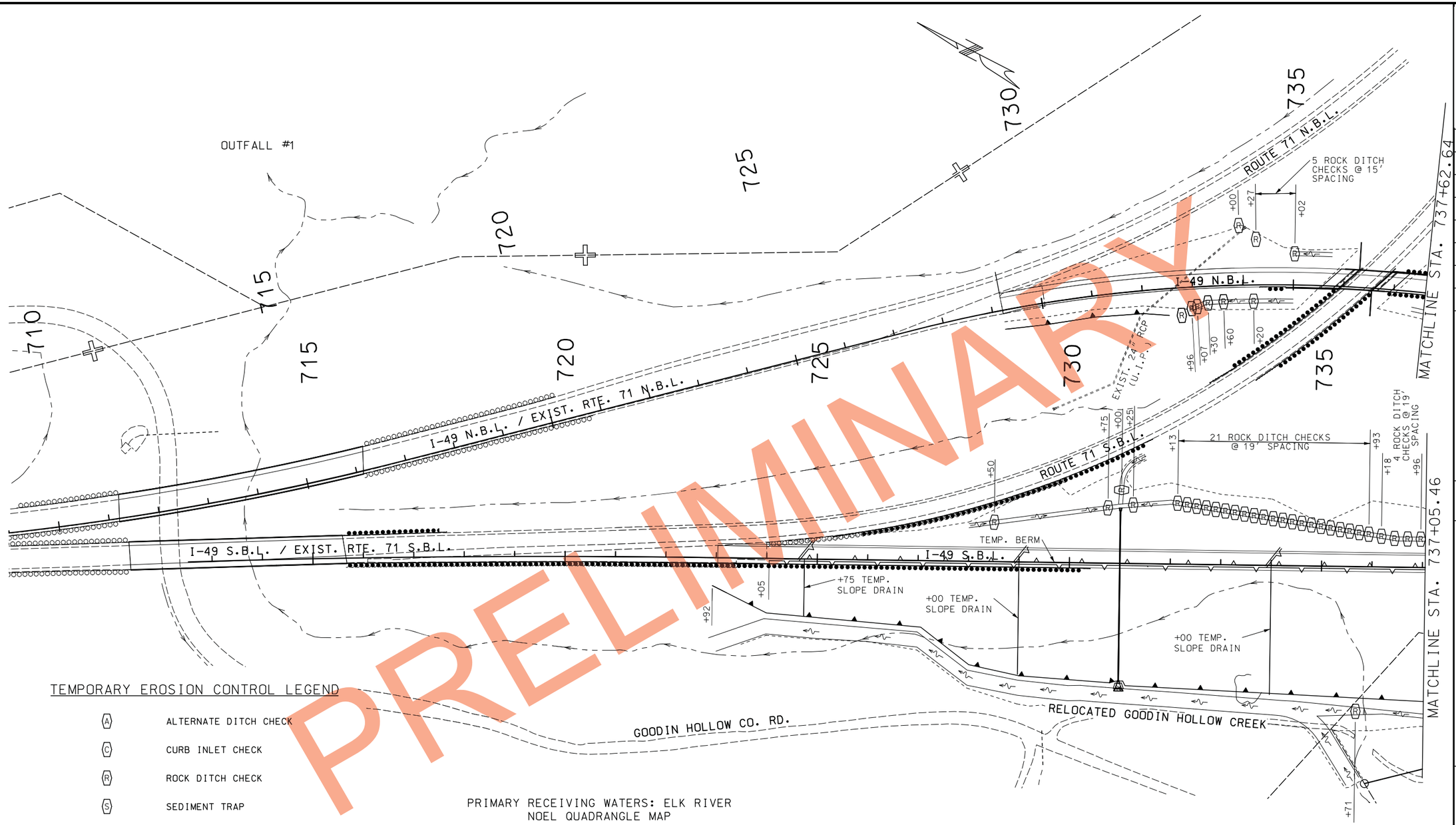
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
TEMPORARY STAGE
I-49 MAINLINE

SHEET 15 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

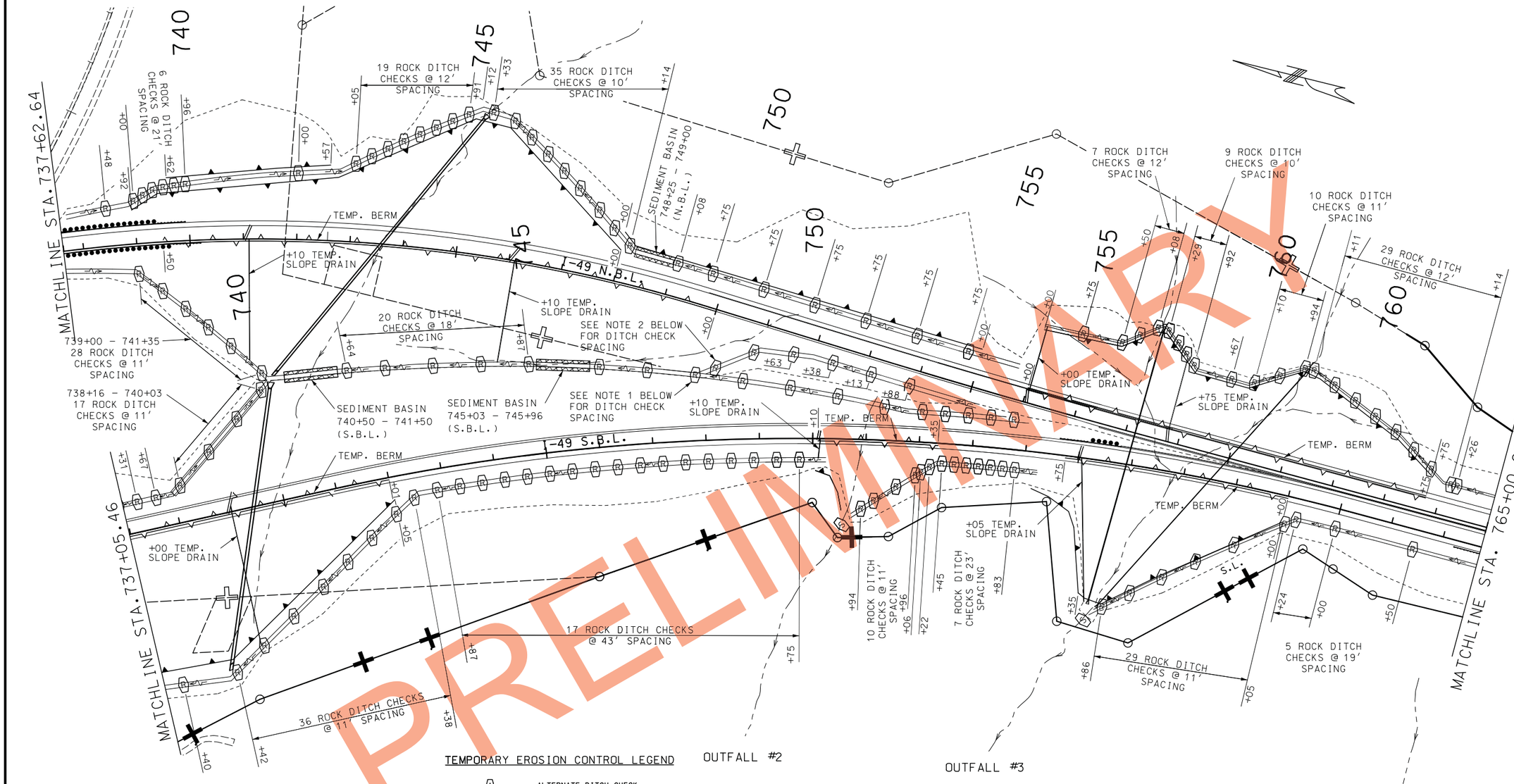
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	78

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

REV.	DESCRIPTION	DATE

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

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



TEMPORARY EROSION CONTROL LEGEND

- ALTERNATE DITCH CHECK
- CURB INLET CHECK
- ROCK DITCH CHECK
- SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTE 1

S.B.L. ROUTE I-49
746+63 - 752+03 34 ROCK DITCH CHECK, SPACING @ 18'
752+45 - 753+72 4 ROCK DITCH CHECKS, SPACING @ 43'

NOTE 2

N.B.L. ROUTE I-49
750+30 - 750+91 8 ROCK DITCH CHECKS, SPACING @ 11'

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
TEMPORARY STAGE
I-49 MAINLINE

SHEET 16 OF 42

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	79

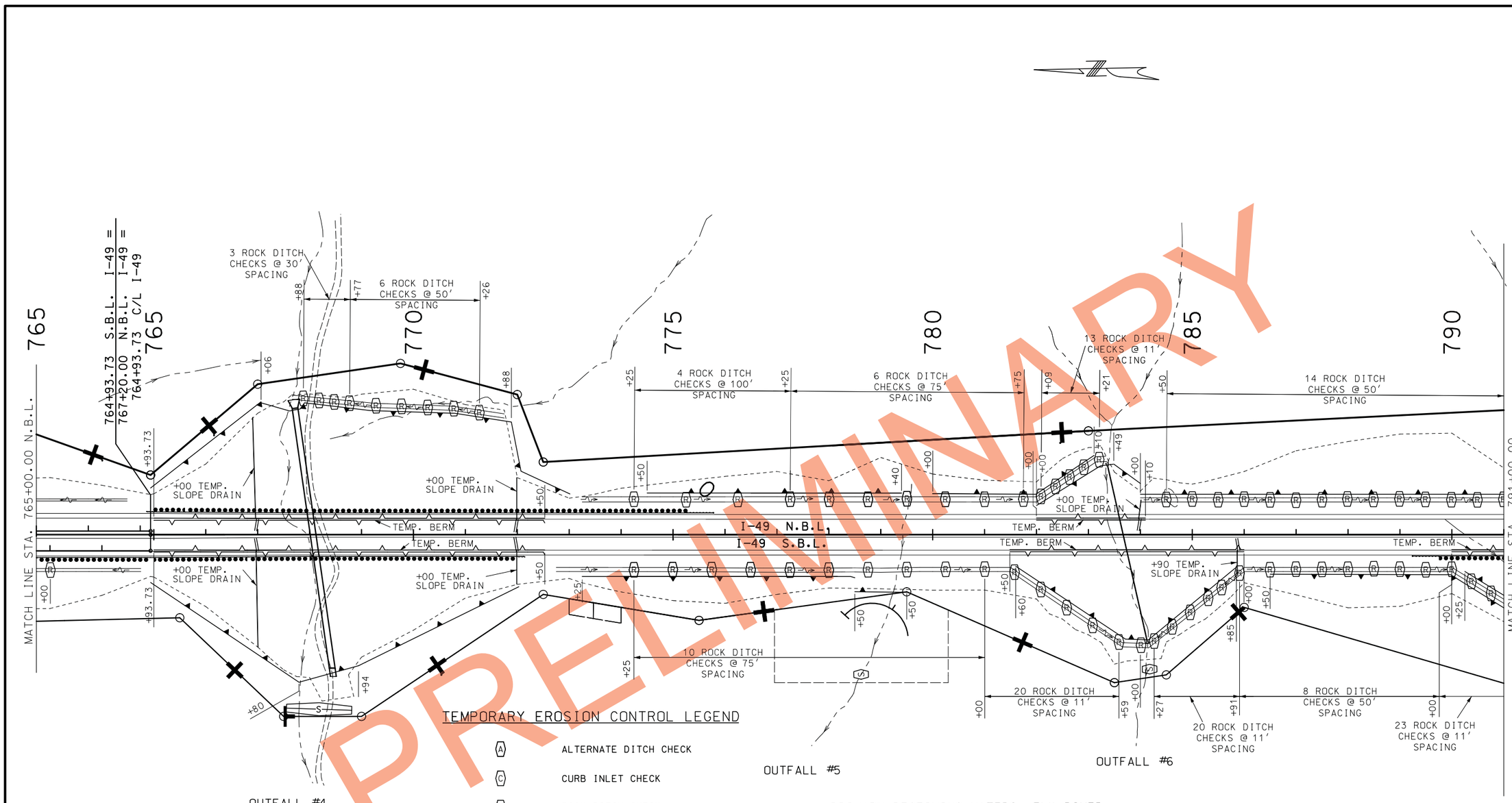
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DATE	DESCRIPTION	REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- ALTERNATE DITCH CHECK
- CURB INLET CHECK
- ROCK DITCH CHECK
- SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
TEMPORARY STAGE
I-49 MAINLINE

SHEET 17 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	80

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

NO.	DESCRIPTION	DATE

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

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

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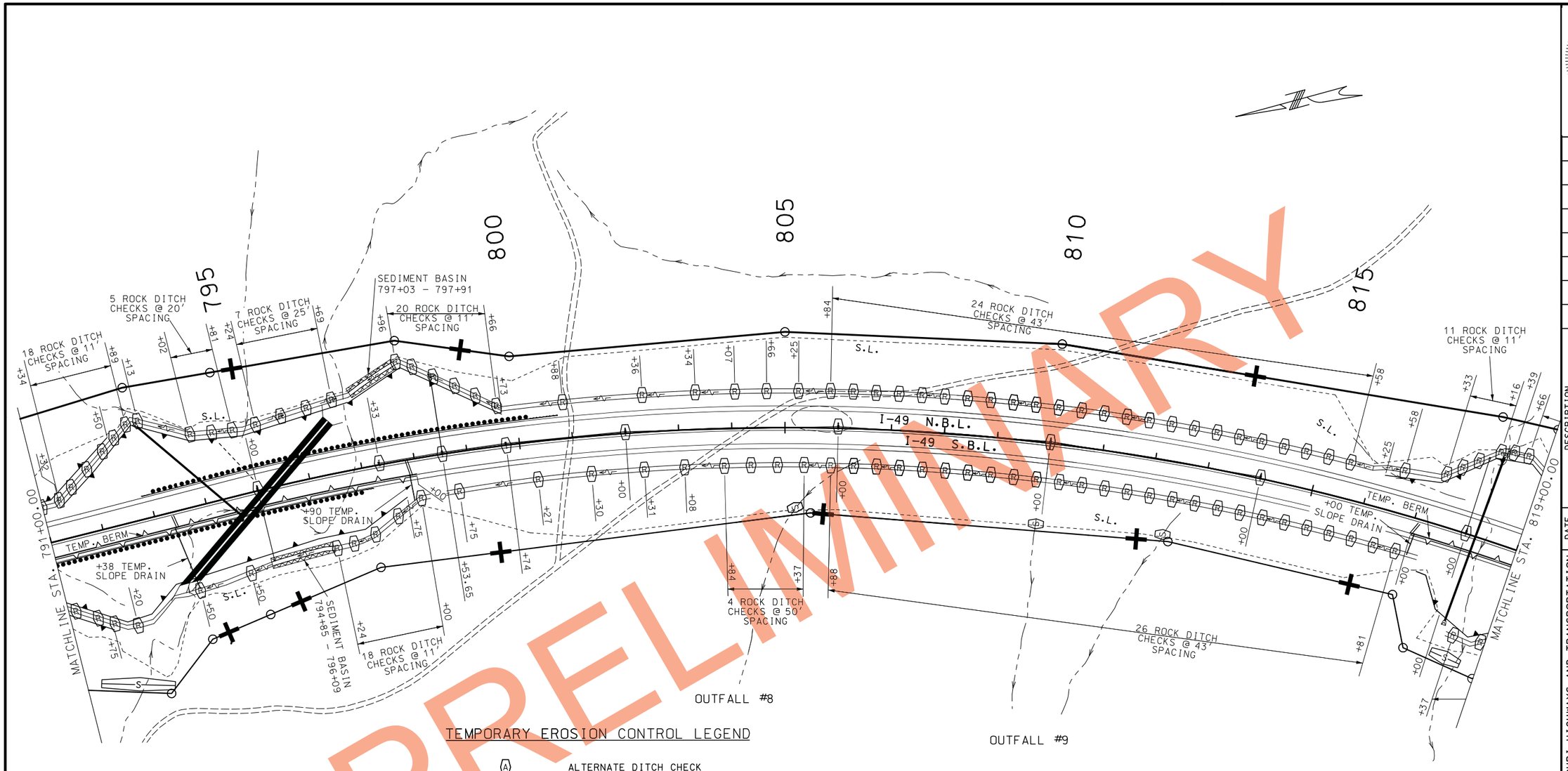


PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (I) INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
TEMPORARY STAGE
I-49 MAINLINE

SHEET 18 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/11/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	81

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

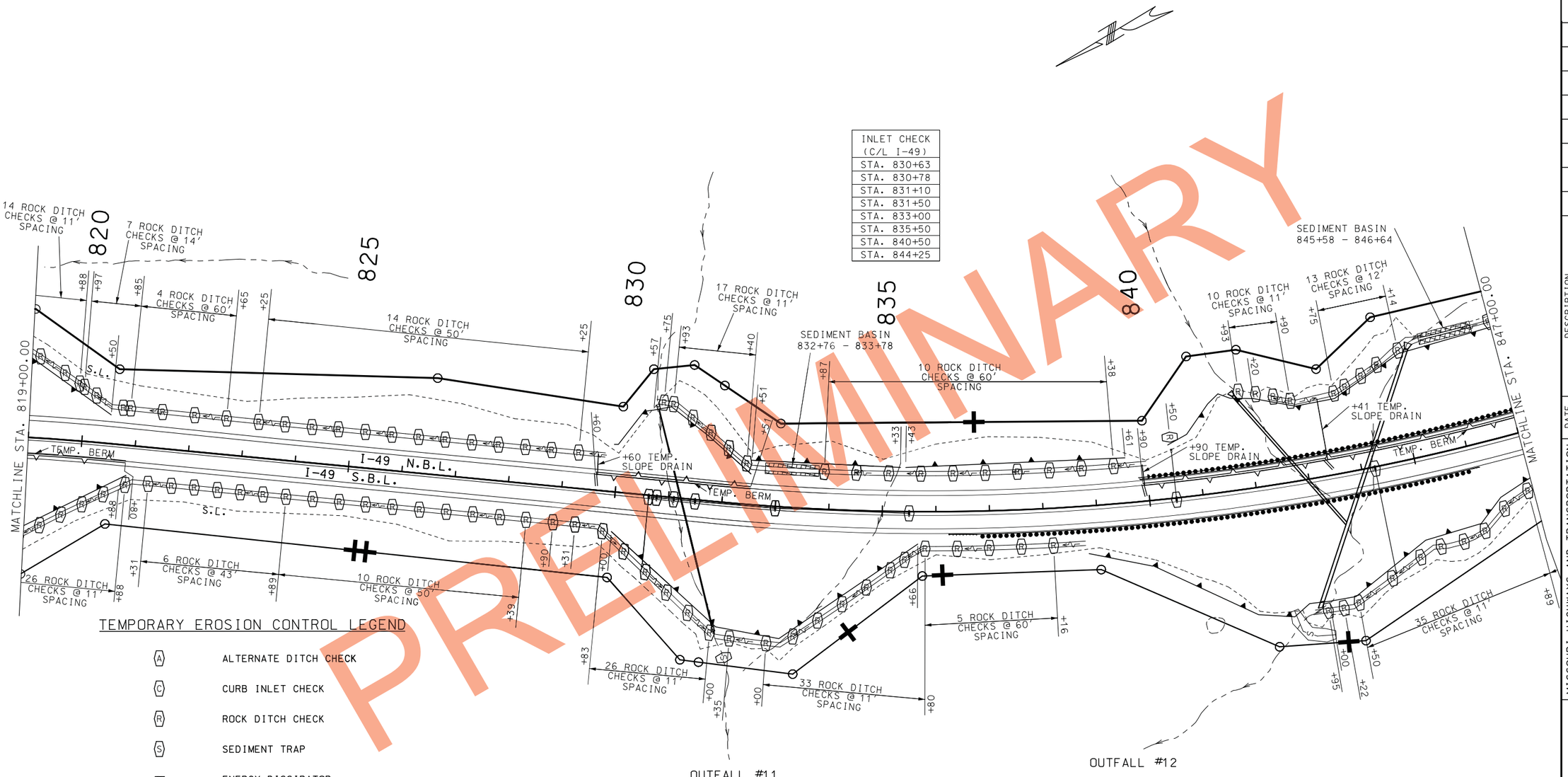
DATE	DESCRIPTION

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.



INLET CHECK (C/L I-49)
STA. 830+63
STA. 830+78
STA. 831+10
STA. 831+50
STA. 833+00
STA. 835+50
STA. 840+50
STA. 844+25

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS TEMPORARY STAGE

I-49 MAINLINE

SHEET 19 OF 42

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	82

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

REV.	DESCRIPTION	DATE

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

NOTE: (DITCH CHECK SPACING)

ROUTE I-49, LT. SIDE
865+50 - 866+71 4 ROCK
DITCH CHECKS, SPACING @ 43'
867+43 - 868+75 5 ROCK
DITCH CHECKS, SPACING @ 33'

RAMP 1
1009+75 - 1011+25 11 ROCK
DITCH CHECKS, SPACING @ 15'
1012+00 - 1015+00 5 ROCK
DITCH CHECKS, SPACIGN @ 75'

STA. 53+49.97 ℄ ROUTE 90 =
STA. 1015+79.58 ℄ RAMP 1 =
STA. 3000+00.00 ℄ RAMP 3

5 ROCK DITCH CHECKS @ 27' SPACING

37 ROCK DITCH CHECKS @ 12' SPACING

SEDIMENT BASIN 1009+68 - 1010+68

8 ROCK DITCH CHECKS @ 12' SPACING

SEDIMENT BASIN 1007+24 - 1008+45

SEDIMENT BASIN 853+49 - 854+79

1000+00 ℄ RAMP 1 = 857+39.42 41' LT. ℄ I-49

+41 TEMP. SLOPE DRAIN

+00 TEMP. SLOPE DRAIN

+41 TEMP. SLOPE DRAIN

+00 TEMP. SLOPE DRAIN

TEMP. BERM

I-49 N.B.L.

I-49 S.B.L.

SEE NOTE ABOVE

STA. 50+00.00 ℄ ROUTE 90=
STA. 873+22.20 ℄ I-49

RAMP 1

MATCHLINE STA. 847+00.00

MATCHLINE STA. 875+00.00

+64 LT & RT

+34 LT & RT

8' ROCK DITCH CHECKS @ 11' SPACING

SEDIMENT BASIN 867+10 - 867+80

TEMP. BERM

+24 TEMP. SLOPE DRAIN

+00 TEMP. SLOPE DRAIN

RAMP 2

SEDIMENT BASIN 2008+06 - 2009+06

8 ROCK DITCH CHECKS @ 23' SPACING

SEE NOTE BELOW

SEE NOTE BELOW

+00 TEMP. SLOPE DRAIN

8 ROCK DITCH CHECKS @ 15' SPACING

SEDIMENT BASIN 848+50 - 849+24

2000+00 ℄ RAMP 2 = 855+14.32 41' RT. ℄ I-49

OUTFALL #13

26 ROCK DITCH CHECKS @ 13' SPACING

6 ROCK DITCH CHECKS @ 60' SPACING

5 ROCK DITCH CHECKS @ 30' SPACING

13 ROCK DITCH CHECKS @ 11' SPACING

3 ROCK DITCH CHECKS @ 75' SPACING

SEDIMENT BASIN 2012+24 - 2013+24

STA. 46+49.97 ℄ ROUTE 90=
STA. 2018+37.09 ℄ RAMP 2=
STA. 4000+00.00 ℄ RAMP 4

ROUTE 90

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

NOTE: (DITCH CHECK SPACING)

ROUTE I-49, RT. SIDE
870+10 - 871+81 10 ROCK
DITCH CHECKS, SPACING @ 19'

RAMP 2
2014+97 - 2016+70 17 ROCK
DITCH CHECKS, SPACING @ 12'
2016+81 - 2017+75 4 ROCK
DITCH CHECKS, SPACING @ 33'

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
TEMPORAY STAGE
I-49 MAINLINE

SHEET 20 OF 42

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

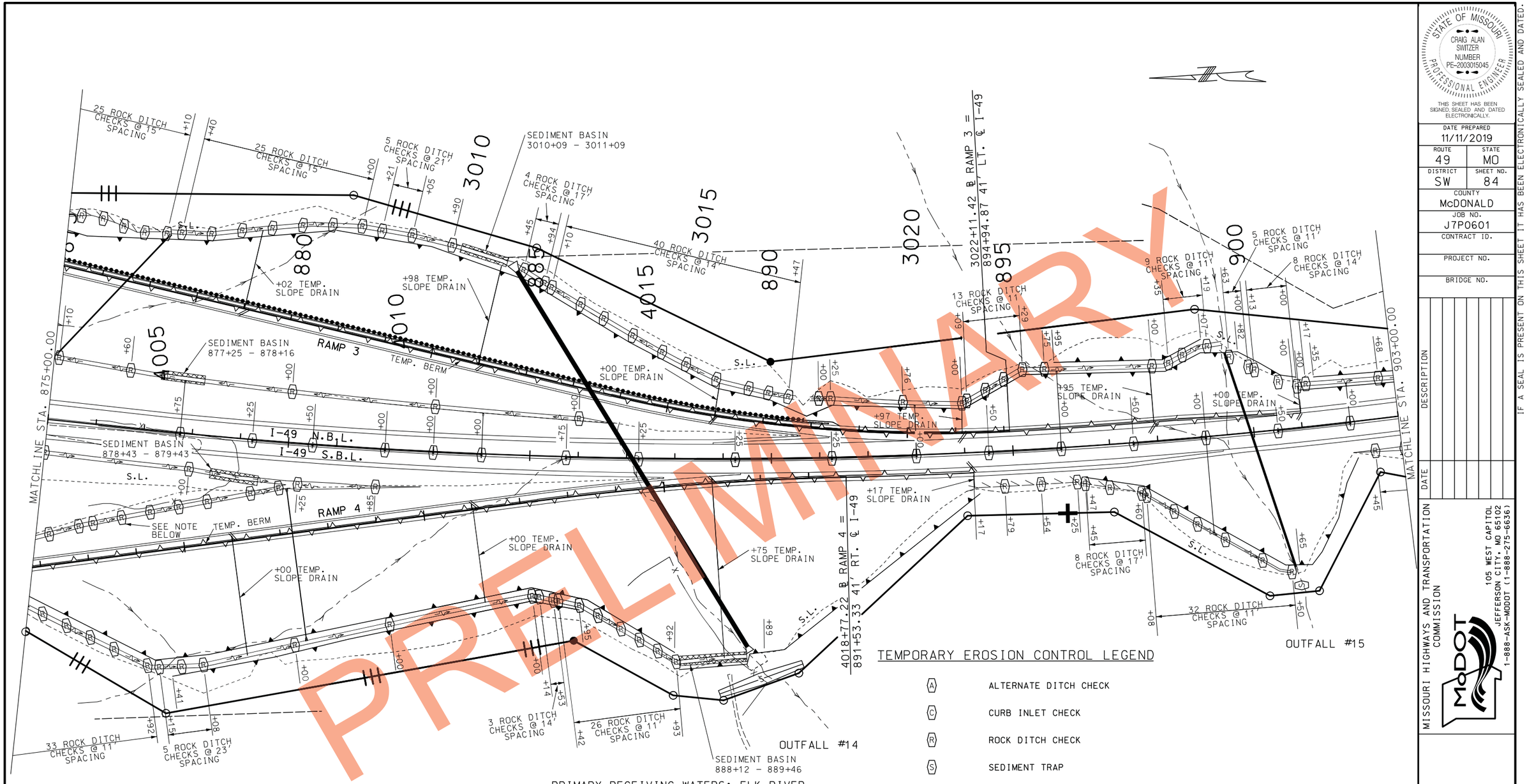
DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	83
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTE: (DITCH CHECK SPACING)

RAMP 4, LT. SIDE
4000+00 - 4002+89 10 ROCK DITCH CHECKS, SPACING @ 21'
4003+19 - 4007+09 14 ROCK DITCH CHECKS, SPACING @ 30'

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE
0 100 200 300 400 500

TEMPORARY EROSION CONTROL LEGEND

- ALTERNATE DITCH CHECK
- CURB INLET CHECK
- ROCK DITCH CHECK
- SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

EROSION CONTROL PLANS TEMPORARY STAGE

I-49 MAINLINE

SHEET 21 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

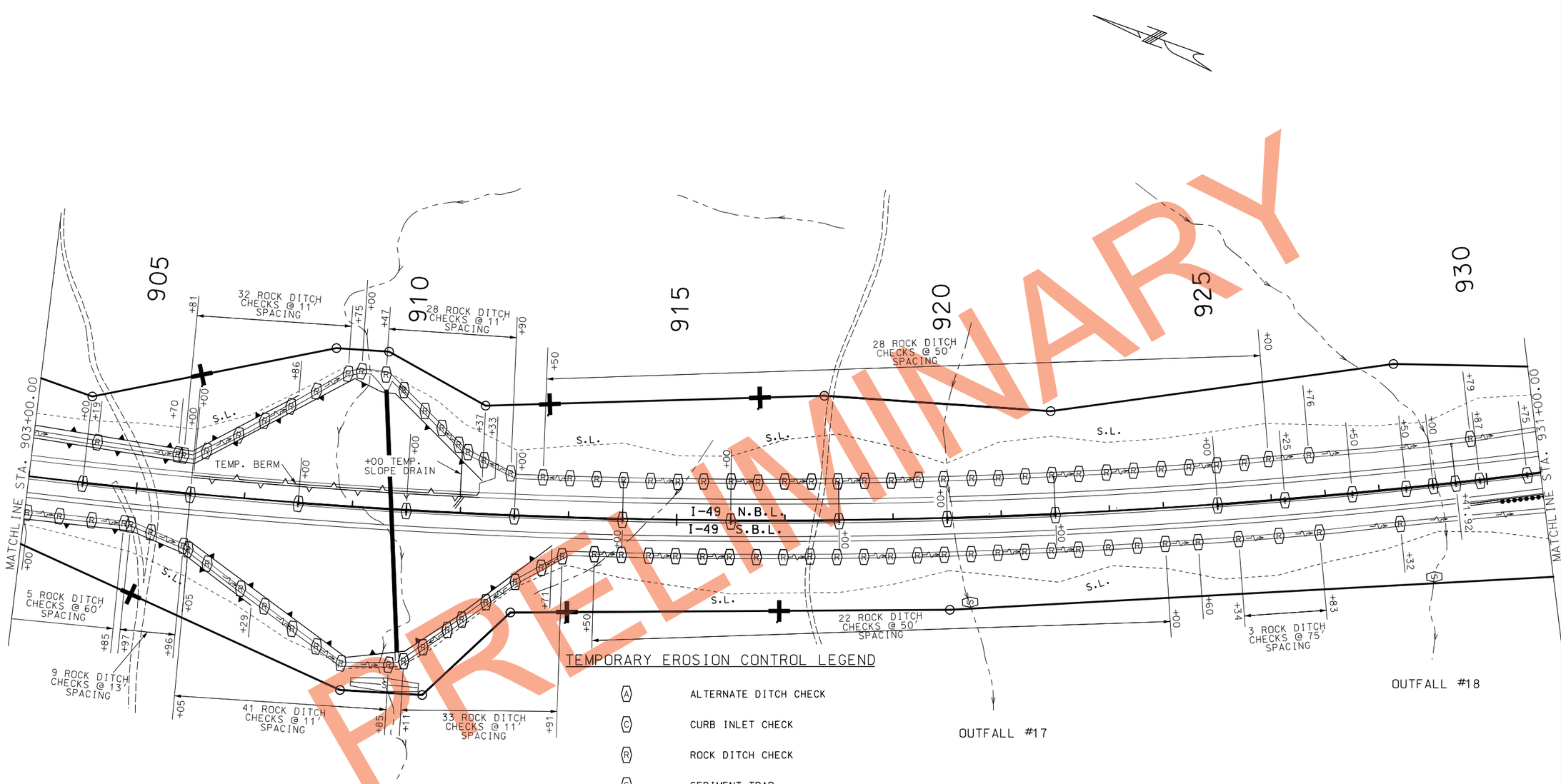
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED	
11/11/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	84
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION	REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

ACCESS IS ALLOWED THROUGH THE CULVERT; HOWEVER, NO ATTACHMENTS MAY BE MADE TO THE STRUCTURE.

SCALE
0 100 200 300 400 500

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS TEMPORARY STAGE

I-49 MAINLINE

SHEET 22 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

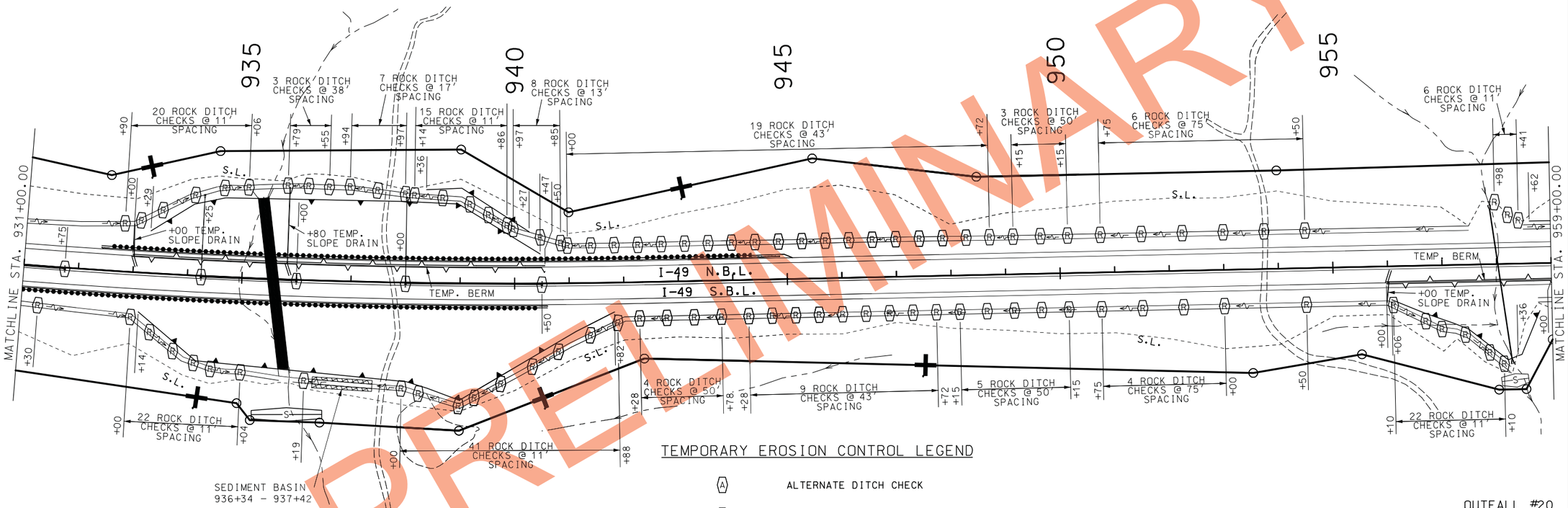
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	85

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

REV.	DESCRIPTION	DATE

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
TEMPORARY STAGE
I-49 MAINLINE

SHEET 23 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	86

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

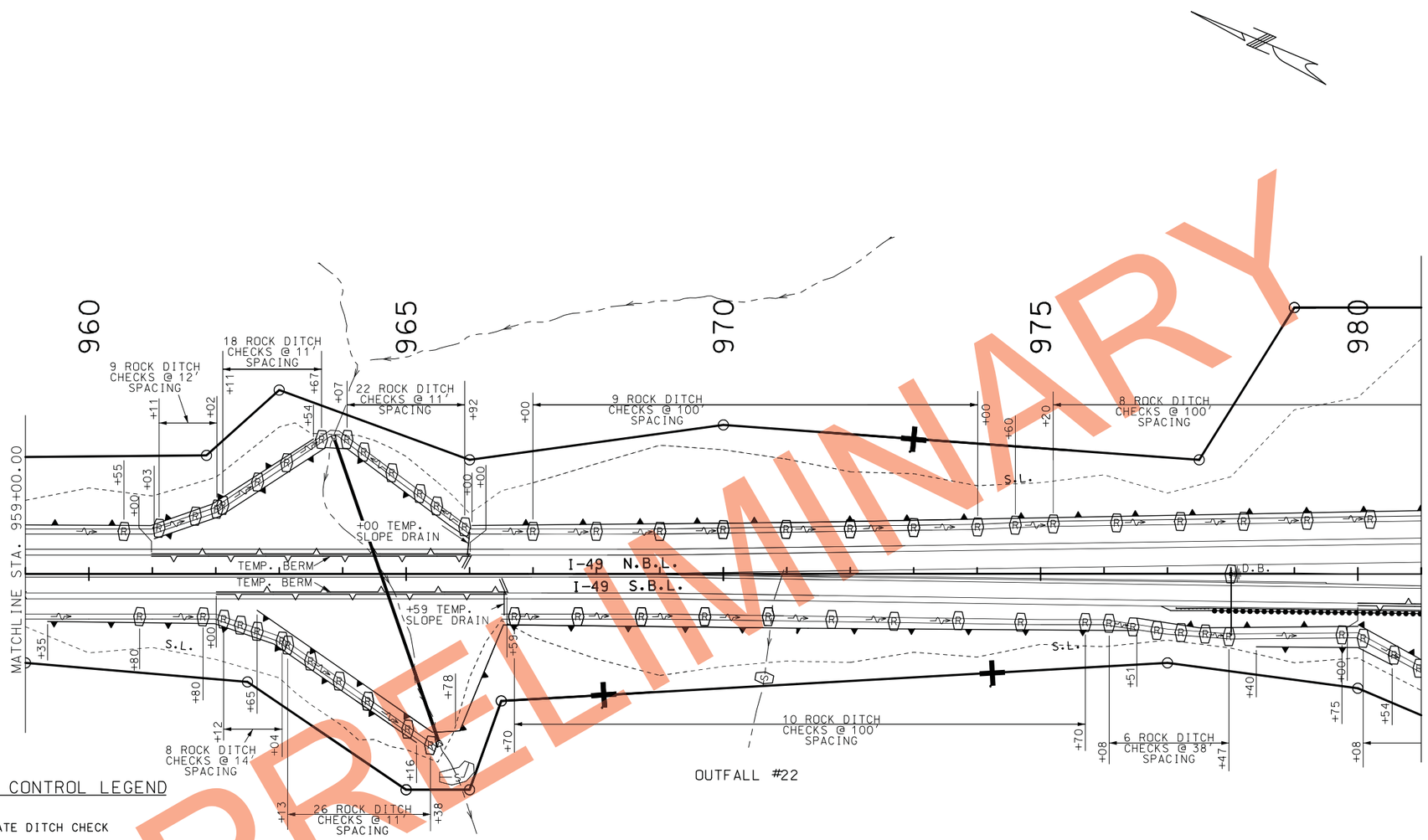
BRIDGE NO.

REV.	DESCRIPTION	DATE

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
TEMPORARY STAGE
I-49 MAINLINE

SHEET 24 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	87

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

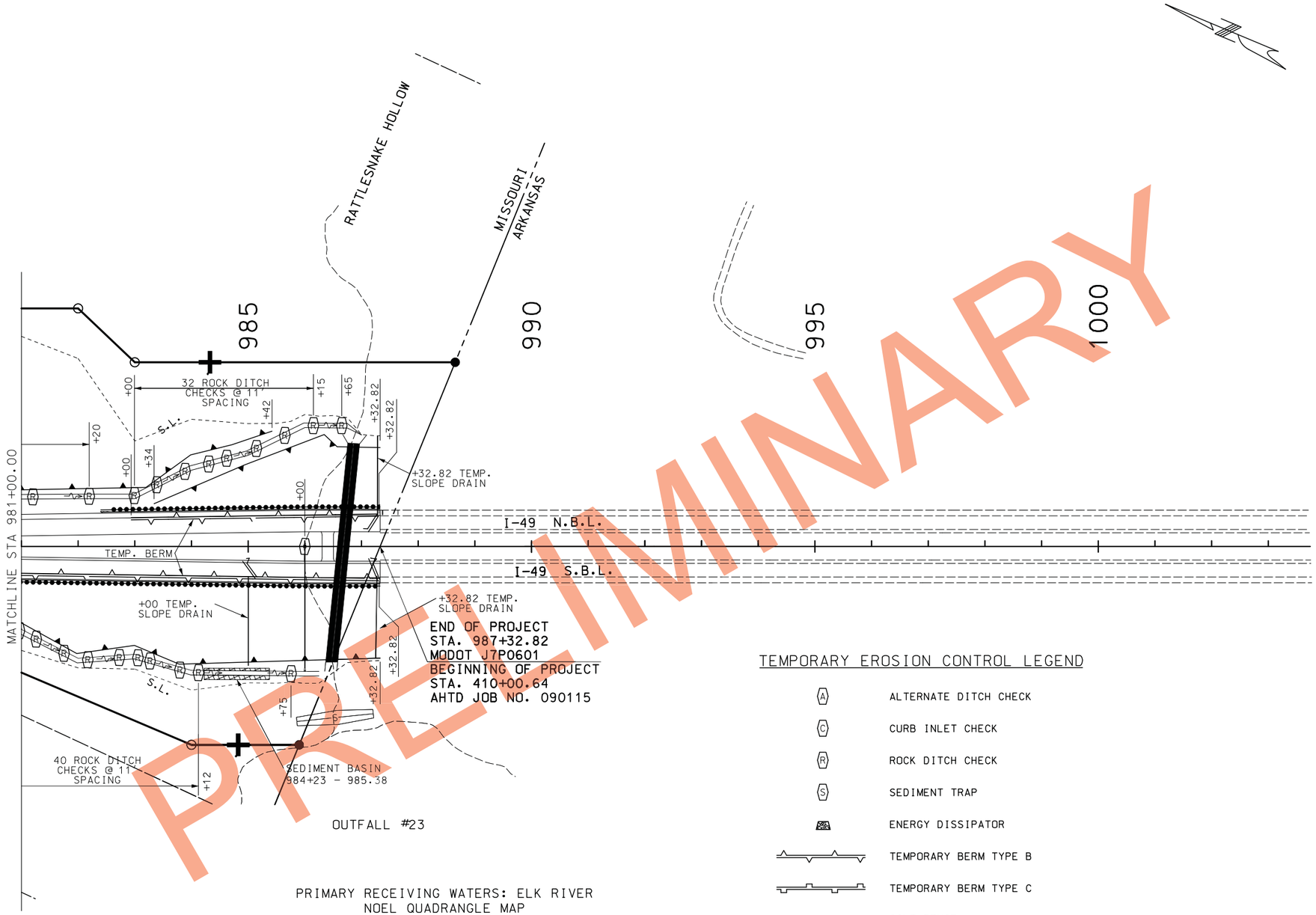
PROJECT NO.:

BRIDGE NO.:

DATE	DESCRIPTION	REV.

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

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



OUTFALL #23

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE

0 100 200 300 400 500

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

EROSION CONTROL PLANS TEMPORARY STAGE

I-49 MAINLINE

SHEET 25 OF 42

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	88

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

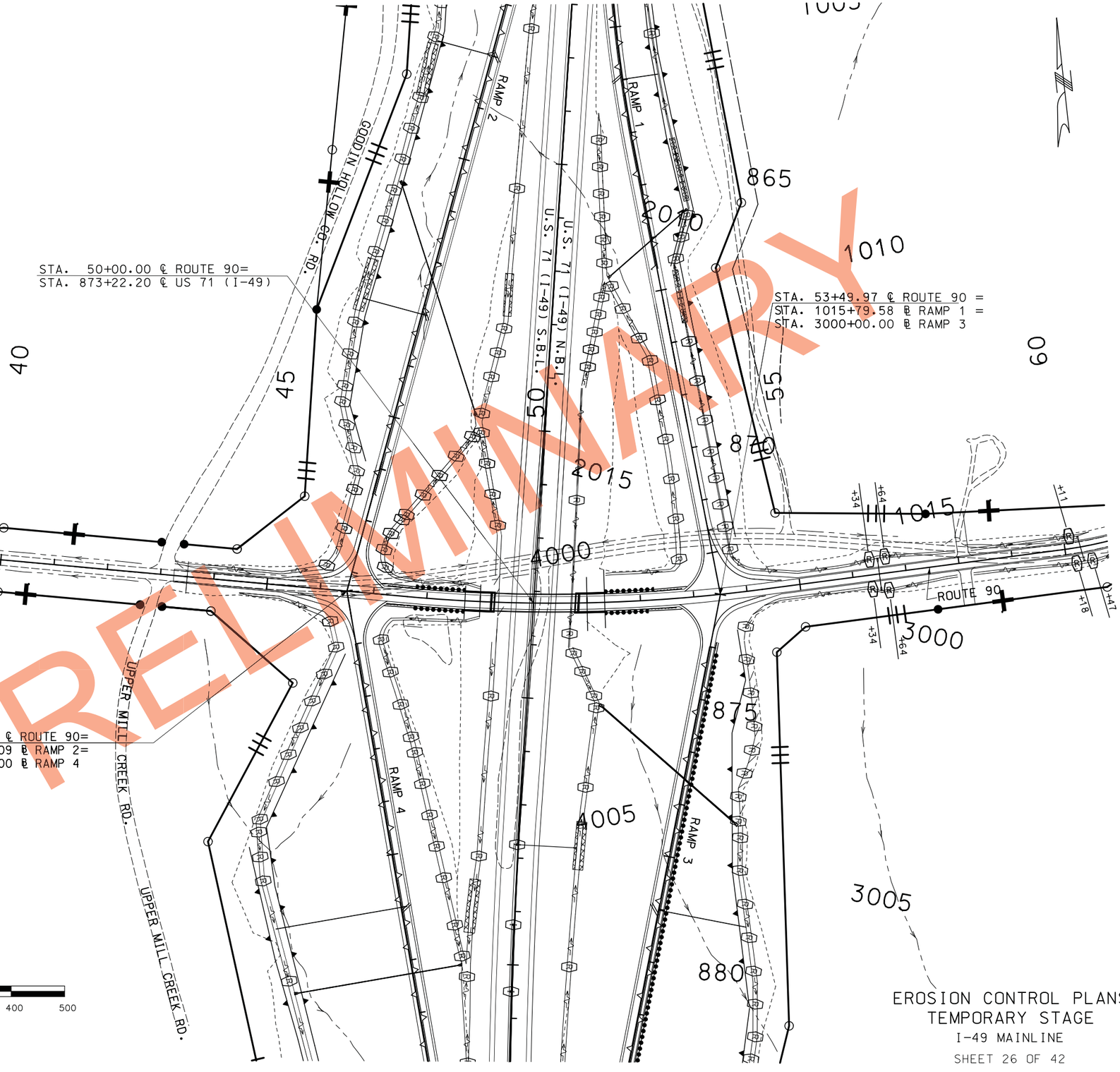
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

REV.

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN



PRELIMINARY

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
TEMPORARY STAGE
I-49 MAINLINE

SHEET 26 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

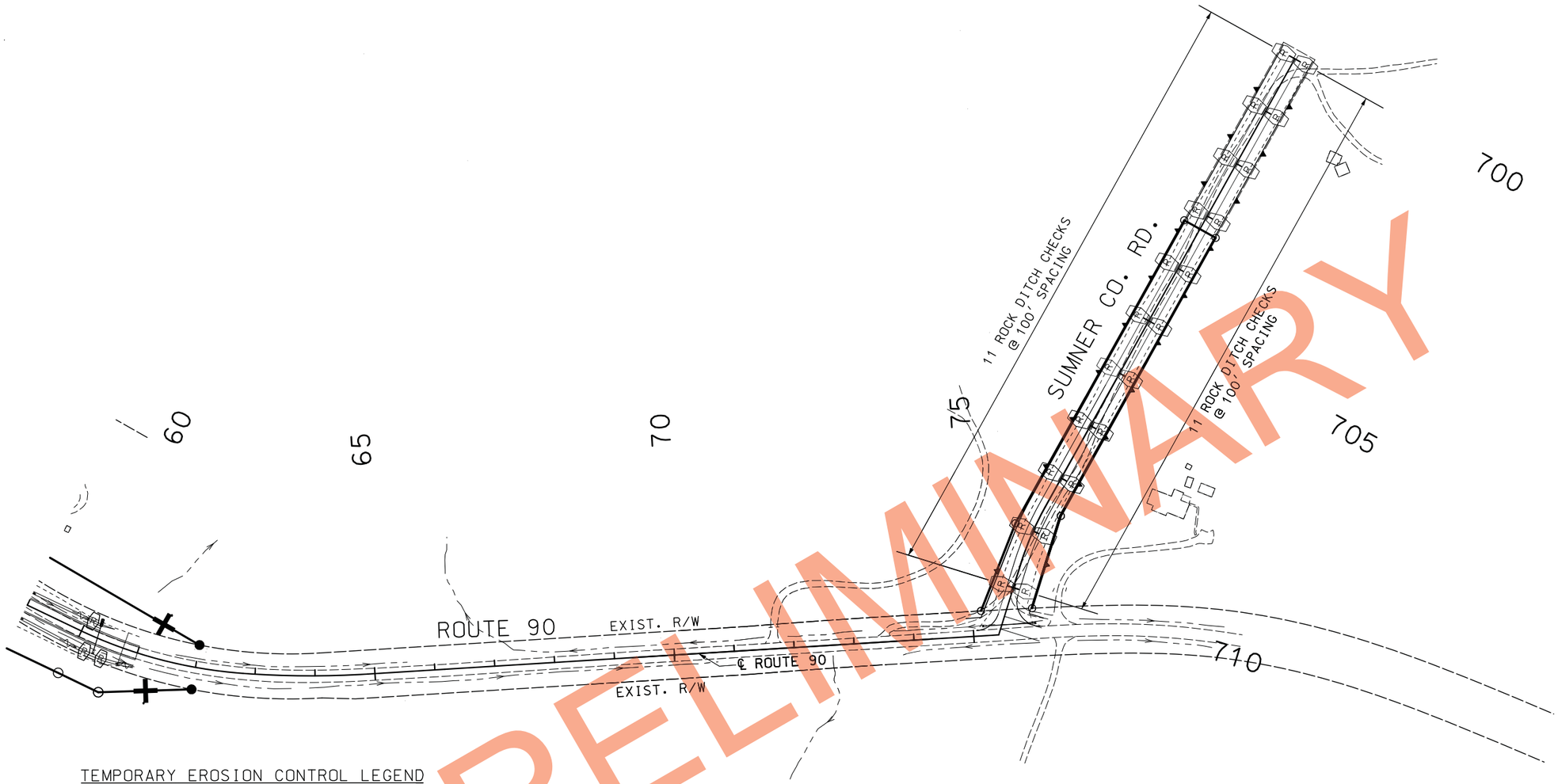
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	89
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
TEMPORARY STAGE

SUMNER CO. RD. & PART ROUTE 90

SHEET 27 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

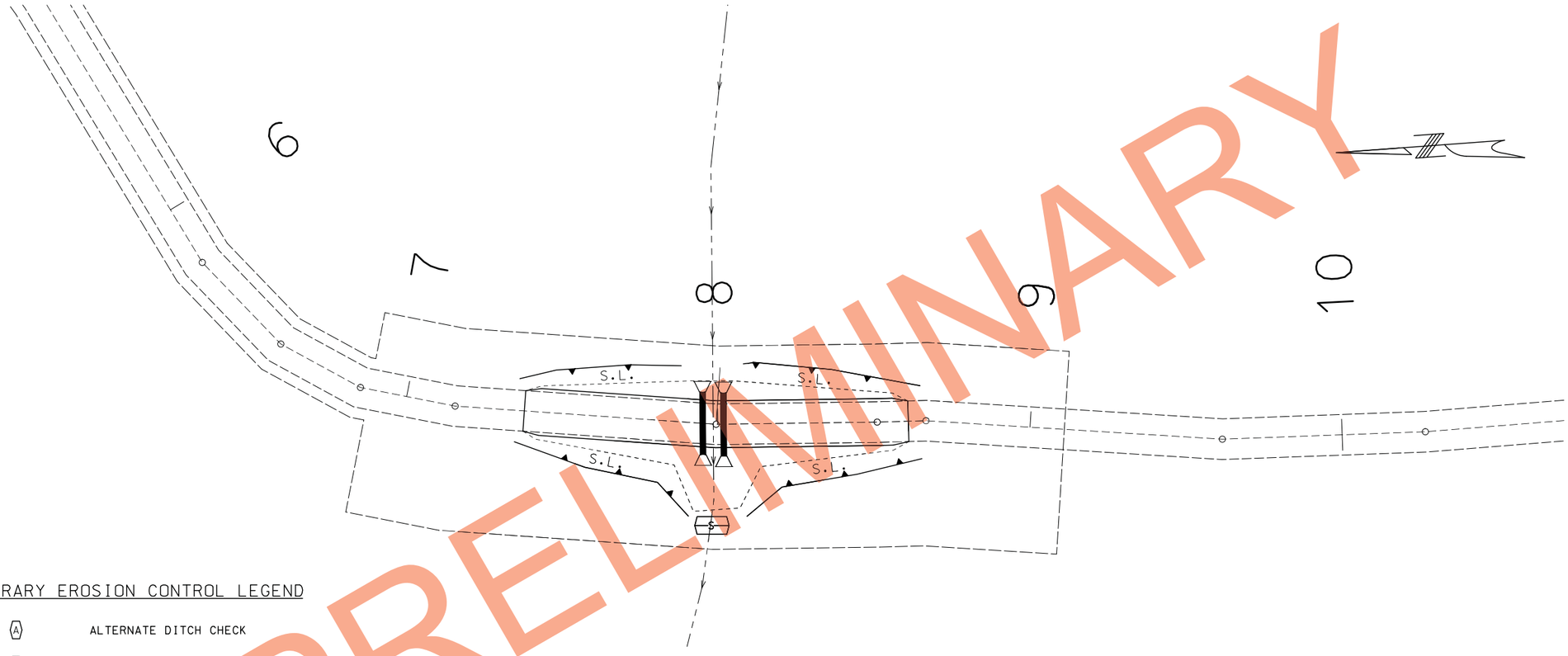
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED	11/11/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	90
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECK SPACING IS BASED ON A HEIGHT OF 18" AT CENTER OF DITCH.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

EROSION CONTROL PLANS
TEMPORARY STAGE
HELL CREEK ENTRANCE

SHEET 28 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	91

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

PROJECT NO.:

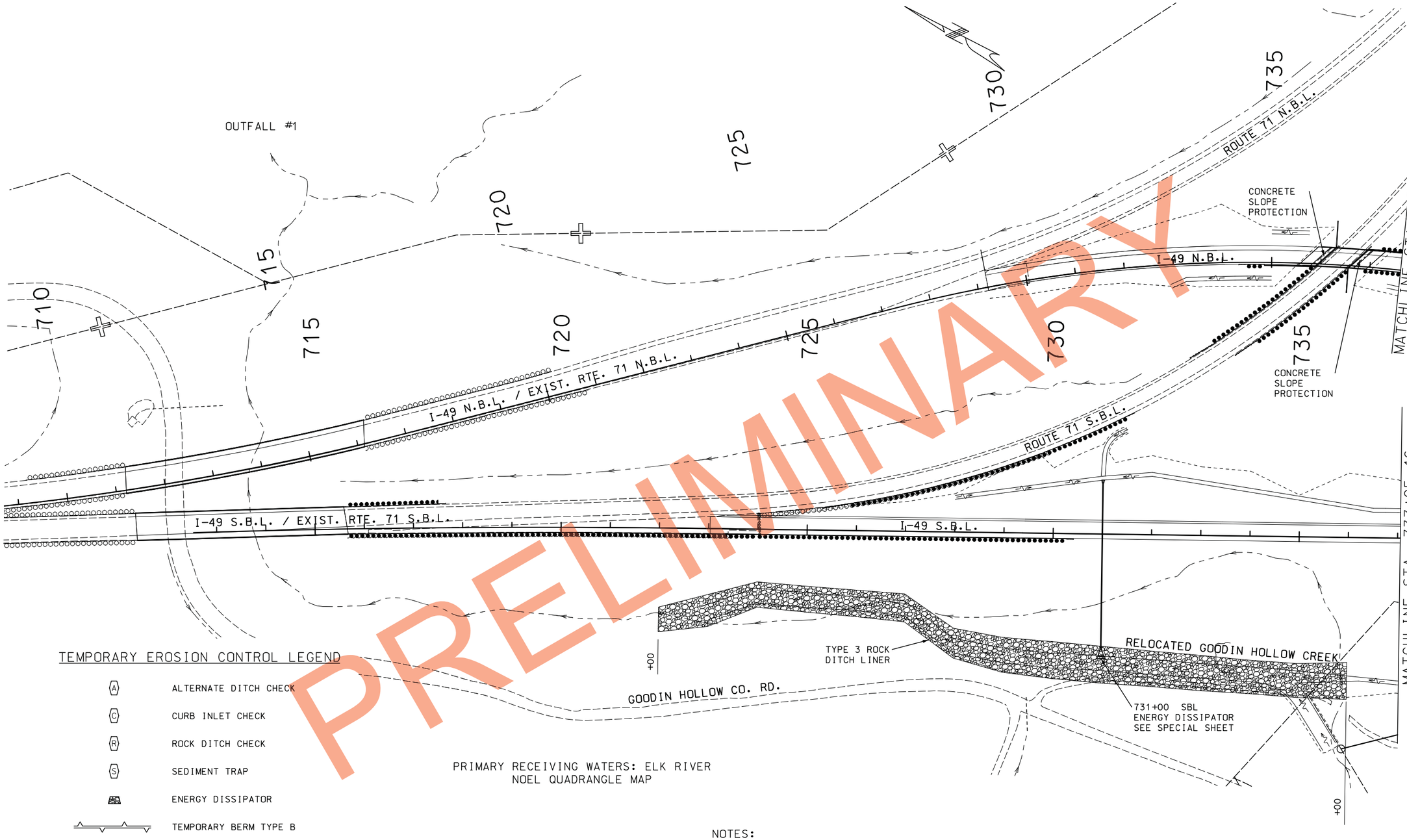
BRIDGE NO.:

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.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE

0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
PERMANENT STAGE
I-49 MAINLINE

SHEET 29 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/11/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	92
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

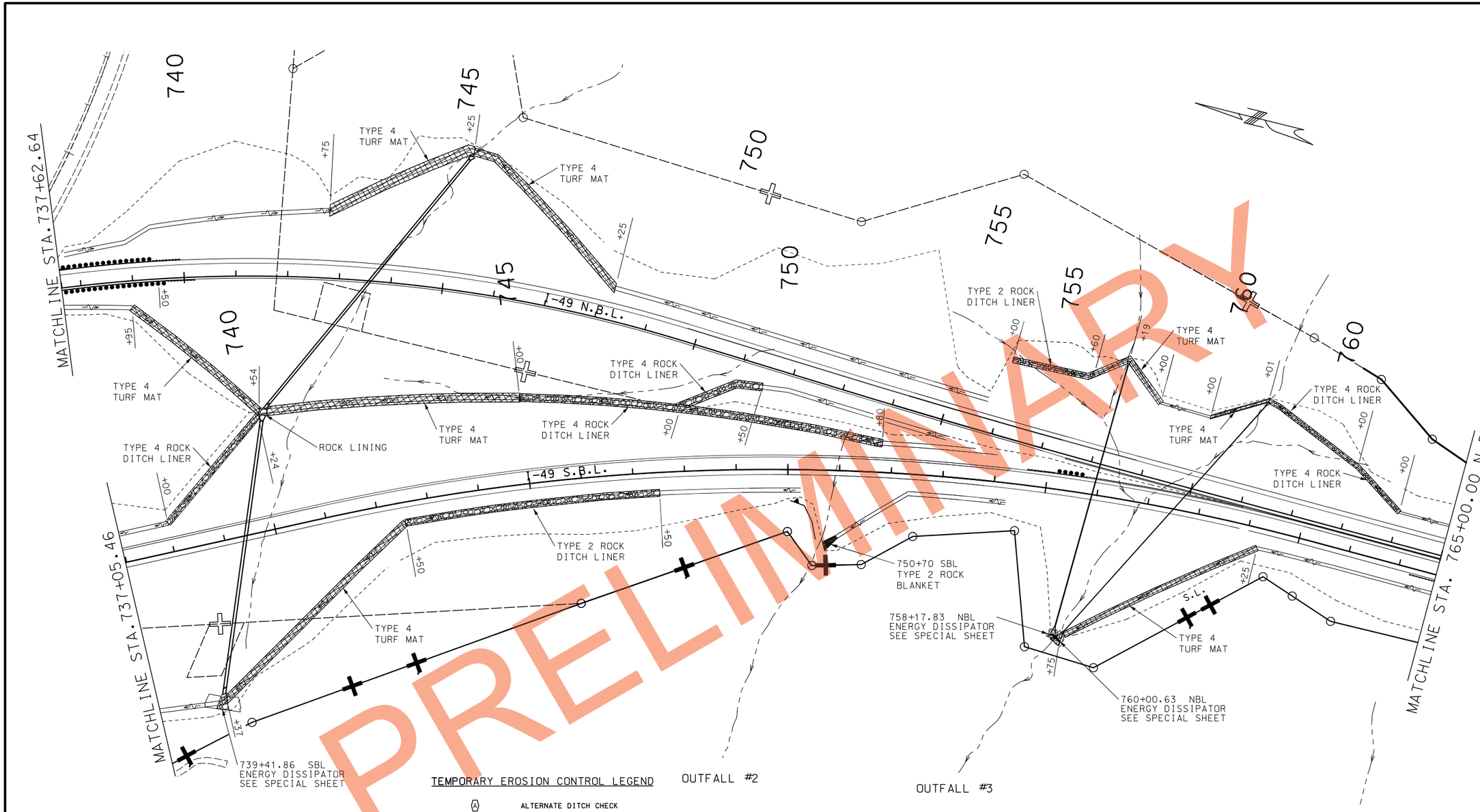
DESCRIPTION	DATE

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.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- ALTERNATE DITCH CHECK
- CURB INLET CHECK
- ROCK DITCH CHECK
- SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE

0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS
PERMANENT STAGE
I-49 MAINLINE

SHEET 30 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

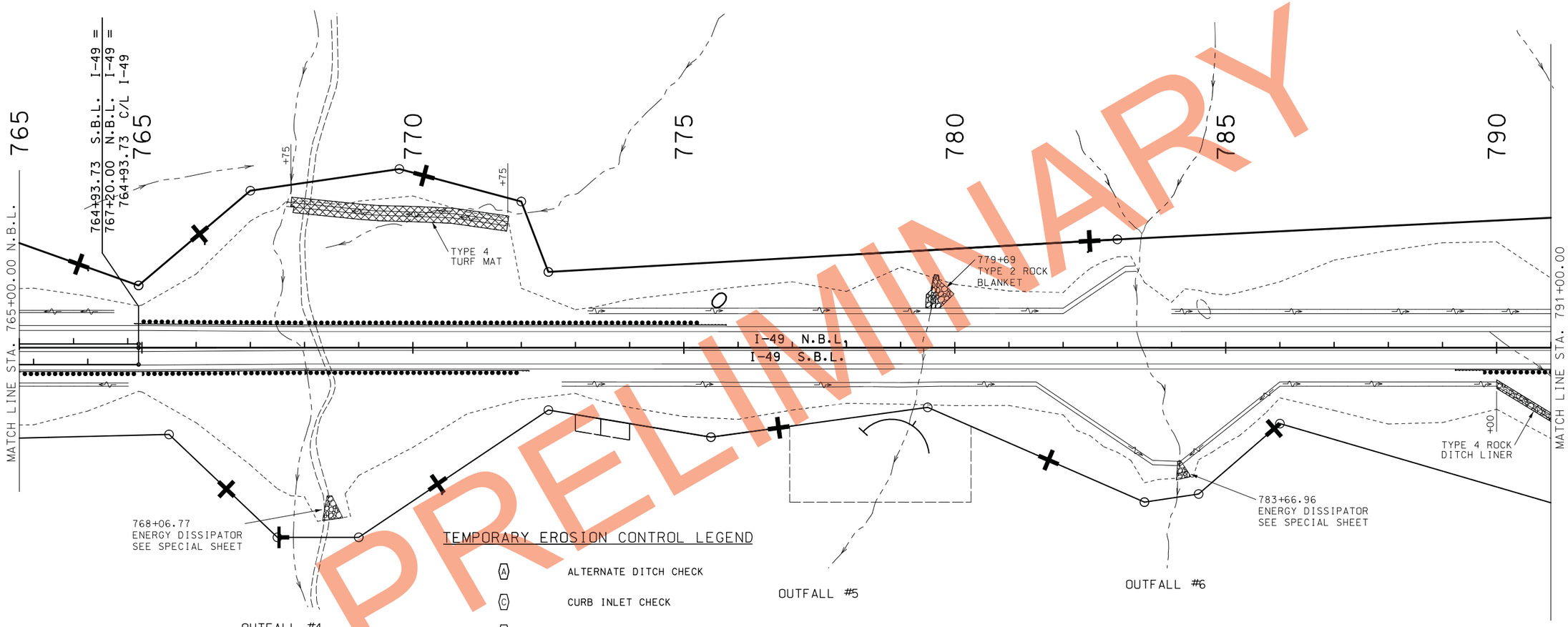
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	93
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS PERMANENT STAGE

I-49 MAINLINE

SHEET 31 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	94

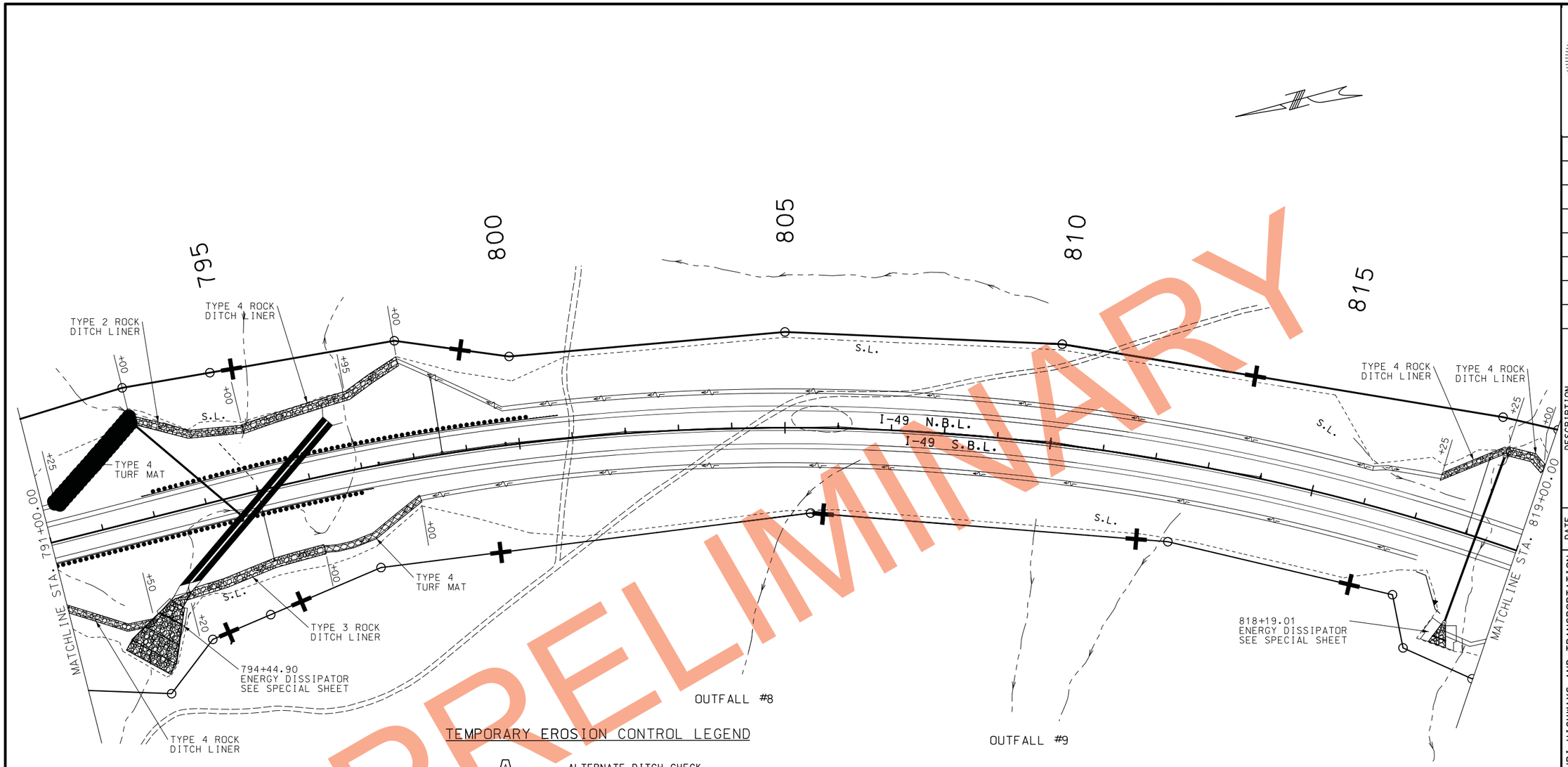
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (I) INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

SCALE
0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS PERMANENT STAGE

I-49 MAINLINE

SHEET 32 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	95

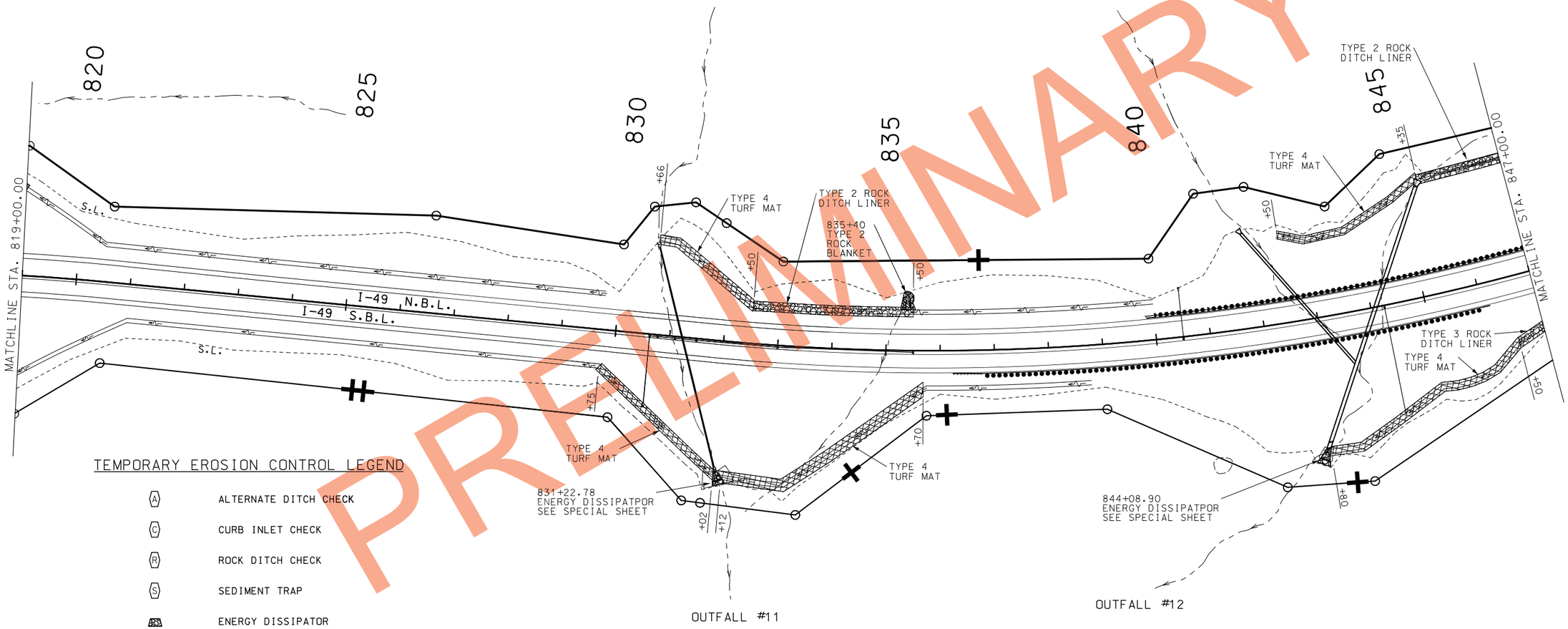
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
PERMANENT STAGE
I-49 MAINLINE

SHEET 33 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

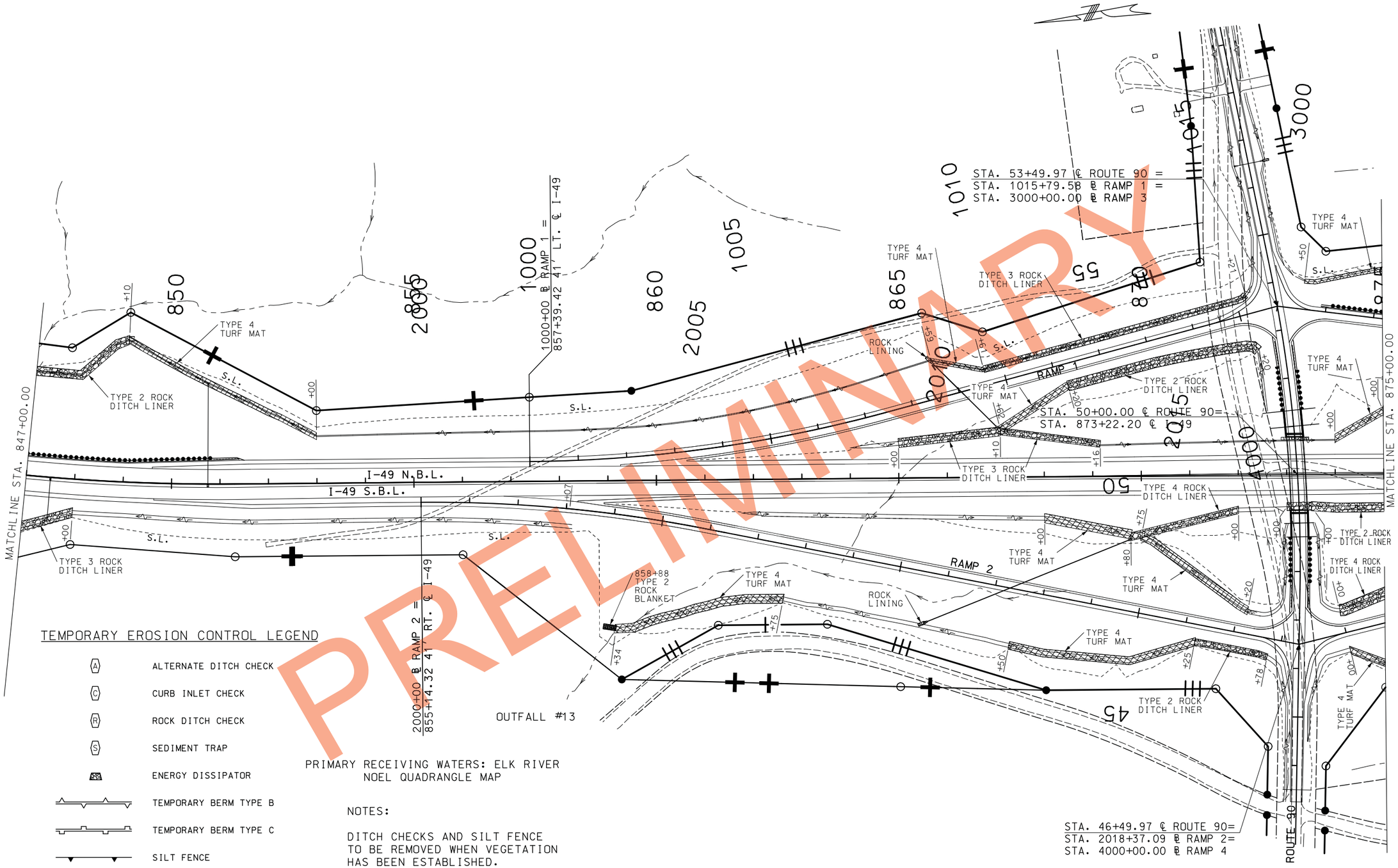
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED	
11/11/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	96
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS PERMANENT STAGE

I-49 MAINLINE

SHEET 34 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	97

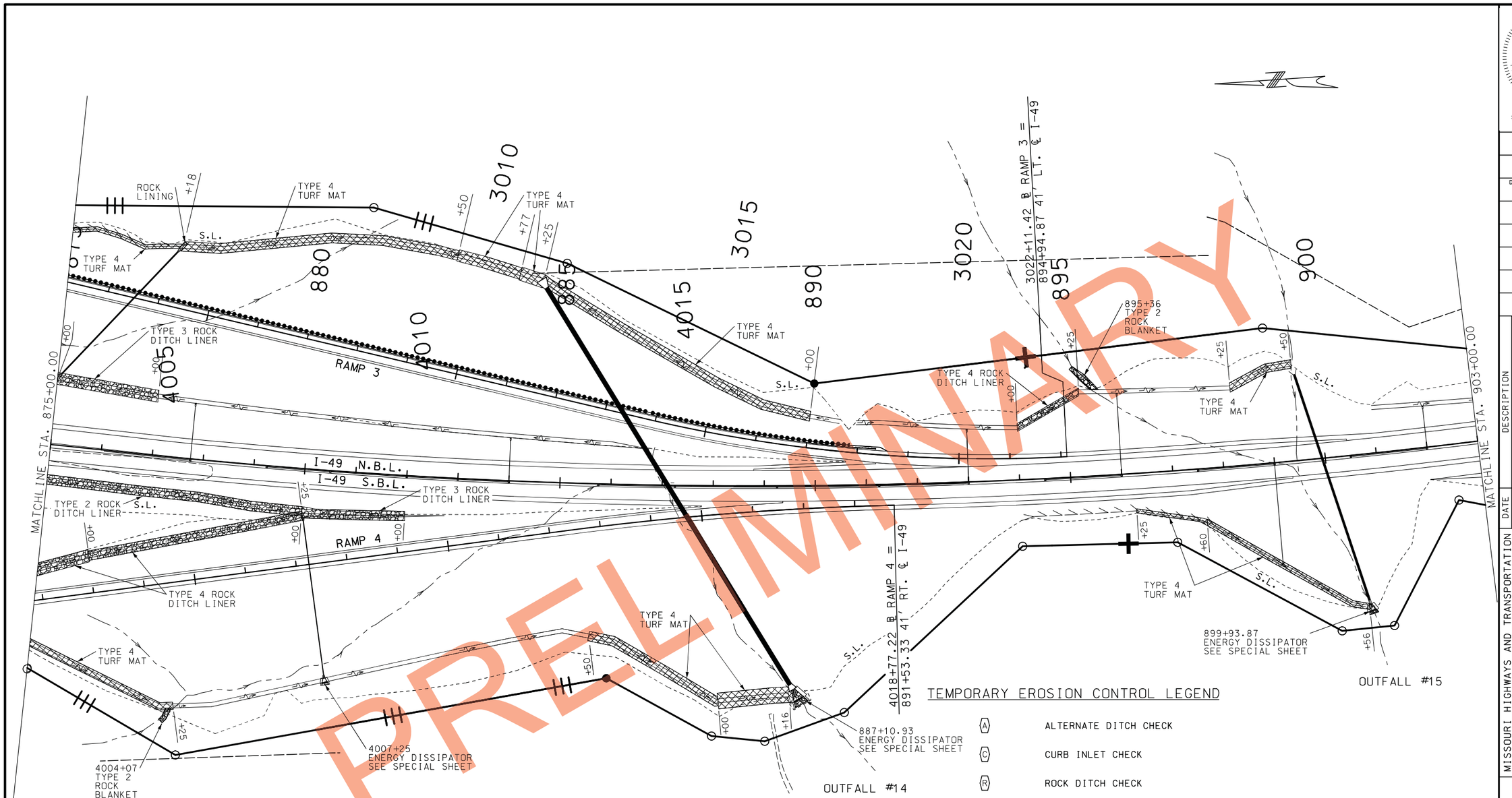
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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.



PRELIMINARY

NOTE: (DITCH CHECK SPACING)

RAMP 4, LT. SIDE
4001+00 – 4002+89 10 ROCK DITCH CHECKS, SPACING @ 21'
4003+19 – 4007+09 14 ROCK DITCH CHECKS, SPACING @ 30'

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

EROSION CONTROL PLANS PERMANENT STAGE

I-49 MAINLINE

SHEET 35 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

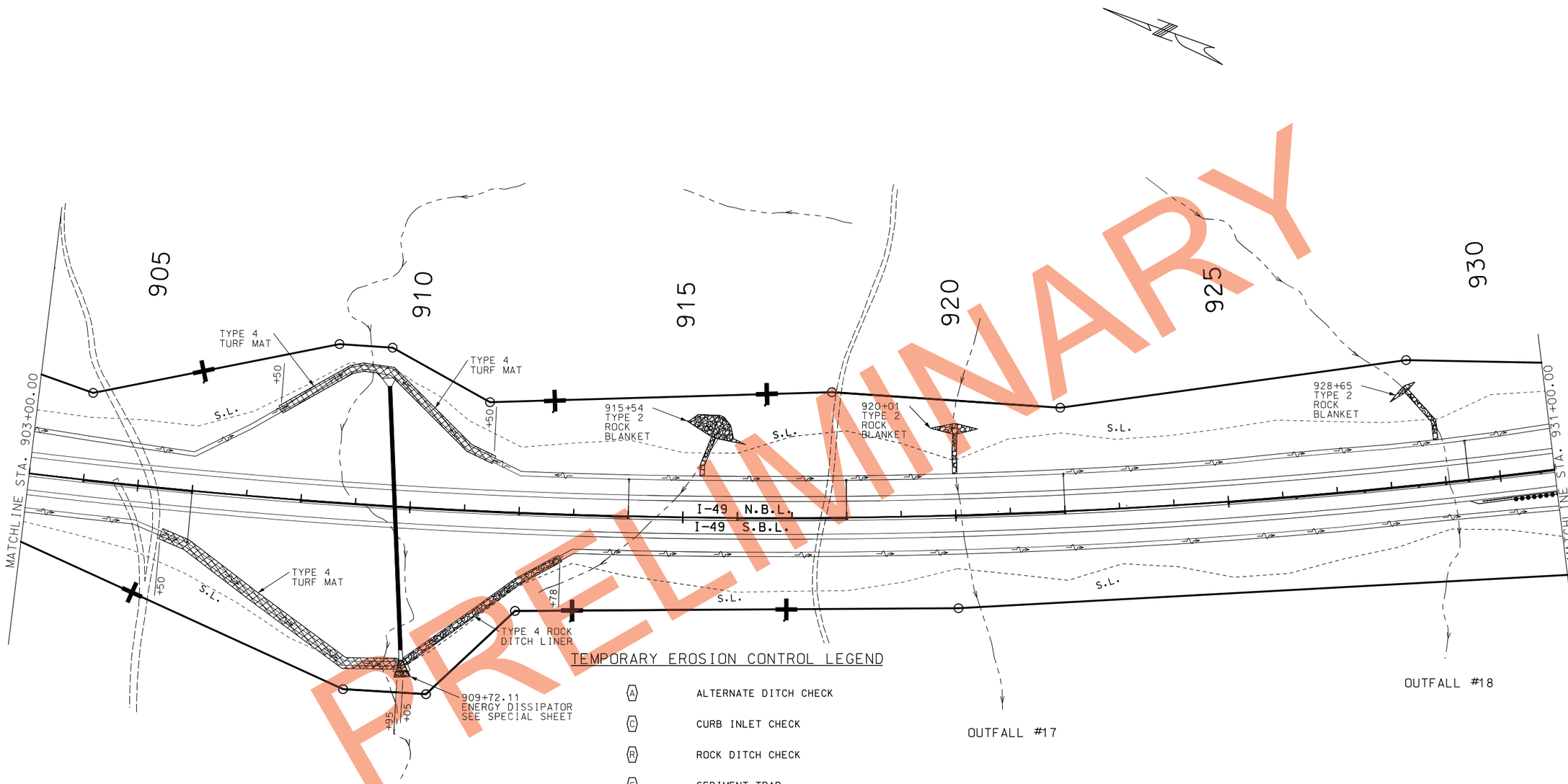
DATE PREPARED	11/11/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	98
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE

REV.

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

ACCESS IS ALLOWED THROUGH THE CULVERT; HOWEVER, NO ATTACHMENTS MAY BE MADE TO THE STRUCTURE.

SCALE

0 100 200 300 400 500

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

EROSION CONTROL PLANS PERMANENT STAGE

I-49 MAINLINE

SHEET 36 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	99

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

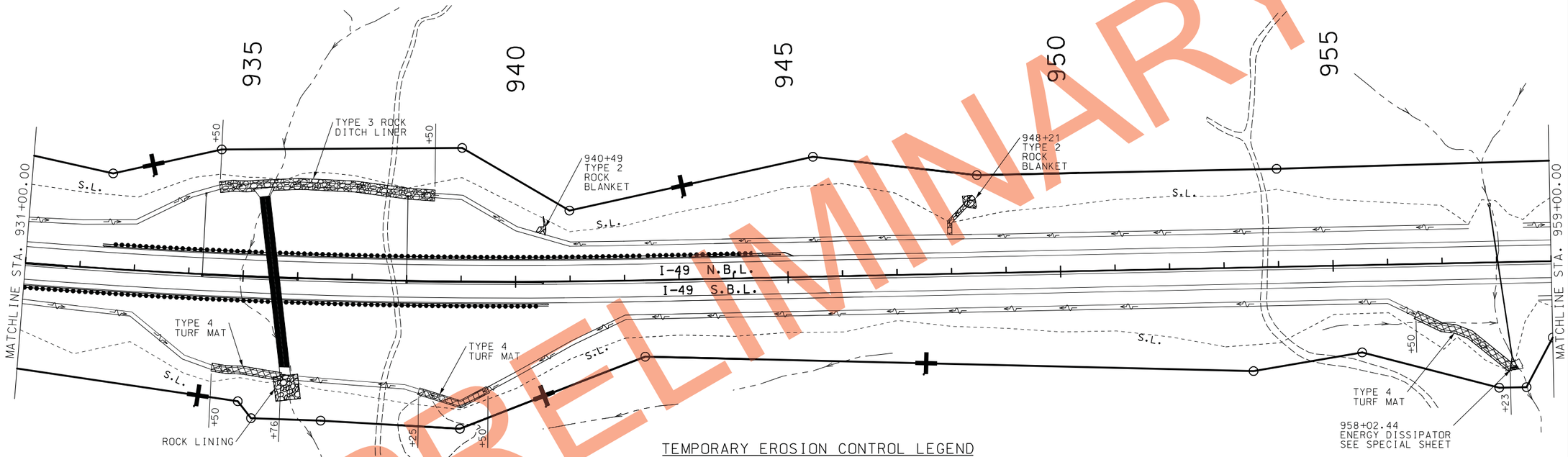
DESCRIPTION	DATE

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.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
PERMANENT STAGE
I-49 MAINLINE

SHEET 37 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

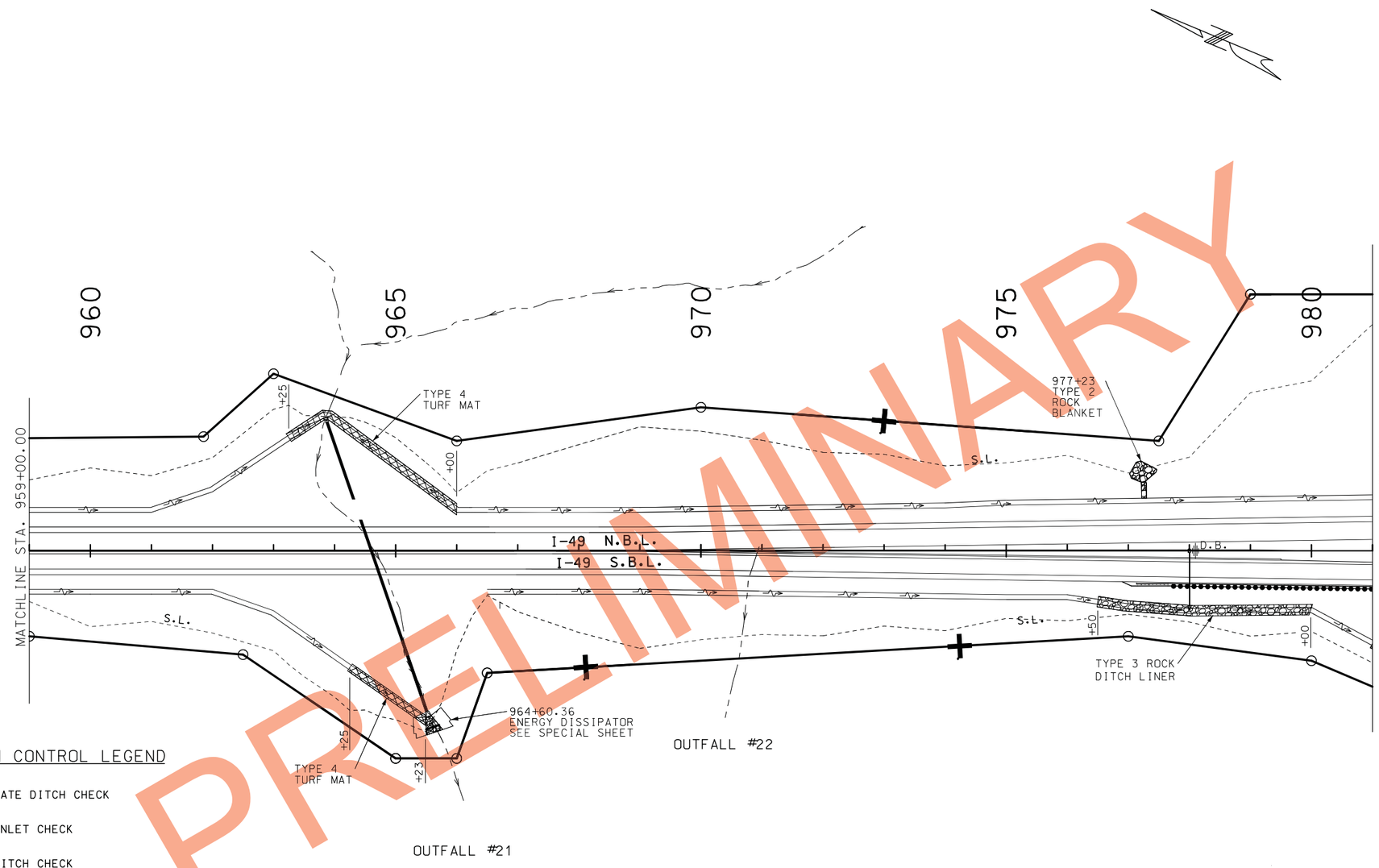
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	100
COUNTY	J7P0601
JOB NO.	McDONALD
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
PERMANENT STAGE
I-49 MAINLINE

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO

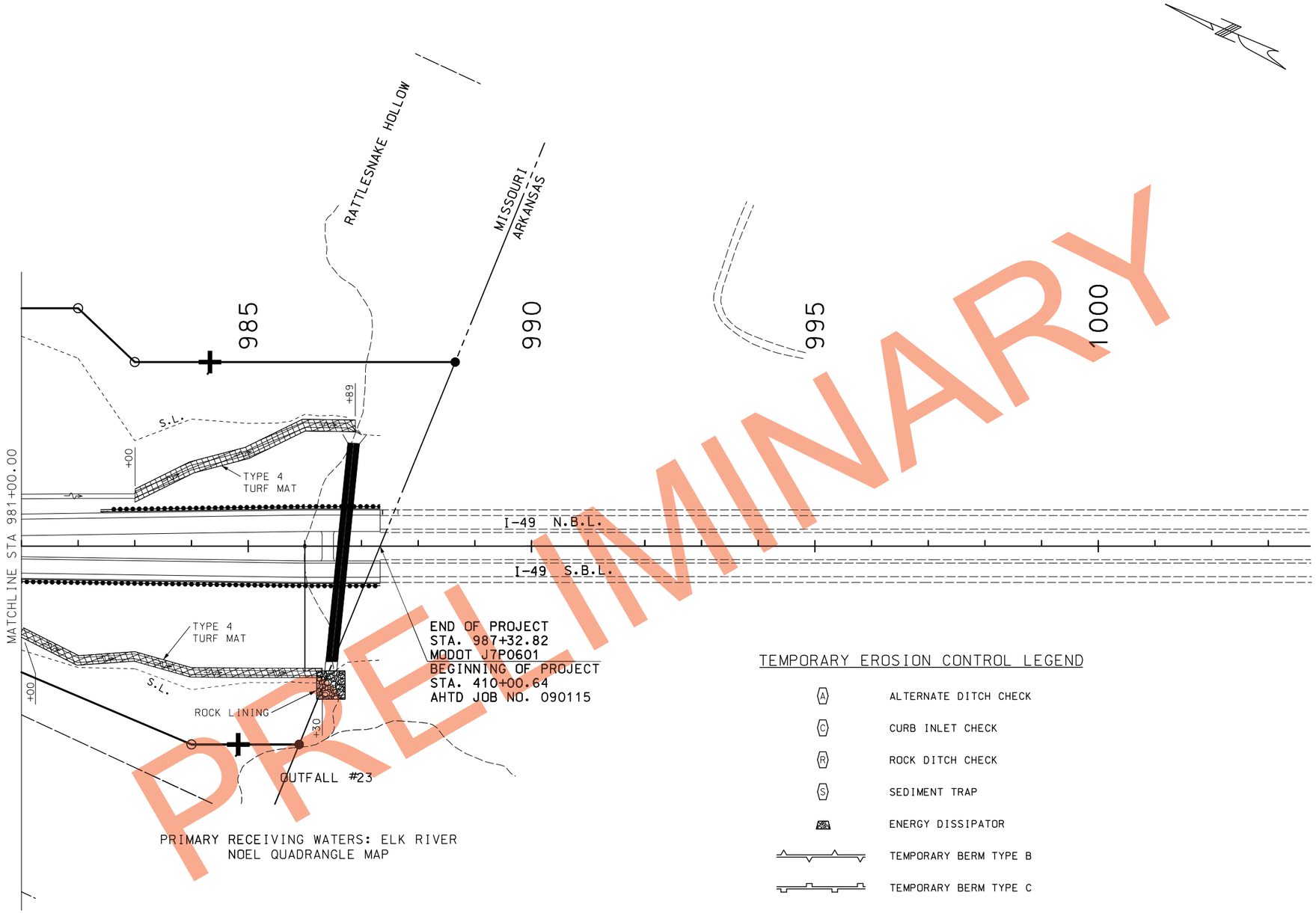
DISTRICT	SHEET NO.
SW	101

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION	REV.

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

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



PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE

0 100 200 300 400 500

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

EROSION CONTROL PLANS
PERMANENT STAGE
I-49 MAINLINE

SHEET 39 OF 42

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	102

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

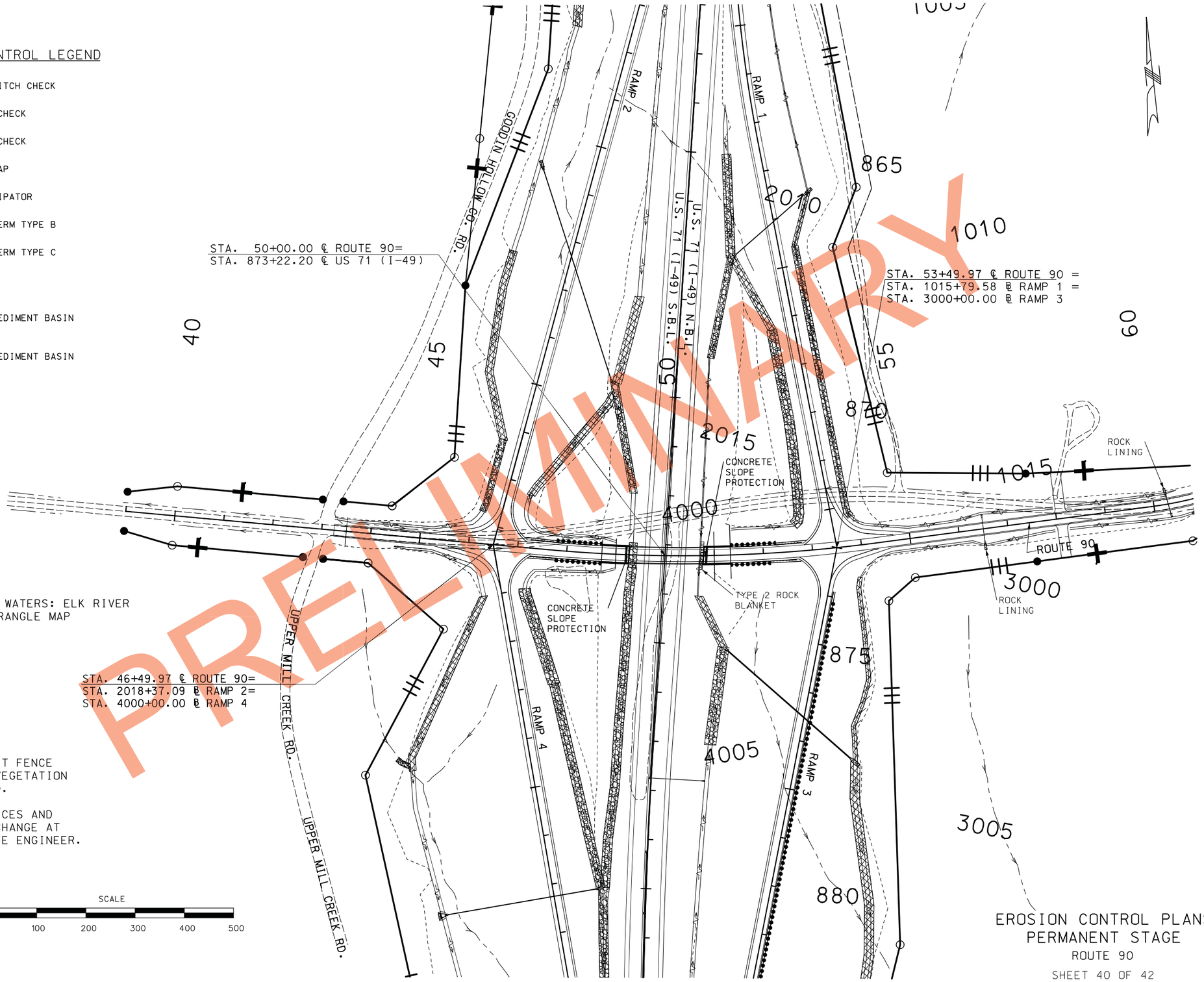
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

REV.

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN



PRELIMINARY

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
PERMANENT STAGE
ROUTE 90

SHEET 40 OF 42

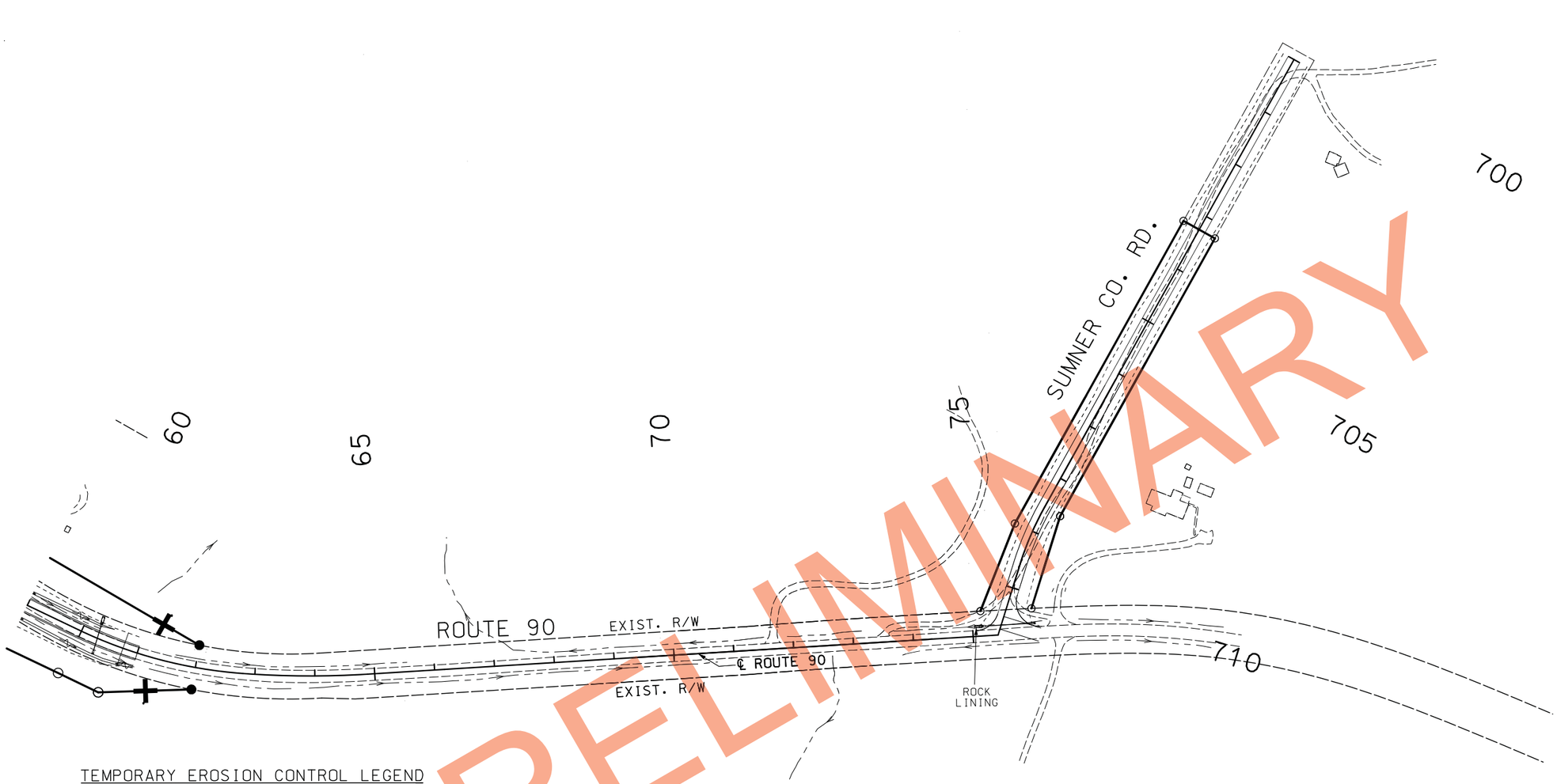
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 103
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- (A) ALTERNATE DITCH CHECK
- (C) CURB INLET CHECK
- (R) ROCK DITCH CHECK
- (S) SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

SCALE
0 100 200 300 400 500

EROSION CONTROL PLANS
PERMANENT STAGE
SUMNER CO. RD. & PART ROUTE 90

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

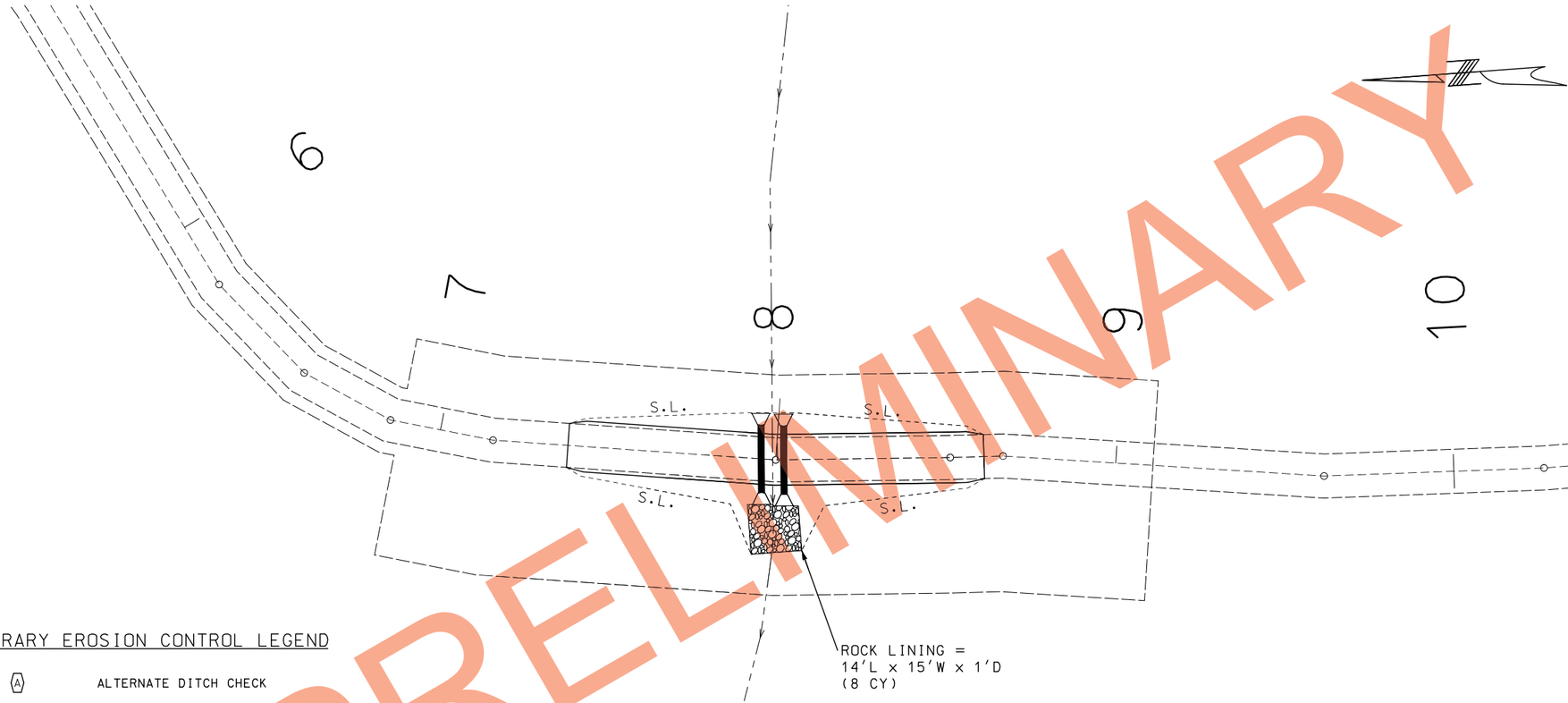
DATE PREPARED	
11/11/2019	
ROUTE 49	STATE MO
DISTRICT SW	SHEET NO. 104
COUNTY McDONALD	
JOB NO. J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION	DATE

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

REV.



PRELIMINARY

TEMPORARY EROSION CONTROL LEGEND

- ALTERNATE DITCH CHECK
- CURB INLET CHECK
- ROCK DITCH CHECK
- SEDIMENT TRAP
- ENERGY DISSIPATOR
- TEMPORARY BERM TYPE B
- TEMPORARY BERM TYPE C
- SILT FENCE
- TEMPORARY SEDIMENT BASIN
- PERMANENT SEDIMENT BASIN

NOTES:

DITCH CHECKS AND SILT FENCE TO BE REMOVED WHEN VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL DEVICES AND SPACING SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER.

PRIMARY RECEIVING WATERS: ELK RIVER
NOEL QUADRANGLE MAP

EROSION CONTROL PLANS
PERMANENT STAGE
HELL CREEK ENTRANCE

SHEET 42 OF 42

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	105

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

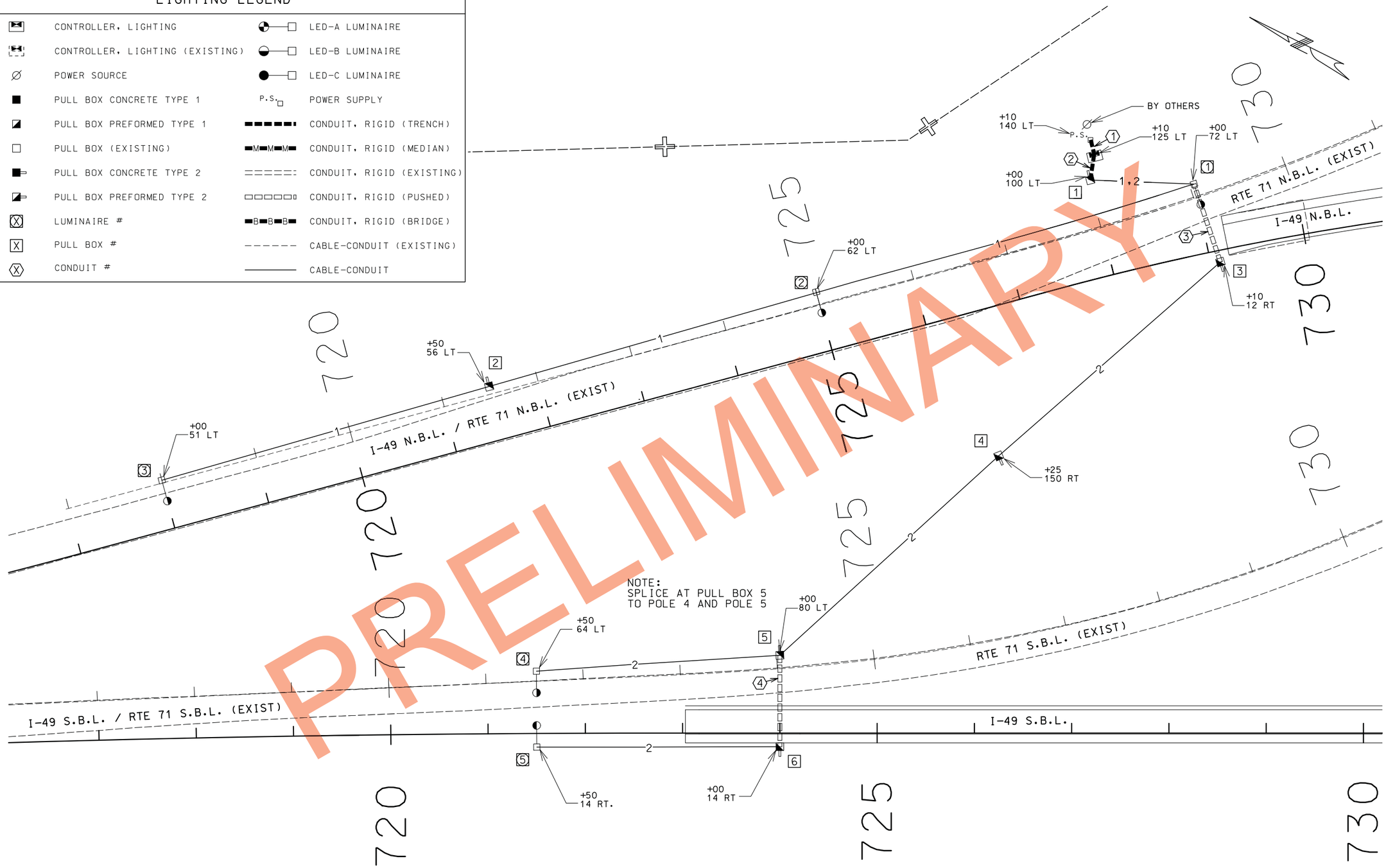
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

REV.

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
∅	POWER SOURCE		LED-C LUMINAIRE
■	PULL BOX CONCRETE TYPE 1	P.S.	POWER SUPPLY
◪	PULL BOX PREFORMED TYPE 1	▬▬▬▬	CONDUIT, RIGID (TRENCH)
□	PULL BOX (EXISTING)	▬M▬M▬M▬	CONDUIT, RIGID (MEDIAN)
■▭	PULL BOX CONCRETE TYPE 2	═══	CONDUIT, RIGID (EXISTING)
◪▭	PULL BOX PREFORMED TYPE 2	▭▭▭▭	CONDUIT, RIGID (PUSHED)
X	LUMINAIRE #	▬B▬B▬B▬	CONDUIT, RIGID (BRIDGE)
X	PULL BOX #	- - - - - -	CABLE-CONDUIT (EXISTING)
X	CONDUIT #	———	CABLE-CONDUIT



PRELIMINARY

SCALE
0 50 100 150

I-49 NBL & SBL /
EXIST. RTE 71 NBL & SBL

LIGHTING DETAILS

SHEET 1 OF 4

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	106

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

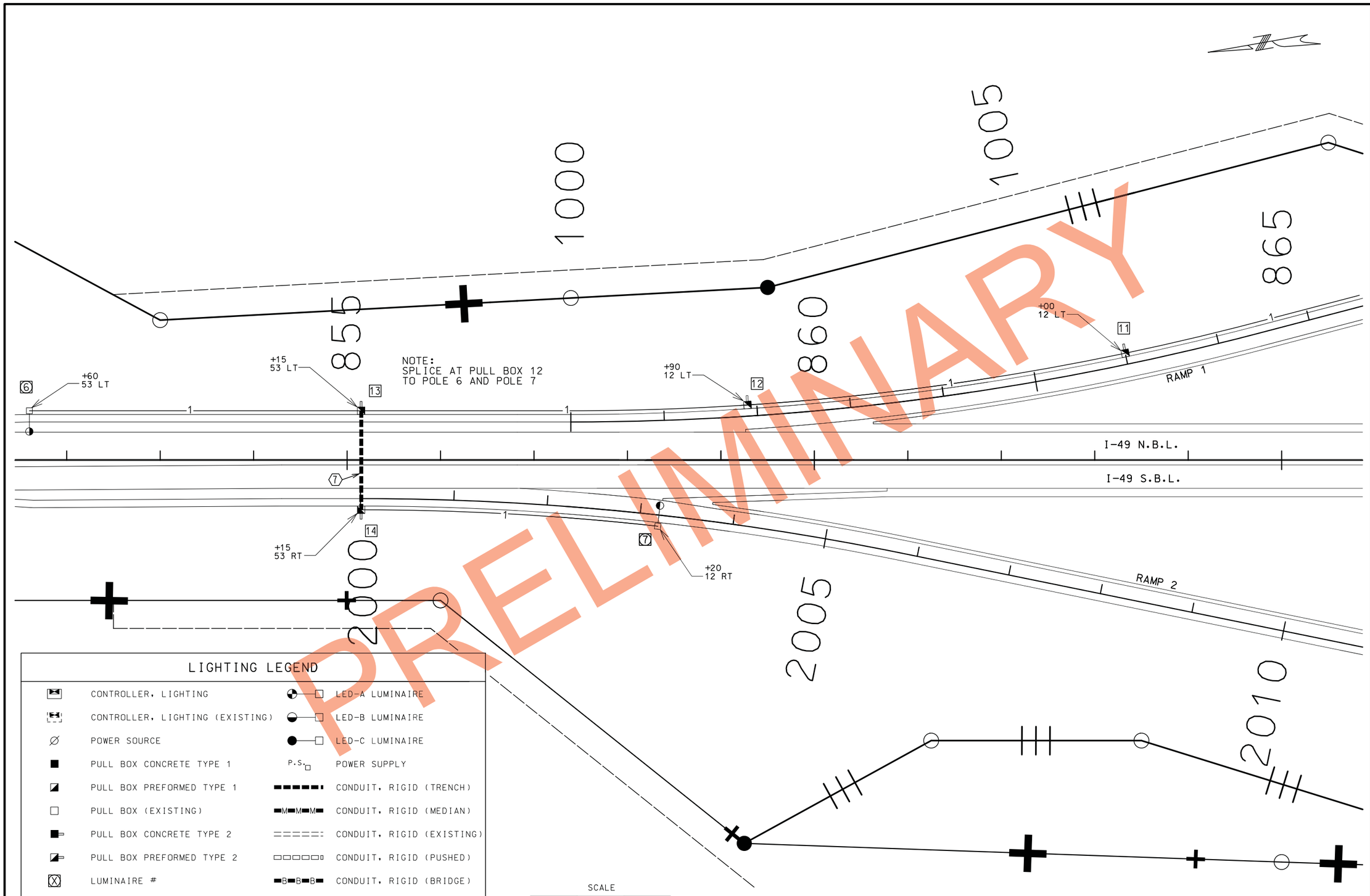
DESCRIPTION	DATE

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.



LIGHTING LEGEND

CONTROLLER, LIGHTING	LED-A LUMINAIRE
CONTROLLER, LIGHTING (EXISTING)	LED-B LUMINAIRE
POWER SOURCE	LED-C LUMINAIRE
PULL BOX CONCRETE TYPE 1	POWER SUPPLY
PULL BOX PREFORMED TYPE 1	CONDUIT, RIGID (TRENCH)
PULL BOX (EXISTING)	CONDUIT, RIGID (MEDIAN)
PULL BOX CONCRETE TYPE 2	CONDUIT, RIGID (EXISTING)
PULL BOX PREFORMED TYPE 2	CONDUIT, RIGID (PUSHED)
LUMINAIRE #	CONDUIT, RIGID (BRIDGE)
PULL BOX #	CABLE-CONDUIT (EXISTING)
CONDUIT #	CABLE-CONDUIT

ROUTE 90 INTERCHANGE

LIGHTING DETAILS

SHEET 2 OF 4

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	107

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

DESCRIPTION	DATE

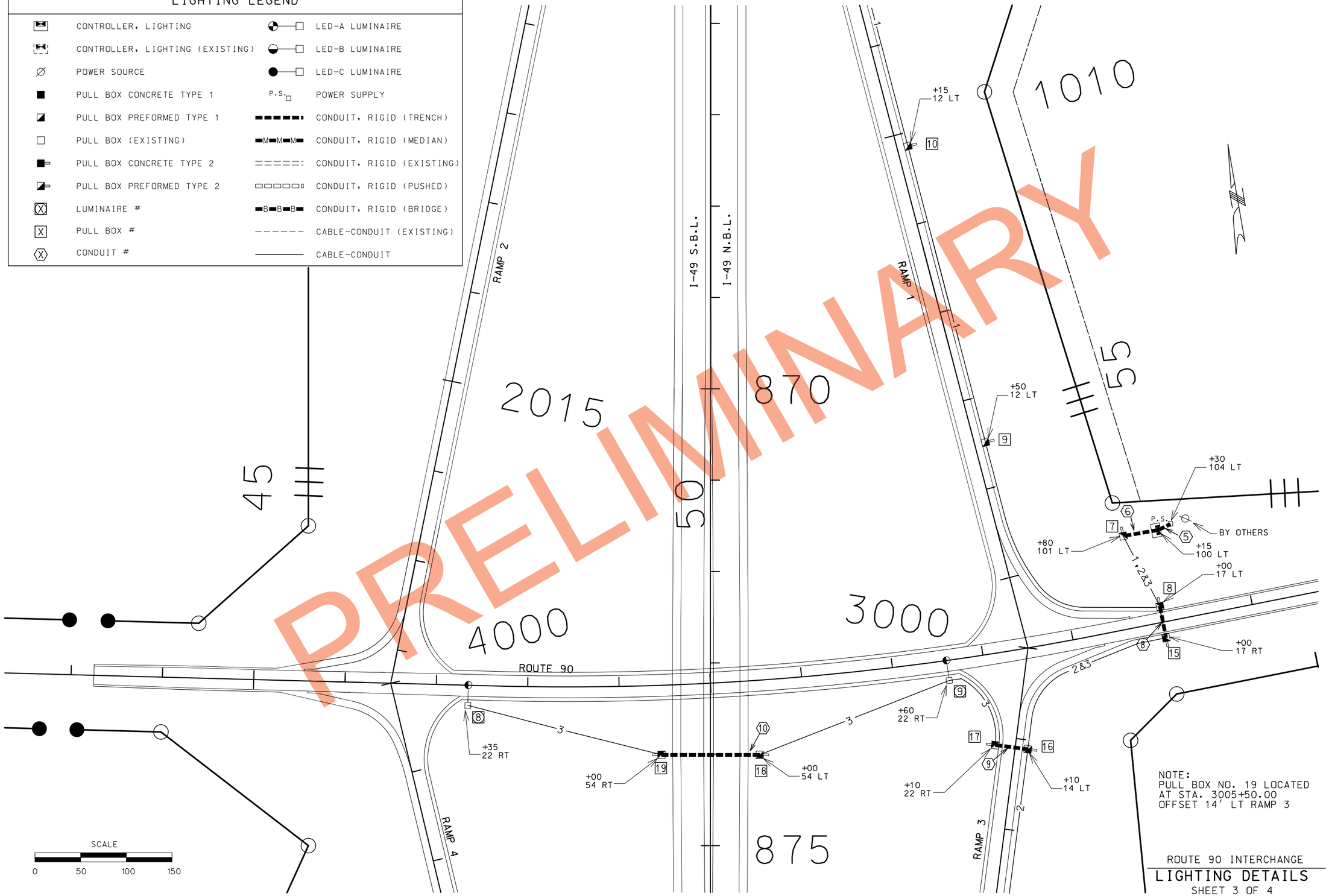
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

REV.

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
∅	POWER SOURCE		LED-C LUMINAIRE
■	PULL BOX CONCRETE TYPE 1	P.S.	POWER SUPPLY
◪	PULL BOX PREFORMED TYPE 1	▬▬▬▬	CONDUIT, RIGID (TRENCH)
□	PULL BOX (EXISTING)	▬M▬M▬M▬	CONDUIT, RIGID (MEDIAN)
■▭	PULL BOX CONCRETE TYPE 2	═══	CONDUIT, RIGID (EXISTING)
◪▭	PULL BOX PREFORMED TYPE 2	▭▭▭▭	CONDUIT, RIGID (PUSHED)
(X)	LUMINAIRE #	▬B▬B▬B▬	CONDUIT, RIGID (BRIDGE)
X	PULL BOX #	– – – –	CABLE-CONDUIT (EXISTING)
⟨X⟩	CONDUIT #	———	CABLE-CONDUIT



NOTE:
PULL BOX NO. 19 LOCATED
AT STA. 3005+50.00
OFFSET 14' LT RAMP 3

ROUTE 90 INTERCHANGE

LIGHTING DETAILS

SHEET 3 OF 4

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	108
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

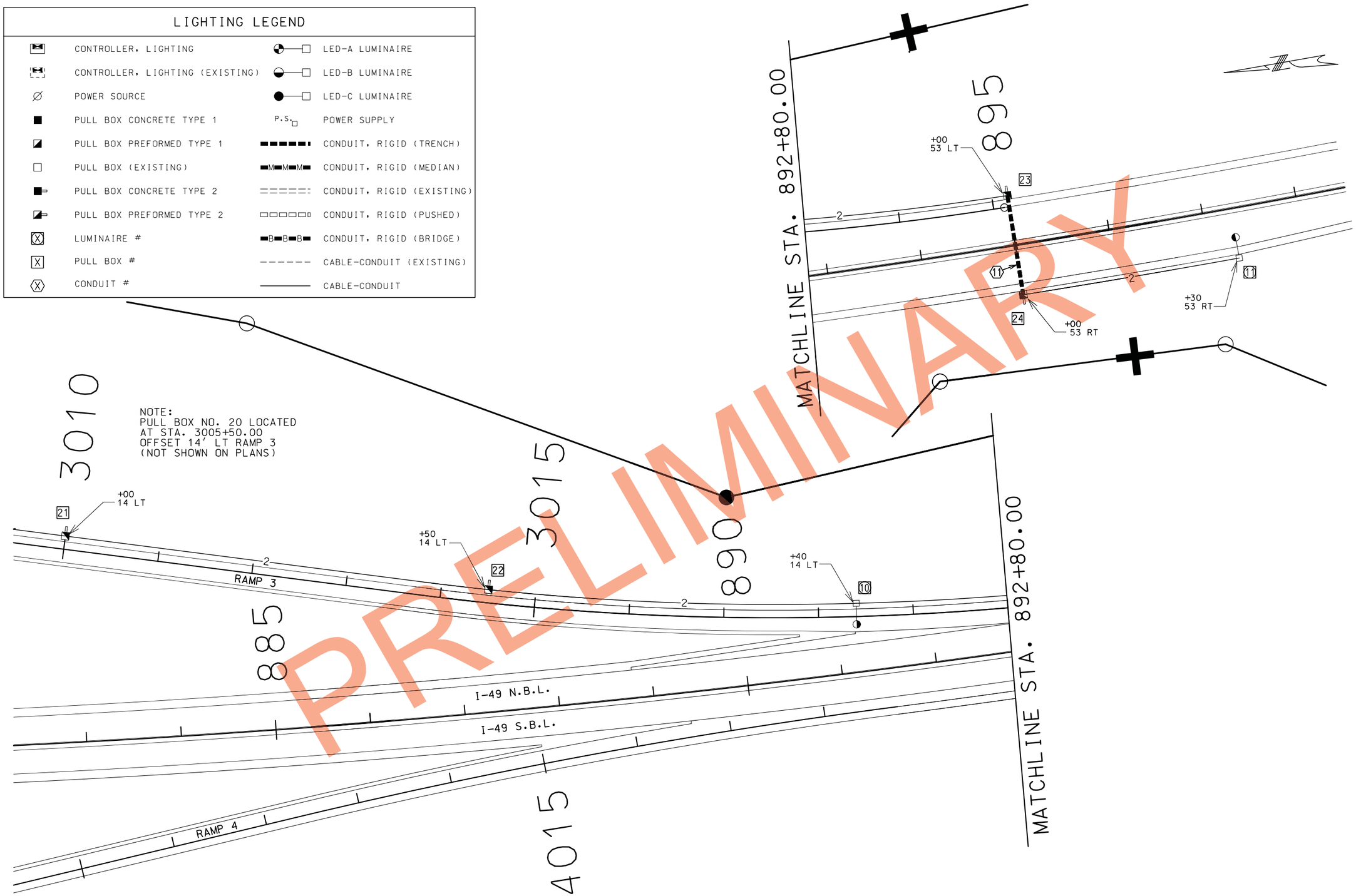
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

LIGHTING LEGEND

	CONTROLLER, LIGHTING		LED-A LUMINAIRE
	CONTROLLER, LIGHTING (EXISTING)		LED-B LUMINAIRE
∅	POWER SOURCE		LED-C LUMINAIRE
■	PULL BOX CONCRETE TYPE 1	P.S.	POWER SUPPLY
◪	PULL BOX PREFORMED TYPE 1		CONDUIT, RIGID (TRENCH)
□	PULL BOX (EXISTING)	M	CONDUIT, RIGID (MEDIAN)
■	PULL BOX CONCRETE TYPE 2		CONDUIT, RIGID (EXISTING)
◪	PULL BOX PREFORMED TYPE 2		CONDUIT, RIGID (PUSHED)
X	LUMINAIRE #	B	CONDUIT, RIGID (BRIDGE)
X	PULL BOX #		CABLE-CONDUIT (EXISTING)
X	CONDUIT #		CABLE-CONDUIT

NOTE:
PULL BOX NO. 20 LOCATED
AT STA. 3005+50.00
OFFSET 14' LT RAMP 3
(NOT SHOWN ON PLANS)



PRELIMINARY

SCALE
0 50 100 150

ROUTE 90 INTERCHANGE
LIGHTING DETAILS
SHEET 4 OF 4

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	109

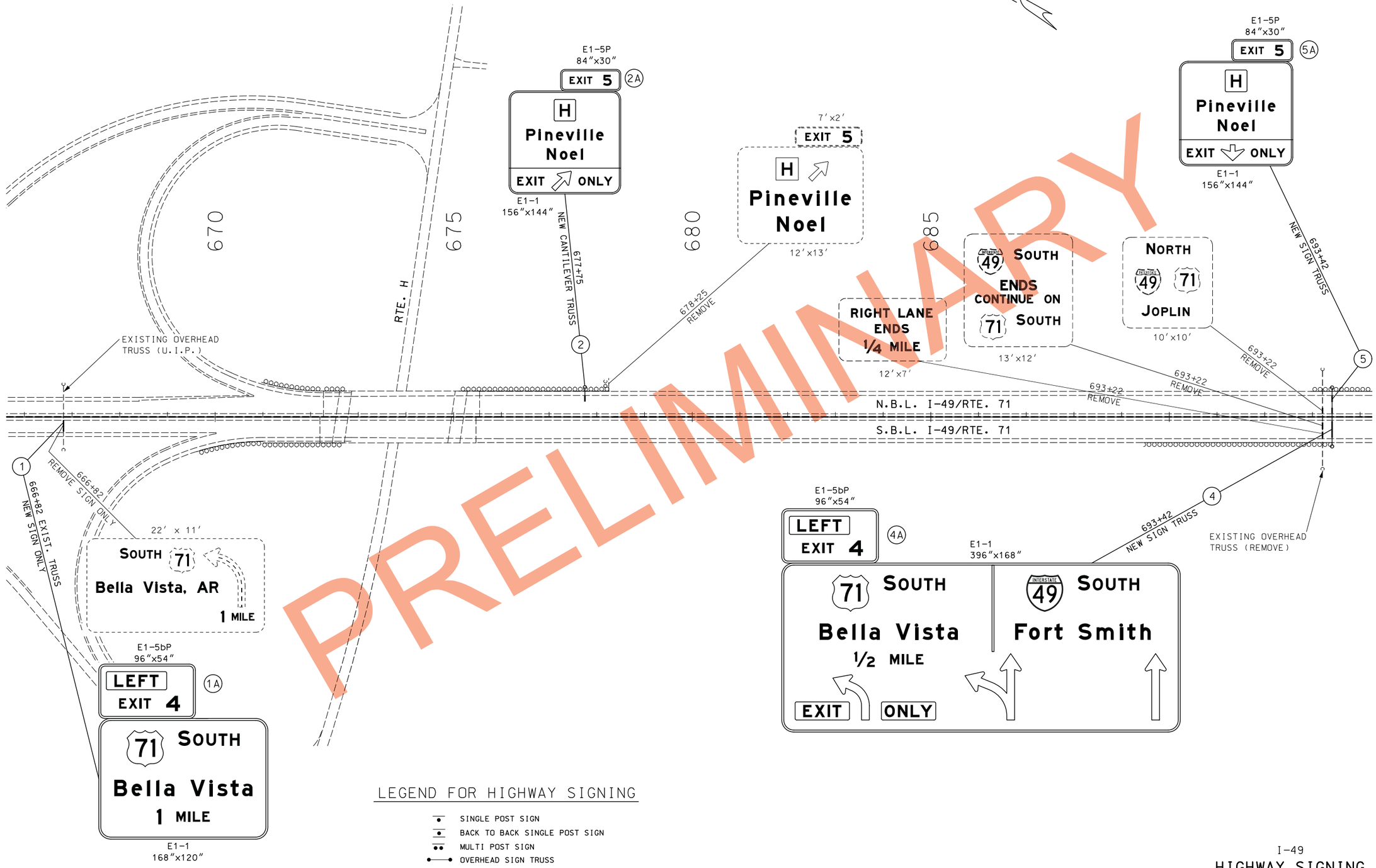
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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.



PRELIMINARY

LEGEND FOR HIGHWAY SIGNING

- SINGLE POST SIGN
- BACK TO BACK SINGLE POST SIGN
- MULTI POST SIGN
- OVERHEAD SIGN TRUSS
- EXISTING SIGN

I-49

HIGHWAY SIGNING

SHEET 1 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

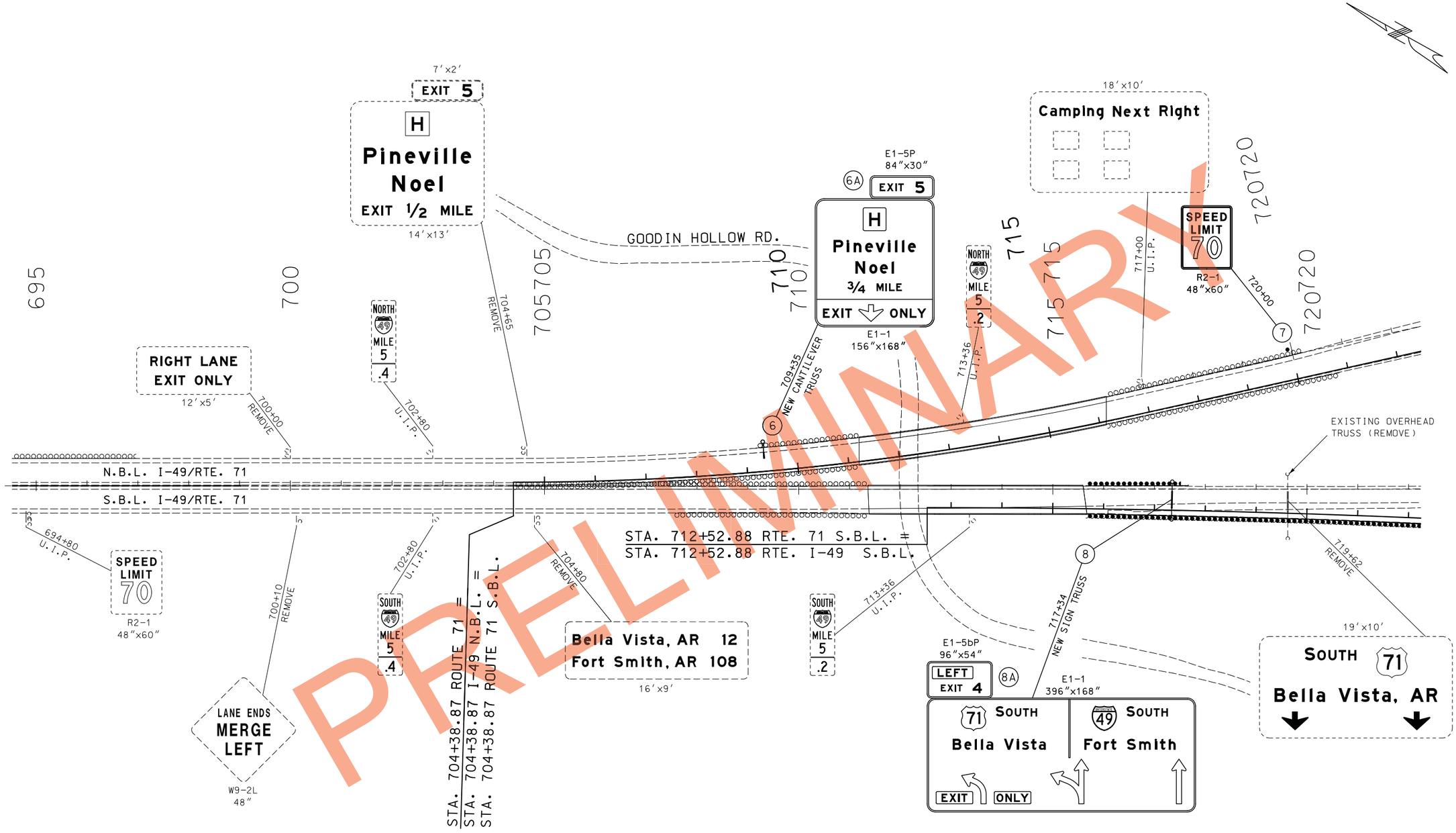
DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	110
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

LEGEND FOR HIGHWAY SIGNING

- SINGLE POST SIGN
- BACK TO BACK SINGLE POST SIGN
- MULTI POST SIGN
- OVERHEAD SIGN TRUSS
- EXISTING SIGN

I-49
HIGHWAY SIGNING
SHEET 2 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	111
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION | DATE | REV.

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

EMERGENCY REFERENCE MARKER SIGN			
SIGN #	STATION	LOCATION	DESCRIPTION
21	755+00.82 LT.	NB LANE RTE. I-49	MILE MARKER 4.4
22	755+00.82 RT	SB LANE RTE. I-49	MILE MARKER 4.4
23	765+56.82 LT.	NB LANE RTE. I-49	MILE MARKER 4.2
24	765+56.82 RT.	SB LANE RTE. I-49	MILE MARKER 4.2

PRELIMINARY

LEGEND FOR HIGHWAY SIGNING

- SINGLE POST SIGN
- BACK TO BACK SINGLE POST SIGN
- MULTI POST SIGN
- OVERHEAD SIGN TRUSS
- EXISTING SIGN

I-49
HIGHWAY SIGNING
SHEET 3 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	112

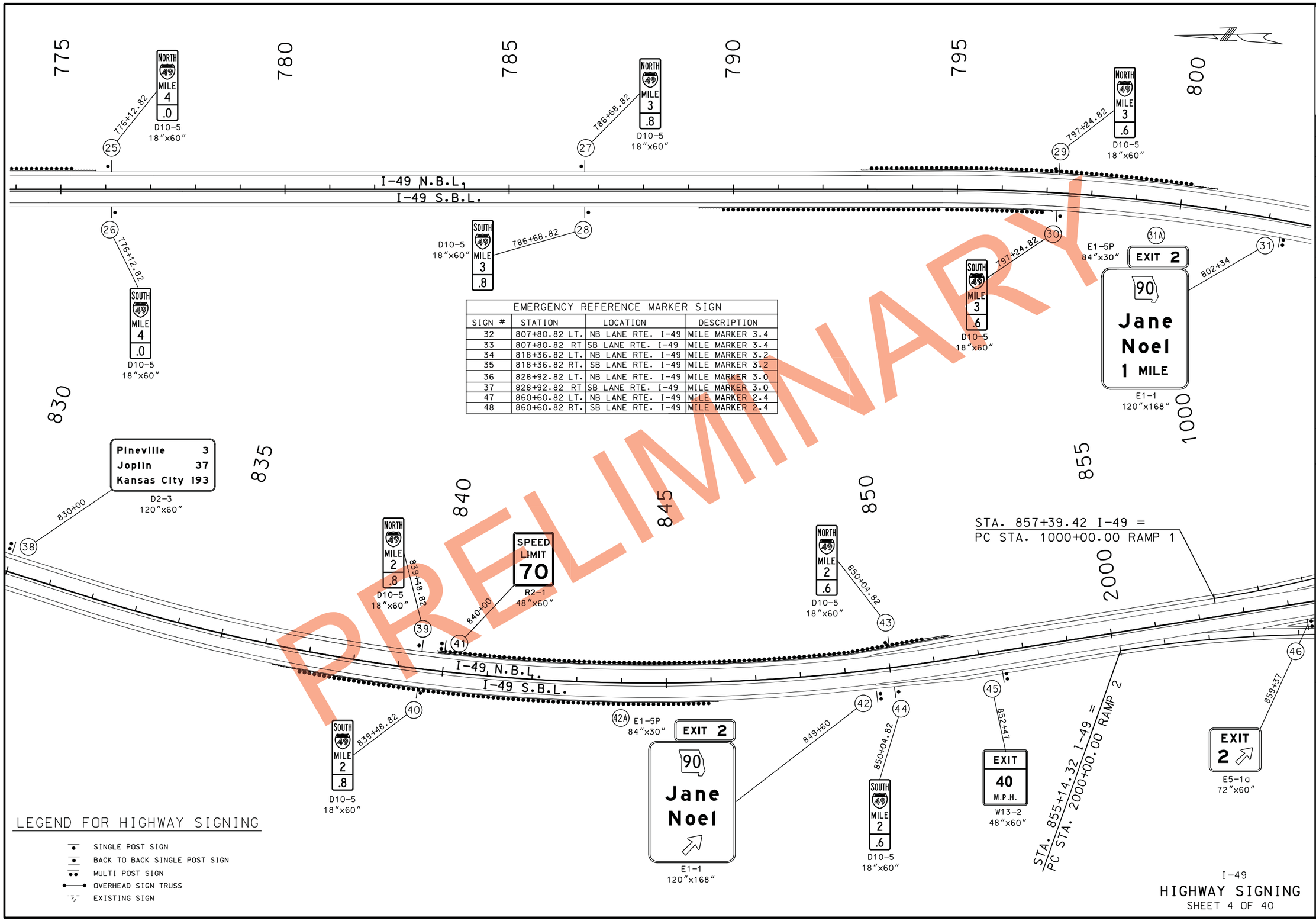
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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.



EMERGENCY REFERENCE MARKER SIGN			
SIGN #	STATION	LOCATION	DESCRIPTION
32	807+80.82 LT.	NB LANE RTE. I-49	MILE MARKER 3.4
33	807+80.82 RT	SB LANE RTE. I-49	MILE MARKER 3.4
34	818+36.82 LT.	NB LANE RTE. I-49	MILE MARKER 3.2
35	818+36.82 RT.	SB LANE RTE. I-49	MILE MARKER 3.2
36	828+92.82 LT.	NB LANE RTE. I-49	MILE MARKER 3.0
37	828+92.82 RT	SB LANE RTE. I-49	MILE MARKER 3.0
47	860+60.82 LT.	NB LANE RTE. I-49	MILE MARKER 2.4
48	860+60.82 RT.	SB LANE RTE. I-49	MILE MARKER 2.4

LEGEND FOR HIGHWAY SIGNING

- SINGLE POST SIGN
- BACK TO BACK SINGLE POST SIGN
- MULTI POST SIGN
- OVERHEAD SIGN TRUSS
- EXISTING SIGN

I-49

HIGHWAY SIGNING

SHEET 4 OF 40

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	113

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

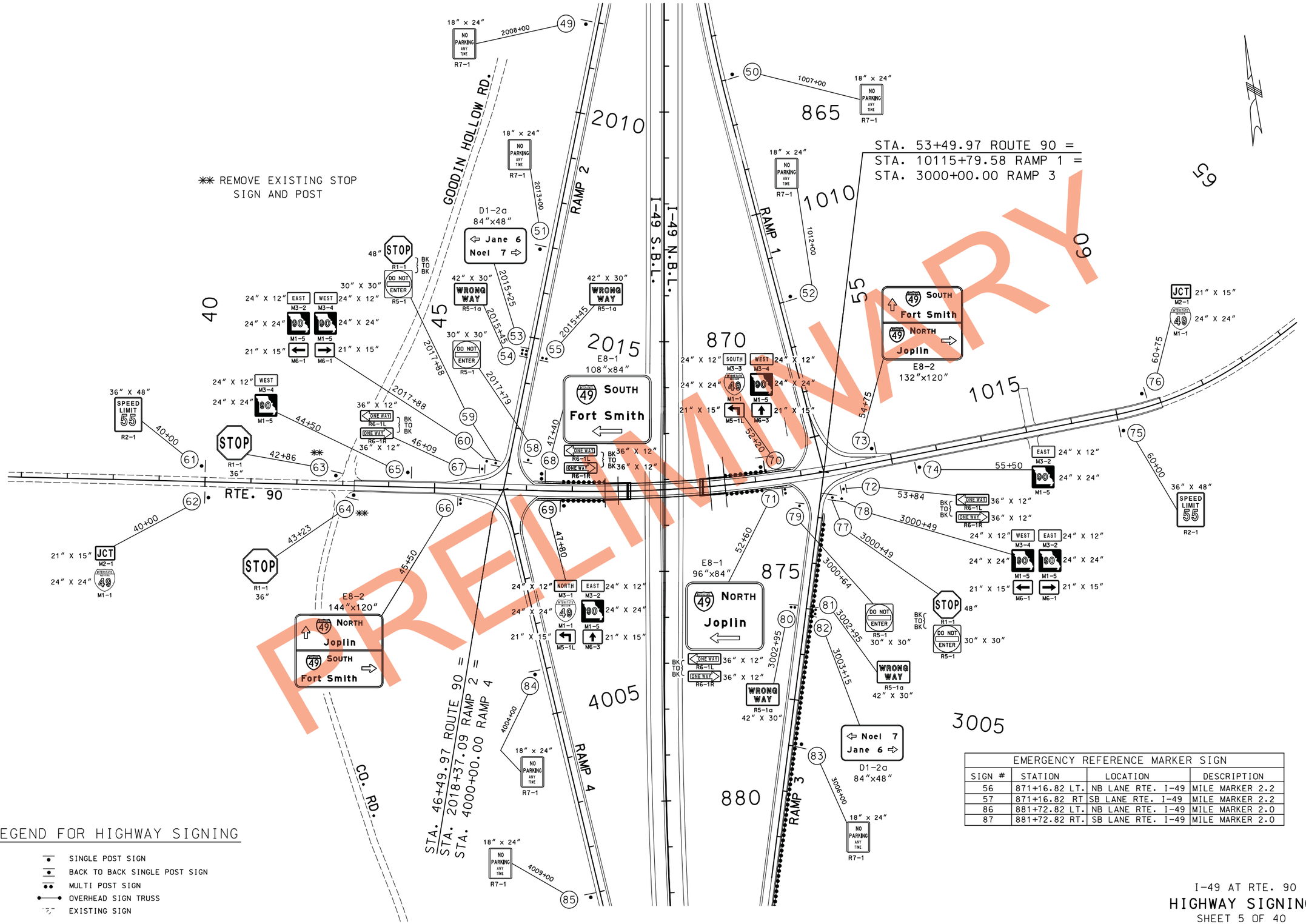
DESCRIPTION	DATE

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.



EMERGENCY REFERENCE MARKER SIGN			
SIGN #	STATION	LOCATION	DESCRIPTION
56	871+16.82 LT.	NB LANE RTE. I-49	MILE MARKER 2.2
57	871+16.82 RT	SB LANE RTE. I-49	MILE MARKER 2.2
86	881+72.82 LT.	NB LANE RTE. I-49	MILE MARKER 2.0
87	881+72.82 RT.	SB LANE RTE. I-49	MILE MARKER 2.0

LEGEND FOR HIGHWAY SIGNING

- SINGLE POST SIGN
- BACK TO BACK SINGLE POST SIGN
- MULTI POST SIGN
- OVERHEAD SIGN TRUSS
- EXISTING SIGN

I-49 AT RTE. 90

HIGHWAY SIGNING

SHEET 5 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	114

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

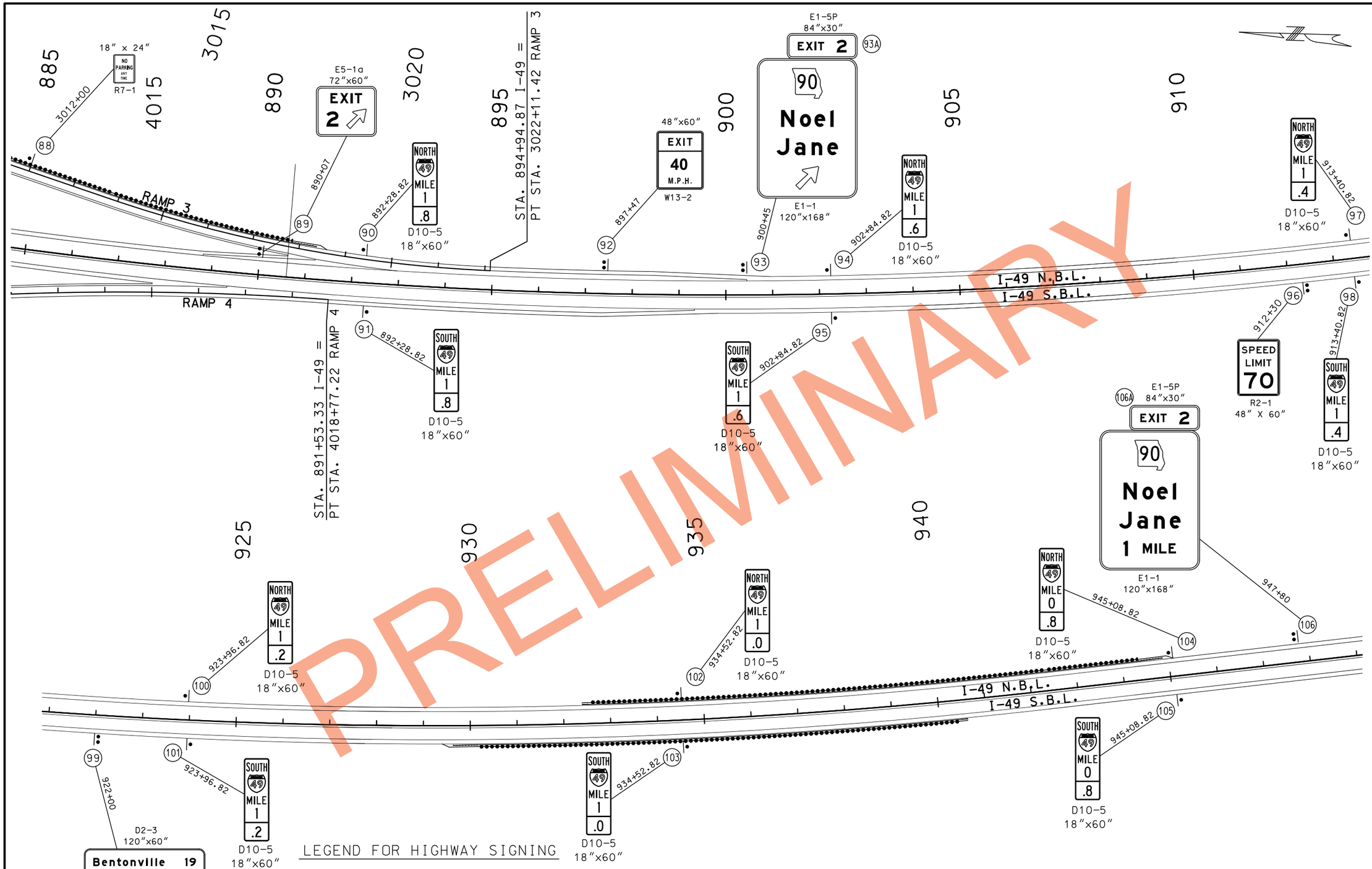
DESCRIPTION | DATE

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.



PRELIMINARY

I-49

HIGHWAY SIGNING

SHEET 6 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	115

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

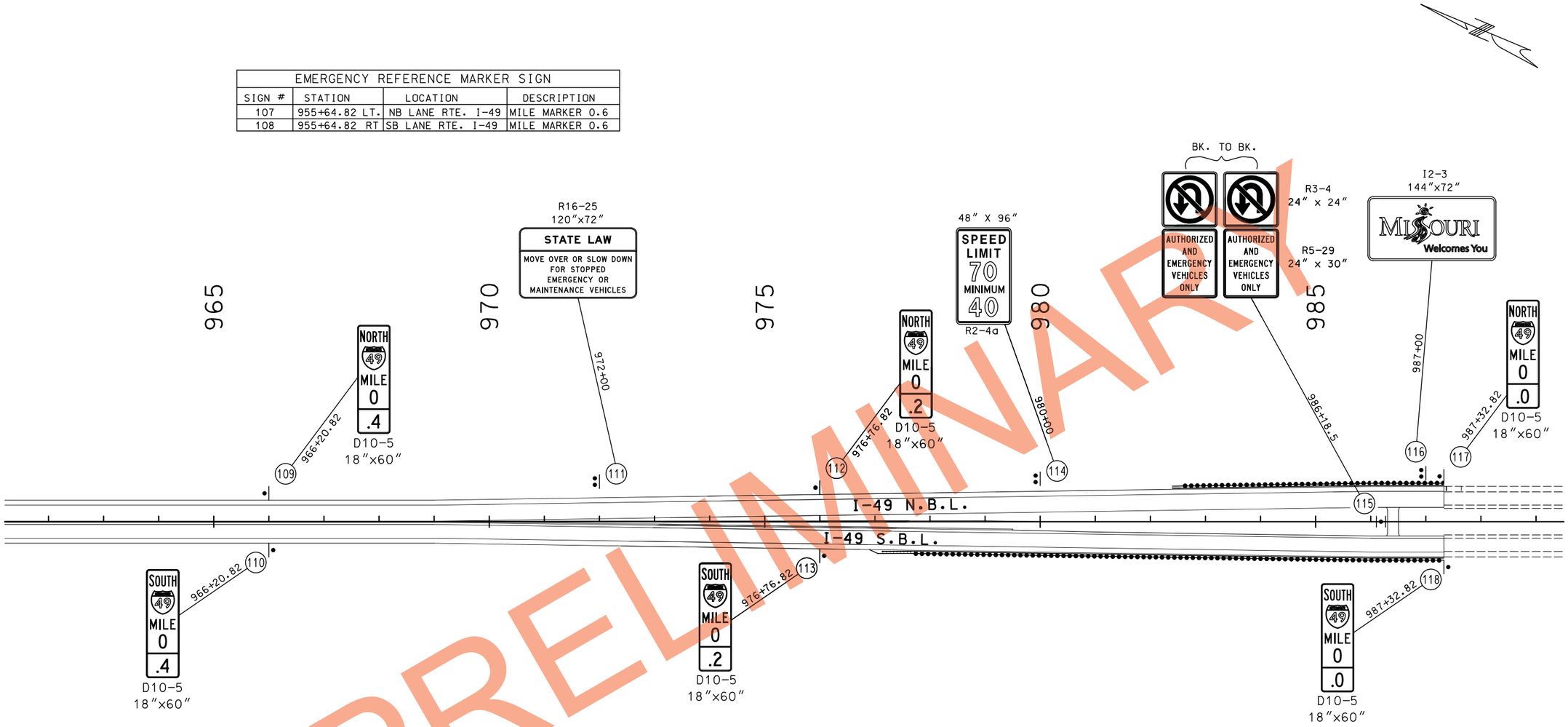
DESCRIPTION | DATE

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.

EMERGENCY REFERENCE MARKER SIGN			
SIGN #	STATION	LOCATION	DESCRIPTION
107	955+64.82 LT.	NB LANE RTE. I-49	MILE MARKER 0.6
108	955+64.82 RT	SB LANE RTE. I-49	MILE MARKER 0.6



PRELIMINARY

LEGEND FOR HIGHWAY SIGNING

- SINGLE POST SIGN
- BACK TO BACK SINGLE POST SIGN
- MULTI POST SIGN
- OVERHEAD SIGN TRUSS
- EXISTING SIGN

I-49

HIGHWAY SIGNING

SHEET 7 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	116

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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

EFFECTIVE 12-01-2017

SIGNS 902 SIGNAL SIGNS TABULATED ON D-37A SHEET						PIPE POST ✳					STRUCTURAL STEEL											U CHANNEL POST	PERFORATED SQUARE STEEL TUBE POST																FOOTINGS		REMARKS AND OTHER REQUIRED ITEMS.
											POSTS ✳						BACKING BARS 2" X ⅜" BARS @ 2.55 LBS PER LIN FT				TOTAL		2 IN							2.5 IN							BREAK-AWAY ASSEMBLY	EMBD	BOLT DOWN	
SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220 LBS	POST DES NO.	POST NO.1 LF	POST NO.2 LF	POST NO.3 LF	LBS PER FT	TOTAL LBS	NO. EACH	LGTH IN.	TOTAL LF	TOTAL LBS	ITEM NO. 9031210 LBS	ITEM NO. 9031250 LF	POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031270A LF	ANCHOR 7 GA. ITEM NO. 9031273 LF	OMNI 7 GA. ITEM NO. 9031279 LF	ANCHOR 12 GA. ITEM NO. 9031271 LF	OMNI 12 GA. ITEM NO. 9031278 LF	POST NO.1 LF	POST NO.2 LF	TOTAL ITEM NO. 9031280 LF	2.25" INSERT ITEM NO. 9031272 LF	ANCHOR 7 GA. ITEM NO. 9031281 LF	OMNI 7 GA. ITEM NO. 9031282 LF	ITEM NO. 9031241 EACH	ITEM NO. 9031010 CU YDS	ITEM NO. 9031020 CU YDS	
						IN.	LF	LF		LBS		LF	LF	LF		LBS		IN.	LF	LBS			LF	LF																
7	48"x60"	720+00		LT NB I49		3	17.50	18.00	7.58	269																												0.26		
9	EXIST	723+34		LT NB I49		4	17.00		10.79	184				(RELOCATE EXIST. BACKING BARS AND SIGNS)																								0.36		
10	48"	730+04		LT NB I49		4	18.50		10.79	200																												0.36		
11	18"x60"	733+88.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
12	18"x60"	744+44.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
13	48"x60"	731+00		LT SB 71		3	17.75	18.25	7.58	273																												0.26		
14	48"x60"	731+00		RT SB 71		3	17.25	17.75	7.58	265																												0.26		
15	EXIST	724+04		RT SB I49						(RELOCATE EXIST. EMERGENCY REFERENCE MARKER TO NEW POST)													10.5		10.5	3.0												0.09		
16	72"x60"	724+66		LT SB I49							1	15.75	15.25		9.00	279					279																	0.30		
17	48"x96"	730+00		RT SB I49							1	19.00	19.50		9.00	347					347																	0.30		
18	18"x60"	733+88.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
19	120"x60"	740+00		RT SB I49							1	16.75	17.75		9.00	311					311																	0.30		
20	18"x60"	744+44.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
21	18"x60"	755+00.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
22	18"x60"	755+00.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
23	18"x60"	765+56.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
24	18"x60"	765+56.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
25	18"x60"	776+12.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
26	18"x60"	776+12.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
27	18"x60"	786+68.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
28	18"x60"	786+68.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
29	18"x60"	797+24.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
30	18"x60"	797+24.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
31	120"x168"	802+34		RT SB I49							5	28.00	31.50		26.00	1547					1547																	2.74		
32	18"x60"	807+80.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
33	18"x60"	807+80.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
34	18"x60"	818+36.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
35	18"x60"	818+36.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
36	18"x60"	828+92.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
37	18"x60"	828+92.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
38	120"x60"	830+00		LT NB I49							1	16.75	17.75		9.00	311					311																	0.30		
39	18"x60"	839+48.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
40	18"x60"	839+48.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
41	48"x60"	840+00		LT NB I49		3	18.00	18.50	7.58	277																												0.26		
42	120"x168"	849+60		RT SB I49							5	27.50	31.00		26.00	1521					1521																	2.74		
43	18"x60"	850+04.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
44	18"x60"	850+04.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
45	48"x60"	852+47		RT SB I49		3	17.50	18.00	7.58	269																												0.26		
46	72"x60"	859+37		RT SB I49							1	15.75	16.00		9.00	286					286																	0.30		
47	18"x60"	860+60.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
48	18"x60"	860+60.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
49	18"x24"	2008+00		RT RAMP 2																		13.0															-		
50	18"x24"	1007+00		LT RAMP 1																		13.0															-		
51	18"x24"	2013+00		RT RAMP 2																		13.0															-		
52	18"x24"	1012+00		LT RAMP 1																		13.0															-		
53	84"x48"	2015+25		RT RAMP 2							1	15.50	16.25		9.00	286					286																	0.30		
54	42"x30"	2015+45		RT RAMP 2		3	15.50		7.58	118																												0.13		
55	42"x30"	2015+45		LT RAMP 2		3	15.25		7.58	116																												0.13		
56	18"x60"	871+16.82		LT NB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
57	18"x60"	871+16.82		RT SB I49									(EMERGENCY REFERENCE MARKER)										10.5		10.5	3.0												0.09		
58	30"x30"	2017+79		LT RAMP 2		3	15.00		7.58	114																												0.13		
59	ASSY.	2017+88		RT RAMP 2		4	17.75		10.79	192																												0.36		
60	ASSY.	2017+88		RT RAMP 2		4	19.00		10.79	205							6	300.0	25.0	64	64																	0.36		
61	36"x48"	40+00		LT RTE 90																													13.25		13.25	3.0			0.09		
62	ASSY.	40+00		RT RTE 90																													13.25		13.25	3.0			0.09		
63	36"	42+86		LT RTE 90																													10.75		10.75	3.0			0.09		
64	36"	43+23		RT RTE 90																													12.75		12.75	3.0			0.09		
65	ASSY.	44+50		LT RTE 90																													12.75		12.75	3.0			0.09		
66	144"x120"	45+50		RT RTE 90							3	23.25	21.75		18.00	810					810																	1.51		
67	ASSY.	46+09		LT RTE 90		3	14.25		7.58	108																												0.13		
				SUBTOTAL						2590						5698				64		52			305	87							63	15			16		

✳ BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS

ROUND PIPE POST AND FOOTING DATA TABLE

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

POST AND FOOTING DATA TABLE

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

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 117
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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

DESCRIPTION | DATE | REV.

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

SIGNING
SHEET 8 OF 40

D-29

EFFECTIVE 12-01-2017

SIGNS

902 SIGNAL SIGNS TABULATED ON D-37A SHEET

PIPE POST ✳

STRUCTURAL STEEL

POSTS ✳

BACKING BARS 2" X ⅜" BARS @ 2.55 LBS PER LIN FT

U CHANNEL POST

PERFORMED SQUARE STEEL TUBE POST

2 IN

2.5 IN

FOOTINGS

SIGN NO.	SIGN SIZE	STATION	HORZ CLEAR IF NOT STD	LOCATION	SIGN DTL. SHT. NO.	PIPE SIZE	POST NO.1	POST NO.2	LBS PER FT	TOTAL ITEM NO. 9031220 LBS	POST DES NO.	POST NO.1	POST NO.2	POST NO.3	LBS PER FT	TOTAL	BACKING BARS NO. EACH	BACKING BARS LGTH IN.	BACKING BARS TOTAL LF	BACKING BARS TOTAL LBS	TOTAL ITEM NO. 9031210 LBS	U CHANNEL POST ITEM NO. 9031250 LF	2 IN POST NO.1 LF	2 IN POST NO.2 LF	2 IN TOTAL ITEM NO. 9031270A LF	2 IN ANCHOR 7 GA. ITEM NO. 9031273 LF	2 IN OMNI 7 GA. ITEM NO. 9031279 LF	2 IN ANCHOR 12 GA. ITEM NO. 9031271 LF	2 IN OMNI 12 GA. ITEM NO. 9031278 LF	2.5 IN POST NO.1 LF	2.5 IN POST NO.2 LF	2.5 IN TOTAL ITEM NO. 9031280 LF	2.5 IN 2.25" INSERT ITEM NO. 9031272 LF	2.5 IN ANCHOR 7 GA. ITEM NO. 9031281 LF	2.5 IN OMNI 7 GA. ITEM NO. 9031282 LF	BREAK-AWAY ASSEMBLY ITEM NO. 9031241 EACH	EMBD ITEM NO. 9031010 CU YDS	BOLT DOWN ITEM NO. 9031020 CU YDS	REMARKS AND OTHER REQUIRED ITEMS.
68	108"x84"	47+40		LT RTE 90							1	18.25	19.50		9.00	340					340																	0.32		
69	ASSY.	47+80		RT RTE 90		4	18.00		10.79	195							6	300.0	25.0	64	64																	0.36		
70	ASSY.	52+20		LT RTE 90		4	18.50		10.79	200							6	300.0	25.0	64	64																	0.36		
71	96"x84"	52+60		RT RTE 90							1	18.00	19.25		9.00	336					336																	0.32		
72	ASSY.	53+84		RT RTE 90		3	14.25		7.58	108																											0.13		
73	132"x120"	54+75		LT RTE 90							4	25.75	22.50		22.00	1062					1062																	2.90		
74	ASSY.	55+50		RT RTE 90																											12.75		12.75	3.0				0.09		
75	36"x48"	60+00		RT RTE 90																											13.75		13.75	3.0				0.09		
76	ASSY.	60+75		LT RTE 90																											13.00		13.00	3.0				0.09		
77	ASSY.	3000+49		LT RAMP 3		4	18.00		10.79	195																											0.36		
78	ASSY.	3000+49		LT RAMP 3		4	19.50		10.79	211							6	300.0	25.0	64	64																	0.36		
79	30"x30"	3000+64		RT RAMP 3		3	15.25		7.58	116																											0.13		
80	42"x30"	3002+95		RT RAMP 3		3	15.25		7.58	116																											0.13		
81	42"x30"	3002+95		LT RAMP 3		3	15.25		7.58	116																											0.13		
82	84"x48"	3003+15		LT RAMP 3							1	15.25	17.00		9.00	291					291																	0.34		
83	18"x24"	3006+00		LT RAMP 3																		12.25																		
84	18"x24"	4004+00		RT RAMP 4																		13.00																		
85	18"x24"	4009+00		RT RAMP 4																		13.00																		
86	18"x60"	881+72.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
87	18"x60"	881+72.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
88	18"x24"	3012+00		LT RAMP 3																		12.25																		
89	72"x60"	890+07		LT NB I49							1	15.75	16.00		9.00	286					286																	0.30		
90	18"x60"	892+28.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
91	18"x60"	892+28.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
92	48"x60"	897+47		LT NB I49		3	17.75	18.25	7.58	273																											0.26		
93	120"x168"	900+45		LT NB I49							5	27.75	31.25		26.00	1534					1534																	2.74		
94	18"x60"	902+84.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
95	18"x60"	902+84.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
96	48"x60"	912+30		RT SB I49		3	17.75	18.25	7.58	273																											0.26		
97	18"x60"	913+40.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
98	18"x60"	913+40.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
99	120"x60"	922+00		RT SB I49							1	16.75	17.75		9.00	311					311																	0.30		
100	18"x60"	923+96.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
101	18"x60"	923+96.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
102	18"x60"	934+52.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
103	18"x60"	934+52.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
104	18"x60"	945+08.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
105	18"x60"	945+08.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
106	120"x168"	947+80		LT NB I49							5	28.00	31.50		26.00	1547					1547																	2.74		
107	18"x60"	955+64.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
108	18"x60"	955+64.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
109	18"x60"	966+20.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
110	18"x60"	966+20.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
111	120"x72"	972+00		LT NB I49							1	17.75	18.75		9.00	329					329																	0.30		
112	18"x60"	976+76.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
113	18"x60"	976+76.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
114	48"x96"	980+00		LT NB I49							1	19.50	20.00		9.00	356					356																	0.30		
115	ASSY.	986+18.50		C/L MEDIAN		4	17.75		10.79	192																											0.36		
116	144"x72"	987+00		LT NB I49							1	18.00	21.50		9.00	356					356																	0.34		
117	18"x60"	987+32.82		LT NB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		
118	18"x60"	987+32.82		RT SB I49								(EMERGENCY	REFERENCE	MARKER)									10.5		10.5	3.0											0.09		

CHANNEL POST DELINEATORS

LOCATION	WHITE	YELLOW	WHITE DOUBLE STACKED	WHITE RED	YELLOW RED
RAMP 1	17	4	9		
RAMP 2	1		6	18	4
RAMP 3	1		6	6	4
RAMP 4	21	4	9		

NO DIRECT PAY FOR GUARDRAIL DELINEATORS:
RAMP 3 - 18 WHITE/RED

SUBTOTAL SHEET 8		2590						5698			64		52			305	87					63	15					16												
SUBTOTAL SHEET 9		1995						6748			192		51			231	66					40	9					16												
TOTAL		4590											12710	103		536	153					103	24					32												

✳ BREAKAWAY ASSEMBLY IS INCIDENTAL FOR PIPE AND STRUCTURAL STEEL POSTS

ROUND PIPE POST AND FOOTING DATA TABLE

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

POST AND FOOTING DATA TABLE

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

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	118

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

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

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

SIGNING
SHEET 9 OF 40

D-29

REV.

SIGNING
SHEET 10 OF 40

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE: R2-1 SPEED LIMIT 70 48"x60"	W4-3R 48"	R2-1 SPEED LIMIT 65 48"x60"	R2-4a SPEED LIMIT 70 MINIMUM 40 48"x96"	W13-2 EXIT 40 M.P.H. 48"x60"	R7-1 NO PASSING ANY TIME 18"x24"	R5-1a WRONG WAY 42"x30"	R5-1 DO NOT ENTER 30"x30"	R1-1 STOP 48"	M3-2 EAST 24"x12"	M3-4 WEST 24"x12"	M1-5 90 24"x24"	M6-1 21"x15"	R2-1 SPEED LIMIT 55 36"x48"	M2-1 JCT 21"x15"	M1-1 INTERSTATE 49 24"x24"
7	720+00	LT. NB I-49	1															
10	730+04	LT. NB I-49		1														
13	731+00	LT. SB 71			1													
14	731+00	RT. SB 71			1													
17	730+00	RT. SB I-49				1												
41	840+00	LT. NB I-49	1															
45	852+47	RT. SB I-49					1											
49	2008+00	RT. RAMP 2						1										
50	1007+00	LT. RAMP 1						1										
51	2013+00	RT. RAMP 2						1										
52	1012+00	LT. RAMP 1						1										
54	2015+45	RT. RAMP 2							1									
55	2015+45	LT. RAMP 2							1									
58	2017+79	LT. RAMP 2								1								
59	2017+88	RT. RAMP 2								1	1							
60	2017+88	RT. RAMP 2										1	1	2	2			
61	40+00	LT. RTE. 90														1		
62	40+00	RT. RTE. 90															1	1
65	44+50	LT. RTE. 90											1	1				
69	47+80	RT. RTE. 90										1		1				1
70	52+20	LT. RTE. 90											1	1				1
74	55+50	RT. RTE. 90										1		1				
75	60+00	RT. RTE. 90														1		
76	60+75	LT. RTE. 90															1	1
77	3000+49	LT. RAMP 3								1	1							
78	3000+49	LT. RAMP 3										1	1	2	2			
79	3000+64	RT. RAMP 3								1								
80	3002+95	RT. RAMP 3							1									
81	3002+95	LT. RAMP 3							1									
83	3006+00	LT. RAMP 3						1										
84	4004+00	RT. RAMP 4						1										
85	4009+00	RT. RAMP 4						1										
88	3012+00	LT. RAMP 3						1										
92	897+47	LT. NB 49					1											
96	912+30	RT. SB 49	1															
114	980+00	LT. NB 49				1												

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE	FLAT SHEET SH ITEM NO. 9035004A	FLAT SHEET FLUORESCENT SHF * ITEM NO. 9035069A	STRUCTURAL ST ITEM NO. 9035011A	STRUCTURAL FLUORESCENT STF * ITEM NO. 9035071A
SIZE, TYPE & SQUARE FEET							
1		1	168"x120"			140.0	
1A, 4A		2	96"x54"			72.0	
2		1	156"x144"			156.0	
2A, 5A, 6A		3	84"x30"			52.5	
4		1	396"x168"			462.0	
5		1	156"x144"			156.0	
6		1	156"x168"			182.0	
7, 41, 96		3	48"x60"	60.0			
8		1	396"x168"			462.0	
10		1	48"		16.0		
11, 12, 21, 23, 25, 27, 29, 32, 34, 36, 39, 43, 47, 56, 86, 90, 94, 97, 100, 102, 104, 107, 109, 112, 117		25	18"x60"	187.5			
13, 14		2	48"x60"	40.0			
16		1	72"x60"			30.0	
17, 114		2	48"x96"	64.0			
18, 20, 22, 24, 26, 28, 30, 33, 35, 37, 40, 44, 48, 57, 87, 91, 95, 98, 101, 103, 105, 108, 110, 113, 118		25	18"x60"	187.5			
19		1	120"x60"			50.0	
31		1	120"x168"			140.0	
31A, 42A, 93A, 106A		4	84"x30"			70.0	
38		1	120"x60"			50.0	
42		1	120"x168"			140.0	
45, 92		2	48"x60"	40.0			
46, 89		2	72"x60"			60.0	
49, 50, 51, 52, 83, 84, 85, 88		8	18"x24"	24.0			
53		1	84"x48"			28.0	
54, 55, 80, 81		4	42"x30"	35.0			
58, 59, 77, 79		4	30"x30"	25.0			
59, 77		2	48"	32.0			
		SUB-TOTAL		695.0	16.0	2250.5	0.0

* ORANGE, YELLOW & YELLOW/GREEN

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 119
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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

SIGNING
SHEET 11 OF 40

STANDARD SIGN ASSEMBLIES

SIGN NUMBER	STATION	LOCATION	TYPE: R1-1 STOP 36"	R6-1L ONE WAY 36"x12"	R6-1R ONE WAY 36"x12"	M3-1 NORTH 24"x12"	M5-1L 21"x15"	M6-3 21"x15"	M3-3 SOUTH 24"x12"	R3-4 24"x24"	R5-29 AUTHORIZED AND EMERGENCY VEHICLES ONLY 24"x30"
63	42+86	LT. RTE. 90	1								
64	43+23	RT. RTE. 90	1								
67	46+09	LT. RTE. 90		1	1						
68	47+40	LT. RTE. 90		1	1						
69	47+80	RT. RTE. 90				1	1	1			
70	52+20	LT. RTE. 90					1	1	1		
71	52+60	RT. RTE. 90		1	1						
72	53+84	RT. RTE. 90		1	1						
115	986+18.5	C/L MEDIAN I49								2	2

SIGN SUMMARY

STANDARD SIGN OR SPECIAL SIGN NUMBER	SIGN DETAIL SHEET NO.	NO. EACH	SIZE, TYPE & SQUARE FEET: SIZE	FLAT SHEET SH (ITEM NO. 9035004A)	FLAT SHEET FLUORESCENT SHF * (ITEM NO. 9035069A)	STRUCTURAL ST (ITEM NO. 9035011A)	STRUCTURAL FLUORESCENT STF * (ITEM NO. 9035071A)
60, 69, 74, 78 EAST		4	24"x12"	8.0			
60, 65, 70, 78 WEST		4	24"x12"	8.0			
60, 65, 69, 70, 74, 78 90		8	24"x24"	32.0			
60, 78		4	21"x15"	8.8			
61, 75		2	36"x48"	24.0			
62, 76 JCT		2	21"x15"	4.4			
62, 69, 70, 76 49		4	24"x24"	16.0			
63, 64 STOP		2	36"	18.0			
66 North Joplin / South Fort Smith		1	144"x120"			120.0	
67, 68, 71, 72 ONE WAY		4	36"x12"	12.0			
67, 68, 71, 72 ONE WAY		4	36"x12"	12.0			
68 South Fort Smith		1	108"x84"			63.0	
69 NORTH		1	24"x12"	2.0			
69, 70		2	21"x15"	4.4			
69, 70		2	21"x15"	4.4			
70 SOUTH		1	24"x12"	2.0			
71 NORTH Joplin		1	96"x84"			56.0	
73 South Fort Smith / North Joplin		1	132"x120"			110.0	
82 Noel 7 Jane 6		1	84"x48"			28.0	
93 Noel Jane		1	120"x168"			140.0	
99 Bentonville 19 Fayetteville 40 Fort Smith 97		1	120"x60"			50.0	
106 Noel Jane 1 MILE		1	120"x168"			140.0	
111 STATE LAW MOVE OVER OR SLOW DOWN FOR STOPPED EMERGENCY OR MAINTENANCE VEHICLES		1	120"x72"				60.0
115		2	24"x24"	8.0			
115 AUTHORIZED AND EMERGENCY VEHICLES ONLY		2	24"x30"	10.0			
116 MISSOURI Welcomes You		1	144"x72"			72.0	
SUB-TOTAL SHEET 10				695.0	16.0	2250.5	0.0
SUB-TOTAL SHEET 11				174.0	0.0	779.0	60.0
TOTAL				869	16	3030	60

* ORANGE, YELLOW & YELLOW/GREEN

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

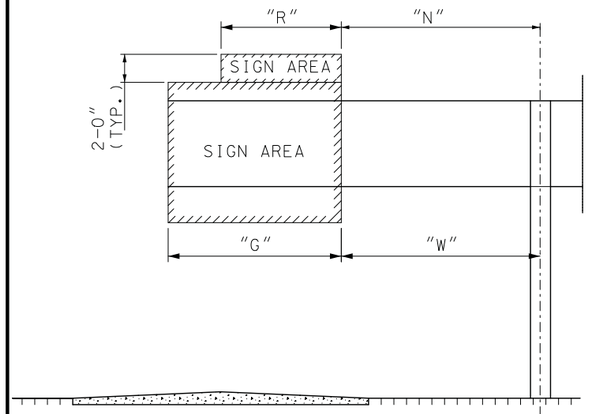
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	120

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

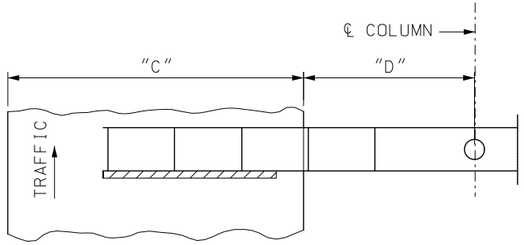
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION | DATE | REV.

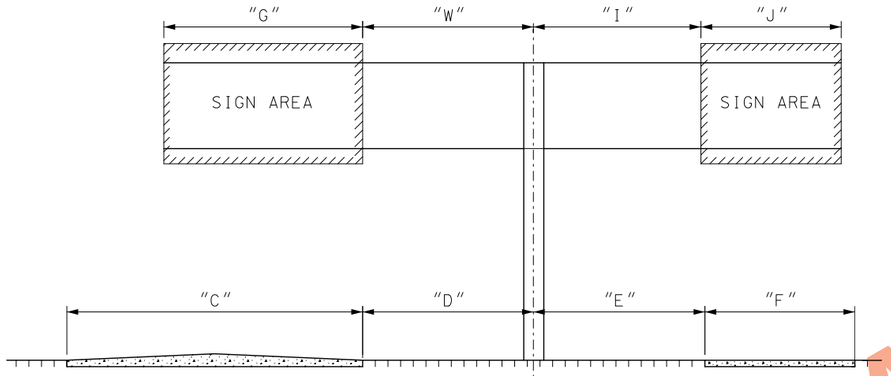
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



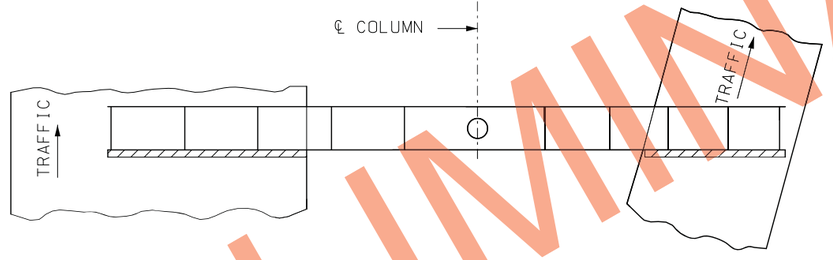
ELEVATION



PLAN
CANTILEVER OVERHEAD SIGN TRUSS



ELEVATION



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"	
2 & 2A	677+75	30		20'4"	V	107'	7'6"			13'	12'	15'2"				7'		16.5
6 & 6A	709+35	30		21'6"	V	52'	7'6"			13'	14'	16'3"				7'		16.5
																TOTAL		33.0

PRELIMINARY

SIGNING
SHEET 12 OF 40

BUTTERFLY AND CANTILEVER OVERHEAD SIGN TRUSSES

STRUCTURAL STEEL

DATA SHEET
(SEE STANDARD 903.12) D-32

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	121

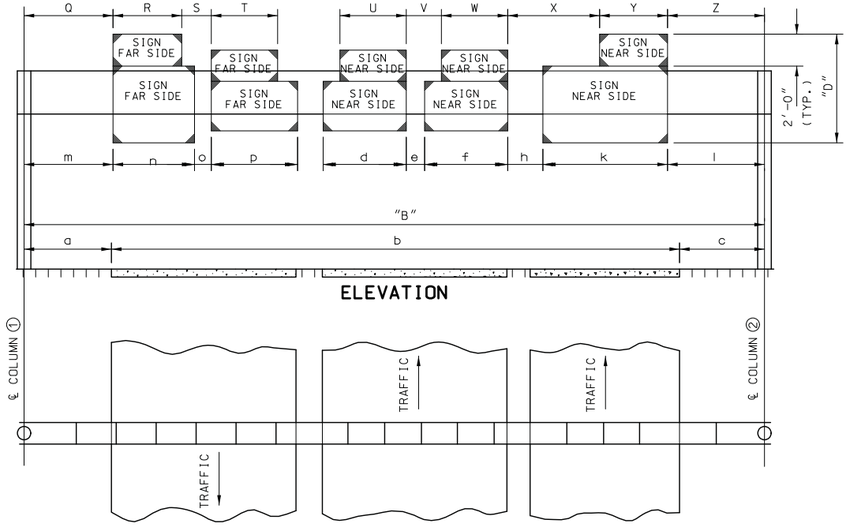
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

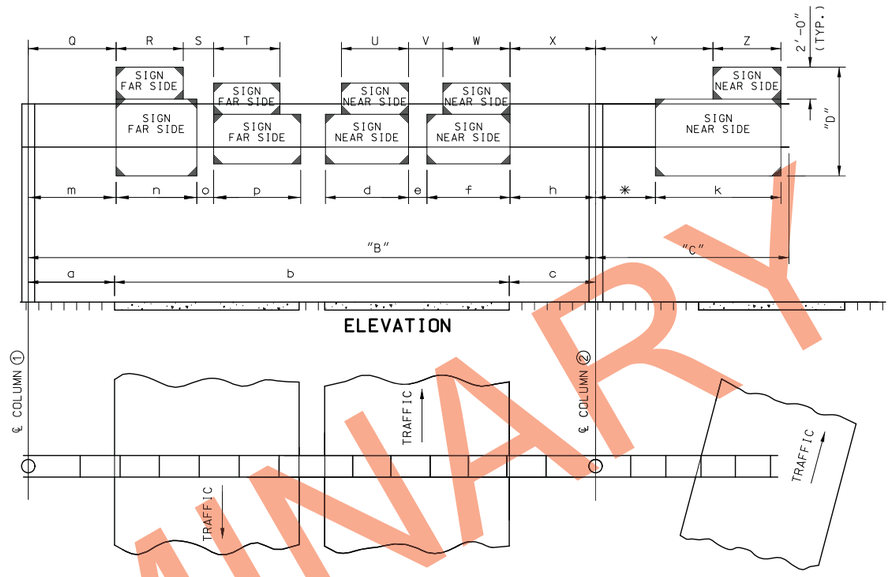
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

EFFECTIVE 04-01-1999



PLAN

DIMENSIONS
TYPE 'B' SIGN BRIDGE



PLAN

DIMENSIONS
TYPE 'BC' SIGN BRIDGE

NOTE: ABOVE MINIMUMS ARE RECOMMENDED DIMENSIONS.

SIGN BRIDGE DIMENSIONS

SIGN NO.	STATION NUMBER	TRUSS DESCRIPTION Type	"B"	"C"	CHORD ALUM.	CHORD STEEL	ROADWAY DESCRIPTION a	b	c	"D"	SIGN SPACING NEAR SIDE d	Ht.	e	f	Ht.	h	k	Ht.	l	FAR SIDE m	n	Ht.	o	p	Ht.	COLUMN DATA COLUMN 1 H	TYPE	COLUMN 2 H	TYPE	CONCRETE FOOTINGS (CU. YD.)
4	693+42	B	122'0"		5 1/4 x 5/16	6x6x3/16	18'0"	86'0"	18'0"	18'6"							33'0"	14'0"	19'6"							21'0"	III	21'4"	III	30.4
5	693+42									14'6"										17'6"	13'0"	12'0"								
																	33'0"	14'0"	22'8"							21'6"	II	22'9"	II	30.4
8	717+34	B	74'0"		4x1/4	4x4x1/2	14'3"	41'1"	18'8"	18'6"																				TOTAL	60.8

SIGN BRIDGE DIMENSIONS

SIGN NO.	STATION NUMBER	TRUSS DESCRIPTION Type	"B"	"C"	CHORD ALUM.	CHORD STEEL	ROADWAY DESCRIPTION a	b	c	"D"	SIGN SPACING NEAR SIDE U	V	W	X	Y	Z	FAR SIDE Q	R	S	T
4A	693+42														8'0"	44'6"				
5A	693+42																17'6"	7'0"		
8A	717+34														8'0"	47'8"				

PRELIMINARY

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.

* MINIMUM = 6'-0" WHEN ALUMINUM IS USED.

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 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.

SIGNING
SHEET 13 OF 40

D-33

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

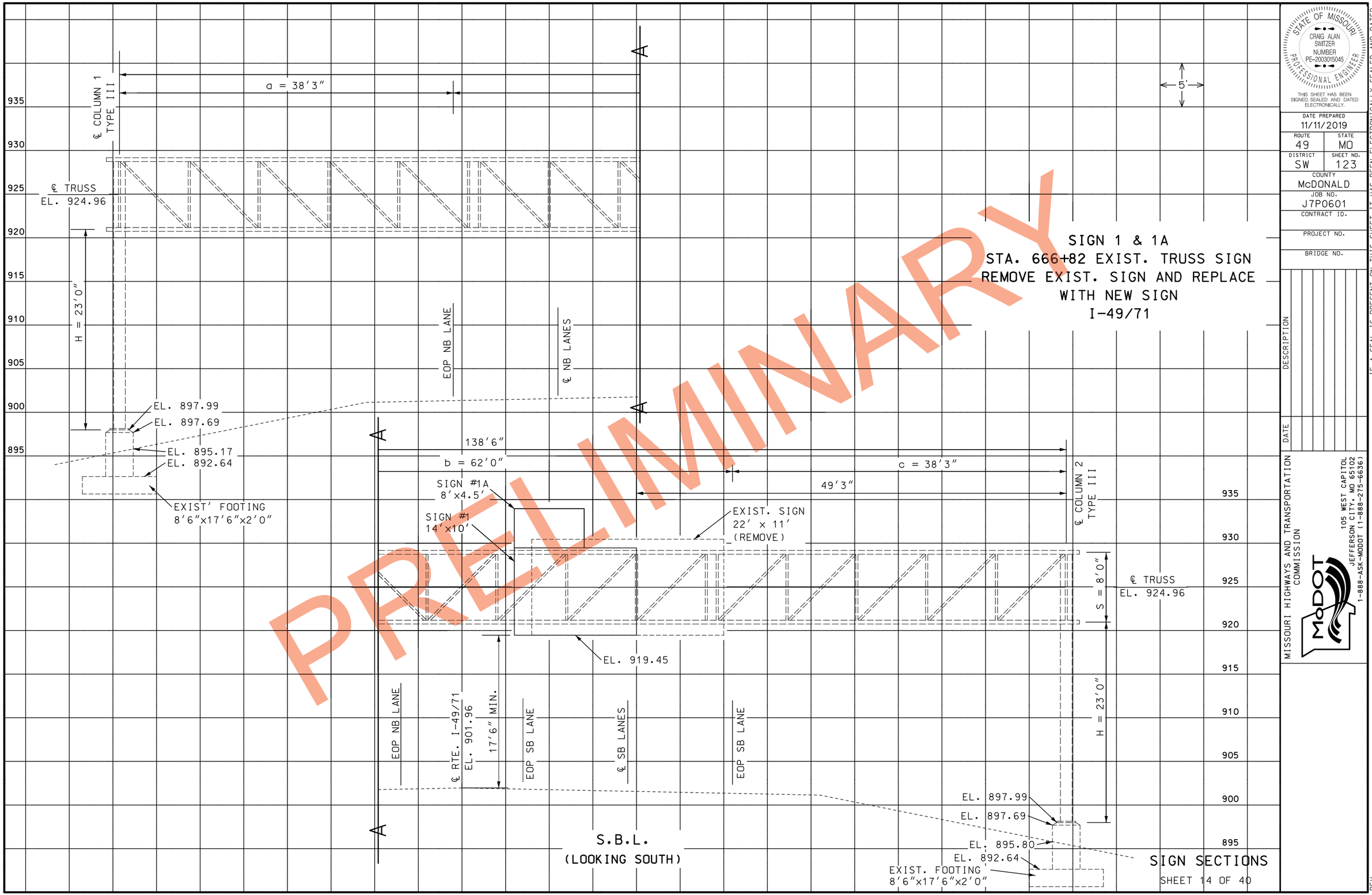
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	122

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DATE	DESCRIPTION	REV.

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

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



PRELIMINARY

SIGN 1 & 1A
STA. 666+82 EXIST. TRUSS SIGN
REMOVE EXIST. SIGN AND REPLACE WITH NEW SIGN
I-49/71

SIGN SECTIONS

SHEET 14 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	123

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

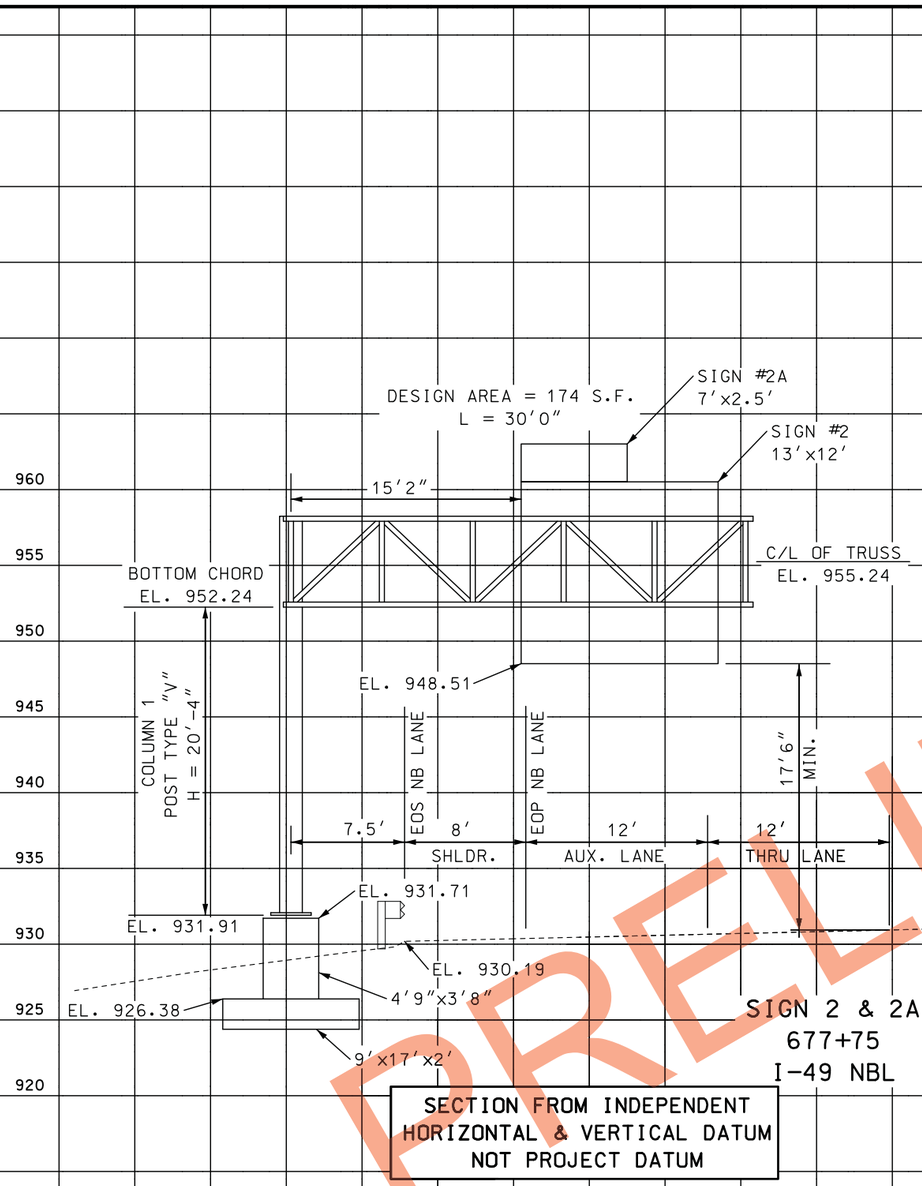
DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

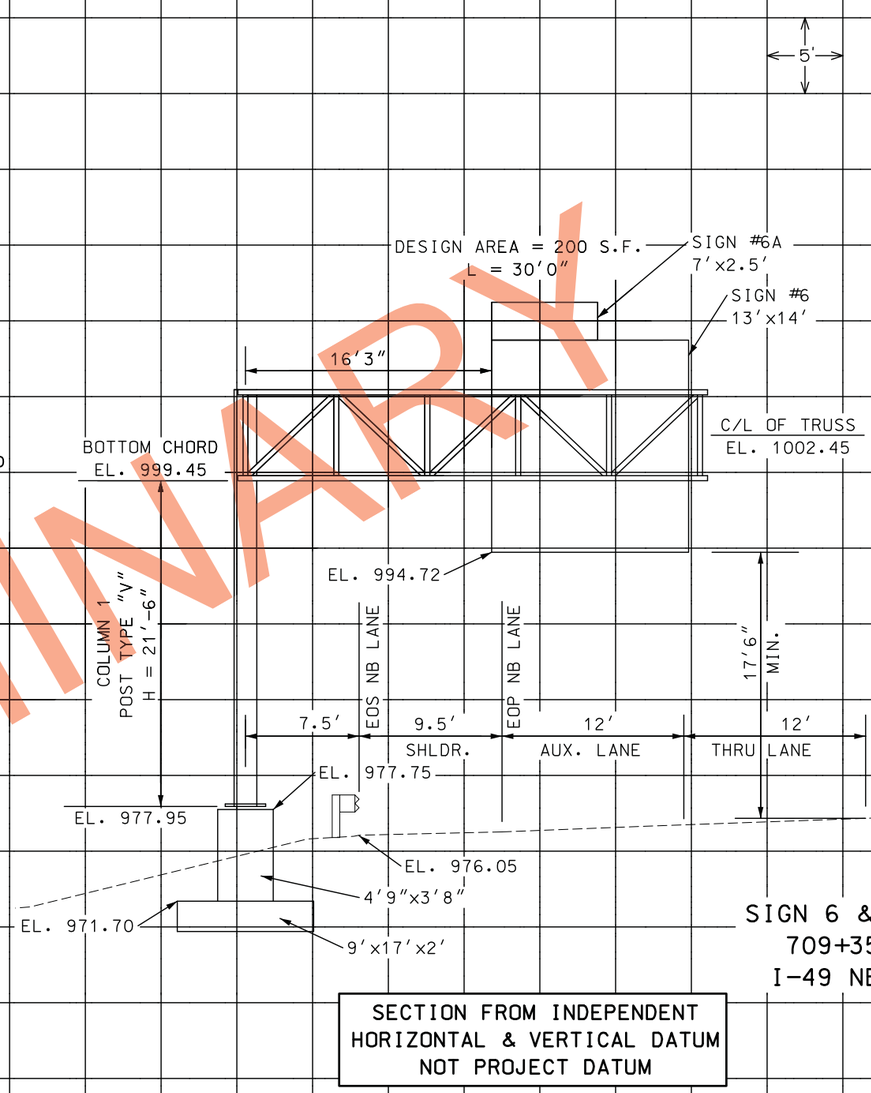
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

REV.



SIGN 2 & 2A
677+75
I-49 NBL

SECTION FROM INDEPENDENT
HORIZONTAL & VERTICAL DATUM
NOT PROJECT DATUM



SIGN 6 & 6A
709+35
I-49 NBL

SECTION FROM INDEPENDENT
HORIZONTAL & VERTICAL DATUM
NOT PROJECT DATUM

PRELIMINARY

SIGN SECTIONS

SHEET 15 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	124

COUNTY
McDONALD

JOB NO.
J7P0601

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.

TOTAL DESIGN AREA = 672 S.F.

122'0"

℄ COLUMN 1
TYPE III POST

17'6"

SIGN 5A
7'×2.5'

SIGN 4A
8'×4.5'

44'6"

19'6"

℄ COLUMN 2
TYPE III POST

5'

℄ TRUSS
EL. 1012.87
EL. 1009.37

S = 7'0"

SIGN 4
33'×14'

EL. 1005.20

SIGN 5
13'×12'

EL. 1006.14

H = 21'-0"

H = 21'-4"

EOS NB LANES

EOP NB LANES

℄ RTE. I-49/71

17'6" MIN.

EOP SB LANES

EOS SB LANES

8'0"

EL. 988.17

EL. 988.37

EL. 987.68

EL. 987.84

EL. 988.04

4'8"x3'2"

EL. 982.31

EL. 982.27

8'6"x17'6"x2'

EL. 980.31

EL. 980.27

8'6"x17'6"x2'

1015
1010
1005
1000
995
990
985
980
975

LOOKING SOUTH

a = 18'0"

b = 86'0"

c = 18'0"

SECTION FROM INDEPENDENT
HORIZONTAL & VERTICAL DATUM
NOT PROJECT DATUM

PRELIMINARY

SIGNS 4 & 4A, 5 & 5A
693+42
I-49

SIGN SECTIONS
SHEET 16 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

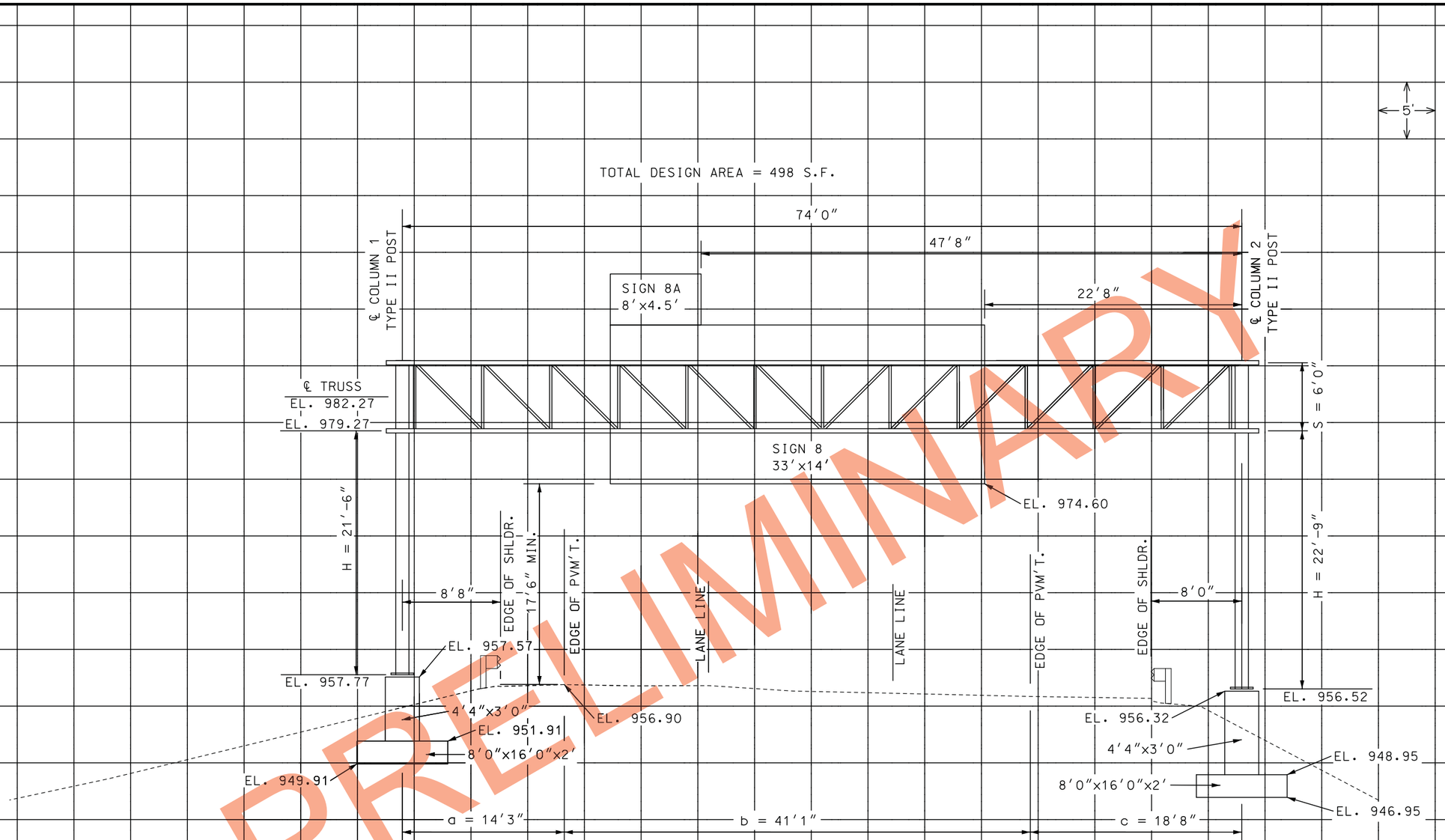
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 125
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



SECTION FROM INDEPENDENT
HORIZONTAL & VERTICAL DATUM
NOT PROJECT DATUM

SIGNS 8 & 8A
717+34
I-49

SIGN SECTIONS

SHEET 17 OF 40

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	126

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

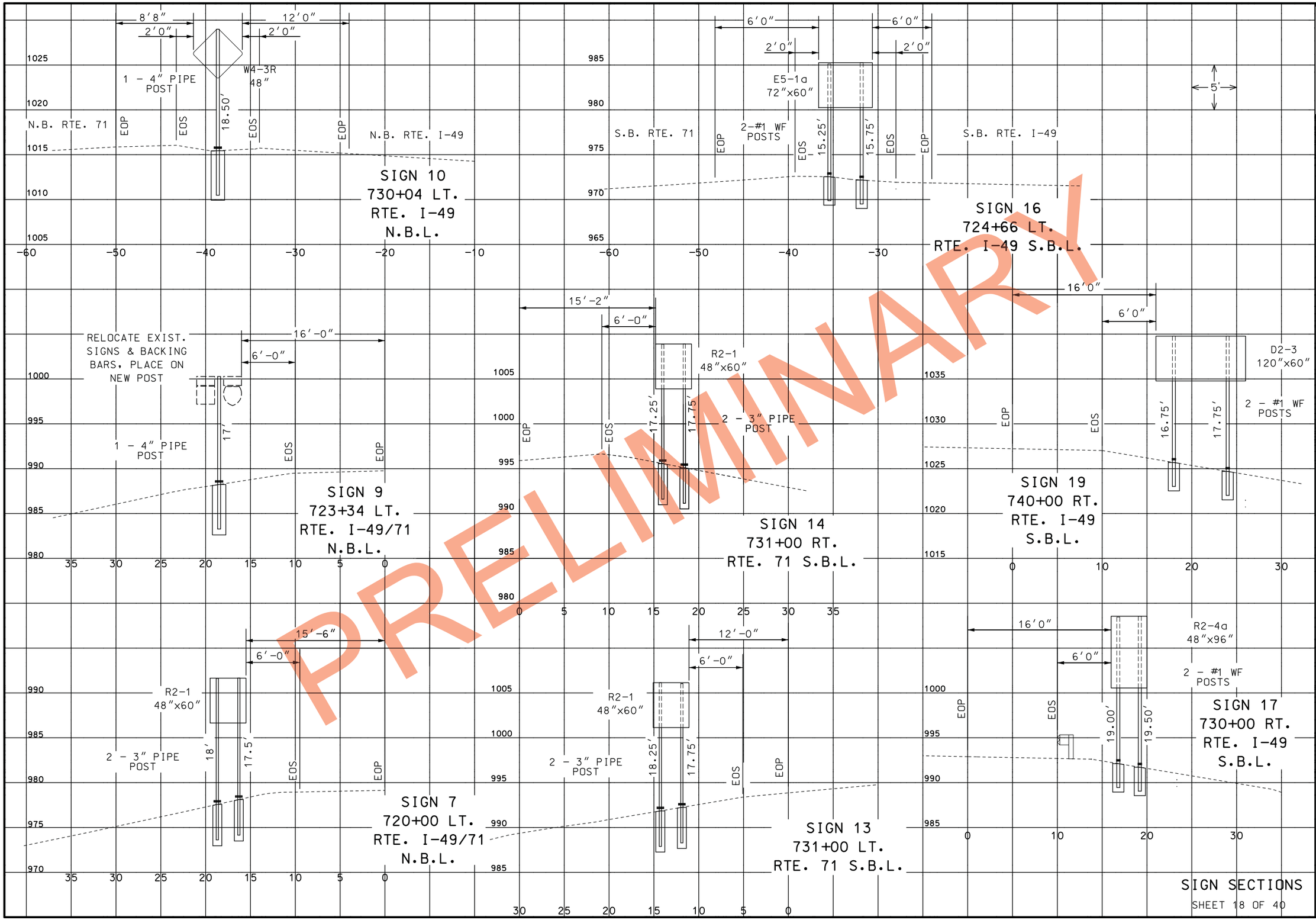
DESCRIPTION

DATE

REV.

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	127

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

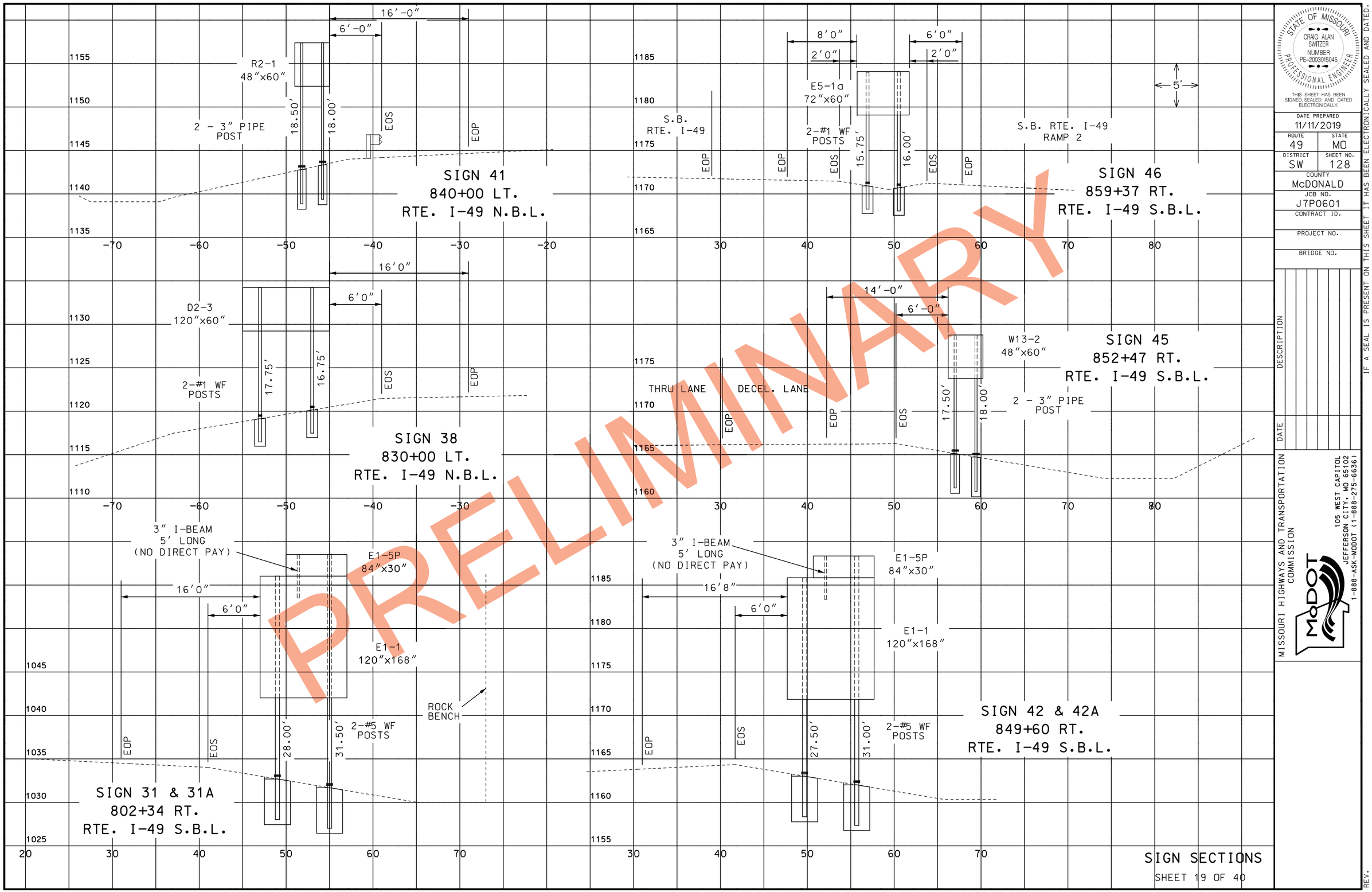
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

REV.

SIGN SECTIONS

SHEET 18 OF 40



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	128

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

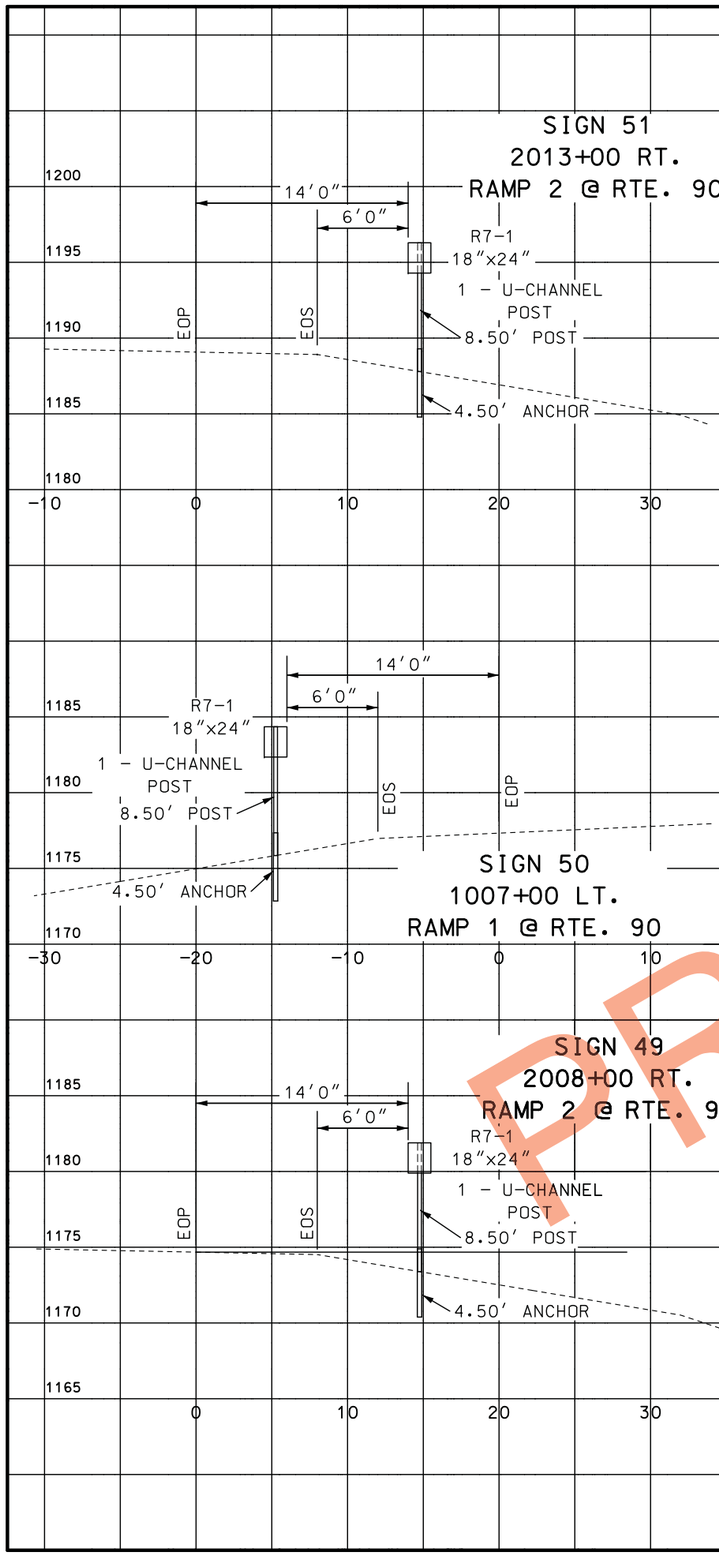
PROJECT NO.

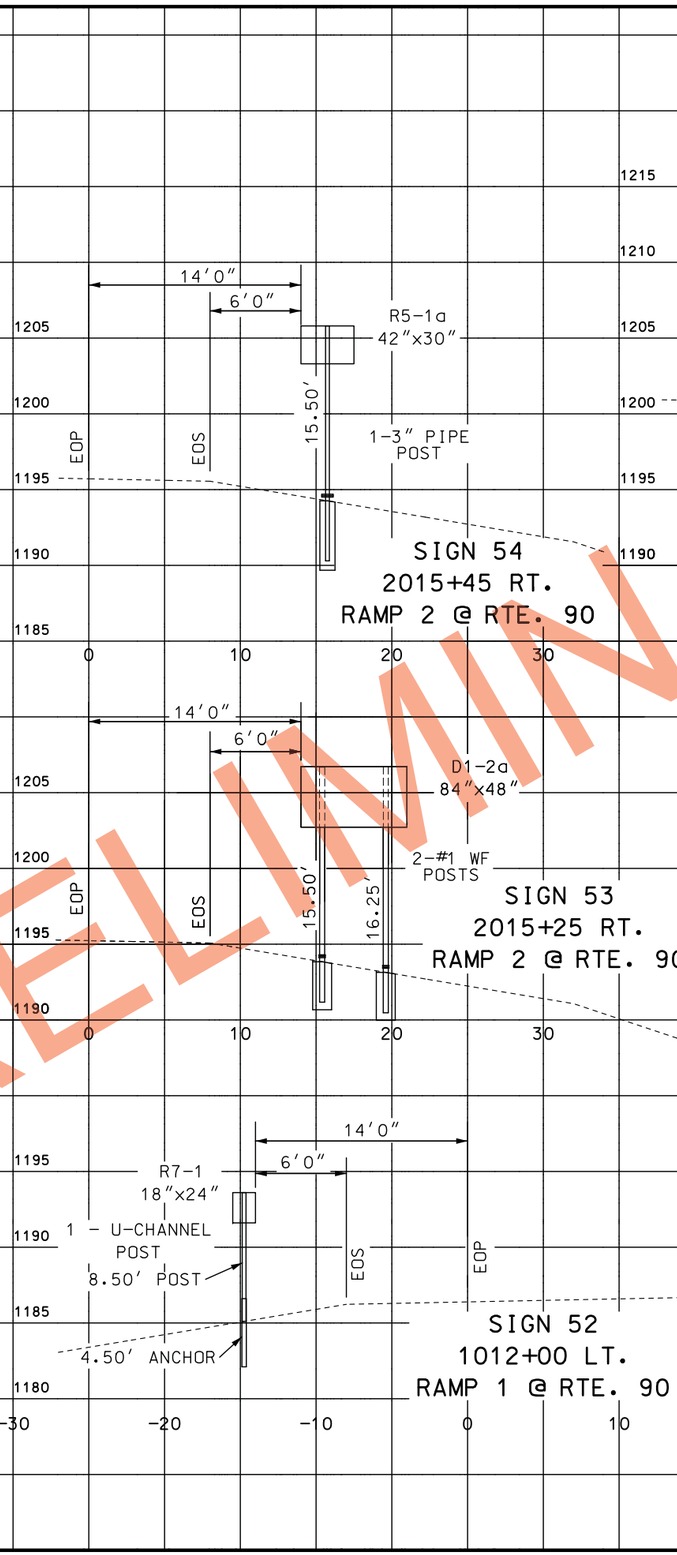
BRIDGE NO.

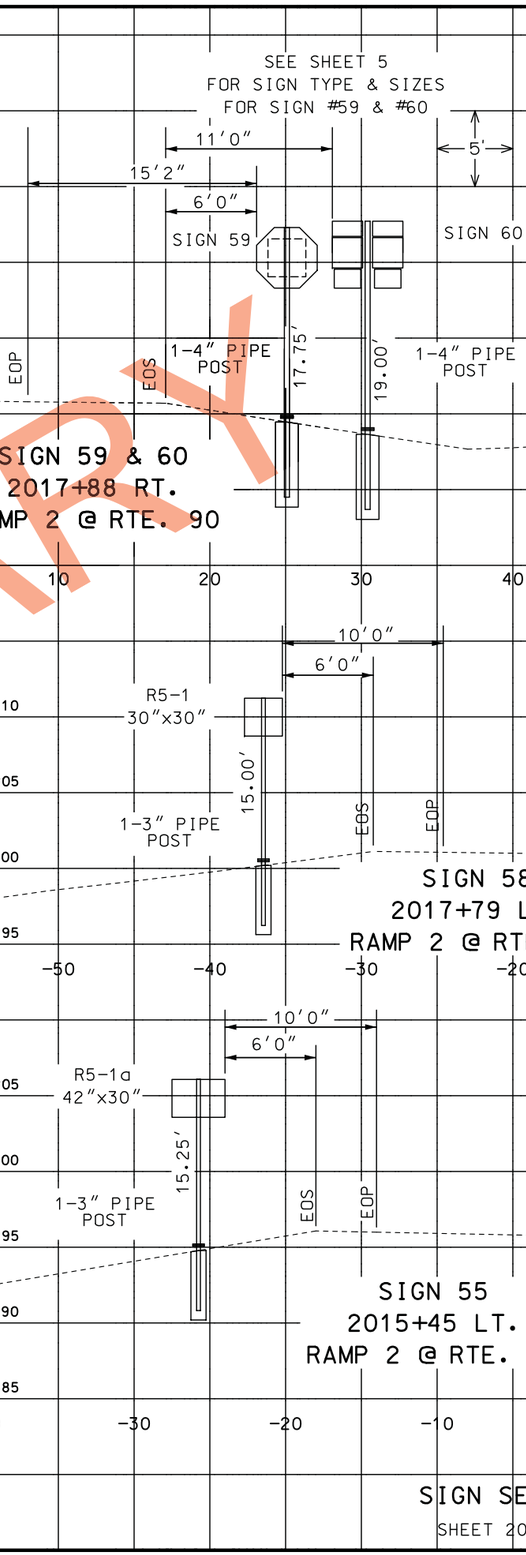
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION | DATE | REV.

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







PRELIMINARY

SIGN SECTIONS

SHEET 20 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	129

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

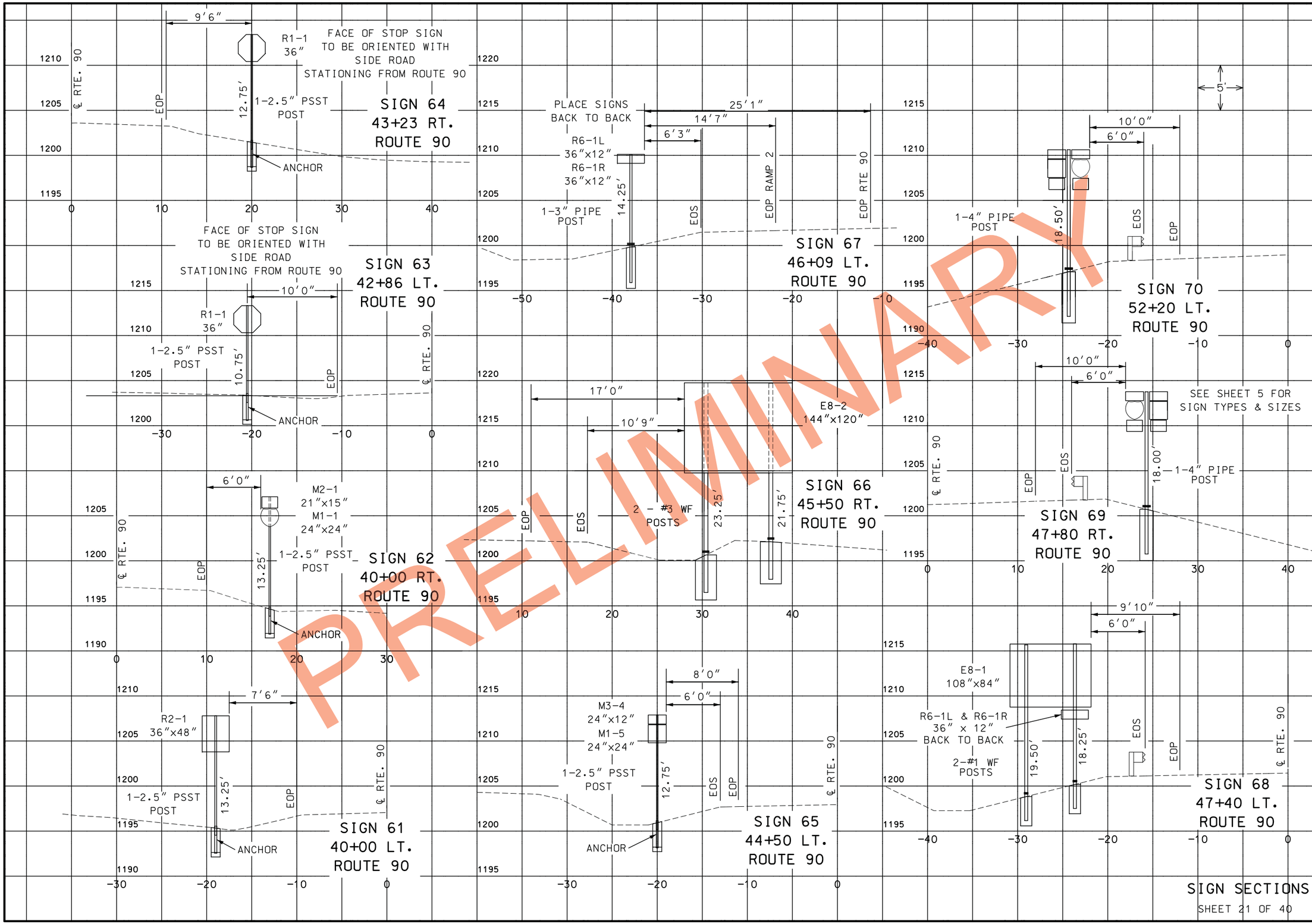
DATE

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	130

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

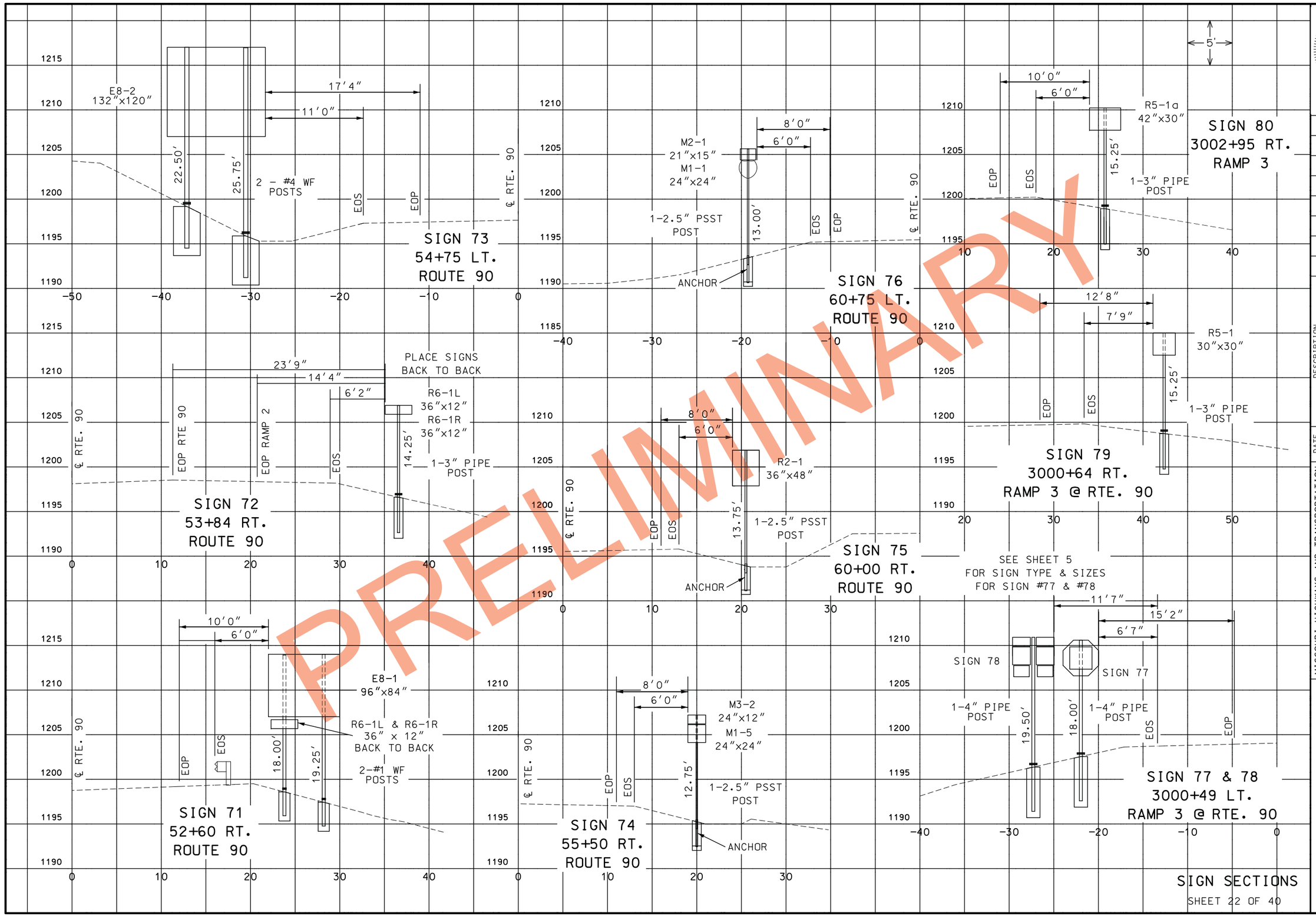
DESCRIPTION

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.



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	131

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

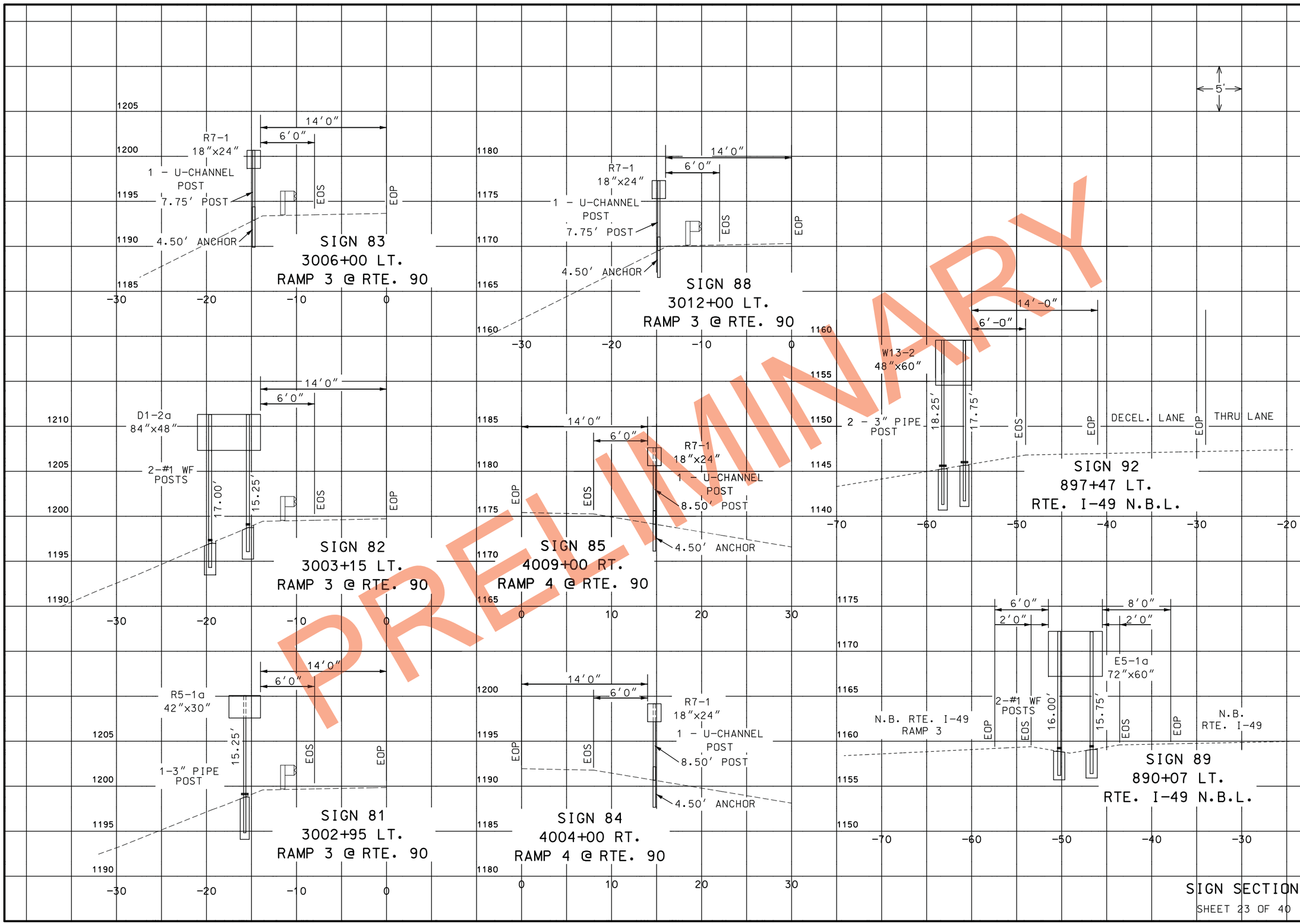
DATE

REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

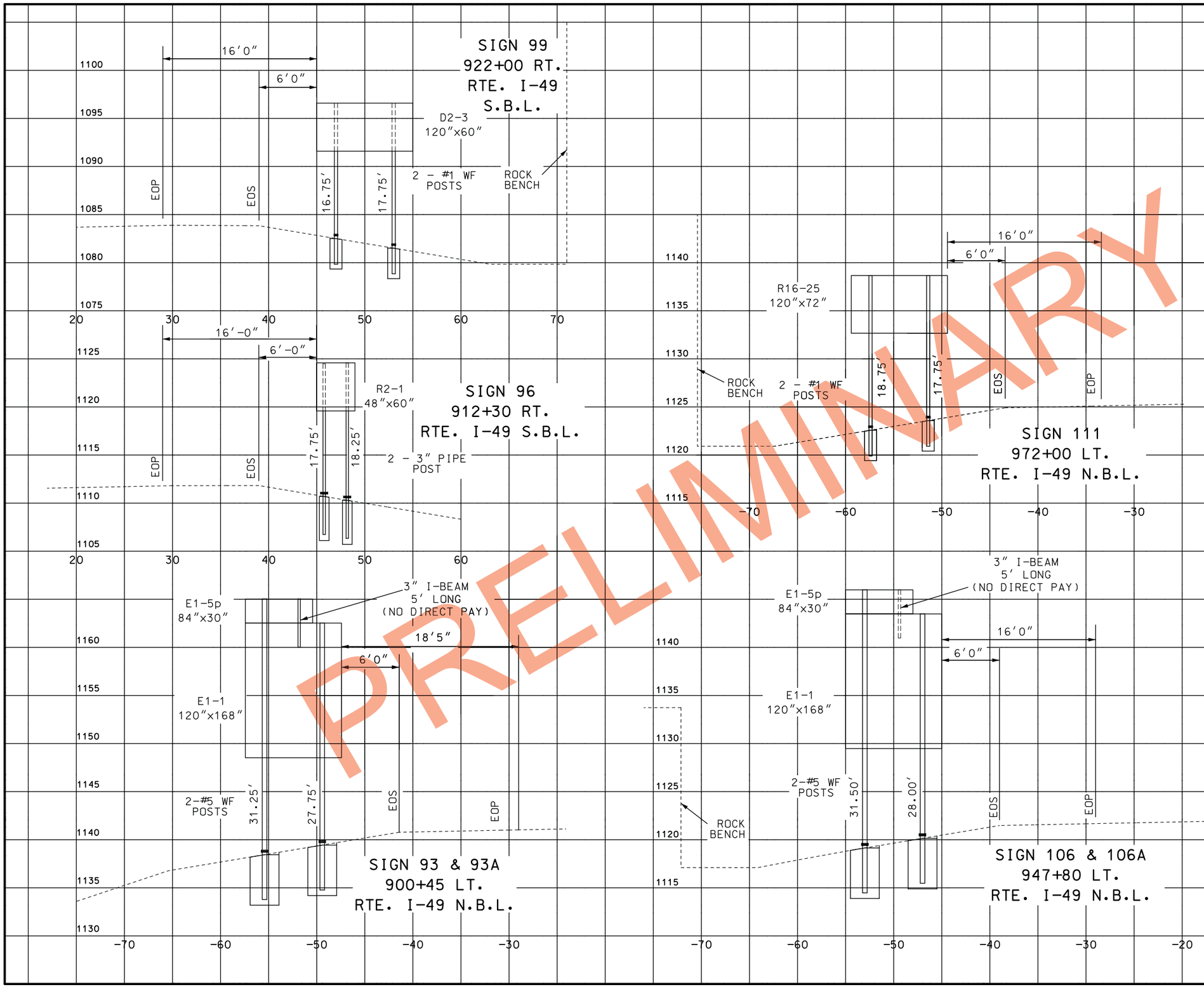
DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	132
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	133

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

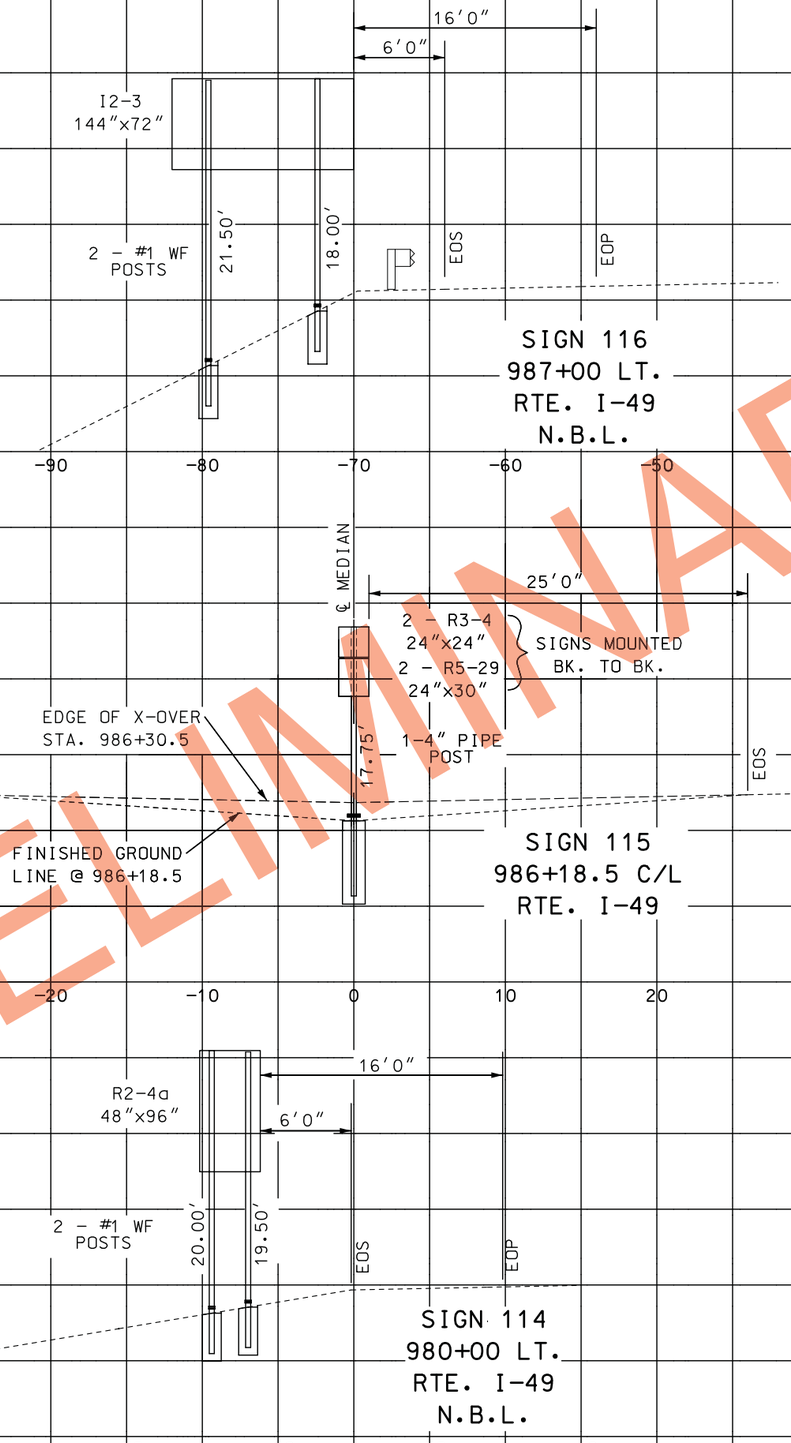
BRIDGE NO.

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.



PRELIMINARY

SIGN SECTIONS

SHEET 25 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	134

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

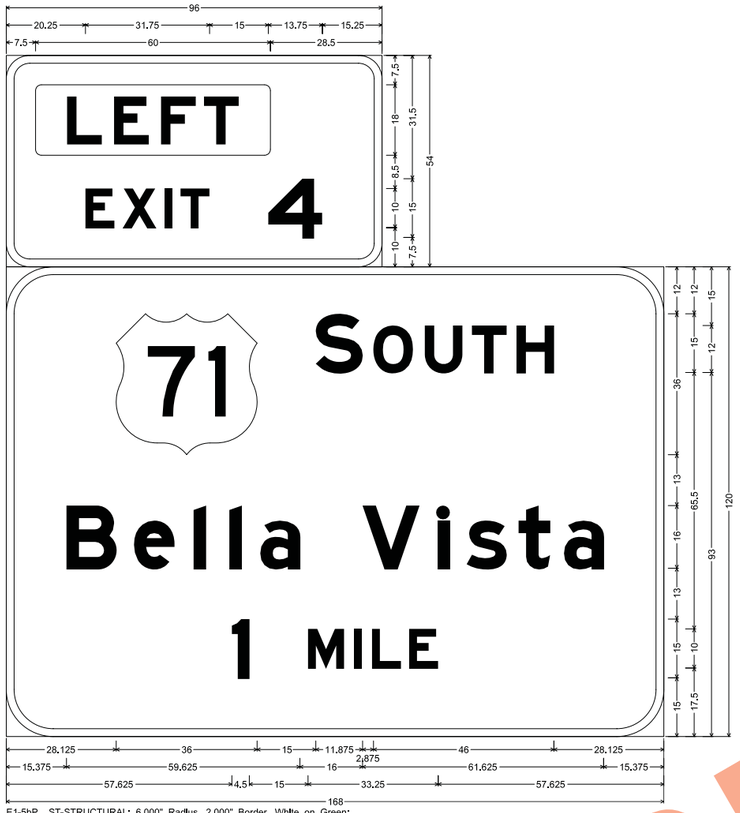
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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

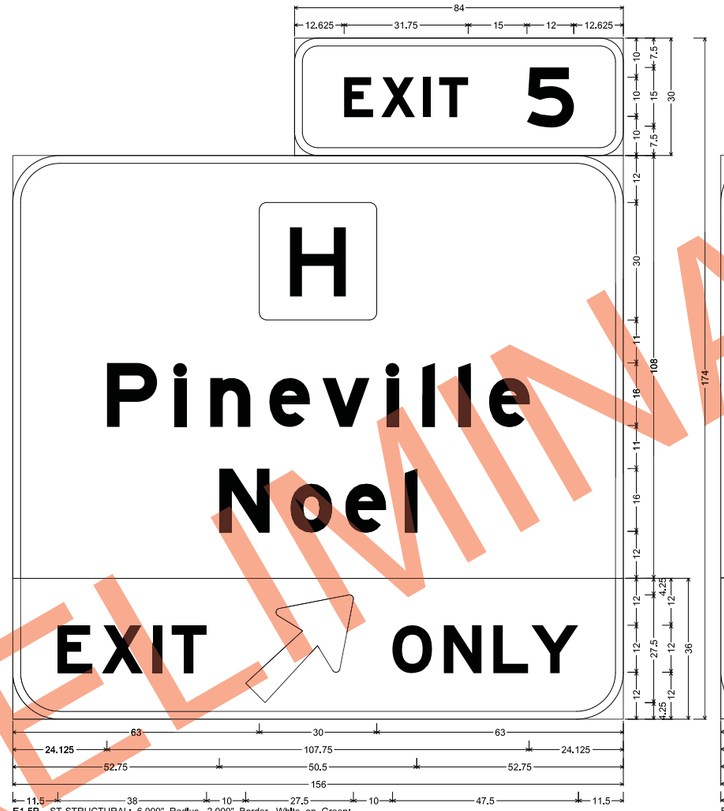
SIGN NO.	1, 1A
STATION	666+82
ROADWAY	I-49, SBL



E1-5bP ST-STRUCTURAL: 6.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.500" Radius Yellow;
[ ] E Mod; [EXIT 4] E Mod;
E1-1 ST-STRUCTURAL: 12.000" Radius, 2.000" Border, White on Green;
[SOUTH] E Mod; [Bella Vista] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

7.500				
E 20.250	X 29.750	I 40.500	T 44.500	4 67.000
71 28.125	S 79.125	O 93.875	U 106.875	T 119.000	H 130.375
B 15.375	e 32.625	I 47.875	I 57.000	a 64.875	V 91.000	i 110.125	s 117.625	t 130.875	a 142.500
1 57.625	M 77.125	I 88.875	L 93.500	E 102.875					

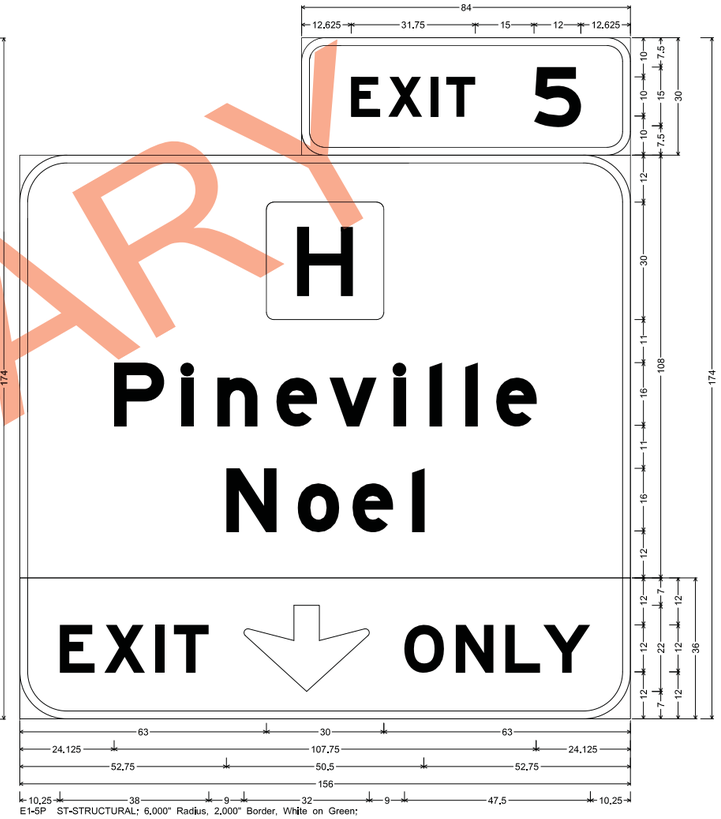
SIGN NO.	2, 2A
STATION	677+75
ROADWAY	I-49, NBL



E1-5P ST-STRUCTURAL: 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [5] E Mod;
E1-1 ST-STRUCTURAL: 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
[Pineville] E Mod; [Noel] E Mod;
STF-STRUCTURAL FLUORESCENT: 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.

E 84.625	X 94.125	I 104.875	T 109.000	5 131.375	
63.000					
P 24.125	I 41.375	n 50.500	e 65.625	v 79.125	I 95.500	I 104.625	I 113.750	e 121.750
N 52.750	o 71.000	e 85.000	I 100.250					
E 11.500	X 22.875	I 35.750	T 40.625	59.500	O 97.000	N 110.125	L 122.750	Y 132.500

SIGN NO.	5, 5A
STATION	693+42
ROADWAY	I-49, NBL



E1-5P ST-STRUCTURAL: 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [5] E Mod;
E1-1 ST-STRUCTURAL: 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
[Pineville] E Mod; [Noel] E Mod;
STF-STRUCTURAL FLUORESCENT: 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.

E 84.625	X 94.125	I 104.875	T 109.000	5 131.375	
63.000					
P 24.125	I 41.375	n 50.500	e 65.625	v 79.125	I 95.500	I 104.625	I 113.750	e 121.750
N 52.750	o 71.000	e 85.000	I 100.250					
E 10.250	X 21.625	I 34.500	T 39.375	57.250	O 98.250	N 111.375	L 124.000	Y 133.750

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019
ROUTE 49 | STATE MO
DISTRICT SW | SHEET NO. 135
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

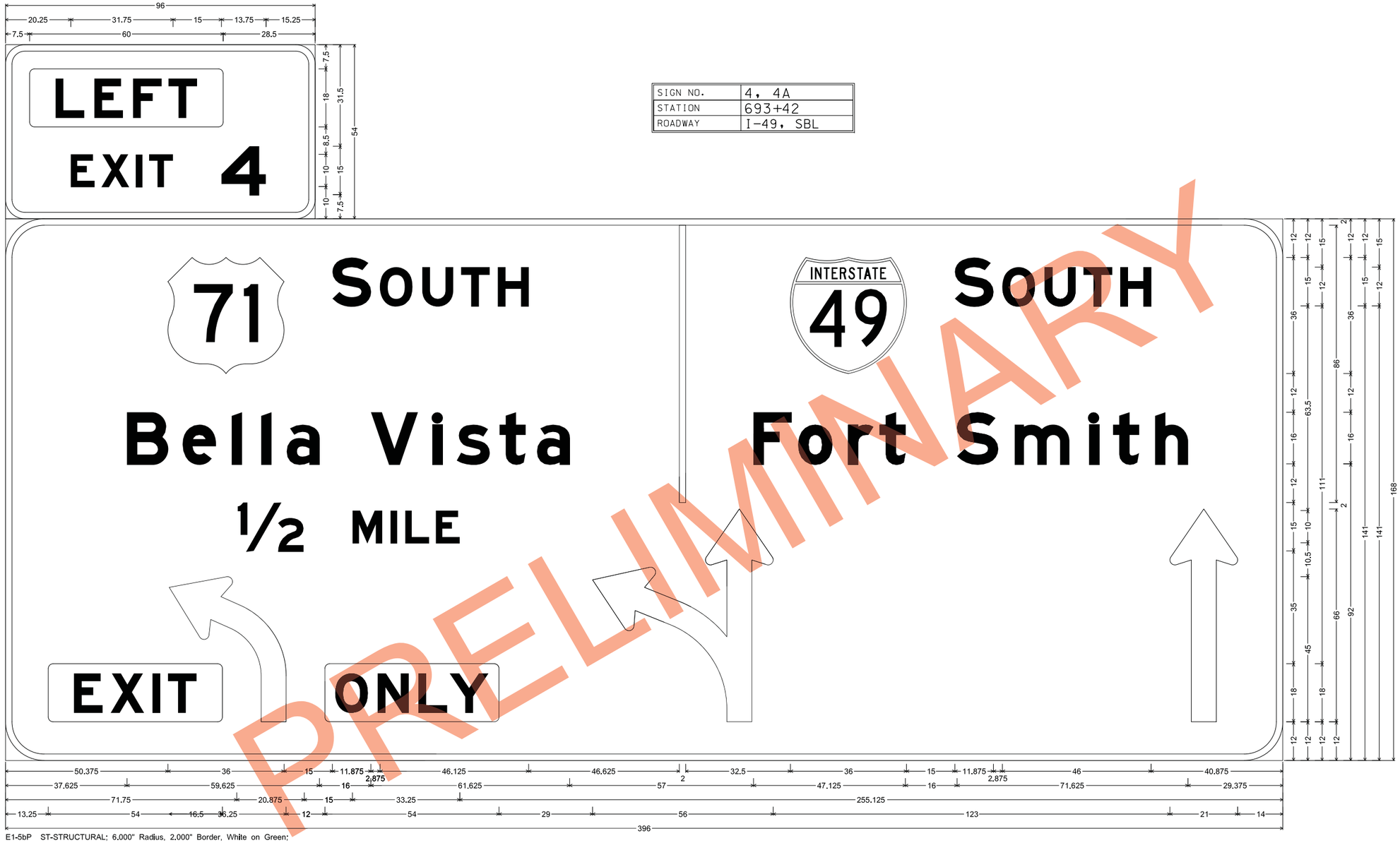
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

REV.

SIGN DETAILS

SHEET 26 OF 40



SIGN NO.	4, 4A
STATION	693+42
ROADWAY	I-49, SBL

E1-5bP ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.500" Radius Yellow;
[ ] E Mod; [EXIT 4] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
[ ] E Mod; [SOUTH] E Mod; [Bella Vista] E Mod; [½] E Mod; [MILE] E Mod; Interstate 49 18.000" C; [SOUTH] E Mod; [Fort Smith] E Mod; Rounded Rectangle 1.500" Radius Yellow;
Rounded Rectangle 1.500" Radius Yellow;
Table of letter and object lefts.

▭ 7.500				
E 20.250	X 29.750	I 40.500	T 44.500	4 67.000
71 50.375	S 101.375	O 116.125	U 129.250	T 141.250	H 152.625	I 208.875	49 243.375	S 294.375	O 309.125	U 322.125	T 334.250	H 345.625
B 37.625	e 54.875	l 70.125	l 79.250	a 87.125	V 113.250	i 132.375	s 139.875	t 153.125	a 164.750	F 231.875	o 245.750	r 261.125	t 271.000	S 295.000	m 312.875	i 335.875	t 343.375	h 356.375
½ 71.750	M 107.625	I 119.375	L 124.000	E 133.375														
▭ 13.250	50.750	▭ 99.000	182.000	361.000														

PRELIMINARY

SIGN DETAILS

SHEET 27 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	136

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

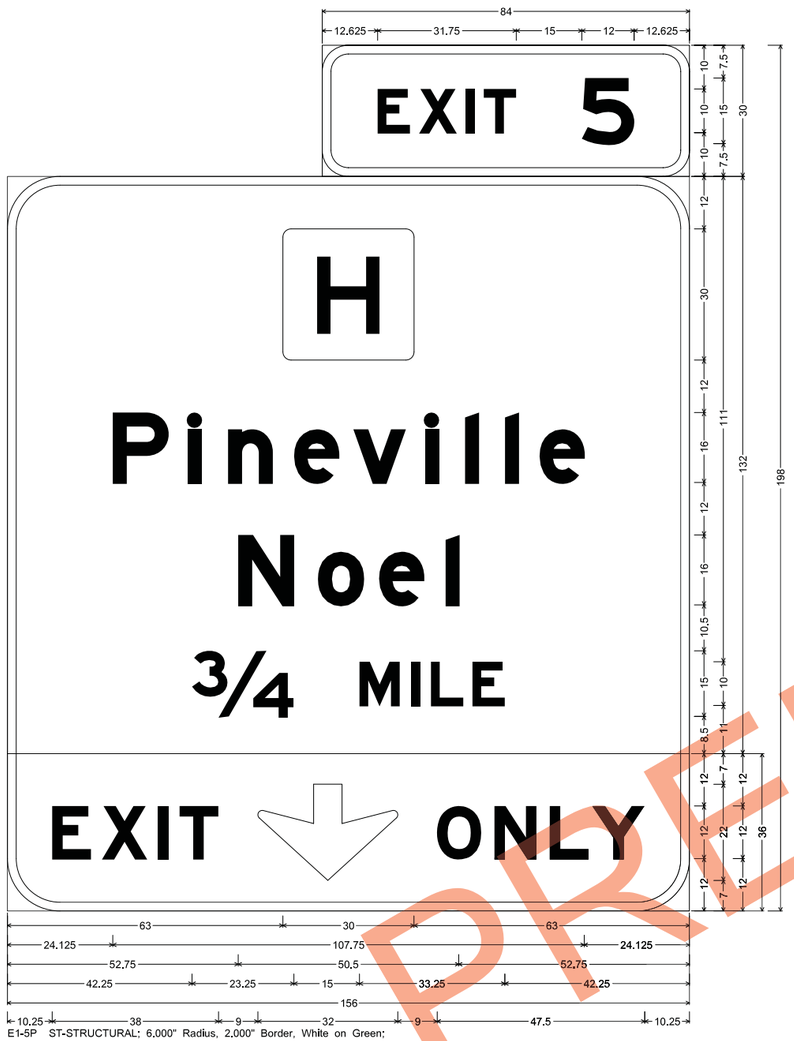
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION	REV.

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

SIGN NO.	6, 6A
STATION	709+35
ROADWAY	I-49, NBL



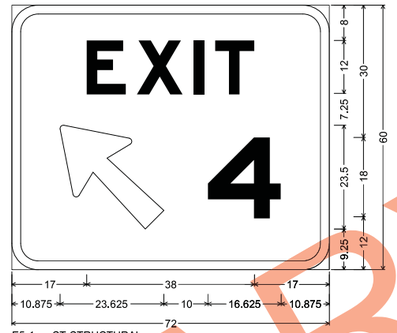
E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [5] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.875" Radius;
[Pineville] E Mod; [Noel] E Mod; [¾] E Mod; [MILE] E Mod;
STF-STRUCTURAL FLUORESCENT; 12.000" Radius, 2.000" Border, Black on Yellow;
[EXIT] E Mod; Down Arrow 22.000" 270°; [ONLY] E Mod;
Table of letter and object lefts.

E 84.625	X 94.125	I 104.875	T 109.000	S 131.375
□ 63.000				

P 24.125	I 41.375	n 50.500	e 65.625	v 79.125	I 95.500	I 104.625	I 113.750	e 121.750
N 52.750	o 71.000	e 85.000	I 100.250					
¾ 42.250	M 80.500	I 92.250	L 96.875	E 106.375				

E 10.250	X 21.625	I 34.500	T 39.375	⇩ 57.250	O 98.250	N 111.375	L 124.000	Y 133.750	

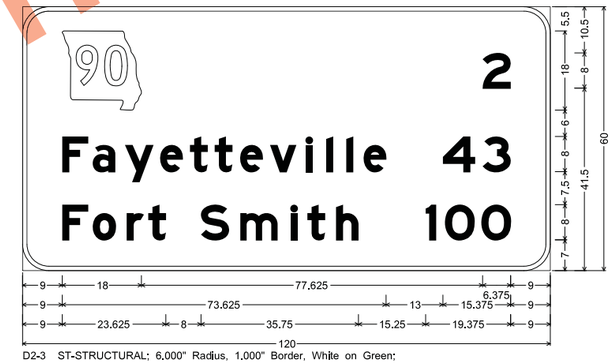
SIGN NO.	16
STATION	724+66
ROADWAY	I-49, SBL



E5-1a ST-STRUCTURAL:
6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; Arrow 133 - 30.000" 135°; [4] E Mod;
Table of letter and object lefts.

E 17.000	X 28.375	I 41.250	T 46.125
⇖ 10.875	4 44.500		

SIGN NO.	19
STATION	740+00
ROADWAY	I-49, SBL



D2-3 ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
State Highway 90 M1-6a 9.000" C; [2] E Mod; [Fayetteville] E Mod; [43] E Mod;
[Fort Smith] E Mod; [100] E Mod;
Table of letter and object lefts.

90 9.000	2 104.625

F 9.000	a 16.000	y 23.250	e 31.250	t 38.000	t 43.625	e 49.500	v 56.250	l 64.500	l 69.000	l 73.625	e 77.500	
	4 95.625	3 104.625										

F 9.000	o 16.000	r 23.625	t 28.625	S 40.625	m 49.500	l 61.000	t 64.750	h 71.250	l 91.625	O 96.125	O 104.375	

PRELIMINARY

SIGN DETAILS

SHEET 28 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

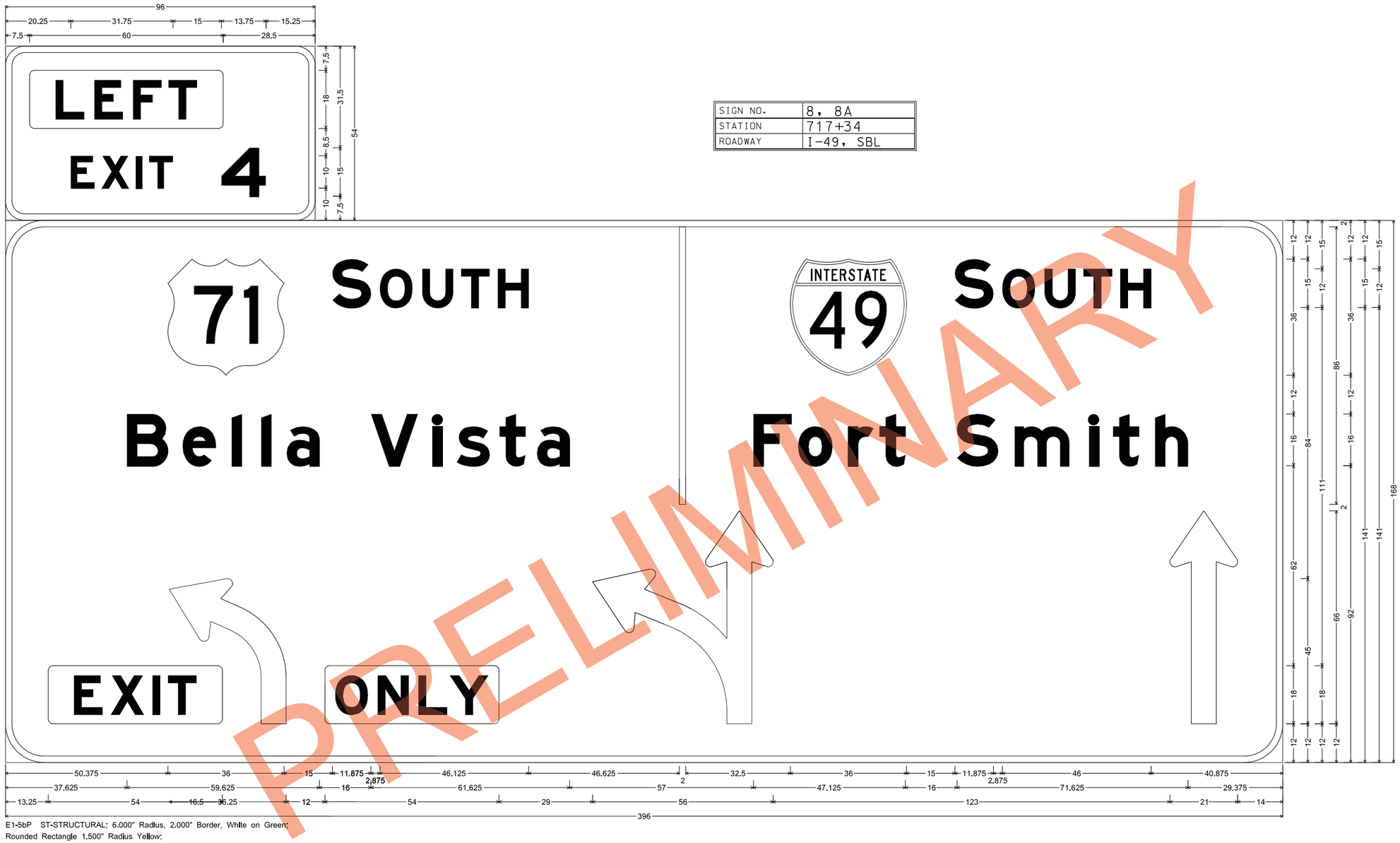
DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	137

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

REV.	DESCRIPTION	DATE

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



SIGN NO.	8, 8A
STATION	717+34
ROADWAY	I-49, SBL

E1-5bP ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
Rounded Rectangle 1.500" Radius Yellow;
[ ] E Mod; [EXIT 4] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
[ ] E Mod; [SOUTH] E Mod; [Bella Vista] E Mod; Interstate 49 18.000" C; [SOUTH] E Mod; [Fort Smith] E Mod; Rounded Rectangle 1.500" Radius Yellow;
Rounded Rectangle 1.500" Radius Yellow;
Table of letter and object lefts.

7.500				
E 20.250	X 29.750	I 40.500	T 44.500	4 67.000

71 50.375	S 101.375	O 116.125	U 129.250	T 141.250	H 152.625	I 208.875	49 243.375	S 294.375	O 309.125	U 322.125	T 334.250	H 345.625	

B 37.625	e 54.875	l 70.125	l 79.250	a 87.125	V 113.250	i 132.375	s 139.875	t 153.125	a 164.750	F 231.875	o 245.750	r 261.125	t 271.000	S 295.000	m 312.875	i 335.875	t 343.375	h 356.375	

13.250	50.750	99.000	182.000	361.000

SIGN DETAILS

SHEET 29 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019	
ROUTE 49	STATE MO
DISTRICT SW	SHEET NO. 138
COUNTY McDONALD	
JOB NO. J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

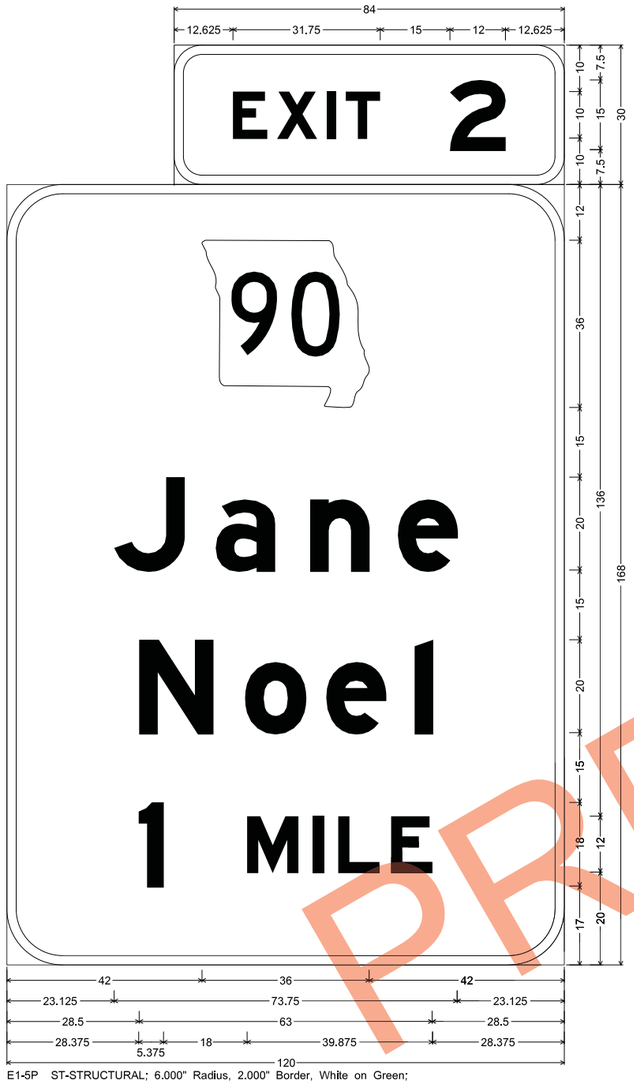
MoDOT

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

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

REV.

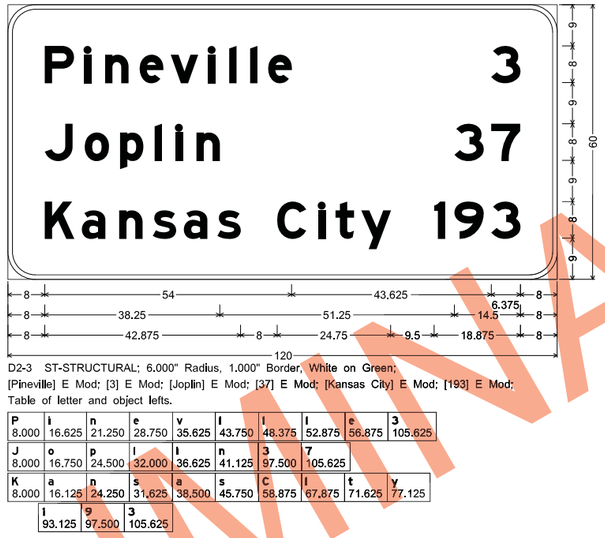
SIGN NO.	31, 31A
STATION	802+34
ROADWAY	I-49, SBL



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [2] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
State Highway 90 M1-6a3 18.000" C; [Jane] E Mod; [Noel] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

E 12.625	X 22.125	I 32.875	T 37.000	2 59.375
42.000				
J 23.125	a 45.000	n 65.250	e 84.125	
N 28.500	o 51.250	e 68.750	l 87.750	
1 28.375	M 51.750	I 65.875	L 71.375	E 82.750

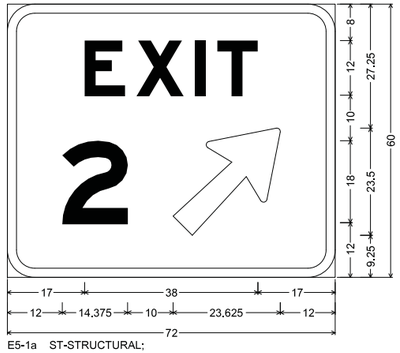
SIGN NO.	38
STATION	830+00
ROADWAY	I-49, NBL



D2-3 ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
[Pineville] E Mod; [3] E Mod; [Joplin] E Mod; [37] E Mod; [Kansas City] E Mod; [193] E Mod;
Table of letter and object lefts.

P 8.000	i 16.625	n 21.250	e 28.750	v 35.625	l 43.750	l 48.375	l 52.875	e 56.875	3 105.625
J 8.000	o 16.750	p 24.500	l 32.000	l 36.625	n 41.125	3 97.500	7 105.625		
K 8.000	a 16.125	n 24.250	s 31.625	a 38.500	s 45.750	C 58.875	l 67.875	t 71.625	y 77.125
l 93.125	9 97.500	3 105.625							

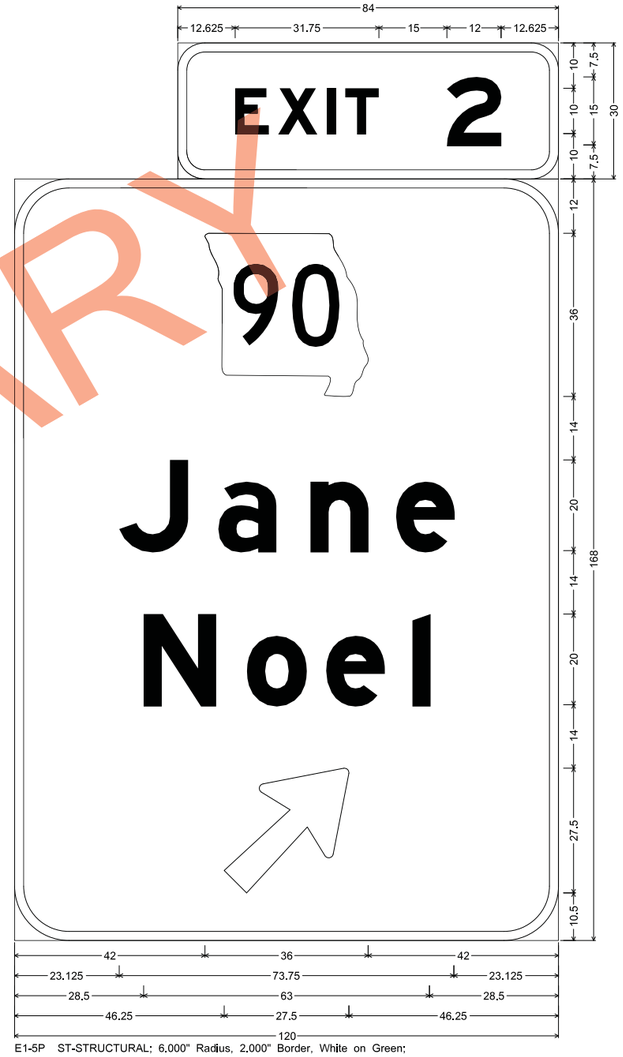
SIGN NO.	46
STATION	859+37
ROADWAY	I-49, SBL



E5-1a ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [2] E Mod; Arrow 133 - 30.000" 45°;
Table of letter and object lefts.

E 17.000	X 28.375	I 41.250	T 46.125
2 12.000	36.375		

SIGN NO.	42, 42A
STATION	849+60
ROADWAY	I-49, SBL



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [2] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
State Highway 90 M1-6a3 18.000" C; [Jane] E Mod; [Noel] E Mod; Arrow 160 - 35.000" 45°;
Table of letter and object lefts.

E 12.625	X 22.125	I 32.875	T 37.000	2 59.375
42.000				
J 23.125	a 45.000	n 65.250	e 84.125	
N 28.500	o 51.250	e 68.750	l 87.750	
46.250				

PRELIMINARY

SIGN DETAILS

SHEET 30 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	139

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

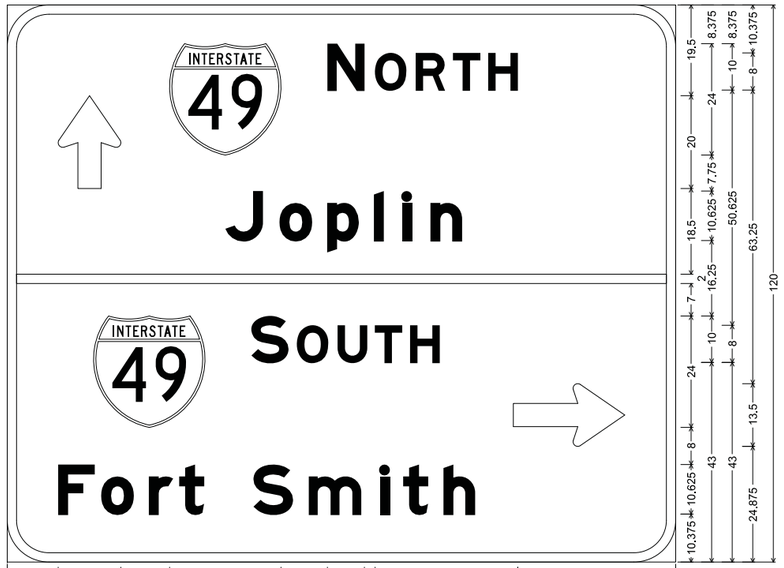
DESCRIPTION	DATE

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.

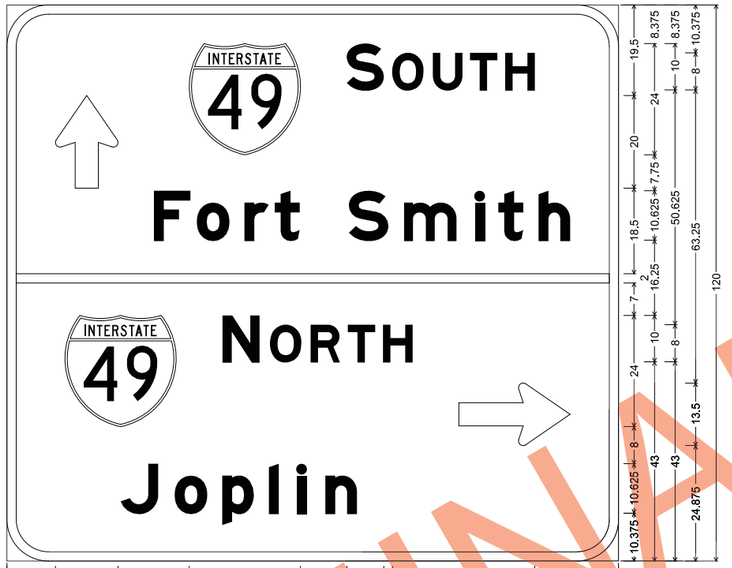
SIGN NO.	66
STATION	45+50
ROADWAY	RTE. 90



E8-2 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
Standard Arrow Custom 20.000" X 13.500" 90°; Interstate 49 12.000" C; [NORTH] E Mod; [Joplin] E Mod;
Interstate 49 12.000" C; [SOUTH] E Mod; [Fort Smith] E Mod; Standard Arrow Custom 24.000" X 13.500" 0°;
Table of letter and object lefts.

11.000	35.000	N 69.000	O 79.250	R 88.000	T 96.000	H 103.625
J 47.000	o 58.625	p 68.875	l 79.000	l 85.125	n 91.125	
2.000						
18.625	S 52.625	O 62.375	U 71.125	T 79.250	H 86.750	109.000
F 11.000	o 20.250	r 30.500	t 37.000	S 53.000	m 65.000	l 80.250	t 85.250	h 94.000

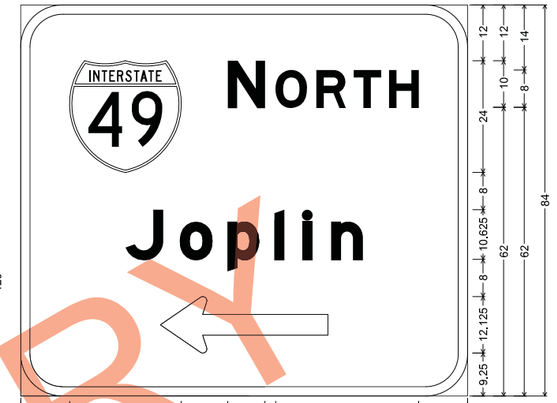
SIGN NO.	73
STATION	54+75
ROADWAY	RTE. 90



E8-2 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
Standard Arrow Custom 20.000" X 13.500" 90°; Interstate 49 12.000" C; [SOUTH] E Mod;
[Fort Smith] E Mod; Interstate 49 12.000" C; [NORTH] E Mod; [Joplin] E Mod;
Standard Arrow Custom 24.000" X 13.500" 0°;
Table of letter and object lefts.

10.500	39.375	S 73.375	O 83.125	U 91.875	T 100.000	H 107.500
F 31.750	o 41.000	r 51.250	t 57.750	S 73.750	m 85.750	l 101.000	t 106.000	h 114.750
2.000						
12.500	N 46.500	O 56.750	R 65.500	T 73.625	H 81.125	97.500
J 24.500	o 36.250	p 46.500	l 56.500	l 62.625	n 68.750	

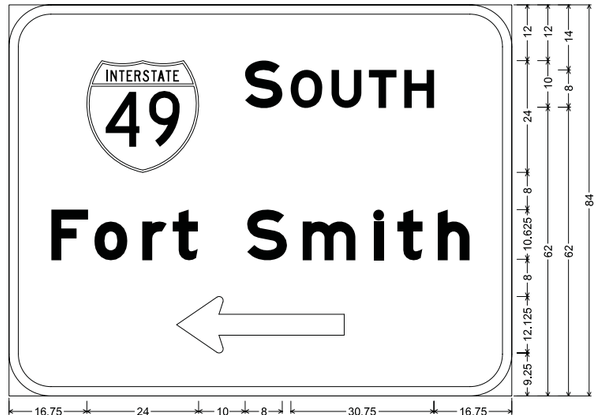
SIGN NO.	71
STATION	52+60
ROADWAY	RTE. 90



E8-1 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
Interstate 49 12.000" C; [NORTH] E Mod; [Joplin] E Mod;
Standard Arrow Custom 36.000" X 12.125" 180°;
Table of letter and object lefts.

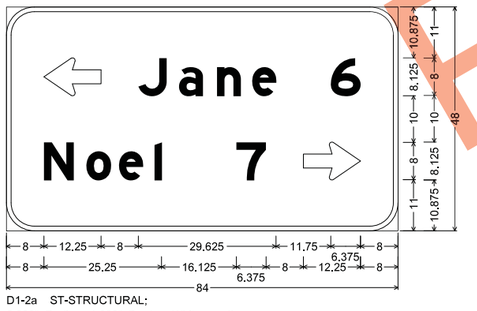
10.500	N 44.500	O 54.750	R 63.500	T 71.500	H 79.125
J 22.500	o 34.125	p 44.500	l 54.500	l 60.625	n 66.750
30.000					

SIGN NO.	68
STATION	47+40
ROADWAY	RTE. 90



E8-1 ST-STRUCTURAL; 9.000" Radius, 2.000" Border, White on Green;
Interstate 49 12.000" C; [SOUTH] E Mod; [Fort Smith] E Mod;
Standard Arrow Custom 36.000" X 12.125" 180°;
Table of letter and object lefts.

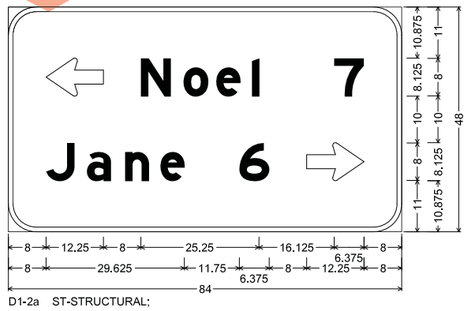
16.750	S 50.750	O 60.500	U 69.250	T 77.375	H 84.875	
F 9.125	o 18.375	r 28.625	t 35.125	S 51.125	m 63.125	l 78.375	t 83.375	h 92.125
36.000						



D1-2a ST-STRUCTURAL;
6.000" Radius, 1.000" Border, White on Green;
Standard Arrow Custom 12.250" X 8.125" 180°; [Jane] E Mod;
[6] E Mod; [Noel] E Mod; [7] E Mod;
Standard Arrow Custom 12.250" X 8.125" 0°;
Table of letter and object lefts.

8.000	J 28.250	a 37.000	n 45.125	e 52.750	6 69.625
N 8.000	o 17.125	e 24.125	l 31.750	7 49.375	63.750

SIGN NO.	53
STATION	2015+25
ROADWAY	I-49/90 RAMP 2



D1-2a ST-STRUCTURAL;
6.000" Radius, 1.000" Border, White on Green;
Standard Arrow Custom 12.250" X 8.125" 180°; [Noel] E Mod;
[7] E Mod; [Jane] E Mod; [6] E Mod;
Standard Arrow Custom 12.250" X 8.125" 0°;
Table of letter and object lefts.

8.000	N 28.250	o 37.375	e 44.375	l 52.000	7 69.625
J 8.000	a 16.750	n 24.875	e 32.500	6 49.375	63.750

SIGN NO.	82
STATION	3003+15
ROADWAY	I-49/90 RAMP 3

PRELIMINARY

SIGN DETAILS

SHEET 31 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	140

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

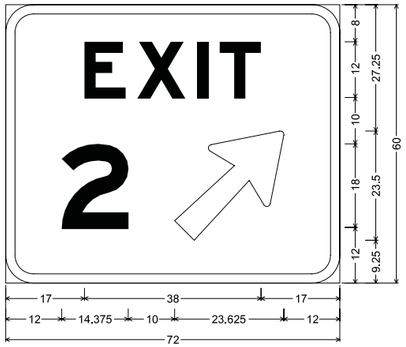
DESCRIPTION | DATE

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.

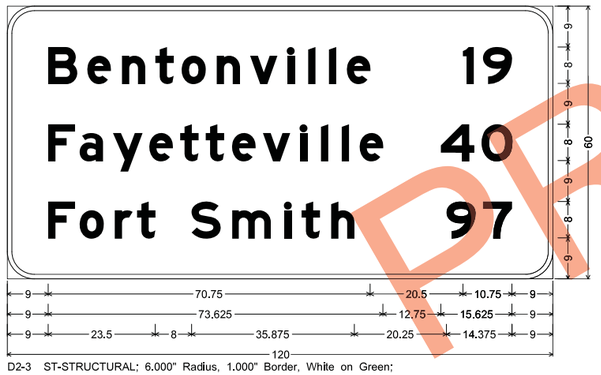
SIGN NO.	89
STATION	890+07
ROADWAY	I-49, NBL



E5-1a ST-STRUCTURAL;
6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [2] E Mod; Arrow 133 - 30.000" 45°;
Table of letter and object lefts.

E 17.000	**X** 28.375	**I** 41.250	**T** 46.125
2 12.000	36.375		

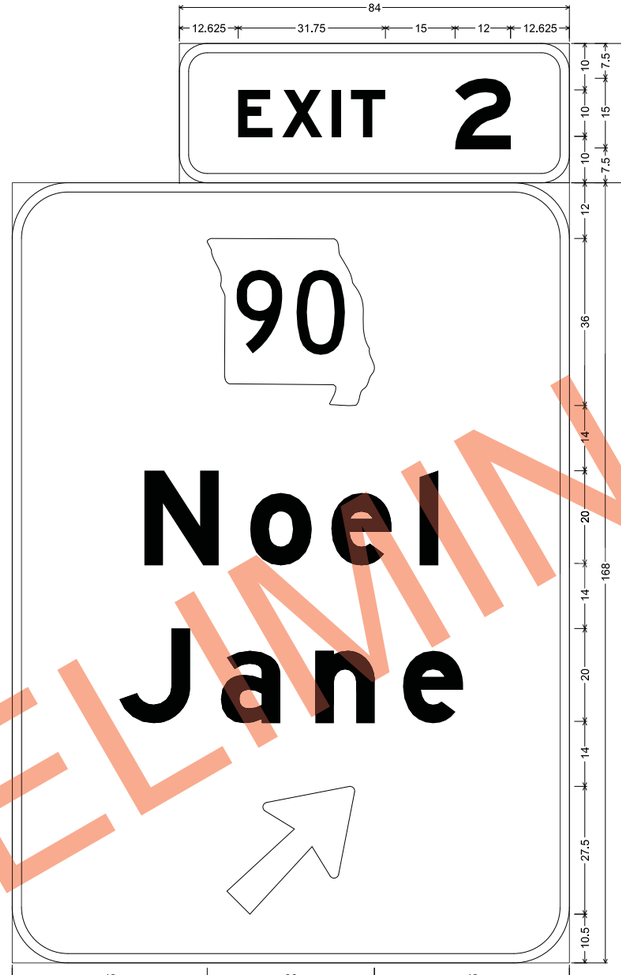
SIGN NO.	100
STATION	922+00
ROADWAY	I-49, SBL



D2-3 ST-STRUCTURAL; 6.000" Radius, 1.000" Border, White on Green;
[Bentonville] E Mod; [19] E Mod; [Fayetteville] E Mod; [40] E Mod; [Fort Smith] E Mod;
[97] E Mod;
Table of letter and object lefts.

B 9.000	**e** 17.625	**n** 25.250	**t** 32.625	**o** 38.375	**n** 46.125	**v** 53.375	**i** 61.625	**l** 66.125	**l** 70.750	**e** 74.750		
l 100.250	**9** 104.625											
F 9.000	**a** 15.875	**y** 23.250	**e** 31.250	**t** 38.000	**t** 43.625	**e** 49.500	**v** 56.250	**i** 64.375	**l** 69.000	**l** 73.625	**e** 77.500	
4 95.375	**O** 104.375											
F 9.000	**o** 15.875	**r** 23.625	**t** 28.500	**S** 40.500	**m** 49.500	**i** 61.000	**t** 64.750	**h** 71.250	**9** 96.625	**7** 104.625		

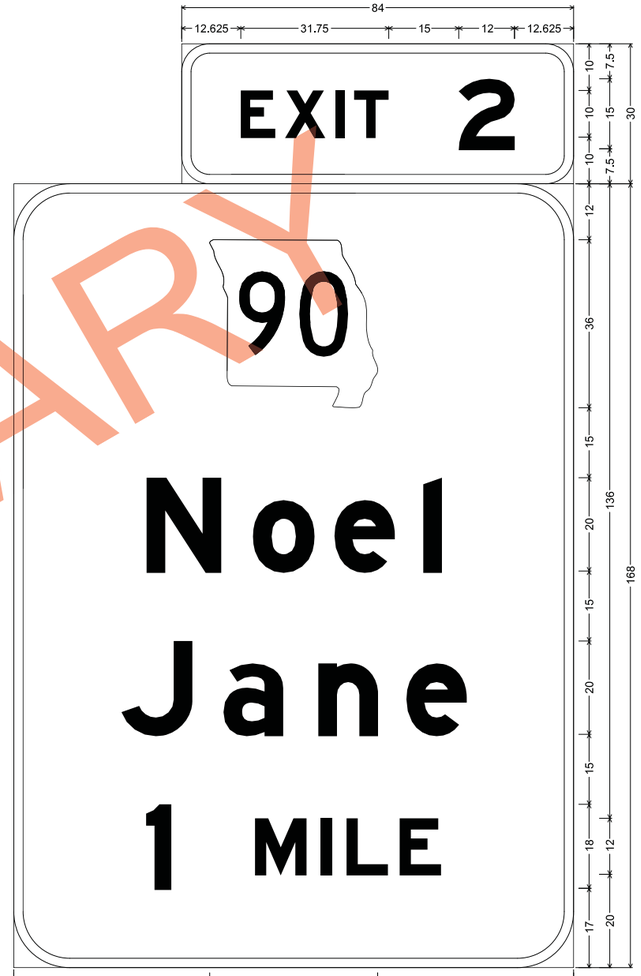
SIGN NO.	93, 93A
STATION	900+45
ROADWAY	I-49, NBL



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [2] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
State Highway 90 M1-6a3 18.000" C; [Noel] E Mod; [Jane] E Mod; Arrow 160 - 35.000" 45°;
Table of letter and object lefts.

E 12.625	**X** 22.125	**I** 32.875	**T** 37.000	**2** 59.375
42.000				
N 28.500	**o** 51.250	**e** 68.750	**l** 87.750	
J 23.125	**a** 45.000	**n** 65.250	**e** 84.125	
46.250				

SIGN NO.	106, 106A
STATION	947+80
ROADWAY	I-49, NBL



E1-5P ST-STRUCTURAL; 6.000" Radius, 2.000" Border, White on Green;
[EXIT] E Mod; [2] E Mod;
E1-1 ST-STRUCTURAL; 12.000" Radius, 2.000" Border, White on Green;
State Highway 90 M1-6a3 18.000" C; [Noel] E Mod; [Jane] E Mod; [1] E Mod; [MILE] E Mod;
Table of letter and object lefts.

E 12.625	**X** 22.125	**I** 32.875	**T** 37.000	**2** 59.375
42.000				
N 28.500	**o** 51.250	**e** 68.750	**l** 87.750	
J 23.125	**a** 45.000	**n** 65.250	**e** 84.125	
l 28.375	**M** 51.750	**I** 65.875	**L** 71.375	**E** 82.750

PRELIMINARY

SIGN DETAILS

SHEET 32 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

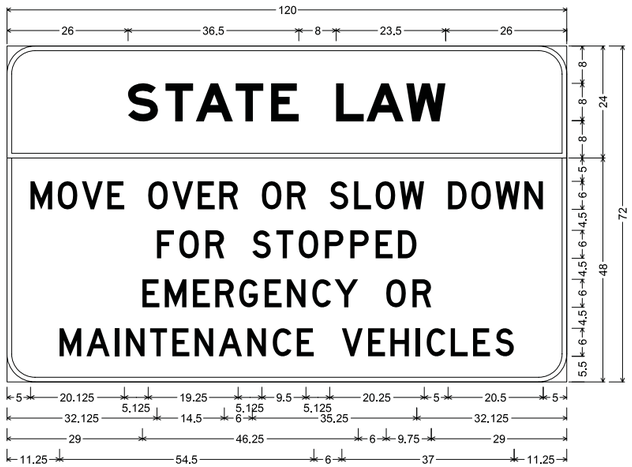
DATE PREPARED	
11/11/2019	
ROUTE 49	STATE MO
DISTRICT SW	SHEET NO. 141
COUNTY McDONALD	
JOB NO. J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION	DATE

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

REV.

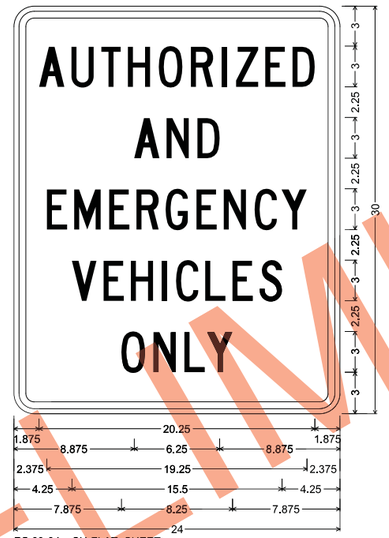
SIGN NO.	111
STATION	972+00
ROADWAY	I-49, NBL



R16-25-120;
STF-STRUCTURAL FLUORESCENT; 6.000" Radius, 1.000" Border, Black on Yellow;
[STATE LAW] E Mod;
ST-STRUCTURAL; 6.000" Radius, 1.000" Border, Black on White;
[MOVE OVER OR SLOW DOWN] D 85% spacing; [FOR STOPPED] D; [EMERGENCY OR] D;
[MAINTENANCE VEHICLES] D;
Table of letter and object lefts.

S 26.000	T 34.000	A 40.500	T 49.000	E 56.625	L 70.500	A 77.000	W 85.625	
M 5.000	O 10.875	V 16.000	E 21.500	O 30.250	V 35.500	E 40.875	R 45.500	O 54.625	R 60.000
S 69.250	L 74.375	O 79.000	W 84.250	D 94.500	O 99.500	W 104.750	N 110.875		
F 32.125	O 36.875	R 42.500	S 52.625	T 57.750	O 62.500	P 68.125	P 73.625	E 79.000	D 83.875	
E 29.000	M 33.875	E 39.875	R 44.625	G 49.750	E 55.250	N 60.000	C 65.500	Y 70.250	O 81.250	R 86.875
M 11.250	A 17.000	I 23.125	N 25.500	T 30.625	E 35.500	N 40.250	A 45.375	N 51.500	C 57.000	E 62.125
V 71.750	E 77.375	H 82.250	I 87.625	C 90.000	L 95.125	E 99.875	S 104.750			

SIGN NO.	115
STATION	986+18.5
ROADWAY	I-49, MEDIAN



R5-29-24 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, 0.375" Indent, Black on White;
[AUTHORIZED] C; [AND] C; [EMERGENCY] C;
[VEHICLES] C; [ONLY] C;
Table of letter and object lefts.

A 1.875	U 4.250	T 6.375	H 8.375	O 10.625	R 13.000	I 15.250	Z 16.375	E 18.500	D 20.500
A 8.875	N 11.250	D 13.500							
E 2.375	M 4.375	E 7.000	R 9.000	G 11.125	E 13.500	N 15.500	C 17.750	Y 19.750	
V 4.250	E 6.625	H 8.625	I 10.875	C 11.875	L 14.125	E 16.125	S 18.125		
O 7.875	N 10.250	L 12.500	Y 14.250						

SIGN NO.	116
STATION	987+00
ROADWAY	I-49, NBL



I2-3 ST-STRUCTURAL; 2.000" Border, White on Blue;
Table of letter and object lefts.

13.250

PRELIMINARY

SIGN DETAILS

SHEET 33 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	142

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

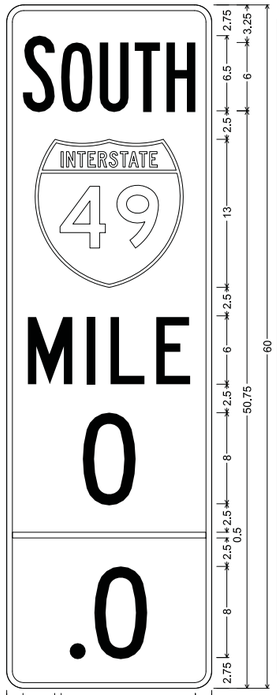
DESCRIPTION	DATE

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.

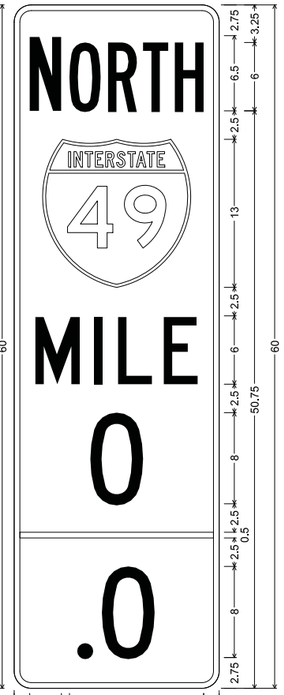
SIGN NO.	118
STATION	987+32.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[0] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.625				
0.500				
.	0			
5.625	7.750			

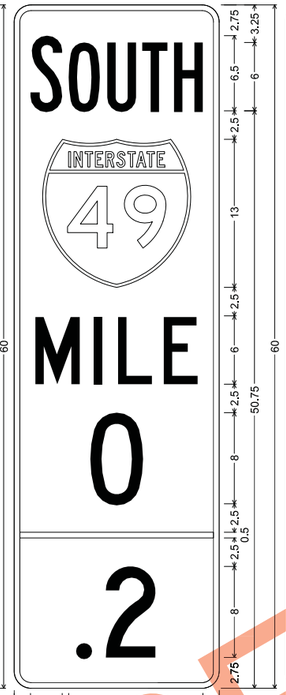
SIGN NO.	117
STATION	987+32.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[0] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.750				
0.500				
.	0			
5.625	7.750			

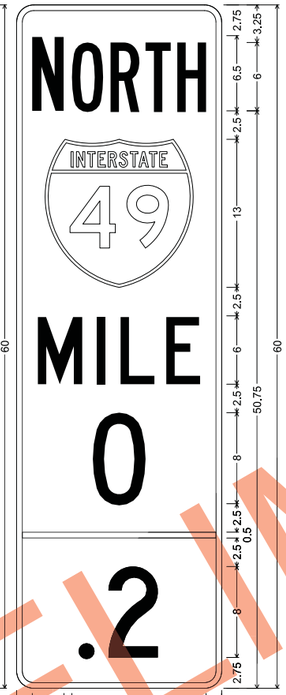
SIGN NO.	113
STATION	976+76.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[0] C; [.2] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.625				
0.500				
.	2			
5.625	8.000			

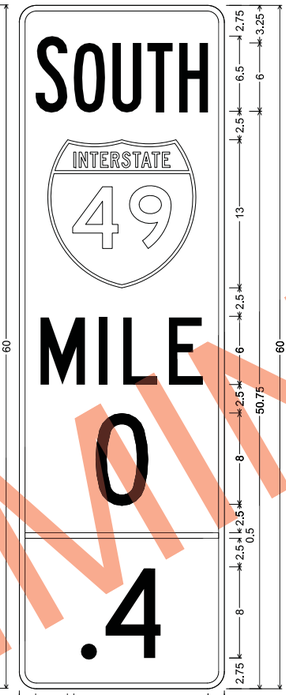
SIGN NO.	112
STATION	976+76.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[0] C; [.2] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.750				
0.500				
.	2			
5.625	8.000			

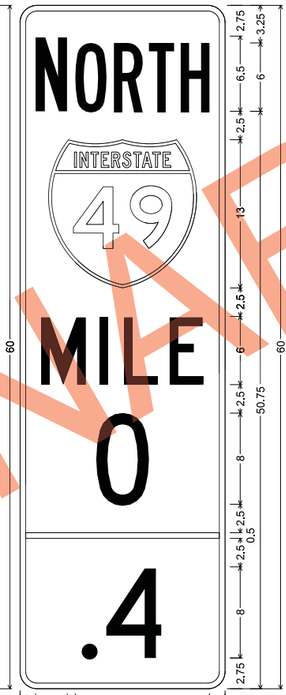
SIGN NO.	110
STATION	966+20.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[0] C; [.4] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.625				
0.500				
.	4			
5.500	7.625			

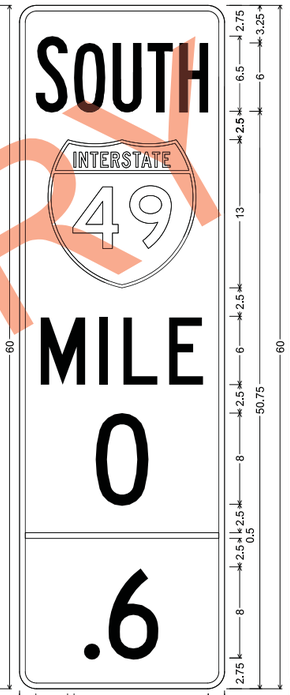
SIGN NO.	109
STATION	966+20.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[0] C; [.4] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.750				
0.500				
.	4			
5.500	7.625			

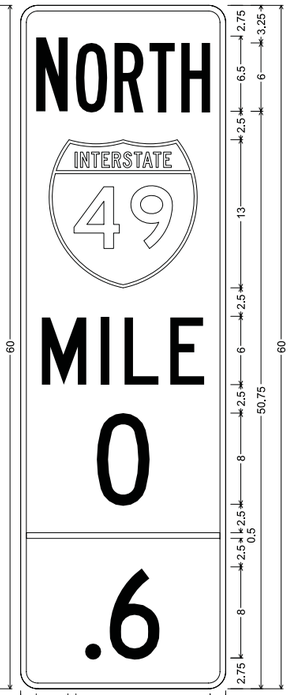
SIGN NO.	108
STATION	955+64.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[0] C; [.6] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.625				
0.500				
.	6			
5.750	7.875			

SIGN NO.	107
STATION	955+64.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[0] C; [.6] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
0				
6.750				
0.500				
.	6			
5.750	7.875			

PRELIMINARY

SIGN DETAILS

SHEET 34 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	143

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

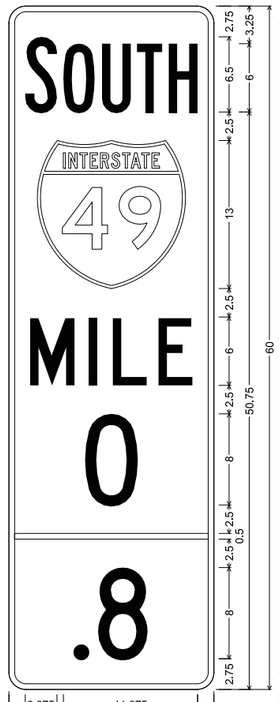
BRIDGE NO.

REV.	DESCRIPTION	DATE

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

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

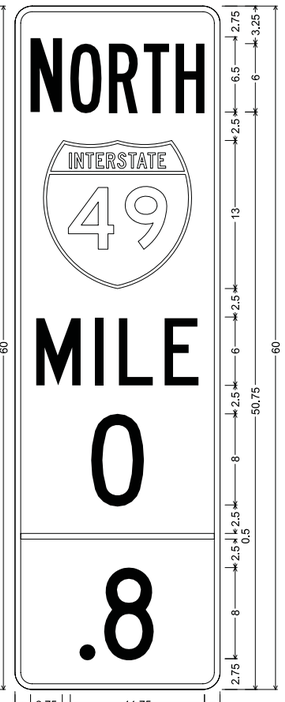
SIGN NO.	105
STATION	945+08.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[0] C; [.8] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
0 6.625				
— 0.500				
. 5.750	8 7.875			

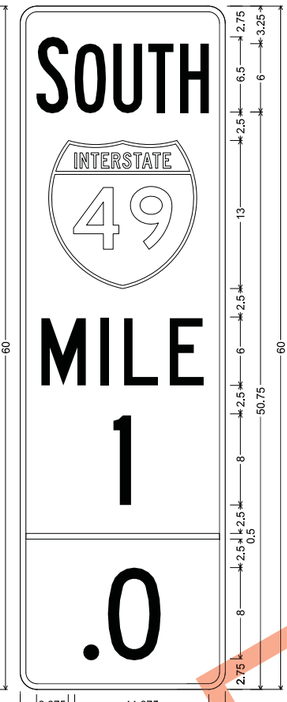
SIGN NO.	104
STATION	945+08.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[0] C; [.8] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
0 6.750				
— 0.500				
. 5.750	8 7.875			

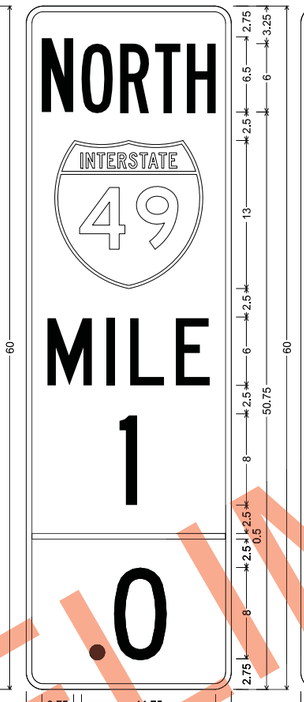
SIGN NO.	103
STATION	934+52.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
I 8.125				
— 0.500				
. 5.625	0 7.750			

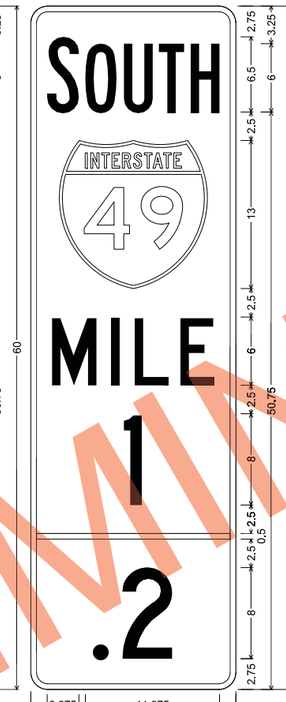
SIGN NO.	102
STATION	934+52.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
I 8.250				
— 0.500				
. 5.625	0 7.750			

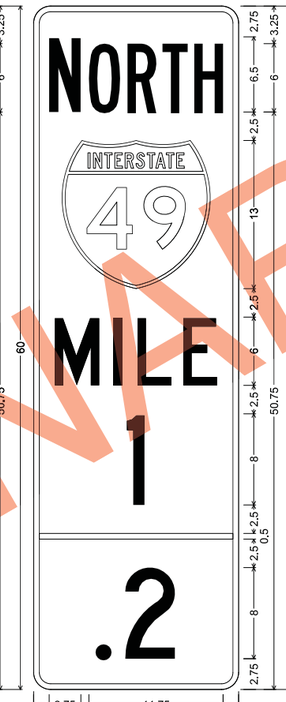
SIGN NO.	101
STATION	923+96.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
I 8.125				
— 0.500				
. 5.625	2 8.000			

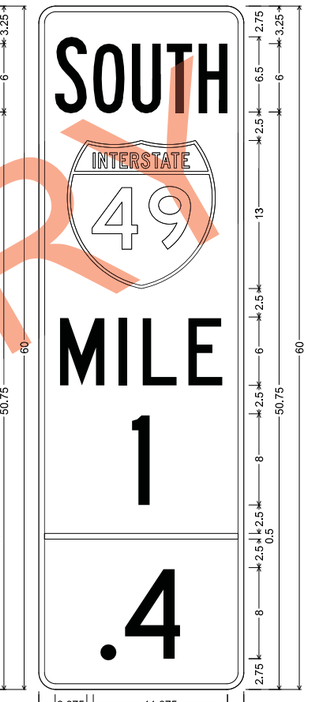
SIGN NO.	100
STATION	923+96.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
I 8.250				
— 0.500				
. 5.625	2 8.000			

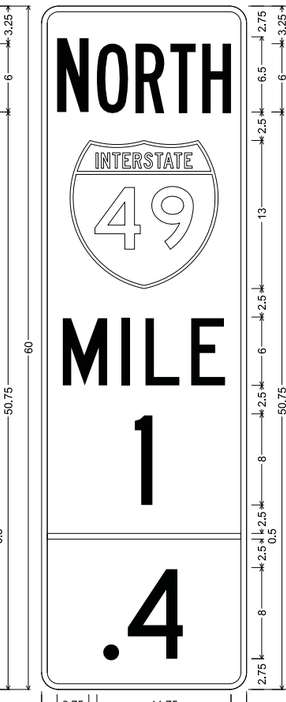
SIGN NO.	98
STATION	913+40.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
I 8.125				
— 0.500				
. 5.500	4 7.625			

SIGN NO.	97
STATION	913+40.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
I 8.250				
— 0.500				
. 5.500	4 7.625			

PRELIMINARY

SIGN DETAILS

SHEET 35 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	144

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

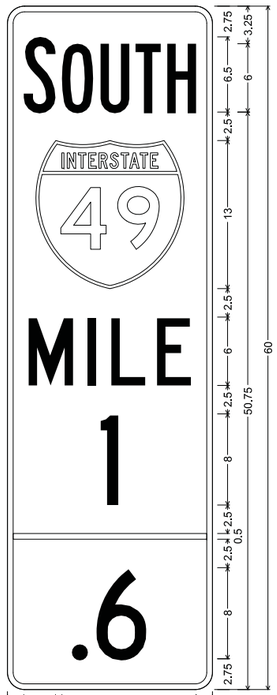
DESCRIPTION	DATE

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

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

REV.

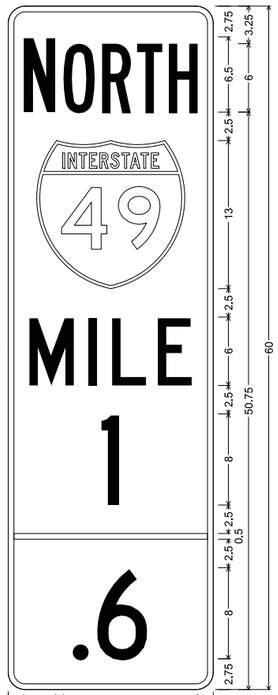
SIGN NO.	95
STATION	902+84.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
1				
8.125				
—				
0.500				
.	6			
5.750	7.875			

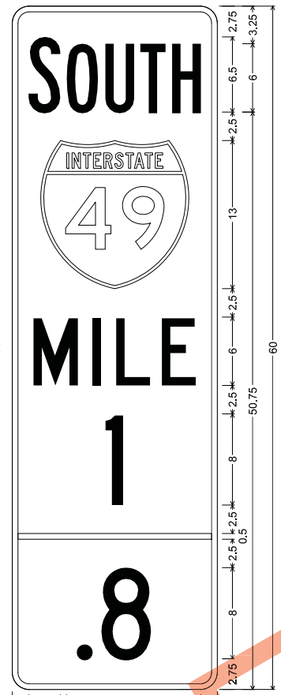
SIGN NO.	94
STATION	902+84.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
1				
8.250				
—				
0.500				
.	6			
5.750	7.875			

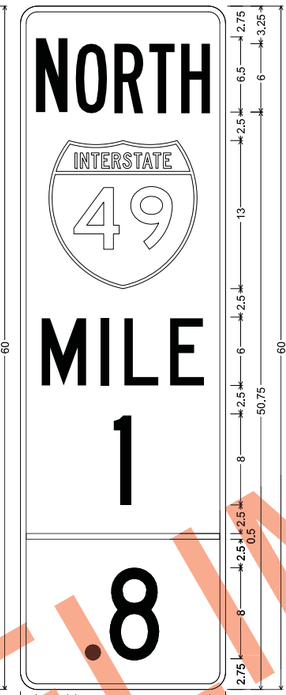
SIGN NO.	91
STATION	892+28.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
1				
8.125				
—				
0.500				
.	8			
5.750	7.875			

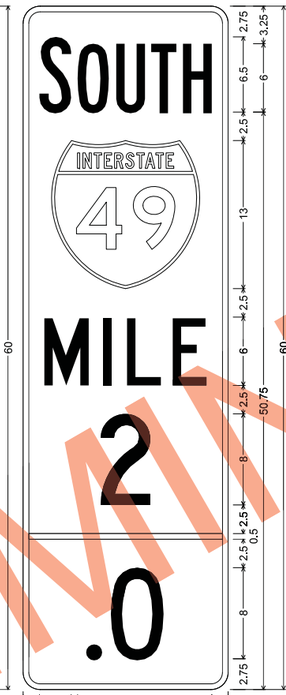
SIGN NO.	90
STATION	892+28.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[1] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
1				
8.250				
—				
0.500				
.	8			
5.750	7.875			

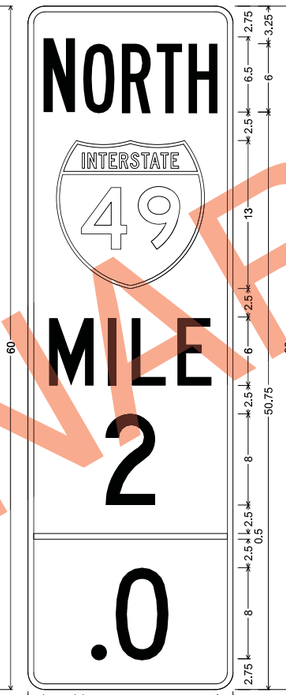
SIGN NO.	87
STATION	881+72.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.750				
—				
0.500				
.	0			
5.625	7.750			

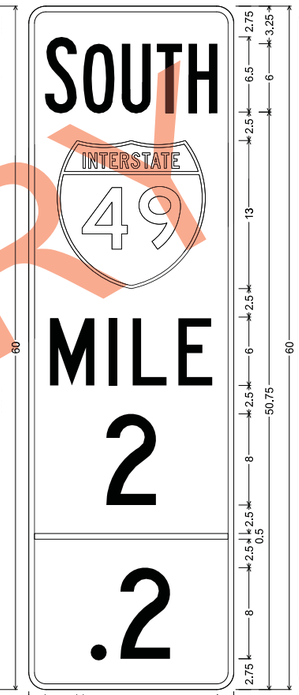
SIGN NO.	86
STATION	881+72.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.875				
—				
0.500				
.	0			
5.625	7.750			

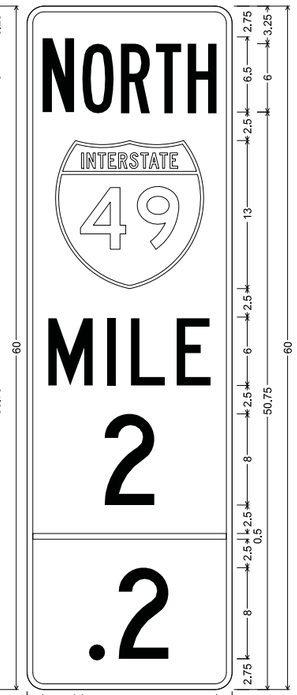
SIGN NO.	57
STATION	871+16.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.750				
—				
0.500				
.	2			
5.625	8.000			

SIGN NO.	56
STATION	871+16.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.875				
—				
0.500				
.	2			
5.625	8.000			

PRELIMINARY

SIGN DETAILS

SHEET 36 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	145

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

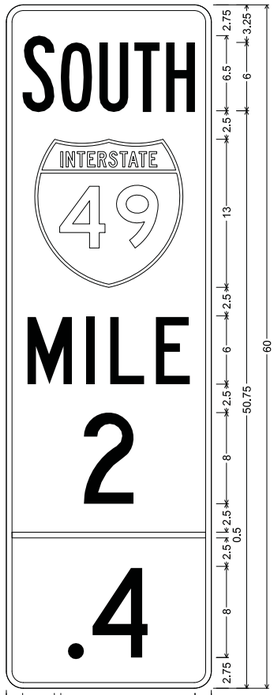
DESCRIPTION	DATE

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

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

REV.

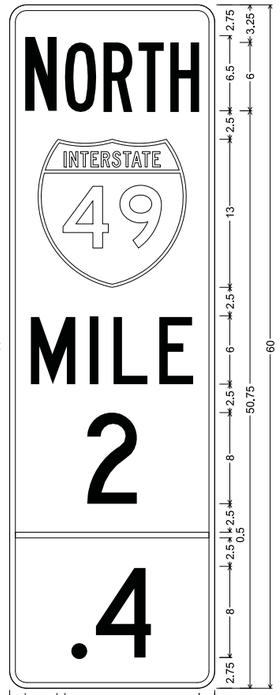
SIGN NO.	48
STATION	860+60.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.750				
—				
0.500				
.	4			
5.500	7.625			

SIGN NO.	47
STATION	860+60.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.875				
—				
0.500				
.	4			
5.500	7.625			

SIGN NO.	44
STATION	850+04.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.750				
—				
0.500				
.	6			
5.750	7.875			

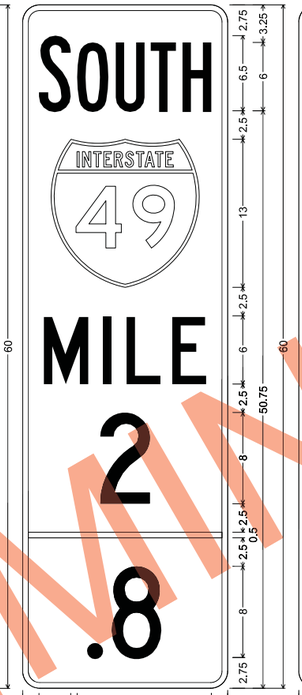
SIGN NO.	43
STATION	850+04.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.875				
—				
0.500				
.	6			
5.750	7.875			

SIGN NO.	40
STATION	839+48.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.750				
—				
0.500				
.	8			
5.750	7.875			

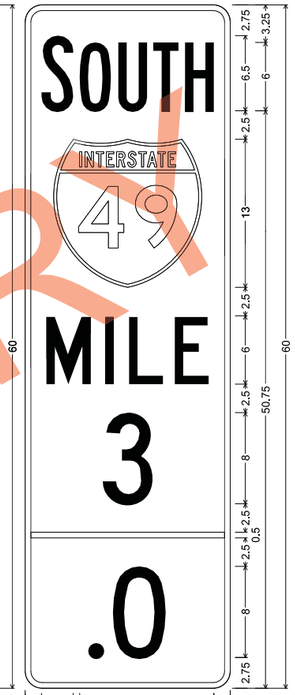
SIGN NO.	39
STATION	839+48.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[2] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
2				
6.875				
—				
0.500				
.	8			
5.750	7.875			

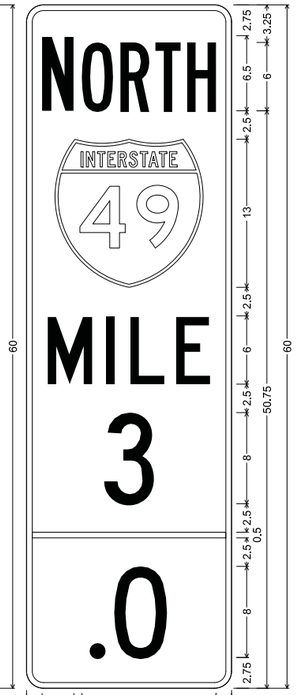
SIGN NO.	37
STATION	828+92.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
3				
6.750				
—				
0.500				
.	0			
5.625	7.750			

SIGN NO.	36
STATION	828+92.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
3				
6.875				
—				
0.500				
.	0			
5.625	7.750			

PRELIMINARY

SIGN DETAILS

SHEET 37 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	146

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

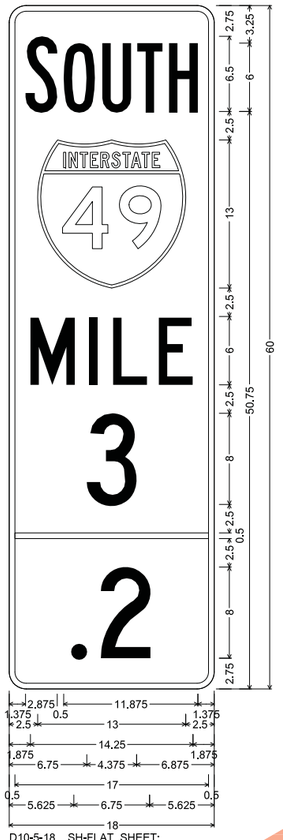
BRIDGE NO.

DATE	DESCRIPTION	REV.

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

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

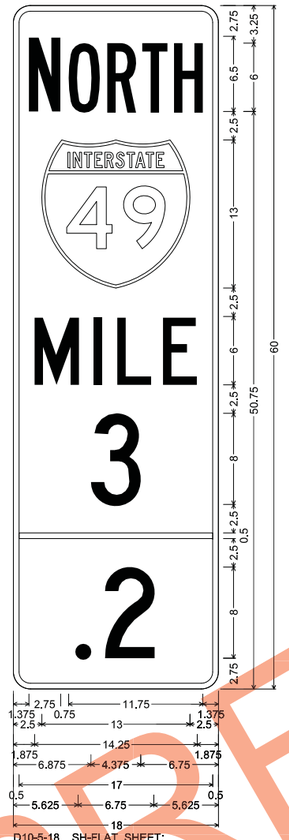
SIGN NO.	35
STATION	818+36.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.750				
0.500				
. 5.625	2 8.000			

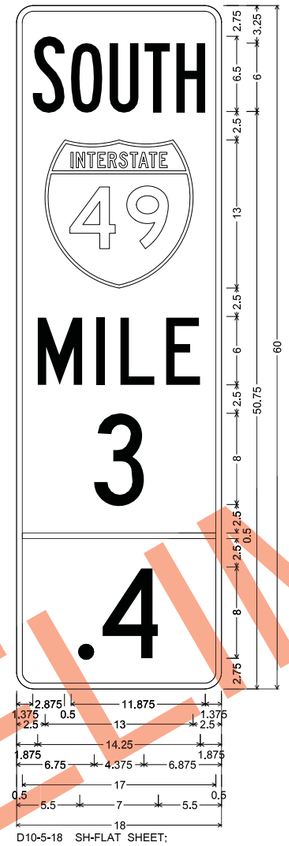
SIGN NO.	34
STATION	818+36.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.875				
0.500				
. 5.625	2 8.000			

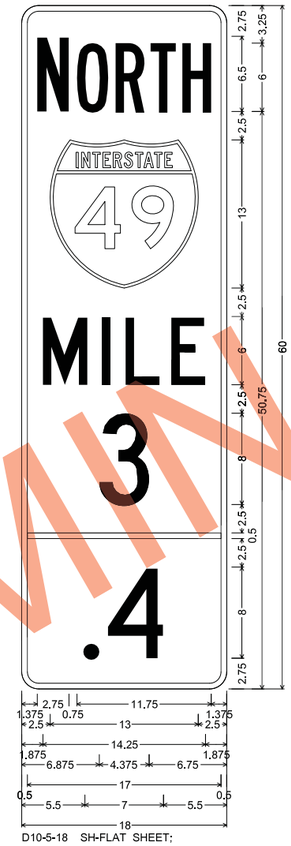
SIGN NO.	33
STATION	807+80.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.750				
0.500				
. 5.500	4 7.625			

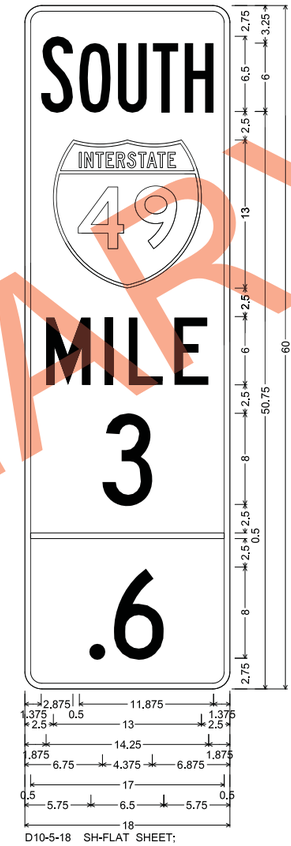
SIGN NO.	32
STATION	807+80.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.875				
0.500				
. 5.500	4 7.625			

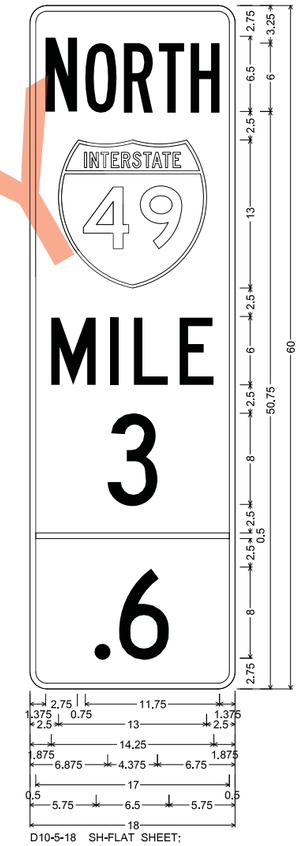
SIGN NO.	30
STATION	797+24.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.750				
0.500				
. 5.750	6 7.875			

SIGN NO.	29
STATION	797+24.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.875				
0.500				
. 5.750	6 7.875			

PRELIMINARY

SIGN DETAILS

SHEET 38 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019

ROUTE 49 | STATE MO

DISTRICT SW | SHEET NO. 147

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

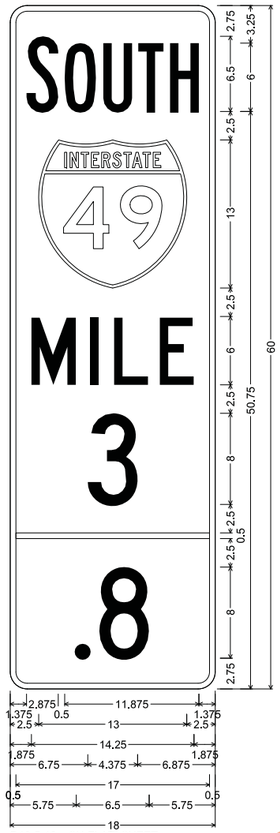
DESCRIPTION | DATE

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

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

REV.

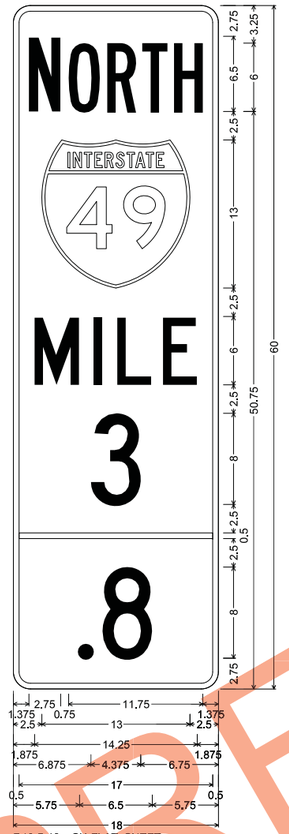
SIGN NO.	28
STATION	786+68.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.750				
— 0.500				
. 5.750	8 7.875			

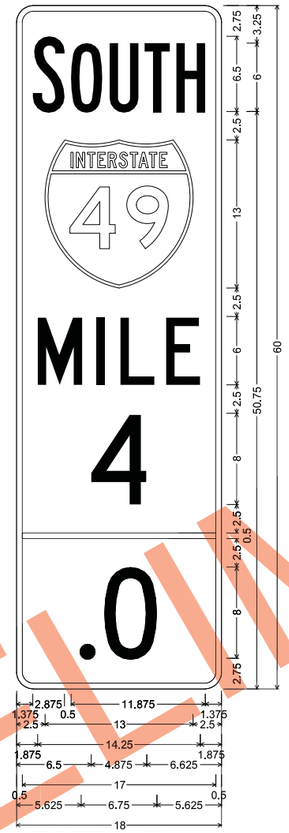
SIGN NO.	27
STATION	786+68.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[3] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
3 6.875				
— 0.500				
. 5.750	8 7.875			

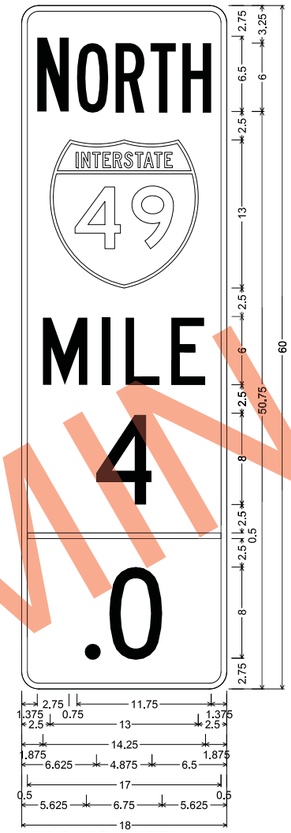
SIGN NO.	26
STATION	776+12.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
4 6.500				
— 0.500				
. 5.625	0 7.750			

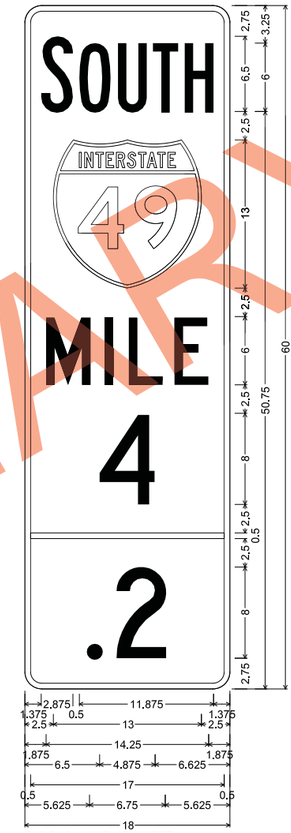
SIGN NO.	25
STATION	776+12.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
4 6.625				
— 0.500				
. 5.625	0 7.750			

SIGN NO.	24
STATION	765+56.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

S 1.375	O 4.750	U 8.125	T 11.250	H 14.000
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
4 6.500				
— 0.500				
. 5.625	2 8.000			

SIGN NO.	23
STATION	765+56.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

N 1.375	O 4.875	R 8.250	T 11.375	H 14.125
2.500				
M 1.875	I 7.000	L 9.125	E 13.125	
4 6.625				
— 0.500				
. 5.625	2 8.000			

PRELIMINARY

SIGN DETAILS

SHEET 39 OF 40

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED 11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	148

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

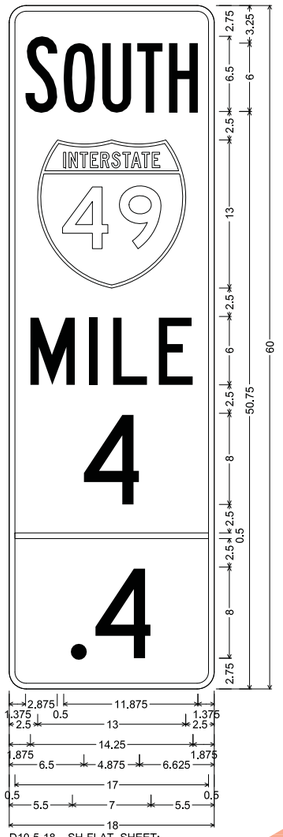
BRIDGE NO.

DATE	DESCRIPTION

REV.

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

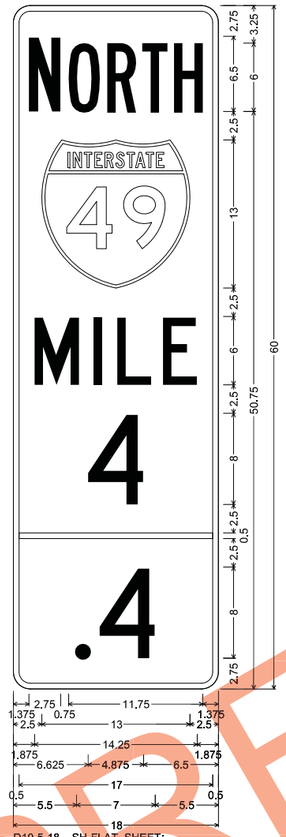
SIGN NO.	22
STATION	755+00.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
4				
6.500				
—				
0.500				
.	4			
5.500	7.625			

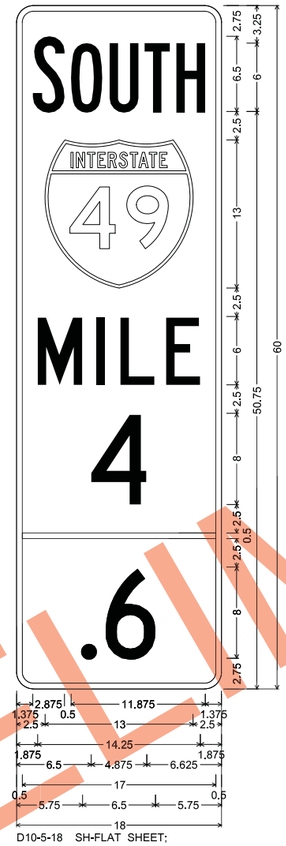
SIGN NO.	21
STATION	755+00.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
4				
6.625				
—				
0.500				
.	4			
5.500	7.625			

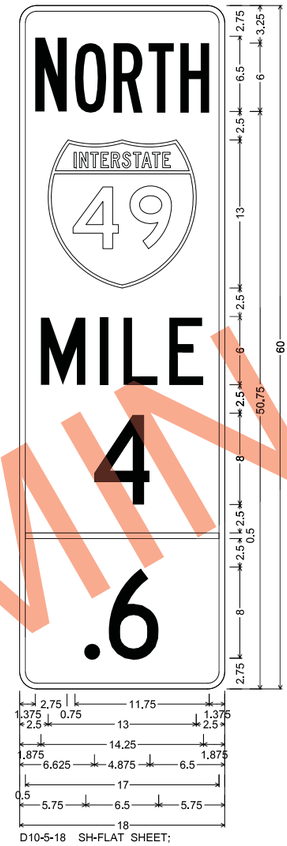
SIGN NO.	20
STATION	744+44.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
4				
6.500				
—				
.	6			
5.750	7.875			

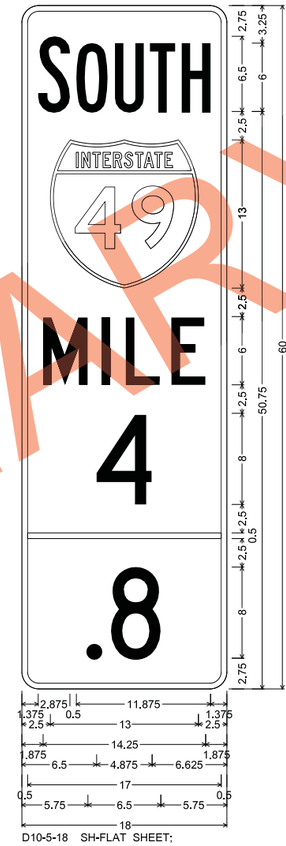
SIGN NO.	12
STATION	744+44.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
4				
6.625				
—				
0.500				
.	6			
5.750	7.875			

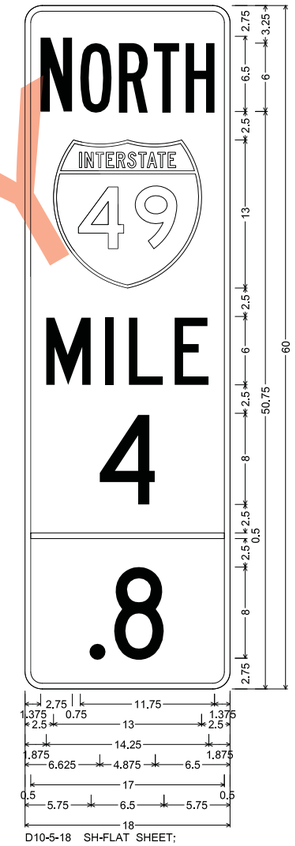
SIGN NO.	18
STATION	733+88.82
ROADWAY	I-49, SBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[SOUTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

S	O	U	T	H
1.375	4.750	8.125	11.250	14.000
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
4				
6.500				
—				
0.500				
.	8			
5.750	7.875			

SIGN NO.	11
STATION	733+88.82
ROADWAY	I-49, NBL



D10-5-18 SH-FLAT SHEET;
1.500" Radius, 0.500" Border, White on Green;
[NORTH] B 60% spacing; [MILE] C;
[4] C; [.0] C;
Table of letter and object lefts.

N	O	R	T	H
1.375	4.875	8.250	11.375	14.125
2.500				
M	I	L	E	
1.875	7.000	9.125	13.125	
4				
6.625				
—				
0.500				
.	8			
5.750	8.875			

PRELIMINARY

SIGN DETAILS

SHEET 40 OF 40

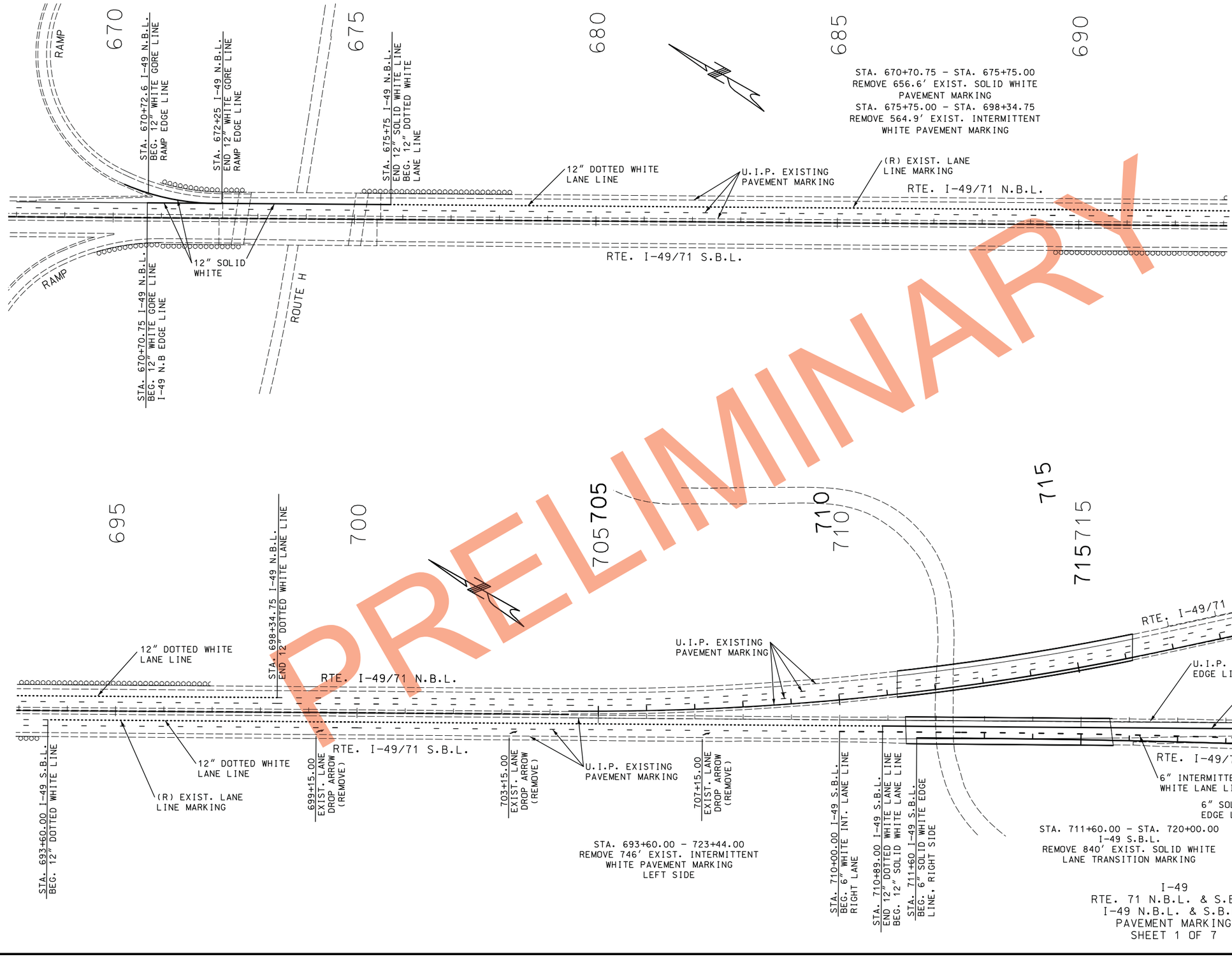
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

DATE PREPARED	
11/11/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	149
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION	REV.

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



PRELIMINARY

I-49
RTE. 71 N.B.L. & S.B.L.
I-49 N.B.L. & S.B.L.
PAVEMENT MARKING
SHEET 1 OF 7

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	150

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

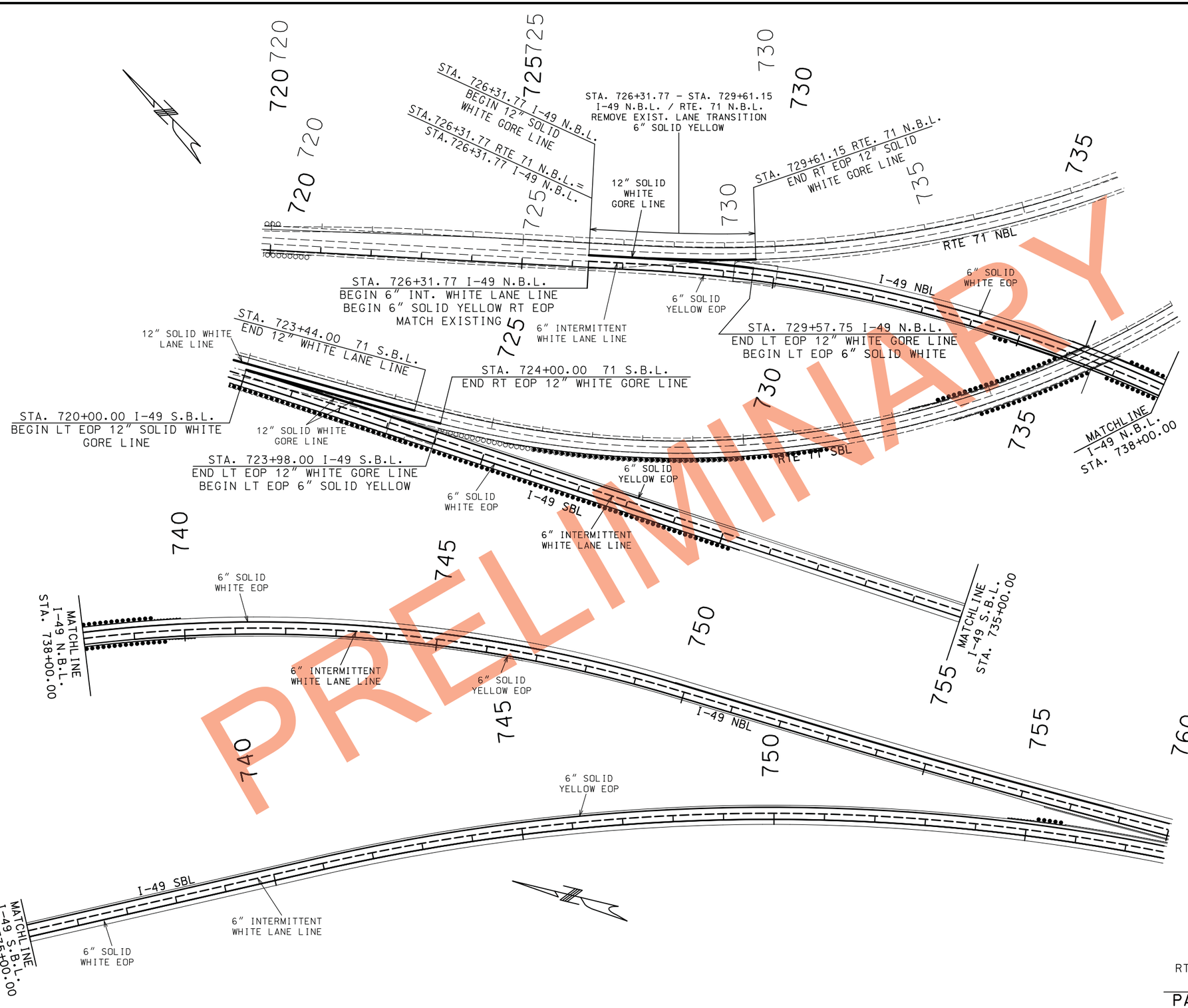
PROJECT NO.

BRIDGE NO.

REV.	DESCRIPTION	DATE

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

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



PRELIMINARY

I-49

RTE. 71 N.B.L. & S.B.L.
I-49 N.B.L. & S.B.L.

PAVEMENT MARKING

SHEET 2 OF 7

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/11/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	151

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

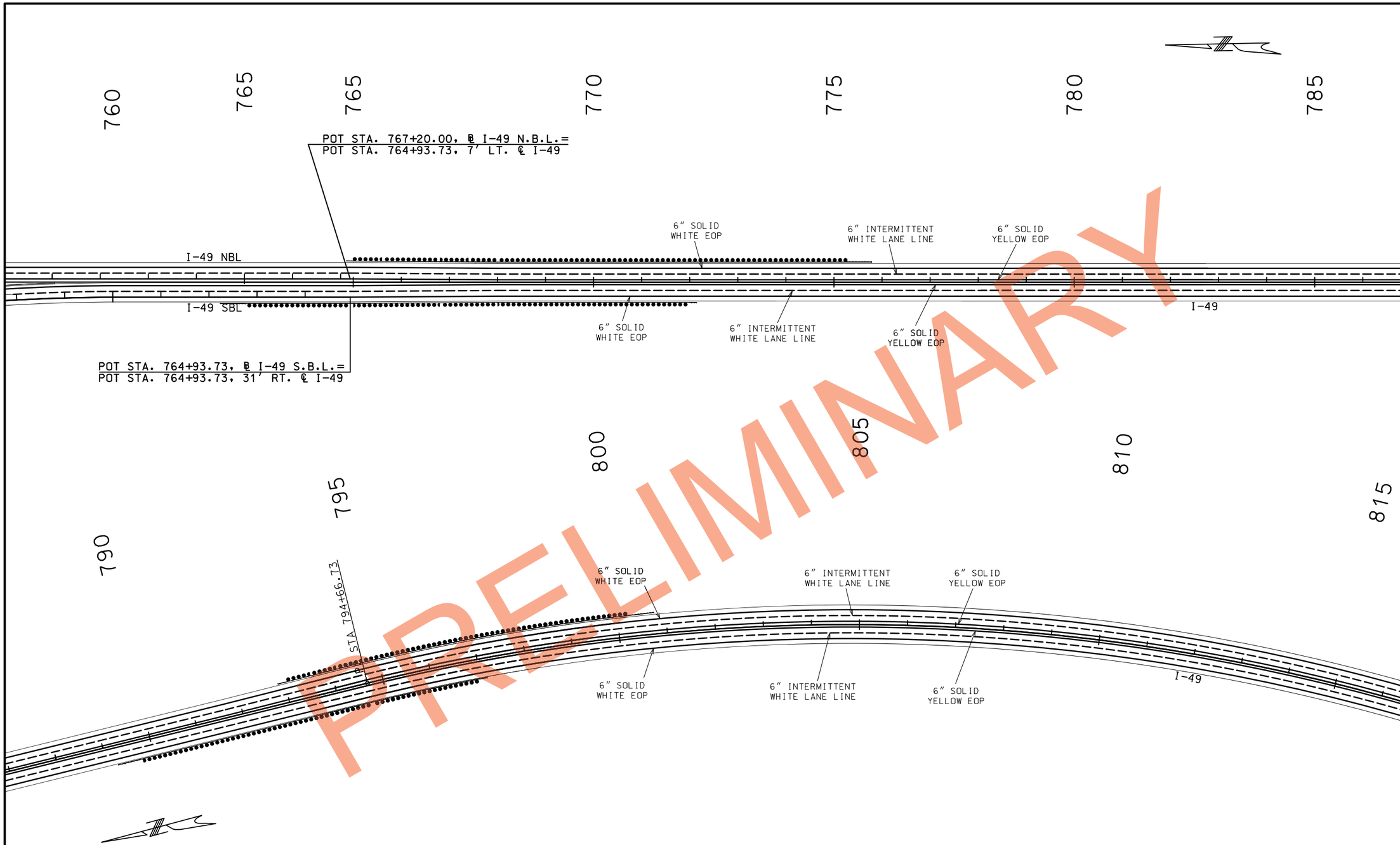
BRIDGE NO.

DATE	DESCRIPTION	REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



I-49 N.B.L. & S.B.L.

PAVEMENT MARKING

SHEET 3 OF 7

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/11/2019	
ROUTE 49	STATE MO
DISTRICT SW	SHEET NO. 152
COUNTY McDONALD	
JOB NO. J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

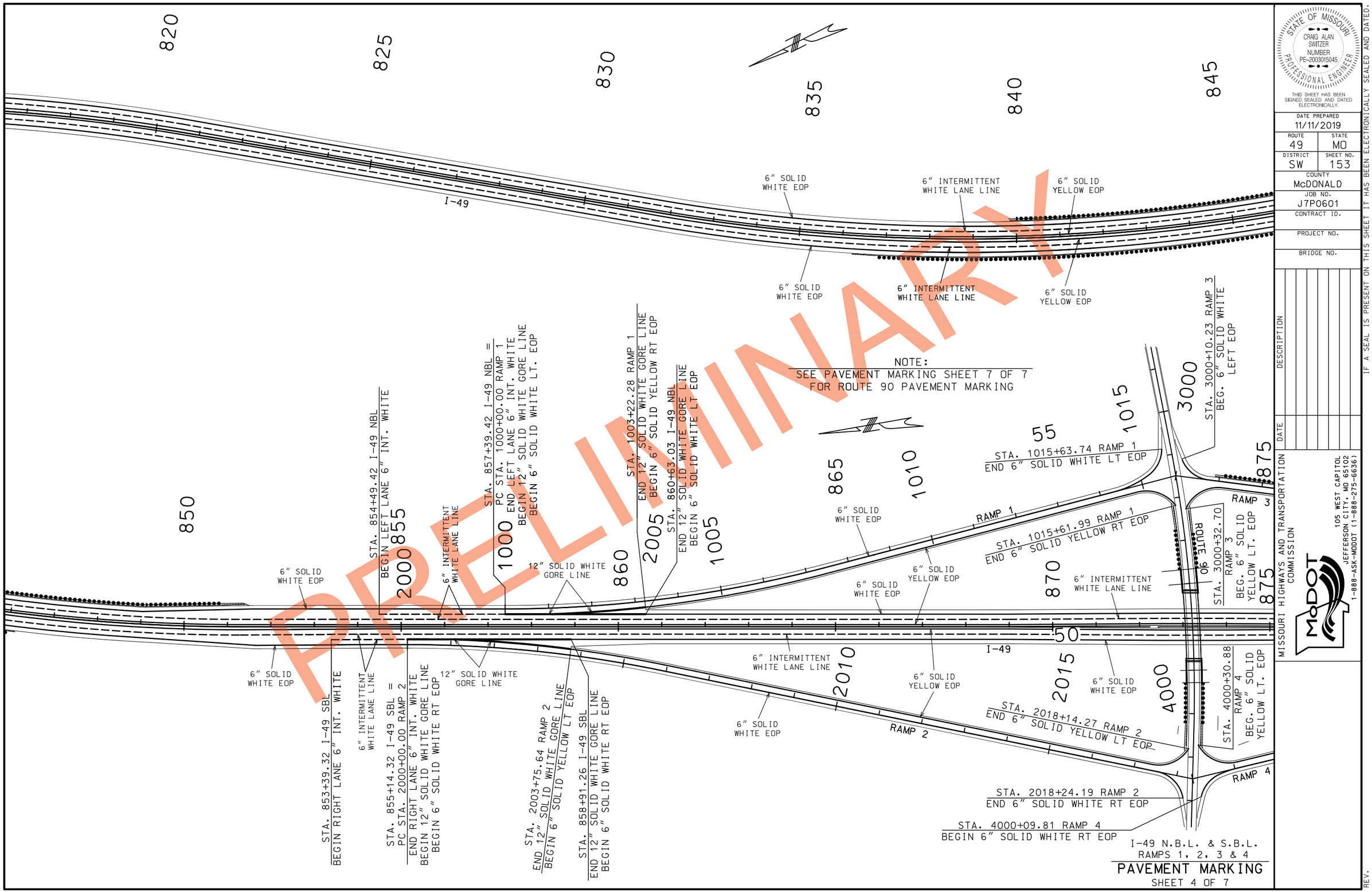
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

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

REV.



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	153
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

REV.	DESCRIPTION	DATE

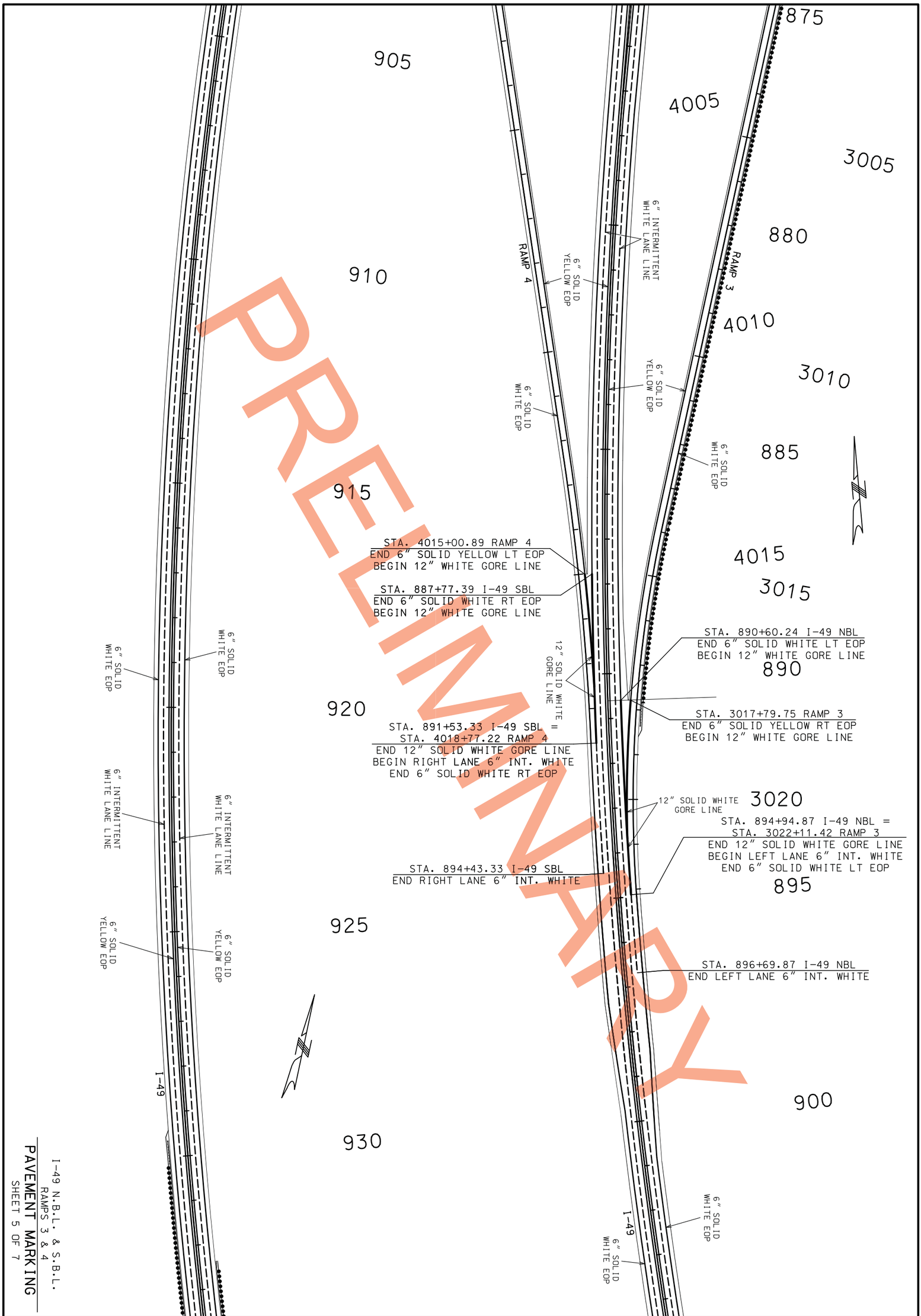
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

I-49 N.B.L. & S.B.L.
RAMPS 1, 2, 3 & 4

PAVEMENT MARKING

SHEET 4 OF 7



PRELIMINARY

I-49 N.B.L. & S.B.L.
RAMPS 3 & 4

PAVEMENT MARKING

SHEET 5 OF 7

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

DATE	DESCRIPTION

BRIDGE NO.

PROJECT NO.

CONTRACT ID. JTP0601

JOB NO. JTP0601

COUNTY McDONALD

DISTRICT SW

SHEET NO. 154

ROUTE 49

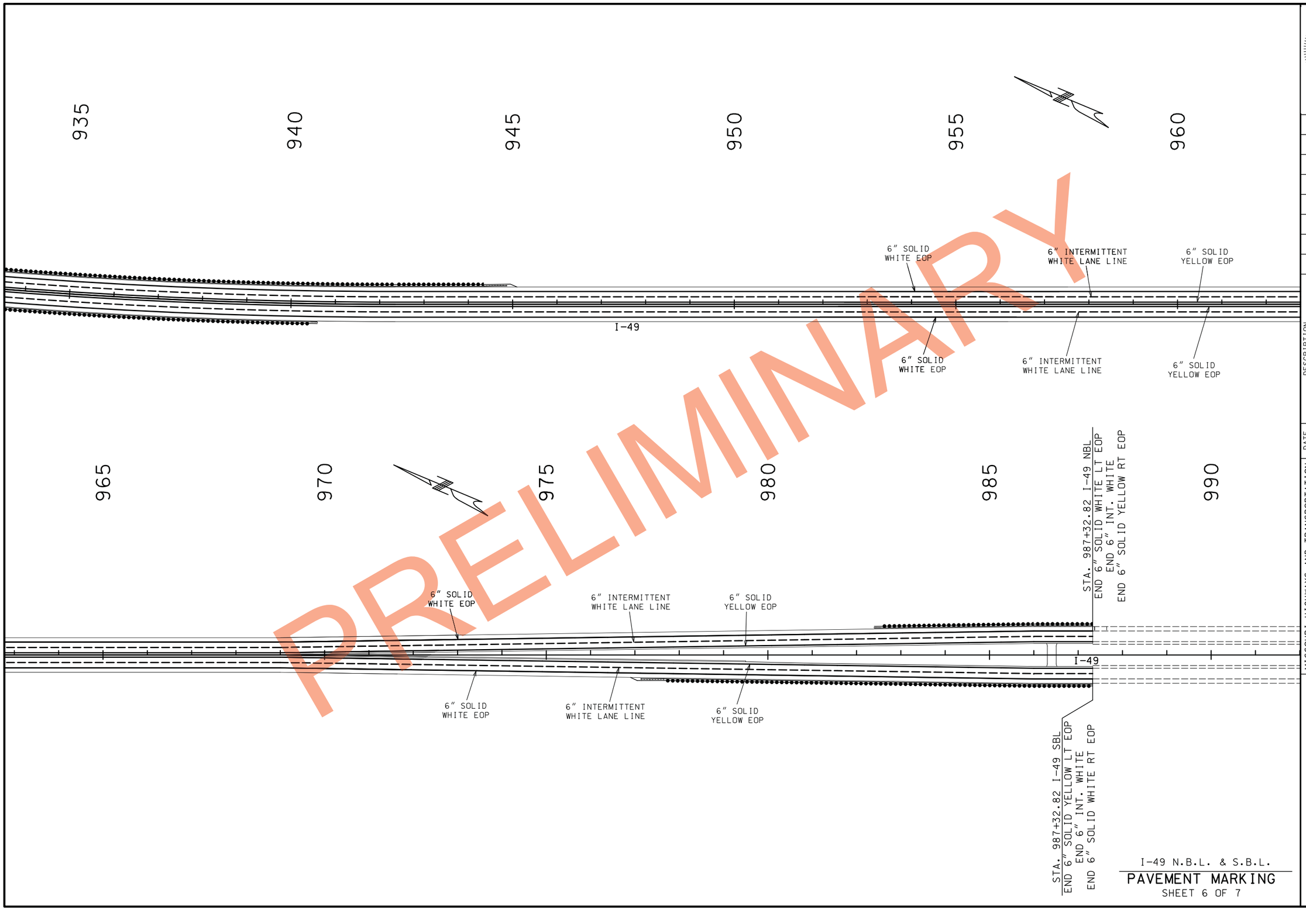
STATE MO

DATE PREPARED 11/11/2019

STATE OF MISSOURI
PROFESSIONAL ENGINEER
CRAIG ALAN SMITZER
NUMBER PE-2009015945
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

REV.

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



PRELIMINARY

I-49 N.B.L. & S.B.L.

PAVEMENT MARKING

SHEET 6 OF 7

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

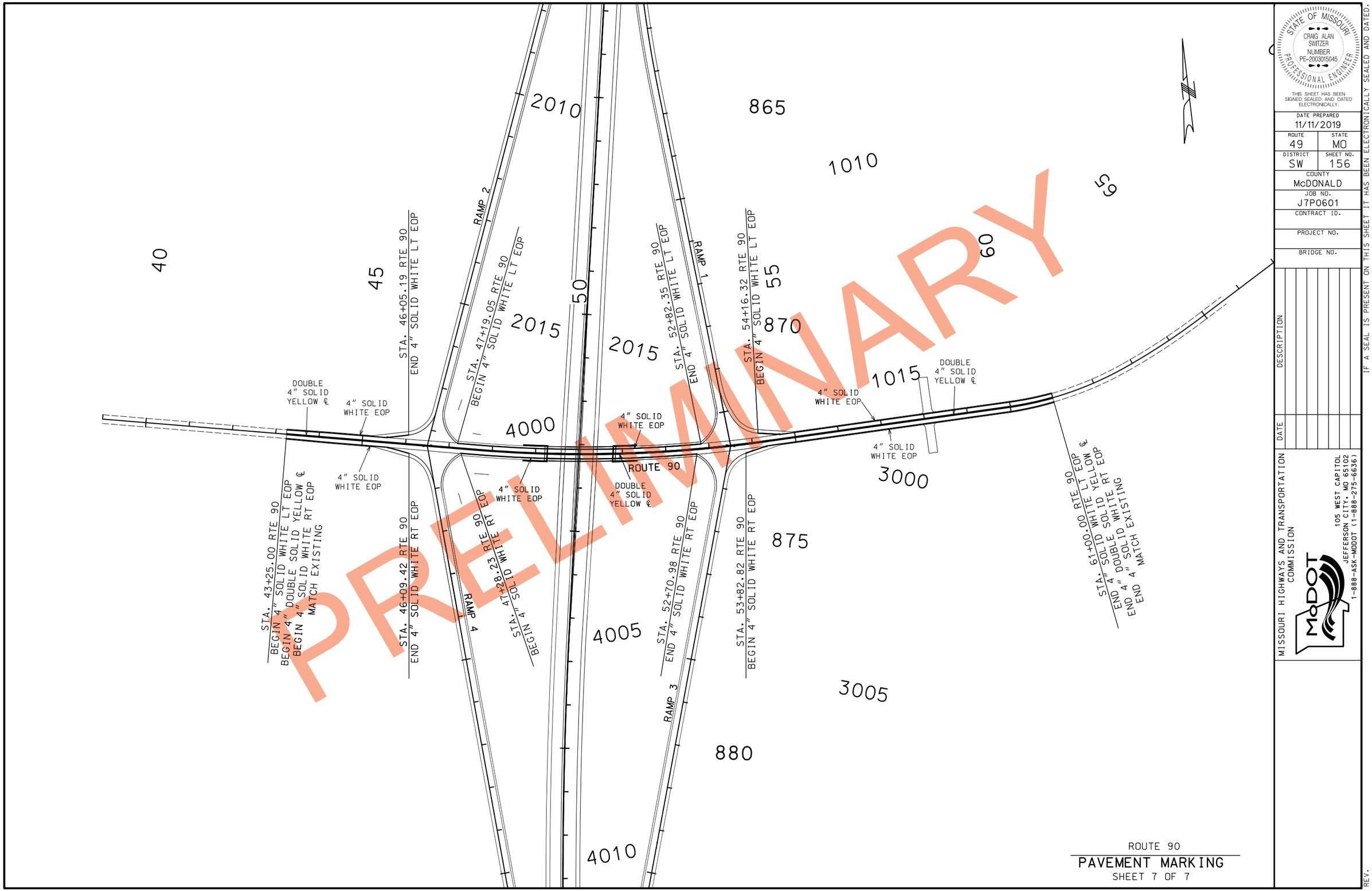
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	155
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

REV.	DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

ROUTE 90

PAVEMENT MARKING

SHEET 7 OF 7

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/11/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	156
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

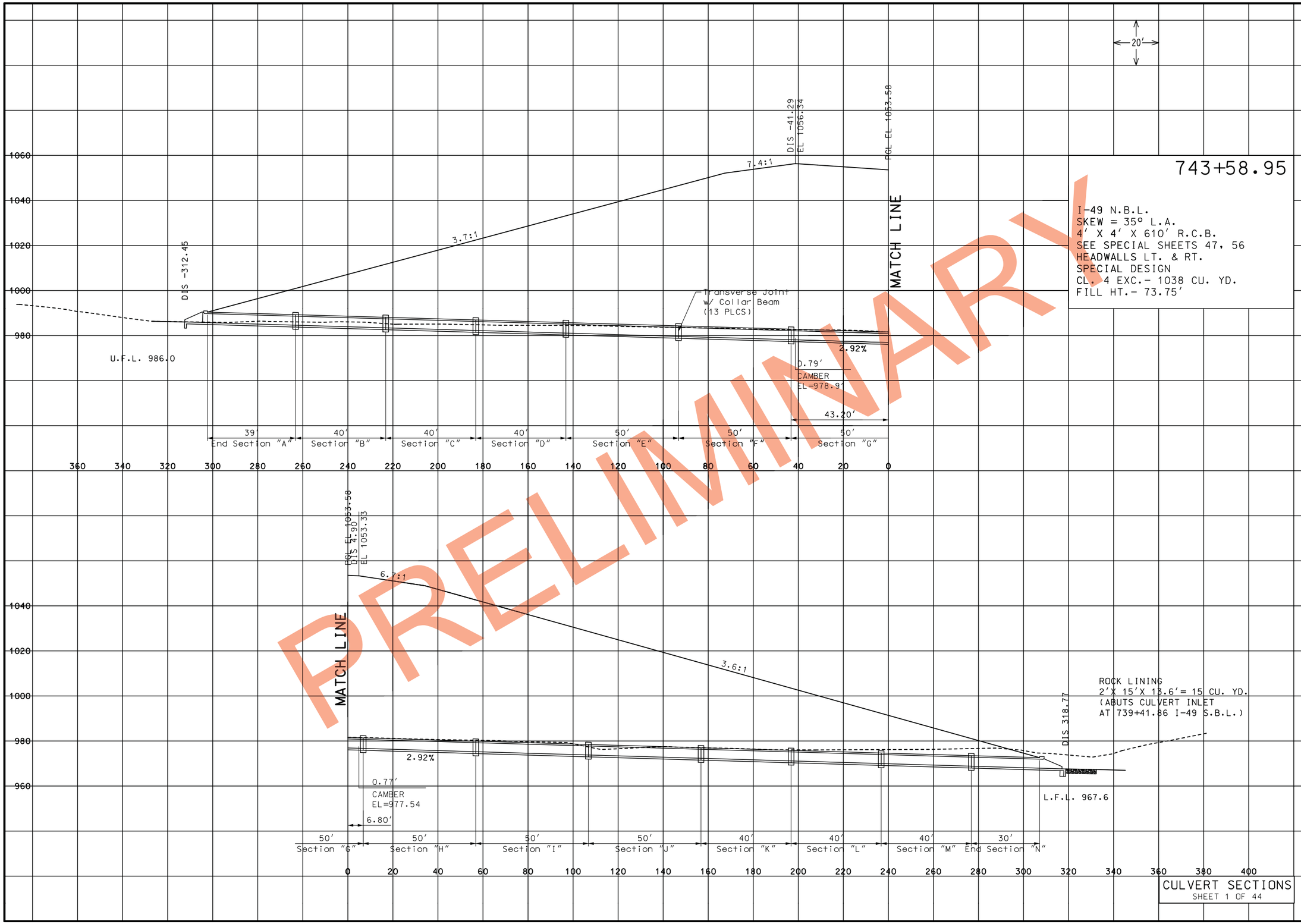
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

REV.



PRELIMINARY

CULVERT SECTIONS
SHEET 1 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

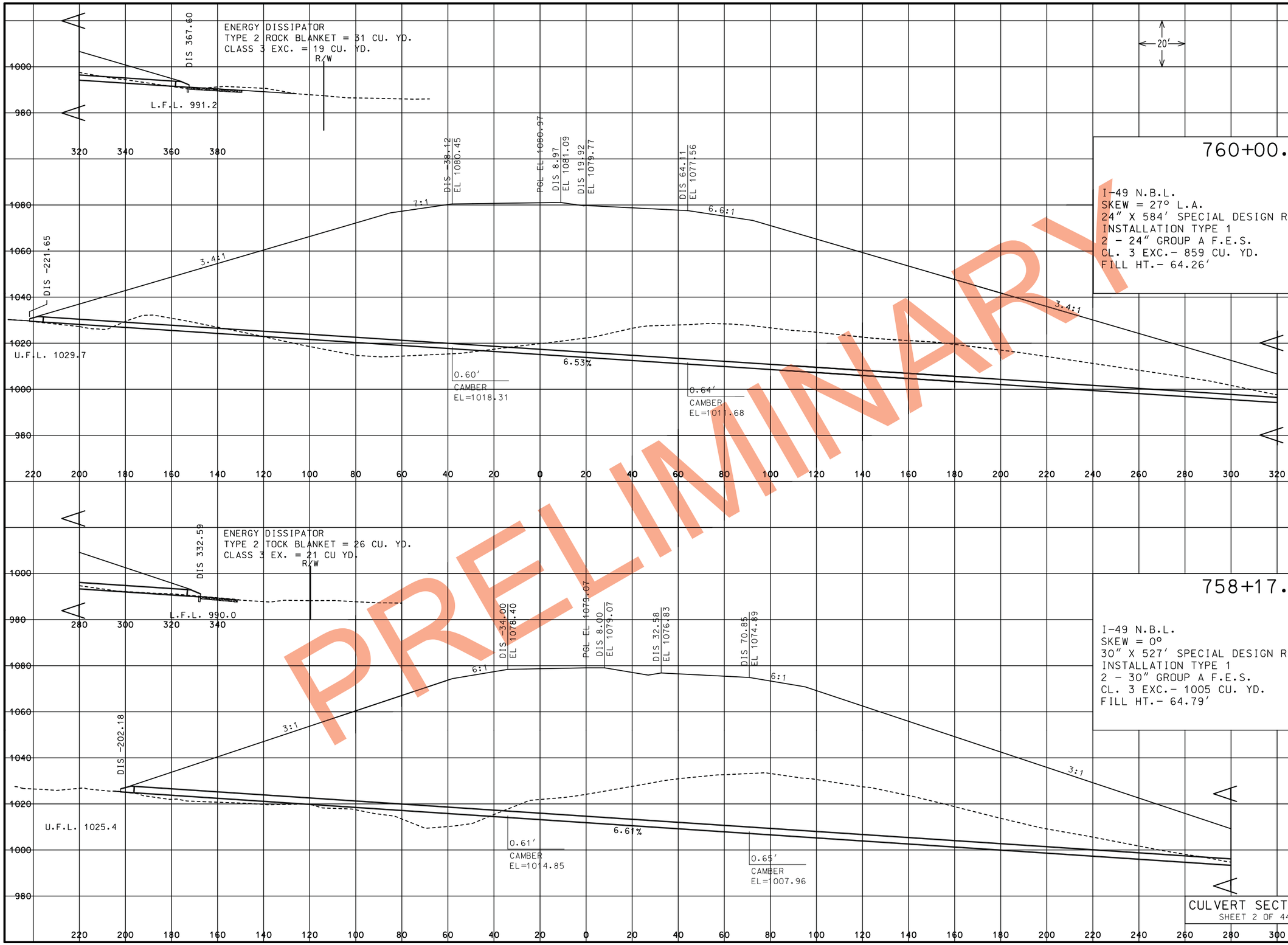
DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	157
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	158

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

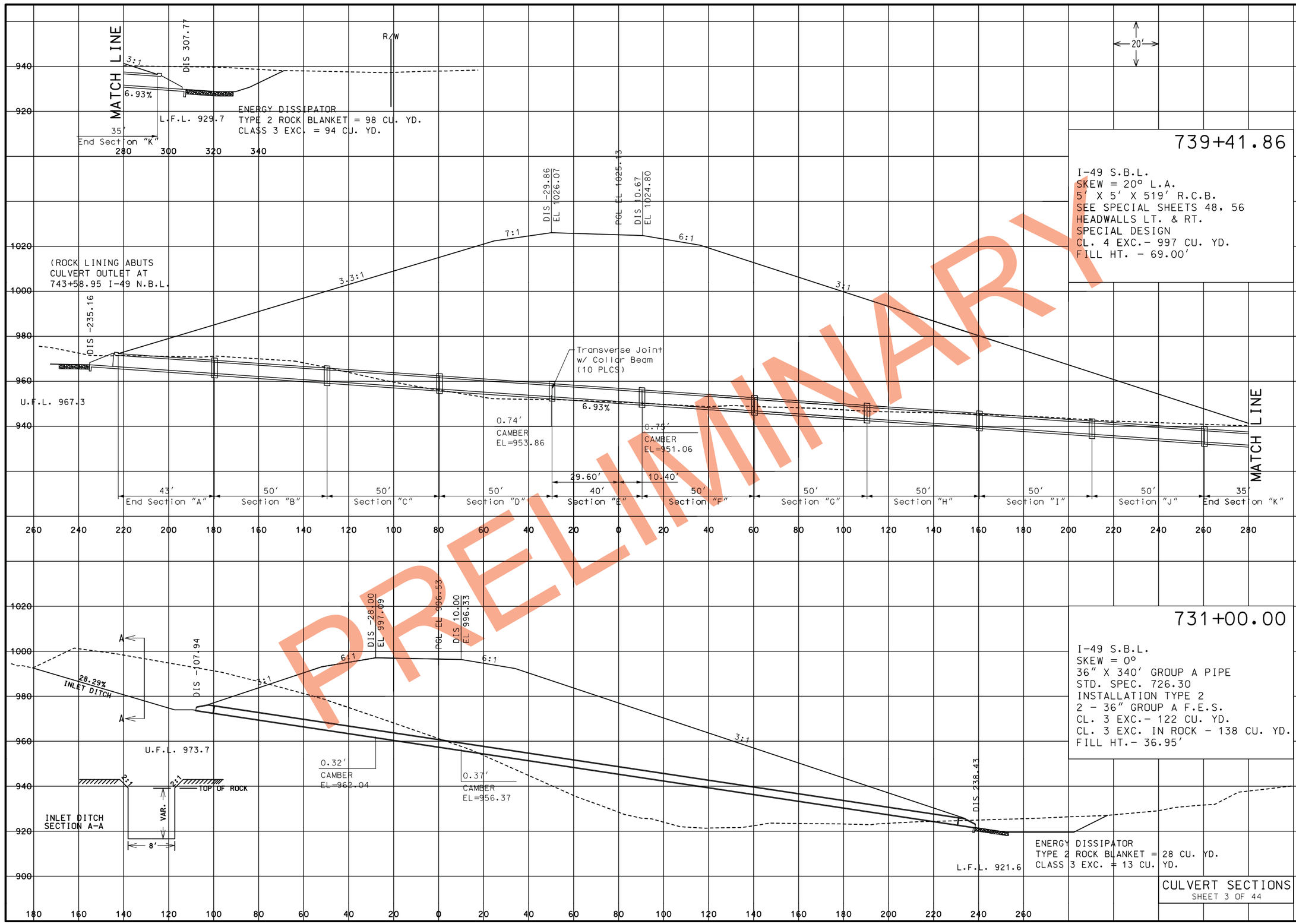
DESCRIPTION

DATE

REV.

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

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



STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

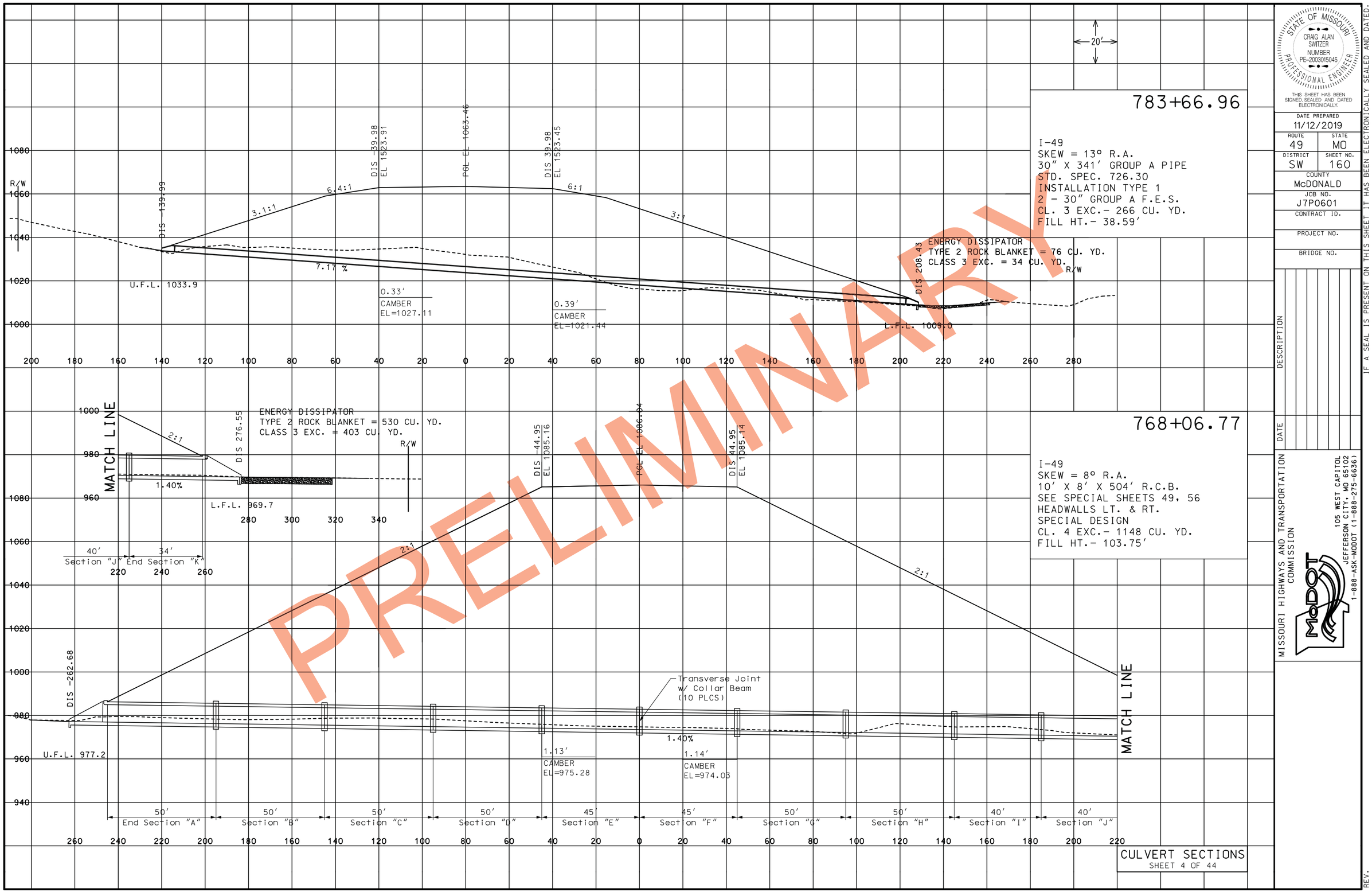
DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	159
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	160

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

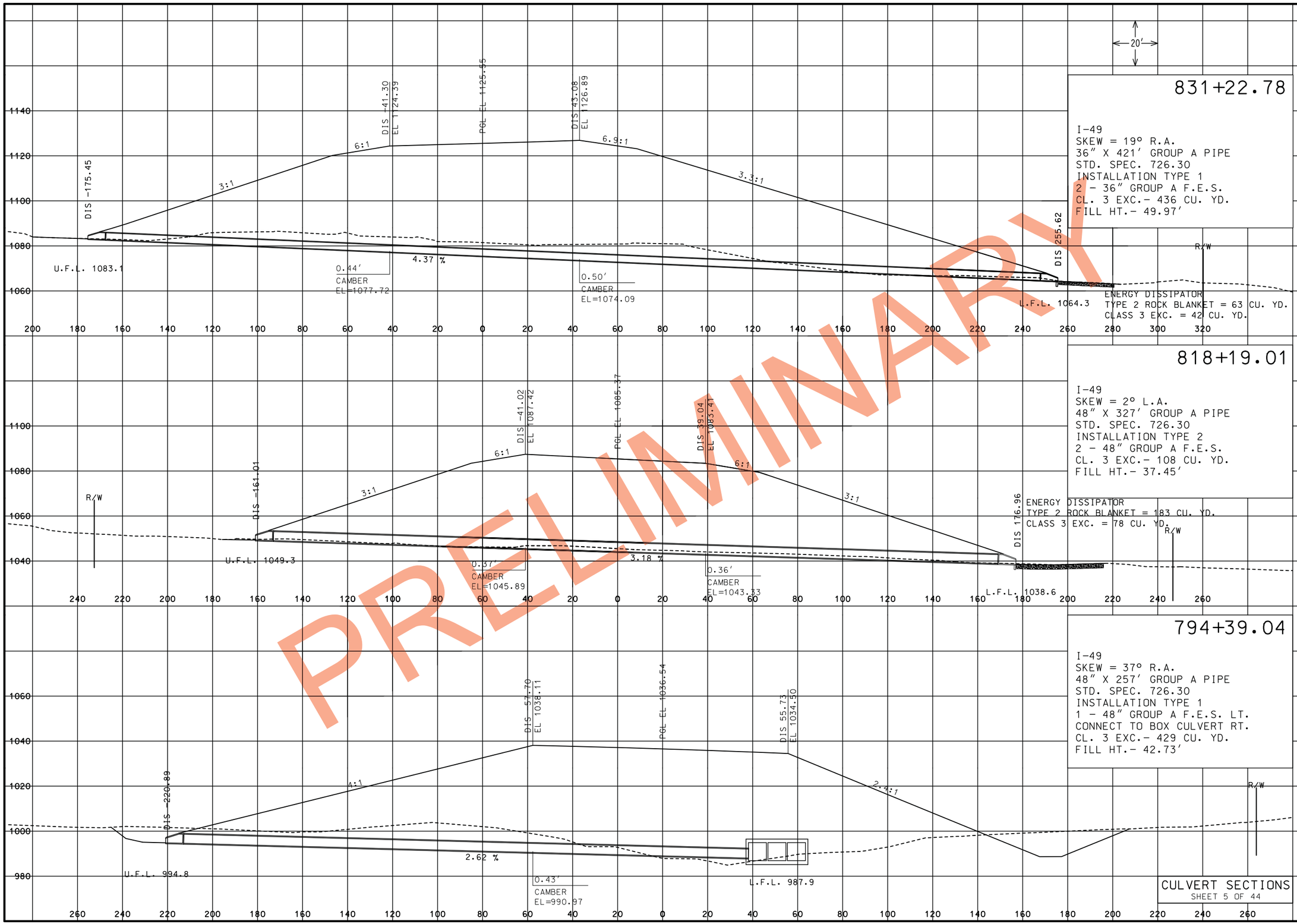
DESCRIPTION

DATE

REV.

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

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



831+22.78

I-49
SKEW = 19° R.A.
36" X 421' GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 36" GROUP A F.E.S.
CL. 3 EXC.- 436 CU. YD.
FILL HT.- 49.97'

818+19.01

I-49
SKEW = 2° L.A.
48" X 327' GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 2
2 - 48" GROUP A F.E.S.
CL. 3 EXC.- 108 CU. YD.
FILL HT.- 37.45'

794+39.04

I-49
SKEW = 37° R.A.
48" X 257' GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 1
1 - 48" GROUP A F.E.S. LT.
CONNECT TO BOX CULVERT RT.
CL. 3 EXC.- 429 CU. YD.
FILL HT.- 42.73'

CULVERT SECTIONS
SHEET 5 OF 44

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

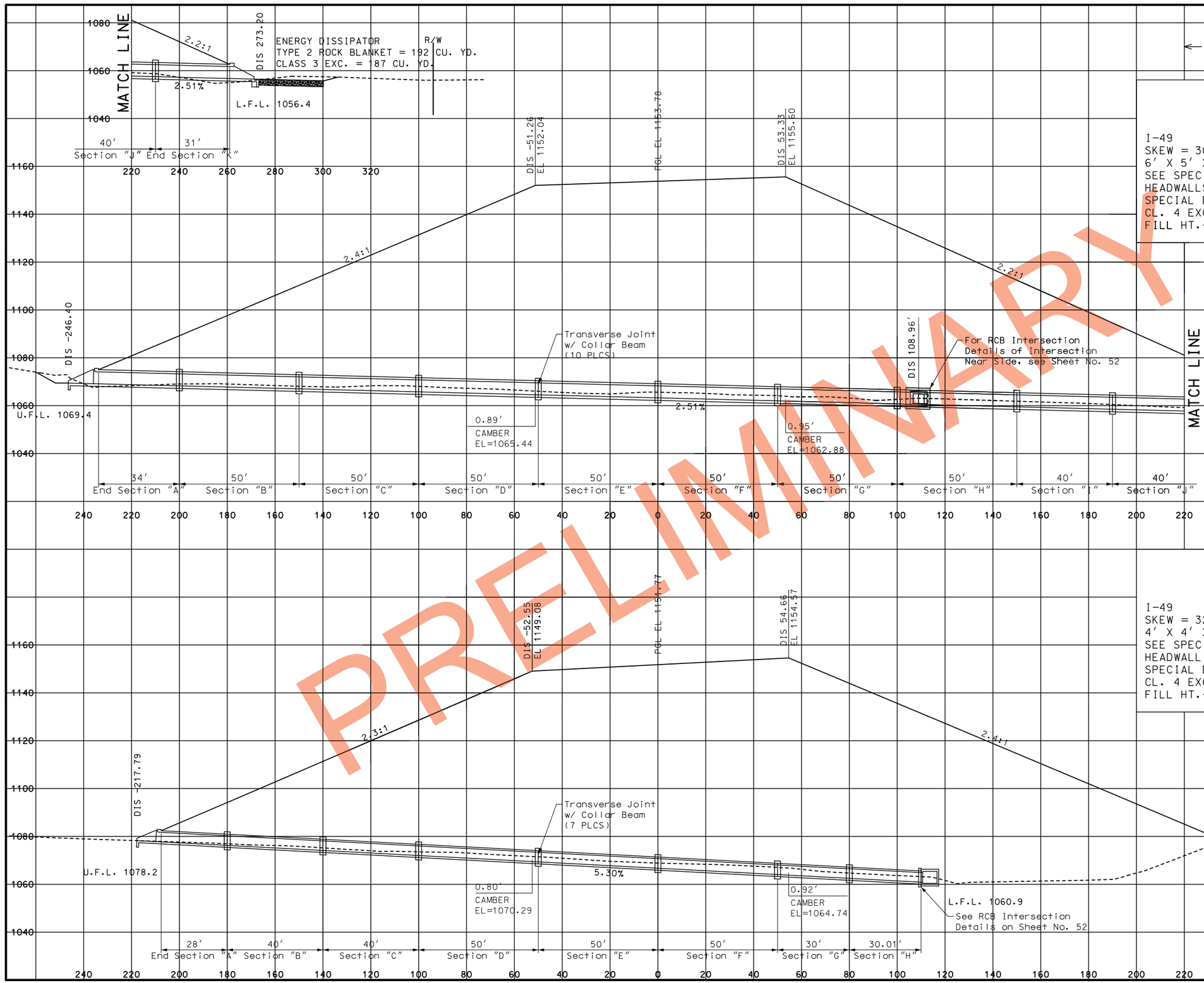
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	161

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	162

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

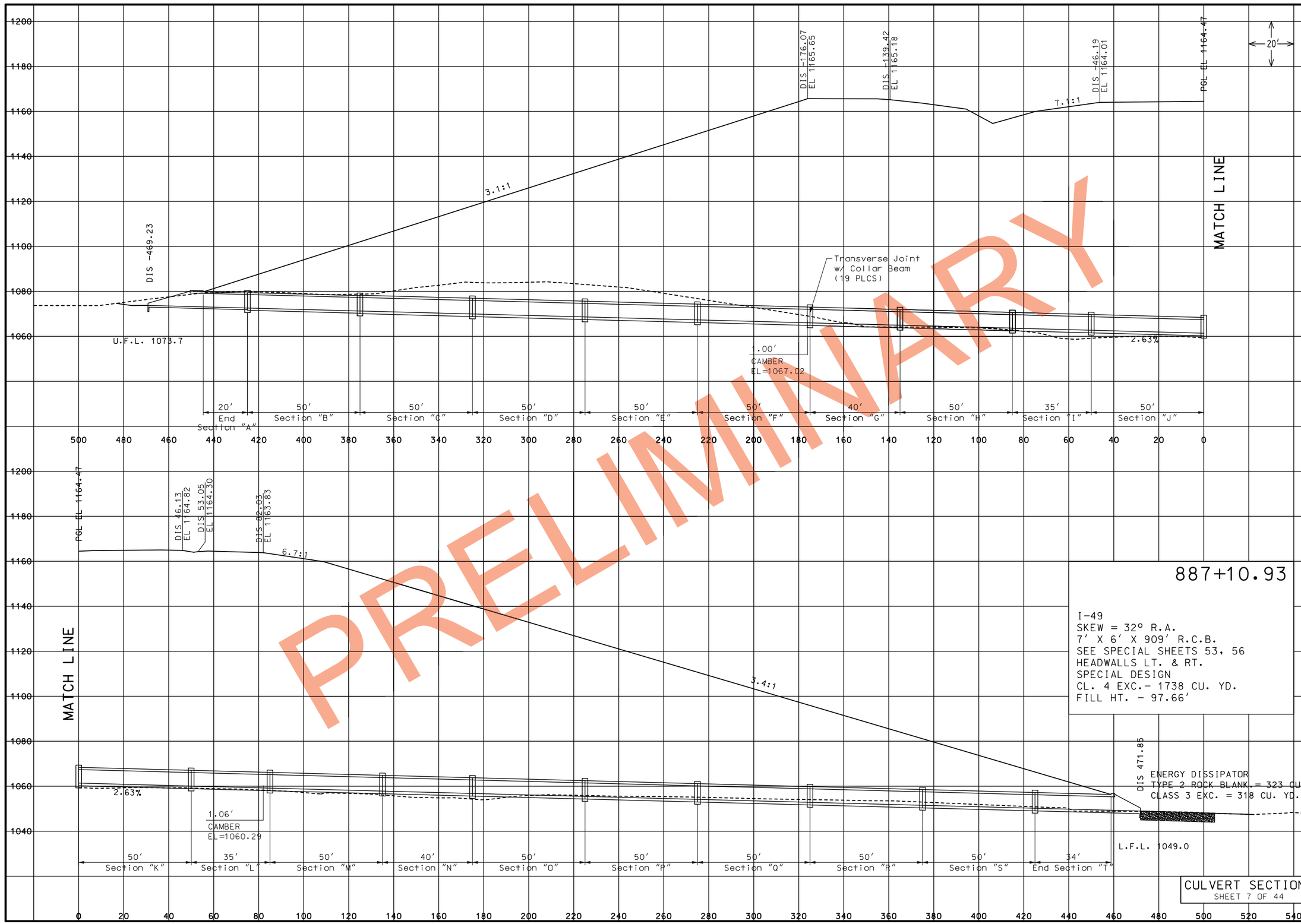
BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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

CULVERT SECTIONS
SHEET 6 OF 44



887+10.93

I-49
SKEW = 32° R.A.
7' X 6' X 909' R.C.B.
SEE SPECIAL SHEETS 53, 56
HEADWALLS LT. & RT.
SPECIAL DESIGN
CL. 4 EXC.- 1738 CU. YD.
FILL HT. - 97.66'

CULVERT SECTIONS
SHEET 7 OF 44

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	163

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

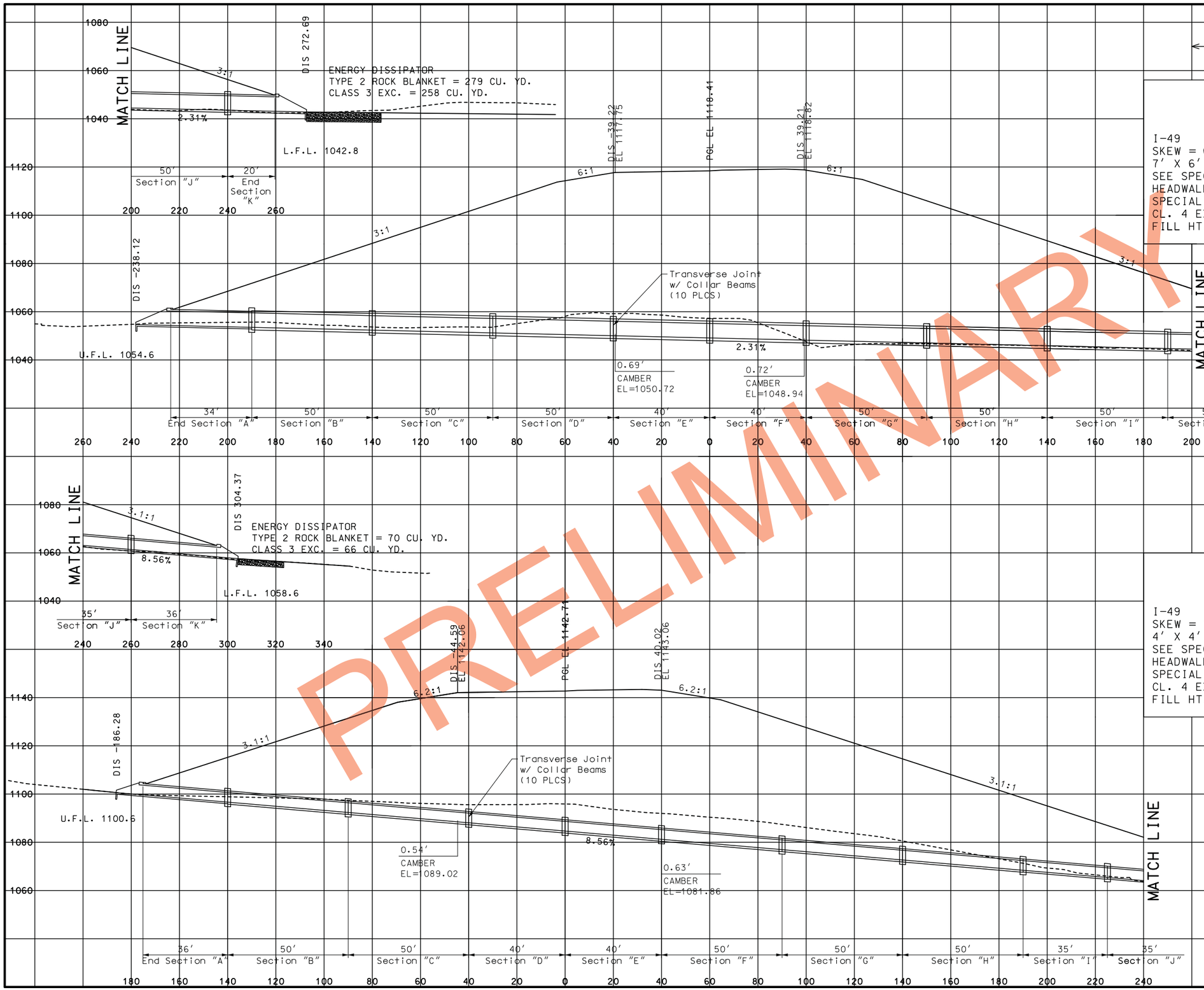
PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION	REV.

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

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



PRELIMINARY

CULVERT SECTIONS
SHEET 8 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	164

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

DESCRIPTION | DATE | REV.

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

ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET = 148 CU. YD.
CLASS 3 EXC. = 101 CU. YD.

DIS 287.79

L.F.L. 1057.8

50′ Section "J" | 31′ End Section "K"

20′

964+60.36

I-49
SKEW = 19° R.A.
5′ X 5′ X 501′ R.C.B.
SEE SPECIAL SHEETS 46A, 56
HEADWALLS LT. & RT.
SPECIAL DESIGN
CL. 4 EXC. - 830 CU. YD.
CL. 4 EXC. IN ROCK - 161 CU. YD.
FILL HT.- 61.50′

DIS -41.25
EL 1134.36

PGL EL 1135.16

DIS 41.25
EL 1134.08

6.4:1

6.4:1

3.2:1

3.2:1

DIS -232.69

U.F.L. 1076.8

6.68 %

0.59′
CAMBER
EL=1070.50

0.62′
CAMBER
EL=1067.46

34′ End Section | 50′ Section "A" | 50′ Section "B" | 50′ Section "C" | 50′ Section "D" | 50′ Section "E" | 50′ Section "F" | 50′ Section "G" | 50′ Section "H" | 50′ Section "I" | 50′ Section "J"

958+02.44

I-49
SKEW = 7° R.A.
42"X 297′ GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 1
2 - 42" GROUP A F.E.S.
CL. 3 EXC.- 258 CU. YD.
FILL HT.- 32.74′

DIS -123.10

DIS -39.29
EL 1138.44

PGL EL 1140.39

DIS 39.29
EL 1139.62

6:1

6:1

3:1

3:1

U.F.L. 1114.0

0.27′
CAMBER
EL=1108.57

0.33′
CAMBER
EL=1103.32

DIS 183.71

ENERGY DISSIPATOR
TYPE 2 ROCK BLANKET = 35 CU. YD.
CLASS 3 EXC. = 16 CU. YD.

L.F.L. 1093.2

PRELIMINARY

CULVERT SECTIONS
SHEET 9 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	165

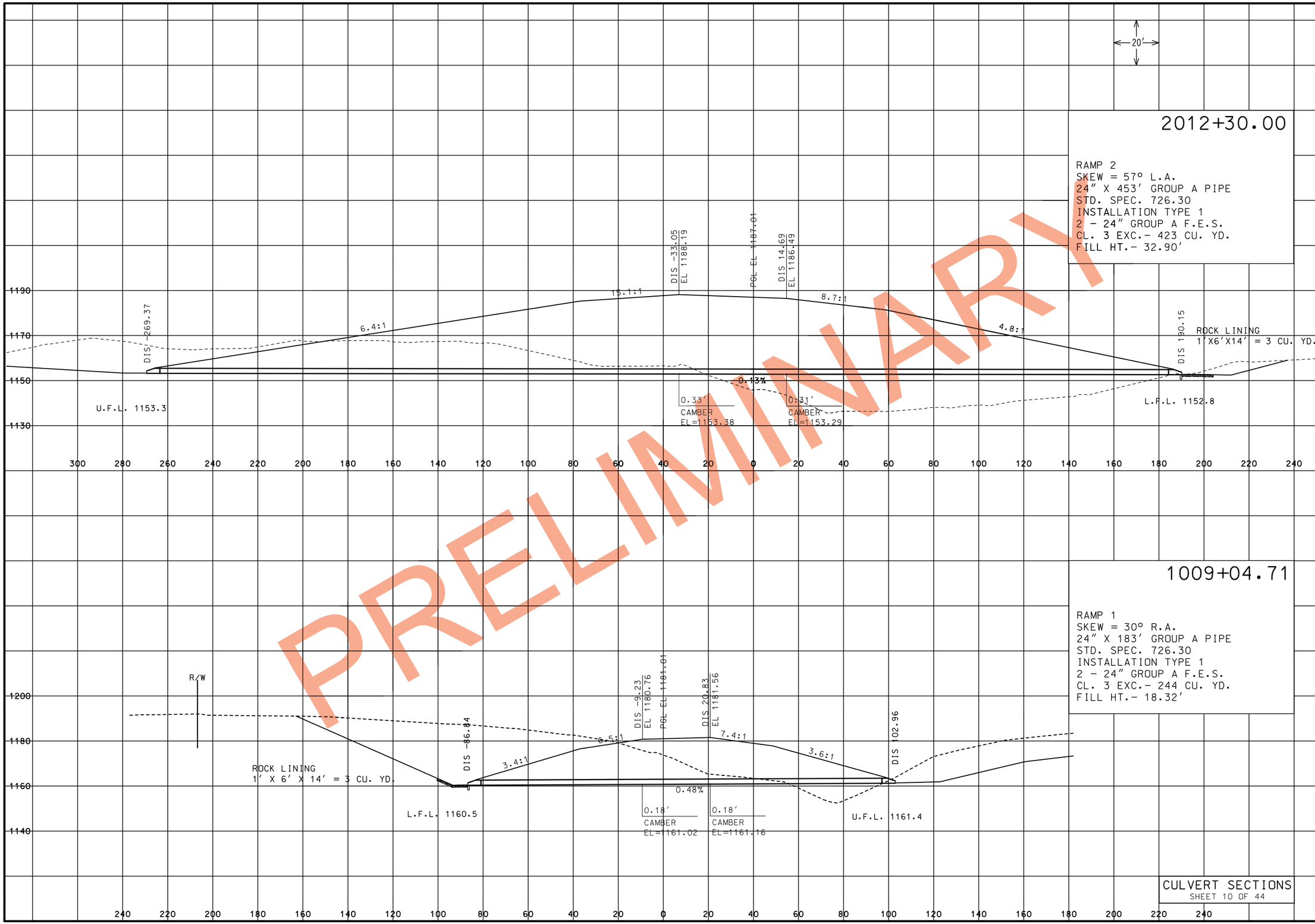
COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

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.



PRELIMINARY

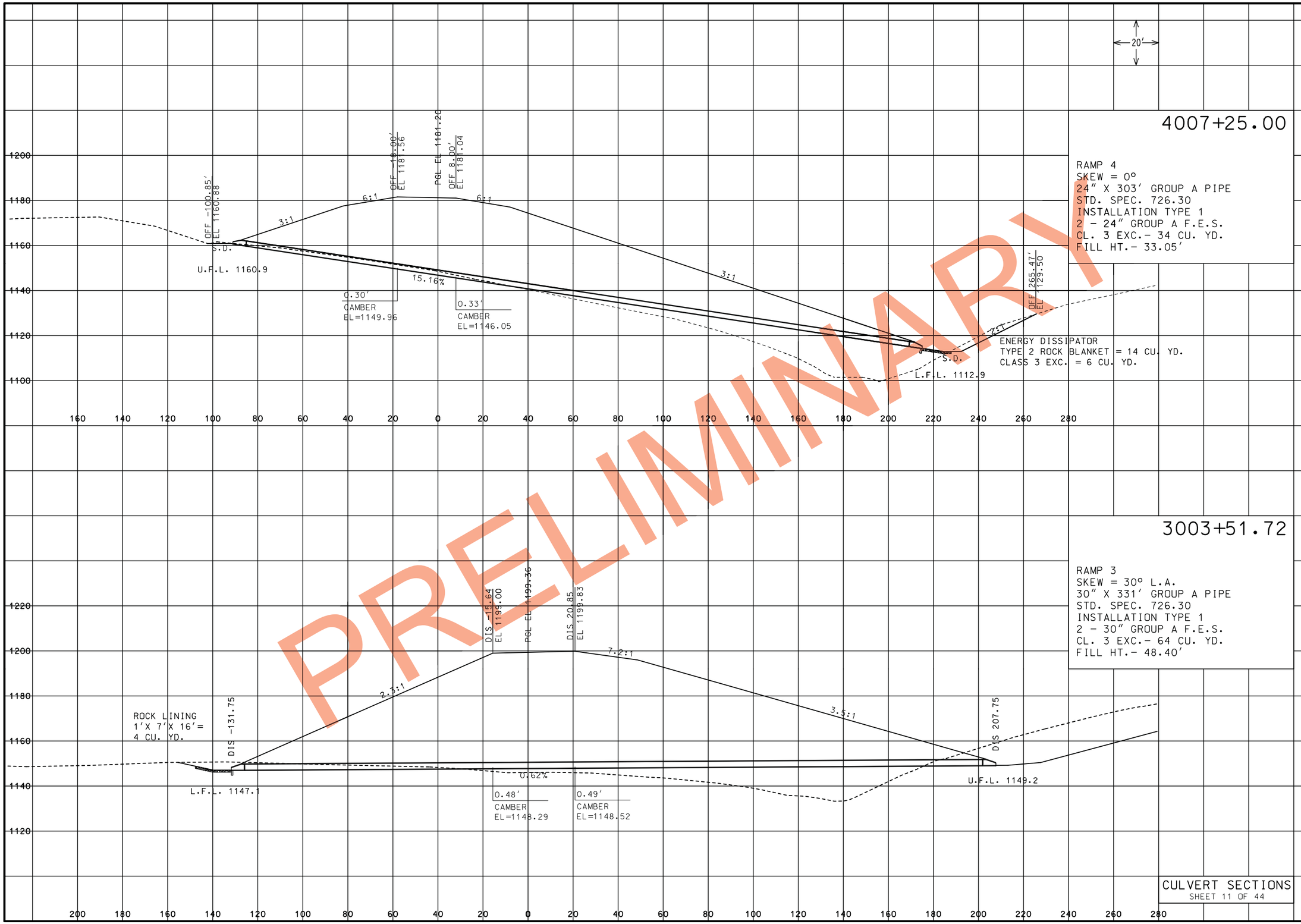
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	166
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

REV.	DESCRIPTION	DATE

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



PRELIMINARY

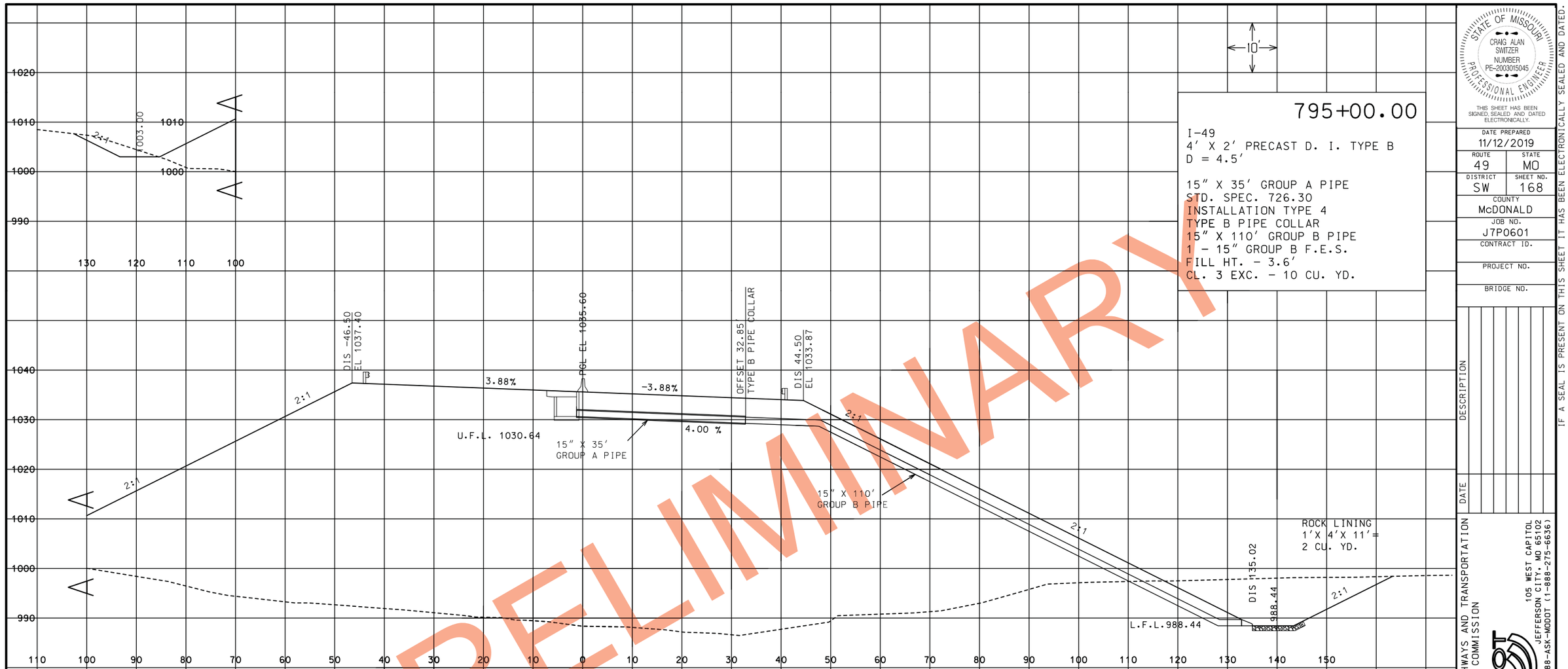
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	167
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

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



10'

795+00.00

I-49
4' X 2' PRECAST D. I. TYPE B
D = 4.5'

15" X 35' GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 4
TYPE B PIPE COLLAR
15" X 110' GROUP B PIPE
1 - 15" GROUP B F.E.S.
FILL HT. - 3.6'
CL. 3 EXC. - 10 CU. YD.

PRELIMINARY

CULVERT SECTIONS
SHEET 12 OF 44

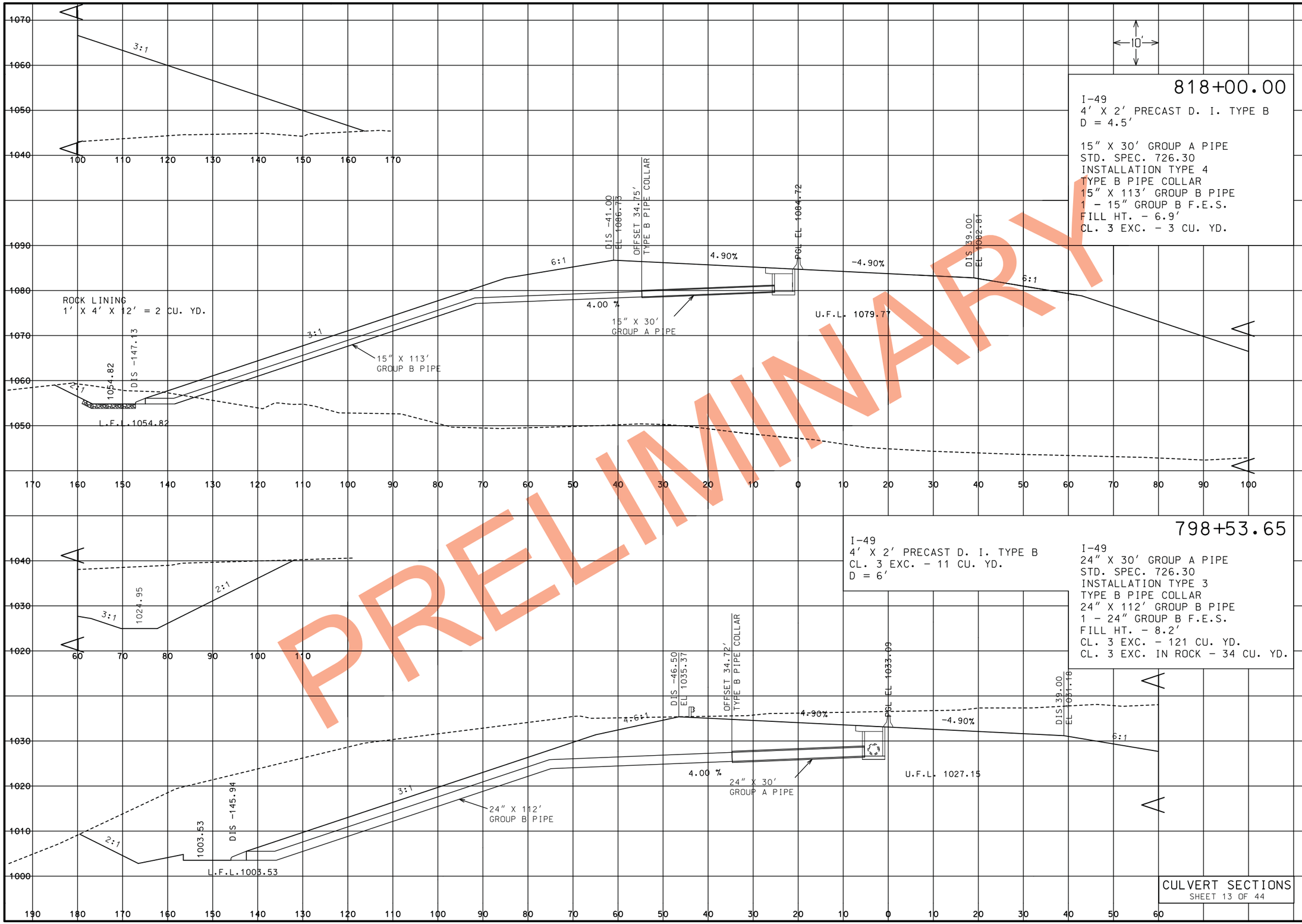
STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 168
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/12/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	169
COUNTY	McDONALD
JOB NO.	J7P0601
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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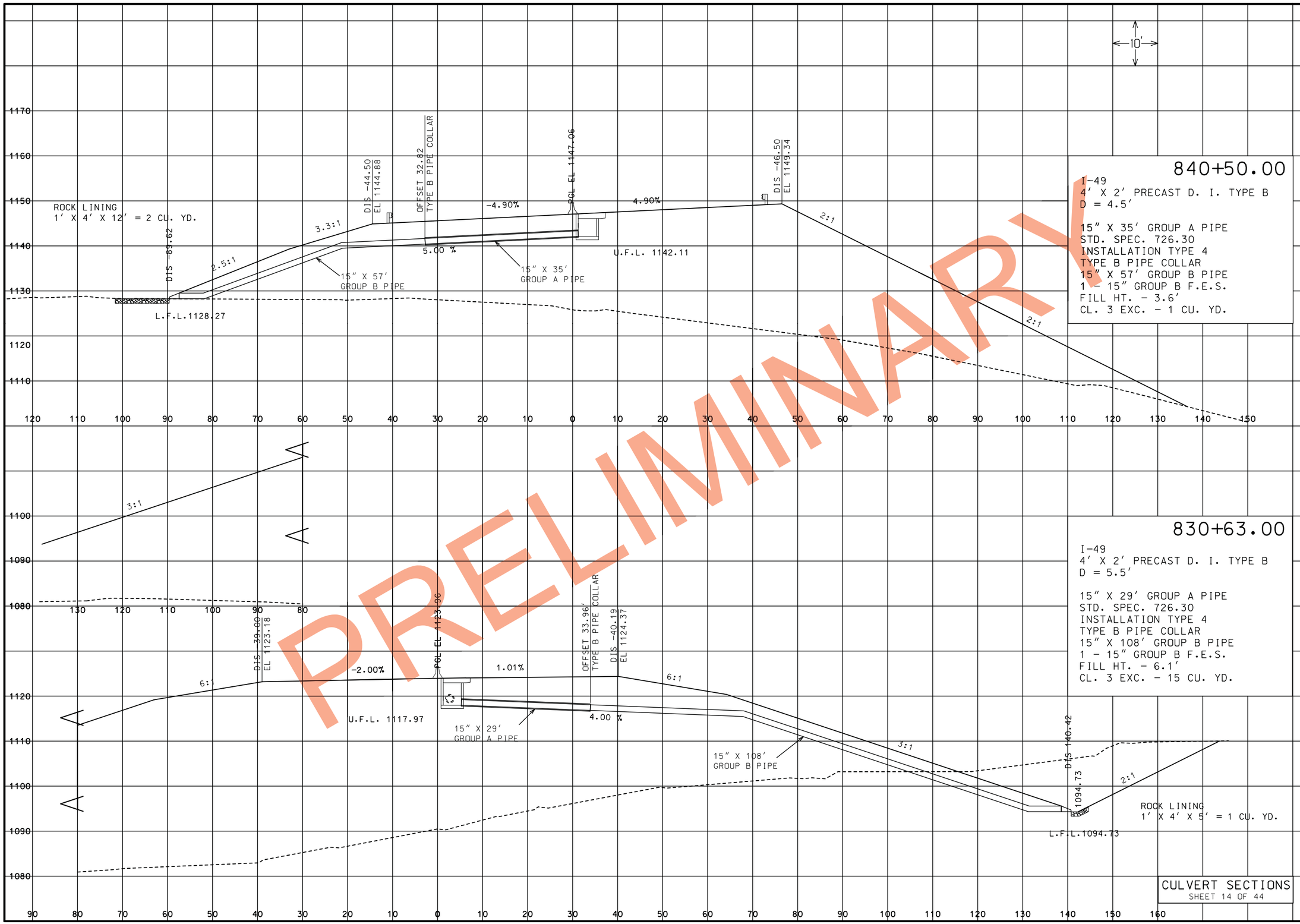
REV.



STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	170
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

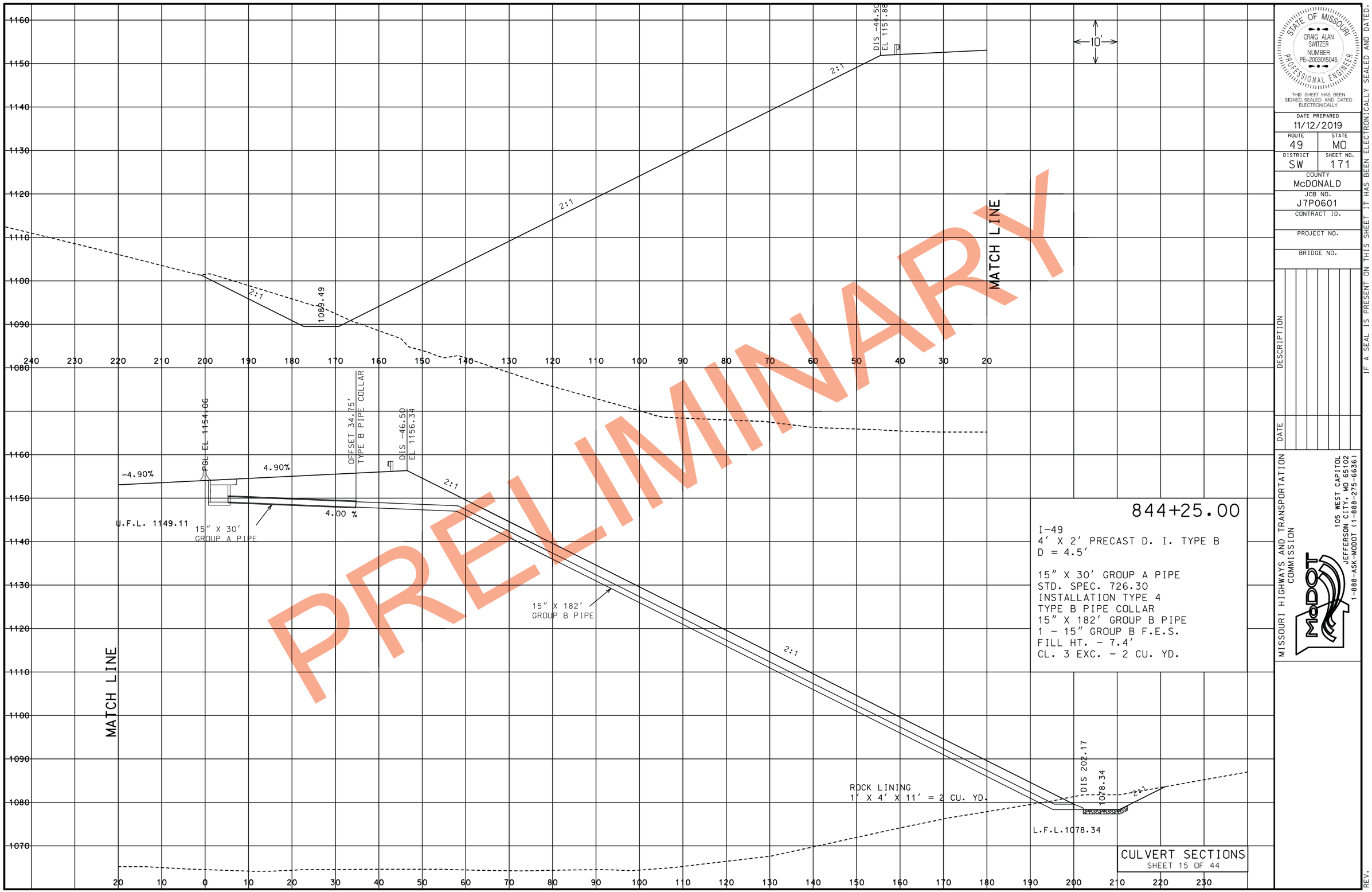
REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CULVERT SECTIONS

SHEET 14 OF 44



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

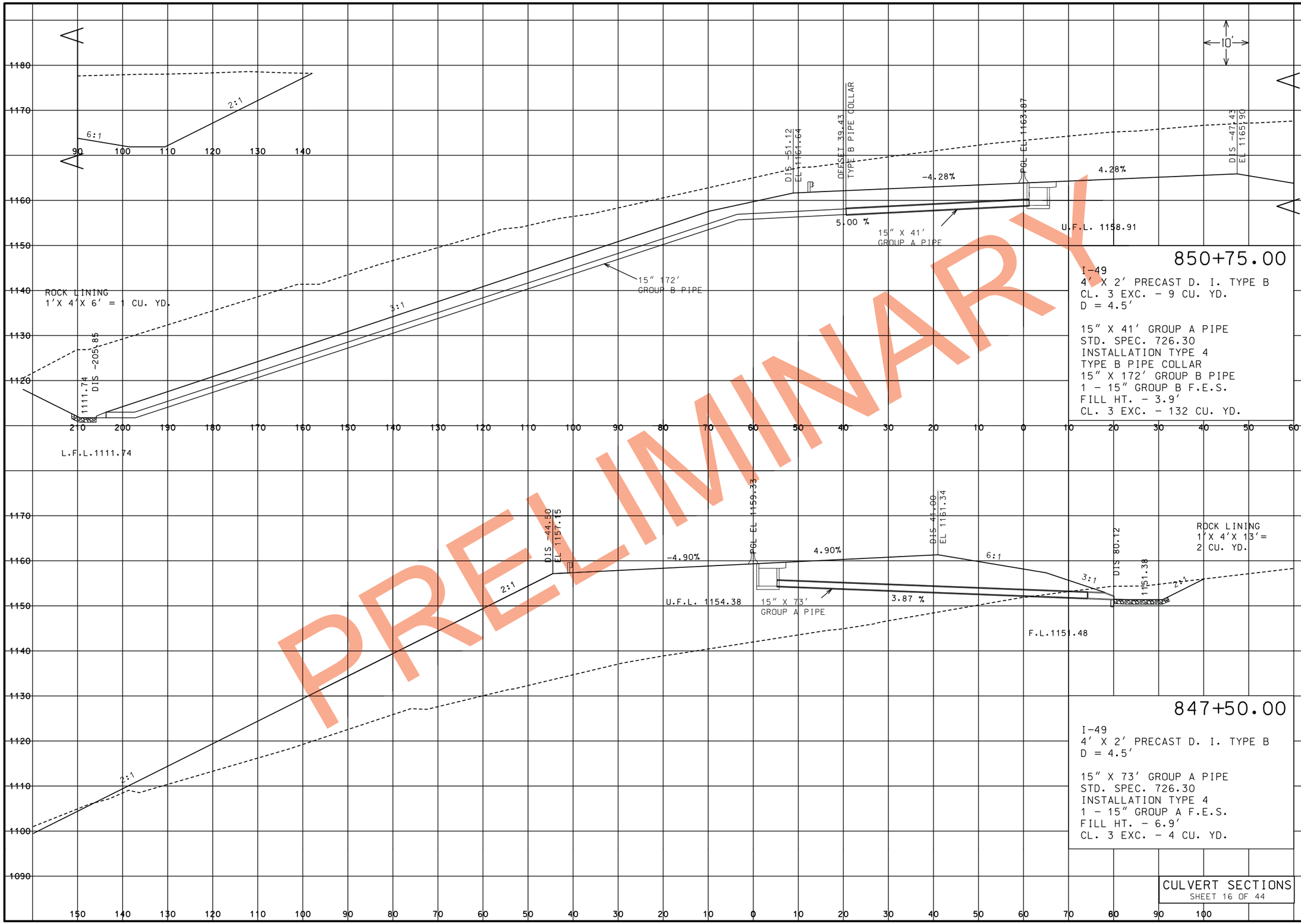
DATE PREPARED	11/12/2019
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	171
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

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

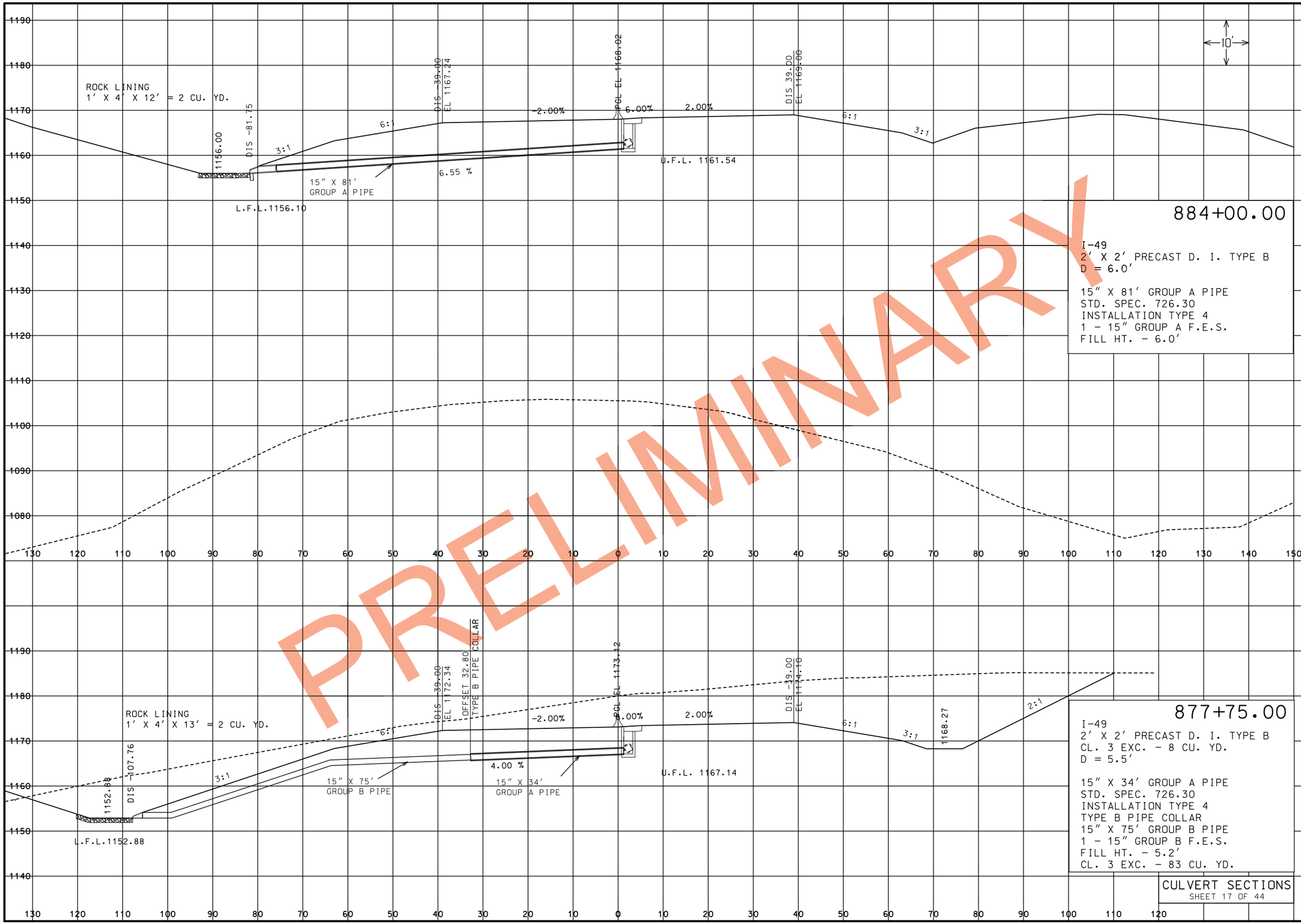
DATE PREPARED	11/12/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	172
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION	REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CULVERT SECTIONS
SHEET 16 OF 44



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	173

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

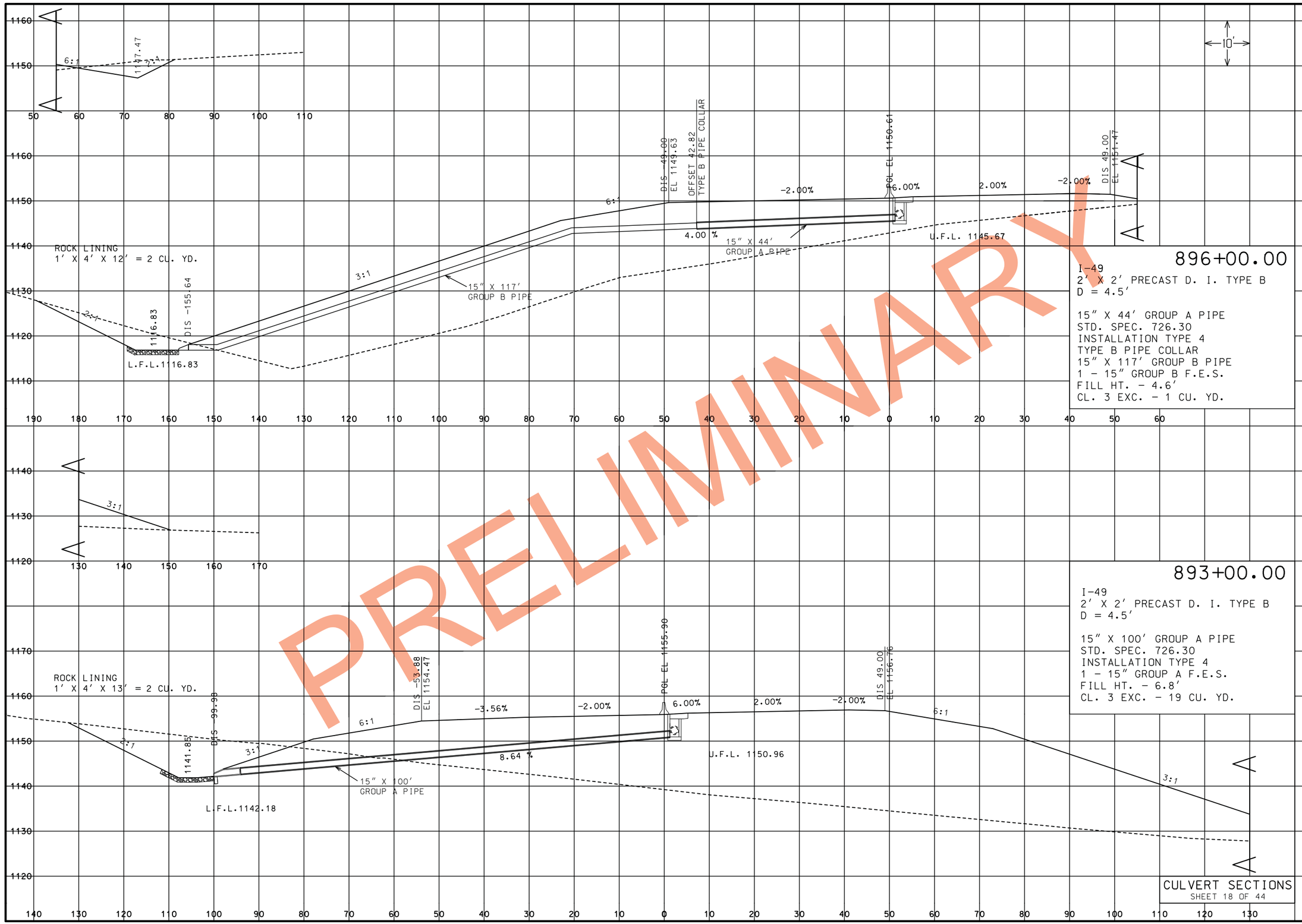
BRIDGE NO.

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.



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	174

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

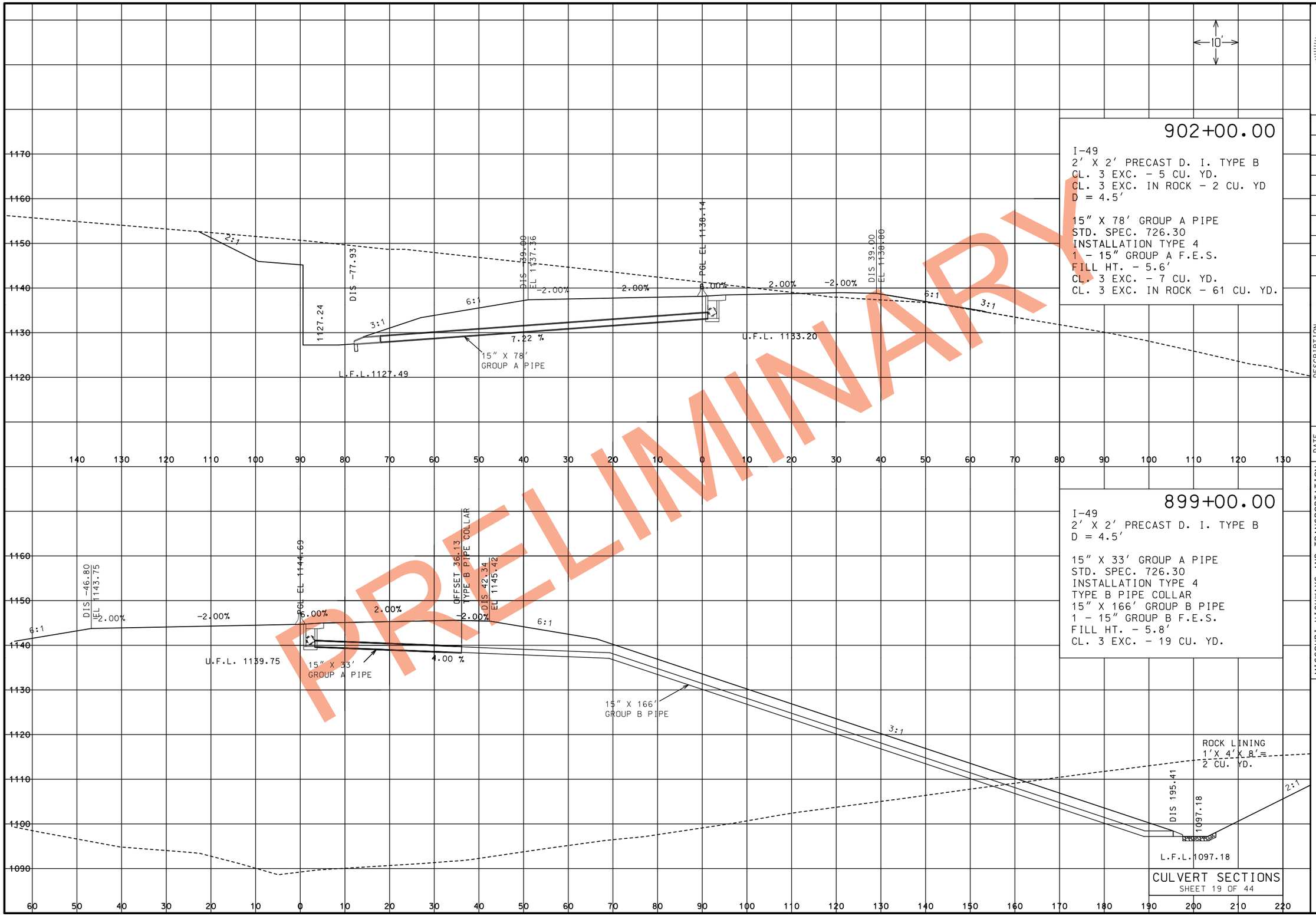
PROJECT NO.

BRIDGE NO.

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

REV.	DESCRIPTION	DATE

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



CULVERT SECTIONS
SHEET 19 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

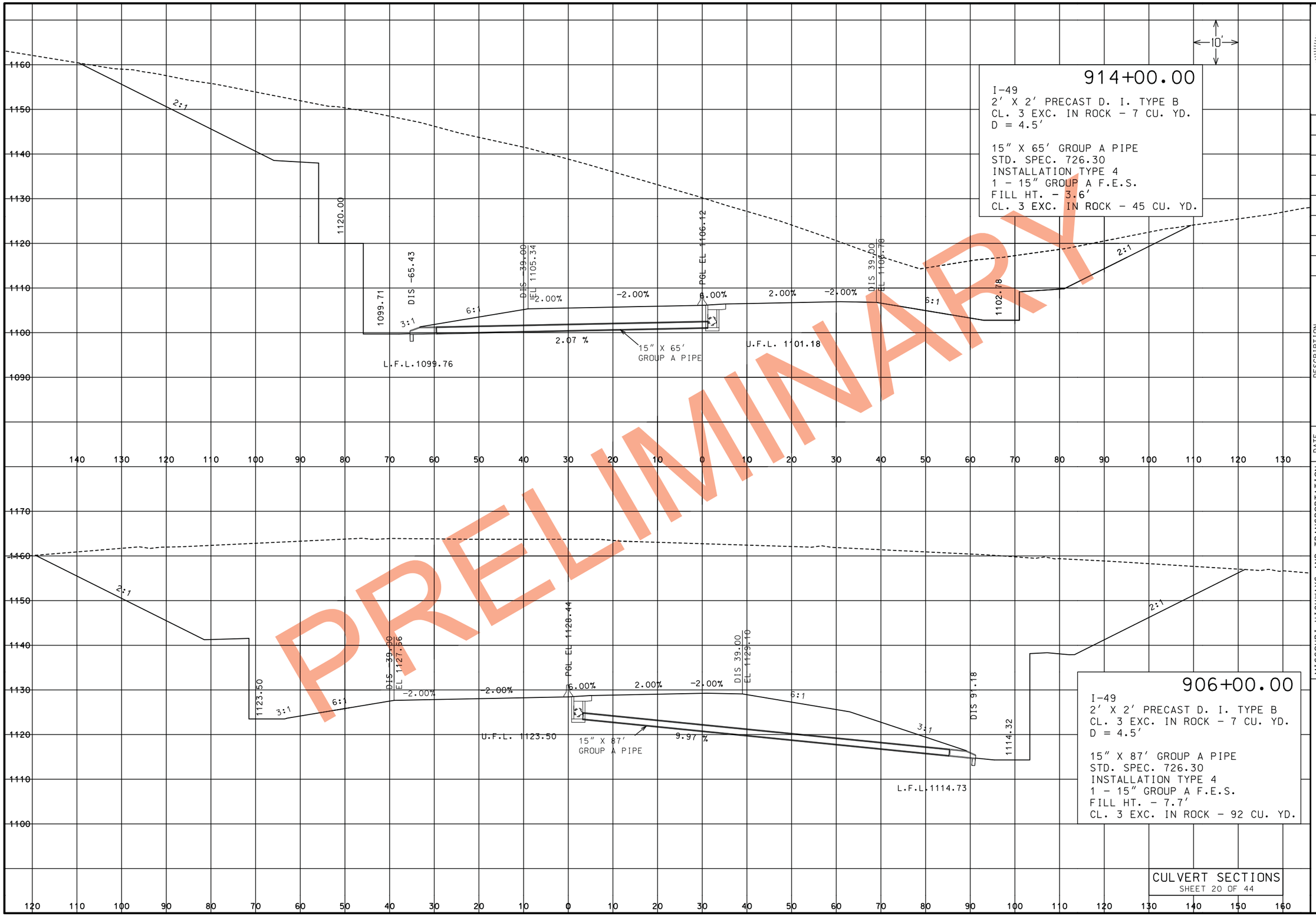
DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	175
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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.



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

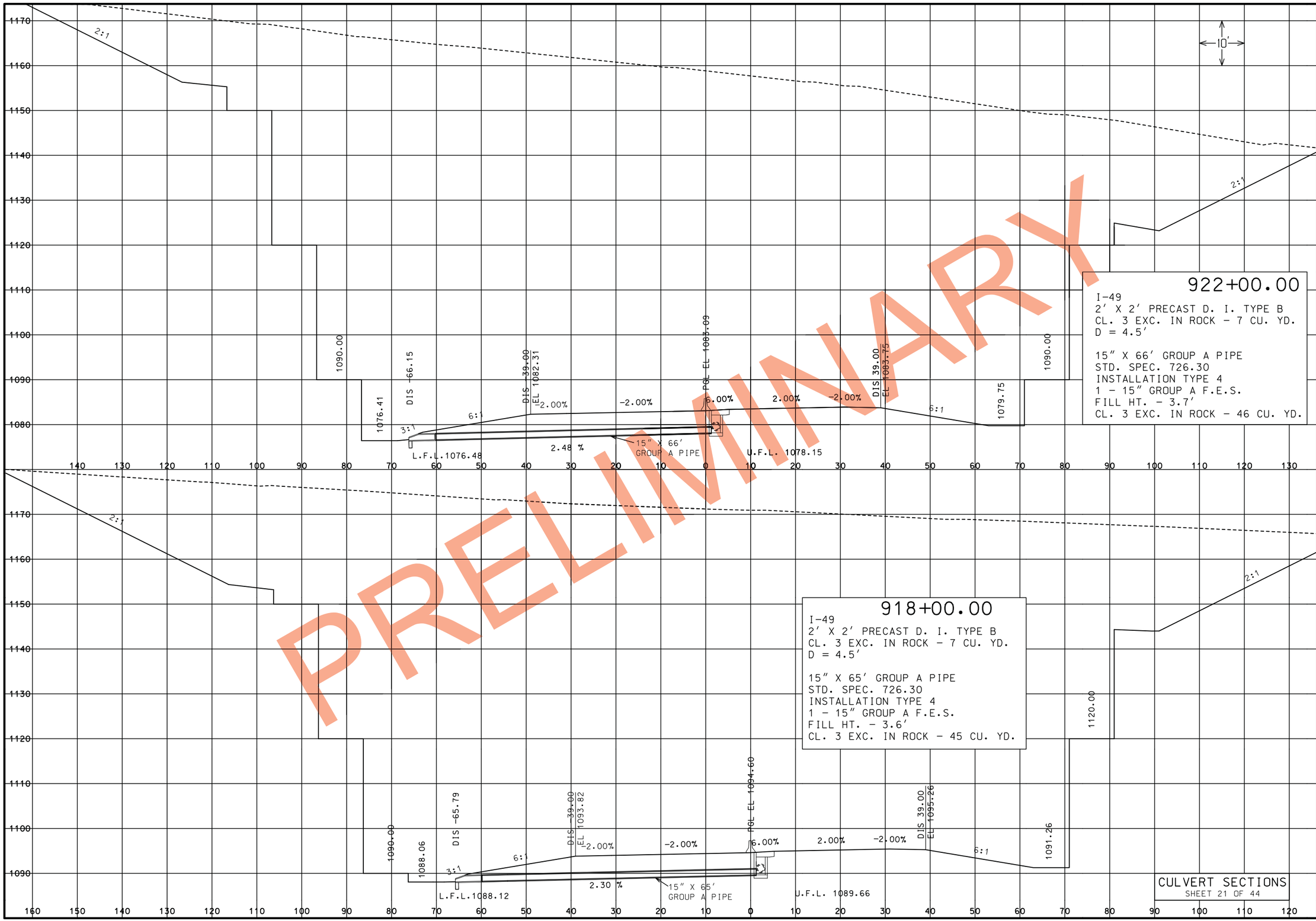
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	176

COUNTY McDONALD
JOB NO. J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE | REV.

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

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



922+00.00

I-49
2' X 2' PRECAST D. I. TYPE B
CL. 3 EXC. IN ROCK - 7 CU. YD.
D = 4.5'

15" X 66' GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 4
1 - 15" GROUP A F.E.S.
FILL HT. - 3.7'
CL. 3 EXC. IN ROCK - 46 CU. YD.

918+00.00

I-49
2' X 2' PRECAST D. I. TYPE B
CL. 3 EXC. IN ROCK - 7 CU. YD.
D = 4.5'

15" X 65' GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 4
1 - 15" GROUP A F.E.S.
FILL HT. - 3.6'
CL. 3 EXC. IN ROCK - 45 CU. YD.

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	177

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

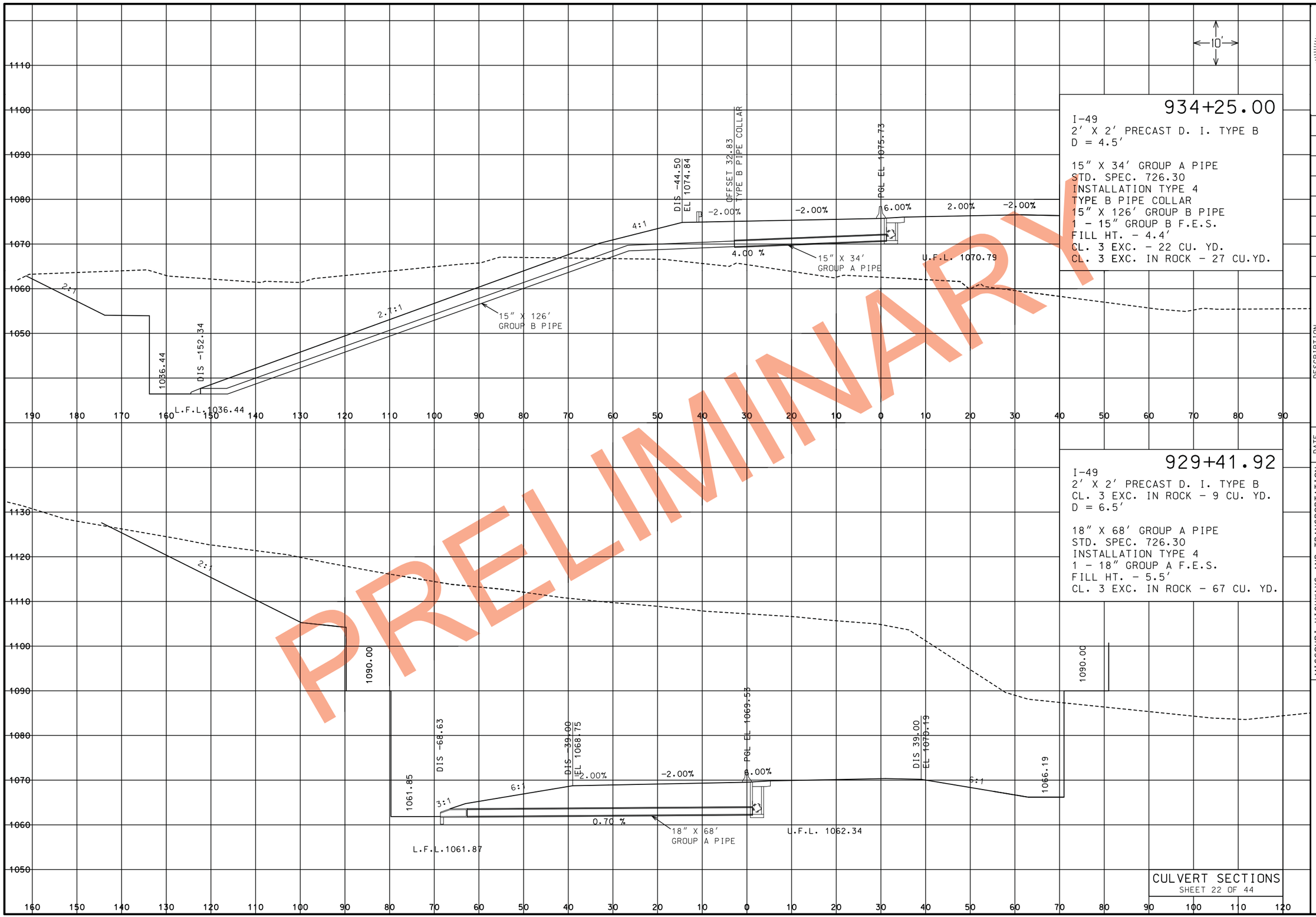
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CULVERT SECTIONS
SHEET 21 OF 44

REV.



STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	
11/12/2019	
ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	178
COUNTY	
McDONALD	
JOB NO.	
J7P0601	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

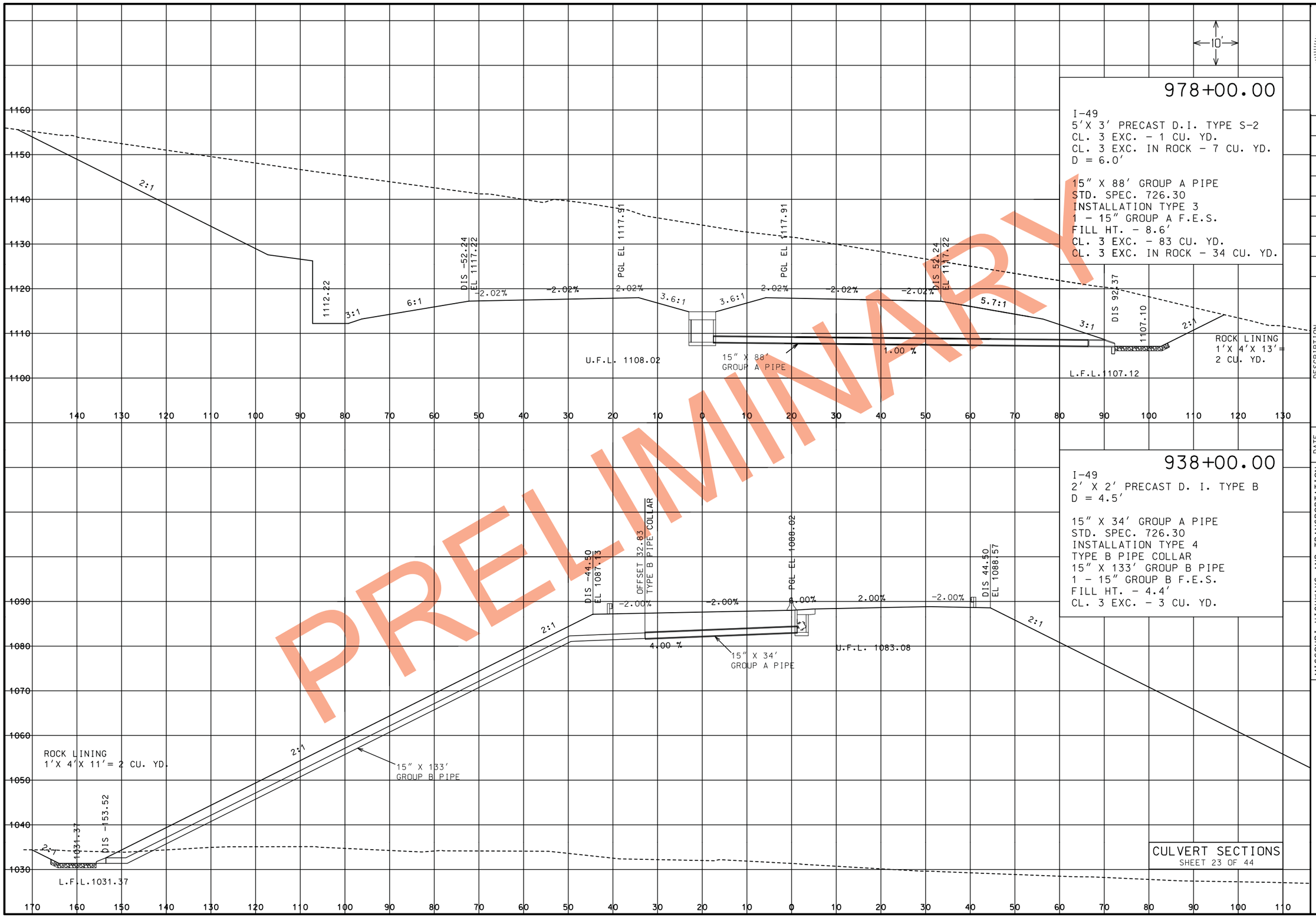
DESCRIPTION

DATE

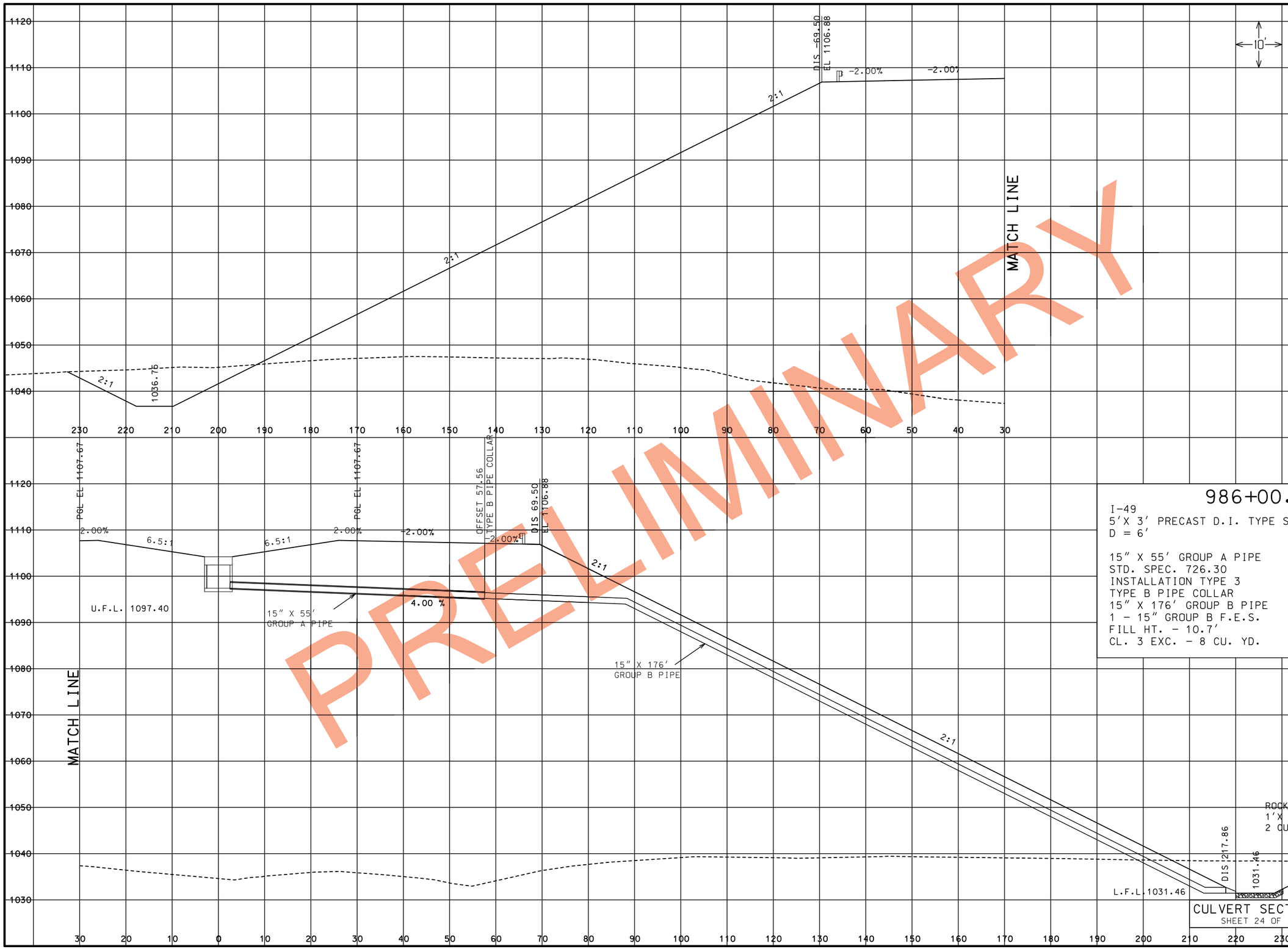
REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



PRELIMINARY



PRELIMINARY

986+00.00

I-49
5'X 3' PRECAST D.I. TYPE S-2
D = 6'

15" X 55' GROUP A PIPE
STD. SPEC. 726.30
INSTALLATION TYPE 3
TYPE B PIPE COLLAR
15" X 176' GROUP B PIPE
1 - 15" GROUP B F.E.S.
FILL HT. - 10.7'
CL. 3 EXC. - 8 CU. YD.

CULVERT SECTIONS

SHEET 24 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

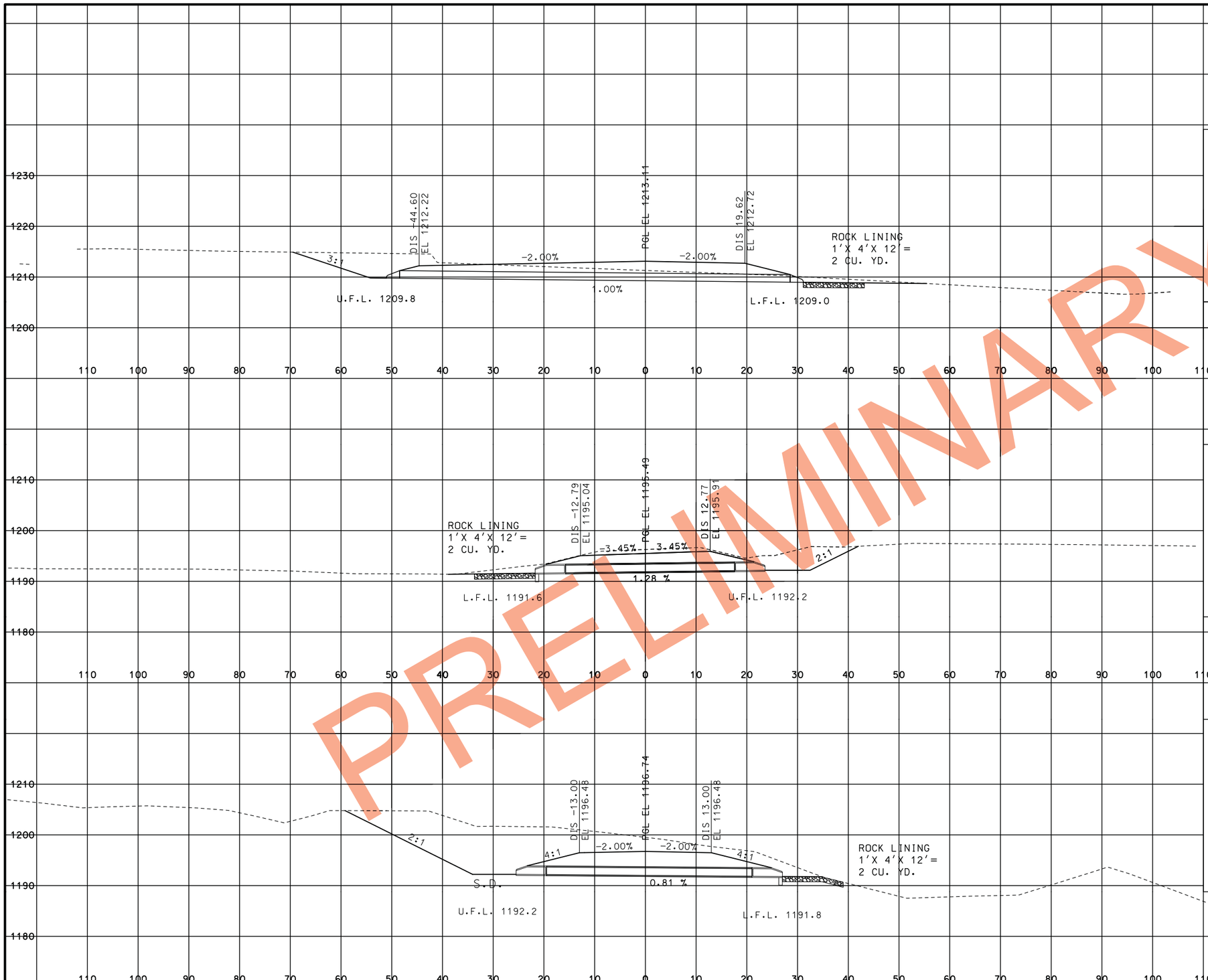
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/12/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	180
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DESCRIPTION | DATE | REV.

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

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



PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	181

COUNTY
McDONALD

JOB NO.
J7P0601

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.

799+74.00 – 802+00.00
I-49 MEDIAN DRAIN
24" X 224' GROUP B PIPE
0.72% GRADE
CL. 3 EXC. – 12 CU. YD.
CL. 3 EXC. IN ROCK – 235 CU. YD.

797+33.00 – 798+53.65
I-49 MEDIAN DRAIN
15" X 119' GROUP B PIPE
1.08% GRADE
CL. 3 EXC. – 20 CU. YD.

798+53.65 – 799+74.00
I-49 MEDIAN DRAIN
24" X 119' GROUP B PIPE
0.67% GRADE
CL. 3 EXC. – 113 CU. YD.
CL. 3 EXC. IN ROCK – 28 CU. YD.

PRELIMINARY

10'

EXISTING GROUND

PROPOSED GRADE

MATCH LINE 800+00 – SEE PREVIOUS SHEET

MATCH LINE 802+80 – SEE NEXT SHEET

802+00.00 CL I-49 3.25' LT.
4' x 2' D.I. TYPE B
CL. 3 EXC. IN ROCK – 9 CU. YD.
D=5'

1030.05

U.F.L. 1030.05 L.F.L. 1030.55

0.72%

2.20%

797+33.00 CL I-49 3.25' LT.
4' x 2' D.I. TYPE B
D=4.5'

1028.44

U.F.L. 1028.44

1.08%

L.F.L. 1027.15

798+53.65 CL I-49 3.25' LT.
4' x 2' D.I. TYPE B
(SEE CULV. SECTION)

1026.65

L.F.L. 1027.15

0.67%

799+74.00 CL I-49 3.25' LT.
4' x 2' D.I. TYPE B
CL. 3 EXC. – 6 CU. YD.
CL. 3 EXC. IN ROCK – 3 CU. YD.
D=5'

1027.94

U.F.L. 1027.94 L.F.L. 1028.44

1100 1090 1080 1070 1060 1050 1040 1030 1020 1010 1000

800+00 800+20 800+40 800+60 800+80 801+00 801+20 801+40 801+60 801+80 802+00 802+20 802+40 802+60 802+80

797+20 797+40 797+60 797+80 798+00 798+20 798+40 798+60 798+80 799+00 799+20 799+40 799+60 799+80 800+00

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 26 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	182

COUNTY McDONALD

JOB NO. J7P0601

CONTRACT ID.

PROJECT NO.

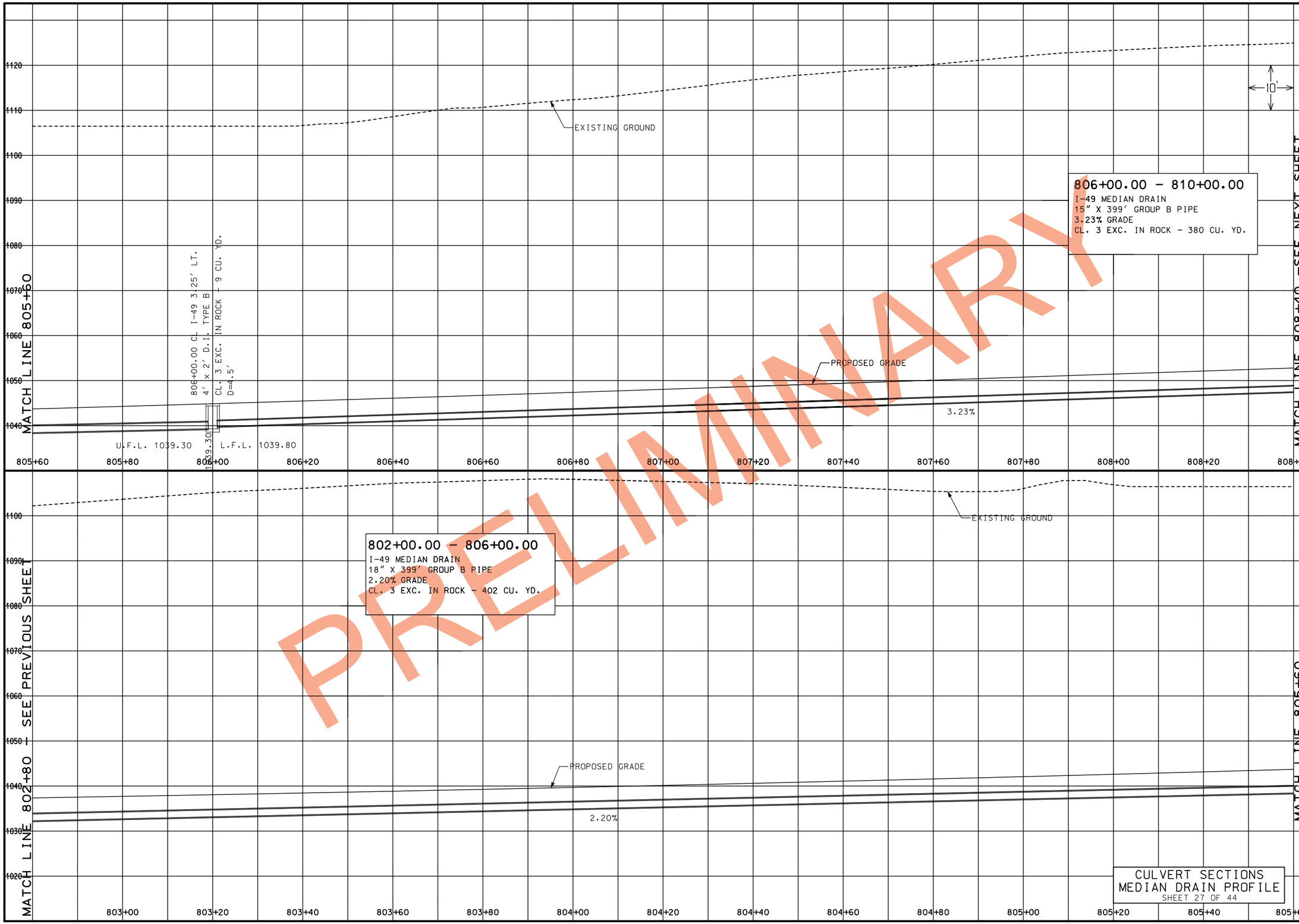
BRIDGE NO.

DATE | DESCRIPTION | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 27 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	183

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

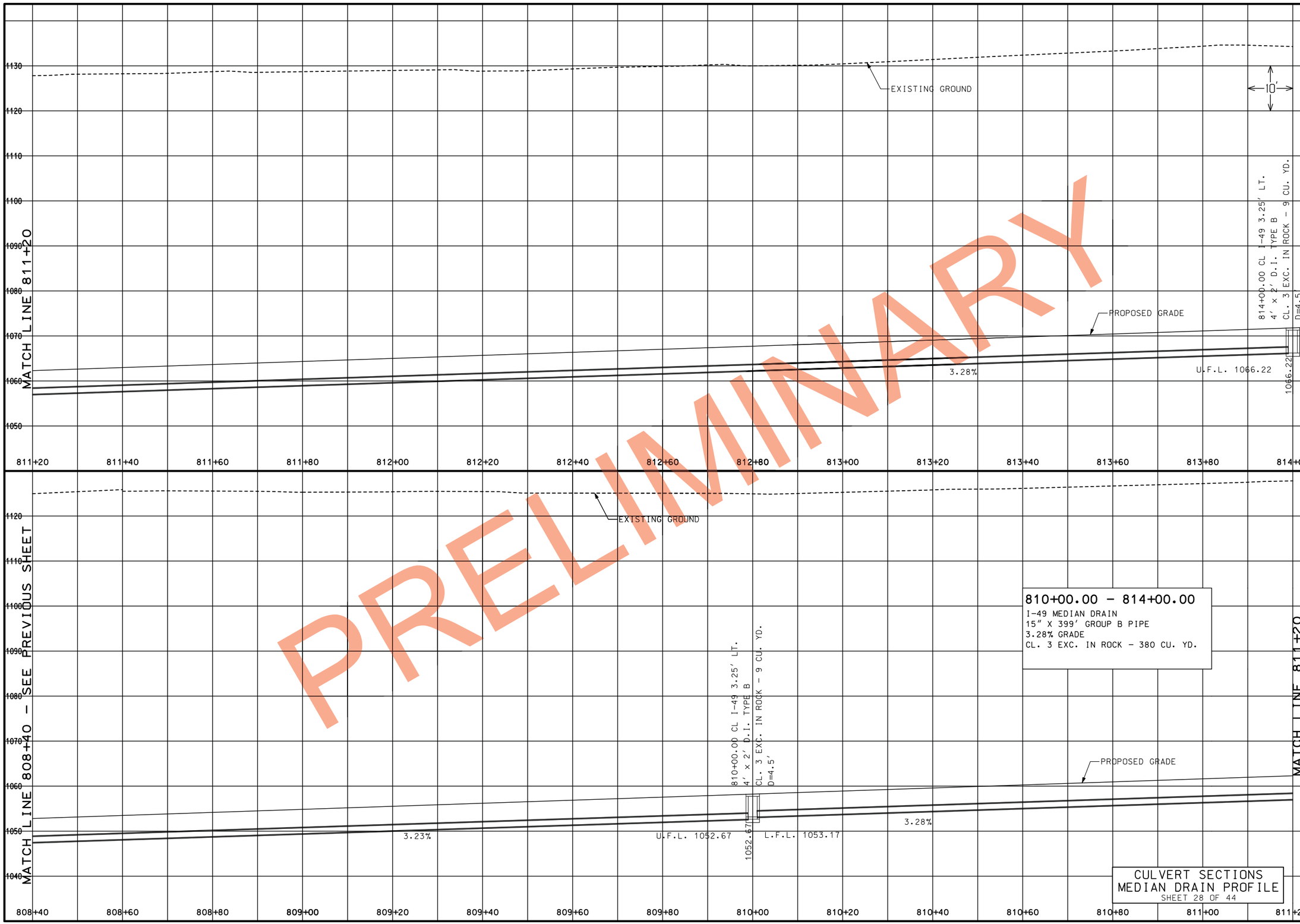
BRIDGE NO.

DATE	DESCRIPTION	REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

810+00.00 - 814+00.00
I-49 MEDIAN DRAIN
15" X 399' GROUP B PIPE
3.28% GRADE
CL. 3 EXC. IN ROCK - 380 CU. YD.

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 28 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 184
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE | REV.

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

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

833+00.00 – 835+50.00
I-49 MEDIAN DRAIN
15" X 249' GROUP B PIPE
2.25% GRADE
CL. 3 EXC. – 69 CU. YD.

MATCH LINE 833+20

PROPOSED GRADE

2.25%

835+50.00 CL I-49 3.25' RT.
4' x 2' D.I. TYPE B
CL. 3 EXC. – 4 CU. YD.
D=4.5'

U.F.L. 1131.27

1131.27

EXISTING GROUND

10'

830+78.00 – 831+10.00
I-49 MEDIAN DRAIN
15" X 30' GROUP B PIPE
1.17% GRADE

831+10.00 – 831+50.00
I-49 MEDIAN DRAIN
15" X 38' GROUP B PIPE
1.50% GRADE

831+50.00 – 833+00.00
I-49 MEDIAN DRAIN
15" X 149' GROUP B PIPE
2.29% GRADE
CL. 3 EXC. – 5 CU. YD.

830+63.00 CL I-49 3.25' RT.
4' x 2' D.I. TYPE B
(SEE CULV. SECTION)

830+78.00 CL I-49 3.25' RT.
4' x 2' D.I. TYPE B
D=4.5'

831+10.00 CL I-49 3.25' RT.
4' x 2' D.I. TYPE B
D=4.5'

831+50.00 CL I-49 3.25' RT.
4' x 2' D.I. TYPE B
D=4.5'

833+00.00 CL I-49 3.25' RT.
4' x 2' D.I. TYPE B
CL. 3 EXC. – 3 CU. YD.
D=4.5'

L.F.L. 1118.47

1117.97

7.00%

U.F.L. 1119.38

1119.38

L.F.L. 1119.88

1.17%

U.F.L. 1120.23

1120.23

L.F.L. 1120.73

1.50%

U.F.L. 1121.30

1121.30

L.F.L. 1121.80

2.29%

1125.19

U.F.L. 1125.19

L.F.L. 1125.69

PROPOSED GRADE

EXISTING GROUND

MATCH LINE 833+20

830+63.00 – 830+78.00
I-49 MEDIAN DRAIN
15" X 13' GROUP B PIPE
7.00% GRADE

PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 29 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	185

COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

DESCRIPTION | DATE

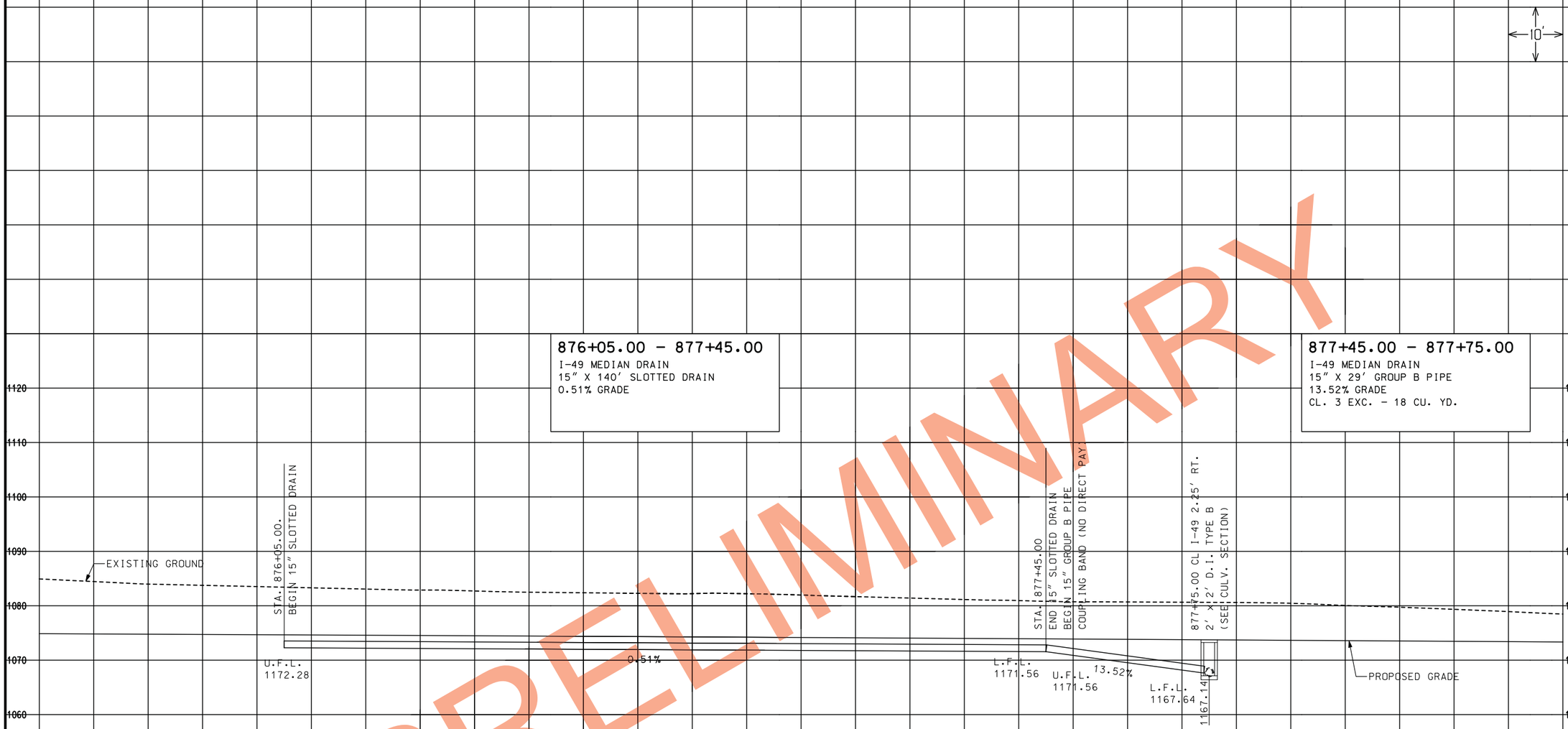
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

REV.

876+05.00 – 877+45.00
I-49 MEDIAN DRAIN
15″ X 140′ SLOTTED DRAIN
0.51% GRADE

877+45.00 – 877+75.00
I-49 MEDIAN DRAIN
15″ X 29′ GROUP B PIPE
13.52% GRADE
CL. 3 EXC. – 18 CU. YD.



PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 30 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2019
ROUTE: 49 | STATE: MO
DISTRICT: SW | SHEET NO.: 186
COUNTY: McDONALD
JOB NO.: J7P0601
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.

882+00.00 – 883+00.00
I-49 MEDIAN DRAIN
15" X 98' GROUP B PIPE
0.95% GRADE

883+00.00 – 884+00.00
I-49 MEDIAN DRAIN
15" X 98' GROUP B PIPE
1.02% GRADE

882+00.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
D=5'

883+00.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
D=5.5'

884+00.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
(SEE CULV. SECTION)

10'

PROPOSED GRADE

L.F.L. 1164.97
1164.47
U.F.L. 1164.47
0.93%
L.F.L. 1163.54
1163.04
U.F.L. 1163.04
1.02%
L.F.L. 1162.04
1161.54

EXISTING GROUND

MATCH LINE 881+80

1120 1110 1180 1170 1160 1150 1140 1130 1120 1110

881+80 882+00 882+20 882+40 882+60 882+80 883+00 883+20 883+40 883+60 883+80 884+00 884+20 884+40 884+60

879+25.00 – 880+50.00
I-49 MEDIAN DRAIN
15" X 123' GROUP B PIPE
0.76% GRADE
CL. 3 EXC. – 27 CU. YD.

880+50.00 – 882+00.00
I-49 MEDIAN DRAIN
15" X 148' GROUP B PIPE
0.85% GRADE

879+25.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
CL. 3 EXC. – 7 CU. YD.
D=4'

880+50.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
D=4.5'

PROPOSED GRADE

1167.66
U.F.L. 1167.66
0.76%
L.F.L. 1166.73
1166.23
U.F.L. 1166.23
0.85%

EXISTING GROUND

MATCH LINE 881+80

1140 1130 1120 1170 1160 1150 1140 1130 1120

879+20 879+40 879+60 879+80 880+00 880+20 880+40 880+60 880+80 881+00 881+20 881+40 881+60 881+80

PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 31 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	187

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

REV.

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

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

885+75.00 – 887+25.00
I-49 MEDIAN DRAIN
15" X 149' GROUP B PIPE
0.89% GRADE

887+25.00 – 889+25.00
I-49 MEDIAN DRAIN
15" X 199' GROUP B PIPE
1.08% GRADE

10'

885+75.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
D=4.5'

887+25.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
D=4.5'

1161.17
U.F.L. 1161.17
0.89%
L.F.L. 1159.85
1159.35
U.F.L. 1159.35
PROPOSED GRADE
1.08%
EXISTING GROUND
1.32%

1180 1170 1160 1150 1140 1130 1120 1110 1100 1090 1080 1070 1060 1050 1040

885+60 885+80 886+00 886+20 886+40 886+60 886+80 887+00 887+20 887+40 887+60 887+80 888+00 888+20

MATCH LINE 888+30 – SEE NEXT SHEET

PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 32 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	188

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

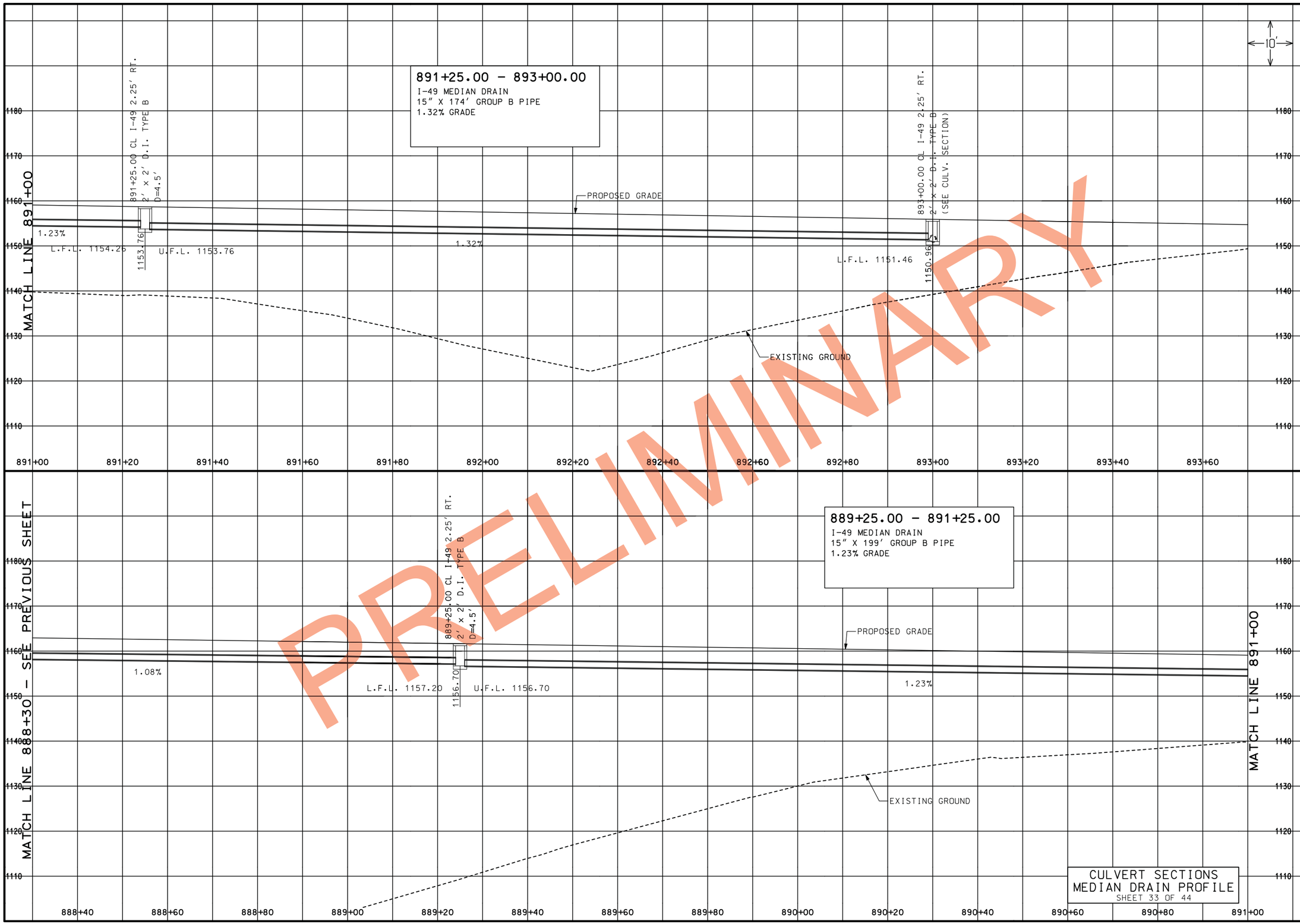
DESCRIPTION	DATE

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.



PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 33 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/12/2019
ROUTE	49
STATE	MO
DISTRICT	SW
SHEET NO.	189
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

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

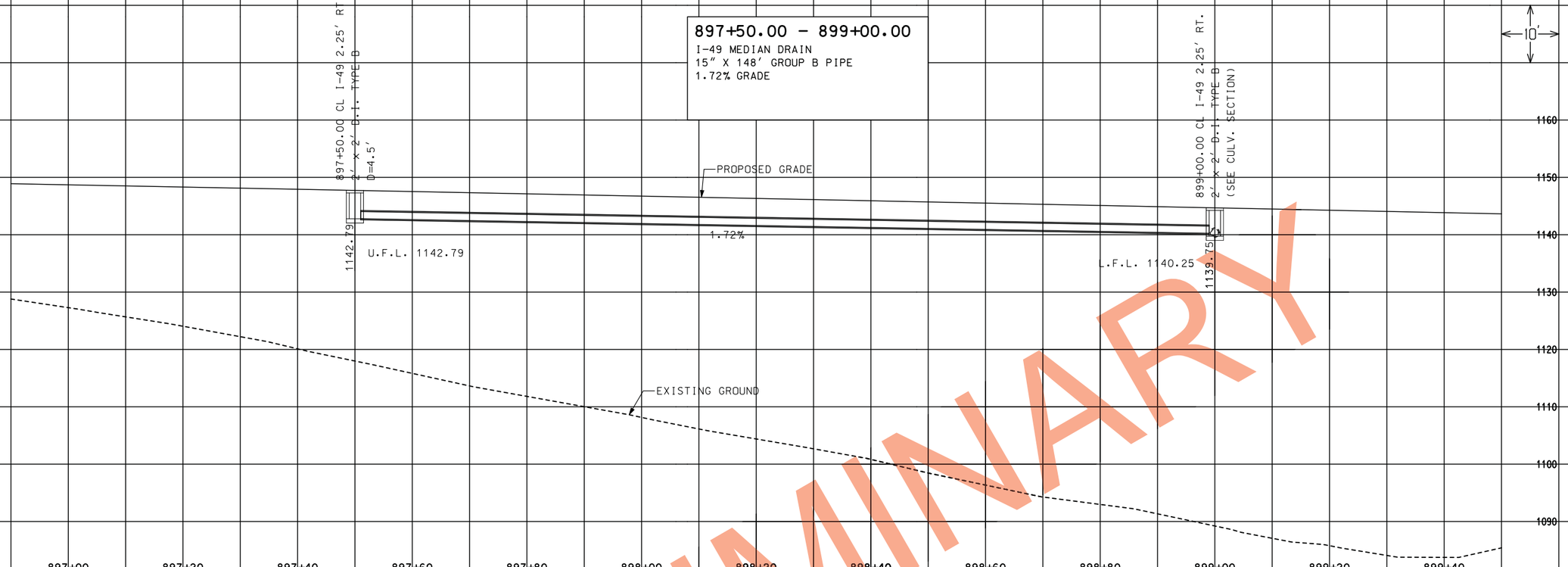
DESCRIPTION | DATE | REV.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

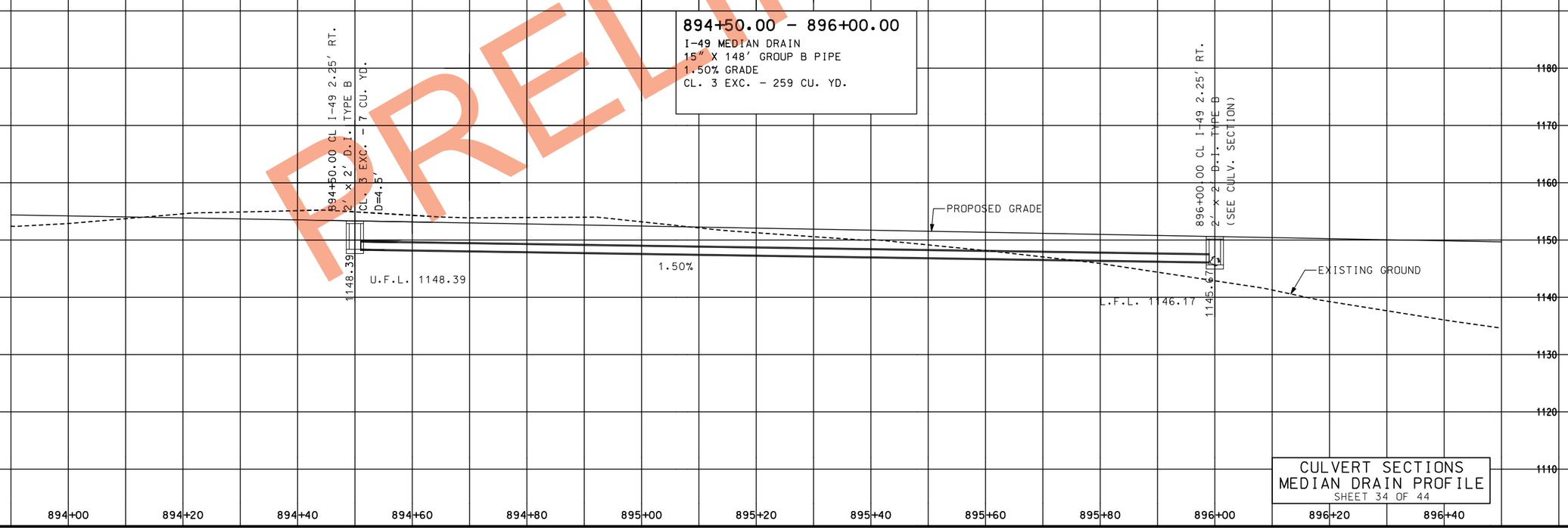
897+50.00 – 899+00.00

I-49 MEDIAN DRAIN
15" X 148' GROUP B PIPE
1.72% GRADE



894+50.00 – 896+00.00

I-49 MEDIAN DRAIN
15" X 148' GROUP B PIPE
1.50% GRADE
CL. 3 EXC. – 7 CU. YD.



PRELIMINARY

CULVERT SECTIONS MEDIAN DRAIN PROFILE

SHEET 34 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED: 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	190

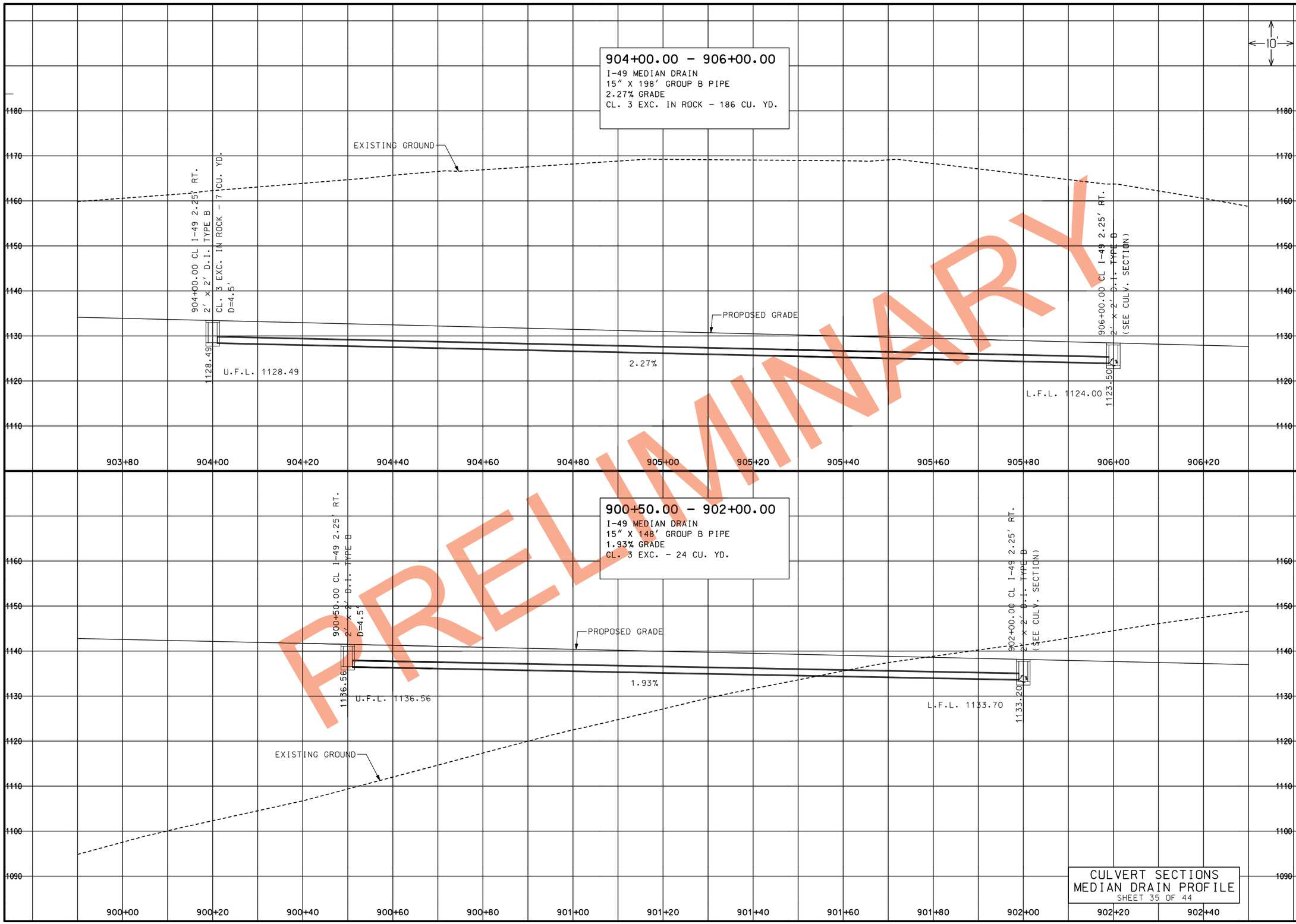
COUNTY: McDONALD
JOB NO.: J7P0601
CONTRACT ID.:
PROJECT NO.:
BRIDGE NO.:

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

REV.	DESCRIPTION	DATE

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

904+00.00 – 906+00.00
I-49 MEDIAN DRAIN
15" X 198' GROUP B PIPE
2.27% GRADE
CL. 3 EXC. IN ROCK – 186 CU. YD.



900+50.00 – 902+00.00
I-49 MEDIAN DRAIN
15" X 148' GROUP B PIPE
1.93% GRADE
CL. 3 EXC. – 24 CU. YD.

PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 35 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	191

COUNTY
McDONALD

JOB NO.
J7P0601

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.

910+00.00 – 912+00.00

I-49 MEDIAN DRAIN
15″ X 198′ GROUP B PIPE
2.65% GRADE
CL. 3 EXC. – 37 CU. YD.

912+00.00 CL I-49 2.25′ RT.
2′ x 2′ D.I. TYPE B
CL. 3 EXC. – 7 CU. YD.
D=4.5′

1106.93

EXISTING GROUND

PROPOSED GRADE

2.65%

L.F.L. 1107.43

U.F.L. 1106.93

2.65%

MATCH LINE 910+50

MATCH LINE 913+20 – SEE NEXT SHEET

10′

1140 1130 1120 1110 1100 1090 1080

910+60 910+80 911+00 911+20 911+40 911+60 911+80 912+00 912+20 912+40 912+60 912+80 913+00 913+20

908+00.00 – 910+00.00

I-49 MEDIAN DRAIN
15″ X 198′ GROUP B PIPE
2.55% GRADE

908+00.00 CL I-49
2.25′ RT.
2′ x 2′ D.I. TYPE B
D=4.5′

1118.23

PROPOSED GRADE

2.55%

U.F.L. 1118.23

910+00.00 CL I-49
2.25′ RT.
2′ x 2′ D.I. TYPE B
D=4.5′

1112.68

L.F.L. 1113.18

U.F.L. 1112.68

2.65%

MATCH LINE 910+50

EXISTING GROUND

1140 1130 1120 1110 1100 1090 1080 1070 1060 1050

907+80 908+00 908+20 908+40 908+60 908+80 909+00 909+20 909+40 909+60 909+80 910+00 910+20 910+40

PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 36 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	192

COUNTY
McDONALD

JOB NO.
J7P0601

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.

PRELIMINARY

916+00.00 – 918+00.00
I-49 MEDIAN DRAIN
15" X 198' GROUP B PIPE
2.66% GRADE
CL. 3 EXC. IN ROCK – 186 CU. YD.

EXISTING GROUND

PROPOSED GRADE

916+00.00 CL I-49 2.25' RT.
2' X 2' D.I. TYPE B
CL. 3 EXC. IN ROCK – 7 CU. YD.
D=4.5'

1095.42

U.F.L. 1095.42

2.66%

918+00.00 CL I-49 2.25' RT.
2' X 2' D.I. TYPE B
(SEE CULV. SECTION)

1089.66

L.F.L. 1090.16

10'

1170 1160 1150 1140 1130 1120 1110 1100 1090 1080

915+80 916+00 916+20 916+40 916+60 916+80 917+00 917+20 917+40 917+60 917+80 918+00 918+20

912+00.00 – 914+00.00
I-49 MEDIAN DRAIN
15" X 198' GROUP B PIPE
2.65% GRADE
CL. 3 EXC. – 19 CU. YD.
CL. 3 EXC. IN ROCK – 167 CU. YD.

MATCH LINE 913+20 – SEE PREVIOUS SHEET

EXISTING GROUND

PROPOSED GRADE

914+00.00 CL I-49 2.25' RT.
2' X 2' D.I. TYPE B
(SEE CULV. SECTION)

1101.18

2.65%

L.F.L 1101.68

1150 1140 1130 1120 1110 1100 1090

913+20 913+40 913+60 913+80 914+00 914+20 914+40 914+60

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 37 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/~~12~~7/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	193

COUNTY
McDONALD

JOB NO.
J7P0601

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.

920+00.00 – 922+00.00
I-49 MEDIAN DRAIN
15″ X 198′ GROUP B PIPE
2.65% GRADE
CL. 3 EXC. IN ROCK – 186 CU. YD.

10′

EXISTING GROUND

PROPOSED GRADE

2.65%

920+00.00 CL I-49 2.25′ RT.
2′ x 2′ D.I. TYPE B
CL. 3 EXC. IN ROCK – 7 CU. YD.
D=4.5′

1083.90

U.F.L. 1083.90

922+00.00 CL I-49 2.25′ RT.
2′ x 2′ D.I. TYPE B
(SEE CULV. SECTION)

1078.15

L.F.L. 1078.65

1170 1160 1150 1140 1130 1120 1110 1100 1090 1080 1070

919+80 920+00 920+20 920+40 920+60 920+80 921+00 921+20 921+40 921+60 921+80 922+00 922+20

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 38 OF 44

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	194

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

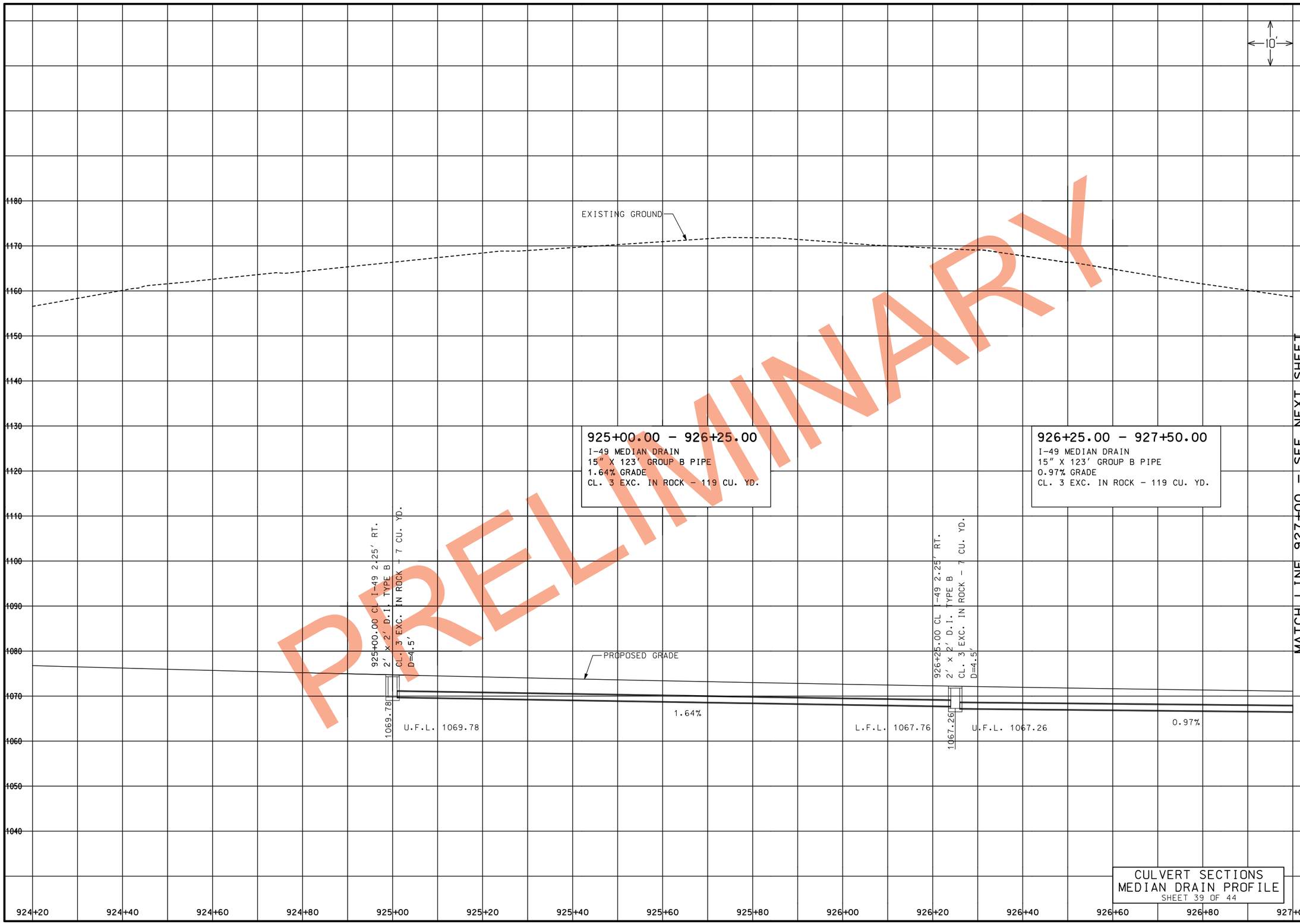
DESCRIPTION	DATE

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.



PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 39 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO

DISTRICT	SHEET NO.
SW	195

COUNTY
McDONALD

JOB NO.
J7P0601

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.

PRELIMINARY

← MATCH LINE 927+00 – SEE PREVIOUS SHEET

MATCH LINE 929+80 – SEE NEXT SHEET →

EXISTING GROUND

PROPOSED GRADE

927+50.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
CL. 3 EXC. IN ROCK – 7 CU. YD.
D=4.5'

928+50.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
CL. 3 EXC. IN ROCK – 7 CU. YD.
D=5'

929+00.00 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
CL. 3 EXC. IN ROCK – 8 CU. YD.
D=6'

929+41.92 CL I-49 2.25' RT.
2' x 2' D.I. TYPE B
(SEE CULV. SECTION)

0.97%

L.F.L. 1066.07

1065.57

U.F.L. 1065.57

0.78%

L.F.L. 1064.81

1064.31

U.F.L. 1064.31

1.40%

L.F.L. 1063.64

1063.14

U.F.L. 1063.14

0.75%

L.F.L. 1062.84

1062.34

L.F.L. 1062.84

0.70%

1180 1170 1160 1150 1140 1130 1120 1110 1100 1090 1080 1070 1060 1050 1040

927+00 927+20 927+40 927+60 927+80 928+00 928+20 928+40 928+60 928+80 929+00 929+20 929+40 929+60 929+80

10'

927+50.00 – 928+50.00
I-49 MEDIAN DRAIN
15" X 98' GROUP B PIPE
0.78% GRADE
CL. 3 EXC. IN ROCK – 95 CU. YD.

928+50.00 – 929+00.00
I-49 MEDIAN DRAIN
15" X 48' GROUP B PIPE
1.40% GRADE
CL. 3 EXC. IN ROCK – 46 CU. YD.

929+00.00 – 929+41.92
I-49 MEDIAN DRAIN
15" X 40' GROUP B PIPE
0.75% GRADE
CL. 3 EXC. IN ROCK – 39 CU. YD.

929+41.92 – 929+87.00
I-49 MEDIAN DRAIN
15" X 43' GROUP B PIPE
0.70% GRADE
CL. 3 EXC. IN ROCK – 42 CU. YD.

CULVERT SECTIONS MEDIAN DRAIN PROFILE

SHEET 40 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	196

COUNTY: McDONALD

JOB NO.: J7P0601

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.:

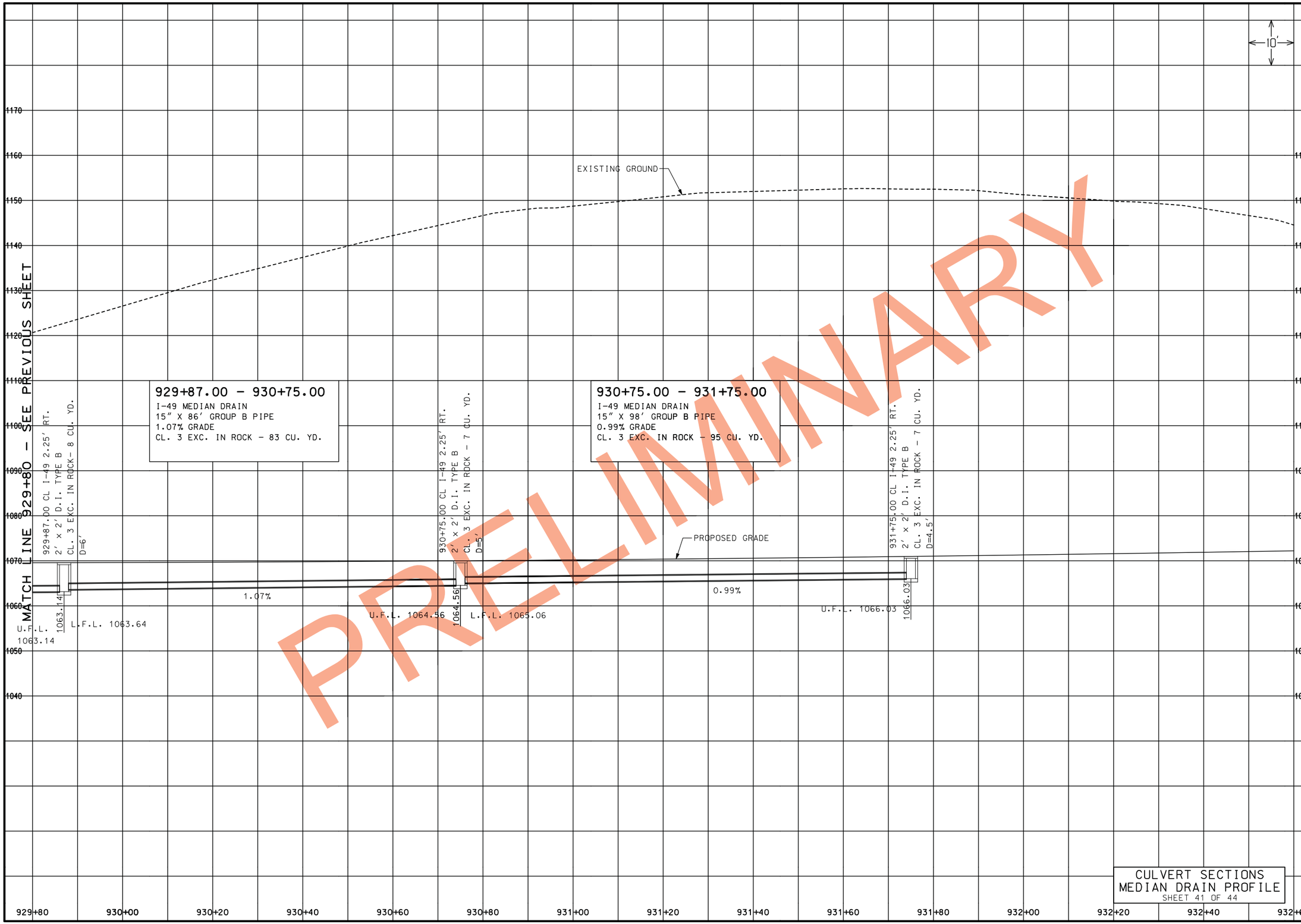
DESCRIPTION	DATE

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.



PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 41 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	197

COUNTY
McDONALD

JOB NO.
J7P0601

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.

938+00.00 – 940+50.00
I-49 MEDIAN DRAIN
15" X 248' GROUP B PIPE
3.32% GRADE
CL. 3 EXC. – 23 CU. YD.
CL. 3 EXC. IN ROCK – 92 CU. YD.

938+00.00 CL I-49 2.25' RT.
2' X 2' D.I. TYPE B
(SEE CULV. SECTION)
1083.08
L.F.L. 1083.58
PROPOSED GRADE
EXISTING GROUND
3.32%
10'
940+50.00 CL I-49 2.25' RT.
2' X 2' D.I. TYPE B
CL. 3 EXC. IN ROCK – 7 CU. YD.
D=4.5'
1091.82
U.F.L. 1091.82

934+25.00 – 936+00.00
I-49 MEDIAN DRAIN
15" X 173' GROUP B PIPE
2.78% GRADE

934+25.00 CL I-49 2.25' RT.
2' X 2' D.I. TYPE B
(SEE CULV. SECTION)
1070.79
L.F.L. 1071.29
PROPOSED GRADE
2.78%
EXISTING GROUND
936+00.00 CL I-49
2.25' RT.
2' X 2' D.I. TYPE B
D=4.5'
1076.09
U.F.L. 1076.09

PRELIMINARY

CULVERT SECTIONS
MEDIAN DRAIN PROFILE
SHEET 42 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
SW	198

COUNTY
McDONALD
JOB NO.
J7P0601
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE
REV.

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

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

853+00.00

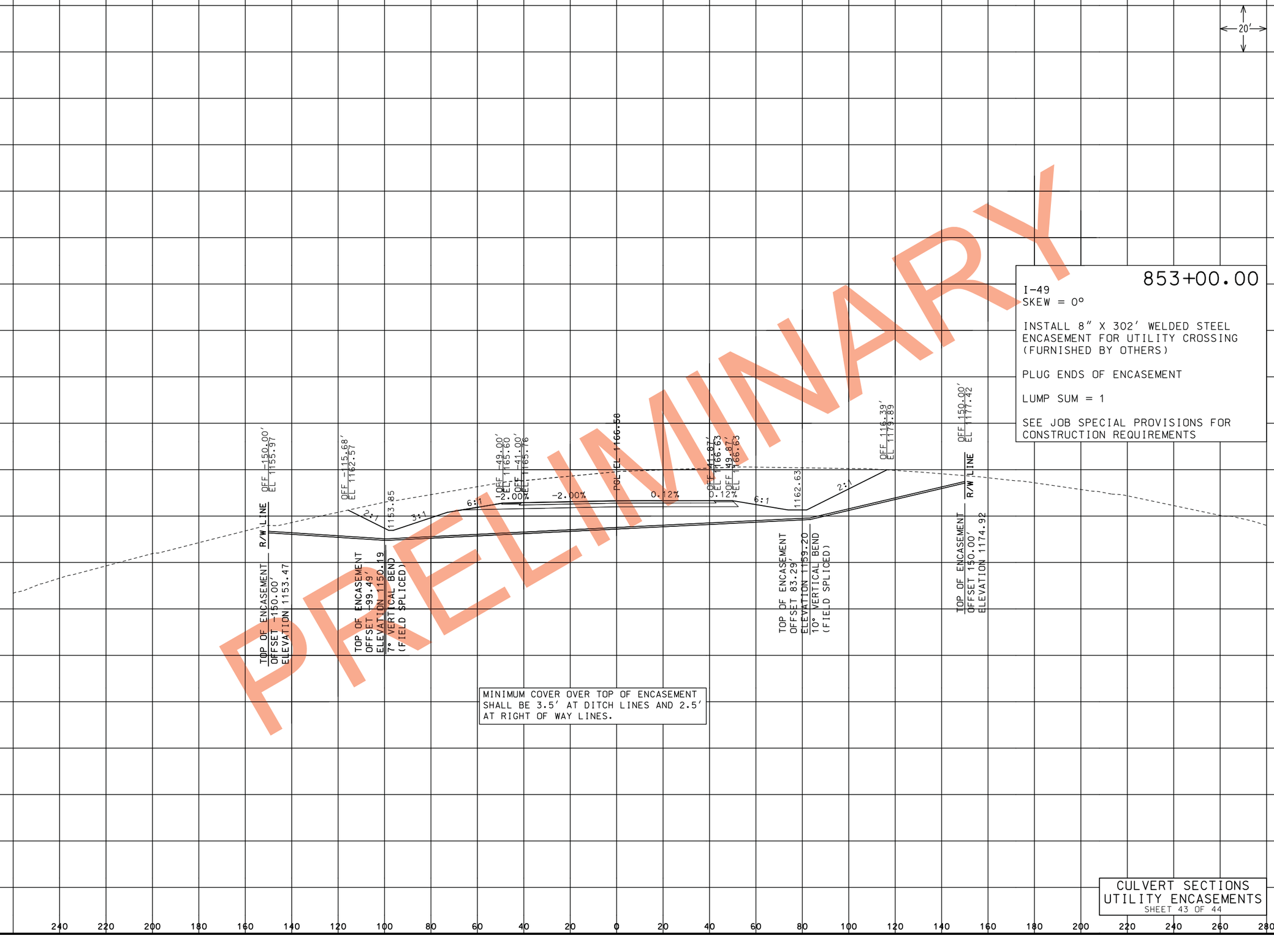
I-49
SKEW = 0°

INSTALL 8" X 302' WELDED STEEL ENCASEMENT FOR UTILITY CROSSING (FURNISHED BY OTHERS)

PLUG ENDS OF ENCASEMENT

LUMP SUM = 1

SEE JOB SPECIAL PROVISIONS FOR CONSTRUCTION REQUIREMENTS



MINIMUM COVER OVER TOP OF ENCASEMENT SHALL BE 3.5' AT DITCH LINES AND 2.5' AT RIGHT OF WAY LINES.

CULVERT SECTIONS
UTILITY ENCASEMENTS
SHEET 43 OF 44

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
7	199

COUNTY
McDONALD

JOB NO.
J7P0601

CONTRACT ID.

PROJECT NO.

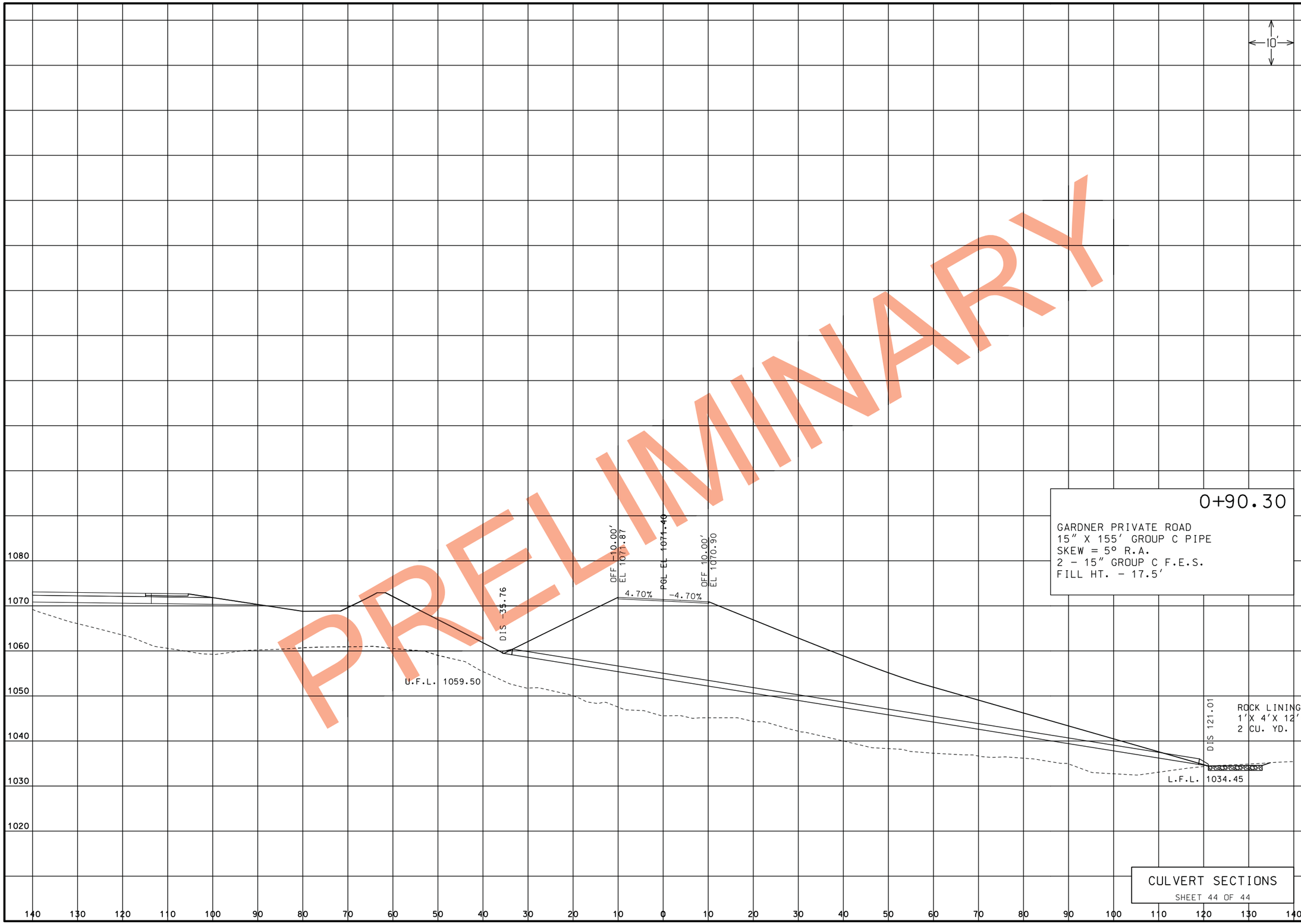
BRIDGE NO.

REV.	DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



PRELIMINARY

CULVERT SECTIONS

SHEET 44 OF 44

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED	11/12/2019
ROUTE	49
STATE	MO
DISTRICT	7
SHEET NO.	200
COUNTY	McDONALD
JOB NO.	J7P0601
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

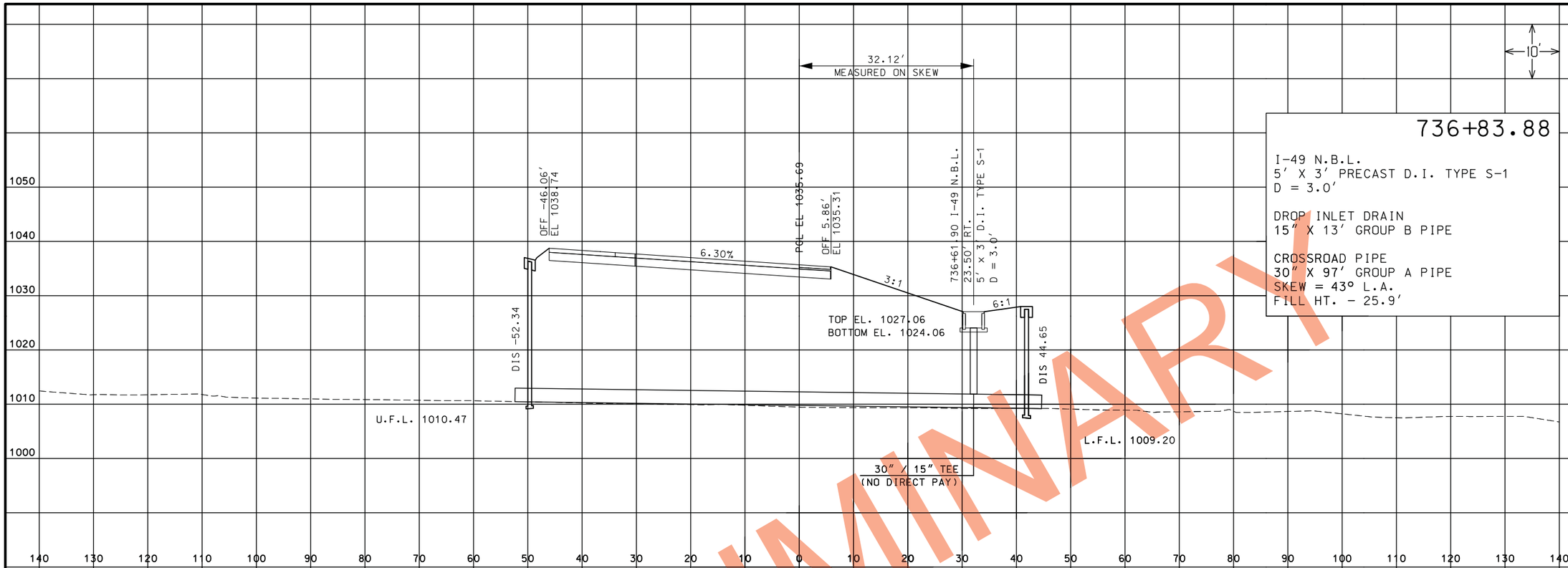
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

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

REV.



736+83.88

I-49 N.B.L.
5' X 3' PRECAST D.I. TYPE S-1
D = 3.0'

DROP INLET DRAIN
15" X 13' GROUP B PIPE

CROSSROAD PIPE
30" X 97' GROUP A PIPE
SKEW = 43° L.A.
FILL HT. - 25.9'

735+67.55

I-49 N.B.L.
5' X 3' PRECAST D.I. TYPE S-1
D = 3.0'

DROP INLET DRAIN
15" X 17' GROUP B PIPE

CROSSROAD PIPE
30" X 103' GROUP A PIPE
SKEW = 46° L.A.
FILL HT. - 27.1'

CULVERT SECTIONS

SHEET 44A OF 44

PRELIMINARY

STATE OF MISSOURI
CRAIG ALAN SWITZER
NUMBER PE-2003015045
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
11/12/2019

ROUTE	STATE
49	MO
DISTRICT	SHEET NO.
7	201

COUNTY
McDONALD

JOB NO.
J7P0601

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
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