Clay County, Missouri

Purchasing Department

16 W. Franklin, Suite 16-B ~ Liberty, MO 64068

PURCHASING DEPARTMENT
IFB 20-20
BRIDGE REPLACEMENT ON NE 188TH STREET OVER NEW HOPE CREEK BRO-B024(26) BRIDGE DEMOLITION, BRIDGE RECONSTRUCTION AND ROAD GRADING
ADDENDUM No. 1

Dear Vendor,

The original IFB remains in effect except as revised by the following changes, which shall take precedence over anything to the contrary in the specifications.

Except as amended by this Addendum, all terms and conditions of the IFB remain unchanged.

Please Note: The format for this addendum will detail questions asked, answers given and clarifications and statements made. Q = Question, A = Answer, C = Clarification and S = Statement.

Q: Are there Plans included with this Project?

A: See Attachment No. 1; BRO B024(26) - 188th St Bridge Replacement Sealed Plans 12-30-19.pdf

ACKNOWLEDGEMENT

Each bidder shall acknowledge receipt of this Addendum No. 1 of IFB 2-20, Bridge Replacement on NE 188th Street Over New Hope Creek BRO-B024(26) Bridge Demolition, Bridge Reconstruction and Road Grading by their signature affixed hereto, and shall attach this Addendum to the original IFB.

CERTIFICATION BY BIDDER

SIGNATURE _____

TITLE _____

COMPANY _____

DATE _____

Cordially,

Clay County Purchasing Department

DESIGN DESIGNATION

A.A.D.T. - 2018 = LESS THAN 250 VPD
A.A.D.T. - 2038 = LESS THAN 250 VPD
D.H.V. = N/A
T = N/A
V = 35 M.P.H.
D = N/A

FUNCTIONAL CLASSIFICATION-RURAL LOCAL

THE ROUTE, 188TH STREET, IS CURRENTLY CLOSED BY THE COUNTY AND WILL REMAIN CLOSED DURING CONSTRUCTION. THE COUNTY SHALL MAINTAIN THE ROAD CLOSURE SIGNAGE. THE CONTRACTOR SHALL CHECK THESE DEVICES DAILY TO MAINTAIN THE CLOSURE OF THE ROAD.

CONVENTIONAL SYMBOLS
(USED IN PLANS)

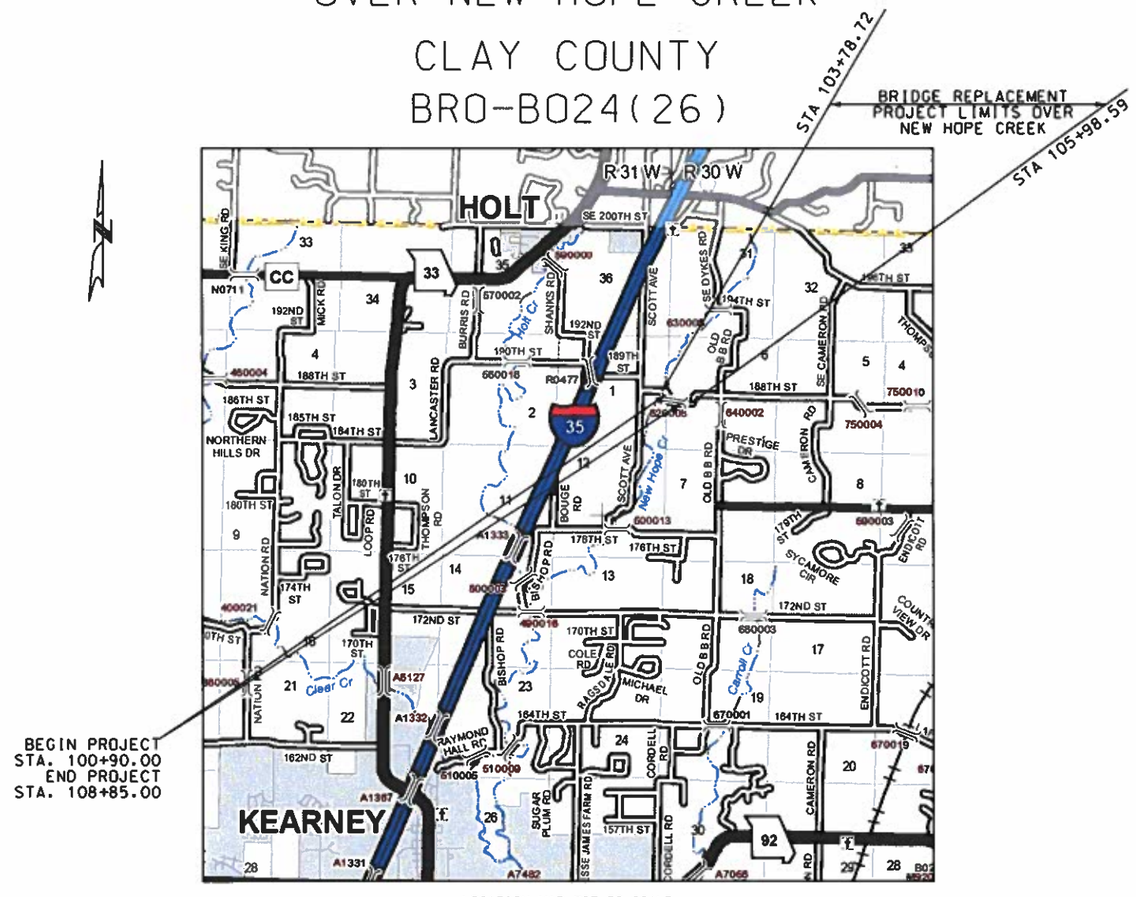
	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
RIGHT-OF-WAY		
UTILITIES		
FIBER OPTICS	-FO-	FO
OVERHEAD TELEPHONE	-UT-	UT
UNDERGROUND TELEPHONE	-T-	T
OVERHEAD POWER	-O-	O
UNDERGROUND POWER	-P-	P
GAS	-G-	G
WATER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

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

OVERHEAD TELEPHONE UTILITY CONTACT
FRED HOOVER, CENTURYLINK
816-724-1171

WATER UTILITY CONTACT
CLAY COUNTY PUBLIC WATER SUPPLY DISTRICT 3
210 MAIN STREET
HOLT, MISSOURI 64048
816-320-3343

CLAY COUNTY, MISSOURI HIGHWAY DEPARTMENT
PLANS FOR PROPOSED
188TH STREET BRIDGE
OVER NEW HOPE CREEK
CLAY COUNTY
BRO-B024(26)



LOCATION MAP NOT TO SCALE

INDEX OF SHEETS

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	100+90.00
END OF PROJECT	STA.	108+85.00
APPARENT LENGTH		795.00 FEET
EQUATIONS AND EXCEPTIONS:		
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		795.00 FEET
STATE LENGTH		0.150 MILES

STATE OF MISSOURI
LAWRENCE D. TOWNSEND
12-18-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

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

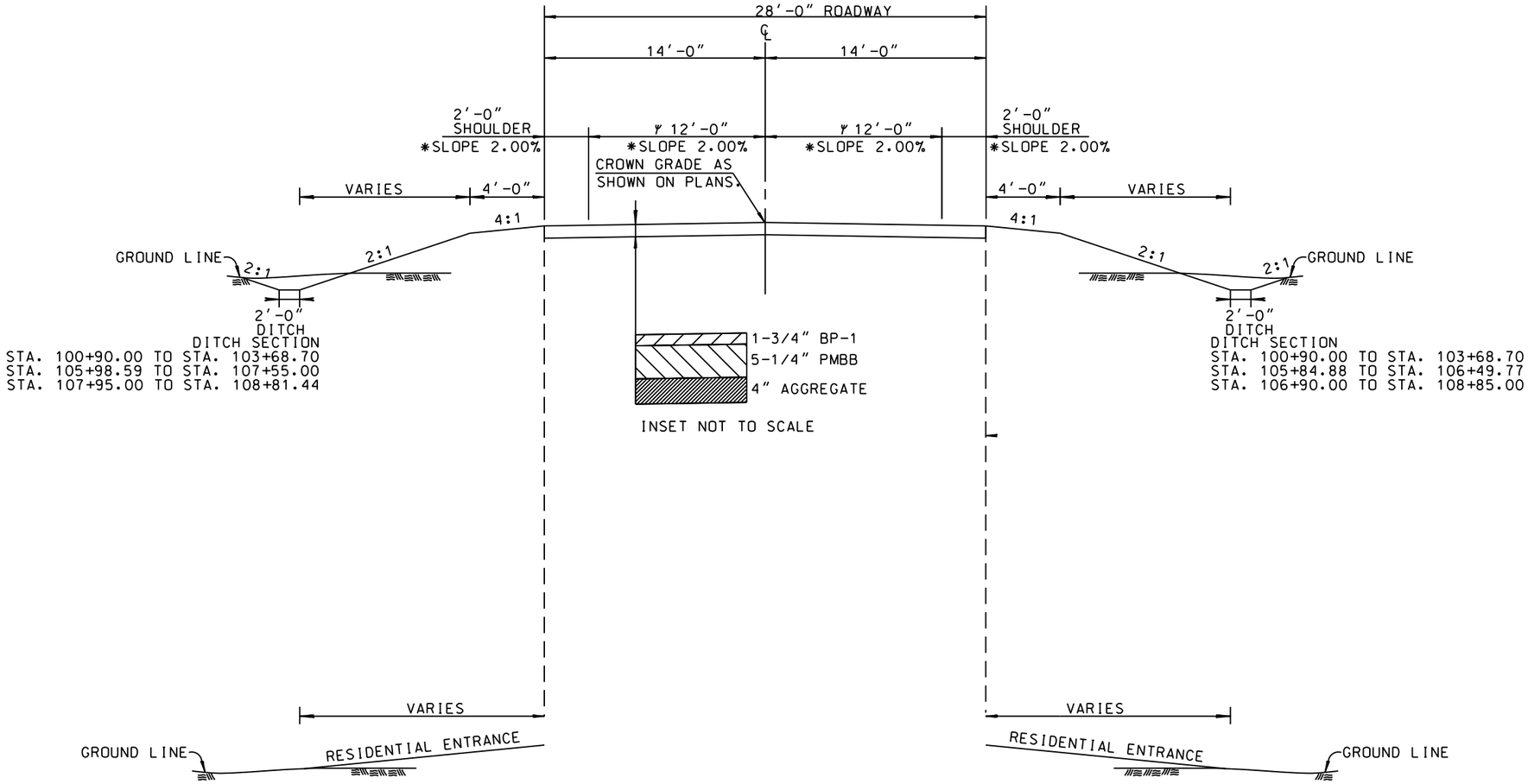
DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Hyacinthe Street
Suite 201
Kansas City, MO 64105
816.702.4300

TITLE SHEET



* SEE SUPER ELEVATION PROFILE FOR CROSS SLOPE INFORMATION

℣ 12'-0" LANE WIDTH IS TYPICAL. SEE BASE FILE FOR LANE WIDENING LIMITS.

STATE OF MISSOURI
LAWRENCE O. ODUENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

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09/23/2019
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09/23/2019
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STATE: MO
DISTRICT: KC
SHEET NO.:
COUNTY
CLAY
JOB NO.
36201B
CONTRACT ID.
PROJECT NO.
BRO-B024(26)
BRIDGE NO.
06200081

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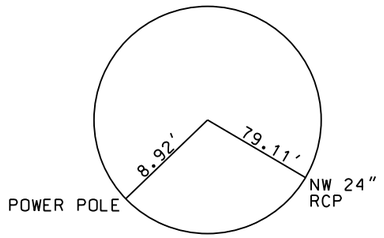
DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY, MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816-702-4300

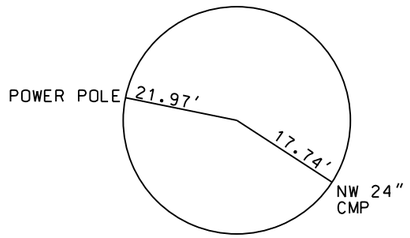
TYPICAL SHEET



CONTROL PT #1

X-E = 2839592.3100 STA 106+84.67
Y-N = 1189305.5800 OFF 31.47' LT
Z = 860.36

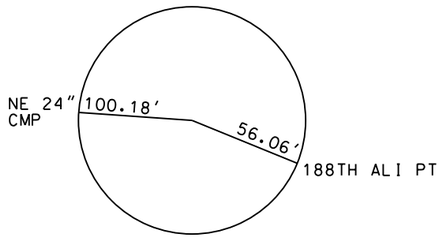
CP #1 - 1/2" REBAR & CAP



CONTROL PT #2

X-E = 2839768.8410 STA 108+62.95
Y-N = 1189277.7120 OFF 18.97' LT
Z = 876.07

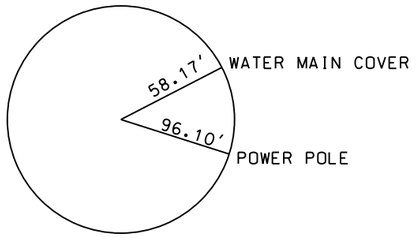
CP #2 - 1/2" REBAR & CAP



CONTROL PT 3

X-E = 2839909.9970 STA 110+05.61
Y-N = 1189264.4660 OFF 14.79' LT
Z = 893.12

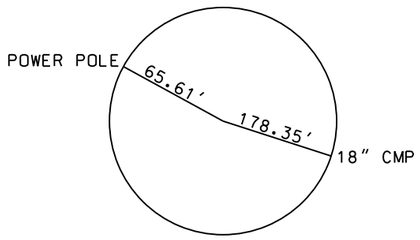
CP #3 - 1/2" REBAR & CAP



CONTROL PT #4

X-E = 2839547.5590 STA 106+49.07
Y-N = 1189183.0680 OFF 94.32' RT
Z = 864.60

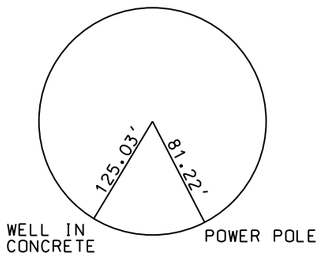
CP #4 - 1/2" REBAR & CAP



CONTROL PT #6

X-E = 2839400.5200 STA 104+89.73
Y-N = 1189312.0100 OFF 21.37' LT
Z = 851.30

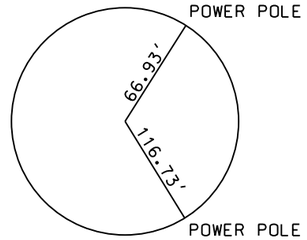
CP #6 - CHISELED X



CONTROL PT #8

X-E = 2839183.9700 STA 101+99.38
Y-N = 1189463.5800 OFF 16.63' LT
Z = 844.86

CP #8 - 1/2" REBAR & CAP



CONTROL PT #9

X-E = 2839114.4900 STA 100+34.64
Y-N = 1189615.4200 OFF 24.28' RT
Z = 845.10

CP #9 - 1/2" REBAR & CAP

HORIZONTAL DATUM:(US SURVEY FEET)
PID 047054 CL 54 MISSOURI STATE PLANE (WEST ZONE)
NORTHING: 364,917.893 METERS
EASTING: 865,183.847 METERS
CAF = 0.999908147

SCALED AROUND 0.0
1 METER = 3.28083333 U.S. SURVEY FEET

MAPPING IS IN GROUND COORDINATES.

VERTICAL DATUM:(US SURVEY FEET)
CL 54 (PID 047054)(NAVD88),
ALUMINUM DISK IN CONCRETE STAMPED "MODNR CL-54 1993", EAST SIDE OF FRONTAGE ROAD OF I-35 JUST SOUTH OF THE CLAY/CLINTON COUNTY LINE, APPROXIMATELY 1 MILE EAST OF HOLT, MO.

NAVD88 DATUM ELEVATION: 1018.0 FEET

DATUM ELEVATION WAS VERIFIED WITH OPUS OBSERVATION OF ON SITE CONTROL.

Curve 188TH_P1_1			
P.C. Station	100+92.95	N 1,189,558.7101	E 2,839,142.3099
P.I. Station	102+38.44	N 1,189,413.4944	E 2,839,151.2534
P.T. Station	103+60.60	N 1,189,339.1869	E 2,839,276.3373

Curve 188TH_P1_2			
P.C. Station	103+60.60	N 1,189,339.1869	E 2,839,276.3373
P.I. Station	104+67.84	N 1,189,284.4137	E 2,839,368.5387
P.T. Station	105+70.60	N 1,189,280.5493	E 2,839,475.7126

Curve 188TH_P1_3			
P.C. Station	106+15.60	N 1,189,278.9278	E 2,839,520.6834
P.I. Station	106+40.86	N 1,189,278.0175	E 2,839,545.9300
P.T. Station	106+66.11	N 1,189,275.8336	E 2,839,571.0983

Curve 188TH_P1_4			
P.C. Station	108+92.34	N 1,189,256.2762	E 2,839,796.4835
P.I. Station	109+76.17	N 1,189,249.0293	E 2,839,879.9993
P.T. Station	110+59.90	N 1,189,248.7966	E 2,839,963.8286

STATE OF MISSOURI
LAWRENCE G. ODUENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019
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09/23/2019
ROUTE 188TH
STATE MO
DISTRICT KC
SHEET NO.
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

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DESCRIPTION | DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
500 Hyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

REFERENCE AND COORDINATES SHEET

1. BEGIN PAVEMENT WIDENING
STA. 100+90.00, 12.00' RT
2. END PAVEMENT WIDENING
STA. 101+15.00, 14.00' RT
3. BEGIN PAVEMENT WIDENING
STA. 100+90.00, 12.00' RT
4. BEGIN PAVEMENT WIDENING
STA. 101+15.00, 14.00' RT
5. END PAVEMENT WIDENING
STA. 108+60.00, 14.00' RT
6. BEGIN PAVEMENT WIDENING
STA. 108+85.00, 12.00' RT
7. END PAVEMENT WIDENING
STA. 108+35.00, 14.00' LT
8. BEGIN PAVEMENT WIDENING
STA. 108+85.00, 10.00' LT

SCALE
0 40 80 120

CURVE 188TH_P1_1
PI 102+38.44
PC 100+92.95
PCC 103+60.60
Δ 55° 45' 46.2" (LT)
D 20° 50' 05.4"
L 267.64'
T 145.49'
R 275.00'

CURVE 188TH_P1_2
PI 104+67.84
PCC 103+60.60
PT 105+70.60
Δ 28° 38' 52.4" (LT)
D 13° 38' 30.7"
L 210.00'
T 107.24'
R 420.00'

CURVE 188TH_P1_3
PI 106+40.86
PC 106+15.60
PT 106+66.11
Δ 2° 53' 39.5" (RT)
D 5° 43' 46.5"
L 50.52'
T 25.26'
R 1,000.00'

CURVE 188TH_P1_4
PI 109+76.17
PC 108+92.34
PT 110+59.90
Δ 4° 48' 01.0" (LT)
D 2° 51' 53.2"
L 167.56'
T 83.83'
R 2,000.00'

POB STA 100+00.00

BEGIN CONSTRUCTION
MATCH EXISTING
STA. 100+90.00

S 3° 31' 27" E

PC STA 100+92.95
R = 275'

PROPERTY LINE

PCC STA 103+60.60
R = 275' & 420'

PT STA 105+70.60
R = 420'

PC STA 106+15.60
R = 1,000'

PT STA 106+66.11
R = 1,000'

PC STA 108+92.34
R = 2,000'

PT STA 110+59.90
R = 2,000'

END CONSTRUCTION
MATCH EXISTING
STA. 108+85.00

SITE E-2
SITE E-3
SITE G-4

CONST. LIMITS

EXIST. WATER LINE

NEW HOPE CREEK

FLOW

EXIST. R/W

RIP RAP
LINED DITCH

STA. 106+55.60
INSTALL 73.5'X24" RCP
30.00' RT
REMOVE EXIST CMP

STA. 106+65.45
CONSTRUCT
GRAVEL ENTRANCE

STA. 107+68.30
INSTALL 73.5'X24" RCP
24.00' RT
REMOVE EXIST CMP

STA. 107+75.33
CONSTRUCT ASPHALT
ENTRANCE

STA. 107+68.30
INSTALL 4.0'X24" RCP
15.50' RT
TIE TO EXISTING CMP

S 87° 56' 06" E

S 85° 02' 26" E

NE 186TH STREET

MICHAEL & ANGELA CURREY
BOOK 7934, PAGE 102

DEVOTA JONES
BOOK 6660, PAGE 9

LOT 1A
REPLAT LOT 1, REPLAT OF
NEW HOPE RETREAT CENTER

NEW HOPE MEADOWS, LLC
BOOK 7771, PAGE 164

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LAWRENCE G. UDUENDO
10-31-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE	DESCRIPTION

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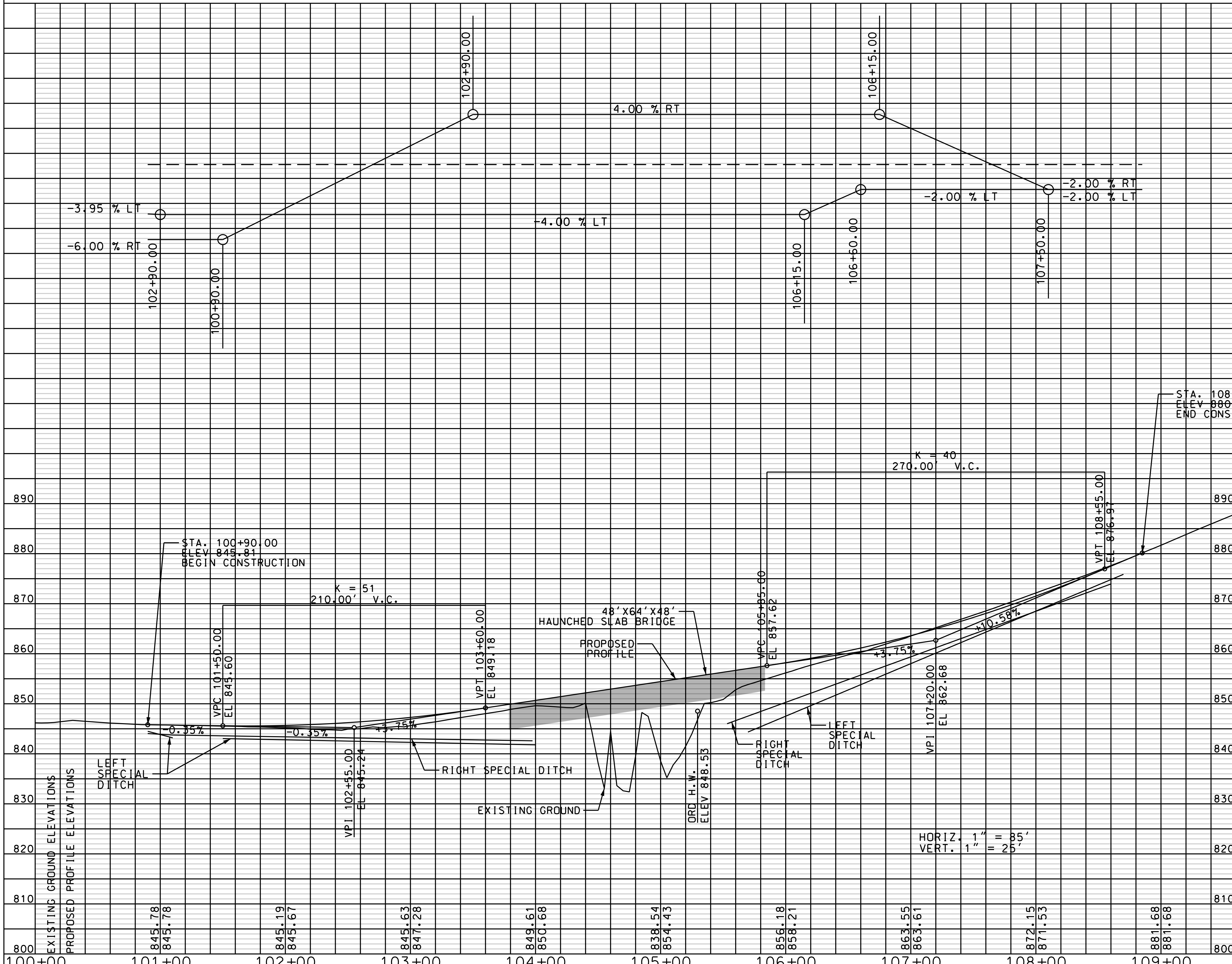
DISTRICT: KC
SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

PLAN-SHEET



LEFT DITCH PROFILE DATA

	STATION	ELEV	GRADE
VPI 1	100+90.00	844.50	
VPI 2	101+10.10	843.19	-6.55%
VPI 1	101+50.00	843.04	
VPI 2	104+00.00	841.79	-0.50%
VPI 1	105+69.81	844.35	
VPI 2	108+70.00	875.87	10.50%

RIGHT DITCH PROFILE DATA

	STATION	ELEV	GRADE
VPI 1	100+90.00	844.05	
VPI 2	101+10.00	843.75	-1.50%
VPI 3	103+97.61	842.60	-0.40%
VPI 1	105+53.11	846.01	
VPI 2	108+60.00	873.94	9.10%

STATE OF MISSOURI
LAWRENCE OQUENDO
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10-31-19
PROFESSIONAL ENGINEER

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SEAL OF CLAY COUNTY MISSOURI

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300 Wyandotte Street
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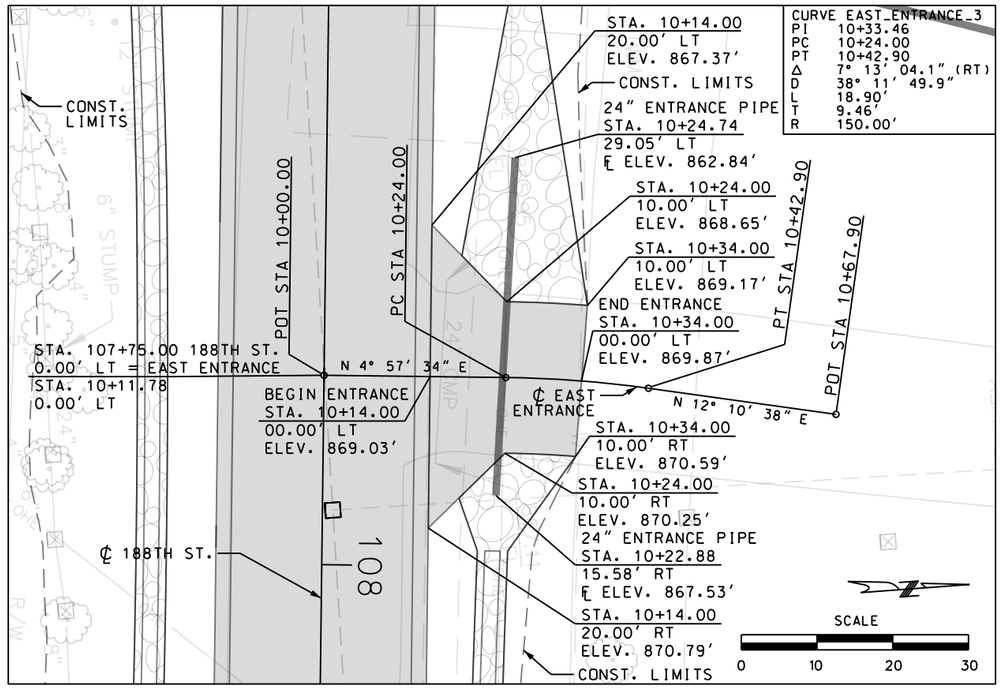
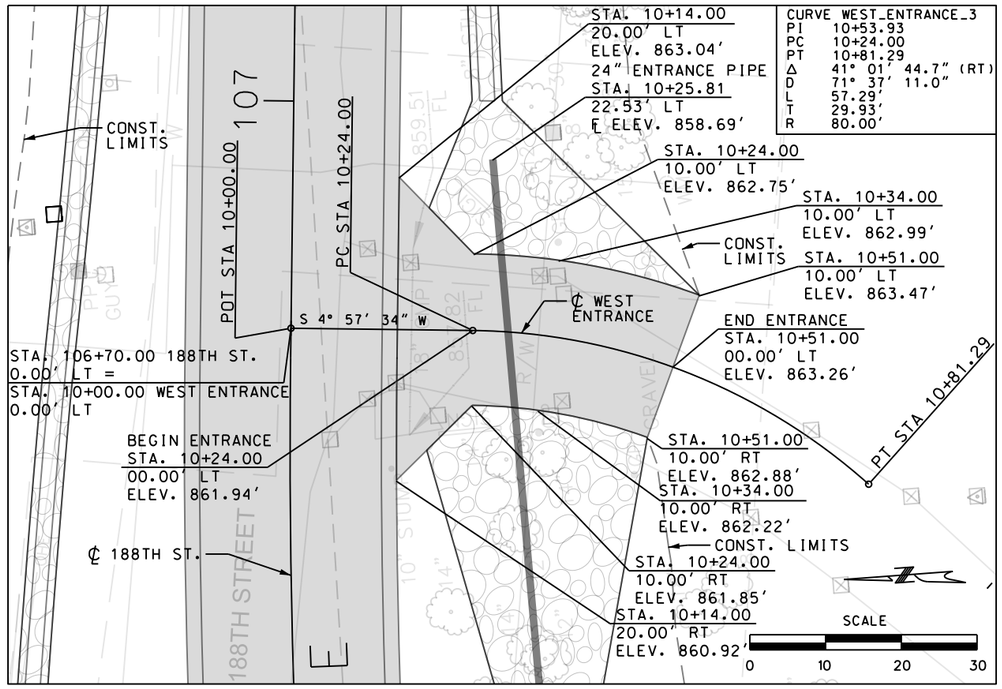
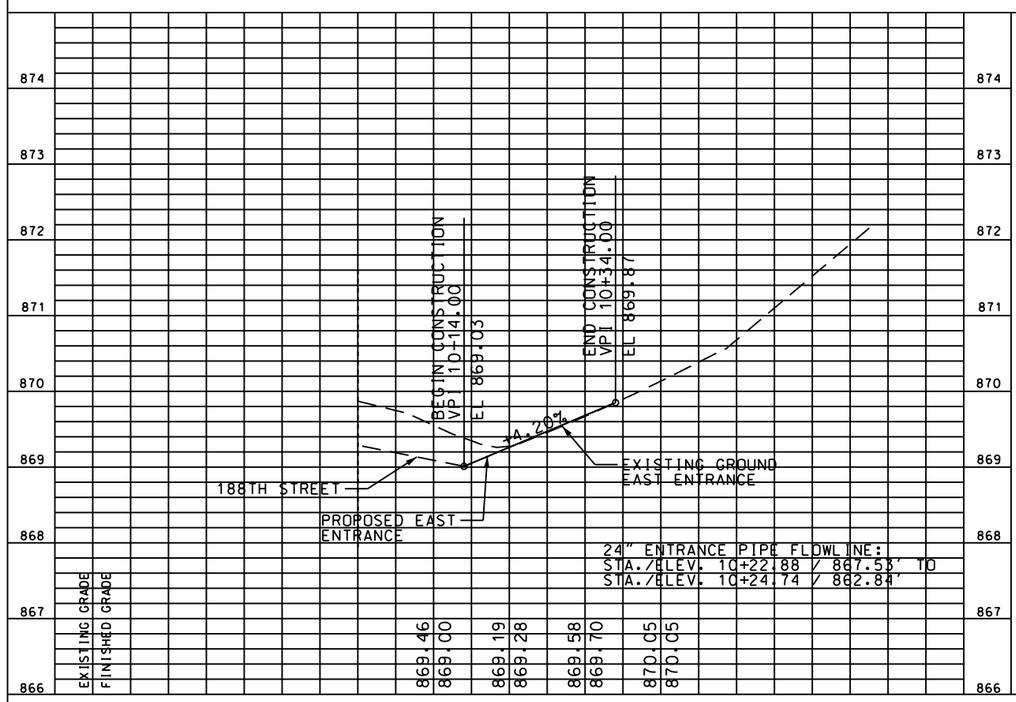
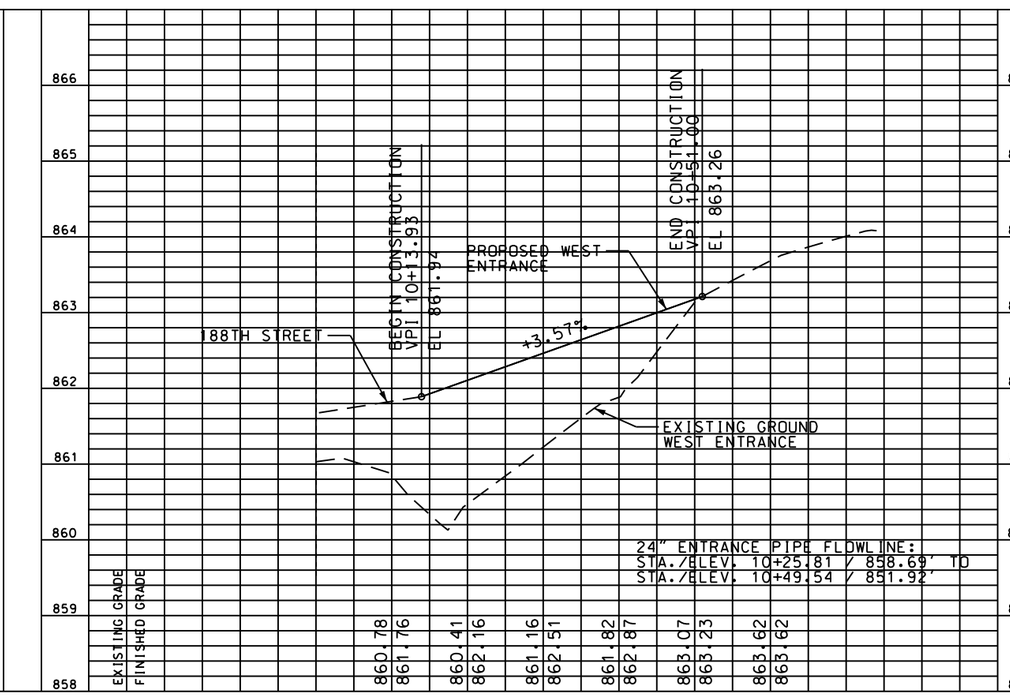
PROFILE SHEET









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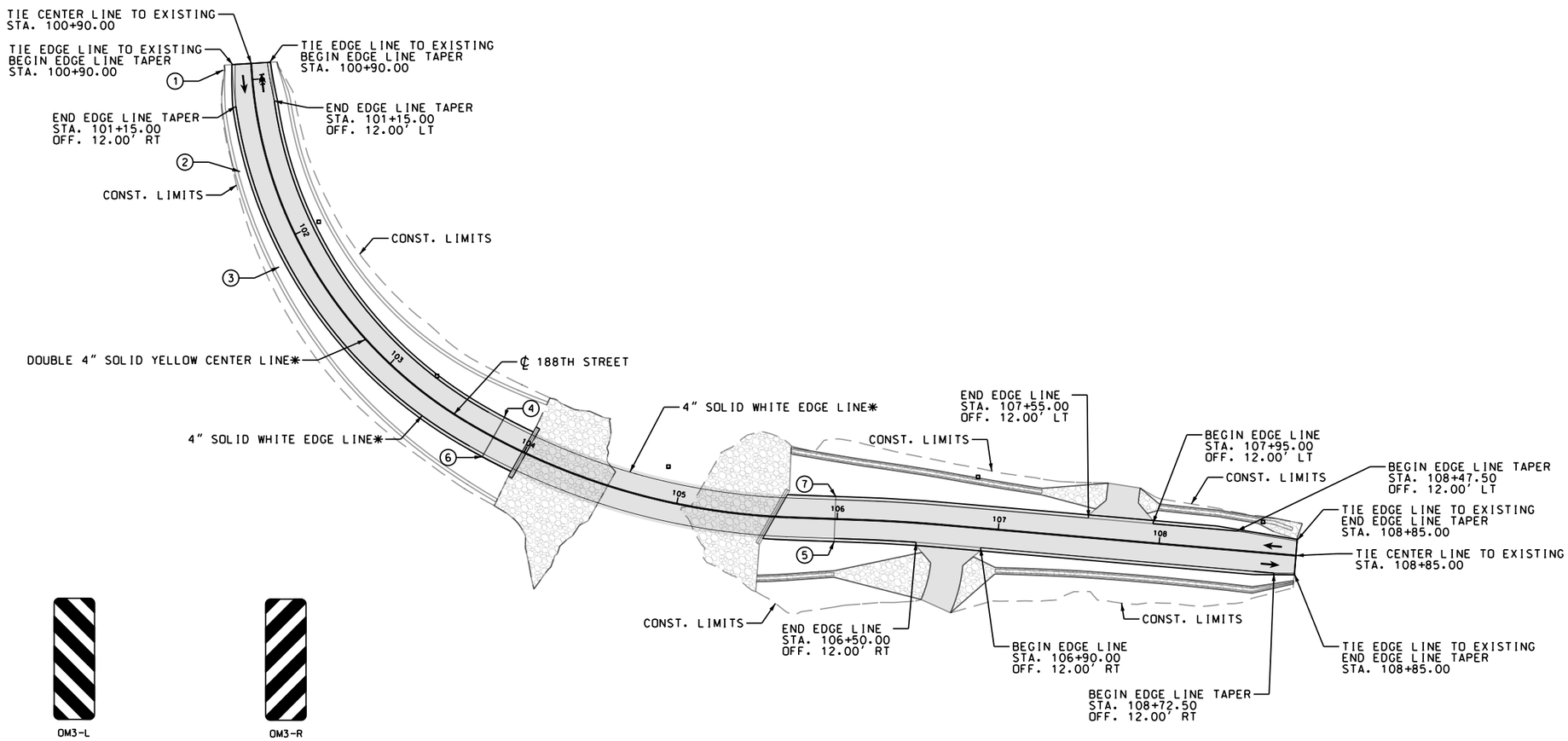
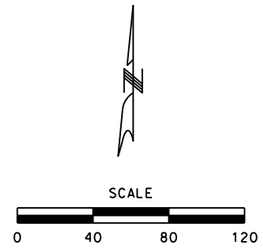
ENTRANCE PROFILE SHEET





W01-8

OM3-L

OM3-R

Install W1-8 Markers

① STA 100+93.00
17.50' RT

② STA 101+53.00
18.00' RT

③ STA 102+13.00
18.00' RT

Install OM3-L Markers

④ STA 103+79.02
14.00' LT

⑤ STA 105+98.59
14.00' RT

Install OM3-R Markers

⑥ STA 103+78.44
14.00' RT

⑦ STA 105+98.59
14.00' LT

* PAVEMENT MARKING (PAINT)

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ROUTE	STATE
188TH	MO

DISTRICT	SHEET NO.
KC	

COUNTY
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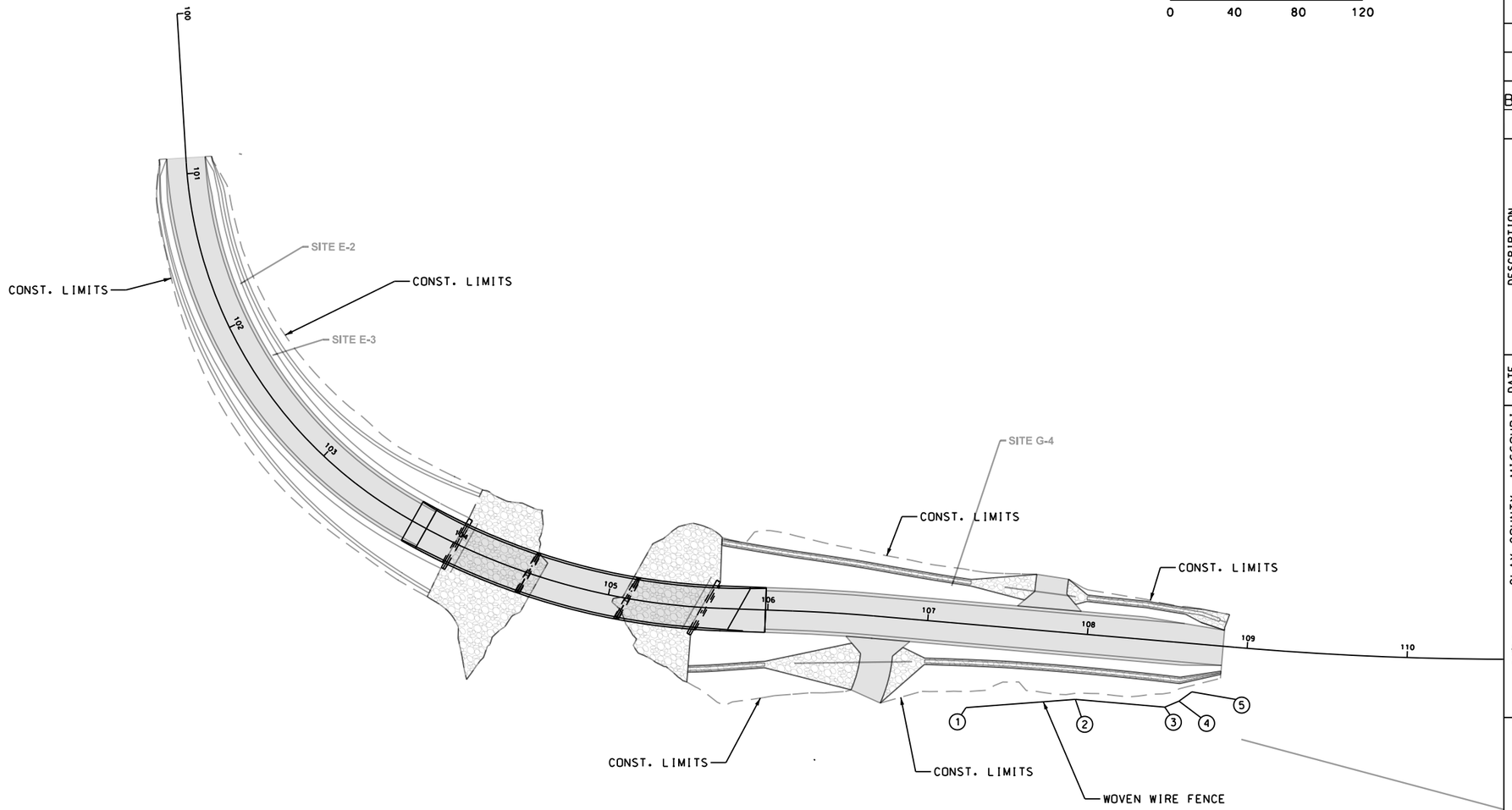
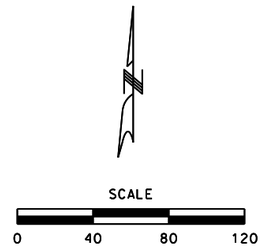
SIGNING AND STRIPING SHEET





— — CONSTRUCTION LIMITS

——— WOVEN WIRE FENCE

WOVEN WIRE FENCE
STA./OFF. 107+28.50 / 52.00' RT

WOVEN WIRE FENCE
STA./OFF. 107+96.00 / 41.00' RT

WOVEN WIRE FENCE
STA./OFF. 108+52.00 / 41.00' RT

WOVEN WIRE FENCE
STA./OFF. 108+60.50 / 36.50' RT

WOVEN WIRE FENCE
STA./OFF. 108+68.00 / 30.00' RT

STATE OF MISSOURI
LAWRENCE O. ODUENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019

DATE PREPARED
09/23/2019

ROUTE	STATE
188TH	MO
DISTRICT	SHEET NO.
KC	

COUNTY
CLAY

JOB NO.
36201B

CONTRACT ID.

PROJECT NO.
BRO-B024(26)

BRIDGE NO.
06200081

DESCRIPTION	DATE

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
901 Wyandotte Street
Suite 300
Kansas City, MO 64105
816.702.4300

PROPOSED FENCE SHEET

① SILT FENCE DURING CONSTRUCTION
STA./OFF. 100+90.00 / 12.00' LT
STA./OFF. 100+90.00 / 18.00' LT
STA./OFF. 101+10.00 / 23.00' LT
STA./OFF. 101+50.00 / 24.00' LT
STA./OFF. 102+00.00 / 24.00' LT
STA./OFF. 102+50.00 / 26.00' LT
STA./OFF. 103+00.00 / 28.00' LT
STA./OFF. 103+50.00 / 32.00' LT
STA./OFF. 104+00.00 / 36.00' LT

② SILT FENCE DURING CONSTRUCTION
STA./OFF. 101+10.00 / 17.00' LT
STA./OFF. 101+50.00 / 18.00' LT
STA./OFF. 102+00.00 / 17.00' LT
STA./OFF. 102+50.00 / 20.00' LT
STA./OFF. 103+00.00 / 22.00' LT
STA./OFF. 103+50.00 / 25.00' LT
STA./OFF. 104+00.00 / 30.00' LT

③ SILT FENCE DURING CONSTRUCTION
STA./OFF. 103+00.00 / 16.00' LT
STA./OFF. 103+50.00 / 18.00' LT
STA./OFF. 104+00.00 / 20.00' LT

④ SILT FENCE DURING CONSTRUCTION
STA./OFF. 105+90.00 / 45.00' LT
STA./OFF. 106+35.00 / 37.00' LT
STA./OFF. 107+25.00 / 30.00' LT
STA./OFF. 107+65.36 / 34.66' LT

⑤ SILT FENCE DURING CONSTRUCTION
STA./OFF. 105+70.00 / 38.00' LT
STA./OFF. 106+60.00 / 28.00' LT
STA./OFF. 107+25.00 / 23.00' LT
STA./OFF. 107+59.00 / 18.00' LT

⑥ SILT FENCE DURING CONSTRUCTION
STA./OFF. 105+70.00 / 27.00' LT
STA./OFF. 106+60.00 / 20.00' LT
STA./OFF. 107+25.00 / 17.00' LT

⑦ SILT FENCE DURING CONSTRUCTION
STA./OFF. 107+85.31 / 33.33' LT
STA./OFF. 108+00.00 / 25.00' LT
STA./OFF. 108+35.00 / 25.00' LT
STA./OFF. 108+60.00 / 23.00' LT
STA./OFF. 108+87.29 / 20.00' LT
STA./OFF. 108+84.94 / 10.00' LT

⑧ SILT FENCE DURING CONSTRUCTION
STA./OFF. 107+91.00 / 18.00' LT
STA./OFF. 107+98.00 / 19.00' LT
STA./OFF. 108+35.00 / 19.00' LT
STA./OFF. 108+60.00 / 17.00' LT

⑨ SILT FENCE DURING CONSTRUCTION
STA./OFF. 103+00.00 / 17.00' RT
STA./OFF. 103+50.00 / 20.00' RT
STA./OFF. 103+98.00 / 20.00' RT

⑩ SILT FENCE DURING CONSTRUCTION
STA./OFF. 101+10.00 / 16.00' RT
STA./OFF. 101+50.00 / 18.00' RT
STA./OFF. 102+00.00 / 18.00' RT
STA./OFF. 102+50.00 / 21.00' RT
STA./OFF. 103+00.00 / 24.00' RT
STA./OFF. 103+50.00 / 27.00' RT
STA./OFF. 103+98.00 / 31.00' RT

⑪ SILT FENCE DURING CONSTRUCTION
STA./OFF. 100+90.00 / 12.00' RT
STA./OFF. 100+90.00 / 17.00' RT
STA./OFF. 101+10.00 / 23.00' RT
STA./OFF. 101+50.00 / 23.00' RT
STA./OFF. 102+00.00 / 25.00' RT
STA./OFF. 102+50.00 / 27.00' RT
STA./OFF. 103+00.00 / 30.00' RT
STA./OFF. 103+50.00 / 34.00' RT
STA./OFF. 103+98.00 / 38.00' RT

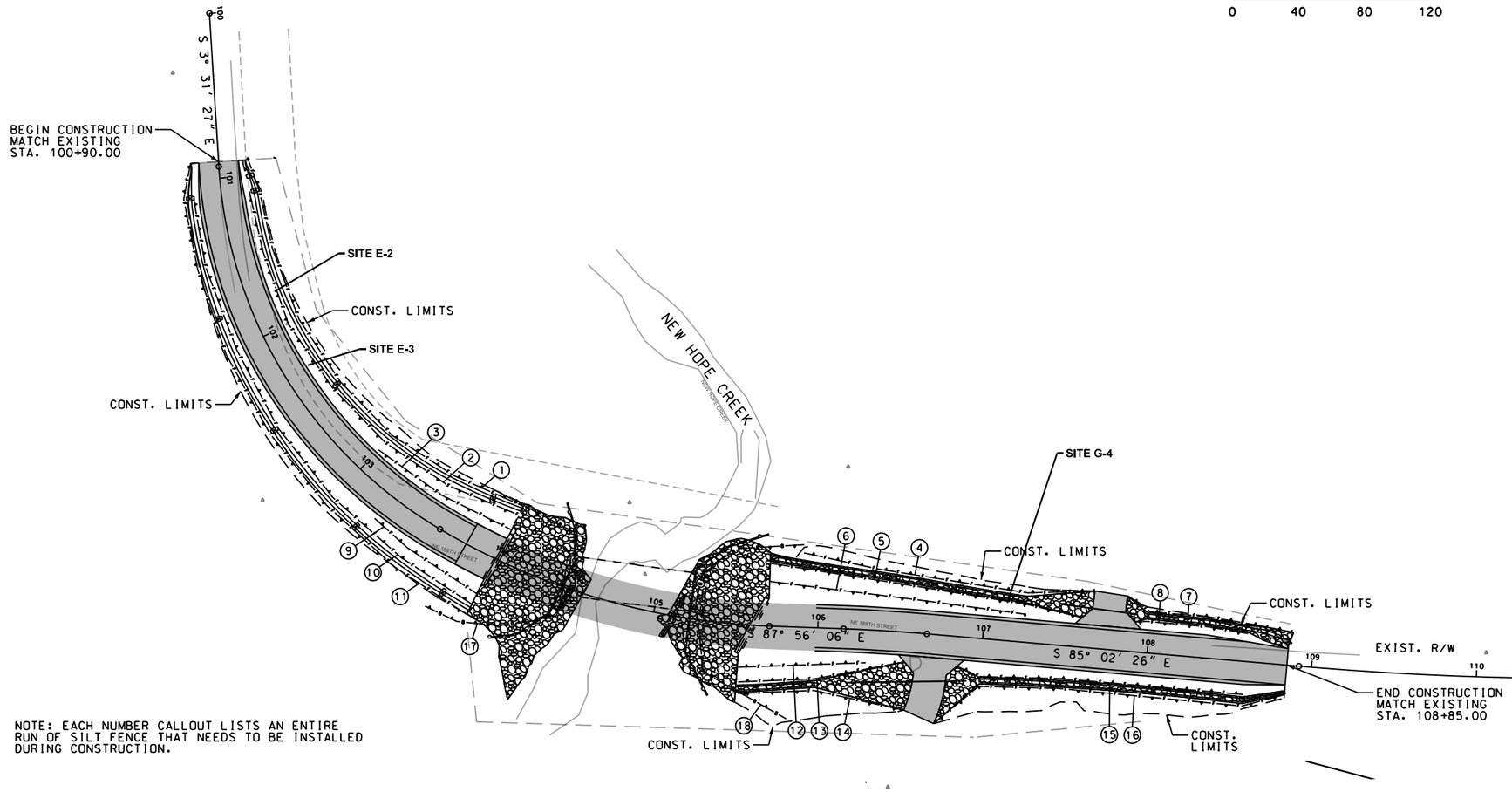
⑫ SILT FENCE DURING CONSTRUCTION
STA./OFF. 105+53.00 / 26.00' RT
STA./OFF. 106+30.00 / 20.00' RT

⑬ SILT FENCE DURING CONSTRUCTION
STA./OFF. 105+53.00 / 35.00' RT
STA./OFF. 105+99.00 / 31.00' RT
STA./OFF. 106+53.77 / 18.00' RT

⑭ SILT FENCE DURING CONSTRUCTION
STA./OFF. 105+53.00 / 42.00' RT
STA./OFF. 105+99.00 / 38.00' RT
STA./OFF. 106+55.56 / 47.12' RT

⑮ SILT FENCE DURING CONSTRUCTION
STA./OFF. 106+85.99 / 18.00' RT
STA./OFF. 107+00.00 / 23.00' RT
STA./OFF. 107+50.00 / 20.00' RT
STA./OFF. 108+60.00 / 20.00' RT

⑯ SILT FENCE DURING CONSTRUCTION
STA./OFF. 106+74.92 / 53.80' RT
STA./OFF. 107+00.00 / 29.00' RT
STA./OFF. 107+48.00 / 26.00' RT
STA./OFF. 108+60.00 / 27.00' RT
STA./OFF. 108+85.00 / 18.00' RT
STA./OFF. 108+85.00 / 12.00' RT



NOTE: EACH NUMBER CALLOUT LISTS AN ENTIRE RUN OF SILT FENCE THAT NEEDS TO BE INSTALLED DURING CONSTRUCTION.

⑰ SILT FENCE DURING DEMOLITION
STA./OFF. 103+80.00 / 37.00' LT
STA./OFF. 104+38.00 / 33.00' LT
STA./OFF. 104+50.00 / 2.25' LT
STA./OFF. 104+44.00 / 17.50' RT
STA./OFF. 104+33.50 / 25.50' RT
STA./OFF. 104+16.00 / 36.00' RT
STA./OFF. 103+94.50 / 44.50' RT
STA./OFF. 103+75.00 / 45.00' RT

⑱ SILT FENCE DURING DEMOLITION
STA./OFF. 105+90.00 / 50.00' LT
STA./OFF. 105+49.00 / 46.00' LT
STA./OFF. 105+26.00 / 30.75' LT
STA./OFF. 106+24.50 / 10.25' LT
STA./OFF. 105+33.75 / 30.50' RT
STA./OFF. 105+83.00 / 56.00' RT

TEMPORARY DITCH CHECK LOCATIONS
STA./OFF. 101+00.00 / 18.50' LT
STA./OFF. 101+10.00 / 20.50' LT
STA./OFF. 102+50.00 / 23.00' LT
STA./OFF. 103+80.00 / 32.00' LT
STA./OFF. 101+10.00 / 19.00' RT
STA./OFF. 101+80.00 / 20.50' RT
STA./OFF. 102+50.00 / 23.50' RT
STA./OFF. 103+20.00 / 28.00' RT
STA./OFF. 103+80.00 / 32.50' RT

SCALE
0 40 80 120

TEMPORARY DITCH CHECK
SILT FENCE DURING DEMOLITION
SILT FENCE DURING CONSTRUCTION
TEMPORARY BERM
ROCK LINED DITCH(*)
ROCK BLANKET TYPE 2

(*) INSTALL PERMANENT ROCK DITCH LINING DURING CONSTRUCTION

STATE OF MISSOURI
LAWRENCE O. ODUENDO
10-31-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019
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09/23/2019
ROUTE 188TH
STATE MO
DISTRICT KC
SHEET NO.
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

DATE	DESCRIPTION

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
901 Wyandotte Street
Suite 700
Kansas City, MO 64105
816.702.4300

TEMPORARY EROSION CONTROL SHEET

PC STA 100+92.95

CONST. LIMITS

PCC STA 103+60.60

MATCH LINE STA 104+75.00

NE 188TH STREET

SCALE

0 20 40 60

MATCH LINE STA 104+75.00

PT STA 105+54.53

CONST. LIMITS

NE 188TH STREET

SCALE

0 20 40 60

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

STATE OF MISSOURI
LAWRENCE C. DUDENDO
10-31-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019

DATE PREPARED
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ROUTE	STATE
188TH	MO
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KC	

COUNTY
CLAY

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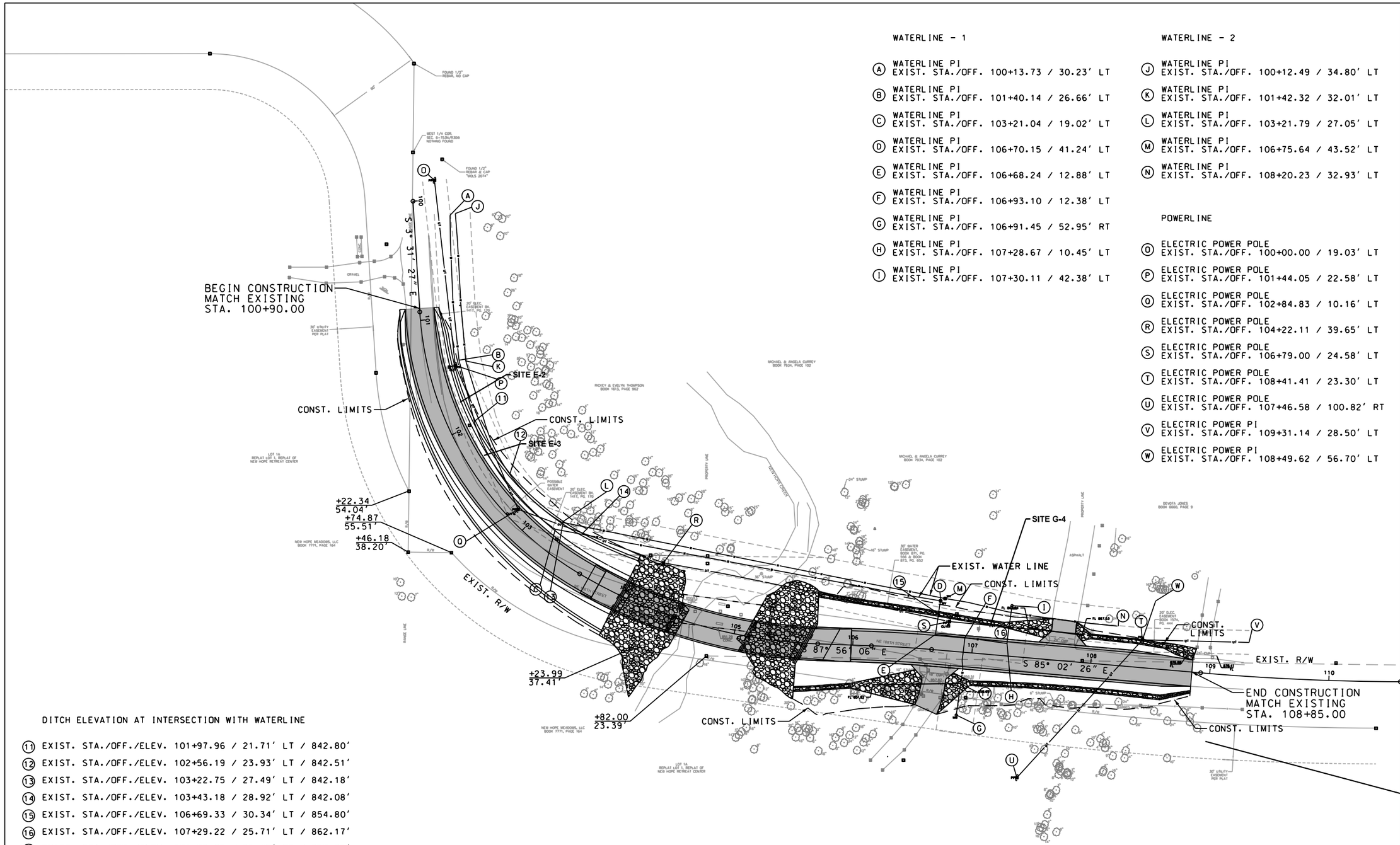
DATE	DESCRIPTION

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
901 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

GRADING CONTOUR SHEET



WATERLINE - 1

- (A) WATERLINE PI EXIST. STA./OFF. 100+13.73 / 30.23' LT
- (B) WATERLINE PI EXIST. STA./OFF. 101+40.14 / 26.66' LT
- (C) WATERLINE PI EXIST. STA./OFF. 103+21.04 / 19.02' LT
- (D) WATERLINE PI EXIST. STA./OFF. 106+70.15 / 41.24' LT
- (E) WATERLINE PI EXIST. STA./OFF. 106+68.24 / 12.88' LT
- (F) WATERLINE PI EXIST. STA./OFF. 106+93.10 / 12.38' LT
- (G) WATERLINE PI EXIST. STA./OFF. 106+91.45 / 52.95' RT
- (H) WATERLINE PI EXIST. STA./OFF. 107+28.67 / 10.45' LT
- (I) WATERLINE PI EXIST. STA./OFF. 107+30.11 / 42.38' LT

WATERLINE - 2

- (J) WATERLINE PI EXIST. STA./OFF. 100+12.49 / 34.80' LT
- (K) WATERLINE PI EXIST. STA./OFF. 101+42.32 / 32.01' LT
- (L) WATERLINE PI EXIST. STA./OFF. 103+21.79 / 27.05' LT
- (M) WATERLINE PI EXIST. STA./OFF. 106+75.64 / 43.52' LT
- (N) WATERLINE PI EXIST. STA./OFF. 108+20.23 / 32.93' LT

POWERLINE

- (O) ELECTRIC POWER POLE EXIST. STA./OFF. 100+00.00 / 19.03' LT
- (P) ELECTRIC POWER POLE EXIST. STA./OFF. 101+44.05 / 22.58' LT
- (Q) ELECTRIC POWER POLE EXIST. STA./OFF. 102+84.83 / 10.16' LT
- (R) ELECTRIC POWER POLE EXIST. STA./OFF. 104+22.11 / 39.65' LT
- (S) ELECTRIC POWER POLE EXIST. STA./OFF. 106+79.00 / 24.58' LT
- (T) ELECTRIC POWER POLE EXIST. STA./OFF. 108+41.41 / 23.30' LT
- (U) ELECTRIC POWER POLE EXIST. STA./OFF. 107+46.58 / 100.82' RT
- (V) ELECTRIC POWER PI EXIST. STA./OFF. 109+31.14 / 28.50' LT
- (W) ELECTRIC POWER PI EXIST. STA./OFF. 108+49.62 / 56.70' LT

DITCH ELEVATION AT INTERSECTION WITH WATERLINE

- (11) EXIST. STA./OFF./ELEV. 101+97.96 / 21.71' LT / 842.80'
- (12) EXIST. STA./OFF./ELEV. 102+56.19 / 23.93' LT / 842.51'
- (13) EXIST. STA./OFF./ELEV. 103+22.75 / 27.49' LT / 842.18'
- (14) EXIST. STA./OFF./ELEV. 103+43.18 / 28.92' LT / 842.08'
- (15) EXIST. STA./OFF./ELEV. 106+69.33 / 30.34' LT / 854.80'
- (16) EXIST. STA./OFF./ELEV. 107+29.22 / 25.71' LT / 862.17'
- (17) EXIST. STA./OFF./ELEV. 106+92.95 / 26.45' RT / 859.35'

OVERHEAD TELEPHONE UTILITY CONTACT
FRED HOOVER, CENTURYLINK
816-724-1171

WATER UTILITY CONTACT
CLAY COUNTY PUBLIC WATER SUPPLY DISTRICT 3
210 MAIN STREET
HOLT, MISSOURI 64048
816-320-3343

STATE OF MISSOURI
LAWRENCE G. DUDENDO
10-31-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019
DATE PREPARED
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ROUTE 188TH | STATE MO
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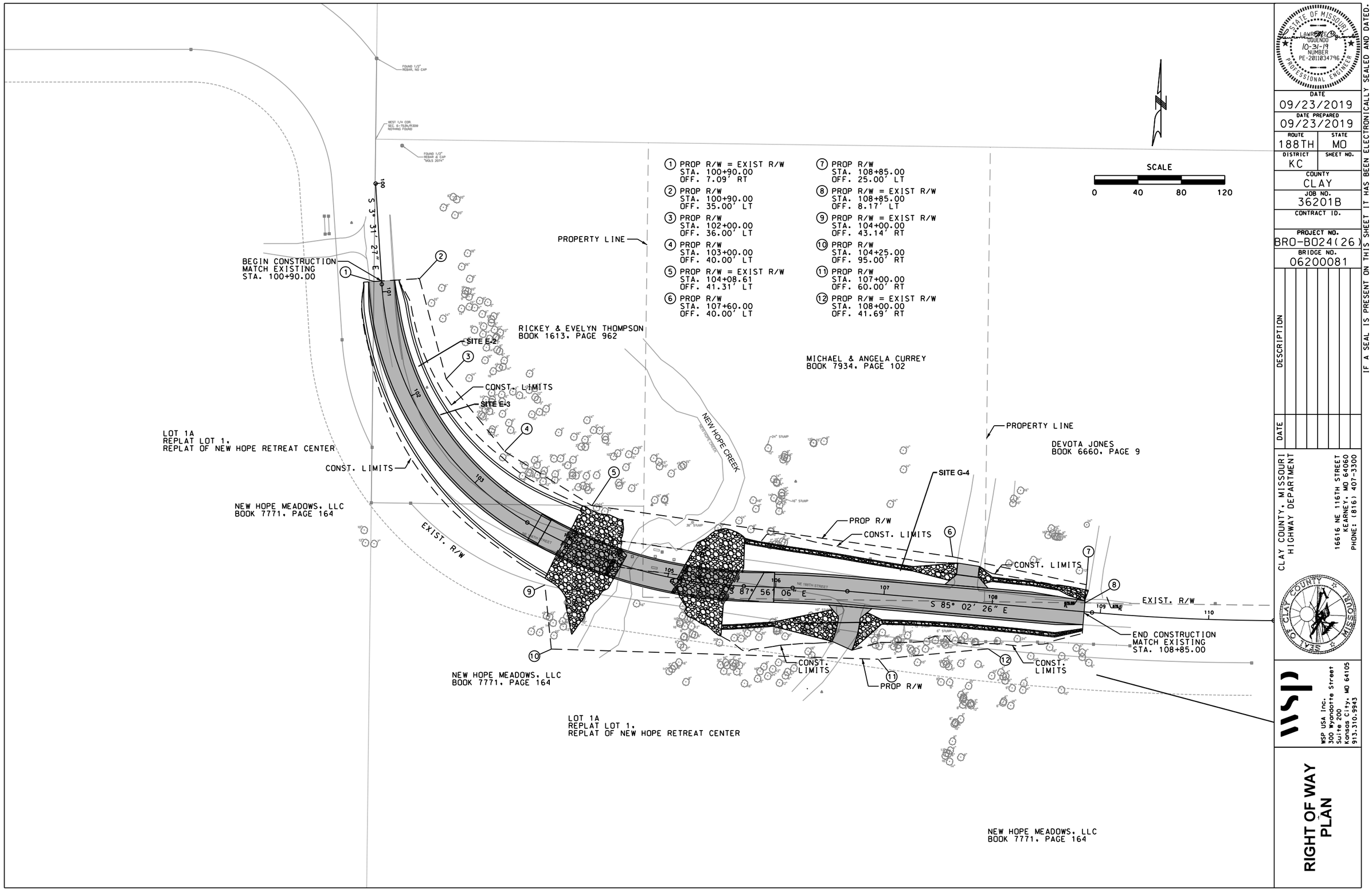
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
500 Hyandotte Street
Suite 400
Kansas City, MO 64105
816.702.4300

EXISTING UTILITY LOCATIONS SHEETS



① PROP R/W = EXIST R/W
STA. 100+90.00
OFF. 7.09' RT

② PROP R/W
STA. 100+90.00
OFF. 35.00' LT

③ PROP R/W
STA. 102+00.00
OFF. 36.00' LT

④ PROP R/W
STA. 103+00.00
OFF. 40.00' LT

⑤ PROP R/W = EXIST R/W
STA. 104+08.61
OFF. 41.31' LT

⑥ PROP R/W
STA. 107+60.00
OFF. 40.00' LT

⑦ PROP R/W
STA. 108+85.00
OFF. 25.00' LT

⑧ PROP R/W = EXIST R/W
STA. 108+85.00
OFF. 8.17' LT

⑨ PROP R/W = EXIST R/W
STA. 104+00.00
OFF. 43.14' RT

⑩ PROP R/W
STA. 104+25.00
OFF. 95.00' RT

⑪ PROP R/W
STA. 107+00.00
OFF. 60.00' RT

⑫ PROP R/W = EXIST R/W
STA. 108+00.00
OFF. 41.69' RT

STATE OF MISSOURI
LAWRENCE O. OGUENDO
10-31-19
NUMBER PE-2011034796
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CLAY COUNTY, MISSOURI
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16616 NE 116TH STREET
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PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
913.310.9943

RIGHT OF WAY PLAN

ROADWAY QUANTITIES

ITEM	TOTAL	UNITS
CONTRACTOR FURNISHED SURVEYING AND STAKING	1	LUMP SUM
MOBILIZATION	1	LUMP SUM
BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1)	168	TONS
BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE)	542	TONS
TYPE 1 AGGREGATE FOR BASE (4 IN. THICK)	2067	SQYD
TYPE 1 AGGREGATE FOR BASE (6 IN. THICK)	94	SQYD
CLEARING AND GRUBBING	0.78	ACRE
4 IN. WHITE WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS	1510	LF
4 IN. YELLOW WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS	1590	LF
TYPE C BERM	243	LF
SEDIMENT REMOVAL	41	CUYD
WOVEN WIRE FENCE	144	LF
SILT FENCE	3062	LF
ALTERNATE DITCH CHECK	56	LF
24 IN. CORRUGATED OR SPECIFIED EQUIVALENT SMOOTH INTERIOR PIPE GROUP C	124	LF
24 IN. (600MM) OR ALLOWED SUBSTITUTE GROUP C FLARED END SECTION	5	EACH
PLACING TYPE 2 ROCK BLANKET	671	CUYD
PLACING TYPE 3 ROCK DITCH LINER	144	CUYD
FLAT SHEET	21	SF
WOOD POST, 4 IN. BY 4 IN.	30	LF
SEEDING - COOL SEASON MIXTURES	0.48	ACRE
UNCLASSIFIED EXCAVATION	842.39	CUYD
COMPACTING EMBANKMENT	1197.82	CUYD

EROSION CONTROL (* For Information Only)

SHEET NO.	LOCATION STATION	LOCATION OFFSET	STATION	OFFSET	METHODS SILT FENCE (LF)	DITCH CHECK ROCK (LF)	DITCH CHECK LOG/SOCK (LF)	TYPE C BERM (LF)	SEDIMENT REMOVAL (CUYD)	REMARKS
	DEMOLITION EROSION CONTROL									
9	103+80.00	37.00' LT	104+38.00	33.00' LT	53.00				0.50	West Side
9	104+38.00	33.00' LT	104+50.00	2.25' LT	33.00				0.35	West Side
9	104+50.00	2.25' LT	104+44.00	17.50' LT	21.00				0.20	West Side
9	104+44.00	17.50' LT	104+33.50	25.50' RT	14.00				0.20	West Side
9	104+33.50	25.50' RT	104+16.00	36.00' RT	22.00				0.25	West Side
9	104+16.00	36.00' RT	103+94.50	44.50' RT	25.00				0.30	West Side
9	103+94.50	44.50' RT	103+75.00	45.00' RT	22.00				0.20	West Side
9	105+90.00	50.00' LT	105+49.00	46.00' LT	39.00				0.40	East Side
9	105+26.00	31.00' LT	105+26.00	30.75' LT	25.00				0.25	East Side
9	105+48.00	45.00' LT	106+24.50	10.25' LT	26.00				0.25	East Side
9	105+48.00	45.00' LT	105+33.75	30.50' RT	42.00				0.40	East Side
9	105+48.00	45.00' LT	105+83.00	56.00' RT	58.00				0.55	East Side
	CONSTRUCTION EROSION CONTROL									
	WEST END OF BRIDGE									
9	100+90.00	12.00' LT	104+00.00	36.00' LT	288.33				2.80	General Site Limits
9	100+90.00	12.00' RT	103+98.00	38.00' RT	343.17				3.40	General Site Limits
9	101+10.00	16.00' RT	103+98.00	31.00' RT	309.82				3.10	Along Toe of Ditch
9	103+25.00	17.00' RT	103+98.00	24.00' RT	77.75				0.80	
9	101+10.00	17.00' LT	104+00.00	30.00' LT	270.00				2.70	Along Toe of Ditch
9	103+02.00	16.00' LT	103+00.00	16.00' LT	94.39				0.95	
9	101+10.00	19.00' RT					6		1.00	
9	101+80.00	21.60' RT					6		1.00	
9	102+50.00	25.30' RT					6		1.00	
9	103+20.00	30.45' RT					6		1.00	
9	103+80.00	35.70' RT					6		1.00	
9	101+00.00	18.80' LT					6		1.00	
9	101+10.00	20.50' LT					6		1.00	
9	102+50.00	23.30' LT					7		1.00	
9	103+80.00	32.00' LT					7		1.00	
9	104+15.00	45.00' RT	104+26.00	48.00' LT				113.00	1.10	
	EAST END OF BRIDGE									
9	105+90.00	47.00' LT	107+65.00	35.00' LT	178.45				1.76	General Site Limits
9	107+85.00	33.00' LT	108+85.00	10.00' LT	114.77				1.13	General Site Limits
9	105+53.00	42.00' RT	106+56.00	45.00' RT	103.56				1.05	General Site Limits
9	105+53.00	35.00' RT	106+54.00	18.00' RT	103.02				1.05	General Site Limits
9	105+53.00	26.00' RT	106+30.00	20.00' RT	77.99			130.00	1.30	
9	106+75.00	54.00' RT	108+85.00	12.00' RT	227.94				2.25	
9	106+85.00	18.00' RT	108+60.00	20.00' RT	174.96				1.75	Along Toe of Ditch
9	105+70.00	38.00' LT	107+59.00	18.00' LT	191.56				1.90	
9	105+70.00	27.00' LT	107+25.00	17.00' LT	156.37				1.55	Along Toe of Ditch
9	107+91.00	18.00' LT	108+60.00	17.00' LT	69.15				0.70	Along Toe of Ditch
				TOTAL	3061.23		56.00	243.00	41.09	
				BID TOTAL	3062		56	243	41	

NOTE: Type C Berm is intended to be used for both the Demolition and Proposed Construction Phases

* The erosion Control quantities and placement shown in the plans are representative for the project and are not meant to supersede actual field application and judgement needed to ensure the proper erosion control measures are implemented. The Contractor is responsible for ensuring the proper erosion control measures and methods are used for the project per MoDOT Specifications Section 806

PAVEMENT MARKING

SHEET NO.	FROM STATION	TO STATION	LOC	4 IN. YELLOW WATERBORNE PAVMT MARKING PAINT TYPE P BEADS (LF)	4 IN. WHITE WATERBORNE PAVMT MARKING PAINT TYPE P BEADS (LF)	REMARKS
7	100+90.00	108+85.00	CL	1590.00		DOUBLE SOLID YELLOW
7	100+90.00	106+50.00	RT		577	EDGE LINE
7	106+90.00	108+85.00	RT		195	EDGE LINE
7	100+90.00	107+55.00	LT		648	EDGE LINE
7	107+95.00	108+85.00	LT		90	EDGE LINE
			TOTAL	1590.00	1510	
			PAY TOTAL	1590	1510	

APPROACH PAVEMENT

SHEET NO.	FROM STATION	TO STATION	LOC	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1) (TONS)	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE) (TONS)	TYPE 1 AGGREGATE FOR BASE (4 IN. THICK) (SQYD)	TYPE 1 AGGREGATE FOR BASE (6 IN. THICK) (SQYD)
2	100+90.00	103+78.72	188TH ST.	79.15	237.45	861.50	
2	105+98.59	108+85.00	188TH ST.	80.59	241.77	877.18	
2	106+50.00	106+90.00	DRIVEWAY				93.32
2	107+55.00	107+95.00	DRIVEWAY	5.10	15.31	55.56	
2	100+90.00	108+85.00	EDGE TAPER	3.13	46.92	271.99	
			TOTAL	167.97	541.46	2066.23	93.32
			PAY TOTAL	168	542	2067	94

DRAINAGE STRUCTURES

SHEET NO.	FROM STATION	TO STATION	LOC	24 IN. CORRUGATED METAL PIPE (LF)	METAL PIPE END (EA)
4	106+17.74	106+92.51	RT	75	2
4	107+45.95	107+90.58	LT	45	2
4	108+81.54	108+85.40	LT	4	1
			TOTAL	60	5
			PAY TOTAL	124	5

WIRE FENCE

SHEET NO.	FROM STATION	TO STATION	LOC	WOVEN WIRE FENCE (LF)
8	107+28.50	108+68.00	RT	144.00
			TOTAL	144.00
			PAY TOTAL	144

REMOVAL OF IMPROVEMENTS

SHEET NO.	FROM STATION	TO STATION	LOC	DESCRIPTION	AMOUNT	REMARKS
4	100+90.00	104+41.50	CL	EXISTING PAVEMENT/SHOULDER	873.30 SQYD	
4	105+29.47	108+85.00	CL	EXISTING PAVEMENT/SHOULDER	893.57 SQYD	
4	106+56.39	106+83.18	5.56' RT	EXISTING PAVEMENT/SHOULDER	81.51 SQYD	GRAVEL DRIVEWAY
4	107+61.54	107+85.88	12.30' LT	EXISTING PAVEMENT/SHOULDER	48.20 SQYD	ASPHALT DRIVEWAY
4	106+57.55	106+82.22	16.59' RT	EXISTING 18" CMP PIPE	24.74 LF	
4	107+62.42	107+86.56	17.56' LT	EXISTING 24" CMP PIPE	24.22 LF	
4	108+80.36	108+85.53	5.27' RT	EXISTING 24" CMP PIPE	5.16 LF	
4	101+17.41	-	16.79' RT	SIGN	1	"WEIGHT LIMIT 25 TONS"
4	104+41.46	-	5.35' RT	SIGN	1	OBJECT MARKER
4	104+38.38	-	19.83' LT	SIGN	1	OBJECT MARKER
4	105+31.88	-	29.24' LT	SIGN	1	OBJECT MARKER
4	105+31.97	-	2.82' LT	SIGN	1	OBJECT MARKER
4	107+04.53	-	22.97' LT	SIGN	1	PEDESTRIAN SIGN

CLEARING AND GRUBBING

SHEET NO.	FROM STATION	TO STATION	CLEARING & GRUBBING (ACRE)	REMARKS
4	100+90.00	103+78.72	0.34	
4	105+98.59	108+50.00	0.44	
		TOTAL	0.78	
		PAY TOTAL	0.78	

EARTHWORK

SHEET NO.	LOCATION	CUT AMOUNT (CUYD)	FILL AMOUNT (CUYD)
54	WEST ABUTMENT	305.03	666.69
59	EAST ABUTMENT	537.36	531.13
	TOTAL	842.39	1197.82

ROCK BLANKET TYPE 2

SHEET NO.	LOCATION	AMOUNT (CUYD)	REMARKS
4	WEST ABUTMENT	335.15	
4	EAST ABUTMENT	336.01	
	TOTAL	671.16	
	PAY TOTAL	671	

STATE OF MISSOURI
LAWRENCE D. DUDENDO
12-30-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

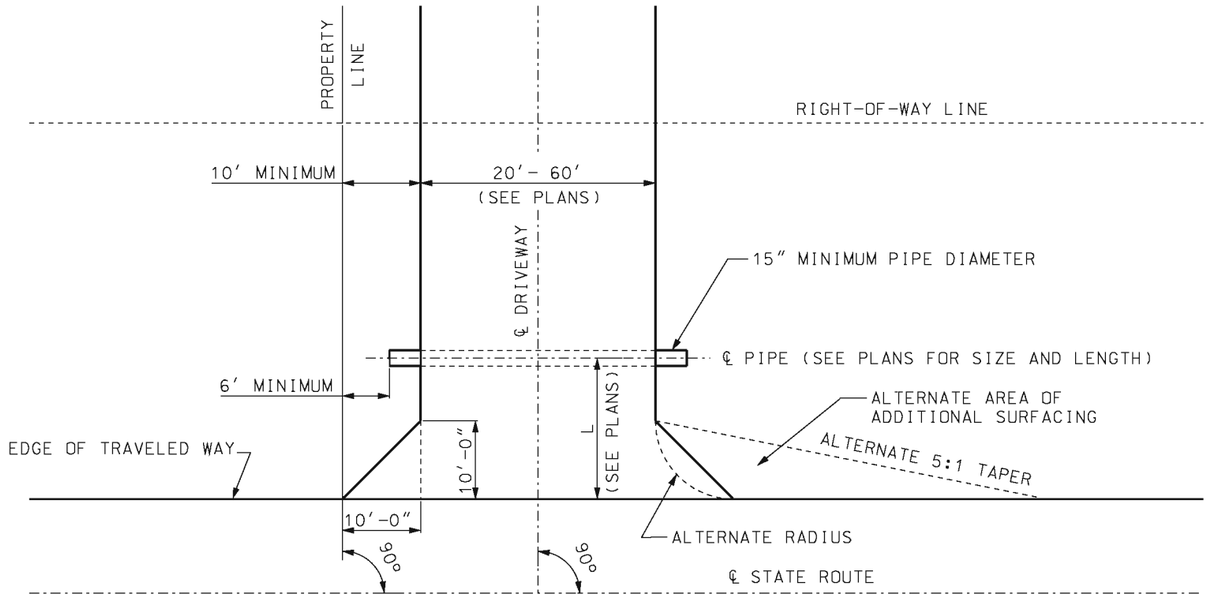
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

DESCRIPTION	DATE

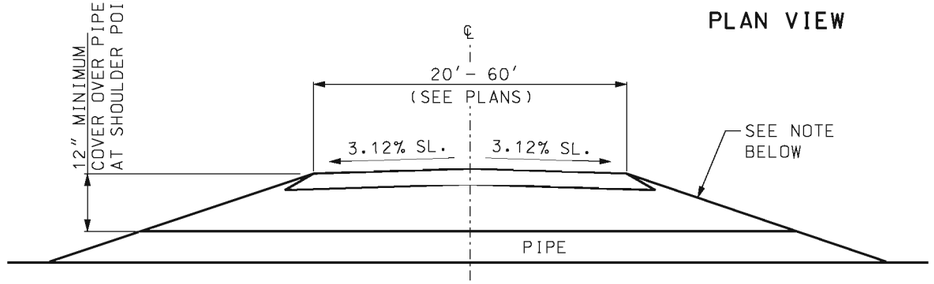
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 300
Kansas City, MO 64105
816.702.4300

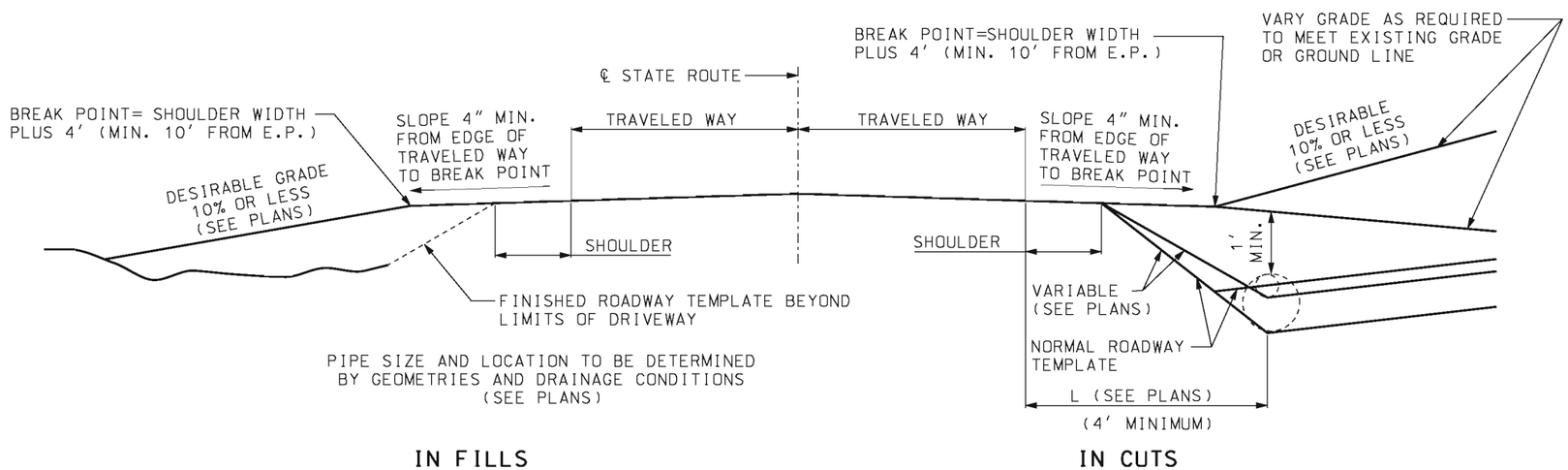
QUANTITIES SHEET



PLAN VIEW



DRIVEWAY TYPICAL SECTION



PROFILE VIEW

DRIVEWAY SIDE SLOPES: ✳

1 TO 1700 VEHICLES PER DAY ON STATE ROUTE USE 3:1 SLOPE (OR 6:1 SLOPE WHERE PRACTICABLE).

OVER 1700 VEHICLES PER DAY ON STATE ROUTE USE 6:1 SLOPE (OR FLATTER WHERE PRACTICABLE).

NOTE: RECOMMENDED WIDTH OF DRIVEWAY – 20′

✳ IN ORDER TO MINIMIZE THE USE OF 6:1 SLOPED END PIPE SECTIONS ON NEW CONSTRUCTION AND WHERE POSSIBLE ON EXISTING ROUTES. THE LOCATION OF DRAINAGE PIPE SHOULD BE BEYOND THE CLEAR ZONE DISTANCE AS SHOWN IN TABLE 3.1 OF THE 1988 EDITION OF "ROADSIDE DESIGN GUIDE".

GENERAL NOTES:

NO PART OF THE DRIVEWAY EXCLUDING TAPERS SHALL BE CONSTRUCTED BEYOND THE PROPERTY FRONTAGE.

SURFACING SHALL BE AS SHOWN ON THE PLANS OR PERMIT.

LENGTH OF PIPE SHALL BE DETERMINED BY DEPTH AND LOCATION OF DITCH. (MINIMUM 32′ LENGTH OF MINIMUM 15″ DIAMETER PIPE), SEE PLANS.

THIS DRAWING ILLUSTRATES DRIVEWAY DETAILS FOR MINIMUM SITUATIONS. TRAFFIC VOLUMES, SAFETY CONSIDERATIONS, LOCAL REQUIREMENTS, ETC., MAY DICTATE MORE EXTENSIVE IMPROVEMENTS THAN ILLUSTRATED.

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

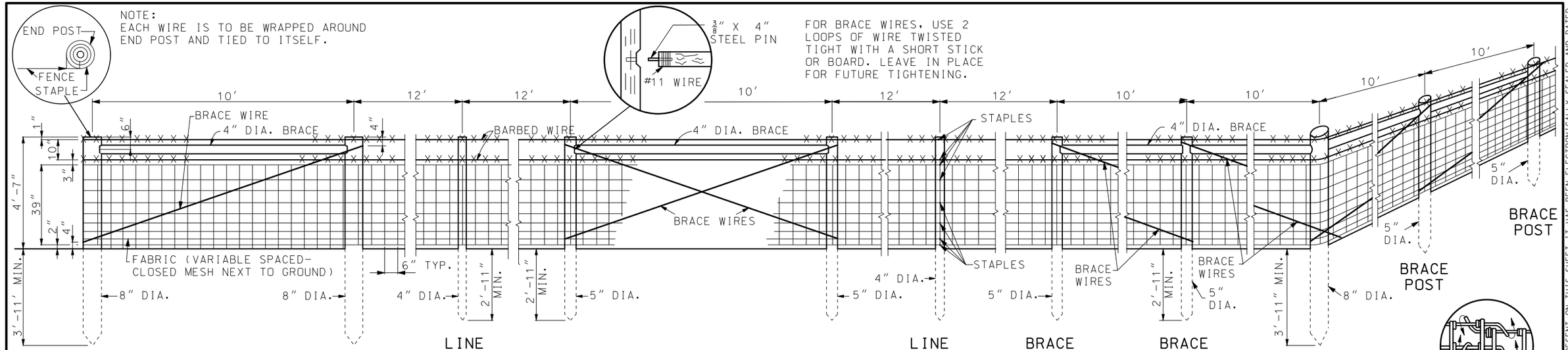
STATE OF MISSOURI
KATHRYN PHILLIPS HARVEY
NUMBER PE-23751
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DRIVEWAY

TYPE I

DATE EFFECTIVE: 07/01/2004	203.61A	SHEET NO.
DATE PREPARED: 8/21/2009		1 OF 1

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



TYPICAL FENCE LOCATION

GATE OPENING	GATE POST SIZE	#/FT.
≤ 6'	2" DIA.	3.65
≤13'	2½" DIA.	5.79
≤18'	3½" DIA.	9.10
>18'	6" DIA.	18.97
GATE FRAME	1½" DIA.	2.72

1. BRACES
2. WIRE TIES
3. 3.8" ADJUSTABLE TRUSS RODS.

GENERAL NOTES:

STEEL LINE POSTS SHALL BE OF AN APPROVED "U", "Y", "T" OR CHANNEL SECTION, NOTCHED OR STUDDED WITH AN ANCHOR PLATE. POST PUNCHED WITH HOLES OR SELF FASTENING LUGS WILL NOT BE PERMITTED.

STAPLES SHALL BE SCREW SHANK TYPE OR EQUIVALENT (1¼" MINIMUM LENGTH).

STRETCHED FABRIC AND BARBED WIRE ON OUTSIDE OF POST ON CORNERS AND CURVES.

ATTACHMENT OF FABRIC TO STEEL LINE POSTS IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATION.

GATES FOR WOVEN WIRE FENCE SHALL BE IN ACCORDANCE WITH SEC 607.20 AND 1043.3.6 OF THE STANDARD SPECIFICATIONS. EXCEPT THE FILLER SHALL BE WOVEN WIRE FABRIC OF THE SAME KIND AS USED FOR THE FENCE.

SINGLE LEAF GATES REQUIRE UP TO 12" OPENING. DOUBLE LEAF GATES REQUIRE OVER 12" OPENING. DIRECTION OF SWING OF GATES SHALL BE AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

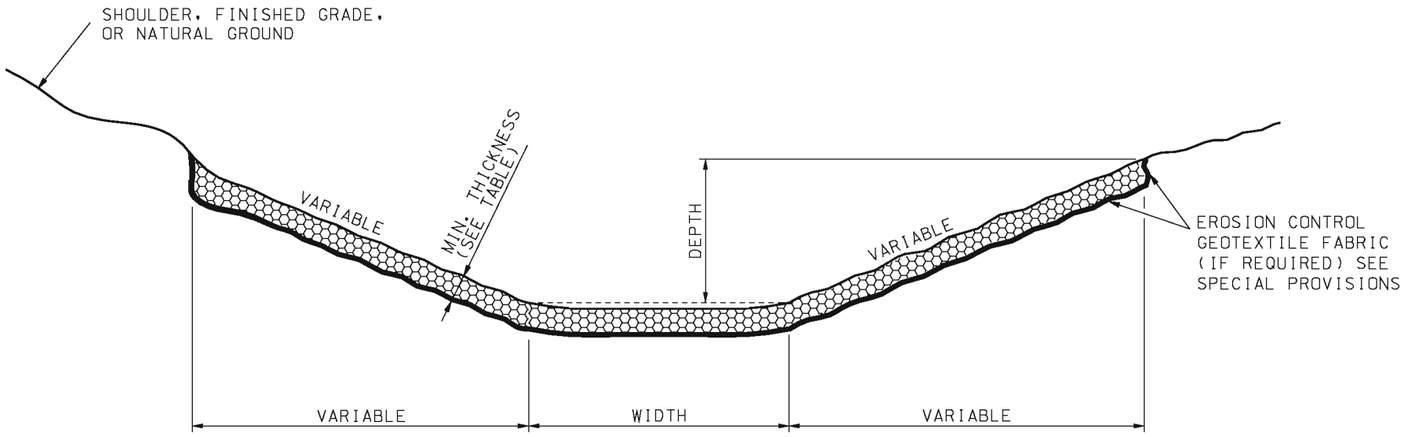
WOVEN WIRE FENCE

DATE EFFECTIVE: 07/01/2016
DATE PREPARED: 5/13/2016

607.20G

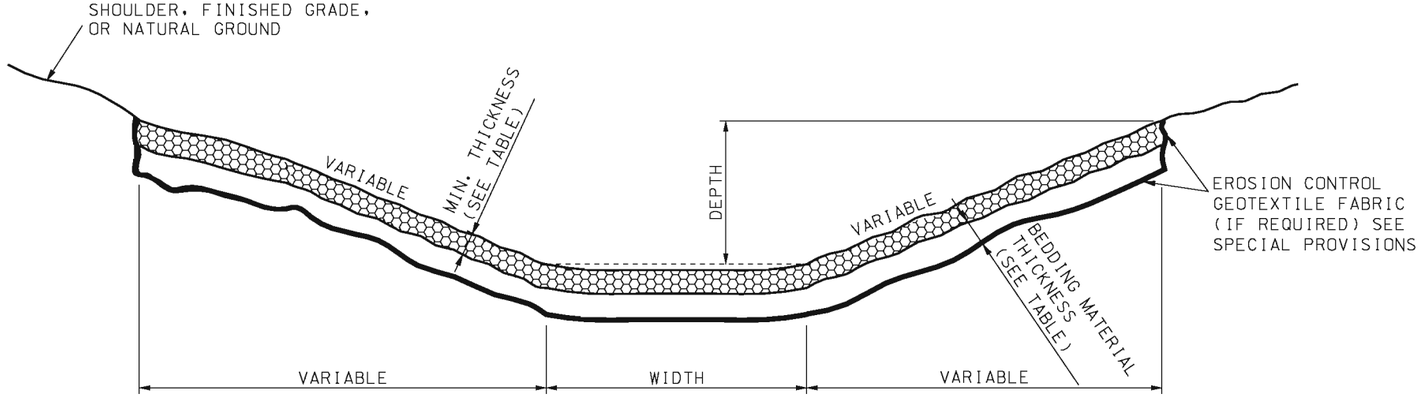
SHEET NO. 1 OF 2

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



FLAT BOTTOM DITCH
WITHOUT BEDDING MATERIAL

TYPE	ROCK DITCH LINER MIN. THICKNESS	BEDDING MATERIAL MIN. THICKNESS
1	8″	--
2	12″	--
3	22″	8″
4	30″	12″



FLAT BOTTOM DITCH
WITH BEDDING MATERIAL

TYPICAL DITCH LINER DETAILS

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

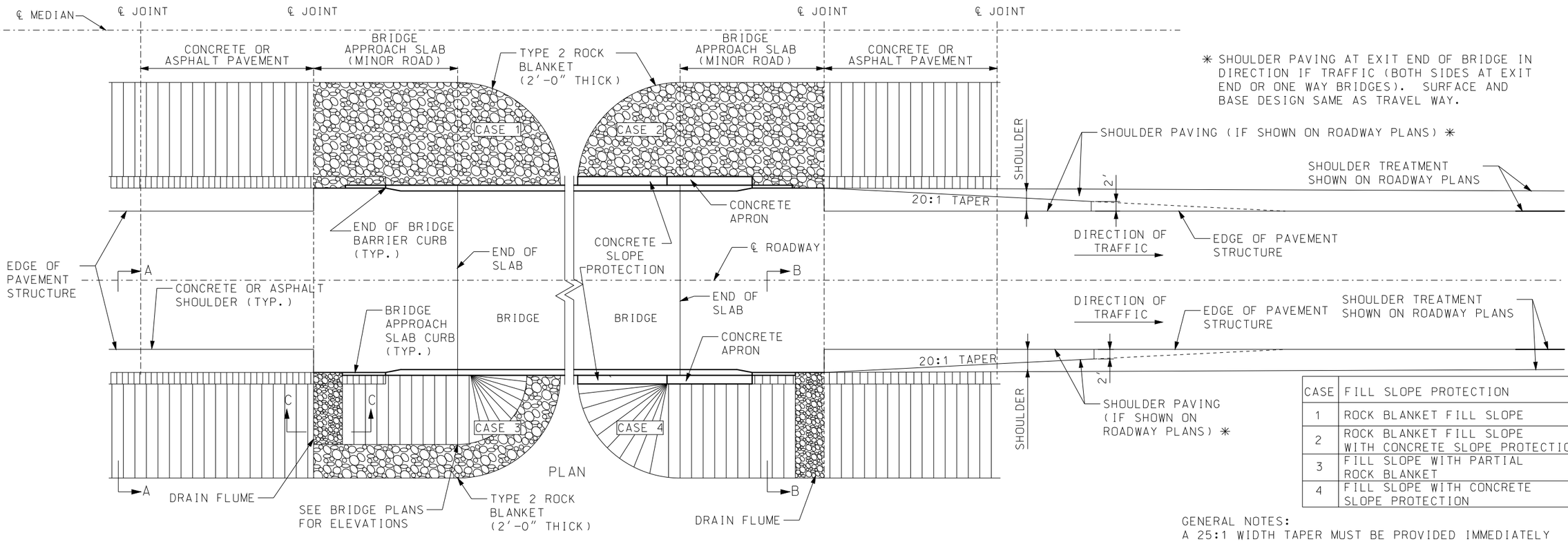
STATE OF MISSOURI
KATHRYN PHILLIPS HARVEY
NUMBER PE-23751
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

ROCK DITCH LINER

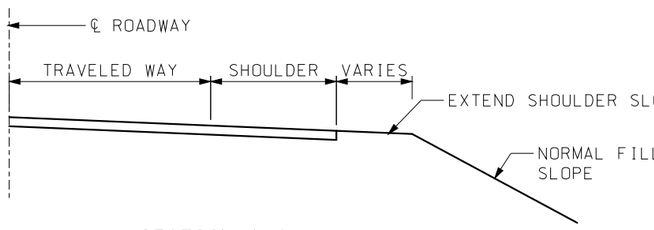
DATE EFFECTIVE: 03/01/1993
DATE PREPARED: 8/21/2009

609.60C

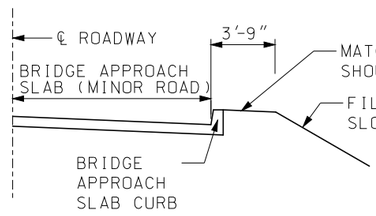
SHEET NO. 1 OF 1



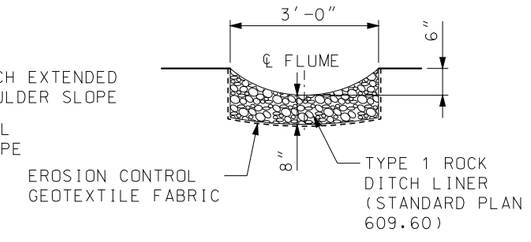
CASE	FILL SLOPE PROTECTION
1	ROCK BLANKET FILL SLOPE
2	ROCK BLANKET FILL SLOPE WITH CONCRETE SLOPE PROTECTION
3	FILL SLOPE WITH PARTIAL ROCK BLANKET
4	FILL SLOPE WITH CONCRETE SLOPE PROTECTION



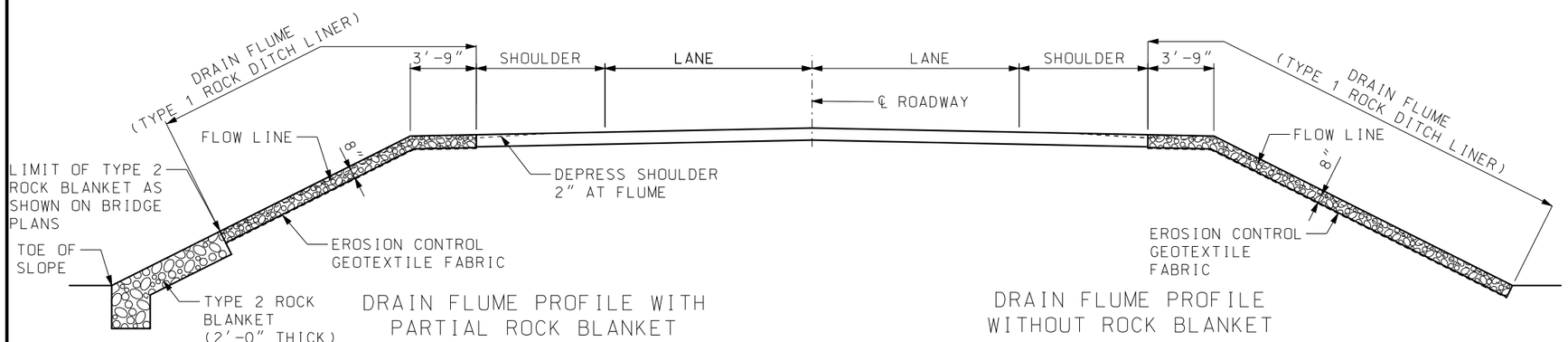
SECTION A-A



SECTION B-B



SECTION C-C



DRAIN FLUME PROFILE WITH PARTIAL ROCK BLANKET

DRAIN FLUME PROFILE WITHOUT ROCK BLANKET

GENERAL NOTES:
A 25:1 WIDTH TAPER MUST BE PROVIDED IMMEDIATELY BEYOND THE LIMITS OF CURB AS SHOWN IN ORDER TO TRANSITION ROADWAY WIDTH TO WIDTH BETWEEN GUARDRAIL FACES ON PAVEMENT.

SEE STANDARD PLANS 606.00, 606.22, 606.23, 606.30, 606.50, 606.60, 606.70 AND 606.80 FOR DETAILS OF GUARDRAILS AND BRIDGE ANCHOR SECTIONS.

FOR DETAILS OF BRIDGE APPROACH SLAB (MINOR ROAD), SEE BRIDGE PLANS.

CONSTRUCT DRAIN FLUMES AND OR FILL SLOPE PROTECTION WHEN SHOWN ON ROADWAY PLANS.

PAYMENT FOR FURNISHING ALL MATERIALS, LABOR AND EXCAVATION NECESSARY TO CONSTRUCT THE DRAIN FLUMES, INCLUDING THE PERMANENT EROSION CONTROL GEOTEXTILE, COMPLETE-IN-PLACE, WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR TYPE 1 ROCK DITCH LINER.

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STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

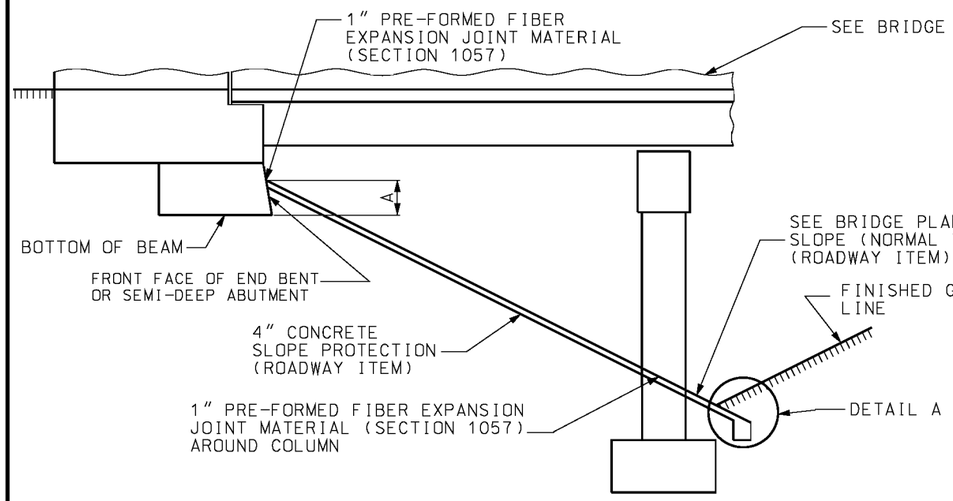
DRAIN FLUME, SHOULDER PAVING AND FILL SLOPES AT BRIDGE ENDS (MINOR ROAD)

DATE EFFECTIVE: 01/01/2017
DATE PREPARED: 11/2/2016

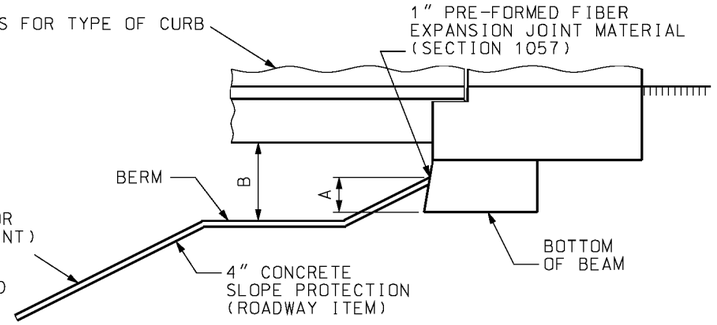
609.40S

SHEET NO. 3 OF 3

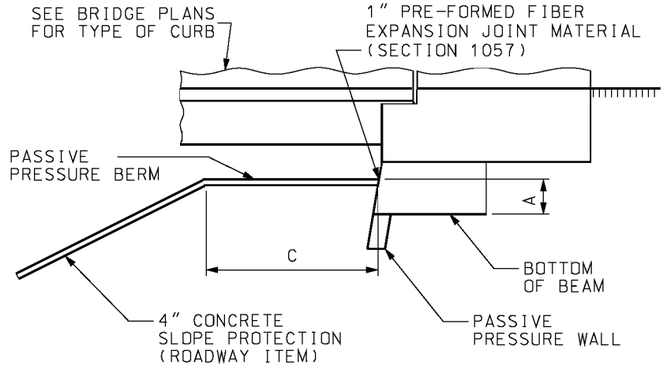
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



ELEVATION
(STRAIGHT SLOPE TYPE)



ELEVATION
(USE ON STRUCTURES WITHOUT PASSIVE PRESSURE BERM)



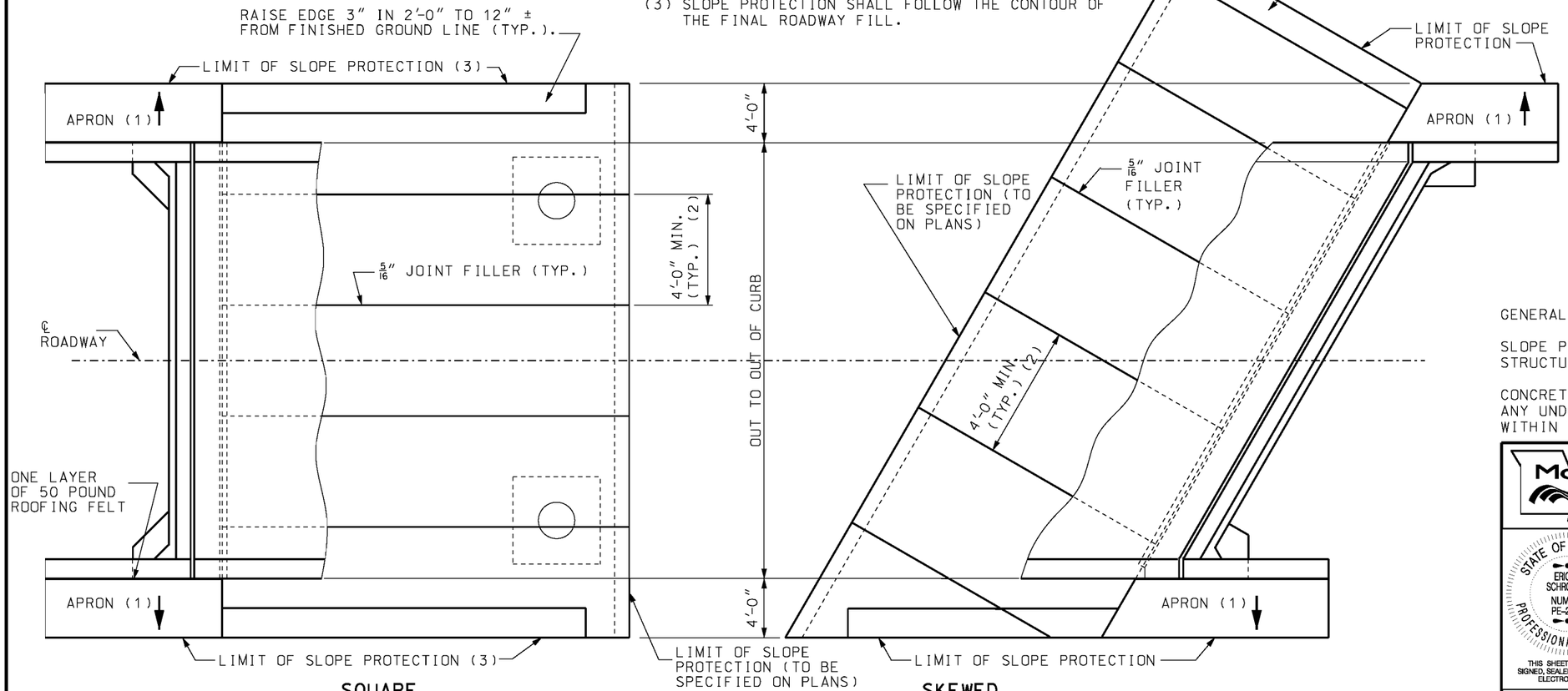
ELEVATION
(USE ON STRUCTURES WITH PASSIVE PRESSURE BERM)

A – SEE BRIDGE PLANS

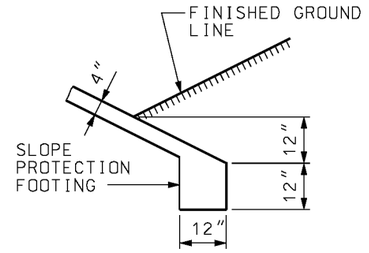
B – BERM SHALL BE CONSTRUCTED TO ELEVATION SHOWN ON PLANS WITH A MINIMUM OF 4'-0" BELOW BOTTOM OF SUPERSTRUCTURE.

C – DIMENSION OF BERM (SEE BRIDGE PLANS).

(1) SLOPE $\frac{1}{4}$" PER FOOT MINIMUM.
(2) PROTECTION SHALL BE PLACED IN CONTINUOUS PANELS FROM TOE OF THE SLOPE TO THE TOP OF THE SLOPE.
(3) SLOPE PROTECTION SHALL FOLLOW THE CONTOUR OF THE FINAL ROADWAY FILL.



PART PLAN



DETAIL A

NOTE:
IF SLOPE PROTECTION FOOTING FALLS ON OR AROUND OTHER FOOTINGS, ONE LAYER OF 50# ROOFING FELT SHALLBE PLACED BETWEEN CONTACT SURFACES OF FOOTINGS.

GENERAL NOTES:

SLOPE PROTECTION SHALL BE MADE CONTINUOUS BETWEEN STRUCTURES WHEN MEDIAN IS 60' OR LESS.

CONCRETE SLOPE PROTECTION SHALL BE FORMED AROUND ANY UNDISTURBED ROCK THAT IS PERMITTED TO REMAIN WITHIN THE SLOPE PROTECTION AREA.

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

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

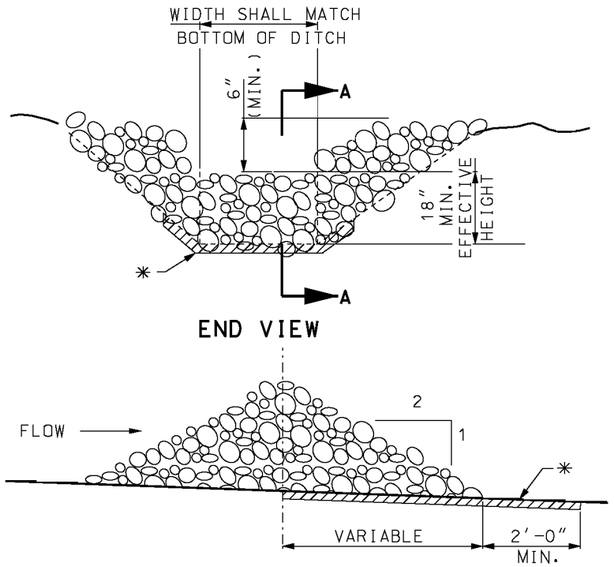
CONCRETE SLOPE PROTECTION

DATE EFFECTIVE: 07/01/2015
DATE PREPARED: 5/29/2015

611.60R

SHEET NO. 1 OF 1

ROCK DITCH CHECK

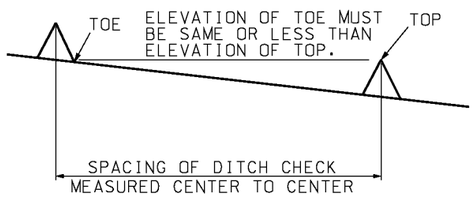


* GEOTEXTILE LINING MAY BE INSTALLED AS REQUIRED BY THE ENGINEER.

NOTE:

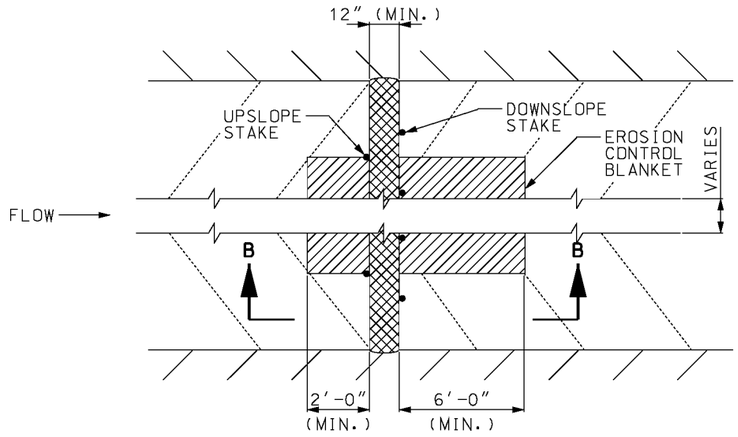
ROCK DITCH CHECK IN THE CLEAR ZONE SHALL BE REMOVED OR LEVELED (IF ALLOWABLE) AFTER THE VEGETATION HAS SUFFICIENTLY MATURED TO PROTECT THE DITCH OR SWALE.

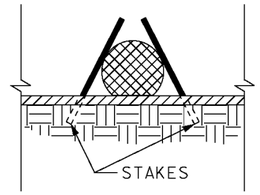
EXAMPLE DITCH CHECK SPACING FOR STANDARD HEIGHTS (FT.)		
DITCH ℄ SLOPE %	SPACING FOR 9" EFF. HEIGHT	SPACING FOR 18" EFF. HEIGHT
0.5	150	300
1.0	75	150
1.5	50	100
2.0	37	75
2.5	30	60
3.0	25	50
3.5	21	43
4.0	19	38
4.5	16	33
5.0	15	30
5.5	13	27
6.0	12	25
6.5	11	23
7.0	10	21
7.5	10	20
8.0	9	19
8.5	9	18
9.0	8	17
9.5	8	16
10.0	7	15

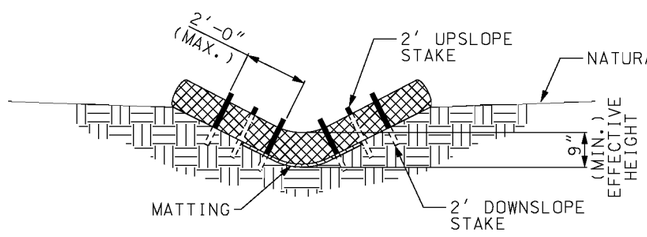


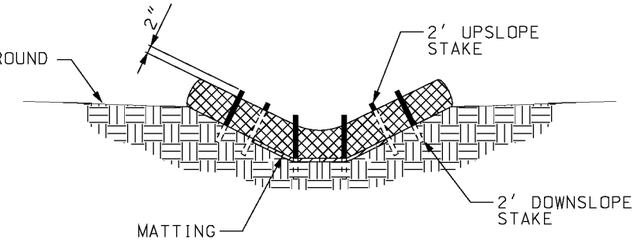
MINIMUM DITCH CHECK SPACING

ALTERNATE DITCH CHECK









NOTES:

USE MINIMUM 12 IN. DIAMETER LOG/SOCK.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL LOG/SOCK TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND LOG/SOCK AND SCOUR DITCH SLOPES OR AS DIRECTED BY ENGINEER.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE LOG/SOCK TO BOTTOM OF DITCH.

EROSION CONTROL BLANKET SHALL BE ANCHORED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES:

OTHER PROPRIETARY DITCH CHECKS MAY BE SUBSTITUTED IN ACCORDANCE WITH SEC 806 OR AS DIRECTED BY THE ENGINEER.

INSTALLATION OF PROPRIETARY DITCH CHECKS SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

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

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

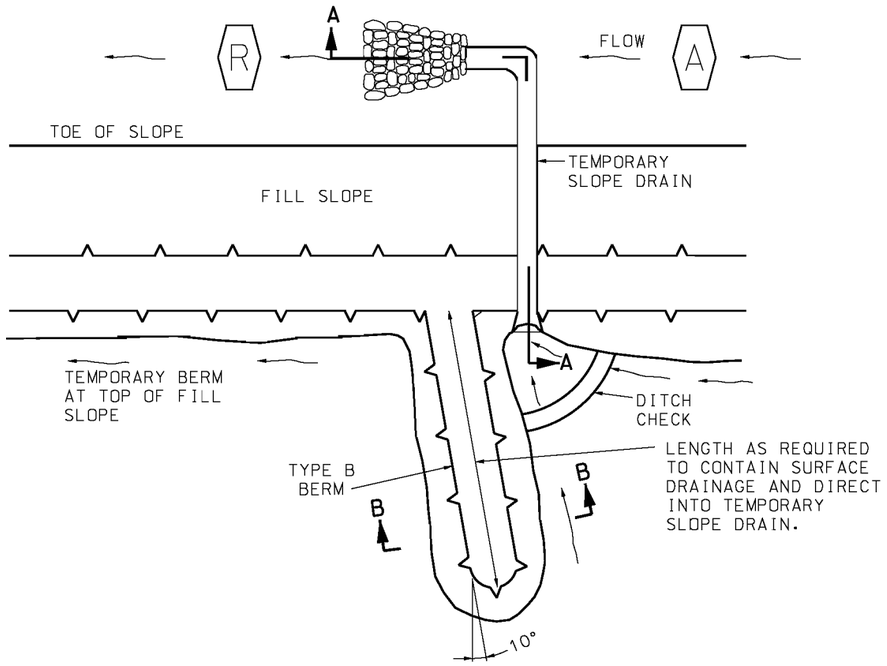
TEMPORARY EROSION CONTROL MEASURES

TEMPORARY DITCH CHECKS

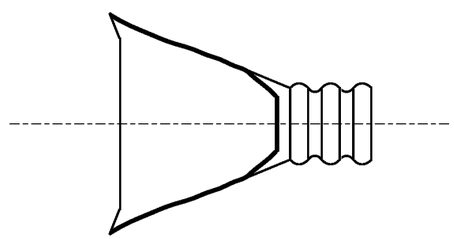
DATE EFFECTIVE: 04/01/2015
DATE PREPARED: 2/20/2015

806.10J

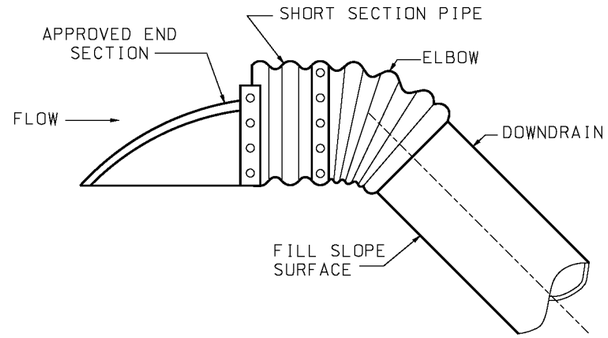
SHEET NO. 1 OF 6



PLAN VIEW

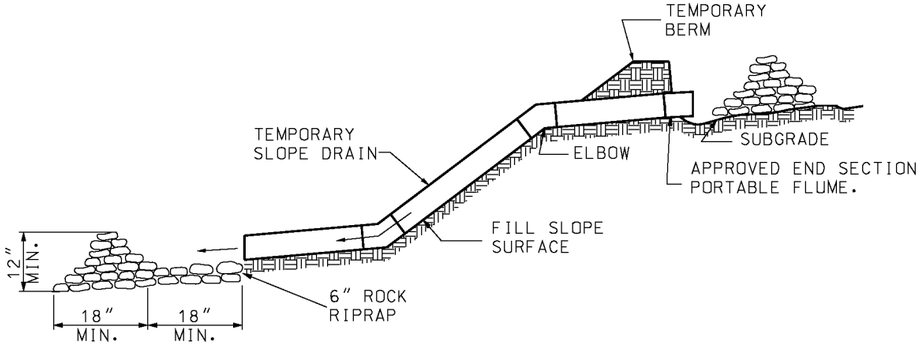


PLAN VIEW



SECTION VIEW

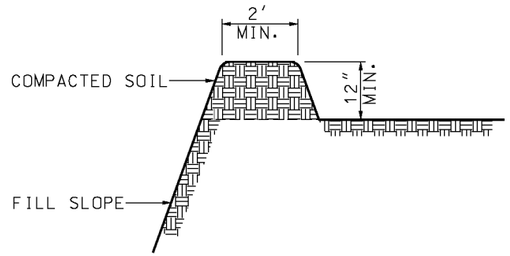
TEMPORARY SLOPE DRAIN INLET TREATMENT



NOTE:

IN SOME CASES IT MAY BE NECESSARY TO EMBED METAL OR PLASTIC PIPE INTO THE FILL SLOPE TO SECURE PROPER ANCHORAGE.

SECTION A-A



SECTION B-B
TYPE B BERM

TEMPORARY BERM

(METAL, FLEXIBLE RUBBER OR PLASTIC PIPE)

NOTE:
MAXIMUM LENGTH BETWEEN SLOPE DRAINS SHALL BE APPROXIMATELY 500 FEET.

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

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

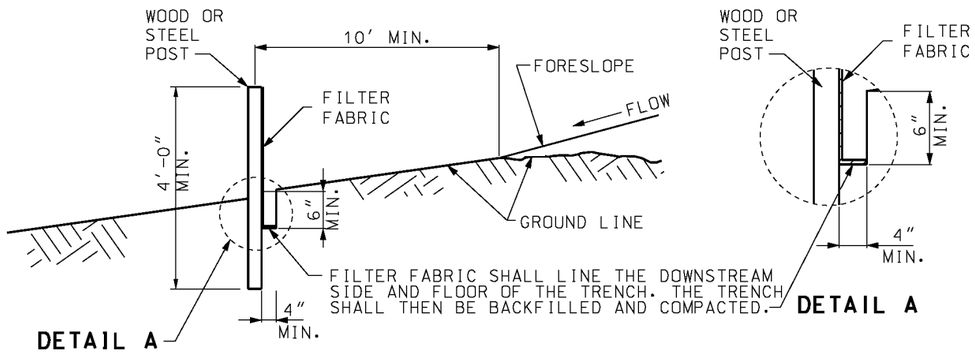
TEMPORARY EROSION CONTROL MEASURES

SLOPE DRAINS

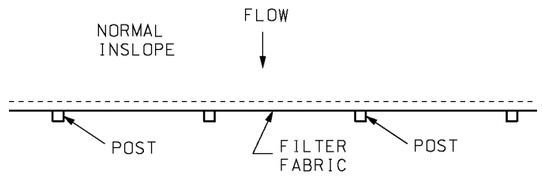
DATE EFFECTIVE: 04/01/2015
DATE PREPARED: 2/20/2015

806.10J

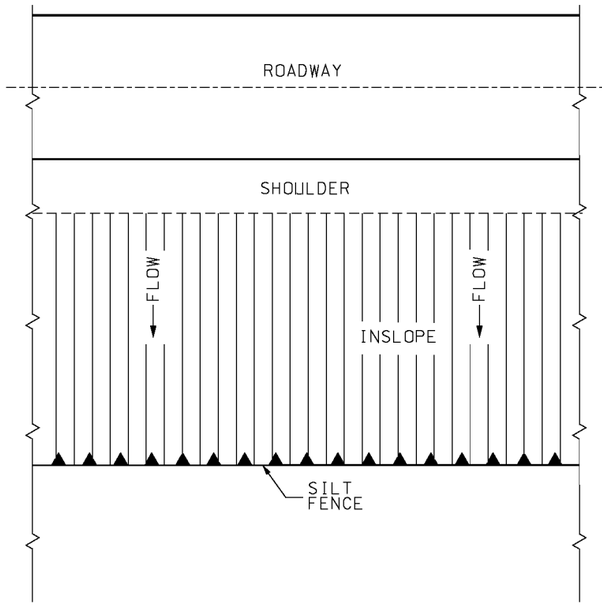
SHEET NO. 4 OF 6



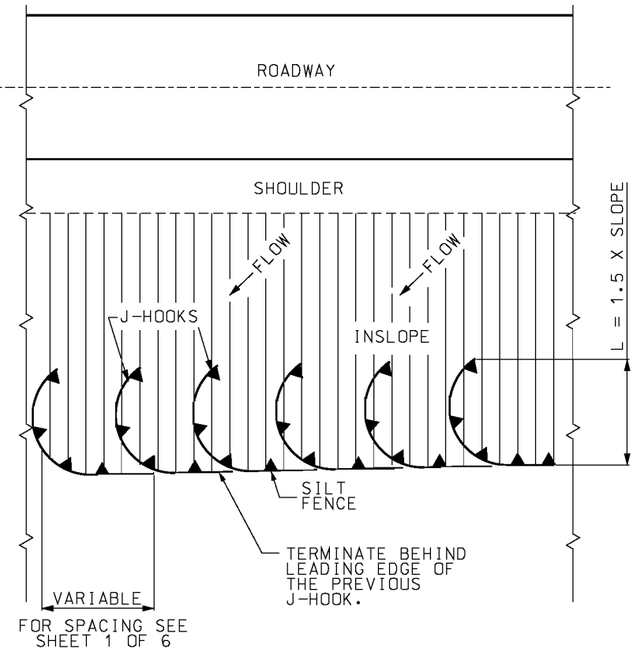
TYPICAL B-B



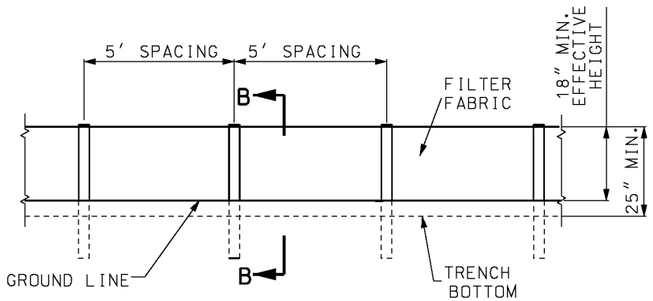
PLAN VIEW



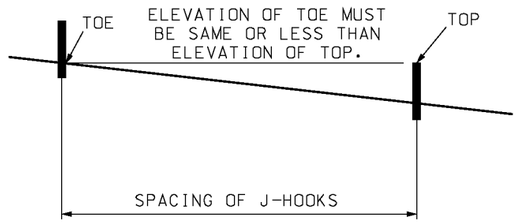
PERIMETER SILT FENCE
FOR TRANSVERSE FLOW



PERIMETER SILT FENCE
FOR ANGULAR FLOW



ELEVATION DETAIL
FABRIC SILT FENCE



MINIMUM J-HOOK SPACING

GENERAL NOTES:

USE SILT FENCE FOR FILL HEIGHTS GREATER OR EQUAL TO 10 FEET. ON ALL FILLS GREATER THAN 10 FEET HIGH, MID-SLOPE RUNS OF SILT FENCE SHOULD BE CONSIDERED.

FOR FABRIC SILT FENCE:

MINIMUM LONGITUDINAL SPLICE OVERLAP SHALL BE 2' WITH A POST AT EACH END.

SECURE FABRIC TO POSTS.

INSTEAD OF SILT FENCE ACROSS DRAINAGE DITCHES AND DRAINS, DITCH CHECKS SHALL BE USED AS SHOWN ON PLANS OR AS DIRECTED BY ENGINEER.

AT CULVERTS, PLACE SEDIMENT BARRIERS OVER THE TOP OF THE CULVERTS (NOT IN THE STREAM CHANNEL).

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
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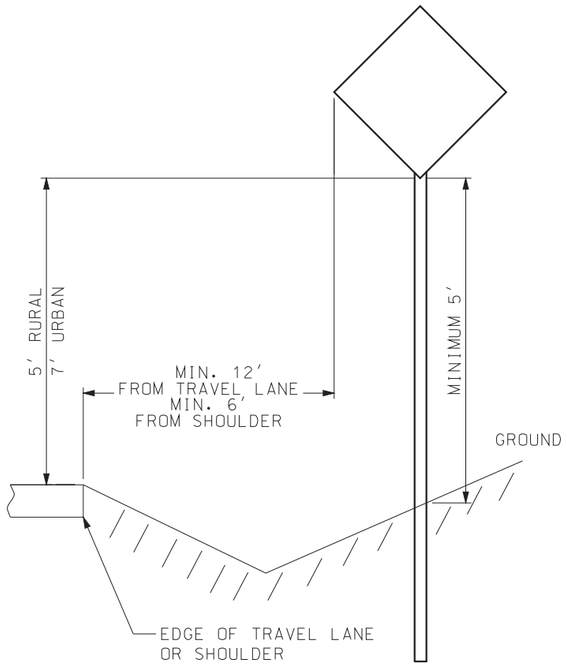
TEMPORARY EROSION CONTROL MEASURES

SILT FENCE

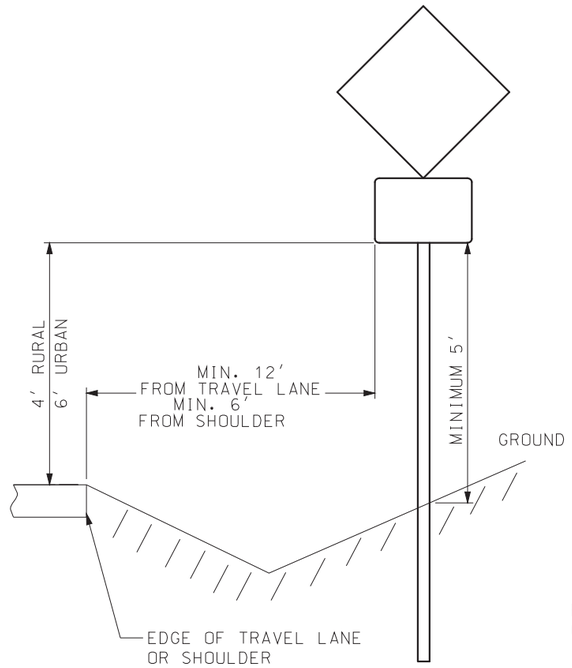
DATE EFFECTIVE: 04/01/2015
DATE PREPARED: 2/20/2015

806.10J

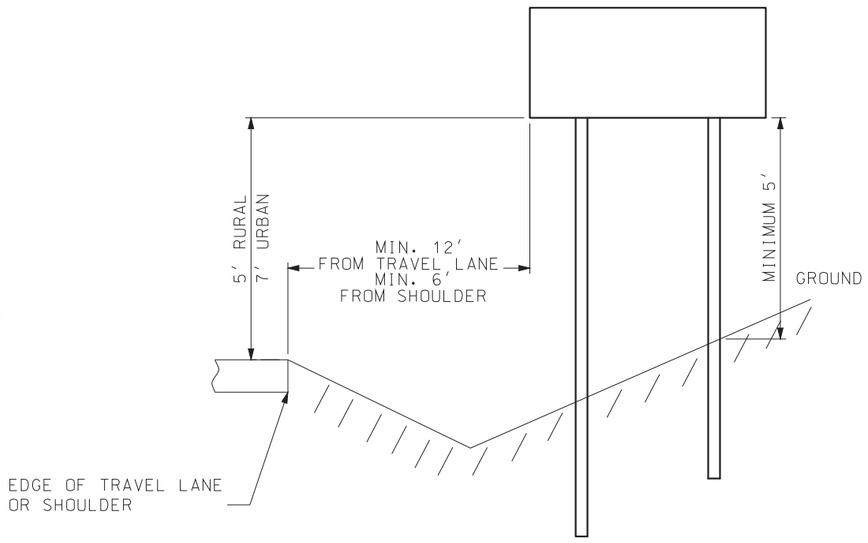
SHEET NO. 5 OF 6



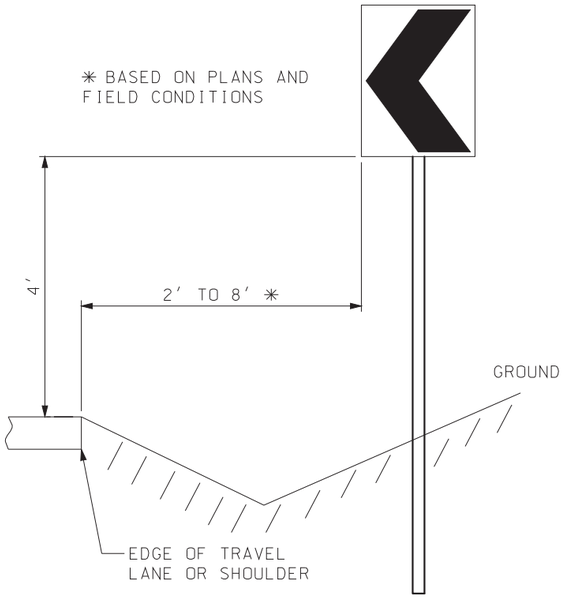
ONE POST – SINGLE SIGN



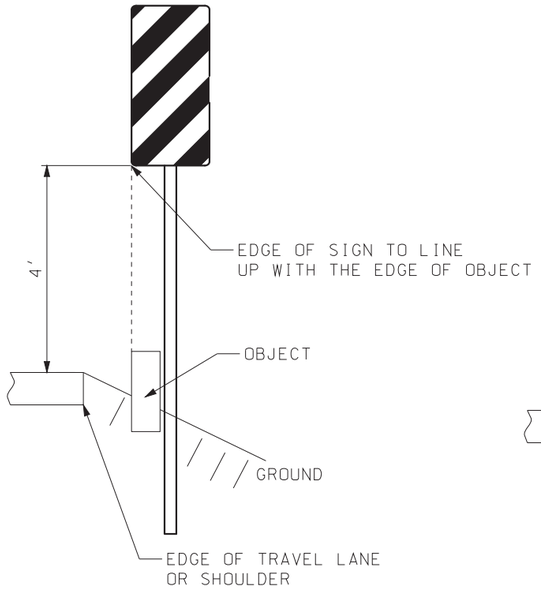
ONE POST – SINGLE SIGN WITH SUPPLEMENTAL PLAGUE



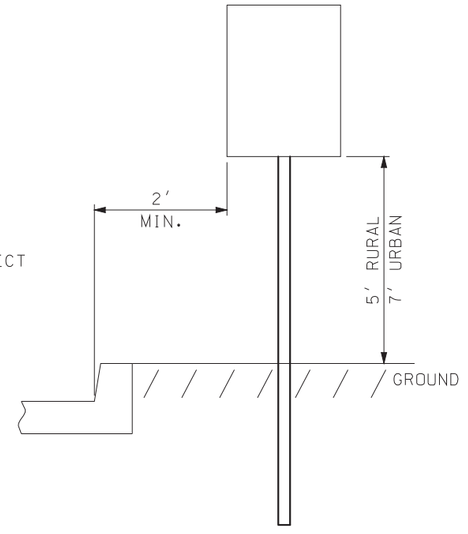
TWO POST



CHEVRON SIGN



TYPE III OBJECT MARKER



ADJACENT TO CURB

GENERAL NOTES:

SIGN MOUNTING BOLTS SHALL BE INSTALLED WITH A NYLON WASHER AGAINST THE SIGN FACE WITH A STEEL WASHER BETWEEN THE NYLON WASHER AND BOLT HEAD.

A LOCKNUT SHALL BE USED TO FASTEN THE SIGN TO THE POST.

VERTICAL CLEARANCE FROM THE ROADWAY SHALL BE MET AND INCREASED ONLY TO MEET THE 5′ MINIMUM VERTICAL CLEARANCE FROM THE GROUND.

HORIZONTAL OFFSET MAY BE ADJUSTED BASED ON FIELD CONDITIONS.

MOUNTING HEIGHT DETAILS

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

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

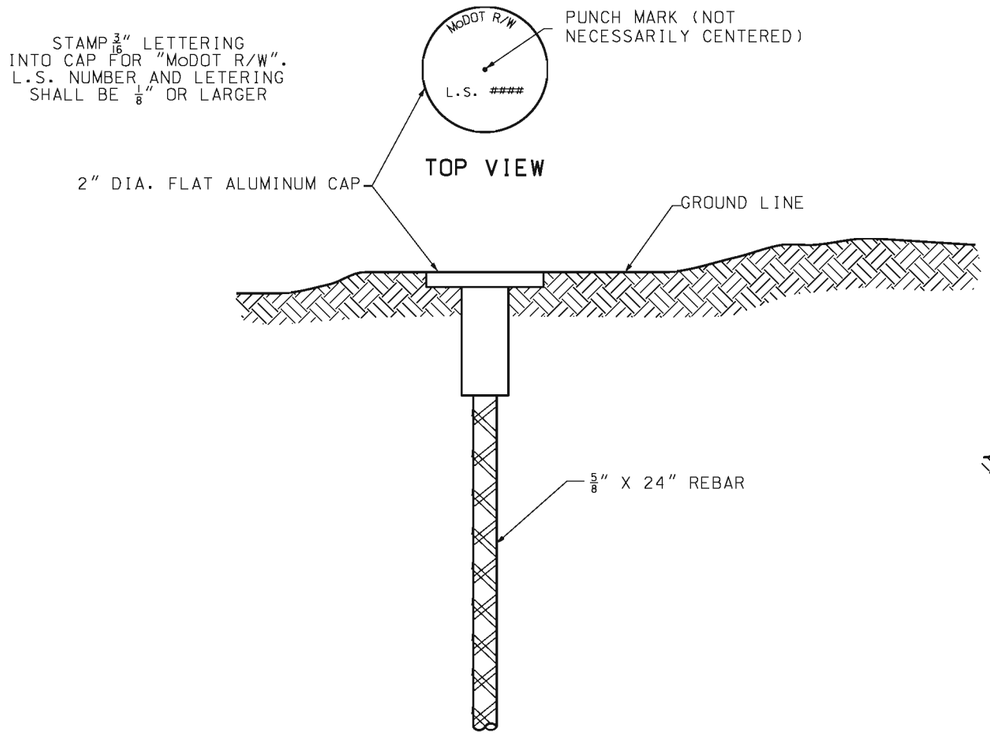
SIGN MOUNTING DETAILS
MOUNTING HEIGHT & OFFSET PIPE POSTS, PSST, WOOD & U-CHANNEL POSTS

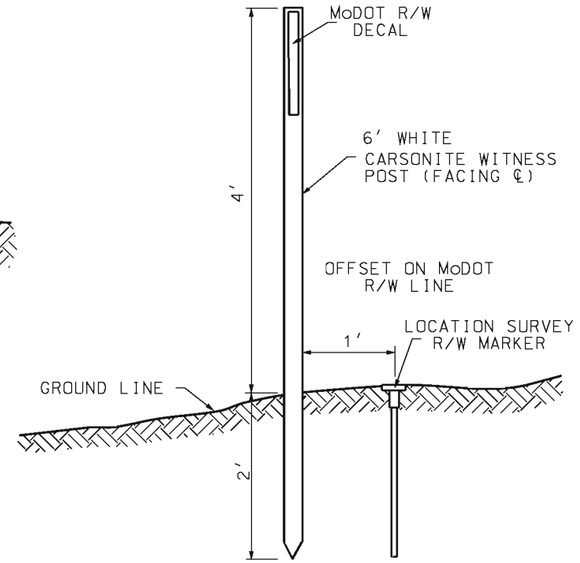
DATE EFFECTIVE: 07/01/2017
DATE PREPARED: 5/1/2017

903.03BL

SHEET NO. 10 OF 16

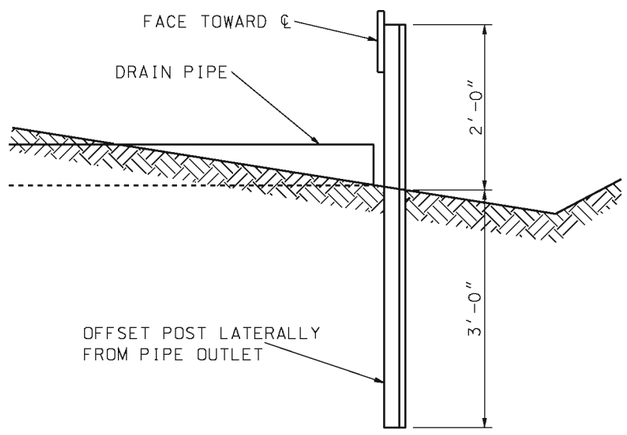
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



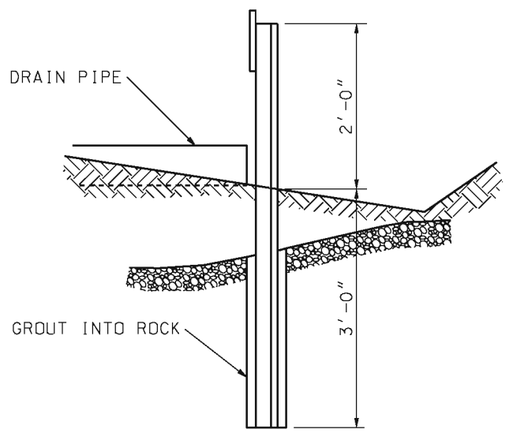


WITNESS POST

LOCATION SURVEY RIGHT-OF-WAY MARKER



IN EARTH



IN ROCK

DRAIN MARKER

GENERAL NOTES:

WHEN STEEL AND LOCATION SURVEY R/W MARKERS ARE NOT SUITABLE DUE TO NATURAL GROUND FEATURES OR MAN-MADE STRUCTURES, ALTERNATIVE MONUMENTATION (IN COMPLIANCE WITH THE APPROVED MONUMENTATION, AS SPECIFIED BY THE MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS) MAY BE SET.

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

STATE OF MISSOURI
KATHRYN PHILLIPS HARVEY
NUMBER PE-23751
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

RIGHT-OF-WAY AND DRAIN MARKERS

DATE EFFECTIVE: 01/01/2003
DATE PREPARED: 8/21/2009

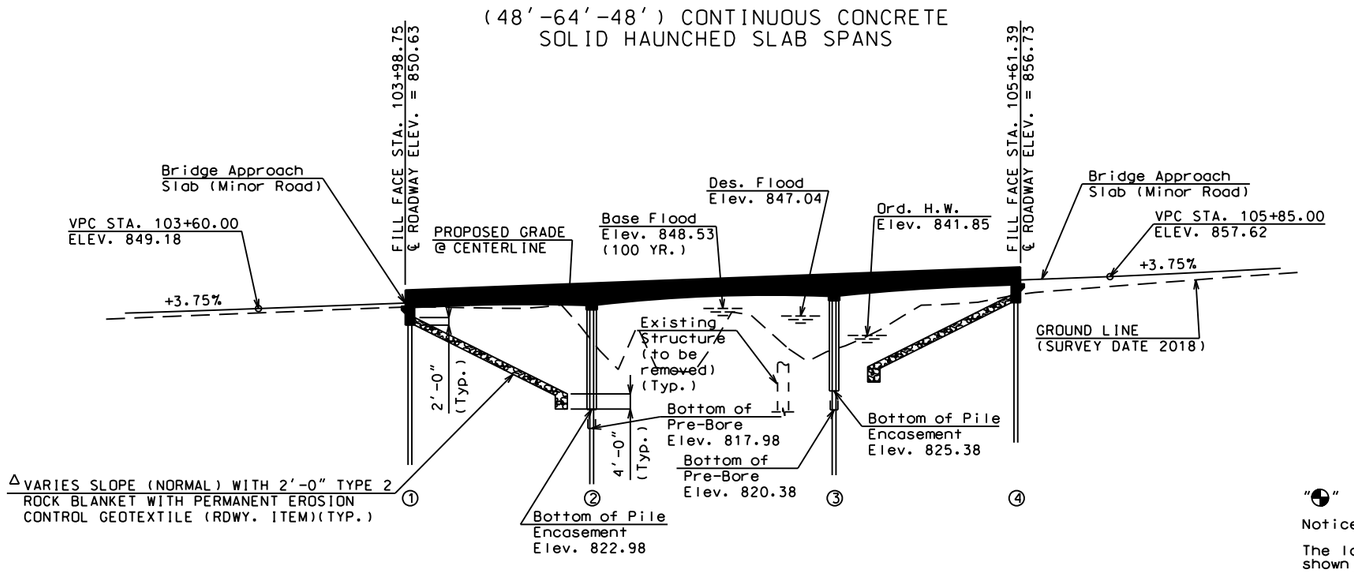
602.00D

SHEET NO. 1 OF 2

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

SEC/SUR 6 TWP 53N RGE 30W

(48'-64'-48') CONTINUOUS CONCRETE SOLID HAUNCHED SLAB SPANS



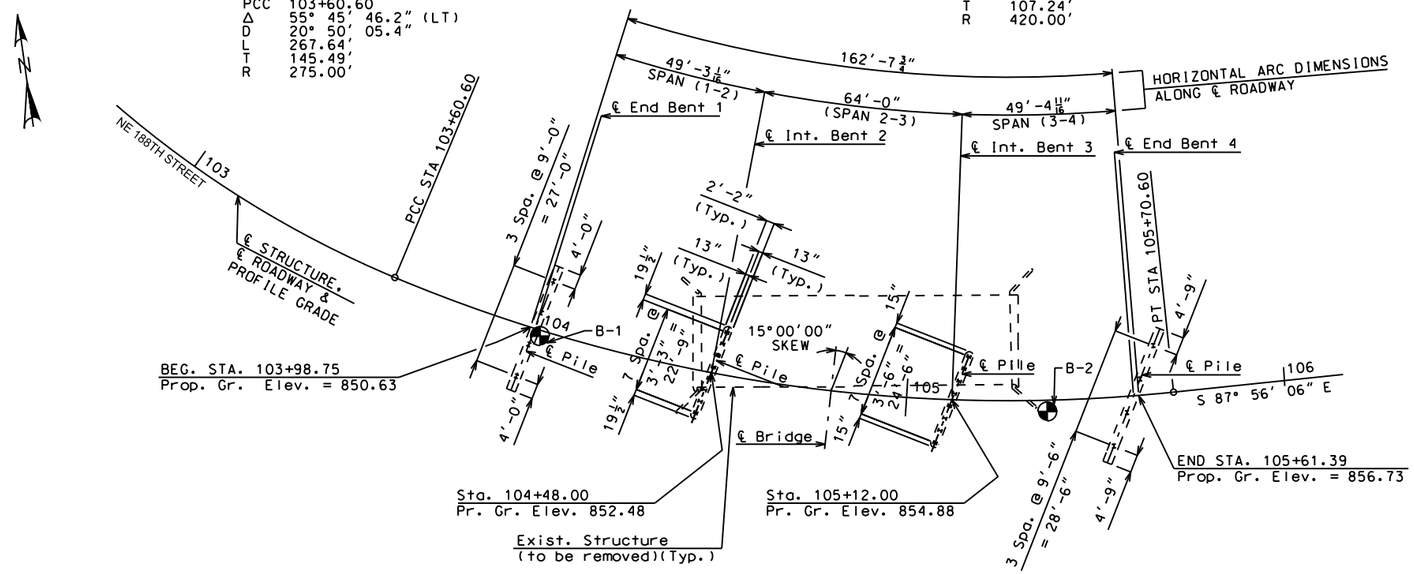
GENERAL ELEVATION

BM #8 ⊗

For General Notes, Estimated Quantities, Estimated Quantities for Haunched Slab, Foundation Data, and Location Sketch, see Sheet No. 25.

CURVE 188_P1_1
PI 102+38.44
PC 100+92.95
PCC 103+60.60
△ 55° 45' 46.2" (LT)
D 20° 50' 05.4"
L 267.64'
T 145.49'
R 275.00'

CURVE 188_P1_2
PI 104+67.84
PCC 103+60.60
PT 105+70.60
△ 28° 38' 52.4" (LT)
D 13° 38' 30.7"
L 210.00'
T 107.24'
R 420.00'



PLAN

GENERAL ELEVATION AND PLAN

Hydrologic Data
Drainage Area = 8.8 mi²
Design Flood Frequency = 25 years
Design Flood Discharge = 2,785 cfs
Design Flood (D.F.) Elevation = 847.04 ft
Base Flood (100-year)
Base Flood Elevation = 848.53 ft
Base Flood Discharge = 3,871 cfs
Estimated Backwater = -1.36 ft
Average Velocity thru Opening = 2.74 ft/s
Freeboard (25-year)
Freeboard = 1.03 ft
Roadway Overtopping
Overtopping Flood Discharge = 5,800 cfs
Overtopping Flood Frequency = > 100 years
Overtopping Flood Elevation = 850.63 ft

"◒" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 45-47 or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

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

BM #1 ⊗

△FOR THE GRADING IN FRONT OF THE END BENTS, BERM SLOPE INFORMATION, AND FOR ANY ADDITIONAL INFORMATION NOT SHOWN SEE "ABUTMENT SECTION KEY MAP", "EAST & WEST ABUTMENT CROSS SECTION" AND "GRADING" SHEETS.

B.M. #1 - Sta. 106+84.67, 31.47' LT.
Elev. 860.35
½" Rebar & Cap

B.M. #4 - Sta. 106+49.07, 94.32' RT.
Elev. 864.60
½" Rebar & Cap

B.M. #8 - Sta. 101+99.38, 16.63' LT.
Elev. 844.94
½" Rebar & Cap

BRIDGE: ROUTE 188TH OVER NEW HOPE CREEK

BM #4 ⊗ ROUTE * FROM * TO *
ABOUT * MILES * OF *
STA. 103+98.75

STD. 609.00
STD. 617.10
STD. 706.35
STD.

STATE OF MISSOURI
NICHOLE M. WITUSINSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE 09/23/2019
DATE PREPARED 09/23/2019
ROUTE 188TH | STATE MO
DISTRICT KC | SHEET NO.
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

DESCRIPTION | DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
1301 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

GENERAL ELEVATION AND PLAN

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

ESTIMATED QUANTITES

	Item		Substr.	Superstr.	Total
	Class 1 Excavation	Cu. Yd.	269.5	-	269.5
	Removal of Bridges	Lump Sum	-	-	1
	Bridge Approach Slab (Minor Road)	Sq. Yd.	-	209	209
	Galvanized Structural Steel Piles (12 in.)	Lin. Ft.	904	-	904
	Pre-Bore for Piling	Lin. Ft.	80	-	80
	Dynamic Pile Testing	Each	4	-	4
	Pile Point Reinforcement	Each	24	-	24
	Class B Concrete (Substructure)	Cu. Yd.	108.6	-	108.6
	Class B-2 Concrete (Haunched Slab)	Sq. Yd.	-	506	506
	Reinforcing Steel (Bridges)	Lbs.	4.870	-	4.870
	Reinforcing Steel (Epoxy Coated)	Lbs.	-	98.540	98.540
	Vertical Drain at End Bents	Each	-	-	2
*	Safety Barrier Curb	Lin. Ft.	-	326	326
**	Safety Barrier Transition	Lin. Ft.	-	120	120

* Safety Barrier Curb on the bridge shall be Cast-in-Place option or Slip-Form option.
** Safety Barrier Transition on the approach slab shall be Cast-in-Place.

FOUNDATION DATA

Type	Design Data	Unit	Bent Number			
			1	2	3	4
Load Bearing Pile	Pile Type and Size		HP 12x53	HP 12x53	HP 12x53	HP 12x53
	Number	each	4	8	8	4
	Approximate Length Per Each	ft.	28	46	43	20
	Pile Point Reinforcement	each	All	All	All	All
	Min. Galvanized Penetration (Elev.)	ft.	Full Length	Full Length	Full Length	Full Length
	Est. Max Scour Depth 100 (Elev.)	ft.	-	826.24	826.24	-
	Min. Tip Penetration (Elev.)	ft.	Min. Embed	Min. Embed	Min. Embed	Min. Embed
	Criteria for Min Tip Penetration		Lateral Stability	Lateral Stability	Lateral Stability	Lateral Stability
	Pile Driving Verification Method		DT	DT	DT	DT
	Minimum Nominal Axial Compressive Resistance	kip	128	126	128	132

DT = Dynamic Testing
Load Bearing Pile:
Minimum Nominal Axial Compressive Resistance =
Maximum Factored Loads / Resistance Factor
Manufactured pile point reinforcement shall be used on all piles in this structure at all Bents.

GENERAL NOTES:

DESIGN SPECIFICATIONS:
2017-AASHTO LRFD Bridge Design Specifications (8th Ed.)
Seismic Design Category A.

CONSTRUCTION SPECIFICATIONS:
2019-Missouri Standard Specifications for Highway Construction

DESIGN LOADING:
HL-93 (LRFD Superstructure. LRFD Substructure)
35 lb/sf. Future Wearing Surface.
Earth 120 lb/cf. Equivalent Fluid Pressure 45 lb/cf.
Superstructure: Simply-supported. non-composite for dead loads.
Continuous composite for live load.

DESIGN UNIT STRESSES:

Class B Concrete (Substructure)	f'c = 3.000 psi
Class B-1 Concrete (Safety Barrier Curb)	f'c = 4.000 psi
Class B-2 Concrete (Superstructure)	f'c = 4.000 psi
Reinforcing Steel (Grade 60)	fy = 60.000 psi
Steel Pile (ASTM A709 Grade 50)	fy = 50.000 psi

EMBANKMENT:
Complete embankment as shown on the plans prior to driving the End Bent piling or commencing with the End Bent footing excavation.

DRIVEN PILES:
This work shall consist of furnishing and driving steel load-bearing piles to the minimum nominal axial compressive resistance and penetration required per Sec 702. at the location shown on the plans. Dynamic Pile Testing shall be performed during pile installation to ensure pile integrity and capacity (See Special Provisions).

A minimum of one Dynamic Pile Test shall be done at each bent. No re-strike is required.

All piles shall be galvanized. in accordance with Sec. 702. the full length of pile or to the minimum galvanization penetration (elevation). Pile point reinforcing need not be galvanized. Shop drawings will not be required for pile point reinforcement.

FALSEWORK PLANS:
A licensed Professional Engineer shall design the falsework details. Details shall bear the seal of a licensed Professional Engineer. Submit electronic plans with details in compliance with MoDOT Specifications Sec 703 to the Field Engineer to review.

FALSEWORK PLANS AND SHOP DRAWINGS:
Use the U.S. Customary system of units on falsework plans and shop drawing details.

FALSEWORK:
Leave the falsework in place for the entire unit until 15 days after the last concrete pour for the unit or until the concrete has attained the required compressive strength as stated in Sec 703. whichever is longer as directed by the Engineer.

FORMWORK:
Slab shall be cast-in-place with conventional forms. Precast prestressed panels and stay-in-place corrugated steel forms will not be permitted.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC4 and a finish Type I. II or III.

JOINT FILLER:
All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler. except as noted.

ESTIMATED QUANTITIES:

ESTIMATED QUANTITIES FOR HAUNCHED SLAB

Item	Unit	Total
Class B-2 Concrete (Haunched Slab)	Cu. Yd.	349

GENERAL NOTES CONT'D:

CONCRETE:
Bevel all exposed edges of all concrete with 3/4 inch triangular molding. except as otherwise noted on the plans. per Sec 703. Construction joints are optional with the Contractor. but if used. place only at locations shown. or at locations approved by the Engineer.

SLAB ELEVATIONS:
The Contractor shall record elevation readings on the "Slab Elevations" sheet in the table at locations designated by a "(2)".The Contractor shall submit the table on a half-sized sheet to the Engineer.

PIER BEAM CONSTRUCTION:
Cure the Int. Bent walls as required by MoDOT Specifications before beginning the pier beam construction (placing resteel or formwork). Do not drill and grout bolts or other devices into the Int. Bent walls used for falsework support unless approved by the Engineer. Cure Int. Bent walls as required by the MoDOT Specs. before beginning to place superstructure concrete.

REINFORCING STEEL:
Minimum clearance to reinforcing steel shall be 2". unless otherwise shown. Epoxy coat all reinforcing steel in the End Bents. deck slab. and barriers. Where non-coated bars come in contact with epoxy coated bars. they need not be coated.

Due to curvature requirements from ACI. some of the slab reinforcing steel will need to be prefabricated following ACI detailing guidelines. See Sh. #42 for details.

BARRIER:
Build the bridge barrier after the falsework is struck.

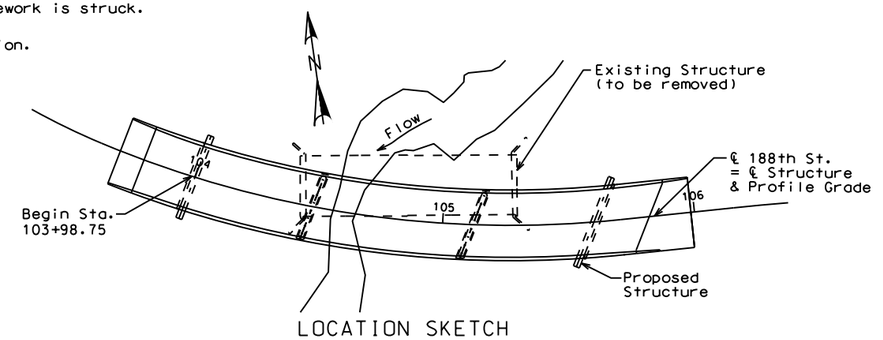
TRAFFIC HANDLING:
Route 188 to be closed during construction.

BACKFILL COMPACTION:
Compact backfill at the End Bents.

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Haunched Slab.

All concrete above the intermediate beam cap is included in the Estimated Quantites for Haunched Slab.

The table for Estimated Quantities for Haunched Slab represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab. Payment for all formwork. falsework. and superstructure concrete shall be considered completely covered by the contract unit price for the slab. Epoxy coated reinforcing steel is a separate bid item. Variations may be encountered in the estimated quantities. but the variations cannot be used for an adjustment in the contract unit price.



LOCATION SKETCH

GENERAL NOTES AND SUMMARY OF ESTIMATED QUANTITIES

Detailed April 2019
Checked Oct. 2019

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

STATE OF MISSOURI
JUSTIN WILLIAM WITUSIEWICZ
12-30-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

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

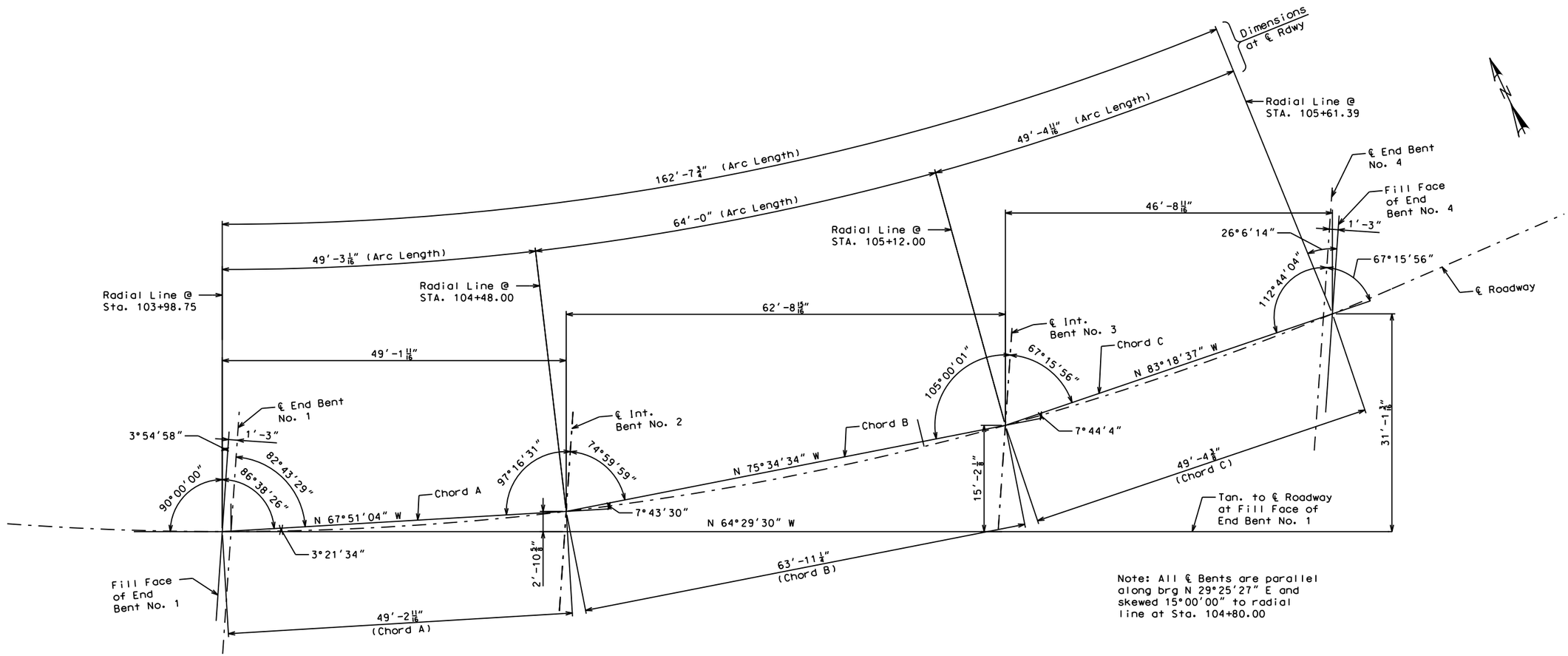
DESCRIPTION | DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

CLAY COUNTY MISSOURI

WSP USA Inc.
1600 Wyandotte Street
Suite 700
Kansas City, MO 64105
816.702.4300

GENERAL NOTES & SUMMARY OF QUANTITIES



Note: All ℄ Bents are parallel along brg N 29°25′27″ E and skewed 15°00′00″ to radial line at Sta. 104+80.00

GEOMETRIC LAYOUT

Detailed April 2019
Checked Oct. 2019

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

STATE OF MISSOURI
NICHOLE M. WITUSINSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE	188TH
STATE	MO
DISTRICT	KC
SHEET NO.	
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

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DESCRIPTION

DATE

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HIGHWAY DEPARTMENT

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KEARNEY, MO 64060
PHONE: (816) 407-3300

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301 Wyandotte Street
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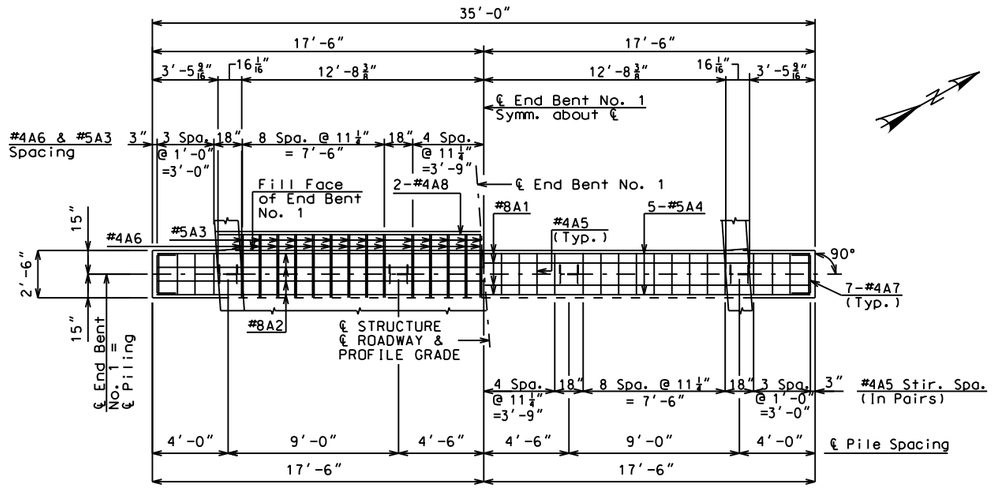
Kansas City, MO 64105
816.702.4300

SUPERSTR. GEOMETRIC LAYOUT



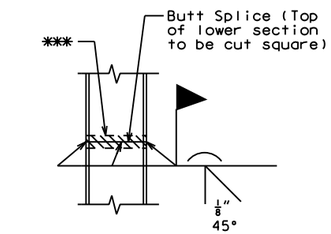
Reinforcing Steel in Top of Abutment

Reinforcing Steel in Bottom of Abutment

PLAN
(Looking Back Station at End Bent No. 1)
(Dimensions along ℄ Bent)

** Top of Pile Elevations				
End Bent No. 1	P1	P2	P3	P4
Top of Pile EL	846.68	847.01	847.35	847.68
Pile Length (ft)	27.0	27.0	28.0	28.0

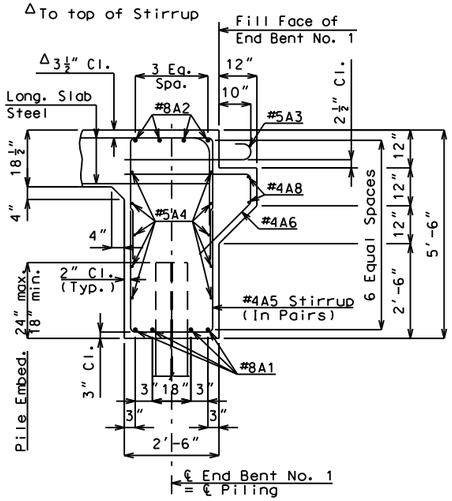
See "As-built Pile Data" sheet for pile number designations



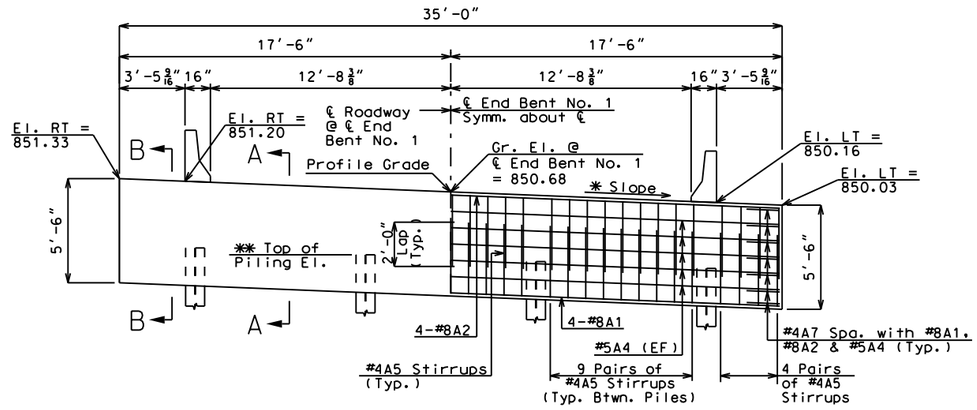
STEEL PILE SPLICE
(If required)

Item	Unit	Total
Class 1 Excavation	Cu. Yd.	53.1
Galvanized Structural Steel Piles (12in)	Lin. Ft.	110
Dynamic Pile Testing	Each	1
Pile Point Reinforcement	Each	4
Class B Concrete (Substructure)	Cu. Yd.	-

These quantities are included in the Estimated Quantities table on Sheet No. 25.



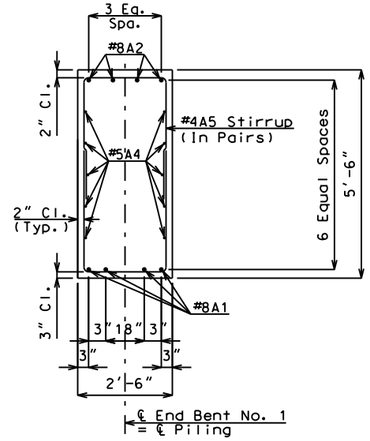
Section A-A



ELEVATION
(Looking Back Station at End Bent No. 1)
(Dimensions along ℄ Bent)

LEGEND

EF = Each Face
FF = Far Face
NF = Near Face
* Slope 4.0% Normal to ℄ Roadway
** See this sheet for Top of Pile Elevations table
*** Galvanizing material shall be omitted or removed 1 inch clear of weld locations in accordance with Sec. 702.



Section B-B

Detailed April 2019
Checked May 2019

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

STATE OF MISSOURI
NICHOLE M. WITUSINSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

DATE | DESCRIPTION

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

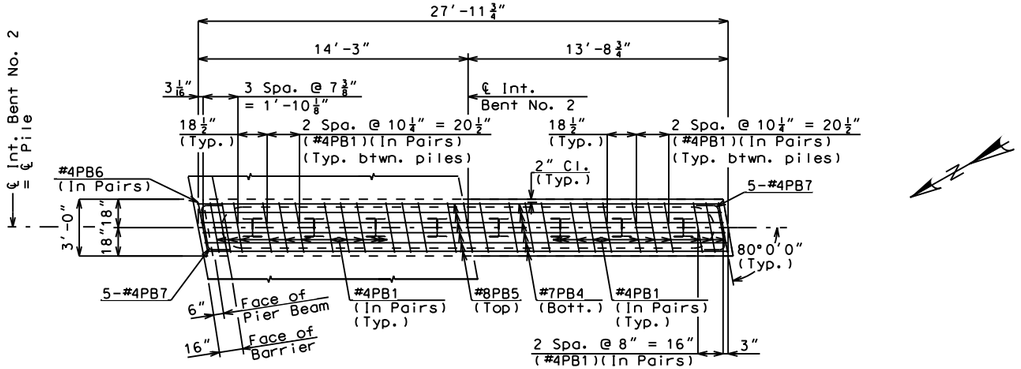
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

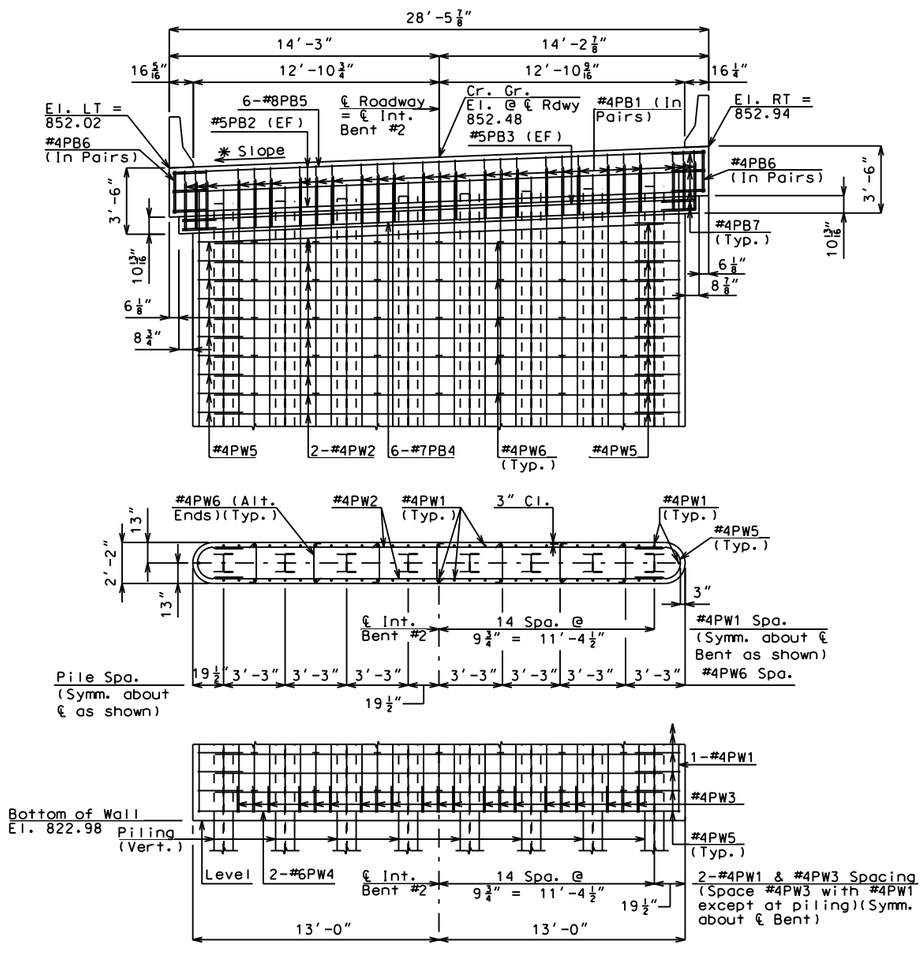
CLAY COUNTY MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816-702-4300

END BENT NO. 1



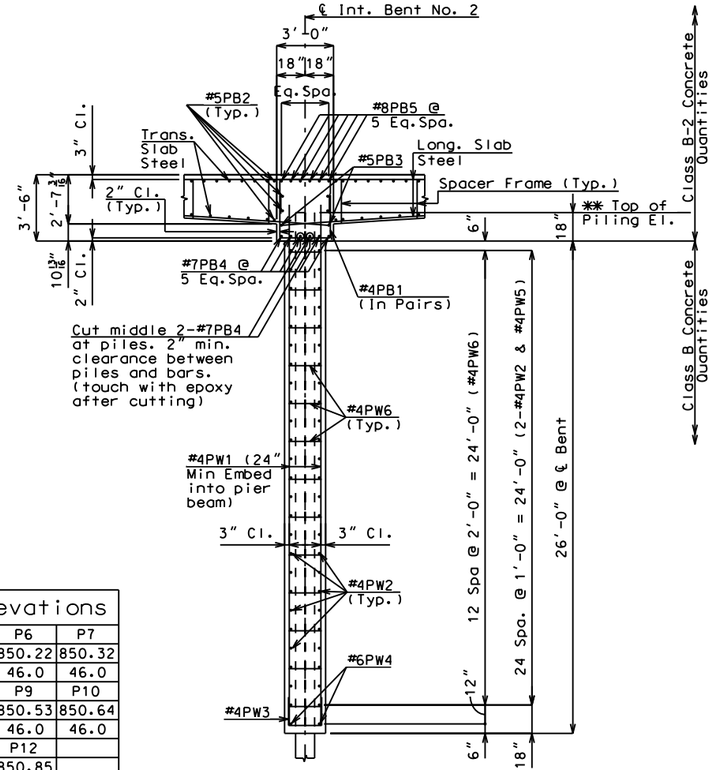
PLAN
(Looking Ahead Station)
(Dimensions along ℄ Int. Bent No. 2)



ELEVATION

Item	Unit	Total
Class 1 Excavation	Cu. Yd.	93.1
Galvanized Structural Steel Piles (12in)	Lin. Ft.	368
Dynamic Pile Testing	Each	1
Pile Point Reinforcement	Each	8
Class B Concrete (Substructure)	Cu. Yd.	53.3

These quantities are included in the Estimated Quantities table on Sheet No. 25.



SECTION THRU BENT
(Dimensions at ℄ Bent)

✱✱ Top of Pile Elevations			
Int. Bent No. 2	P5	P6	P7
Top of Pile EL	850.11	850.22	850.32
Pile Length (ft)	46.0	46.0	46.0
Int. Bent No. 2	P8	P9	P10
Top of Pile EL	850.43	850.53	850.64
Pile Length (ft)	46.0	46.0	46.0
Int. Bent No. 2	P11	P12	
Top of Pile EL	850.74	850.85	
Pile Length (ft)	46.0	46.0	

See "As-built Pile Data" sheet for pile number designations

LEGEND

EF = Each Face
FF = Far Face
NF = Near Face
✱ Slope 4.0% Normal to ℄ Roadway
✱✱ See this sheet for Top of Pile Elevations table
✱✱✱ Galvanizing material shall be omitted or removed 1 inch clear of weld locations. See special provisions.

Detailed April 2019
Checked May 2019

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

STATE OF MISSOURI
NICHOLE M. WITUSINSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE
09/23/2019
DATE PREPARED
09/23/2019
ROUTE 188TH
STATE MO
DISTRICT KC
SHEET NO.
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

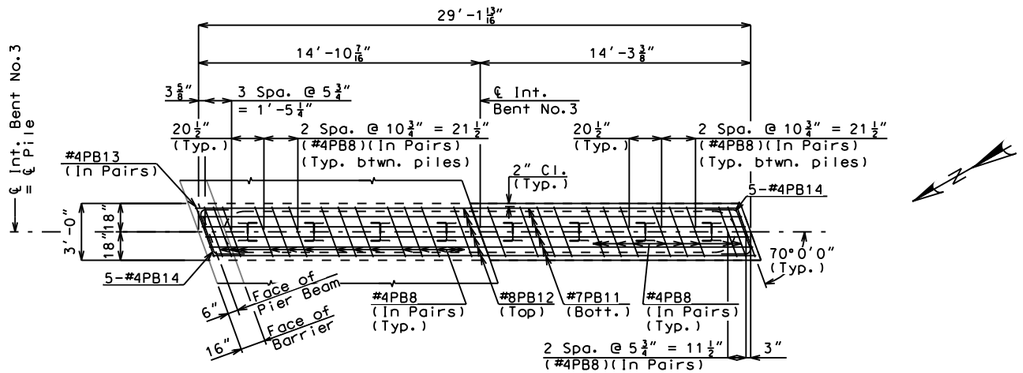
DESCRIPTION | DATE

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
503 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

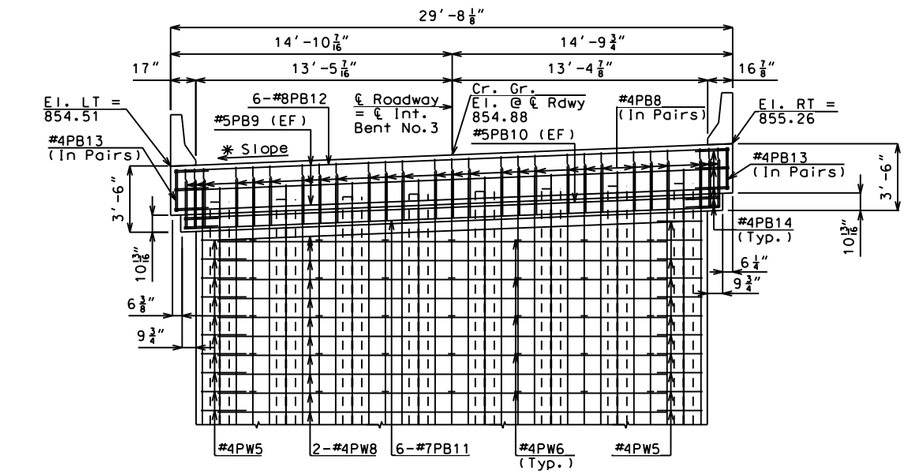
INTERMEDIATE BENT NO. 2



Reinforcing Steel in Top of Pier Beam

Reinforcing Steel in Bottom of Pier Beam

PLAN
(Looking Ahead Station)
(Dimensions along ℄ Int. Bent No. 3)



ELEVATION

Detailed April 2019
Checked May 2019

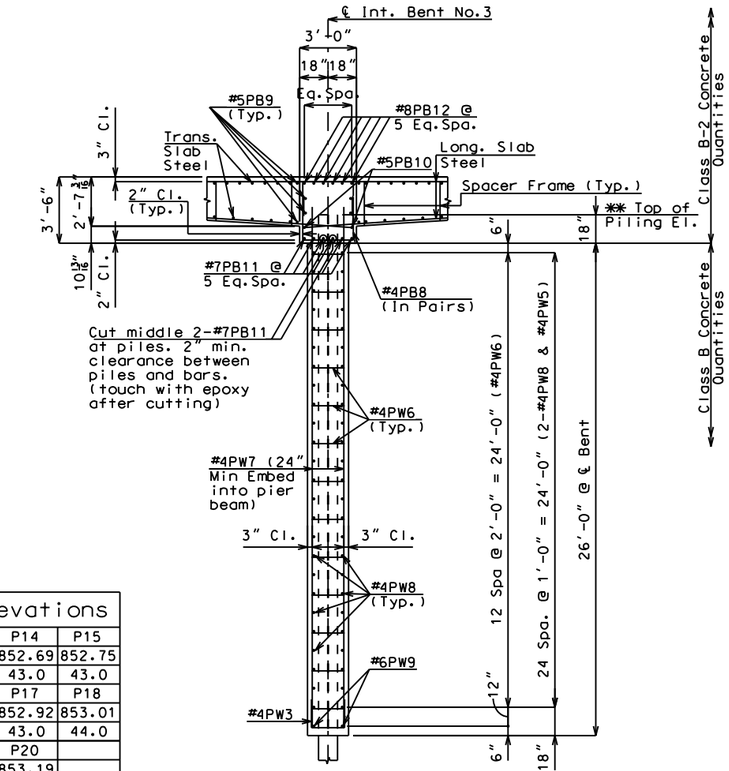
Note: This drawing is not to scale. Follow dimensions.

Item	Unit	Total
Class 1 Excavation	Cu. Yd.	72.2
Galvanized Structural Steel Piles (12in)	Lin. Ft.	347
Dynamic Pile Testing	Each	1
Pile Point Reinforcement	Each	8
Class B Concrete (Substructure)	Cu. Yd.	55.3

These quantities are included in the Estimated Quantities table on Sheet No. 25.

** Top of Pile Elevations			
Int. Bent No. 2	P13	P14	P15
Top of Pile EL	852.58	852.69	852.75
Pile Length (ft)	43.0	43.0	43.0
Int. Bent No. 2	P16	P17	P18
Top of Pile EL	852.84	852.92	853.01
Pile Length (ft)	43.0	43.0	44.0
Int. Bent No. 2	P19	P20	
Top of Pile EL	853.10	853.19	
Pile Length (ft)	44.0	44.0	

See "As-built Pile Data" sheet for pile number designations



SECTION THRU BENT
(Dimensions at ℄ Bent)

LEGEND

EF = Each Face
FF = Far Face
NF = Near Face
* Slope 4.0% Normal to ℄ Roadway
** See this sheet for Top of Pile Elevations table
*** Galvanizing material shall be omitted or removed 1 inch clear of weld locations. See special provisions.

STATE OF MISSOURI
NICHOLE M. WITUSINSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE
09/23/2019
DATE PREPARED
09/23/2019
ROUTE 188TH
STATE MO
DISTRICT KC
SHEET NO.
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

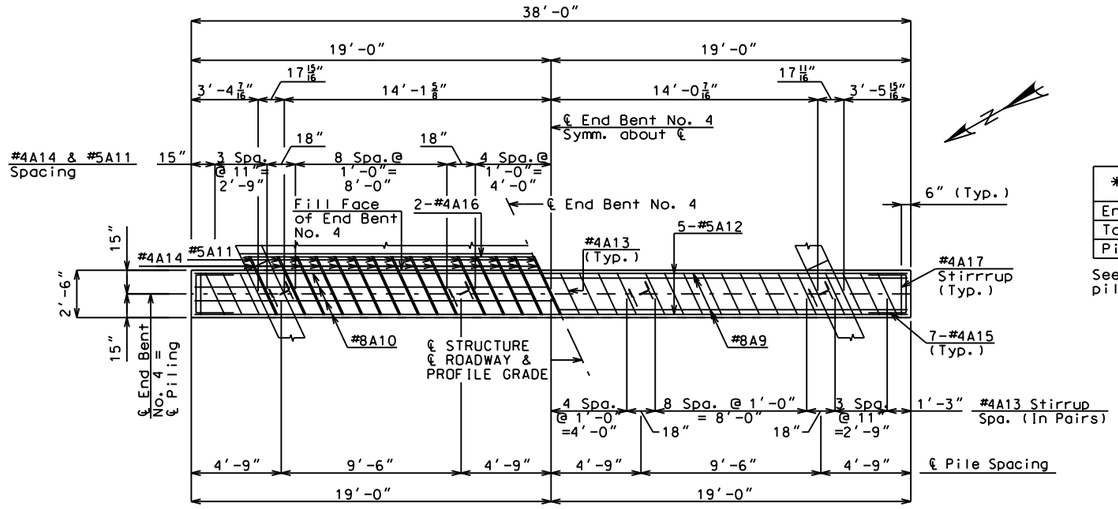
DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

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

INTERMEDIATE BENT NO. 3



Reinforcing Steel in Top of Abutment

Reinforcing Steel in Bottom of Abutment

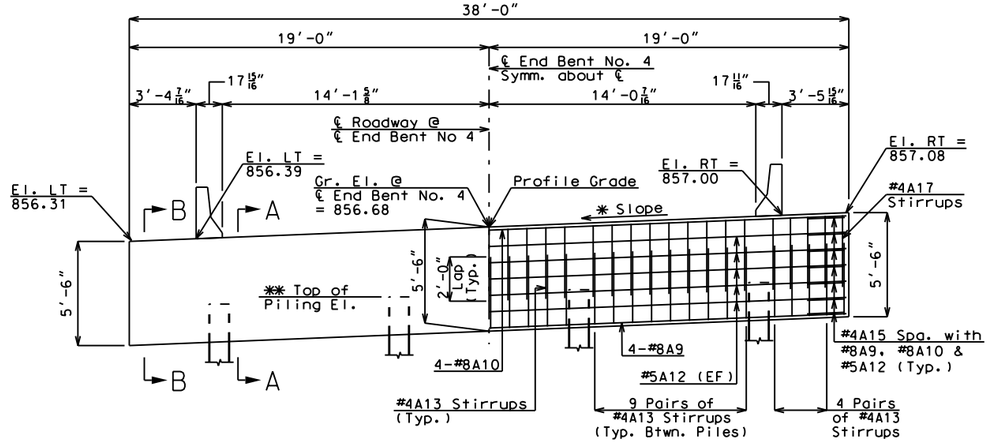
PLAN
(Looking Ahead Station at End Bent No. 4)
(Dimensions along ℄ Bent)

** Top of Pile Elevations				
End Bent No. 1	P21	P22	P23	P24
Top of Pile EL	852.91	853.09	853.28	853.47
Pile Length (ft)	19.0	20.0	20.0	20.0

See "As-built Pile Data" sheet for pile number designations

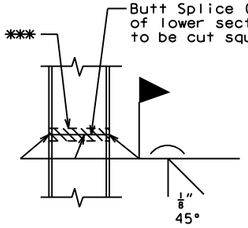
Item	Unit	Total
Class 1 Excavation	Cu. Yd.	51.3
Galvanized Structural Steel Piles (12in)	Lin. Ft.	79
Dynamic Pile Testing	Each	4
Pile Point Reinforcement	Each	4
Class B Concrete (Substructure)	Cu. Yd.	-

These quantities are included in the Estimated Quantities table on Sheet No. 25.

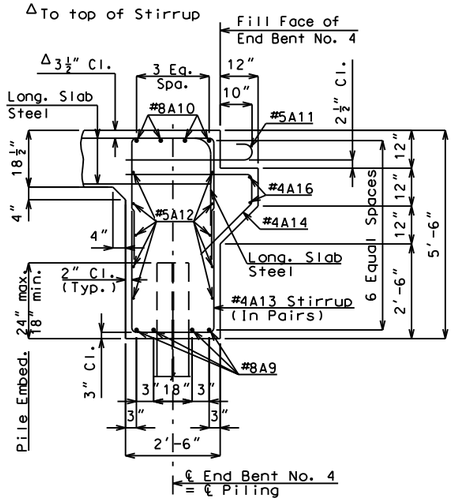


ELEVATION
(Looking Ahead Station at End Bent No. 4)
(Dimensions along ℄ Bent)

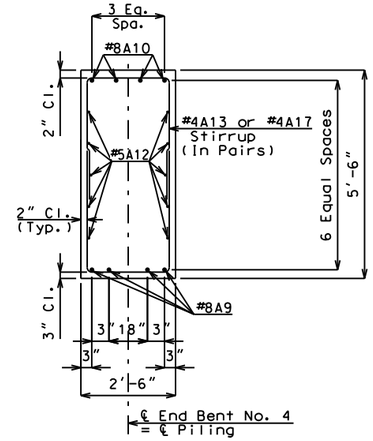
* Slope 4.0% Normal to ℄ Roadway
** See this sheet for Top of Pile Elevations table
*** Galvanizing material shall be omitted or removed 1 inch clear of weld locations. See special provisions.



STEEL PILE SPLICE
(If required)



Section A-A



Section B-B

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI — CHRISTOPHER NICHOLE WITUSINSKY — 10-31-19 — NUMBER PE-2018037127 — PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

DESCRIPTION | DATE

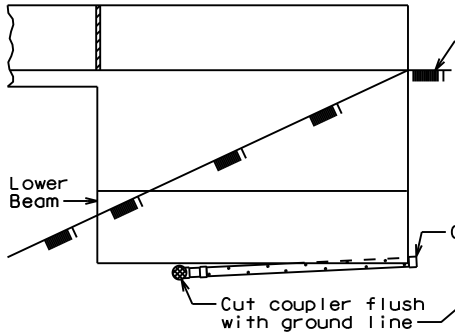
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

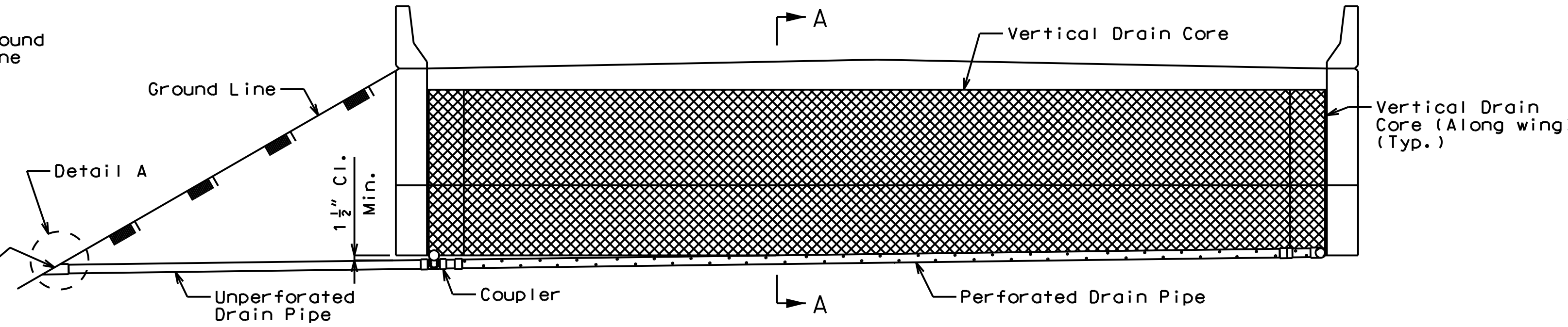
SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
500 Hyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

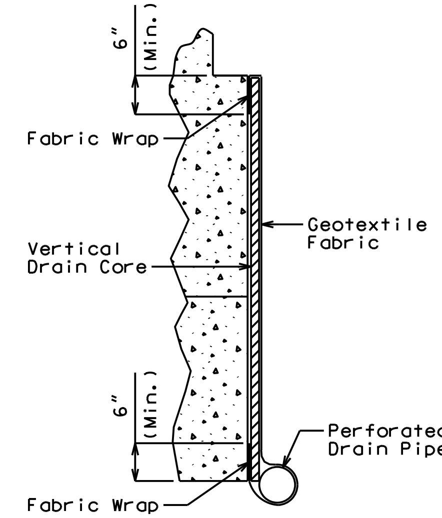
END BENT NO. 4



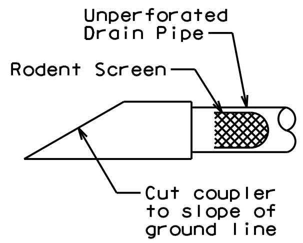
ELEVATION OF WING



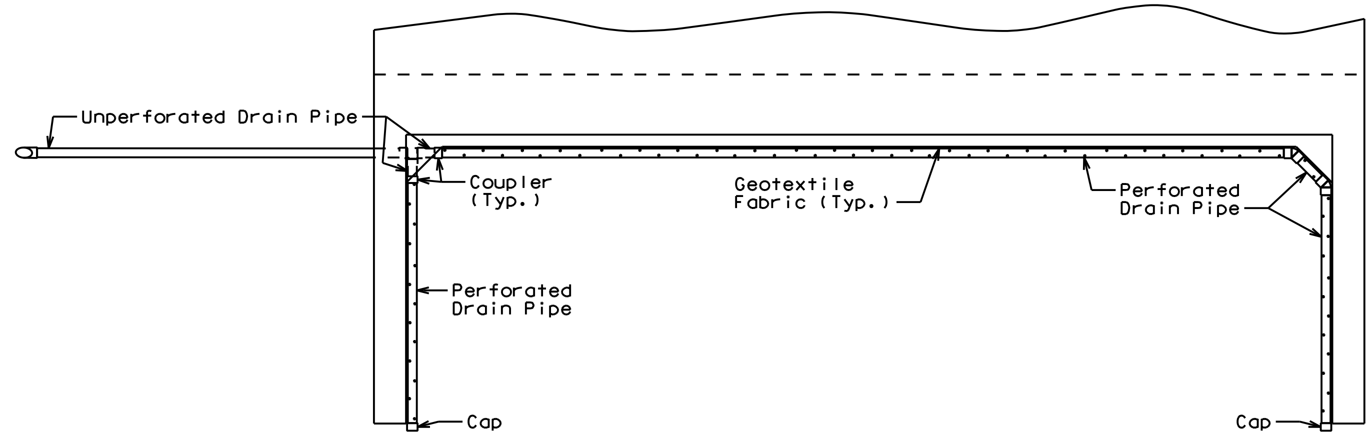
ELEVATION OF END BENT



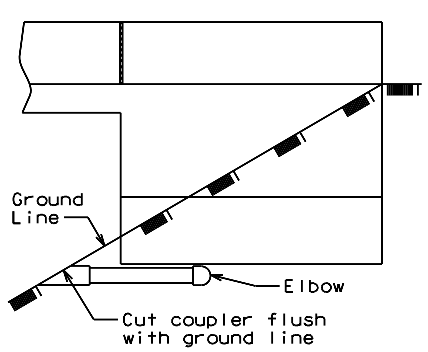
PART SECTION A-A
(Section thru wing similar)



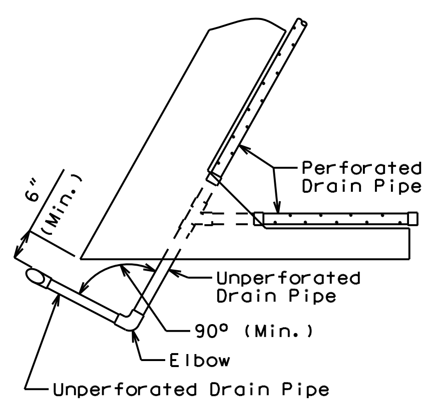
DETAIL A



PLAN OF END BENT



ELEVATION OF WING



PART PLAN

OPTIONAL TURNED DRAIN
(Only if rock is encountered outside of wing)

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

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

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS
(Squared end bent shown, skewed end bent similar)

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI – NICHOLE WITUSZYNSKI – NUMBER PE-2018037127 – PROFESSIONAL ENGINEER – 10-31-19

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE	188TH
STATE	MO
DISTRICT	KC
SHEET NO.	
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

DESCRIPTION | DATE

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

CLAY COUNTY, MISSOURI HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP
WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

VERTICAL DRAIN

SLAB ELEVATIONS

				Formwork				Screed			Thickness			Deck Profile	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Survey	Station	†Location	Transverse Location	Estimated Falsework Crush	Target Elevation TOF	Actual Elevation TOF	TOF Variance (OA/OC)	Target Screed El. = TOC El.	Actual Bottom of Screed Elevation Prior to Pour	Screed Variance (OA/OC)	Plan Deck Thickness	Measured Deck Thickness	Deck Thickness Variance (OA/OC)	Plan TOC El.	Actual TOC El. Optional Survey
	(1)(16)	(13)	(13)	(inch) (1)(4)	(1)(6)	(2)	(±inch) (2)(5)	(1)(6)	(2)	(±inch) (2)(7)	(1)	(inch) (2)(8)	(±inch) (2)(9)	(1)	Date: (3)
A	104+01.03	℄ Brg.	Left Fascia					850.16						850.16	
	104+00.00	of	Crown Gr. ℄					850.68						850.68	
	103+99.03	End Bent #1	Right Fascia					851.20						851.20	
B	104+02.33	Interior	Left Fascia		848.66						18.50			850.21	
	104+01.25	Face of	Crown Gr. ℄		849.18						18.50			850.73	
	104+00.24	End Bent #1	Right Fascia		849.72						18.50			851.26	
C	104+20.90	4/10 Point	Left Fascia	0.25	849.45			851.00			18.64			850.90	
	104+19.20	from	Crown Gr. ℄	0.25	849.94			851.50			18.64			851.40	
	104+17.61	End Bent #1	Right Fascia	0.25	850.44			852.00			18.64			851.90	
D	104+49.14	Span #1	Left Fascia	0.25	849.38						31.20			851.96	
	104+46.47	Face of	Crown Gr. ℄	0.25	849.84						31.20			852.42	
	104+43.98	Pier Beam	Right Fascia	0.25	850.31						31.20			852.89	
E	104+50.72	℄ Brg.	Left Fascia					852.02						852.02	
	104+48.00	of	Crown Gr. ℄					852.48						852.48	
	104+45.46	Int. Bent #2	Right Fascia					852.94						852.94	
F	104+52.30	Span #2	Left Fascia	0.25	849.50						31.20			852.08	
	104+49.53	Face of	Crown Gr. ℄	0.25	849.96						31.20			852.54	
	104+46.93	Pier Beam	Right Fascia	0.25	850.42						31.20			853.00	
G	104+83.89	Midpoint	Left Fascia	0.25	851.84			853.38			18.50			853.27	
	104+80.00	of	Crown Gr. ℄	0.25	852.26			853.80			18.50			853.68	
	104+76.37	Span #2	Right Fascia	0.25	852.68			854.22			18.50			854.10	
H	105+15.45	Span #2	Left Fascia	0.25	851.87						31.14			854.45	
	105+10.41	Face of	Crown Gr. ℄	0.25	852.24						31.14			854.82	
	105+05.72	Pier Beam	Right Fascia	0.25	852.63						31.14			855.20	
I	105+17.10	℄ Brg.	Left Fascia					854.51						854.51	
	105+12.00	of	Crown Gr. ℄					854.88						854.88	
	105+07.25	Int. Bent #3	Right Fascia					855.26						855.26	
J	105+18.75	Span #3	Left Fascia	0.25	852.00						31.14			854.57	
	105+13.59	Face of	Crown Gr. ℄	0.25	852.36						31.14			854.94	
	105+08.78	Pier Beam	Right Fascia	0.25	852.74						31.14			855.32	
K	105+47.05	4/10 Point	Left Fascia	0.25	854.18			855.73			18.64			855.64	
	105+40.80	from	Crown Gr. ℄	0.25	854.50			856.06			18.64			855.96	
	105+34.98	End Bent #4	Right Fascia	0.25	854.85			856.40			18.64			856.30	
L	105+65.62	Interior	Left Fascia		854.79						18.50			856.33	
	105+58.61	Face of	Crown Gr. ℄		855.09						18.50			856.63	
	105+52.11	End Bent #4	Right Fascia		855.40						18.50			856.95	
M	105+67.07	℄ Brg.	Left Fascia					856.39						856.39	
	105+60.00	of	Crown Gr. ℄					856.68						856.68	
	105+53.44	End Bent #4	Right Fascia					857.00						857.00	

†Stationing shown increasing from west to east.

NOTE: The Contractor will turn in a completed copy of this table to the Engineer.

ɣ It is assumed that piling have been driven to design bearing and checked by ENR formula (OA/OC). No allowance for pile settlement is included in crush.

Pour Dates (2)	
	Deck
	Left Rail (13)
	Right Rail (13)

Survey Data (1)(11)	
Bench Mark No.	Elevation
1	860.35
4	864.60
8	844.94

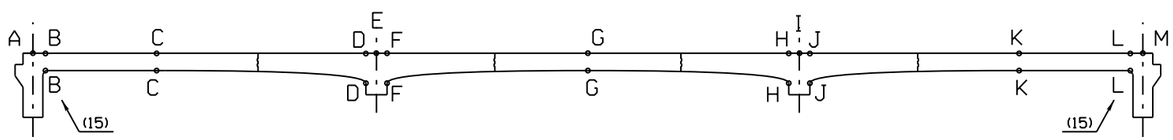
Crown Grade Profile (1)(12)	
102+55	VPI Station
845.24	VPI Elevation
-0.35	G1%
3.75	G2%
2+10	L in Stations

Slab Thickness (1)		Span Data (1)	
18½	Uniform Depth (inch)	HL-93	Design Loading
12⅜	Haunch Depth @ Face of PB (inch)	48	Span #1 (ft)
		64	Span #2 (ft)
⅜	Haunch Depth @ 0.4 Point (inch)	3	Clear Cover (inch)

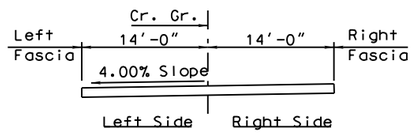
Roadway Data (1)(10)(13)	
28′-0″	Deck Width (ft) (14)
-4.00	% Slope Left (±)
+4.00	% Slope Right (±)
15:00:00	Skew (dd:mm:ss)

Camber (1)(17)	
0.077	Span #1 0.4 Point (ft)
0.097	Span #2 Midspan (ft)

(1) By the Design Engineer
(2) By the Contractor
(3) By Request
ɣ(4) Based on hardwood shims, assume 6 joints with ⅛" crush (Take Up) per joint. Revise estimate if/when more accurate information becomes available. Ref: "Formwork for Concrete" Fifth Edition, by M.K. Hurd, Chapter 6
(5) (col 7 - col 6)x12
(6) Crush (Take Up) and camber must be included
(7) (col 10 - col 9)x12
(8) (col 10 - col 7)x12
(9) (col 13 - col 12)
(10) If transition falls on the bridge, then enter "Varies" for the % Slope
(11) From "General Elevation and Plan" sheet
(12) If bridge is not on the vertical curve, enter End Bent #1 ℄ bearing elevation from the "General Elevation and Plan" sheet. Represent a change in grade with G1 only.
(13) Looking Up-Station
(14) Out-to-Out
(15) Ignore Fillet
(16) Non-skewed bridges only require ℄ stations.
(17) Ignore theoretical camber at face of pier beams.



ELEVATION OF SLAB



TYPICAL SECTION
(Looking Up-Station)

Legend
TOF = Top of Formwork
TOC = Top of Concete
QA = Quality Assurance
QC = Quality Control

Detailed April 2019
Checked October 2019

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

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH
STATE: MO
DISTRICT: KC
SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

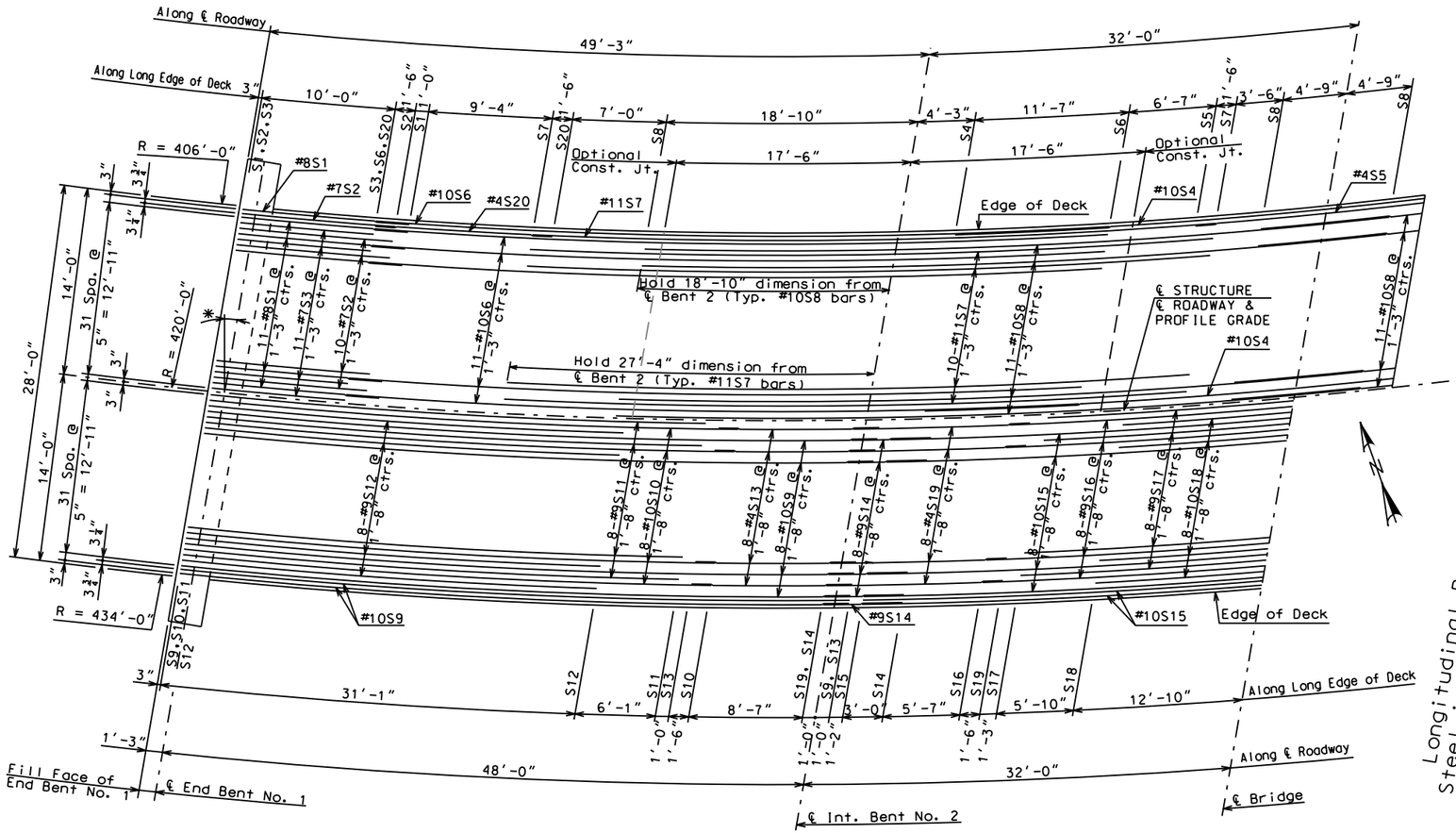
DESCRIPTION | DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
500 Hyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

SLAB ELEVATIONS

NOTE:
Due to the curvature of the bridge, the length of the Edge of Deck is longer on one side and shorter on the other side; compared to the dimensions that are shown along the centerline of roadway. The Contractor shall lay out the longitudinal steel starting from the center of the middle span in a manner to provide the minimum lap lengths shown for the top and bottom reinforcing mats.



Longitudinal Reinf. Steel in Top of Slab

Longitudinal Reinf. Steel in Bottom of Slab

NOTE:
Place all transverse steel in the deck parallel with the ℄ End Bents and ℄ Int. Bents. Place all longitudinal steel in the deck along the arc of the curve. ℄ End Bents and ℄ Int. Bents are parallel, and skewed 15°0′0″ to a radial line @ Sta. 104+80.00 and the ℄ Roadway = Profile Grade.

Note:
See longitudinal section for transverse reinforcing steel.

The bottom longitudinal steel is shown along the short Edge of Deck. The top longitudinal steel is shown along the long Edge of Deck.

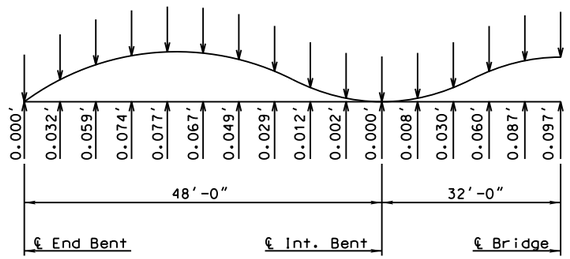
All longitudinal dimensions are along ℄ Roadway = Profile Grade unless otherwise noted.

✱ See "Geometric Layout" sheet for more information.

Note: 1.0 & 4.0 pts. are taken at ℄ of End Bents
2.0 & 3.0 pts. are taken at ℄ of Int. Bents
1.0, 2.0, 3.0 & 4.0 are at theoretical bottom of slab (no account for depth of End Bent or pier beam).

Top of Form Elevation at 10th Points, including camber and crush (ft.)															
1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5
849.14	849.37	849.58	849.77	849.94	850.05	850.10	850.09	850.04	849.94	849.77	850.46	851.05	851.55	851.96	852.26
2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	
852.44	852.51	852.49	852.38	852.17	852.70	853.16	853.58	853.94	854.25	854.50	854.69	854.86	855.01	855.14	

Note: Elevations are taken at Crown Grade.
The change in elevation from Crown Grade to the Edge of Slab is -0.560′ Lt. & 0.560′ Rt.



DEAD LOAD CAMBER DIAGRAM AT TENTH POINTS
Long Term Deflections = Initial Deflections x 3.5
(Initial Deflections Based on $E_C = 3.644 \times 10^6$ p.s.i.)
(camber values in feet)
(Values shown are reduced for skew = 15%)

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed April 2019
Checked May 2019

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

STATE OF MISSOURI
MICHAEL WITUSZYNSKY
NUMBER PE-2018037127
PROFESSIONAL ENGINEER
12-18-19

DATE
09/23/2019
DATE PREPARED
09/23/2019
ROUTE 188TH | STATE MO
DISTRICT KC | SHEET NO.
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

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

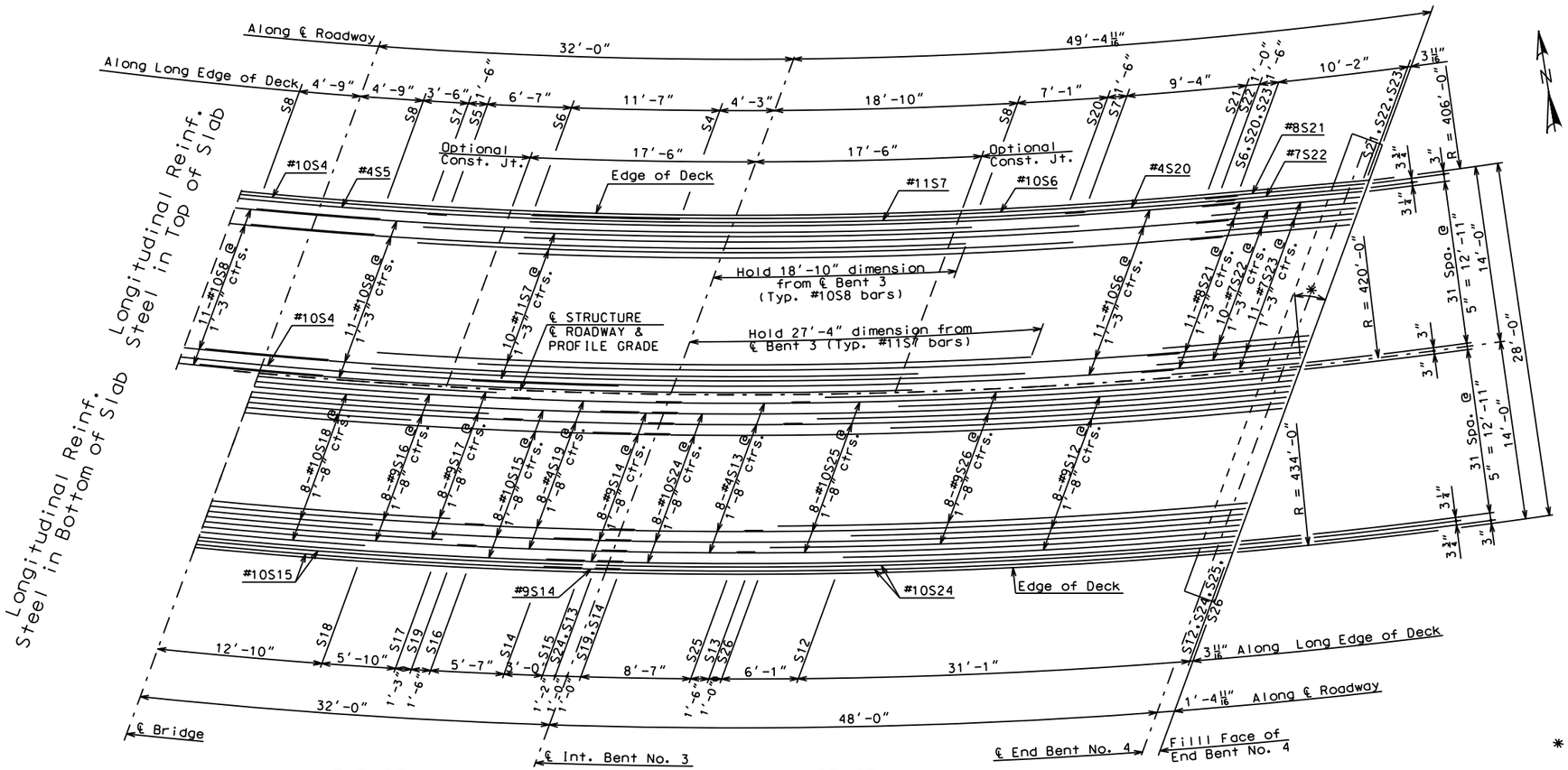
DESCRIPTION | DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

SUPERSTR. DETAILS I

NOTE:
Due to the curvature of the bridge, the length of the Edge of Deck is longer on one side and shorter on the other side; compared to the dimensions that are shown along the centerline of roadway. The Contractor shall lay out the longitudinal steel starting from the center of the middle span in a manner to provide the minimum lap lengths shown for the top and bottom reinforcing mats.



Note:
See longitudinal section for transverse reinforcing steel.

The bottom longitudinal steel is shown along the short Edge of Deck. The top longitudinal steel is shown along the long Edge of Deck.

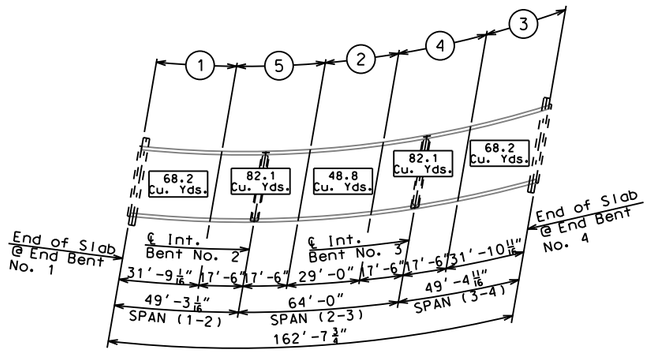
All longitudinal dimensions are along ℄ Roadway = Profile Grade unless otherwise noted.

* See "Geometric Layout sheet for more information.

	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.	
	Direction					With Retarder	No Retarder
Basic Sequence	1	2	3	4	5	25	25
	Either Direction						
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.							
Alternate A Pours	1	5 + 2		4 + 3		41	41
	End to 5	1 to 4		2 to End			
Alternate B Pours	1 + 5 + 2		4 + 3			41	41
	End to 4		2 to End				
Alternate C Pours	1 + 5 + 2 + 4 + 3					41	41
	End to End						

The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, if used, shall be an approved type and retard the set of concrete to 2.5 hours.

SLAB POURING SEQUENCE



CONCRETE PLACING SEQUENCE DIAGRAM

PLAN OF SLAB SHOWING REINFORCEMENT

Detailed April 2019
Checked May 2019

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

STATE OF MISSOURI
MICHAEL WITUSHOSKY
12-18-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH
STATE: MO
DISTRICT: KC
SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

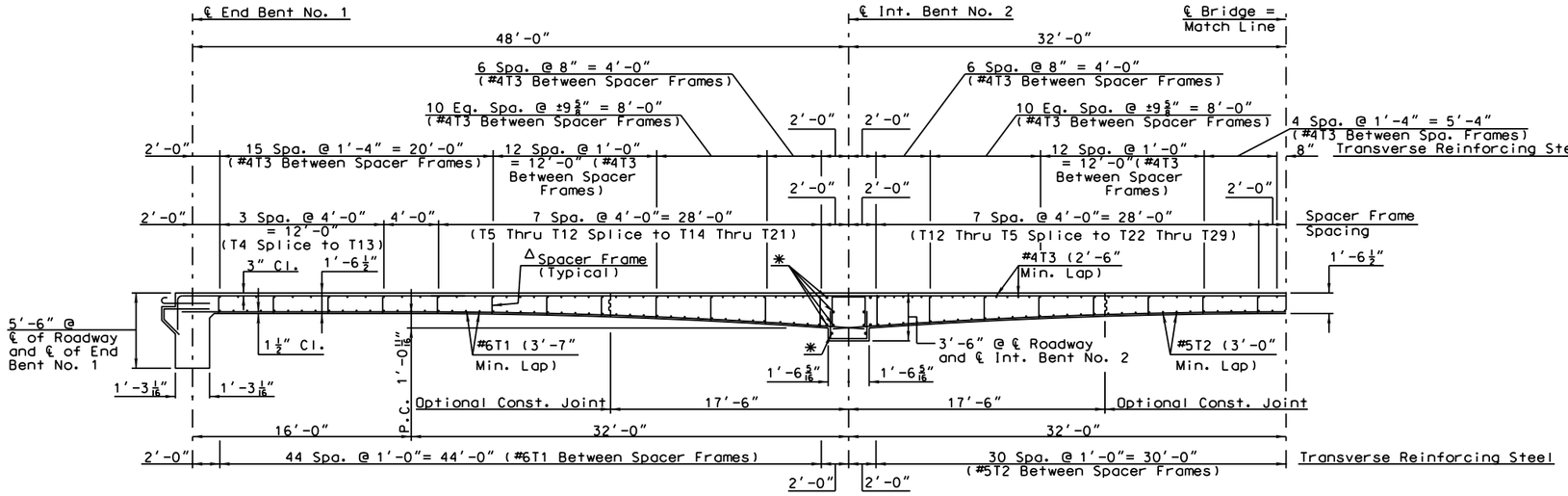
DATE	DESCRIPTION

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

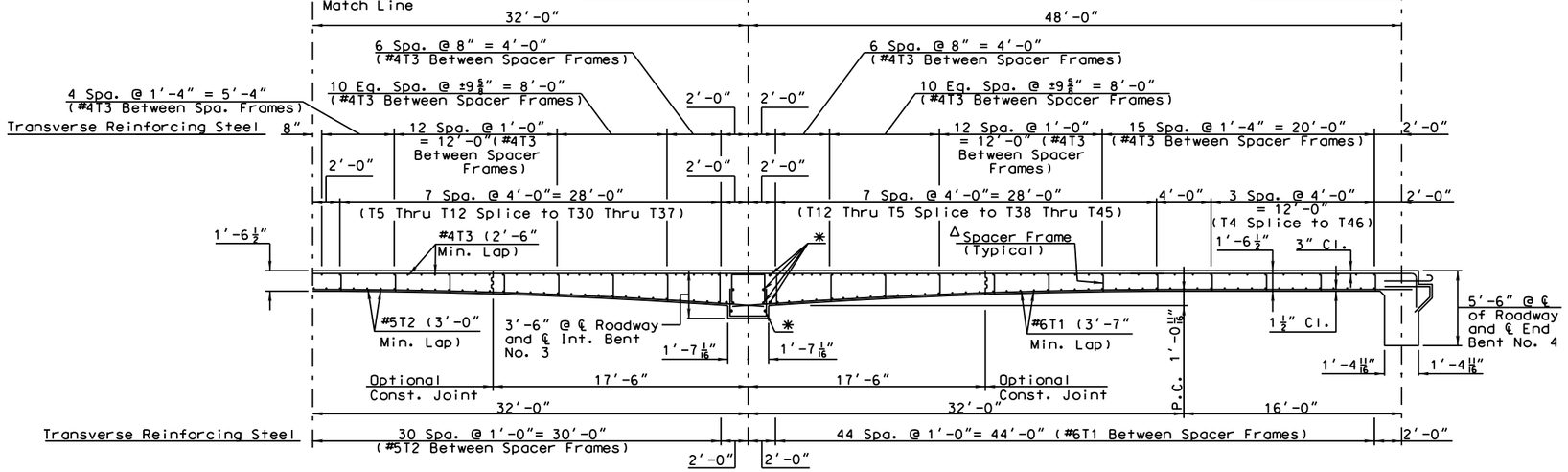
SUPERSTR. DETAILS II



△Spacer Frames shall be placed parallel to ℄ Int. Bents and End Bents.

*See "Intermediate Bent No. 2" or "Intermediate Bent No. 3" sheet.

HALF LONGITUDINAL SECTION ALONG ℄ STRUCTURE



HALF LONGITUDINAL SECTION ALONG ℄ STRUCTURE

Detailed April 2019
Checked May 2019

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

STATE OF MISSOURI
NICHOLE M. WITUSINSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE: 05/13/2019
DATE PREPARED: 05/13/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

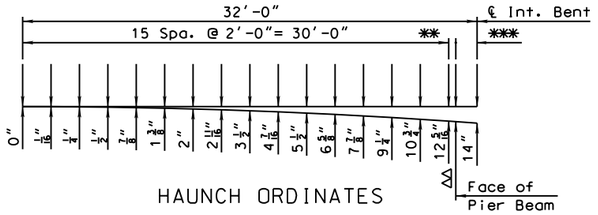
DATE | DESCRIPTION

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

SUPERSTR. DETAILS III

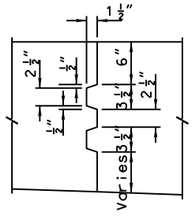


HAUNCH ORDINATES

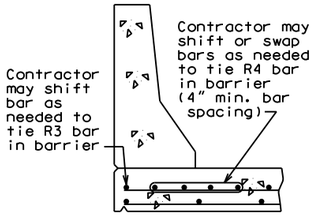
** $5\frac{11}{16}$" for Int. Bent No. 2
$4\frac{15}{16}$" for Int. Bent No. 3

*** $18\frac{5}{16}$" for Int. Bent No. 2
$19\frac{1}{16}$" for Int. Bent No. 3

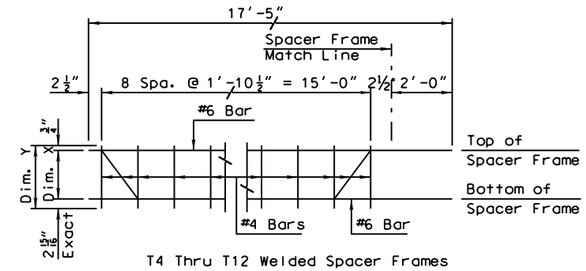
ΔΔ $12\frac{11}{16}$" for Int. Bent No. 2
$12\frac{9}{16}$" for Int. Bent No. 3



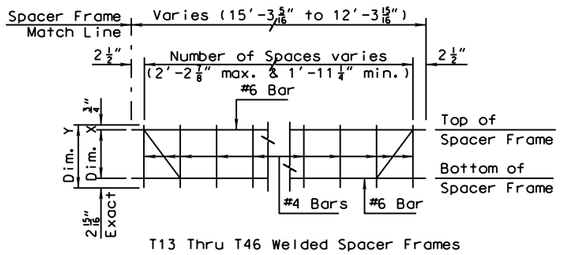
TRANSVERSE SLAB
CONSTRUCTION JOINT
(Optional)



OPTIONAL SHIFTING
TOP BARS AT BARRIER



T4 Thru T12 Welded Spacer Frames

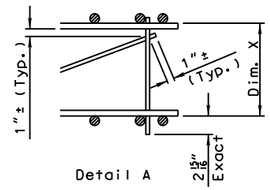


T13 Thru T46 Welded Spacer Frames

NOTE: Shop Drawings must be submitted to the Engineer for Spacer Frames prior to construction.

SPACER FRAMES (Epoxy Coated)			
Mark	No. Ea.	Dim. X	Dim. Y
T4	8	0'-10 15/16"	1'-2 5/8"
T13, T46	4	0'-10 15/16"	1'-2 5/8"
T14, T29, T30 & T45	1	0'-11"	1'-2 11/16"
T5	4	0'-11"	1'-2 11/16"
T15, T28, T31 & T44	1	0'-11 7/16"	1'-3 1/8"
T6	4	0'-11 7/16"	1'-3 1/8"
T16, T27, T32 & T43	1	1'-0 5/16"	1'-4"
T7	4	1'-0 5/16"	1'-4"
T17, T26, T33 & T42	1	1'-1 3/16"	1'-5 5/16"
T8	4	1'-1 3/16"	1'-5 5/16"
T18, T25, T34 & T41	1	1'-3 1/16"	1'-7 1/16"
T9	4	1'-3 1/16"	1'-7 1/16"
T19, T24, T35 & T40	1	1'-5"	1'-9 1/4"
T10	4	1'-5"	1'-9 1/4"
T20, T23, T36 & T39	1	1'-8 3/16"	1'-11 5/16"
T11	4	1'-8 3/16"	1'-11 5/16"
T21, T22, T37 & T38	1	1'-11 1/4"	2'-2 5/16"
T12	4	1'-11 1/4"	2'-2 5/16"

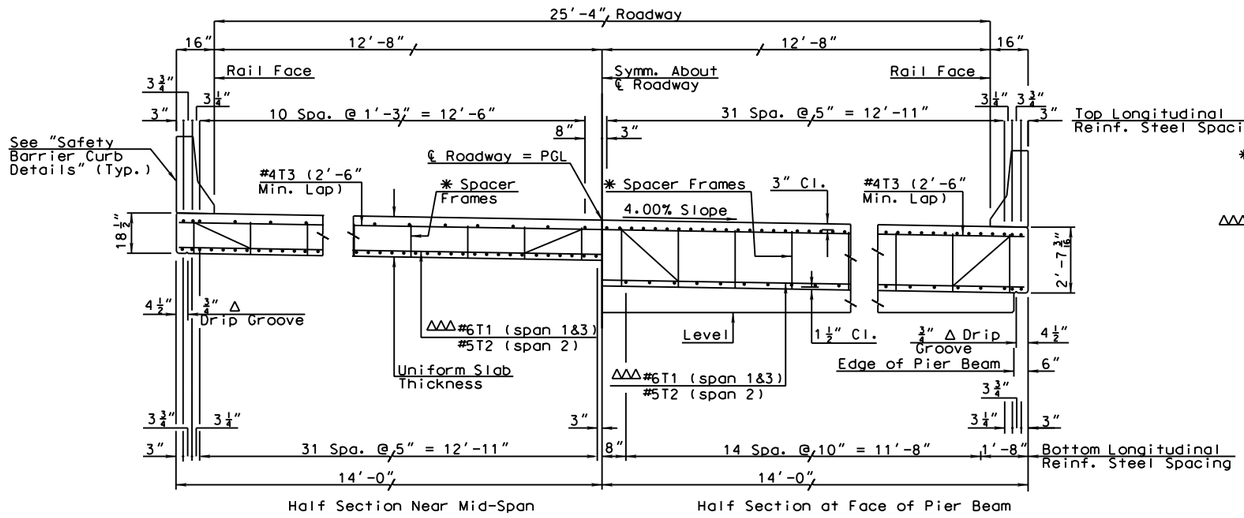
Weight of spacer frames included in the weight of reinforcing steel.



Detail A

Note:
Dim. X is out to out and is an exact dim. See Detail A.

SPACER FRAME INFORMATION



TYPICAL SECTION OF SLAB
(Radial Section)

*Spacer Frames shall be placed parallel to ℄ Int. Bents and End Bents.

ΔΔΔ 3'-7" Min. Lap for #6T1
3'-0" Min. Lap for #5T2

General Notes:
For details and reinforcement Safety Barrier Curb, see Sh. No. 39 thru 41.

For Plan of Slab Showing Reinforcement, see Sh. No. 33 thru 34.

For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sh. No. 33.

Detailed April 2019
Checked May 2019

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

STATE OF MISSOURI
NICHOLE M. WITUSIKSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE
05/13/2019
DATE PREPARED
05/13/2019
ROUTE 188TH
STATE MO
DISTRICT KC
SHEET NO.
COUNTY
CLAY
JOB NO.
36201B
CONTRACT ID.
PROJECT NO.
BRO-B024(26)
BRIDGE NO.
06200081

DESCRIPTION	DATE

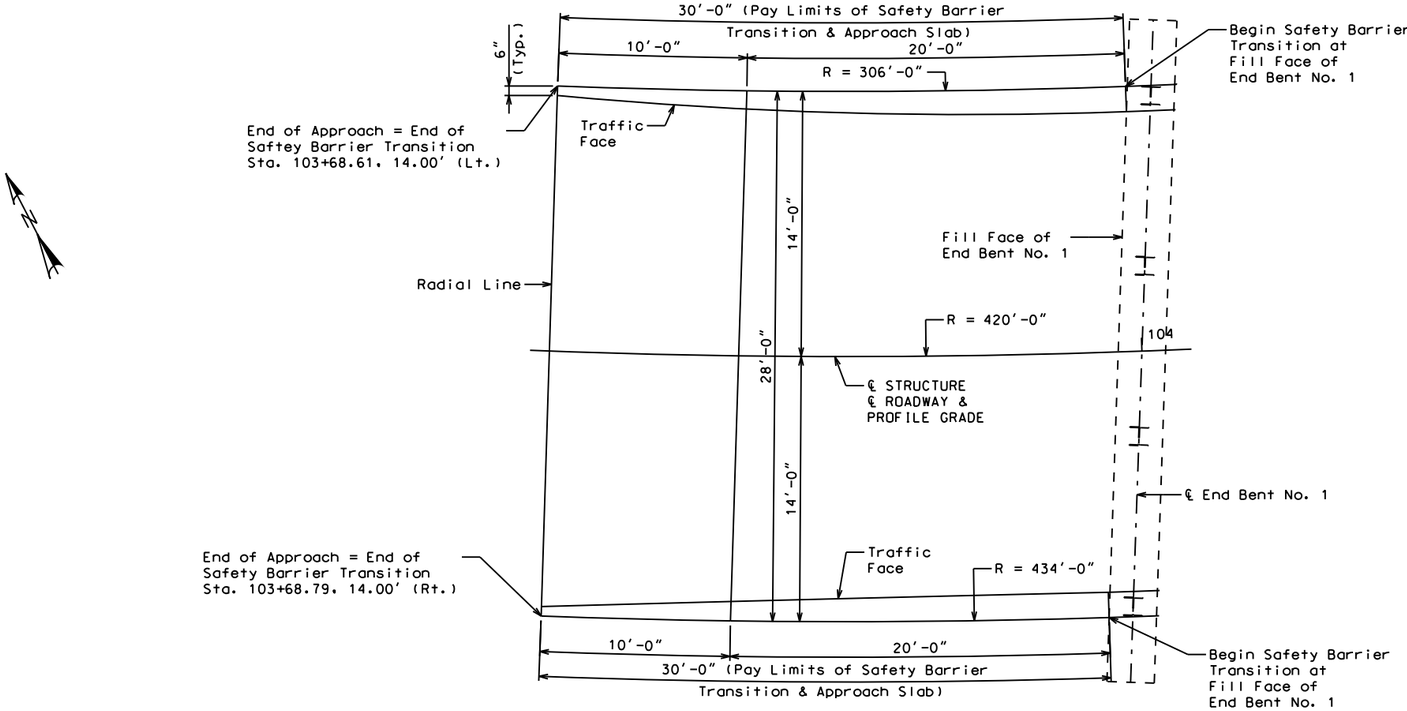
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

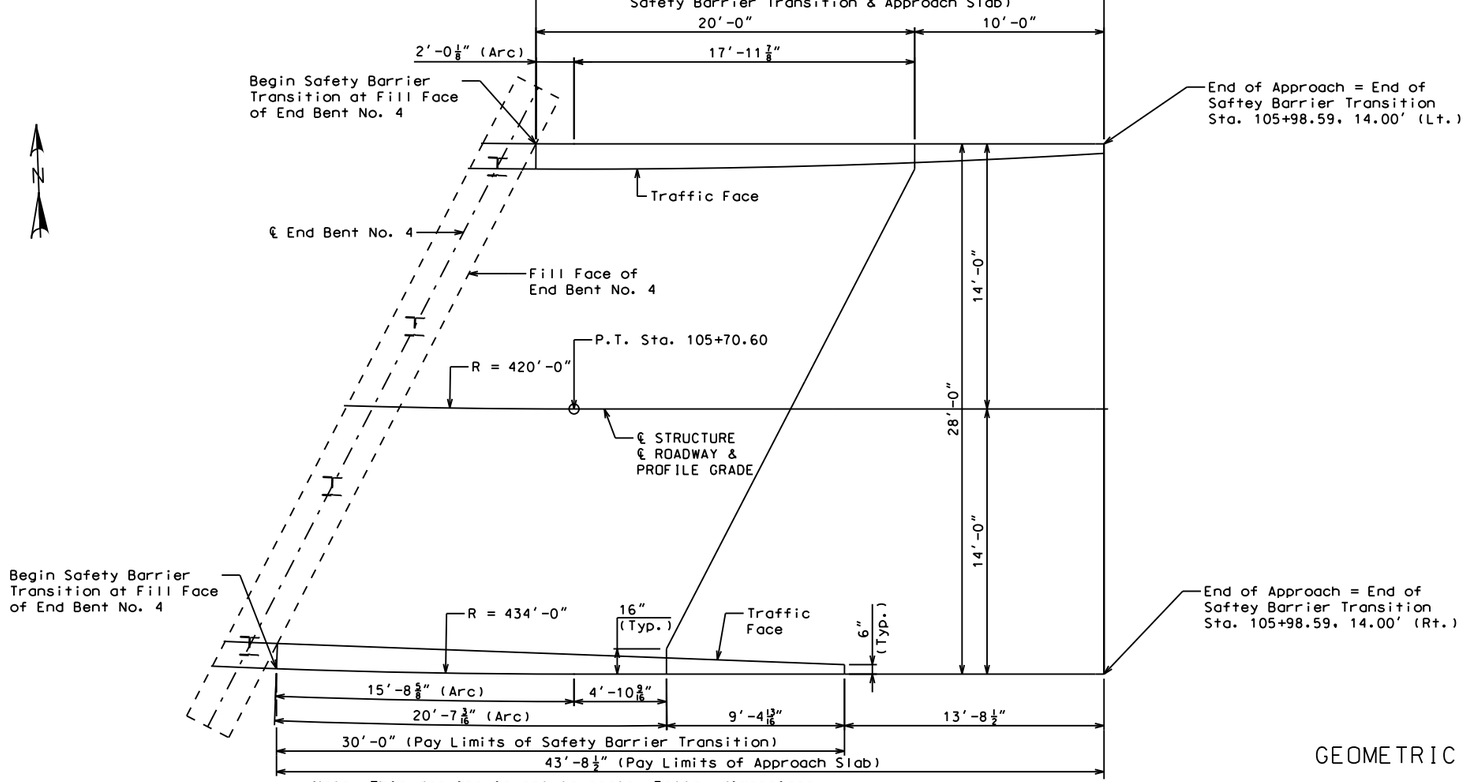
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP
WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

SUPERSTR.
DETAILS IV





GEOMETRIC LAYOUT

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI
CHRISTOPHER L. WITUSINSKY
10-3-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH
STATE: MO
DISTRICT: KC
SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

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

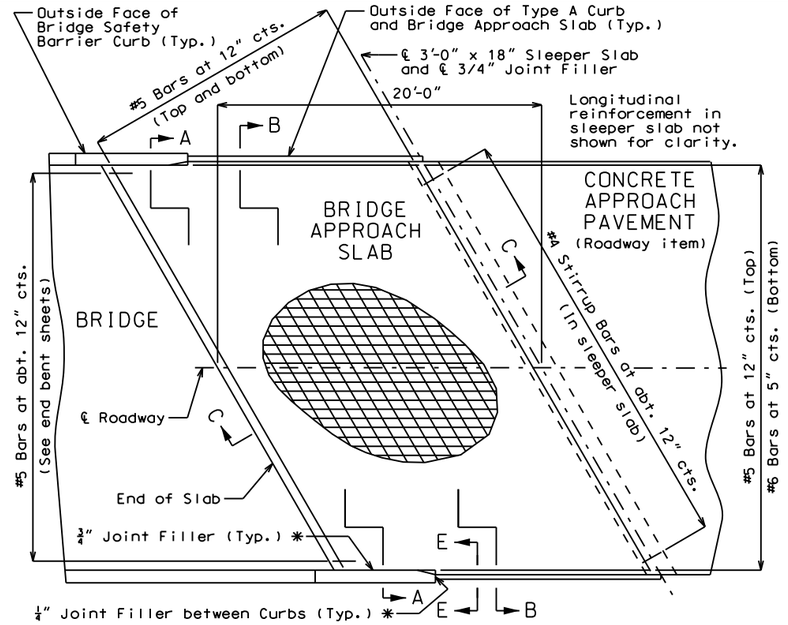
DATE	DESCRIPTION

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

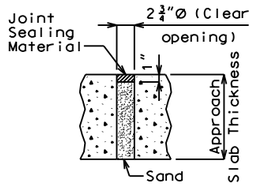
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
900 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

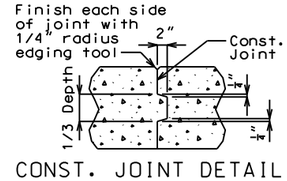
APPROACH SLAB & TRANSITION BARRIER GEOMETRIC LAYOUT



PART PLAN SHOWING REINFORCEMENT



UNDERSEAL ACCESS HOLE DETAIL
(If required)



CONST. JOINT DETAIL

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 (f'c = 4.000 psi).

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

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

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

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

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

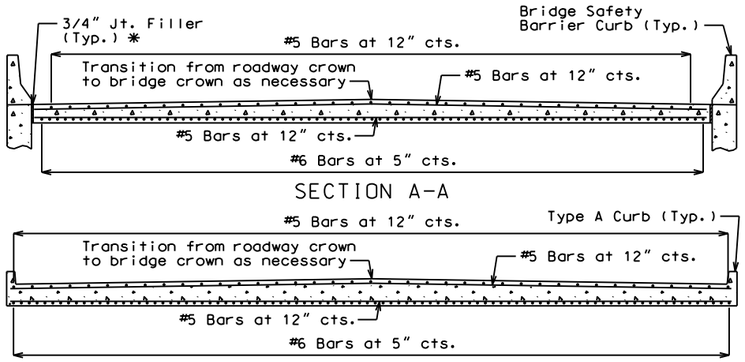
The contractor shall pour and satisfactorily finish the bridge before pouring the bridge approach slab.

For Concrete Approach Pavement details, see roadway plans.

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

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

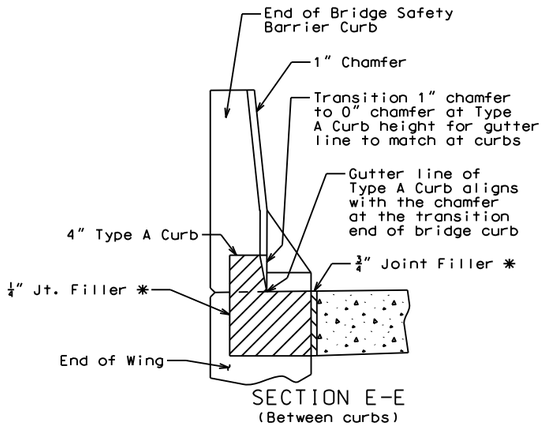
* Seal joint between vertical face of approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.



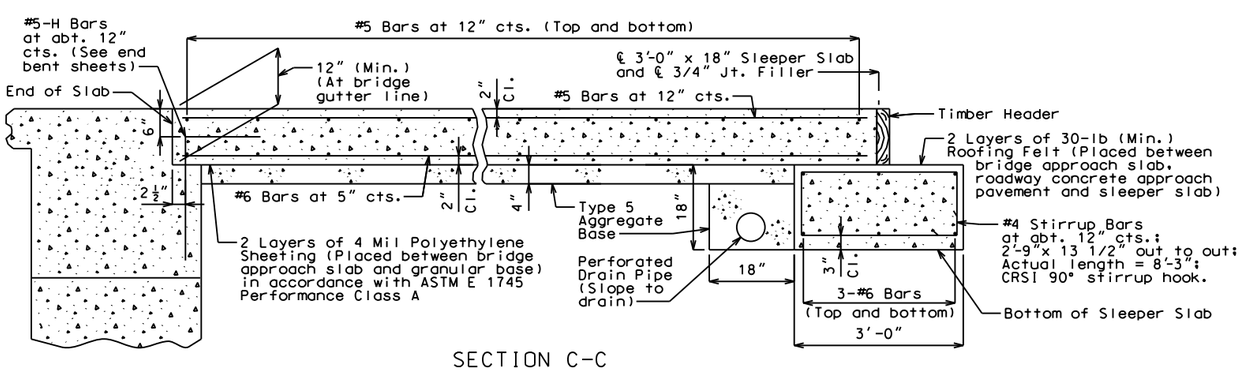
SECTION A-A

SECTION B-B

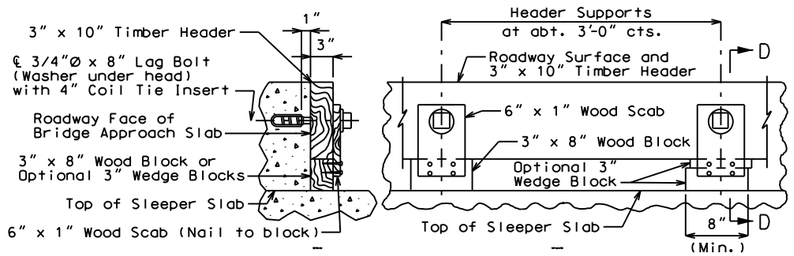
With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION E-E
(Between curbs)



SECTION C-C



DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.

DETAILS OF BRIDGE APPROACH SLAB (MAJOR ROAD)

Detailed Nov. 2018
Checked Feb. 2019

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

STATE OF MISSOURI — NICHOLE M. WITUSZYNSKY — 10-31-19 — NUMBER PE-2018037127 — PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

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

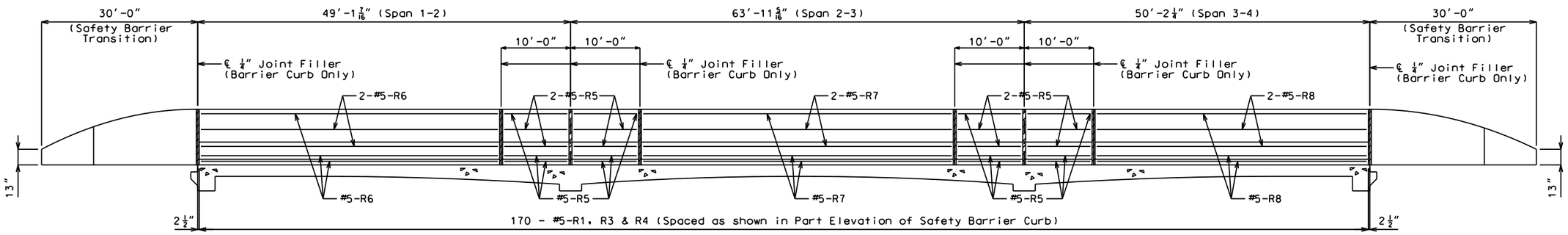
DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

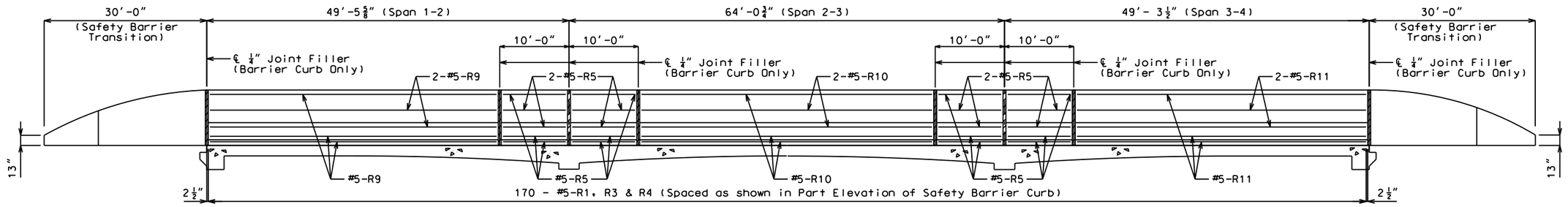
WSP USA Inc.
500 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

APPROACH SLAB DETAILS



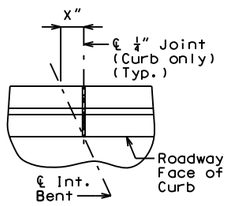
ELEVATION OF LEFT SAFETY BARRIER CURB

Longitudinal dimensions are horizontal arc dimensions along outside face of curb.

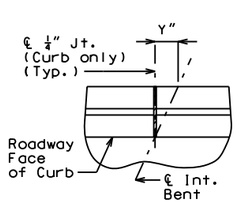


ELEVATION OF RIGHT SAFETY BARRIER CURB

Longitudinal dimensions are horizontal arc dimensions along outside face of curb.

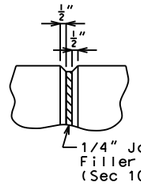


PART PLAN SHOWING RIGHT SAFETY BARRIER CURB JOINT

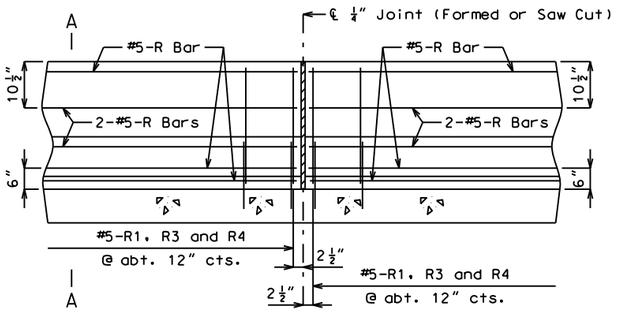


PART PLAN SHOWING LEFT SAFETY BARRIER CURB JOINT

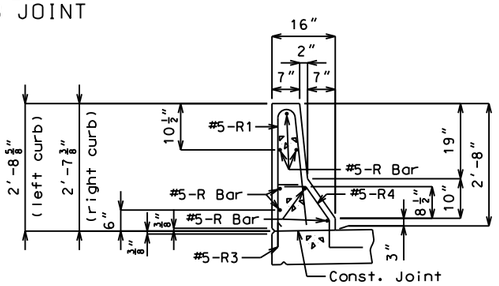
Int. Bent No.	Dim. X	Dim. Y
2	2 15/16"	3 1/8"
3	5 7/16"	5 13/16"



PART ELEVATION AT FORMED JOINT



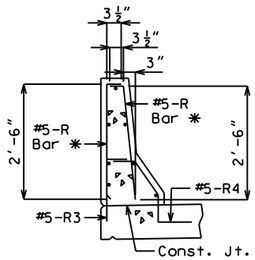
PART ELEVATION OF SAFETY BARRIER CURB



SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal safety barrier curb bars.

The cross-sectional area above the slab = 2.27 sq. ft.



R-BAR PERMISSIBLE ALTERNATE SHAPE

* The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

General Notes

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with saw cut joints.

CONVENTIONAL-FORMED SAFETY BARRIER CURB

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI — NICHOLE L. WITUSINSKY — 10-3(1-19) — NUMBER PE-2018037127 — PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

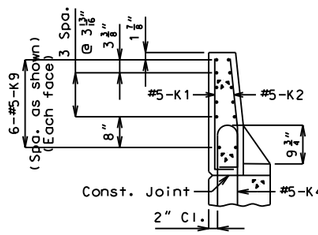
DESCRIPTION | DATE

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

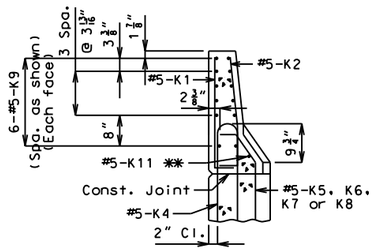
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
500 Wyandotte Street
Suite 700
Kansas City, MO 64105
816.702.4300

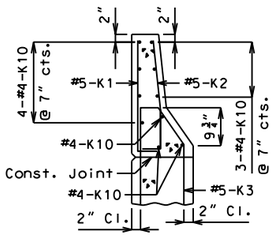
SAFETY BARRIER CURB DETAILS I



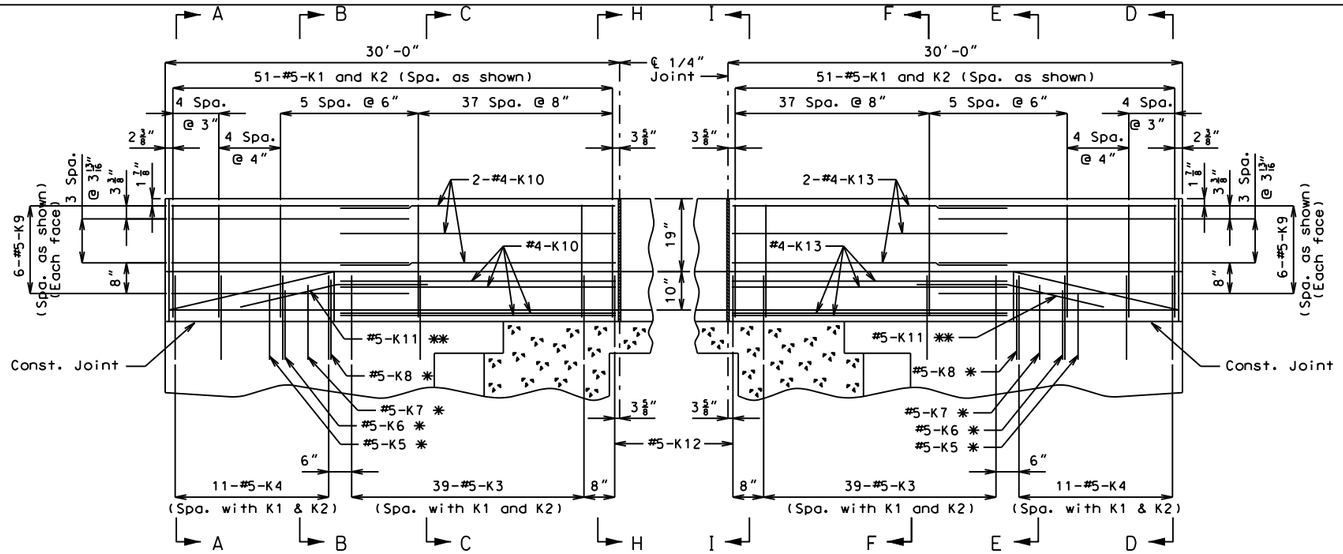
SECTION A-A



SECTION B-B



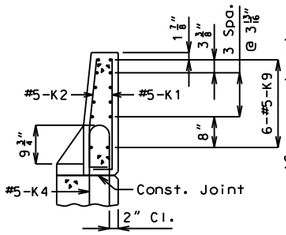
SECTION C-C



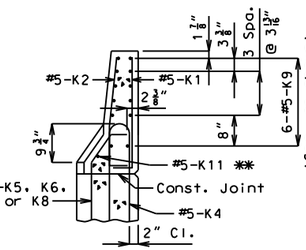
ELEVATION ELEVATION

* Spaced with #5-K4 bars and embed 27" into end bent.

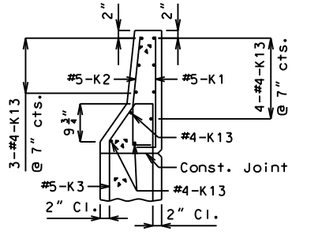
** Fit bar to follow transition face of curb.



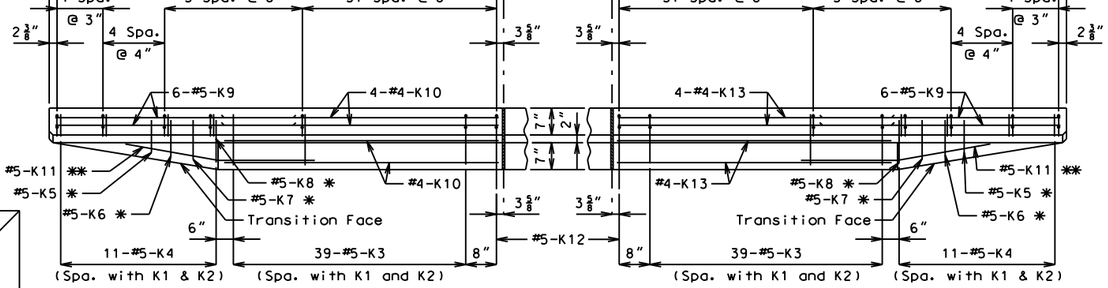
SECTION D-D



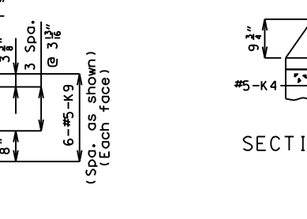
SECTION E-E



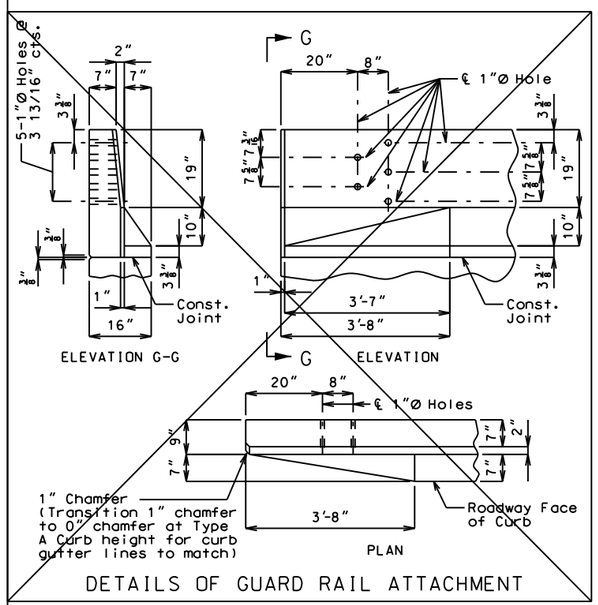
SECTION F-F



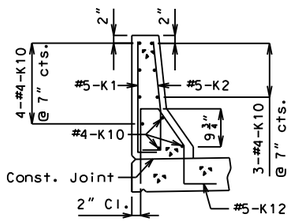
PLAN PLAN



SECTION I-I



DETAILS OF GUARD RAIL ATTACHMENT



SECTION H-H

NOTE: Information shown on this sheet is for Information Only. Shop drawings shall be submitted detailing the actual Conventional - Formed Safety Barrier Curb at the End Bents. The information shown shall contain, but is not limited to, concrete dimensions, transition details and reinforcing details. Shop Drawings shall be approved by the Engineer prior to construction.

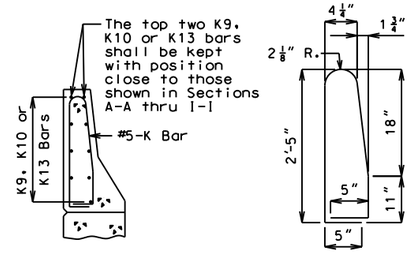
General Notes

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.



K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE

(K3 or K4 thru K8 bars not shown for clarity)

The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.

CONVENTIONAL-FORMED SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI — NICHOLE MARIE WITUSINSKY — 10-3-19 — NUMBER PE-2018037127 — PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

DESCRIPTION | DATE

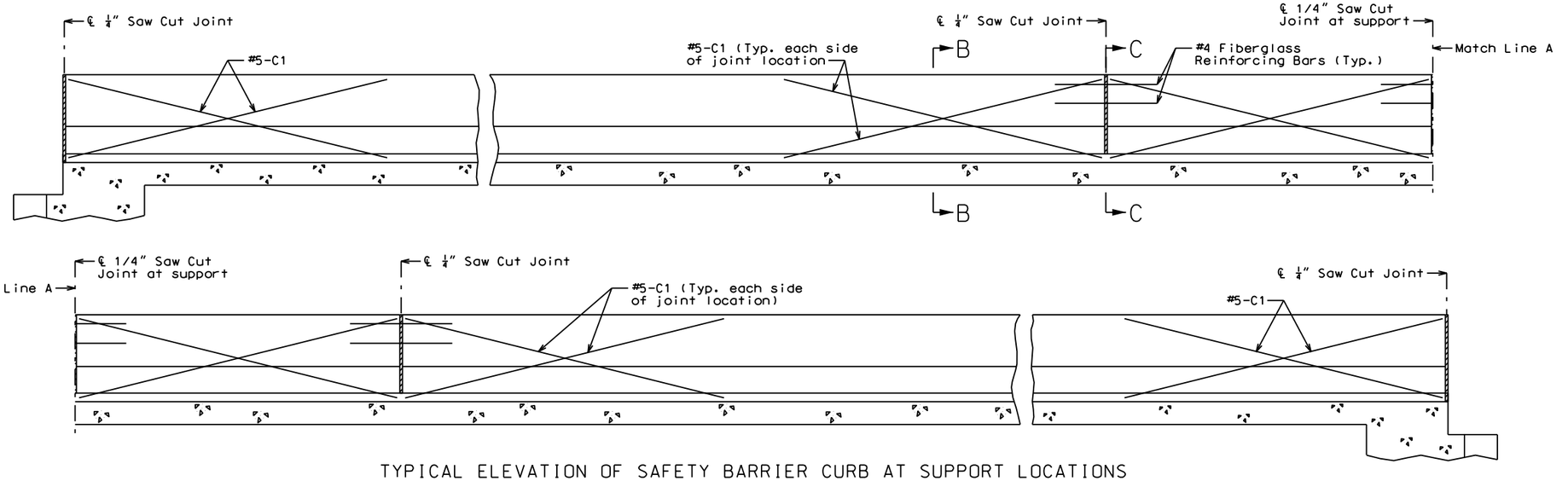
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

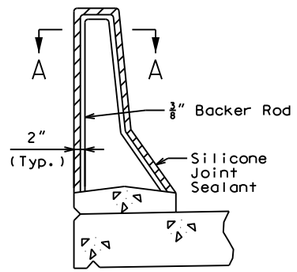
CLAY COUNTY, MISSOURI

WSP
WSP USA Inc.
900 Wyandotte Street
Suite 300
Kansas City, MO 64105
816.702.4300

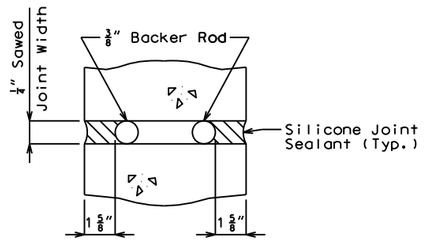
SAFETY BARRIER CURB DETAILS II



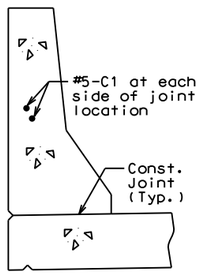
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



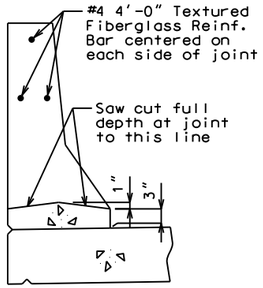
SECTION THRU SAW CUT JOINT



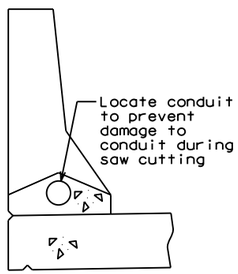
SECTION A-A



SECTION B-B



SECTION C-C



SECTION C-C
(Use when conduit is required)

OPTIONAL SLIP-FORMED SAFETY BARRIER CURB

Use R bars and K bars similarly as shown for conventional-formed safety barrier curb.

Detailed April 2019
Checked October 2019

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

General Notes:

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Plastic waterstop shall not be used with saw cut joints.

For slip-formed option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

STATE OF MISSOURI
NICHOLE M. WITUSINSKY
10-31-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH | STATE: MO
DISTRICT: KC | SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

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

DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY, MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

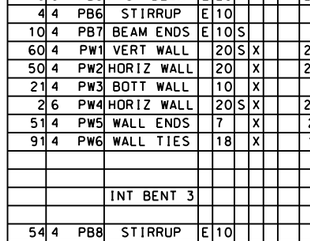
SAFETY BARRIER CURB DETAILS III

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			END BENT 1																
4	8	A1	BOTT BEAM	E	20					34 8.000							34 8	34 8	370
4	8	A2	TOP BEAM	E	20					34 8.000							34 8	34 8	370
27	5	A3	APP SLAB	E	17					3 4.000							3 11	3 11	110
10	5	A4	SIDE BEAM	E	20					34 8.000							34 8	34 8	362
70	4	A5	STIRRUP	E	10						3 7.000	2 2.000					9 4	9 3	433
27	4	A6	APP STEP	E	14	S				3 4.000	0 8.000	2 1.000			1 8.500	1 2.500	6 1	6 0	108
14	4	A7	BEAM ENDS	E	10						2 0.000	2 2.000					6 2	6 1	57
2	4	A8	APP STEP	E	20	S				27 9.000							27 9	27 9	37
			INT BENT 2																
54	4	PB1	STIRRUP	E	10						2 7.000	2 8.000					7 10	7 9	280
8	5	PB2	SIDE BEAM	E	20	S				28 1.000							28 1	28 1	234
2	5	PB3	SIDE BEAM	E	20					27 1.000							27 1	27 1	56
6	7	PB4	BOTT BEAM	E	20					27 1.000							27 1	27 1	332
6	8	PB5	TOP BEAM	E	20					28 1.000							28 1	28 1	450
4	4	PB6	STIRRUP	E	10						2 2.000	2 8.000					7 0	6 11	18
10	4	PB7	BEAM ENDS	E	10	S					2 0.000	2 8.000					6 8	6 7	44
60	4	PW1	VERT WALL		20	S	X			28 5.000							28 5	28 5	1139
50	4	PW2	HORIZ WALL		20		X			23 8.000							23 8	23 8	790
21	4	PW3	BOTT WALL		10		X				1 6.000	1 10.000					4 10	4 9	67
2	6	PW4	HORIZ WALL		20	S	X			23 8.000							23 8	23 8	71
51	4	PW5	WALL ENDS		7		X			2 4.500	1 6.500						5 8	5 7	189
91	4	PW6	WALL TIES		18		X			1 9.000							2 9	2 8	161
			INT BENT 3																
54	4	PB8	STIRRUP	E	10						2 7.000	2 10.000					8 0	7 11	286
8	5	PB9	SIDE BEAM	E	20	S				29 3.000							29 3	29 3	244
2	5	PB10	SIDE BEAM	E	20					28 3.000							28 3	28 3	59
6	7	PB11	BOTT BEAM	E	20					28 3.000							28 3	28 3	346
6	8	PB12	TOP BEAM	E	20					29 3.000							29 3	29 3	469
4	4	PB13	STIRRUP	E	10						2 2.000	2 10.000					7 2	7 1	19
10	4	PB14	BEAM ENDS	E	10	S					2 0.000	2 10.000					6 10	6 9	45
60	4	PW7	VERT WALL		20	S	X			28 5.000							28 5	28 5	1139
50	4	PW8	HORIZ WALL		20		X			24 8.000							24 8	24 8	824
21	4	PW3	BOTT WALL		10		X				1 6.000	1 10.000					4 10	4 9	67
2	6	PW9	HORIZ WALL		20	S	X			24 8.000							24 8	24 8	74
51	4	PW5	WALL ENDS		7		X			2 4.500	1 6.500						5 8	5 7	189
91	4	PW6	WALL TIES		18		X			1 9.000							2 9	2 8	161
			END BENT 4																
4	8	A9	BOTT BEAM	E	20					37 8.000							37 8	37 8	402
4	8	A10	TOP BEAM	E	20					37 8.000							37 8	37 8	402
29	5	A11	APP SLAB	E	17					3 8.000							4 3	4 3	128
10	5	A12	SIDE BEAM	E	20					37 8.000							37 8	37 8	393
70	4	A13	STIRRUP	E	10	S					3 7.000	2 4.000					9 6	9 5	440
29	4	A14	APP STEP	E	14					3 8.000	0 8.000	2 1.000			1 7.000	1 4.250	6 5	6 4	123
14	4	A15	BEAM ENDS	E	10	S					2 0.000	2 2.000					6 2	6 1	57
2	4	A16	APP STEP	E	20					31 4.000							31 4	31 4	42
4	4	A17	STIRRUP	E	10	S					3 7.000	2 2.000					9 4	9 3	25

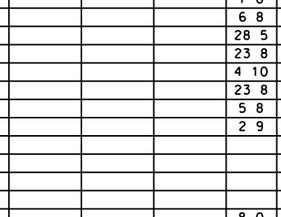
BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			SLAB																
24	8	S1	* SLAB	E	19					2 6.000	12 6.000						15 0	14 11	956
22	7	S2	SLAB	E	19					2 6.000	11 6.000						14 0	13 11	626
22	7	S3	SLAB	E	19					2 6.000	10 0.000						12 6	12 5	559
4	10	S4	SLAB	E	20					56 0.000							56 0	56 0	964
2	4	S5	SLAB	E	20					19 8.000							19 8	19 8	26
48	10	S6	SLAB	E	20					55 1.000							55 1	55 1	11377
44	11	S7	* SLAB	E	20					51 2.000							51 2	51 2	11961
44	10	S8	SLAB	E	20					55 9.000							55 9	55 9	10555
20	10	S9	SLAB	E	20					50 1.000							50 1	50 1	4310
16	10	S10	SLAB	E	20					39 10.000							39 10	39 10	2742
16	9	S11	SLAB	E	20					37 4.000							37 4	37 4	2031
32	9	S12	* SLAB	E	20					31 1.000							31 1	31 1	3382
32	4	S13	SLAB	E	20					12 1.000							12 1	12 1	258
36	9	S14	* SLAB	E	20					6 2.000							6 2	6 2	755
20	10	S15	SLAB	E	20					60 0.000							60 0	60 0	5164
16	9	S16	SLAB	E	20					42 10.000							42 10	42 10	2330
16	9	S17	SLAB	E	20					37 4.000							37 4	37 4	2031
16	9	S18	* SLAB	E	20					25 8.000							25 8	25 8	1767
32	4	S19	SLAB	E	20					13 4.000							13 4	13 4	285
4	4	S20	SLAB	E	20					13 4.000							13 4	13 4	36
24	8	S21	* SLAB	E	19					2 6.000	12 9.000						15 3	15 2	972
22	7	S22	SLAB	E	19					2 6.000	11 9.000						14 3	14 2	638
22	7	S23	SLAB	E	19					2 6.000	10 2.000						12 8	12 7	566
20	10	S24	SLAB	E	20					50 7.000							50 7	50 7	4353
16	10	S25	SLAB	E	20					40 0.000							40 0	40 0	2754
16	9	S26	SLAB	E	20					37 6.000							37 6	37 6	2040
132	6	T1	SLAB	E	20					17 2.000							17 2	17 2	3404
90	5	T2	SLAB	E	20					16 2.000							16 2	16 2	1518
228	4	T3	SLAB	E	20					16 8.000							16 8	16 8	2538
		T4-T46	SPACER FRAME	E				V											4630
			BARRIER																
340	5	R1	BARRIER CURB	E	26					2 6000	0 4.250	2 6.125			2 6.000	0 3.000	5 3	5 2	1839
340	5	R3	BARRIER CURB	E	19	S				1 5000	0 6.000						1 11	1 10	661
340	5	R4	BARRIER CURB	E	27	S					0 6.000	0 11.250	0 7.000	1 0.000	0 9.250	0 6.375	3 0	2 10	1016
56	5	R5	BARRIER CURB	E	20					9 7000							9 7	9 7	560
7	5	R6	BARRIER CURB	E	20					38 8000							38 8	38 8	282
7	5	R7	BARRIER CURB	E	20					43 6000							43 6	43 6	318
7	5	R8	BARRIER CURB	E	20					39 9000							39 9	39 9	290
7	5	R9	BARRIER CURB	E	20					39 0000							39 0	39 0	285
7	5	R10	BARRIER CURB	E	20					43 7000							43 7	43 7	318
7	5	R11	BARRIER CURB	E	20					38 10000							38 10	38 10	284
			SLIP FORM																
40	5	C1	SLIP FORM	E	20					10 0000							10 0	10 0	417



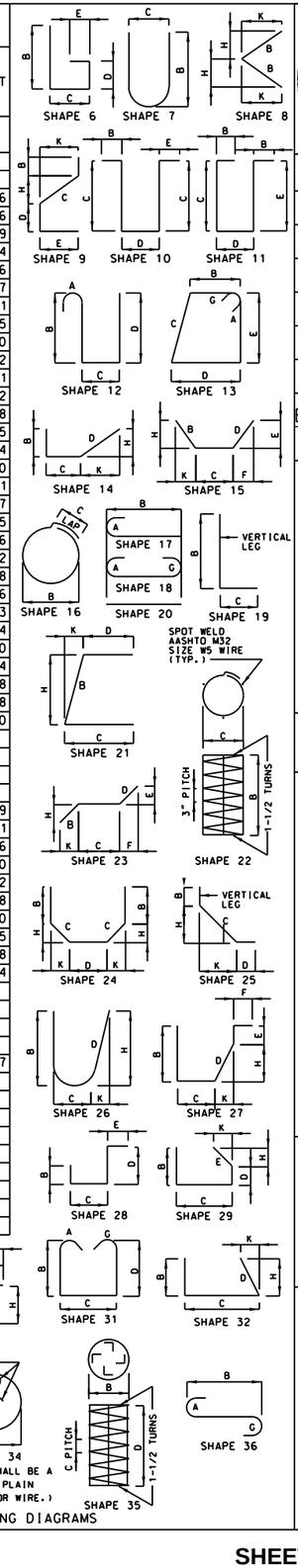
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	135° HOOK APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

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



END HOOK DIMENSIONS				
		ALL GRADES		
BAR SIZE	D (IN.)	180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) FY = 60.000 PSI.
* THESE BARS WILL NEED TO BE PREFABRICATED FOLLOWING ACI PRACTICE FOR BAR CURVATURE.



BENDING DIAGRAMS

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI
MICHELE WITUSIEWICZ
NUMBER PE-2010037127
12-18-19
PROFESSIONAL ENGINEER

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE	188TH
STATE	MO
DISTRICT	KC
SHEET NO.	
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

CLAY COUNTY * SEAL * MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 400
Kansas City, MO 64105
816.702.4300

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

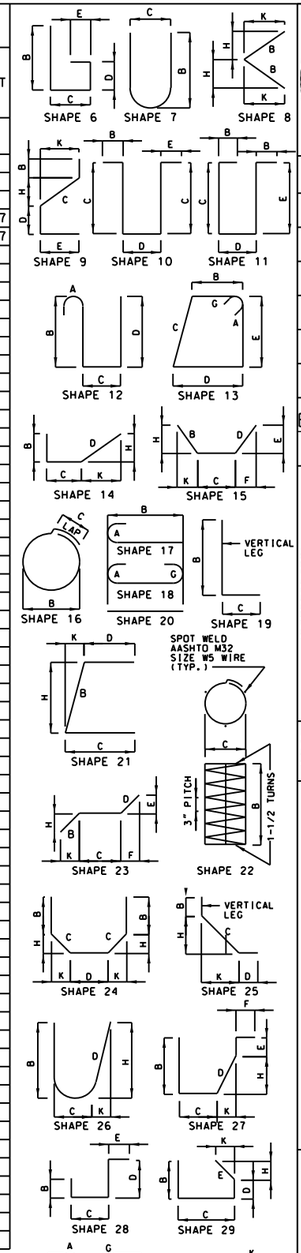
BAR LIST & BENDING DIAGRAMS I

BILL OF REINFORCING STEEL

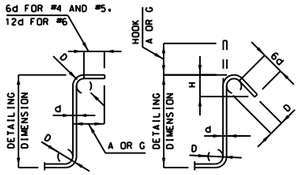
NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			TOTALS																									
	4																											4726
	4			E																								5822
	5			E																								9373
	6																											145
	6			E																								7368
	7			E																								3068
	8			E																								4391
	9			E																								12569
	10			E																								43987
	11			E																								11961
			TOTAL																									4871
			TOTAL	E																								98539
			END BENTS																									
	4			E																								1321
	5			E																								992
	8			E																								1545
			TOTAL																									3858
			INT BENTS																									
	4			E																								692
	5			E																								594
	7			E																								679
	8			E																								918
			TOTAL																									2883
			SLAB																									
	4			E																								3809
	5			E																								1518
	6			E																								7368
	7			E																								2389
	8			E																								1928
	9			E																								12569
	10			E																								43987
	11			E																								11961
			TOTAL																									85528
			Reinforcing Steel (Bridges)																									
	4																											4726
	6																											145
			TOTAL																									4871
			Safety Barrier Curb																									
	5			E																								5853
			TOTAL																									5853

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			Slip Form Option																									
	5			E																								417
			TOTAL																									417



BENDING DIAGRAMS



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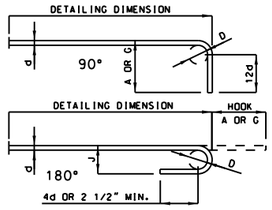

END HOOK DIMENSIONS				
		ALL GRADES		
BAR SIZE	D (IN.)	180° HOOKS A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
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REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI
MICHELLE WITUSIEWSKY
12-18-19
NUMBER PE-2018037127
PROFESSIONAL ENGINEER

DATE: 09/23/2019
DATE PREPARED: 09/23/2019
ROUTE: 188TH
STATE: MO
DISTRICT: KC
SHEET NO.:
COUNTY: CLAY
JOB NO.: 36201B
CONTRACT ID.:
PROJECT NO.: BRO-B024(26)
BRIDGE NO.: 06200081

DATE	DESCRIPTION

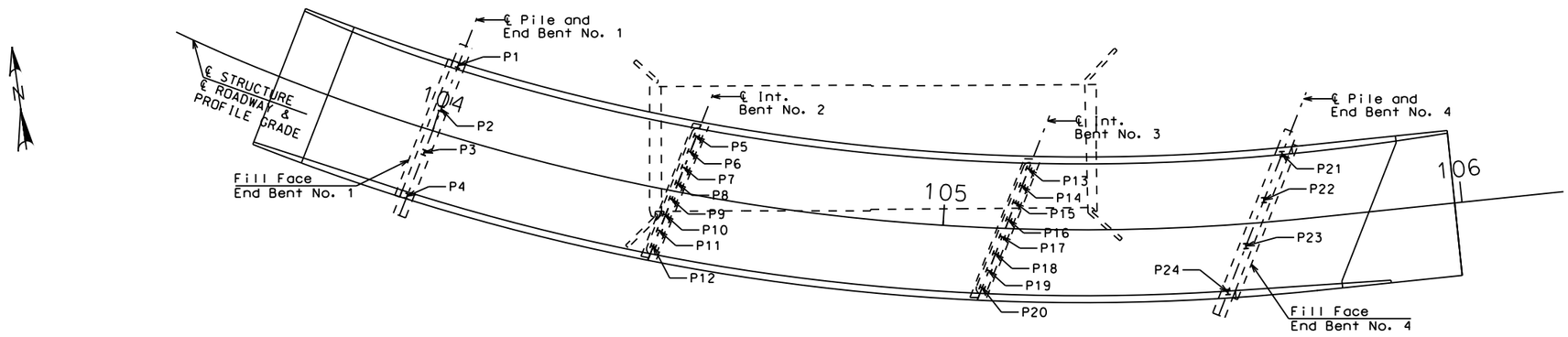
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 400
Kansas City, MO 64105
816.702.4300

BAR LIST & BENDING DIAGRAMS II

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



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

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 1
P1					
P2					
P3					
P4					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					Int. Bent No. 2
P5					
P6					
P7					
P8					
P9					
P10					
P11					
P12					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					Int. Bent No. 3
P13					
P14					
P15					
P16					
P17					
P18					
P19					
P20					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 4
P21					
P22					
P23					
P24					

This sheet to be completed by MoDOT construction personnel

Notes:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating the acutal value is higher than PDA value.)

Detailed April 2019
Checked May 2019

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

STATE OF MISSOURI
CHRISTOPHER
NICHOLE
WITUSINSKY
10-31-19
NUMBER
PE-2018037127
PROFESSIONAL ENGINEER

DATE
09/23/2019
DATE PREPARED
09/23/2019
ROUTE 188TH | STATE MO
DISTRICT KC | SHEET NO.
COUNTY
CLAY
JOB NO.
36201B
CONTRACT ID.
PROJECT NO.
BRO-B024(26)
BRIDGE NO.
06200081

DESCRIPTION | DATE

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
901 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

AS BUILT
PILE DATA

BOREHOLE INFORMATION Page 1 of 3

STATION OFFSET **5' Rt.**

NORTHING EASTING

DRLLING COMPANY **GeoSource, LLC**

METHOD **6-inch Hollow Augers** HAMMER **Auto**

LOG OF BORING NO. B-1

PROJECT NAME **NE 188th Street Replacement Bridge**

SITE LOCATION **NW ¼, SW ¼ of Section 6, T53N, R30W Clay County, Missouri**

OWNER / ENGINEER **Clay County / WSP USA, Inc.**

SAMPLE NO.	SAMPLE TYPE	RECOVERY	STANDARD PENETRATION BLOWS/FT.	UNCONFINED STRENGTH PSF	DRY DENSITY PCF	MOISTURE CONTENT, %	UNIFIED SOIL SYMBOL	GRAPHIC LOG	DEPTH, Feet.	MATERIAL DESCRIPTION
										Approx. Surface Elevation: 92.8
									0	**Asphaltic Concrete (5")**
	HS								1.0	**Granular Baserock (6")** 91.8
										FILL, lean clay, soft to medium stiff, brown, trace sand
1	ST	23		820	100	17.5	CL			
	HS								5	
2	ST	14		1350	109	17.2	CL			
	HS								10	10.5 82.3
										LEAN CLAY, soft, brown, some fine sand
3	ST	23		690	104	19.0	CL			
	HS								15	
										17.0 75.8
										LEAN TO FAT CLAY, medium stiff, gray brown ▼
4	SS	18	5			33.1	CL CH		20	
										21.0 71.8

WOH - Weight of Hammer ** Rock Strength in psi

The stratification lines represent the approximate boundary lines between soil and rock types. In-situ the transition may be gradual.

WATER LEVEL OBSERVATIONS			
▽ 18.0 feet Prior to Coring	BORING STARTED	10-16-18	
▼ 18.0 feet A.C.R.	BORING COMPLETED	10-16-18	
Backfilled @ Completion	RIG CME-55	DRILLER LS	
GeoSource — Your Source for Geotechnical and Materials Engineering	APPROVED JJZ	JOB # LM18G2033	

BOREHOLE INFORMATION Page 2 of 3

STATION OFFSET **5' Rt.**

NORTHING EASTING

DRLLING COMPANY **GeoSource, LLC**

METHOD **6-inch Hollow Augers** HAMMER **Auto**

LOG OF BORING NO. B-1

PROJECT NAME **NE 188th Street Replacement Bridge**

SITE LOCATION **NW ¼, SW ¼ of Section 6, T53N, R30W Clay County, Missouri**

OWNER / ENGINEER **Clay County / WSP USA, Inc.**

SAMPLE NO.	SAMPLE TYPE	RECOVERY	STANDARD PENETRATION BLOWS/FT.	UNCONFINED STRENGTH PSF	DRY DENSITY PCF	MOISTURE CONTENT, %	UNIFIED SOIL SYMBOL	GRAPHIC LOG	DEPTH, Feet.	MATERIAL DESCRIPTION
	HS									**SILTY LEAN CLAY**, medium stiff, light gray, trace fine sand
5	SS	18	5			25.8	CL		25	
	HS									27.0 65.8
										**SHALE, hard, gray
6	SS	10	85/10"			21.3			30	
	HS									
R1	NQ3	86%	RQD= 0%						35	36.3 56.5
R2	NQ3	95%	RQD= 36%	**5770	153	0.3				**LIMESTONE**, hard, solid, thin to medium-bedded, fossiliferous, gray
				**4150	154	3.2			40	39.3 53.5
										39.9 **SHALE**, hard, dark gray, clayey 52.9
										40.9 **LIMESTONE**, hard, thin-bedded, gray 51.9
										41.5 **SHALE**, hard, dark gray, fissile 51.3
										LIMESTONE, hard, fossiliferous, gray

WOH - Weight of Hammer ** Rock Strength in psi

The stratification lines represent the approximate boundary lines between soil and rock types. In-situ the transition may be gradual.

WATER LEVEL OBSERVATIONS			
▽ 18.0 feet Prior to Coring	BORING STARTED	10-16-18	
▼ 18.0 feet A.C.R.	BORING COMPLETED	10-16-18	
Backfilled @ Completion	RIG CME-55	DRILLER LS	
GeoSource — Your Source for Geotechnical and Materials Engineering	APPROVED JJZ	JOB # LM18G2033	

STATE OF MISSOURI — CHRISTOPHER D. WITUSZYNSKY — 10-31-19 — NUMBER PE-2018037127 — PROFESSIONAL ENGINEER

DATE 09/23/2019

DATE PREPARED 09/23/2019

ROUTE 188TH | STATE MO

DISTRICT KC | SHEET NO.

COUNTY CLAY

JOB NO. 36201B

CONTRACT ID.

PROJECT NO. BRO-B024(26)

BRIDGE NO. 06200081

DESCRIPTION | DATE

CLAY COUNTY, MISSOURI HIGHWAY DEPARTMENT

16616 NE 116TH STREET KEARNEY, MO 64060 PHONE: (816) 407-3300

CLAY COUNTY SEAL OF MISSOURI

WSP USA Inc. 1600 Wyandotte Street Suite 200 Kansas City, MO 64105 816.702.4300

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

BORING LOG DETAILS I

BORING DATA

Note: For locations of borings, see "General Elevation and Plan"

Detailed April 2019
Checked October 2019

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

LOG OF BORING NO. B-1

BOREHOLE INFORMATION	Page 3 of 3
STATION	OFFSET 5' Rt.
NORTHING	EASTING
DRLLING COMPANY	GeoSource, LLC
METHOD 6-inch Hollow Augers	HAMMER Auto

PROJECT NAME: NE 188th Street Replacement Bridge
SITE LOCATION: NW ¼, SW ¼ of Section 6, T53N, R30W, Clay County, Missouri
OWNER / ENGINEER: Clay County / WSP USA, Inc.

SAMPLE NO.	SAMPLE TYPE	RECOVERY	STANDARD PENETRATION BLOWS/FT.	UNCONFINED STRENGTH PSF	DRY DENSITY PCF	MOISTURE CONTENT, %	UNIFIED SOIL SYMBOL	DEPTH, Feet.	MATERIAL DESCRIPTION
R3	NQ3	100%	RQD= 73%	**12210	175	1.5		44.5	**LIMESTONE**, hard, solid, thick-bedded to massive, fossiliferous, light gray (48.3)

BOTTOM OF BORING

**Rock classification is based on drilling characteristics and visual observation of disturbed samples. Core samples may reveal other rock types.

WOH - Weight of Hammer ** Rock Strength in psi

The stratification lines represent the approximate boundary lines between soil and rock types. In-situ the transition may be gradual.

WATER LEVEL OBSERVATIONS	
∇	18.0 feet Prior to Coring
▼	18.0 feet A.C.R.
	Backfilled @ Completion

GEOSOURCE — Your Source for Geotechnical and Materials Engineering

BORING STARTED	10-16-18		
BORING COMPLETED	10-16-18		
RIG	CME-55	DRILLER	LS
APPROVED	JJZ	JOB #	LM18G2033

LOG OF BORING NO. B-2

BOREHOLE INFORMATION	Page 1 of 2
STATION	OFFSET 12' Rt.
NORTHING	EASTING
DRLLING COMPANY	GeoSource, LLC
METHOD 6-inch Hollow Augers	HAMMER Auto

PROJECT NAME: NE 188th Street Replacement Bridge
SITE LOCATION: NW ¼, SW ¼ of Section 6, T53N, R30W, Clay County, Missouri
OWNER / ENGINEER: Clay County / WSP USA, Inc.

Approx. Surface Elevation: 88.5

SAMPLE NO.	SAMPLE TYPE	RECOVERY	STANDARD PENETRATION BLOWS/FT.	UNCONFINED STRENGTH PSF	DRY DENSITY PCF	MOISTURE CONTENT, %	UNIFIED SOIL SYMBOL
	HS						
1	ST	10		2850	102	24.0	CL
	HS						
2	SS	24	WOH			15.4	CL
	HS						
3	ST	19		870	84	32.3	CL ML
	HS						
4	ST	22		1040	94	28.3	CL CH

DEPTH, Feet	MATERIAL DESCRIPTION	Elevation
	Asphaltic Concrete (5")	
1.0	Granular Baserock (7")	87.5
	FILL, mixture of lean clay and weathered shale, stiff, light brown and yellowish tan mixed	
7.0		81.5
	FILL, mixture of weathered shale and clay, very soft, light brown and yellowish tan mixed ▼	
12.5		76.0
	SILTY LEAN CLAY, soft, dark gray, trace fine sand	
17.0		71.5
	LEAN TO FAT CLAY, medium stiff, light brown mottled light gray, trace gravel	
20.5		68.0

WOH - Weight of Hammer ** Rock Strength in psi

The stratification lines represent the approximate boundary lines between soil and rock types. In-situ the transition may be gradual.

WATER LEVEL OBSERVATIONS	
∇	Dry Prior to Coring
▼	10.7 feet A.C.R.
	Backfilled @ Completion

GEOSOURCE — Your Source for Geotechnical and Materials Engineering

BORING STARTED	10-17-18		
BORING COMPLETED	10-17-18		
RIG	CME-55	DRILLER	LS
APPROVED	JJZ	JOB #	LM18G2033

BORING DATA

Note: For locations of borings, see "General Elevation and Plan"

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI — NICHOLE WITUSZYNSKI — NUMBER PE-2018037127 — PROFESSIONAL ENGINEER — 10-31-19

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE 188TH	STATE MO
DISTRICT KC	SHEET NO.
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

DESCRIPTION | DATE

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

CLAY COUNTY, MISSOURI HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

BORING LOG DETAILS II

BOREHOLE INFORMATION Page 2 of 2

STATION OFFSET **12' Rt.**

NORTHING EASTING

DRLLING COMPANY **GeoSource, LLC**

METHOD **6-inch Hollow Augers** HAMMER **Auto**

LOG OF BORING NO. B-2

PROJECT NAME **NE 188th Street Replacement Bridge**

SITE LOCATION **NW ¼, SW ¼ of Section 6, T53N, R30W Clay County, Missouri**

OWNER / ENGINEER **Clay County / WSP USA, Inc.**

SAMPLE NO.	SAMPLE TYPE	RECOVERY	STANDARD PENETRATION BLOWS/FT.	UNCONFINED STRENGTH PSF	DRY DENSITY PCF	MOISTURE CONTENT, %	UNIFIED SOIL SYMBOL	GRAPHIC LOG	DEPTH, Feet.	MATERIAL DESCRIPTION	
	HS									**__LIMESTONE__, highly weathered, broken and seamy, brown	
									23.8		64.7
5	SS	2	50/2"			16.9					
									24.5	__LIMESTONE__, hard, thin-bedded, gray	64.0
R1	NQ3	100%	RQD= 29%	**10030	164	1.0			25	__SHALE__, weathered, mod. hard to hard, very thin bedded to laminated, varicolored with green and maroon colored layers	
R2	NQ3	80%	RQD= 0%								
									31.0		57.5
R2	NQ3	90%	RQD= 14%	**150	111	9.8			30	__SHALE__, hard, very thin bedded to laminated, gray	
									35.0		53.5
									35	**BOTTOM OF BORING**	
										**Rock classification is based on drilling characteristics and visual observation of disturbed samples. Core samples may reveal other rock types.	

WOH - Weight of Hammer ** Rock Strength in psi

The stratification lines represent the approximate boundary lines between soil and rock types. In-situ the transition may be gradual.

WATER LEVEL OBSERVATIONS

- ▽ Dry Prior to Coring
- ▼ 10.7 feet A.C.R.
- Backfilled @ Completion

GeoSource — Your Source for Geotechnical and Materials Engineering

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BORING COMPLETED	10-17-18		
RIG	CME-55	DRILLER	LS
APPROVED	JJZ	JOB #	LM18G2033

BORING DATA

Note: For locations of borings, see "General Elevation and Plan"

Detailed April 2019
Checked October 2019

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

STATE OF MISSOURI — CHRISTOPHER D. WITUSZYNSKY — 10-31-19 — NUMBER PE-2018037127 — PROFESSIONAL ENGINEER

DATE 09/23/2019

DATE PREPARED 09/23/2019

ROUTE 188TH | STATE MO

DISTRICT KC | SHEET NO.

COUNTY CLAY

JOB NO. 36201B

CONTRACT ID.

PROJECT NO. BRO-B024(26)

BRIDGE NO. 06200081

DESCRIPTION | DATE

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

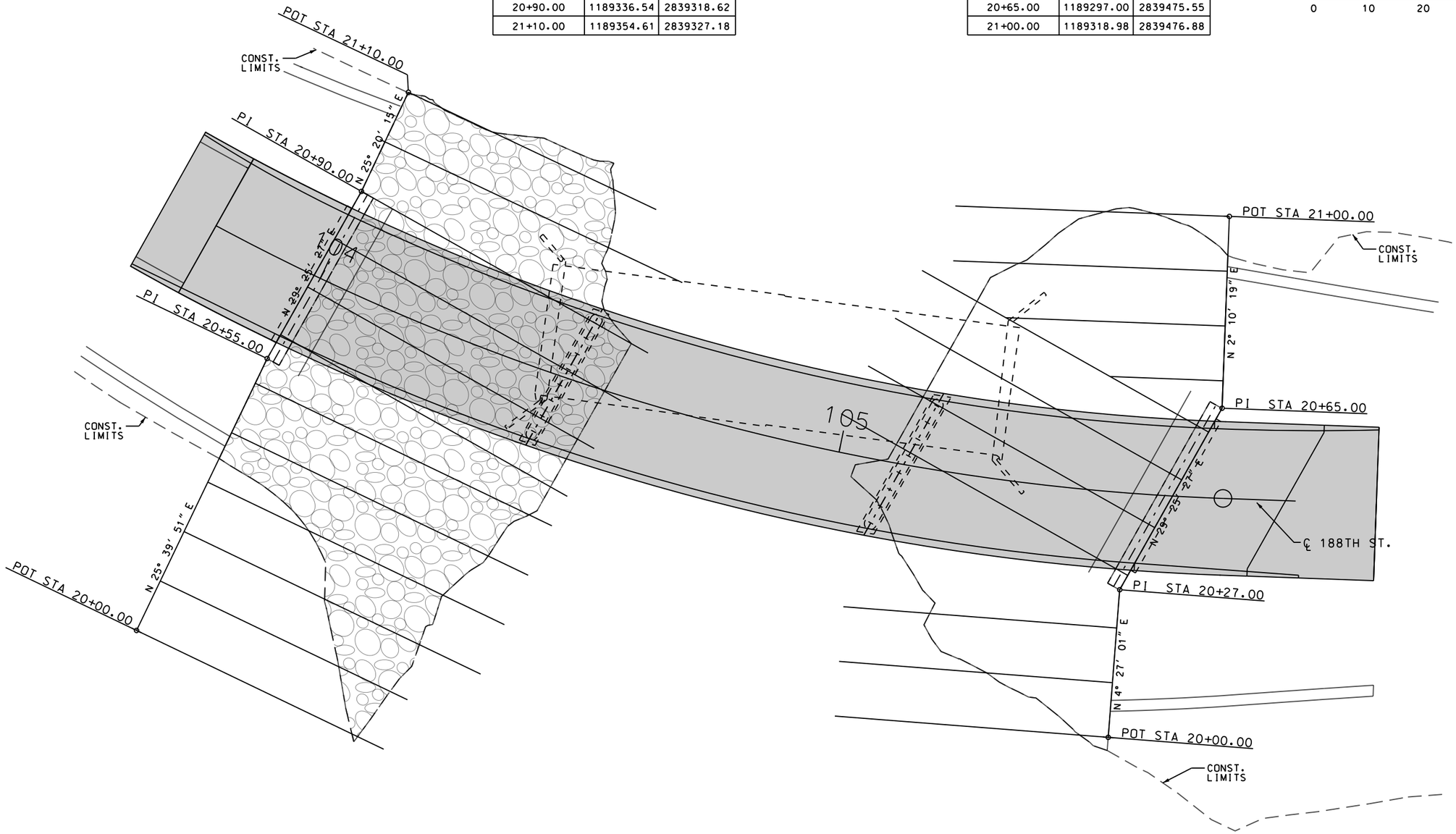
WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

BORING LOG DETAILS III

WEST ABUTMENT ALIGNMENT		
STATION	NORTHING	EASTING
20+00.00	1189256.48	2839277.60
20+55.00	1189306.05	2839301.42
20+90.00	1189336.54	2839318.62
21+10.00	1189354.61	2839327.18

EAST ABUTMENT ALIGNMENT		
STATION	NORTHING	EASTING
20+00.00	1189236.98	2839454.79
20+27.00	1189263.90	2839456.88
20+65.00	1189297.00	2839475.55
21+00.00	1189318.98	2839476.88

SCALE
0 10 20 30



STATE OF MISSOURI
LAWRENCE O. OGUENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019
DATE PREPARED
09/23/2019
ROUTE 188TH | STATE MO
DISTRICT KC | SHEET NO.
COUNTY
CLAY
JOB NO.
36201B
CONTRACT ID.
PROJECT NO.
BRO-B024(26)
BRIDGE NO.
06200081

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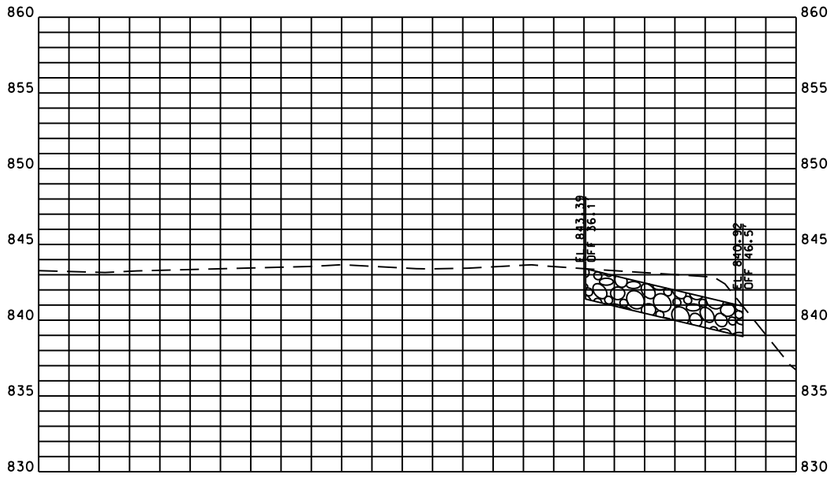
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
901 Wyandotte Street
Suite 700
Kansas City, MO 64105
816.702.4300

ABUTMENT SECTION KEY MAP



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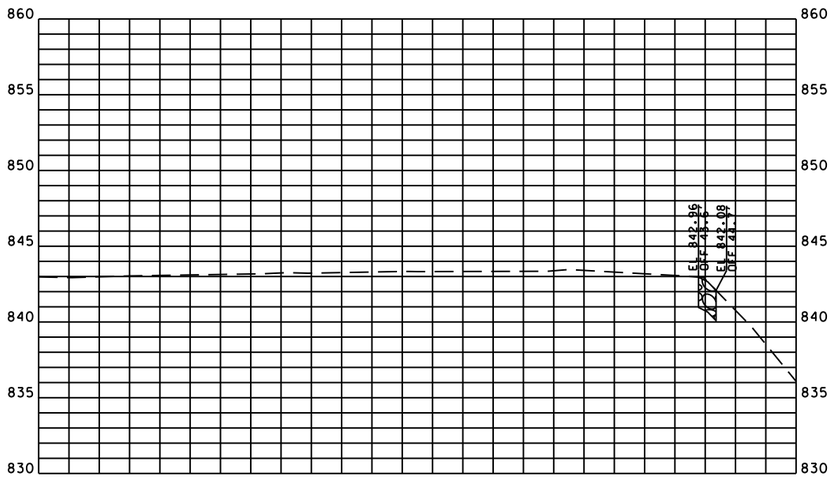

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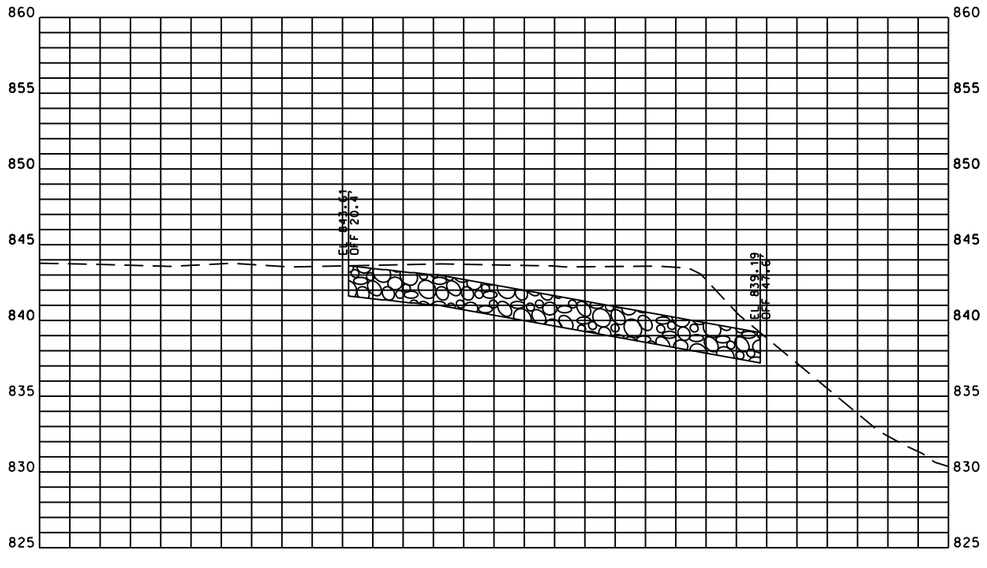

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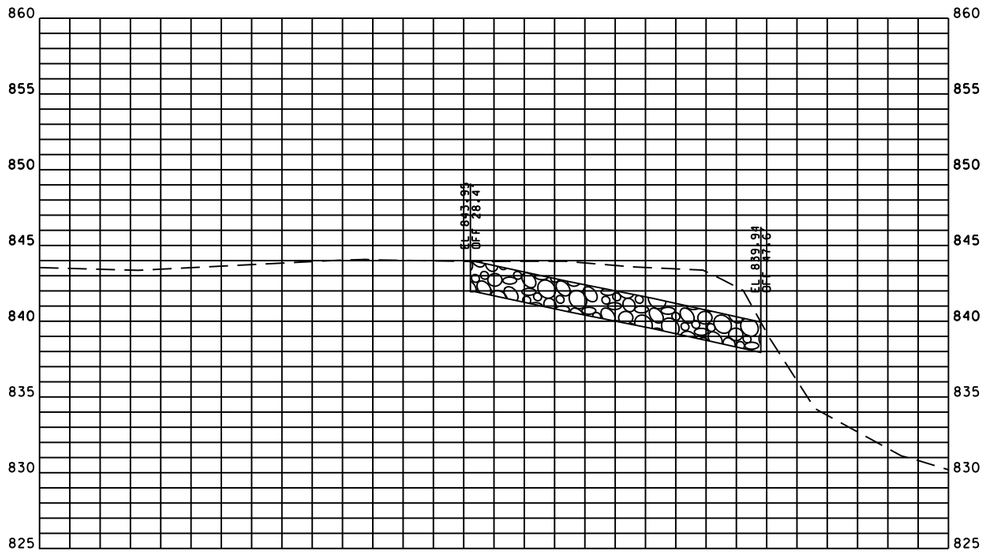

Sta. 20+20.0000

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ROUTE	STATE
188TH	MO

DISTRICT	SHEET NO.
KC	1

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CLAY

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Suite 200
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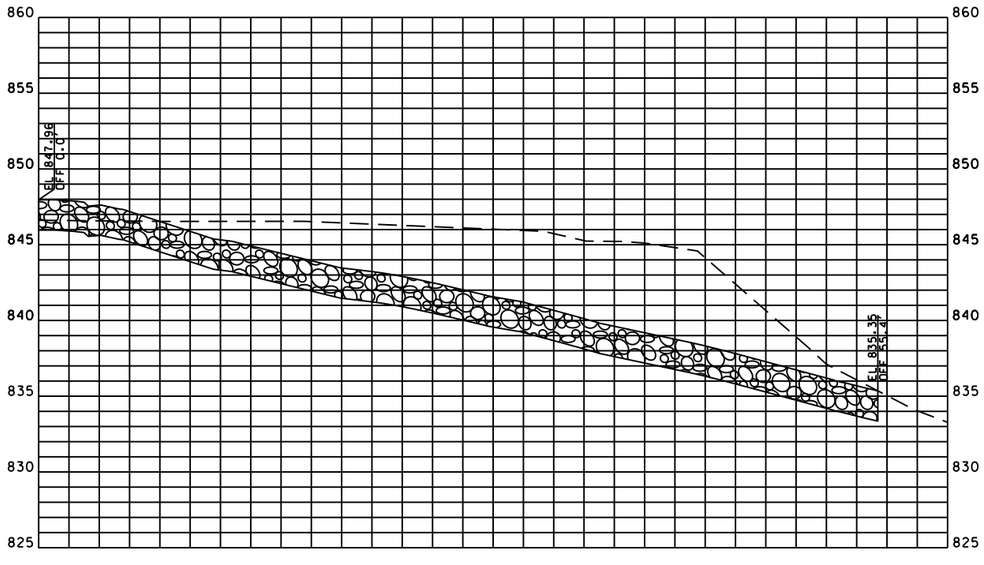
WEST ABUTMENT CROSS SECTION SHEET



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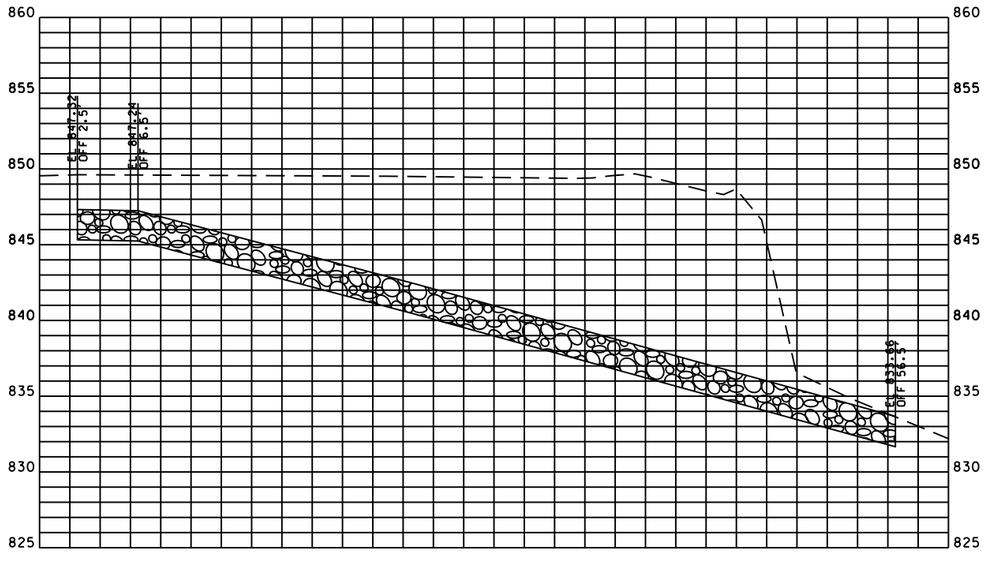

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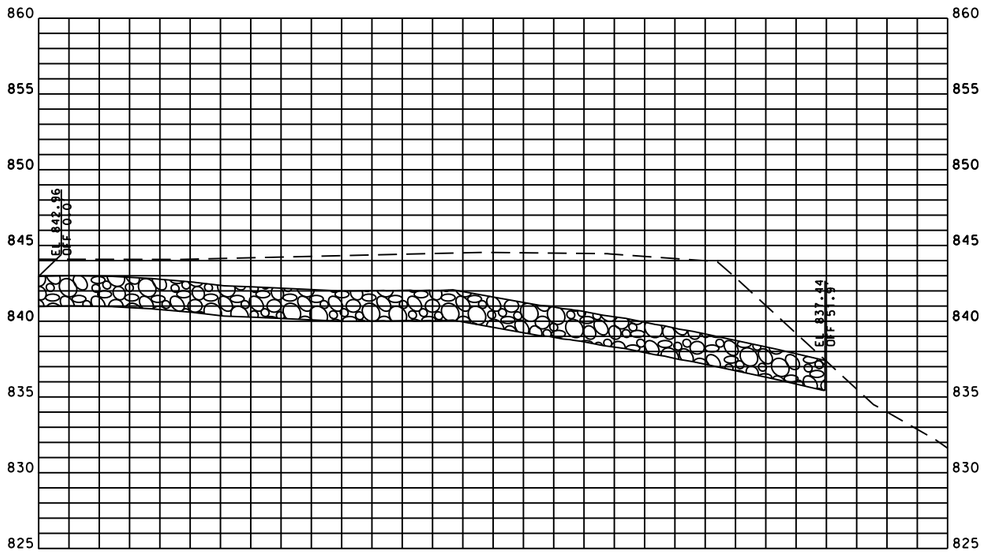

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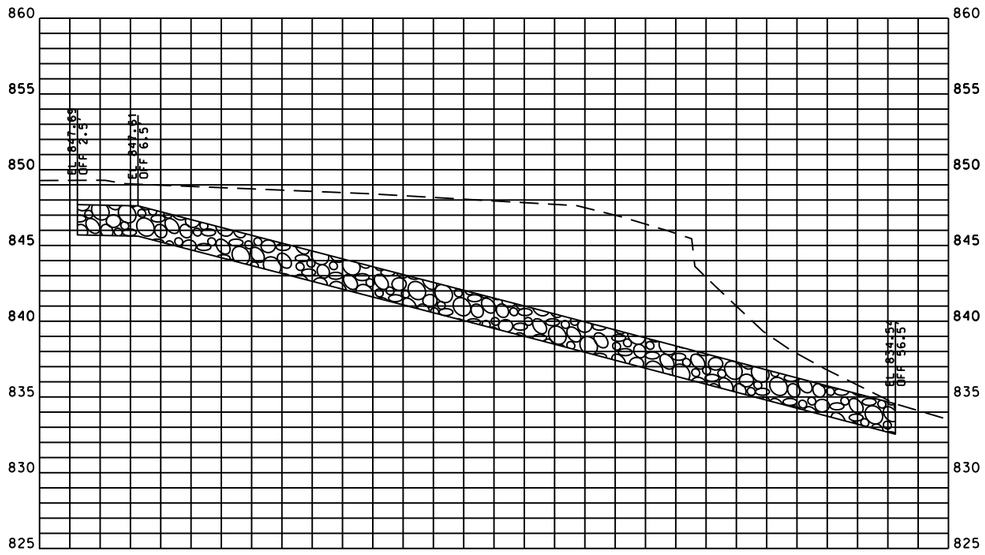

Sta. 20+60.0000

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188TH	MO

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KC	2

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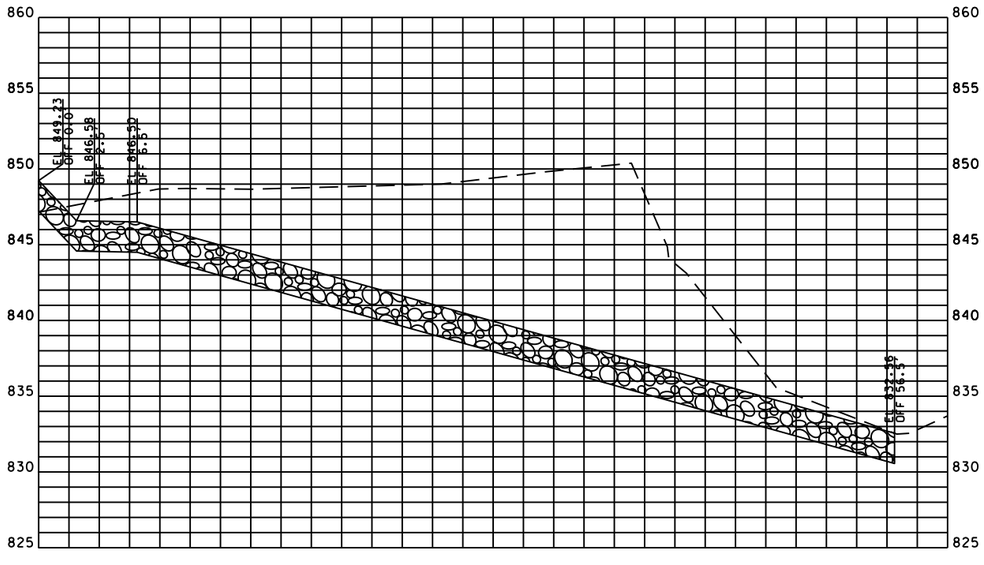
816.102.4300

WEST ABUTMENT CROSS SECTION SHEET



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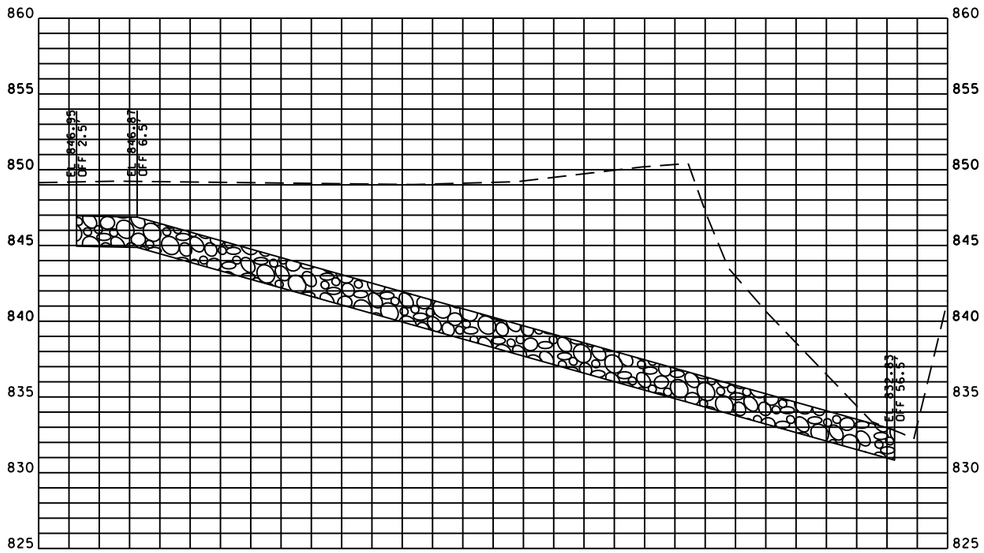

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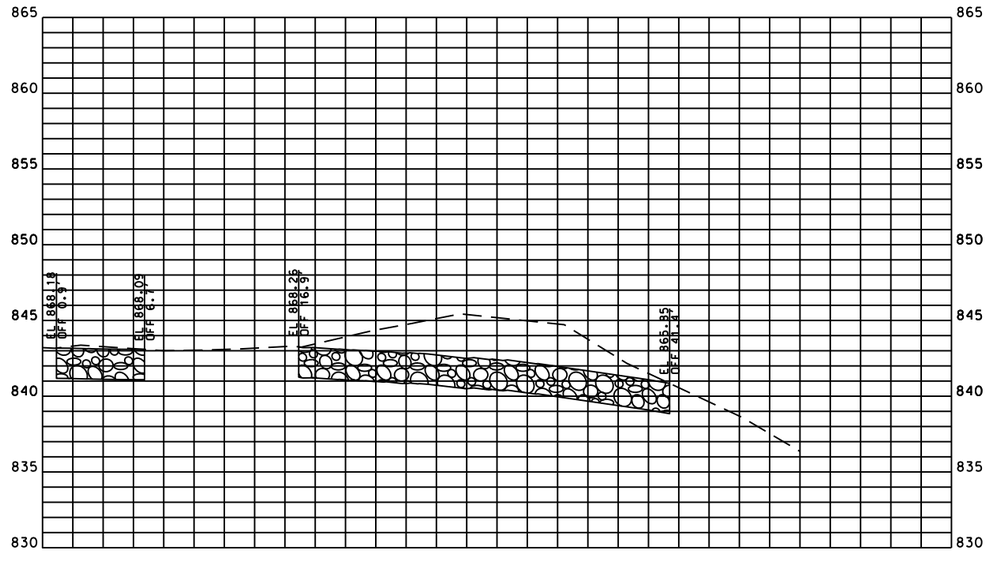

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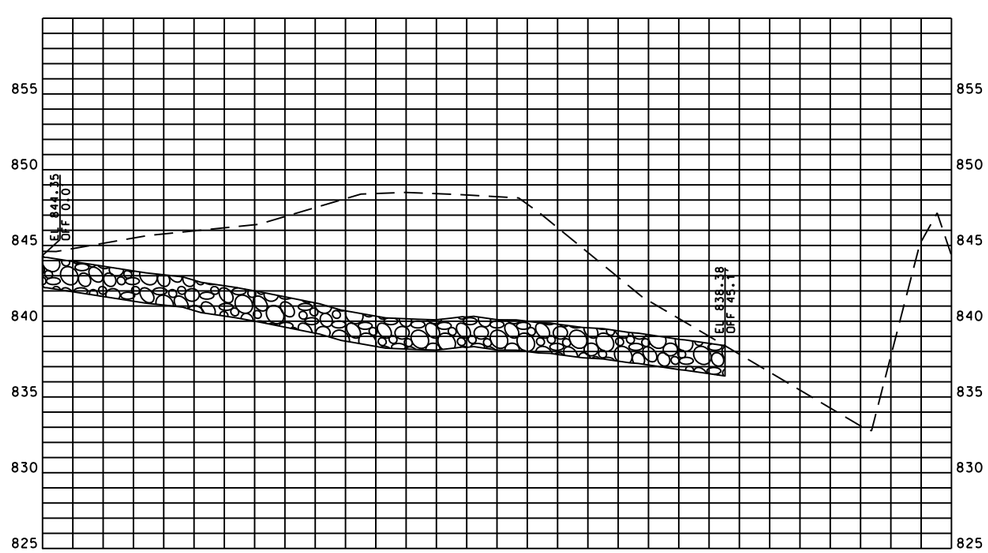

Sta. 21+00.0000

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DATE
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ROUTE	STATE
188TH	MO
DISTRICT	SHEET NO.
KC	3

COUNTY
CLAY

JOB NO.
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PROJECT NO.
BRO-B024(26)

BRIDGE NO.
06200081

DATE	DESCRIPTION

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

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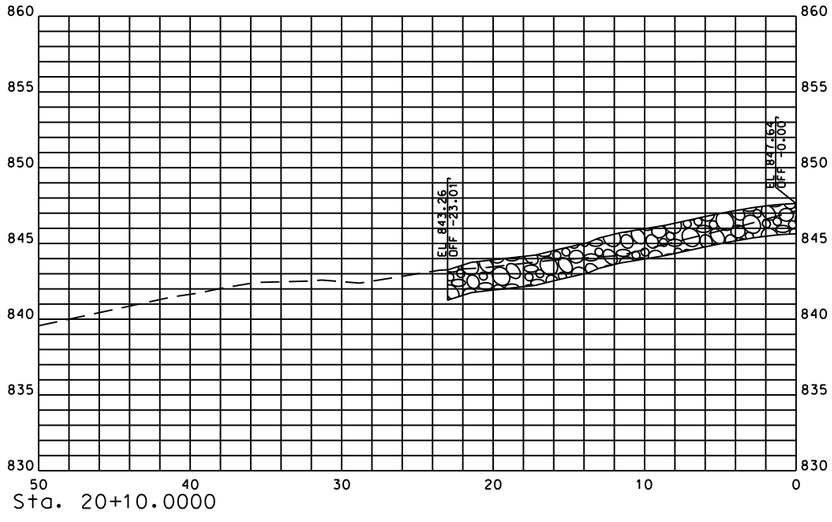

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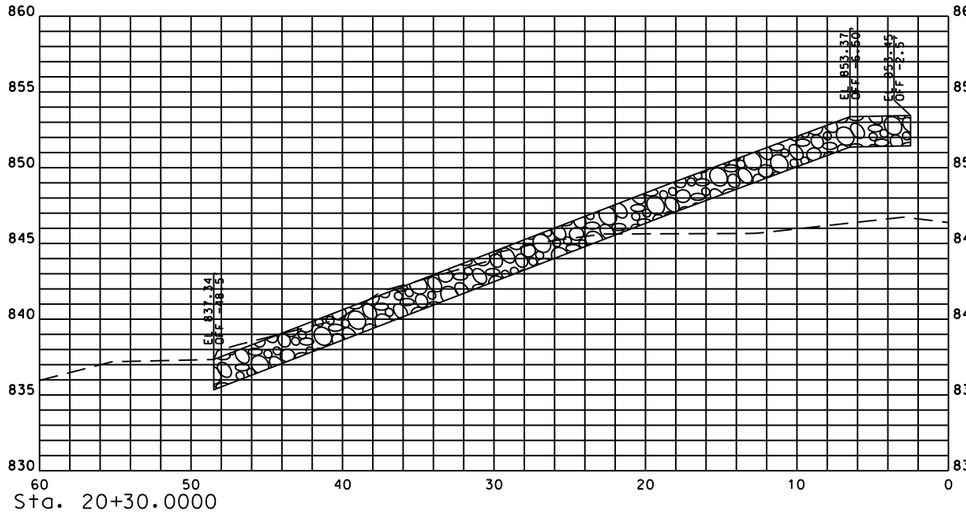

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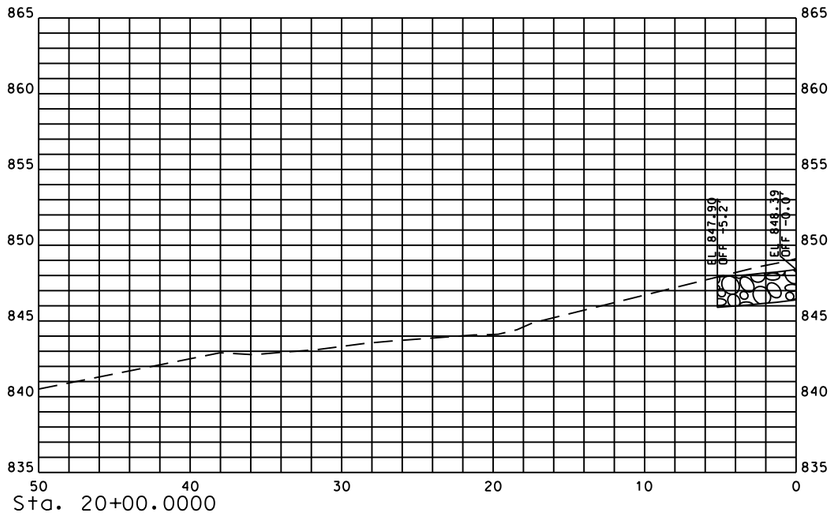

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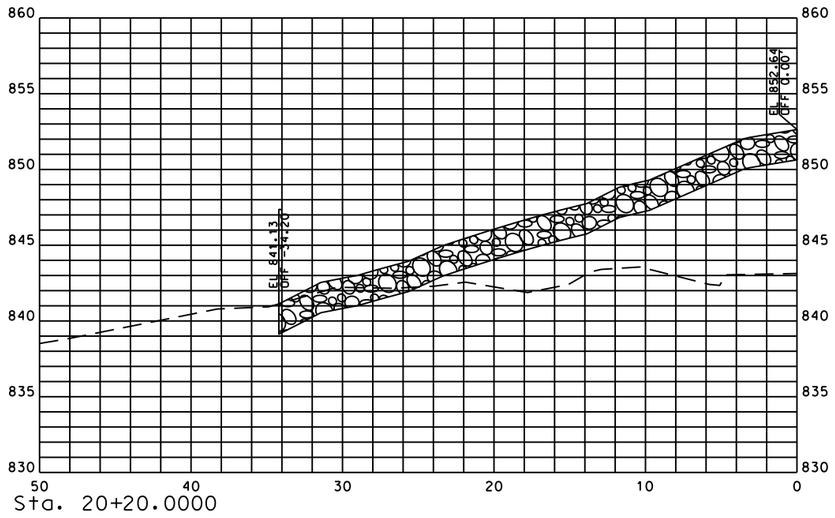

Sta. 20+20.0000

STATE OF MISSOURI
LAWRENCE C. DODENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
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ROUTE	STATE
188TH	MO

DISTRICT	SHEET NO.
KC	1

COUNTY
CLAY

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06200081

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

DATE	DESCRIPTION

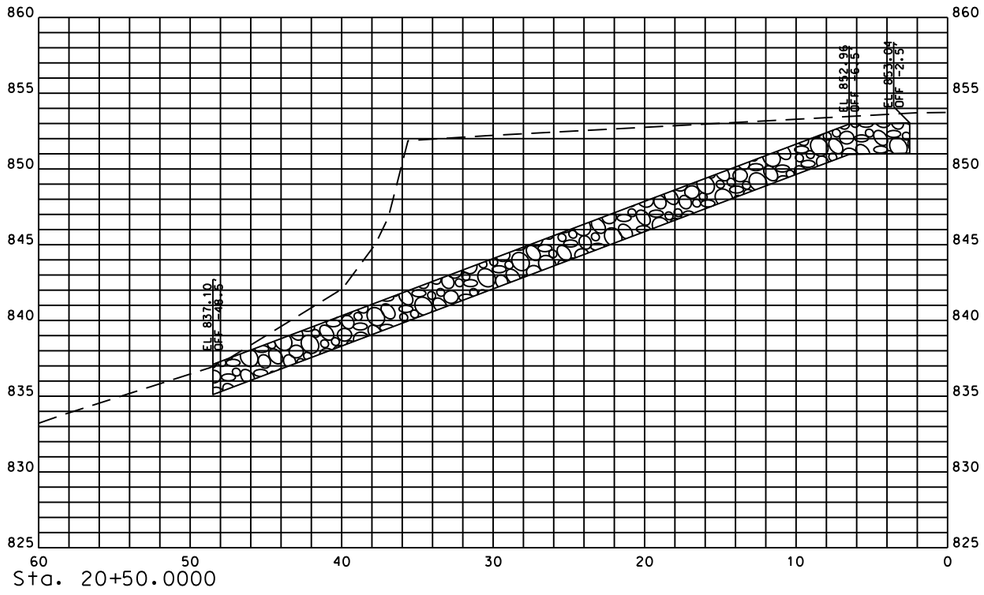
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
500 Wyandotte Street
Suite 600
Kansas City, MO 64105
816.702.4300

EAST ABUTMENT CROSS SECTION SHEET



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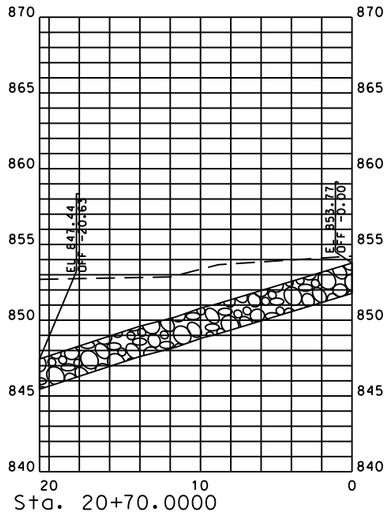

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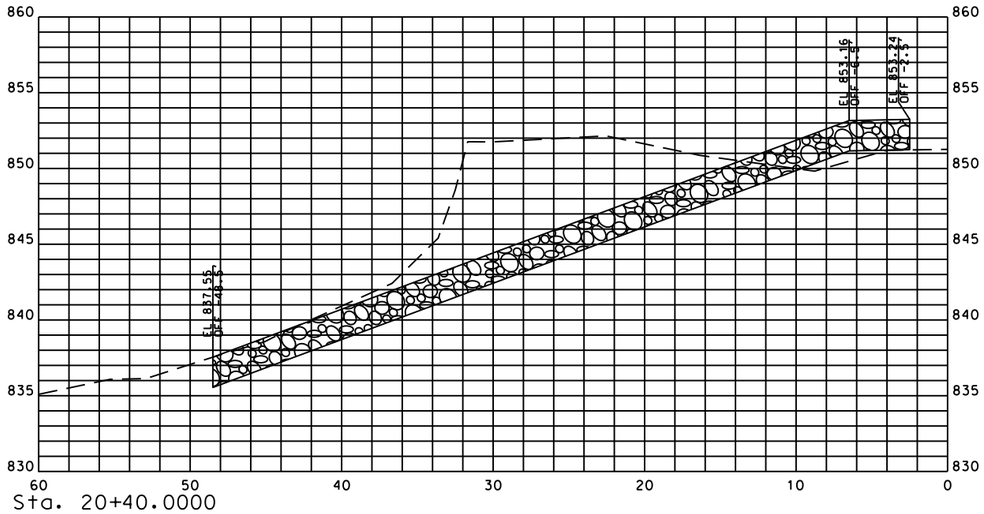

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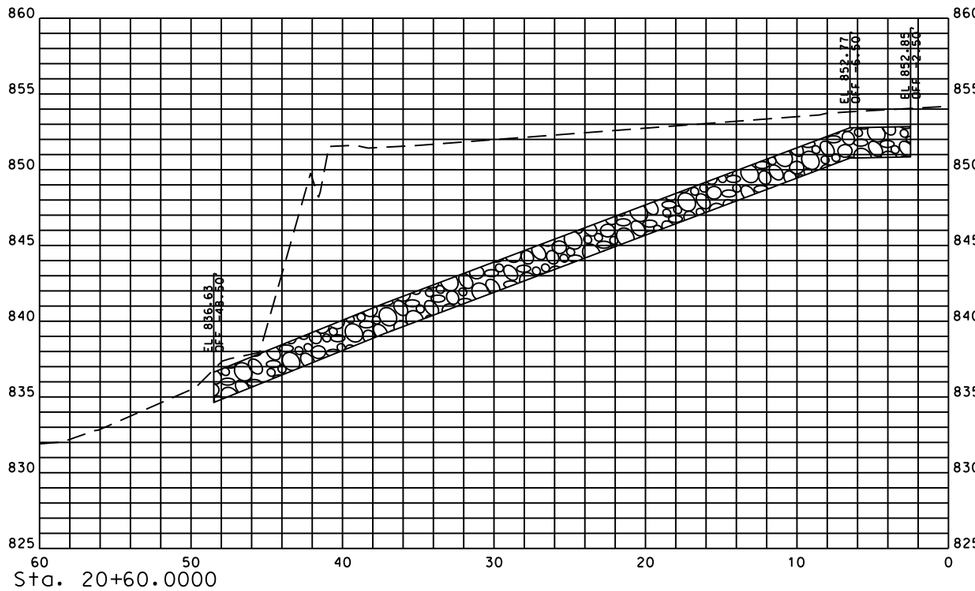

Sta. 20+60.0000

STATE OF MISSOURI
LAWRENCE O. TOUDENDO
10-31-19
NUMBER
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188TH	MO

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CLAY COUNTY SEAL OF MISSOURI

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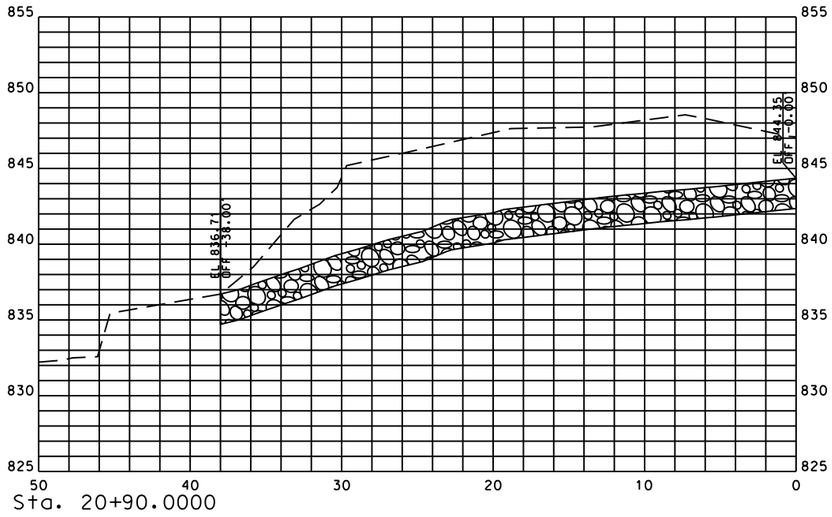

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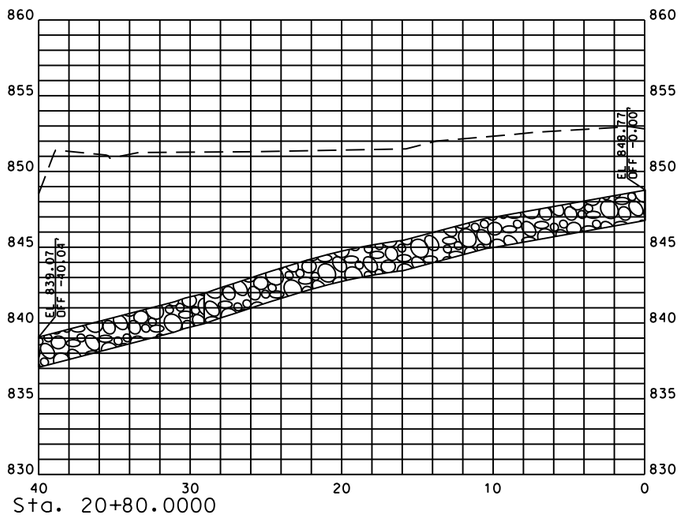

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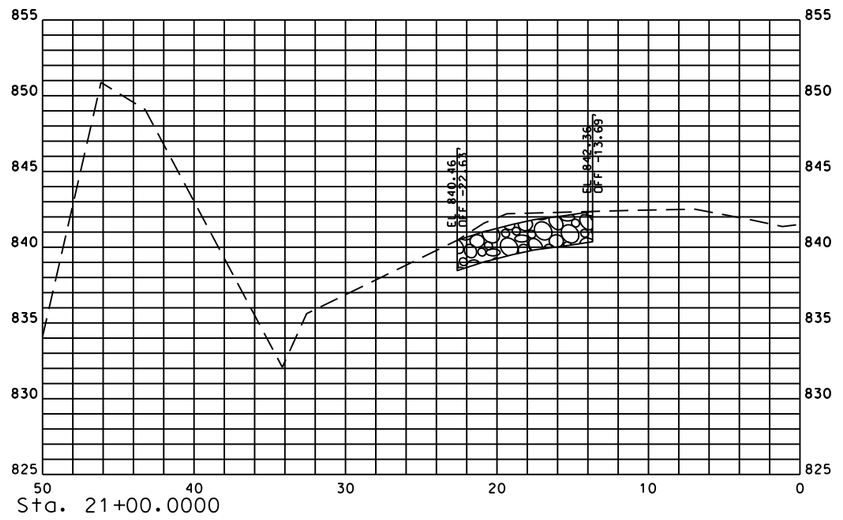

Sta. 21+00.0000

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188TH	MO

DISTRICT	SHEET NO.
KC	3

COUNTY
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CLAY COUNTY, MISSOURI
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PHONE: (816) 407-3300

CLAY COUNTY SEAL MISSOURI

WSP USA Inc.
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Kansas City, MO 64105
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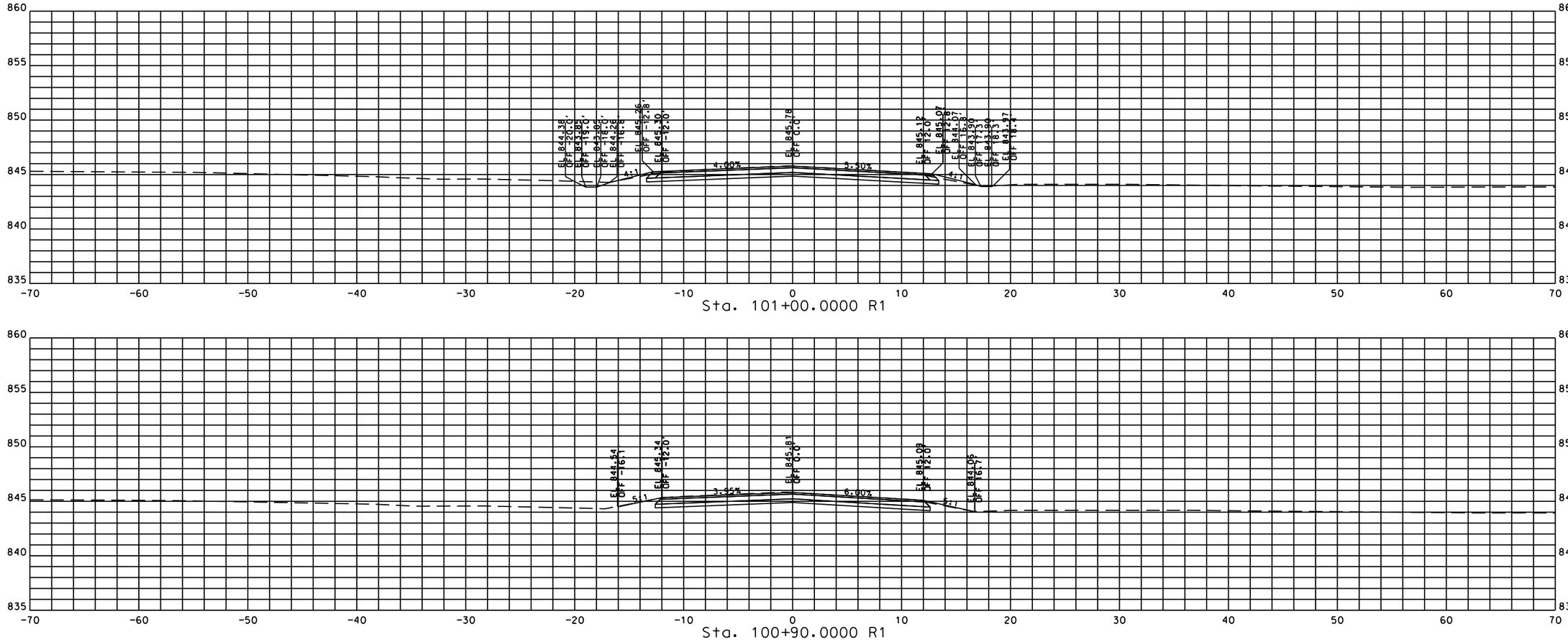

STA. 100+90.0000 TO STA. 101+00.0000

WEST SIDE EARTHWORK

TOTAL CUT: 427.04 CY / 1.4 VMF = 305.03 CY
TOTAL FILL: 476.21 CY X 1.4 VMF = 666.69 CY
BALANCE: 361.66 CY

STATE OF MISSOURI
LAWRENCE C. DEGUENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019
DATE PREPARED
09/23/2019
ROUTE 188TH
STATE MO
DISTRICT KC
SHEET NO. 1
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

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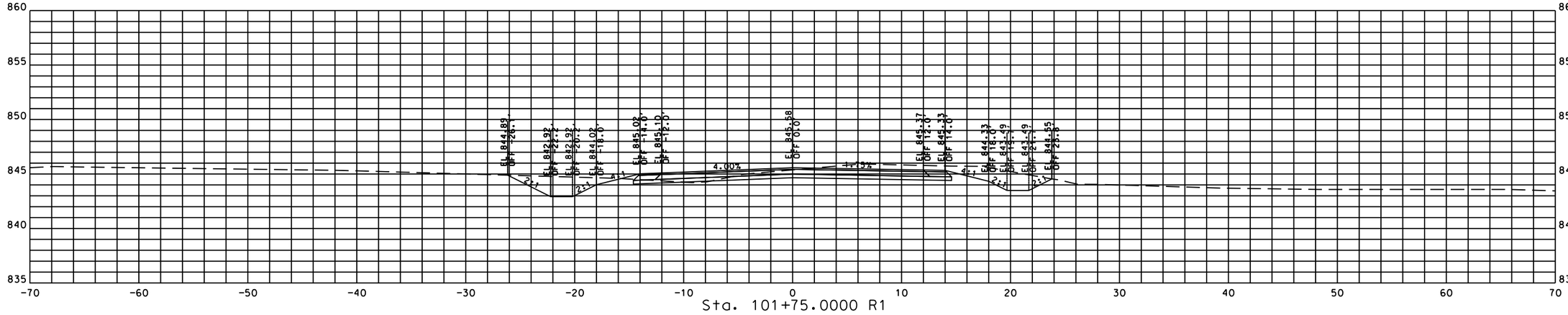
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816-702-4300

CROSS SECTIONS



STA. 101+25.0000 TO STA. 101+75.0000

STATE OF MISSOURI
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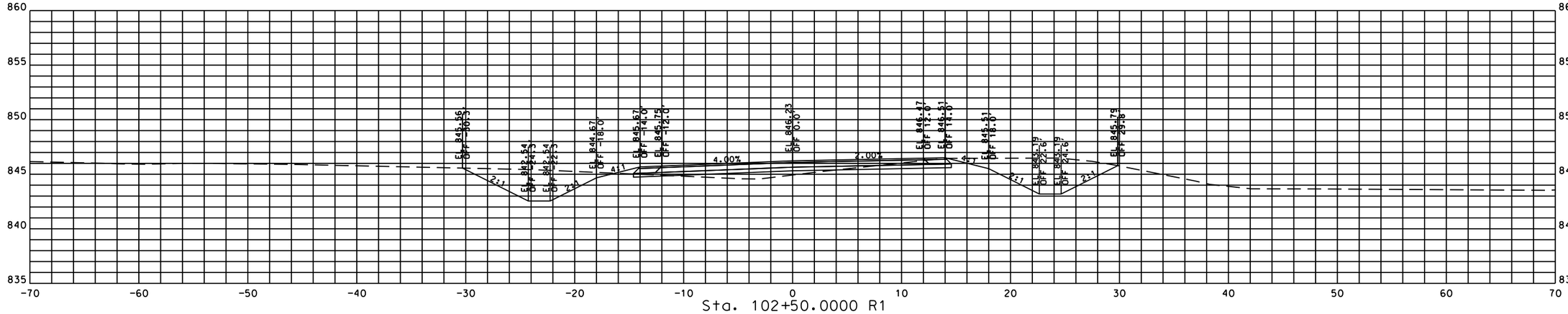
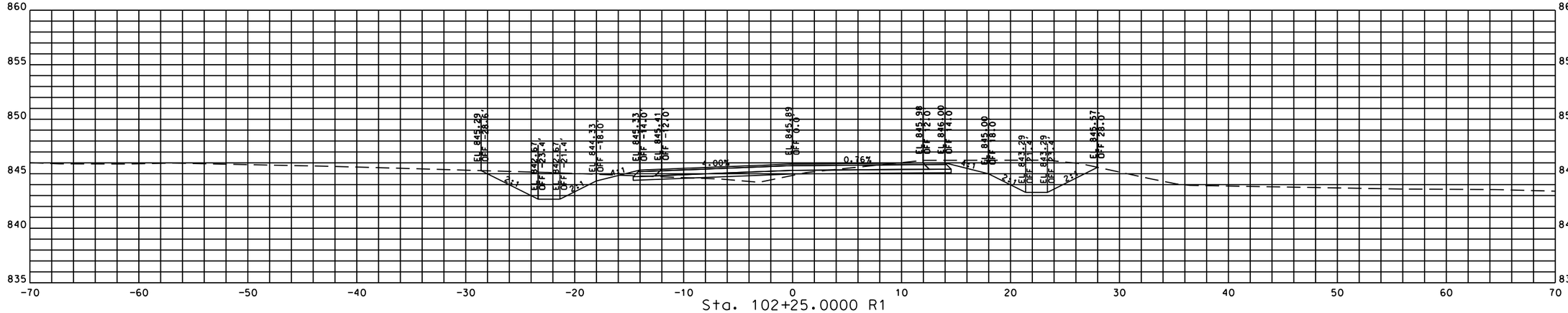
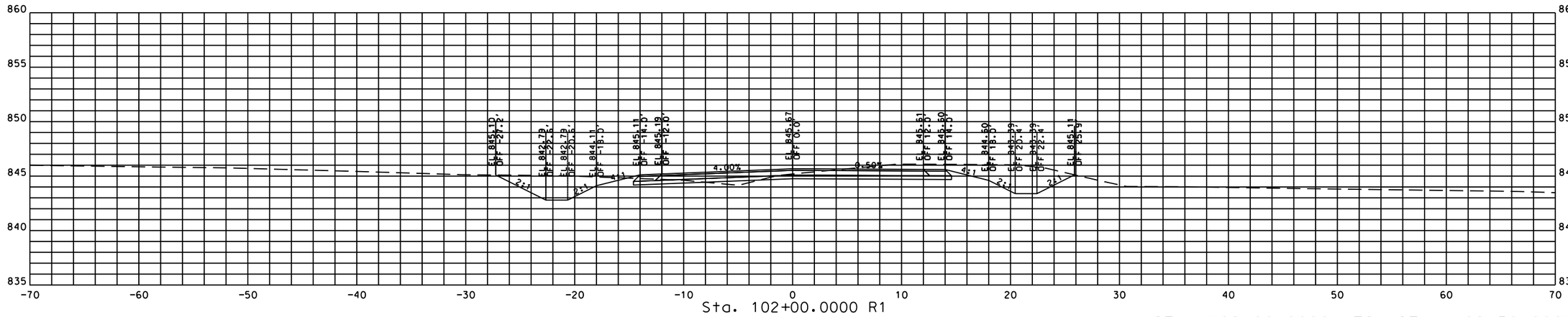
816.702.4300

CROSS SECTIONS







STA. 102+00.0000 TO STA. 102+50.0000

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

STATE OF MISSOURI
LAWRENCE O. OGUENDO
10-31-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE	188TH
STATE	MO
DISTRICT	KC
SHEET NO.	3
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

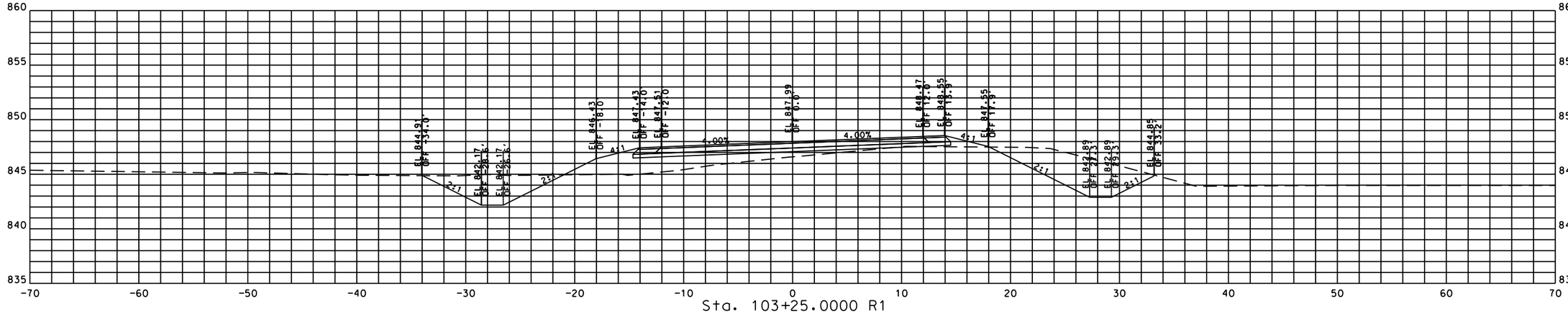
DATE	DESCRIPTION
	3

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

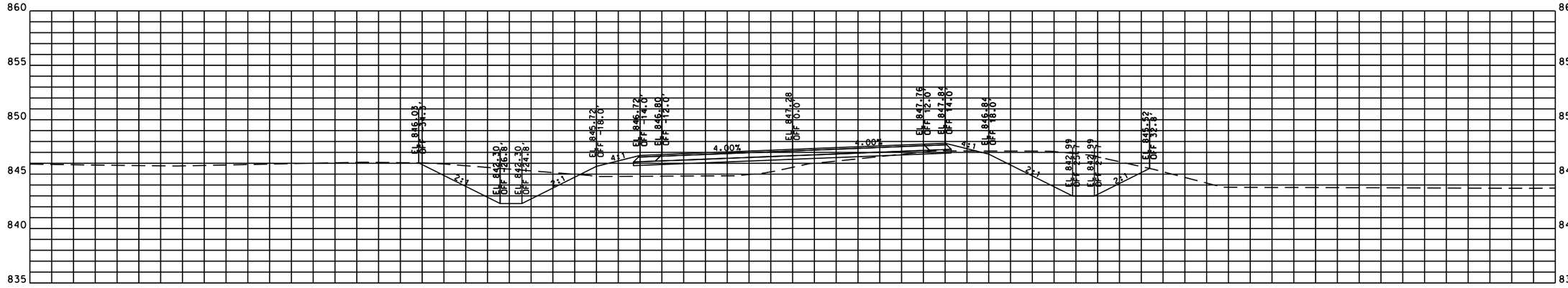
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
1600 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

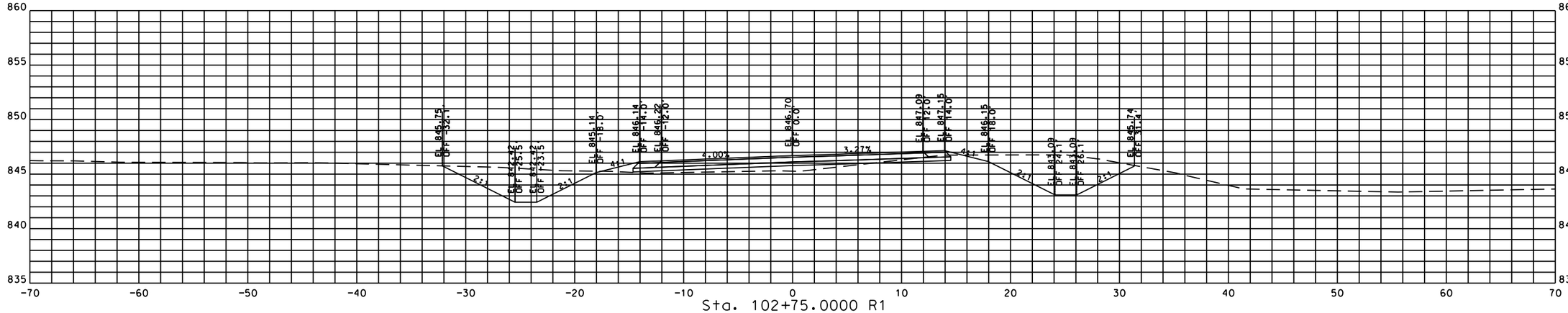
CROSS SECTIONS



Sta. 103+25.0000 R1



Sta. 103+00.0000 R1



Sta. 102+75.0000 R1

STA. 102+75.0000 TO STA. 103+25.0000

STATE OF MISSOURI
LAWRENCE C. DIGIOVANNI
DUDENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019

DATE PREPARED
09/23/2019

ROUTE	STATE
188TH	MO
DISTRICT	SHEET NO.
KC	4

COUNTY
CLAY

JOB NO.
36201B

CONTRACT ID.

PROJECT NO.
BRO-B024(26)

BRIDGE NO.
06200081

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

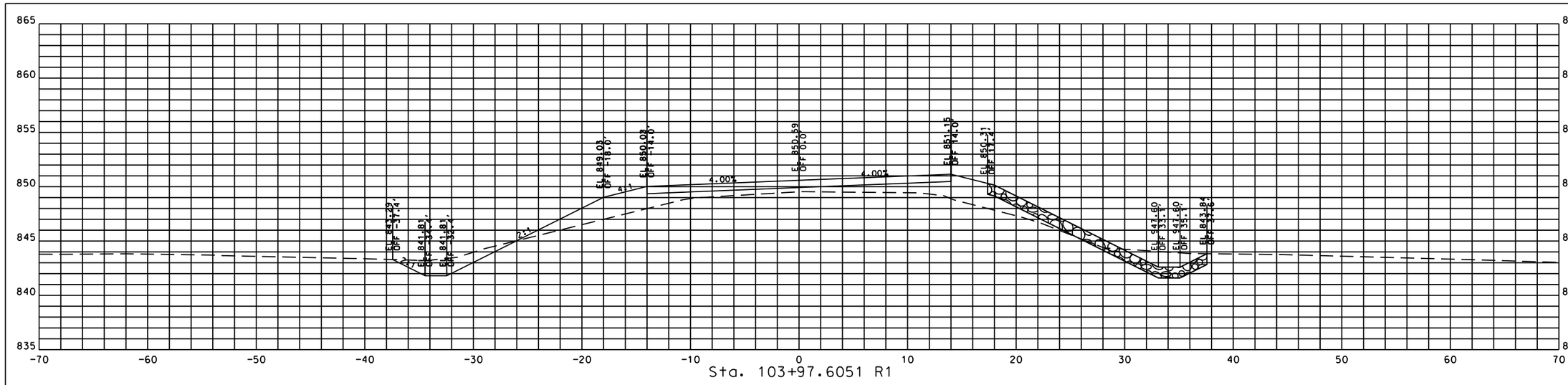
DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

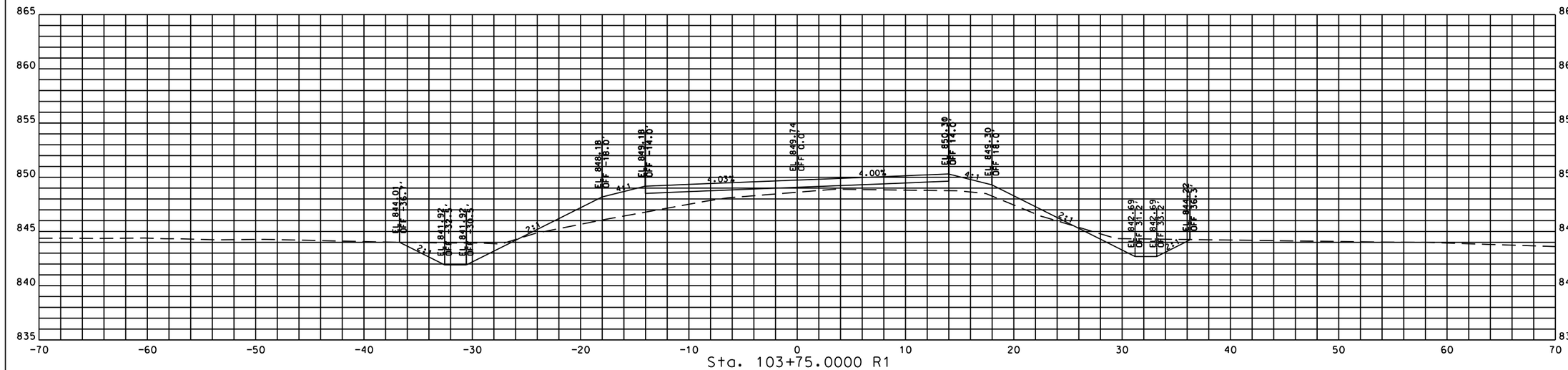
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
1600 Wyondotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

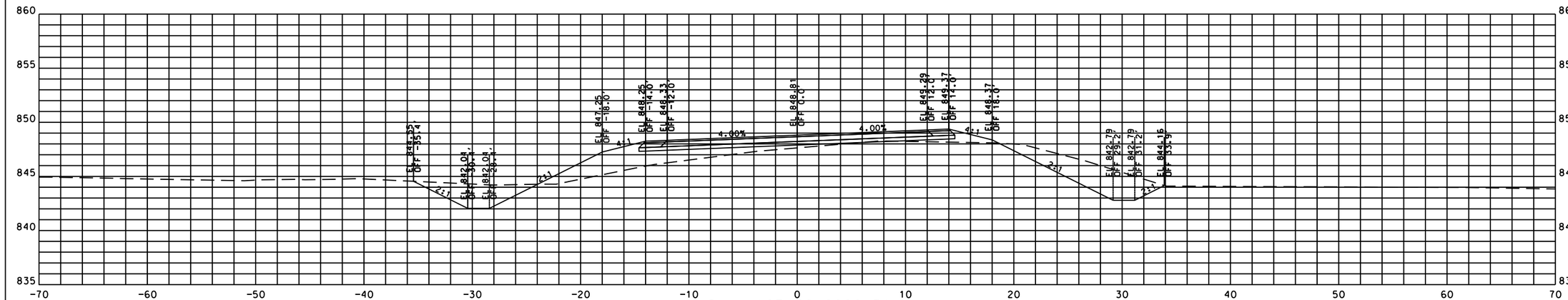
CROSS SECTIONS



Sta. 103+97.6051 R1



Sta. 103+75.0000 R1



Sta. 103+50.0000 R1

STA. 103+50.0000 TO STA. 103+97.6051

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

STATE OF MISSOURI
LAWRENCE C. DEY
COLUMBIA
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019

DATE PREPARED
09/23/2019

ROUTE	STATE
188TH	MO
DISTRICT	SHEET NO.
KC	5

COUNTY
CLAY

JOB NO.
36201B

CONTRACT ID.

PROJECT NO.
BRO-B024(26)

BRIDGE NO.
06200081

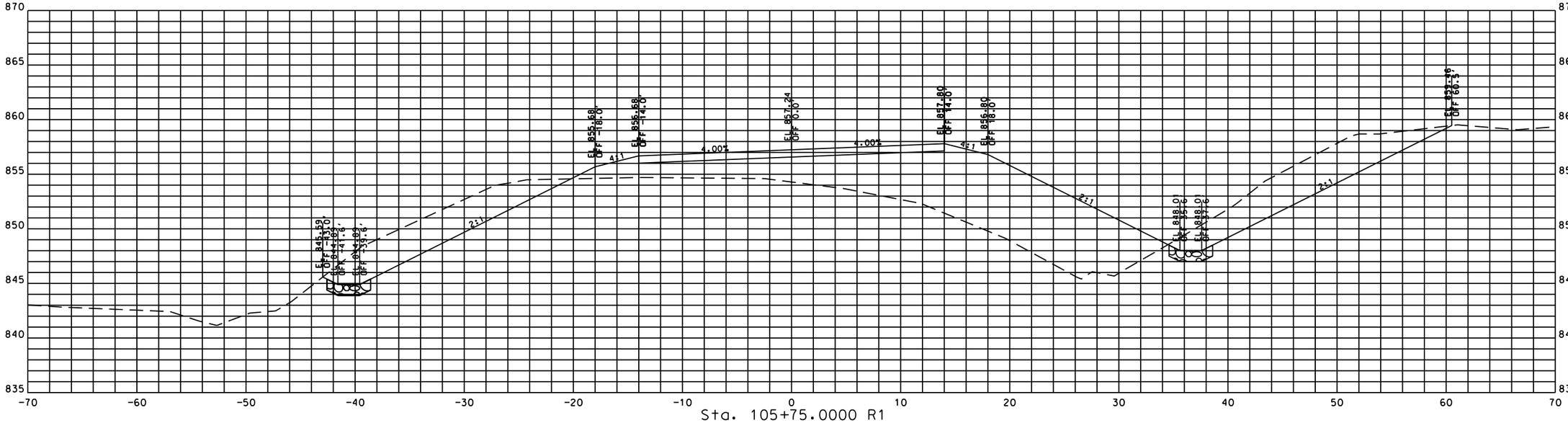
DESCRIPTION	DATE

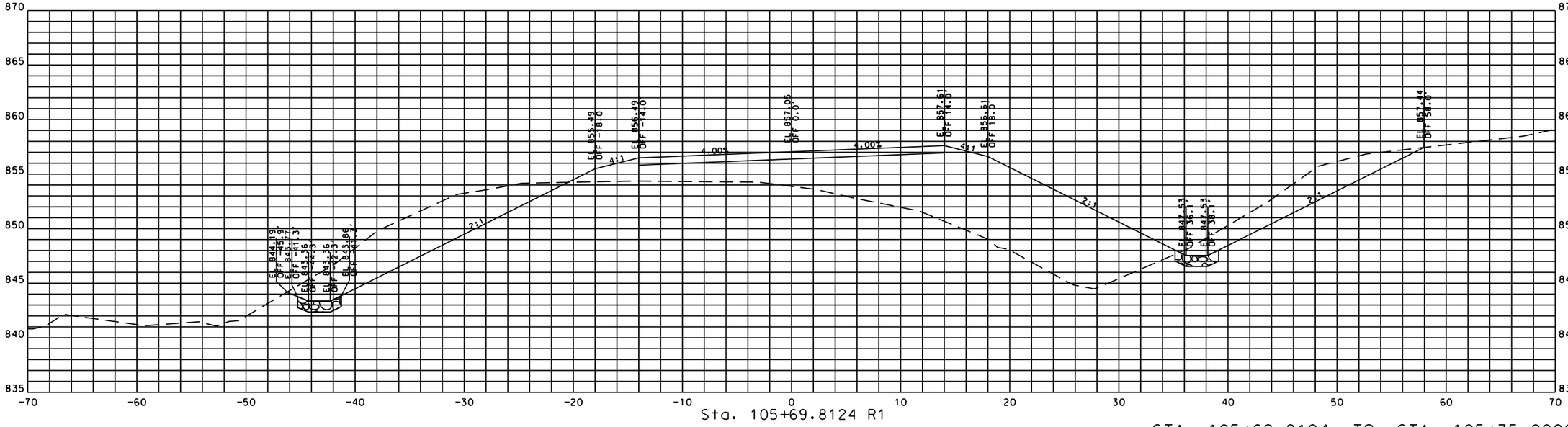
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS





STA. 105+69.8124 TO STA. 105+75.0000

EAST SIDE EARTHWORK
TOTAL CUT: 752.31 CY / 1.4 VMF = 537.36 CY
TOTAL FILL: 379.38 CY X 1.4 VMF = 531.13 CY
BALANCE: -6.23 CY

STATE OF MISSOURI
LAWRENCE C. TODENDO
10-31-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019
DATE PREPARED
09/23/2019
ROUTE 188TH
STATE MO
DISTRICT KC
SHEET NO. 6
COUNTY CLAY
JOB NO. 36201B
CONTRACT ID.
PROJECT NO. BRO-B024(26)
BRIDGE NO. 06200081

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

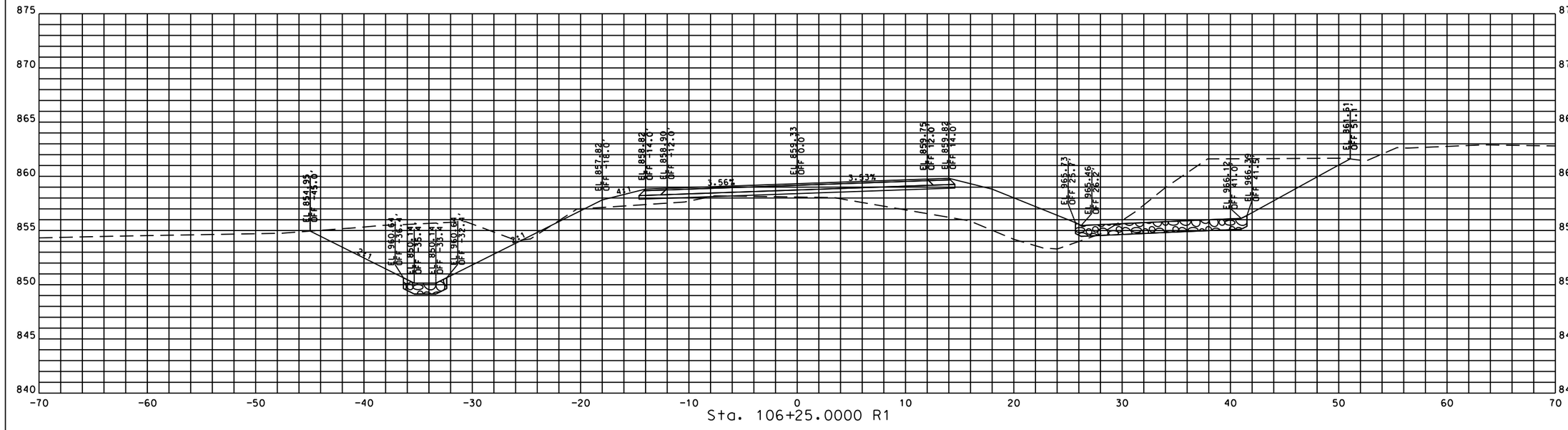
DESCRIPTION	DATE

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS



STATE OF MISSOURI
LAWRENCE O. ODUENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE	188TH
STATE	MO
DISTRICT	KC
SHEET NO.	7
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

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

DATE	DESCRIPTION

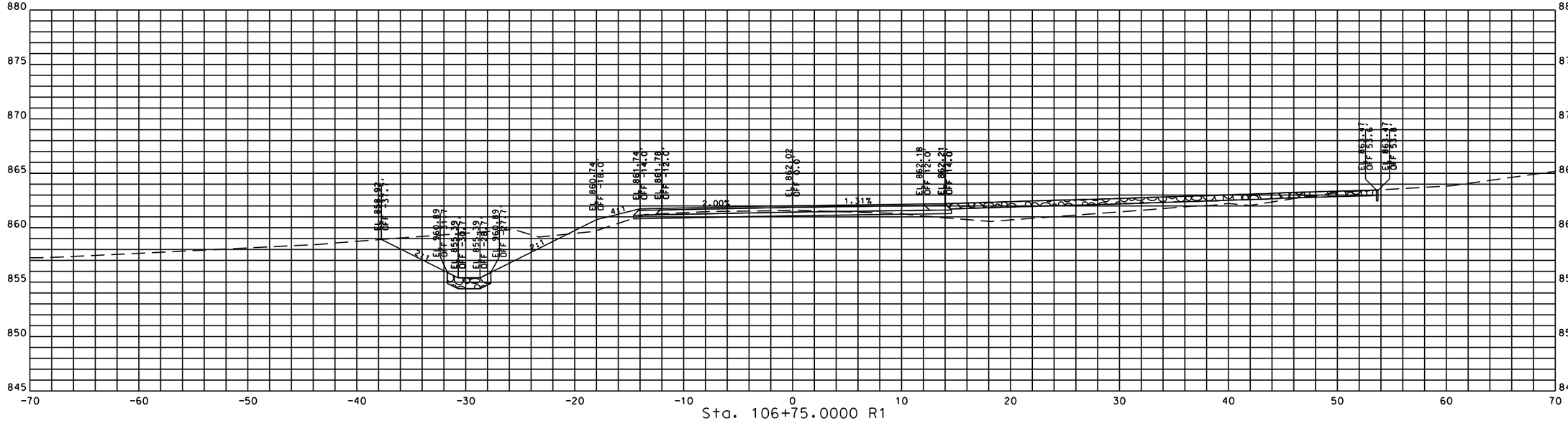
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS



STA. 106+50.0000 TO STA. 106+75.0000

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

STATE OF MISSOURI
LAWRENCE O. DUDENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE	188TH
STATE	MO
DISTRICT	KC
SHEET NO.	8
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

DATE	DESCRIPTION

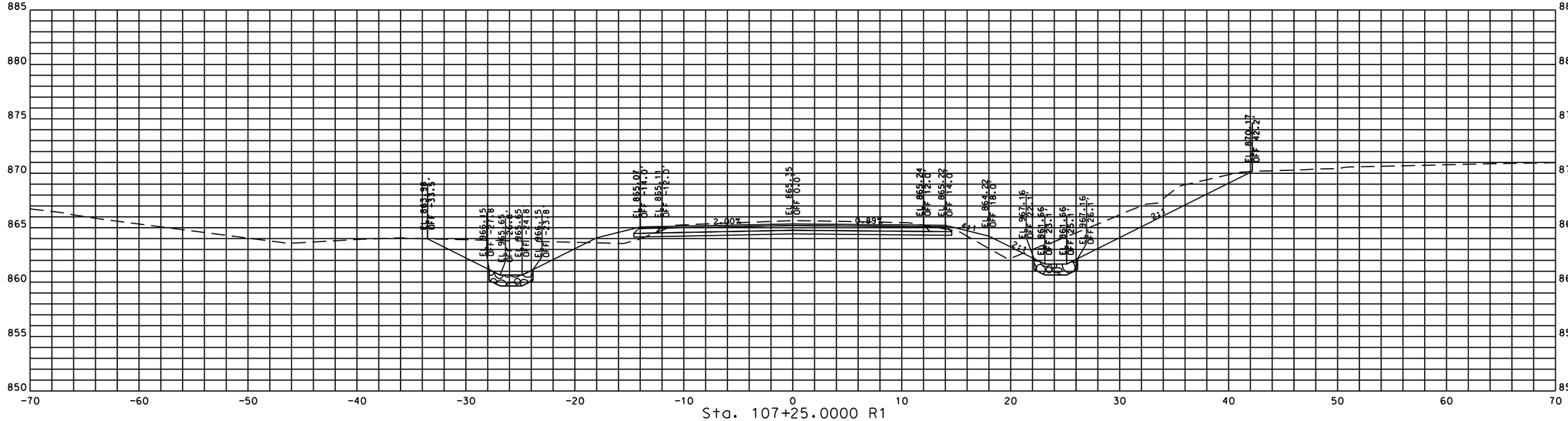
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

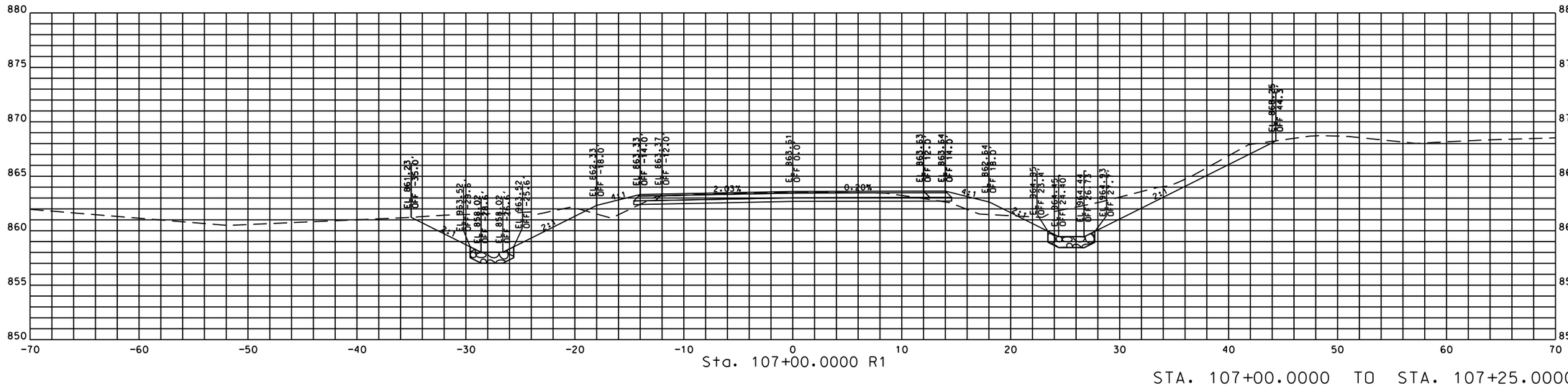
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

SEAL OF CLAY COUNTY MISSOURI

WSP USA Inc.
500 Hyacinth Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS





STA. 107+00.0000 TO STA. 107+25.0000

STATE OF MISSOURI
LAWRENCE O. ODUENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE	09/23/2019
DATE PREPARED	09/23/2019
ROUTE	188TH
STATE	MO
DISTRICT	KC
SHEET NO.	9
COUNTY	CLAY
JOB NO.	36201B
CONTRACT ID.	
PROJECT NO.	BRO-B024(26)
BRIDGE NO.	06200081

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

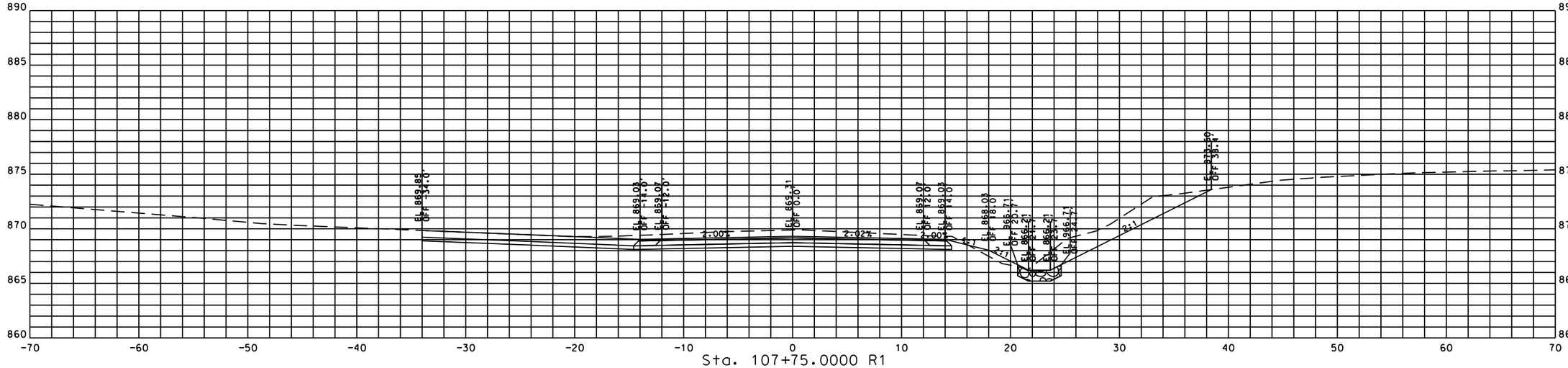
DATE	DESCRIPTION

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
500 Hyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS



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STATE OF MISSOURI
LAWRENCE C. DODENDO
10-31-19
NUMBER
PE-2011034796
PROFESSIONAL ENGINEER

DATE
09/23/2019

DATE PREPARED
09/23/2019

ROUTE	STATE
188TH	MO

DISTRICT	SHEET NO.
KC	10

COUNTY
CLAY

JOB NO.
36201B

CONTRACT ID.

PROJECT NO.
BRO-B024(26)

BRIDGE NO.
06200081

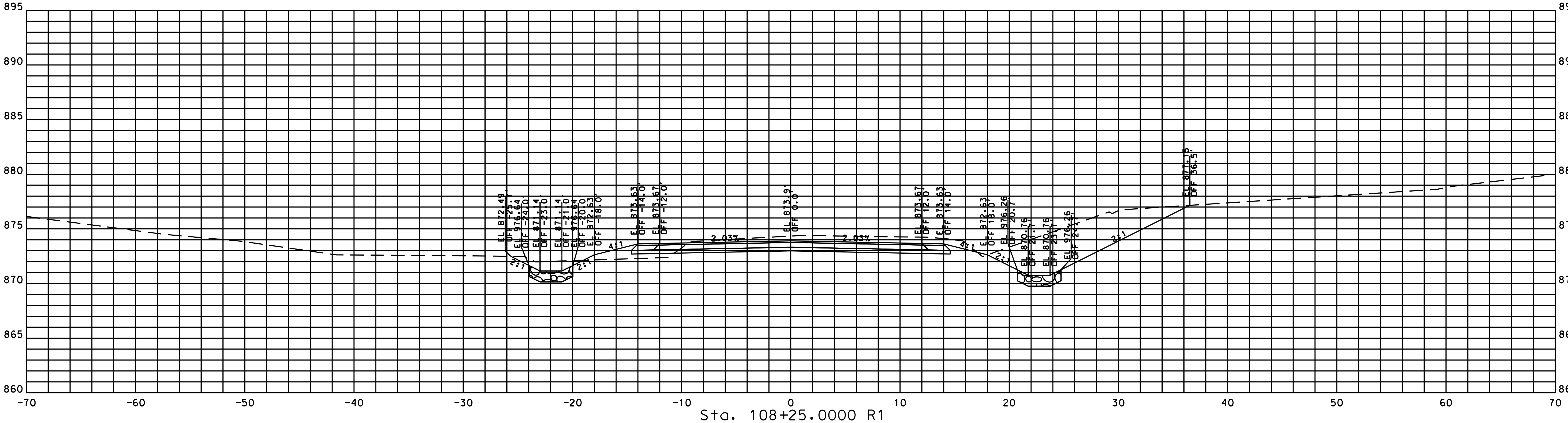
DATE	DESCRIPTION

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

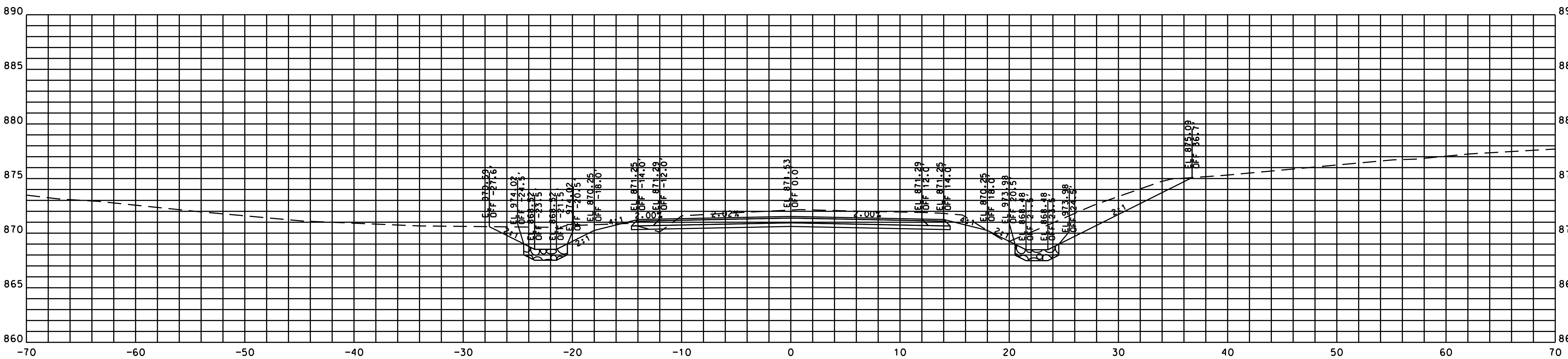
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS



Sta. 108+25.0000 R1



Sta. 108+00.0000 R1

STA. 108+00.0000 TO STA. 108+25.0000

STATE OF MISSOURI
LAWRENCE OQUENDO
10-31-19
NUMBER PE-2011034796
PROFESSIONAL ENGINEER

DATE	
09/23/2019	
DATE PREPARED	
09/23/2019	
ROUTE 188TH	STATE MO
DISTRICT KC	SHEET NO. 11
COUNTY CLAY	
JOB NO. 36201B	
CONTRACT ID.	
PROJECT NO. BRO-B024(26)	
BRIDGE NO. 06200081	

DESCRIPTION

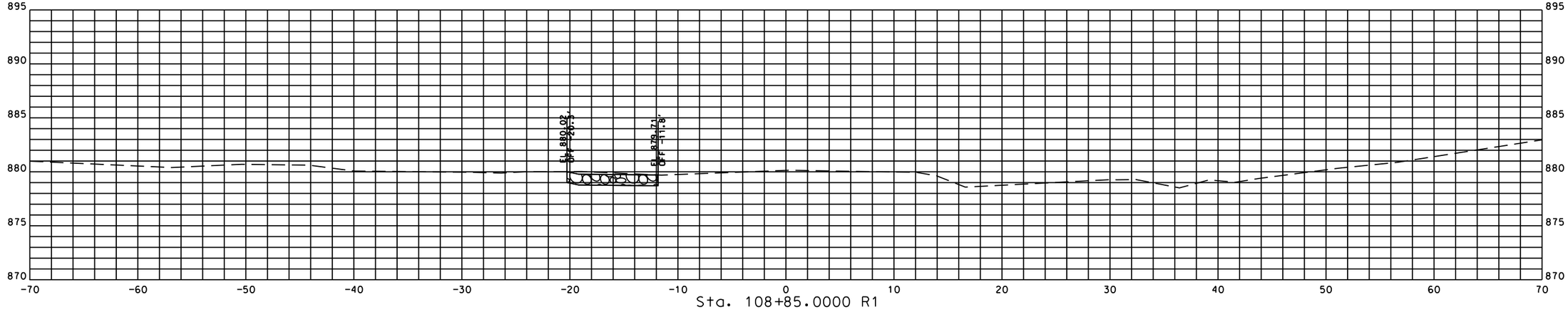
DATE

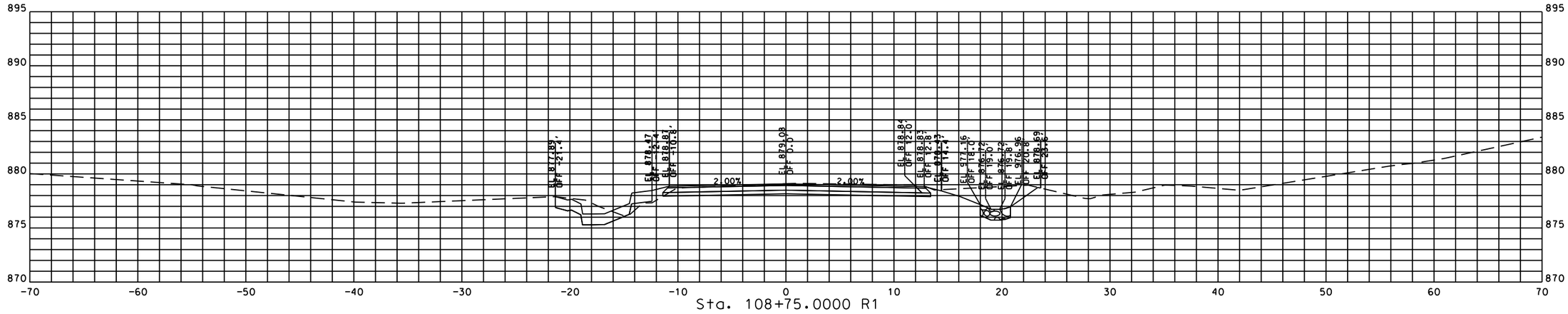
CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT
16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

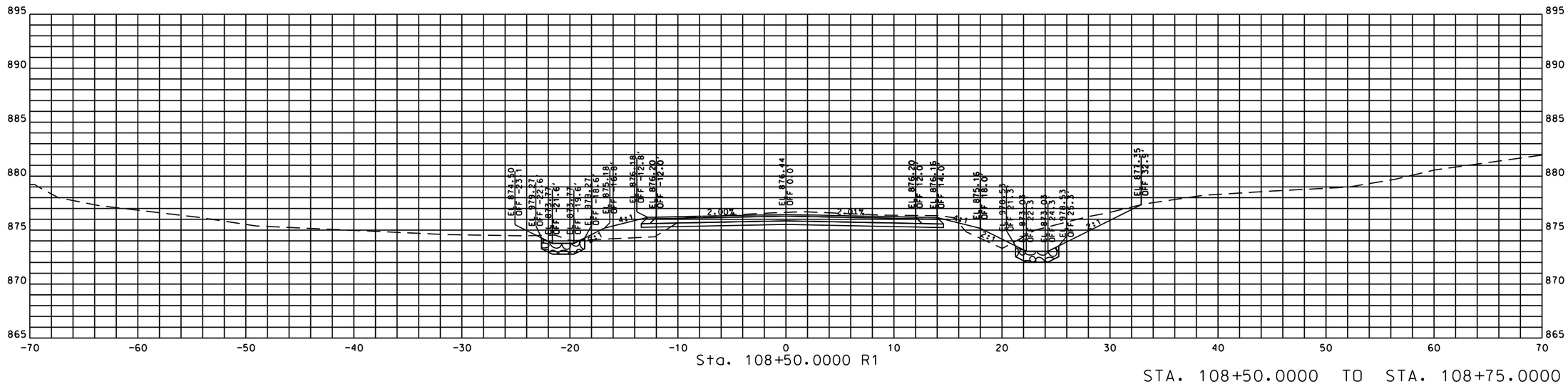
WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS

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







STA. 108+50.0000 TO STA. 108+75.0000

DATE
09/23/2019

DATE PREPARED
09/23/2019

ROUTE	STATE
188TH	MO

DISTRICT	SHEET NO.
KC	12

COUNTY
CLAY

JOB NO.
36201B

CONTRACT ID.

PROJECT NO.
BRO-B024(26)

BRIDGE NO.
06200081

DESCRIPTION	DATE

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

CLAY COUNTY, MISSOURI
HIGHWAY DEPARTMENT

16616 NE 116TH STREET
KEARNEY, MO 64060
PHONE: (816) 407-3300

WSP USA Inc.
300 Wyandotte Street
Suite 200
Kansas City, MO 64105
816.702.4300

CROSS SECTIONS

Invitation for Bid No. 20-20

CLAY COUNTY BRIDGE REPLACEMENT BRO-B024(26)

Bids for the Proposal for the construction of Clay County Bridge No. 06200081 are due on the 26th day of March, 2020 at 2:00 P.M. (prevailing Local Time). Bids can be submitted by either: 1) delivery of sealed hard-copy bid to Clay County Highway Department, 16616 NE 116th Street, Kearney, MO 64060; OR 2) electronic upload of the bid in pdf form through Public Purchase website (www.publicpurchase.com).

After the time noted above, the bids will be opened and read.

The proposed work includes: Demolition of the existing NE 188th Street Bridge spanning New Hope Creek and the construction of a new three-span solid superstructure slab bridge, approach roadway work, and incidental work in accordance with the plans and specifications.

A digital copy of the plans and specifications, as well as bid package, may be downloaded through the Clay County Purchasing web site's link to Public Purchase (publicpurchase.com). Specific questions on the documents can be directed to the Engineer of Record, Lawrence Oquendo PE at WSP USA Inc., 816-702-4241.

All labor used in the construction of this public improvement shall be paid a wage no less than the prevailing hourly rate of wages of work of a similar character in this locality as established by the United States Department of Labor (Federal Wage Rate), or by the Missouri Department of Labor and Industrial Relations (State Wage Rate), whichever is higher.

The Clay County Commission hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, businesses owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed, sex, age, ancestry, or national origin In consideration for an award.

All bidders must be on MoDOT's Qualified Contractor List per Section 102.2 of the Missouri Standard Specifications for Highway Construction, 2019 Edition including all revisions. The contractor questionnaire must be on file seven (7) days prior to bid opening.

Contractors and sub-contractors who sign a contract to work on public works projects shall provide a 10-Hour OSHA construction safety program, or similar program approved by the Department of Labor and Industrial Relations, to be completed by their on-site employees within sixty (60) days of beginning work on the construction project.

The DBE Goal for this project is 10%.

No second tier subcontracting will be allowed on this project.

A certified cashier's check or a bid bond in the amount of 5% shall be submitted with each proposal.

The Clay County Purchasing reserves the right to reject any or all bids.

The project will be awarded to the lowest, responsive, responsible bidder.

Clay County Purchasing