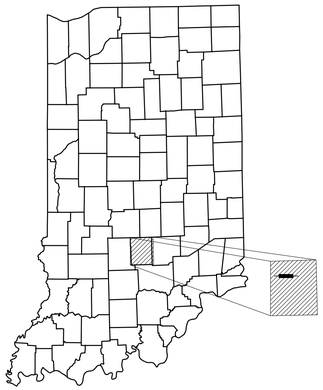
WHITELAND ROAD - BRIDGE 85 AND CULVERT P-004 REPLACEMENT

FOR THE

JOHNSON COUNTY COMMISSIONERS
JOHNSON COUNTY, INDIANA

DESIGN DATA	
DESIGN SPEED	50 M.P.H.
PROJECT DESIGN CRITERIA	3R (Non-Freeway)
FUNCTIONAL CLASSIFICATION	LOCAL ARTERIAL
RURAL/URBAN	URBAN
TERRAIN	LEVEL
ACCESS CONTROL	NONE



PROJECT LOCATION SHOWN BY JOHNSON COUNTY

JOHNSON COUNTY
BOARD OF COMMISIONERS

APPROVED: DATE January 27, 2026

BRIAN P. BAIRD — CHAIRMAN

KEVIN M. WALLS — MEMBER

RONALD H. WEST — MEMBER

ELIZABETH A. ALVEY — AUDITOR

LUCAS MASTIN — HIGHWAY SUPERVISOR

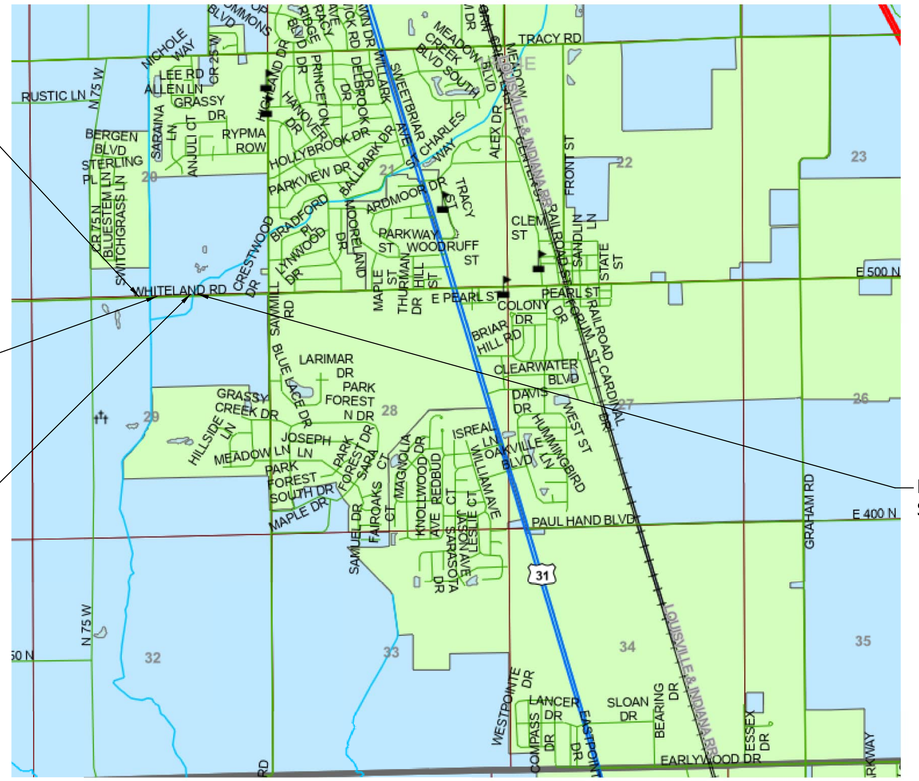
DANIEL JOHNSTON, P.E. — HIGHWAY ENGINEER, ERC

Begin Bridge 85 Project
MPO Des. 2211FFE
Sta. 14+00.00 "A"

End Bridge 85 Project
MPO Des. 2211FFE
Sta. 16+00.00 "A"

Begin Culvert P-004 Project
Sta. 24+10.00 "A"

End Culvert P-004 Project
Sta. 24+80.00 "A"



SCALE: 1" = 1000'

BRIDGE 85	LATITUDE: N 39° 32' 57.7" LONGITUDE: W 86° 06' 39.8"
CULVERT P-004	LATITUDE: N 39° 32' 57.9" LONGITUDE: W 86° 06' 27.9"
	HUC NUMBER: 051202040601

BRIDGE 85 REPLACEMENT - MPO Des. 2211FFE

CULVERT P-004 REPLACEMENT - LOCAL FUNDING

629 Washington Street
Columbus, IN 47201
812 372-9911
812 372-7190 FAX
www.strand.com

CHRISTOPHER M. BLAND — REGISTERED — NO. PE11100319 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Christopher M. Bland 1/21/2026
Christopher M. Bland, P.E. #11100319 Date

STRAND ASSOCIATES®

SHEET 1
JOB NO. 4068.002

UTILITIES

ELECTRIC:

Town of Bargersville
7760 W. New York St.
Indianapolis, IN 46214
ATTN: James Hill (Alpha Engineering)
(317) 313-4091
jimh@alphaeng.us

Johnson County REMC
750 International Dr.
Franklin, IN 46131
ATTN: Scott Jean
(317) 738-7639
jeans@jcremc.com

Duke Energy
570 Monon Blvd, Suite #200, Office #12/130
Carmel, IN 46032
ATTN: Zachary Bertrand (Leidos)
(317) 804-3878
zachary.m.bertrand@leidos.com

GAS:

CenterPoint - Distribution
4324 Middle Road
Columbus, IN 47203
ATTN: Timmy Langston
(812) 348-6703
timothy.langston@centerpointenergy.com

CenterPoint - Transmission
1 N. Main St.
Evansville, IN 47711
ATTN: Paul Bohlen
(812) 319-2617
paul.bohlen@centerpointenergy.com

WATER:

Indiana-American Water
153 N. Emerson Ave.,
Greenwood, IN 46143
ATTN: Ryan Bane
(765) 914-9636
ryan.bane@amwater.com

SEWER:

Town of New Whiteland Utilities
540 Tracy Road, Suite A
New Whiteland, IN 46184
ATTN: Matt Gillock
(317) 941-3544
matt.gillock@newwhiteland.in.gov

COMMUNICATION:

Johnson County REMC - Fiber
750 International Drive
Franklin, IN 46131
ATTN: Eric Bennett
(317) 736-6174
bennette@jcremc.com

BrightSpeed
2536 W. Industrial Park Dr., Suite 1
Bloomington, IN 47403
ATTN: Mark Weichman (Yates Engineering)
(812) 343-6507
mweichman@yesrus.com

COMCAST
225 Mulberry St.
Seymour, IN 47274
ATTN: Troy Kunkel (BSM Groups)
(812) 498-8970
troy.kunkel@bsmgroups.com

Metro Fibernet, LLC
149 S. US Hwy 31
Whiteland, IN 46184
ATTN: Natasha Mershon (The Masters Group)
(812) 553-3255
nmershon.medgroup@gmail.com

GENERAL NOTES

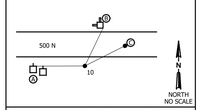
INDEX

BENCHMARK INFORMATION

TBM	STATION	OFFSET	ELEVATION	DESCRIPTION
1	25+96.81 "A"	17.20' RT.	784.48'	SURVEY NAIL, N FACE, PWP B56 208
2	11+69.67 "A"	16.61' RT.	785.18'	SURVEY NAIL, S FACE, PWP, B56 198

10 — NORTHING: 1,566,868.0797 — EASTING: 204,080.1394

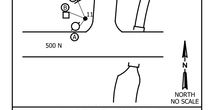
A = MAG NAIL, N FACE, PWP #B56209, 33.65', Az.=272°
B = SE COR, CONC FENCE POST, 36.85', Az.=26°
C = MAG NAIL (CL POINT #202), 38.64', Az.=60°



RANDOM CONTROL POINT
#5 REBAR w/ "STRAND ASSOC." I.D. CAP
SET AT GRADE

11 — NORTHING: 1,566,894.9188 — EASTING: 203,659.0196

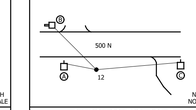
A = MAG NAIL, E FACE, TELE POLE, #A2928468, 10.40', Az.=245°
B = NE COR, TELE PED, 13.13', Az.=281°
C = SW COR, W POST, "NEW WHITELAND" SIGN, 17.40', Az.=353°



RANDOM CONTROL POINT
#5 REBAR w/ "STRAND ASSOC." I.D. CAP
SET AT GRADE

12 — NORTHING: 1,566,846.1604 — EASTING: 203,412.9037

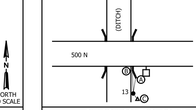
A = MAG NAIL, N FACE, PWP #B56205, 35.34', Az.=295°
B = SE COR, CONC FENCE POST, 61.25', Az.=326°
C = MAG NAIL, N FACE, PWP #B56206, 115.64', Az.=95°



RANDOM CONTROL POINT
#5 REBAR w/ "STRAND ASSOC." I.D. CAP
SET AT GRADE

13 — NORTHING: 1,566,814.8068 — EASTING: 202,787.1326

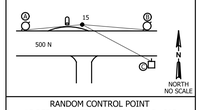
A = OUTSIDE COR, WING WALL, 21.90', Az.=27°
B = INSIDE COR, WING WALL, 25.85', Az.=3°
C = BURIED GAS MARKER, 6.60', Az.=152°



RANDOM CONTROL POINT
#5 REBAR w/ "STRAND ASSOC." I.D. CAP
SET AT GRADE

15 — NORTHING: 1,566,866.8533 — EASTING: 202,534.8088

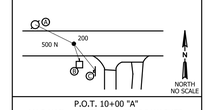
A = MAG NAIL, S FACE, TELE POLE #A4586760, 57.25', Az.=265°
B = MAG NAIL, S FACE, TELE POLE #A4586773, 67.55', Az.=100°
C = MAG NAIL, N FACE, PWP #B56201, 89.55', Az.=120°



RANDOM CONTROL POINT
#5 REBAR w/ "STRAND ASSOC." I.D. CAP
SET AT GRADE

200 — NORTHING: 1,566,840.9158 — EASTING: 202,264.4025

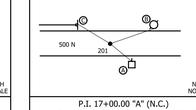
A = MAG NAIL, S FACE, TELE POLE #A4586771, 53.00', Az.=290°
B = MAG NAIL, N FACE, PWP, 15.56', Az.=175°
C = NE COR, "FOLEY" SIGN POST, 30.34', Az.=140°



P.O.T. 10+00 "A"
MAG NAIL w/ "STRAND ASSOC." WASHER
SET AT GRADE

201 — NORTHING: 1,566,859.7805 — EASTING: 202,964.1483

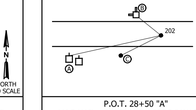
A = MAG NAIL, N FACE, PWP #B56203, 31.17', Az.=135°
B = MAG NAIL, S FACE, TELE POLE #A4586764, 54.62', Az.=71°
C = NE COR, BRIDGE WEIGHT SIGN POST, 57.43', Az.=290°



P.I. 17+00.00 "A" (N.C.)
MAG NAIL w/ "STRAND ASSOC." WASHER
SET AT GRADE

202 — NORTHING: 1,566,886.7889 — EASTING: 204,113.8321

A = MAG NAIL, N FACE, PWP #B56209, 69.77', Az.=254°
B = SE COR, CONC FENCE POST, 24.70', Az.=318°
C = #5 REBAR W/ STRAND CAP (CP #10), 38.64', Az.=240°



P.O.T. 28+50 "A"
MAG NAIL w/ "STRAND ASSOC." WASHER
SET AT GRADE

REVISIONS

SHEET NO.	DATE	REVISED

CHRISTOPHER M. BLAND — REGISTERED — NO. PE11100319 — STATE OF INDIANA — PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Christopher M Bland 1/21/2026
DESIGN ENGINEER — DATE

DESIGNED: GOS — DRAWN: GOS
CHECKED: CMB — CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

GENERAL NOTES AND INDEX

HORIZONTAL SCALE	BRIDGE FILE NO.
N/A	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	2 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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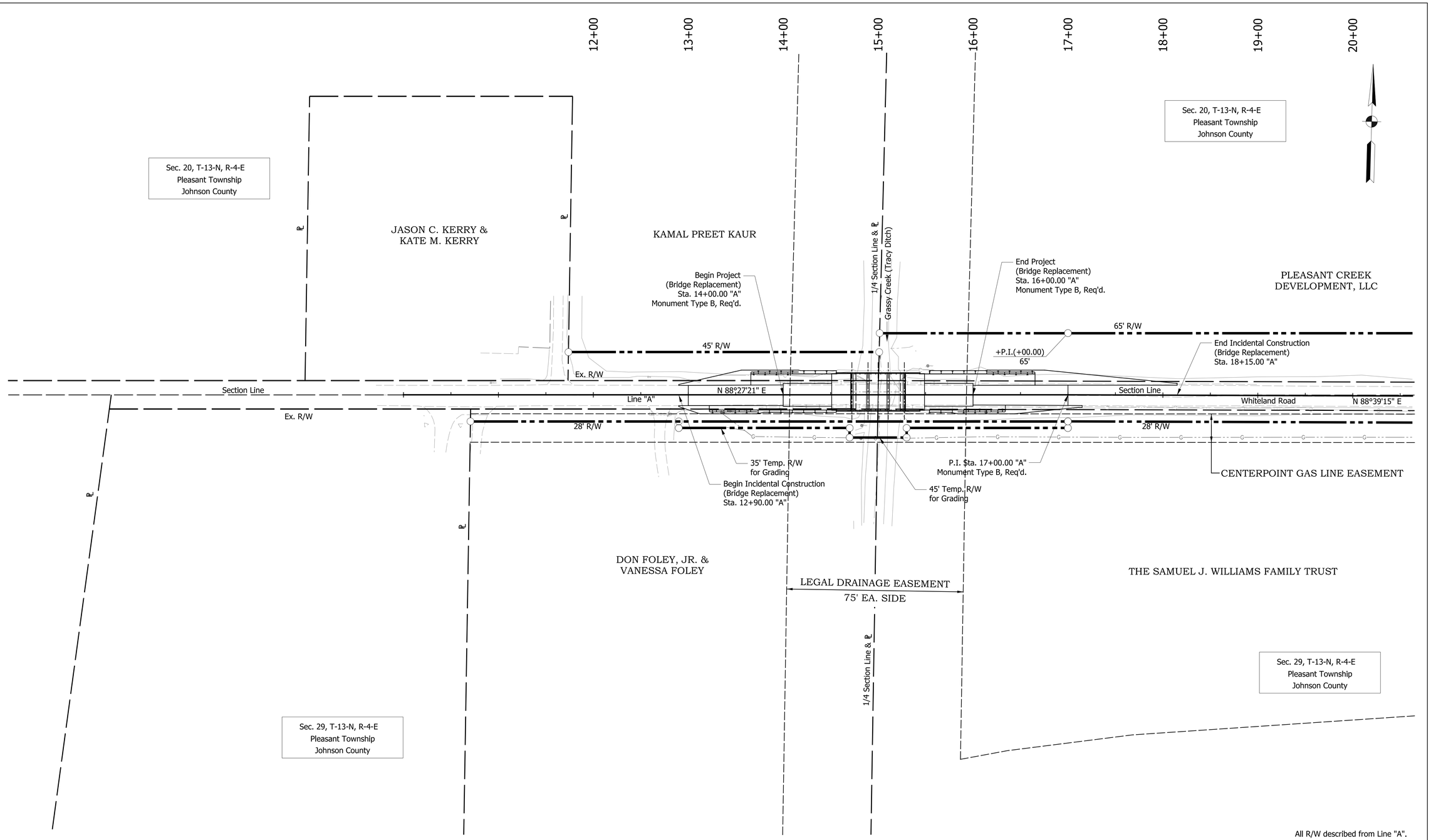

All R/W described from Line "A".
Line "A" to be constructed.

CHRISTOPHER M. BLAND
REGISTERED
NO.
PE11100319
STATE OF
INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

PLAT NO. 1
WHITELAND ROAD

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 50'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	3 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00

Sec. 20, T-13-N, R-4-E
Pleasant Township
Johnson County

LEGAL DRAINAGE EASEMENT
75' EA. SIDE

25' ACCESS EASEMENT

PLEASANT CREEK
DEVELOPMENT, LLC

East Grassy Creek
(Scott Highbridge Ditch)

Begin Project
(Culvert Replacement)
Sta. 24+10.00 "A"
Monument Type B, Req'd.

End Project
(Culvert Replacement)
Sta. 24+80.00 "A"
Monument Type B, Req'd.

Sec. 20, T-13-N, R-4-E
Pleasant Township
Johnson County

FRANK DOWNTOWN (1/2 INTEREST)
DEBORAH DIXON (1/2 INTEREST)

65' R/W

65' R/W

Begin Incidental Construction
(Culvert Replacement)
Sta. 23+60.00 "A"

Ex. R/W

Whiteland Road

N 88°39'15" E

Ex. R/W

Line "A"

Section Line

28' R/W

Ex. R/W

CENTERPOINT GAS LINE EASEMENT

CENTERPOINT GAS
LINE EASEMENT

35' Temp. R/W
for Grading

50' Temp. R/W
for Grading

End Incidental Construction
(Culvert Replacement)
Sta. 25+30.00 "A"

LOT 1 LOT 2 LOT 3 LOT 4 LOT 5 LOT 6 LOT 7

BEECHWOOD
PLAT BOOK "B", PAGE 248

THE SAMUEL J. WILLIAMS
FAMILY TRUST

INDIANA GAS
COMPANY, INC.

LEGAL DRAINAGE EASEMENT
75' EA. SIDE

WILLCRAFT, INC.

Sec. 29, T-13-N, R-4-E
Pleasant Township
Johnson County

All R/W described from Line "A".
Line "A" to be constructed.

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CHRISTOPHER M. BLAND
REGISTERED
NO. PE11100319
STATE OF INDIANA
PROFESSIONAL ENGINEER

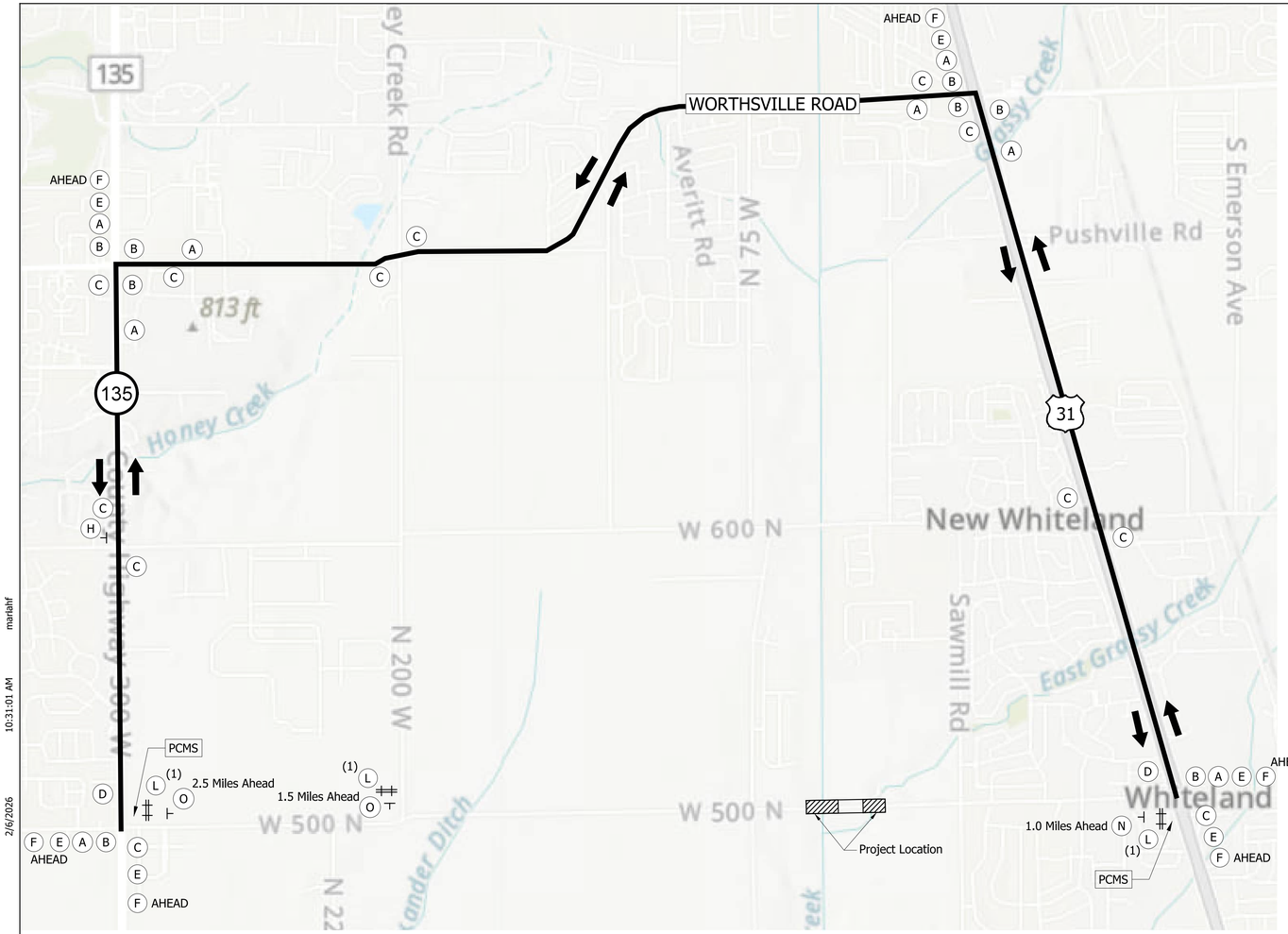
RECOMMENDED FOR APPROVAL
Christopher M. Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

PLAT NO. 1
WHITELAND ROAD

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 50'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	4 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE



LEGEND

- Construction Sign
- Barricade III-A
- Barricade III-B
- Roadway Construction
- Posted Detour Route
- Traffic Flow Arrow

Detour Route Marker Assemblies

A	DRMA (Advance Turn)	8 EACH
B	DRMA (Directional)	8 EACH
C	DRMA (Confirming)	12 EACH
D	DRMA (End)	2 EACH

Type A Construction Signs

E	XW20-2 (Detour Ahead)	6 EACH
F	XW20-3 (Road Closed _____)	18 EACH
G	XG20-5 (Advance Closure Notice)	6 EACH

Type B Construction Signs

H	R5-2 (No Trucks Sign)	1 EACH

Barricades

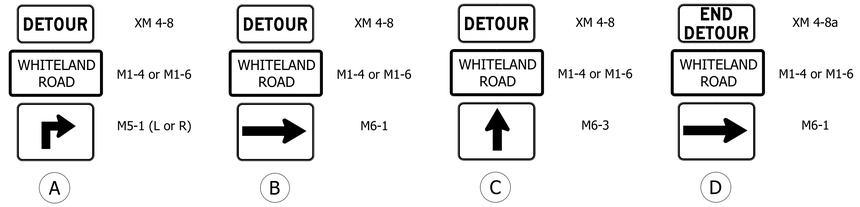
K	Barricade, Type III-A (No. of 12' Units)	72 LFT (6)
L	Barricade, Type III-B (No. of 12' Units)	84 LFT (7)

Road Closure Sign Assemblies

N	RCSA (R11-3 and XM4-10 (L))	2 EACH
O	RCSA (R11-3 and XM4-10 (R))	3 EACH
P	RCSA (R11-2)	2 EACH

NOTES

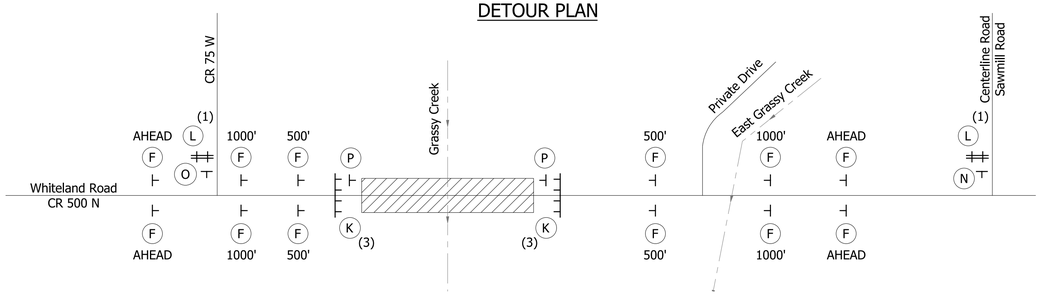
1. See Standard Drawing E 801-TCDT-04 for Detour Route Marker Assembly Details and Notes.
2. Road Closure for Bridge 85 and Culvert P-04 should be phased for each individual project.



DETOUR ROUTE MARKER ASSEMBLIES

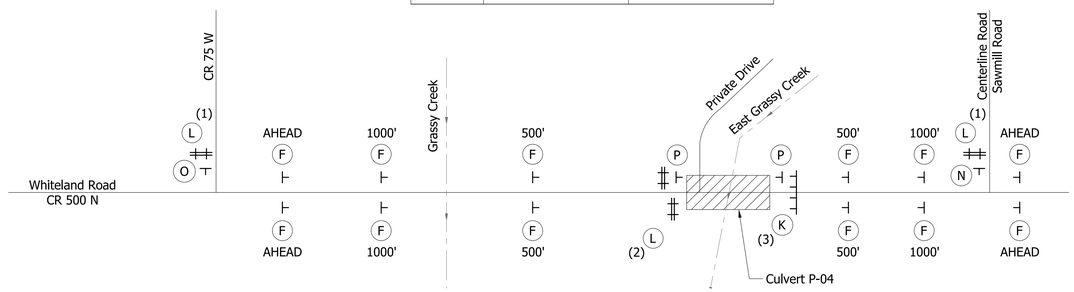
PCMS MESSAGE	PORTABLE CHANGEABLE MESSAGE SIGN SUMMARY TABLE	
	WHITELAND ROAD & SR 135 INTERSECTION	WHITELAND ROAD & US 31 INTERSECTION
1	ROAD CLOSED	ROAD CLOSED
2	DETOUR SR 135 N	DETOUR US 31 N

DETOUR PLAN



PROJECT LOCATION - BRIDGE 85

Not to Scale



PROJECT LOCATION - CULVERT P-04

Not to Scale

CHRISTOPHER M. BLAND REGISTERED No. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY HIGHWAY DEPARTMENT

DETOUR AND SIGNAGE
WHITELAND ROAD

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 500'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	5 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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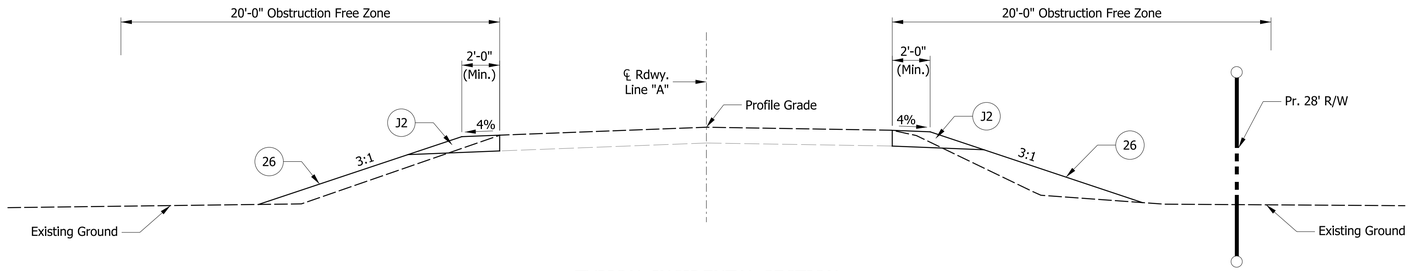
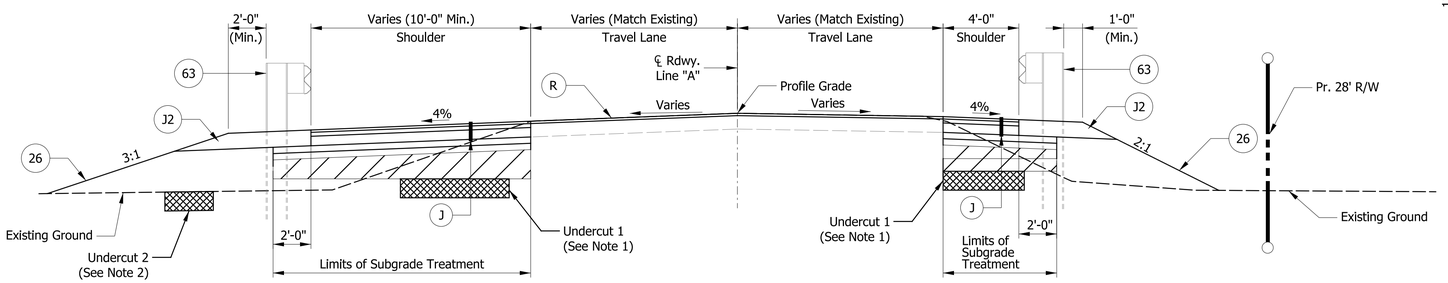


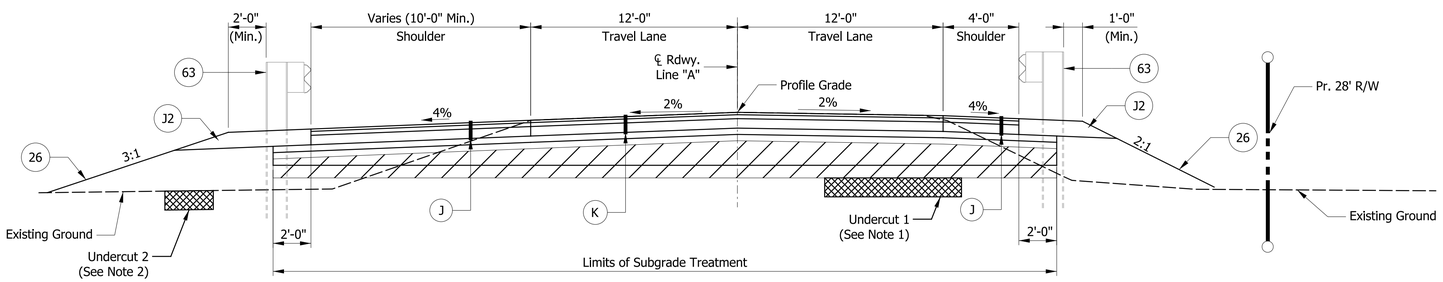
TYPICAL INCIDENTAL SECTION

Sta. 12+40.00 "A" to Sta. 13+00.00 "A"
Sta. 17+00.00 "A" to Sta. 18+15.00 "A"



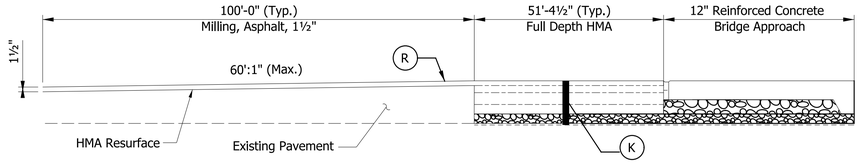
TYPICAL RESURFACE SECTION

Sta. 13+00.00 "A" to Sta. 14+00.00 "A"
Sta. 16+00.00 "A" to Sta. 17+00.00 "A"



TYPICAL FULL DEPTH SECTION

Sta. 14+00.00 "A" to Sta. 14+51.38 "A"
Sta. 15+48.63 "A" to Sta. 16+00.00 "A"



HMA RESURFACE DETAIL

NOT TO SCALE

NOTES

1. Limits of undercut under Subgrade Treatment to be determined by Engineer. Replace unsuitable soil with 12-inches of INDOT No. 8 stone encapsulated with Geotextile for Pavement, Type 2A. Typical Each Side.

2. Limits of undercut under embankment fill to be determined by Engineer. Replace unsuitable soil with 12-inches of INDOT No. 8 stone wrapped in Geotextile for Pavement, Type 2A. Typical Each Side.

LEGEND

- (26) Seed Mixture, Floodplain
- (63) MGS Guardrail
- (J2) 10" Compacted Aggregate, No. 53
- (K) Full Depth HMA Pavement - Mainline
  165 lbs/sys QC/QA-HMA, 3, 58S, Surface, 9.5 mm on
  275 lbs/sys QC/QA-HMA, 3, 58S, Intermediate, 19.0 mm on
  660 lbs/sys QC/QA-HMA, 3, 58S, Base, 25.0 mm on
  4 in. Compacted Aggregate, No. 53 on
  4 in. Compacted Aggregate, No. 2 on
  Subgrade Treatment, Type IC on
  Geotextile for Pavement, Type 2B
- (J) Full Depth HMA Pavement - Shoulder
  165 lbs/sys QC/QA-HMA, 3, 58S, Surface, 9.5 mm on
  275 lbs/sys QC/QA-HMA, 3, 58S, Intermediate, 19.0 mm on
  660 lbs/sys QC/QA-HMA, 3, 58S, Base, 25.0 mm on
  4 in. Compacted Aggregate, No. 53 on
  4 in. Compacted Aggregate, No. 2 on
  Subgrade Treatment, Type IC on
  Geotextile for Pavement, Type 2B
- (R) HMA Resurface
  165 lbs/sys QC/QA-HMA, 3, 58S, Surface, 9.5 mm on
  Milling, Asphalt, 1½ in.

CHRISTOPHER M. BLAND
REGISTERED
NO. PE11100319
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Christopher M Bland 1/21/2026
DESIGN ENGINEER — DATE

DESIGNED: GOS | DRAWN: GOS
CHECKED: CMB | CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE TYPICAL ROADWAY SECTIONS
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1/4" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1/4" = 1'-0"	2211FFE
SURVEY BOOK NO.	SHEETS
	6 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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2/6/2026
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13+00 14+00 15+00 16+00 17+00 18+00

LEGAL DRAINAGE EASEMENT
75' EA. SIDE

Sec. 20, T-13-N, R-4-E
Pleasant Township
Johnson County

KAMAL PREET KAUR

Begin Incidental Construction
Sta. 12+90.00 "A"

"Do Not Spray" Sign
Sta. 13+00.00 "A", 20' Lt.

45' R/W

Const. Limits

Ex. R/W

Section Line

Whiteland Road

Ex. R/W

28' R/W

CENTERPOINT GAS LINE EASEMENT

"Do Not Spray" Sign
Sta. 13+00.00 "A", 20' Rt.

Begin Project
Sta. 14+00.00 "A"

℄ Str.
Sta. 15+00.00 "A"
No Skew

"Do Not Spray" Sign
Sta. 14+50.00 "A", 30' Lt.

1/4 Section Line & ℄

Grassy Creek (Tracy Ditch)

+℄(+01.63)
65'

+℄(+01.13)
45'

N 88°27'21" E

35' Temp. R/W for Grading

"Do Not Spray" Sign
Sta. 14+50.00 "A", 25' Lt.

45' Temp. R/W for Grading

1/4 Section Line & ℄

DON & VANESSA FOLEY JR.

Sec. 29, T-13-N, R-4-E
Pleasant Township
Johnson County

PLEASANT CREEK
DEVELOPMENT, LLC

65' R/W

End Project
Sta. 16+00.00 "A"

65' R/W

+P.I.(+00.00)
65'

"Do Not Spray" Sign
Sta. 16+00.00 "A", 30' Lt.

Const. Limits

P.I. Sta. 17+00.00 "A"
Monument Type B, Req'd.

Ex. R/W

N 88°39'15" E

Line "A"

Ex. R/W

28' R/W

Const. Limits

35' Temp. R/W for Grading

"Do Not Spray" Sign
Sta. 16+00.00 "A", 20' Rt.

Sec. 29, T-13-N, R-4-E
Pleasant Township
Johnson County

THE SAMUEL J. WILLIAMS FAMILY TRUST

End Incidental Construction
Sta. 18+15.00 "A"

"Do Not Spray" Sign
Sta. 18+00.00 "A", 15' Lt.

"Do Not Spray" Sign
Sta. 18+00.00 "A", 20' Lt.

+P.I.(+00.00)
28'

CENTERPOINT GAS LINE EASEMENT

Sec. 20, T-13-N, R-4-E
Pleasant Township
Johnson County

LEGEND

A	12 in. Reinforced Concrete Approach Slab
J2	10 in. Compacted Aggregate, No. 53
K	Full Depth HMA Pavement - Mainline
J	Full Depth HMA Pavement - Shoulder
R	HMA Resurface
26	Seed Mixture, Floodplain
34	Line, Paint, Solid, White, 6 IN.
35	Line, Paint, Broken, Yellow, 6 IN.

All R/W and existing topography described from Line "A".
Line "A" to be constructed.

CHRISTOPHER M. BLAND
REGISTERED
NO. PE11100319
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE CONSTRUCTION DETAILS
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 20'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	7 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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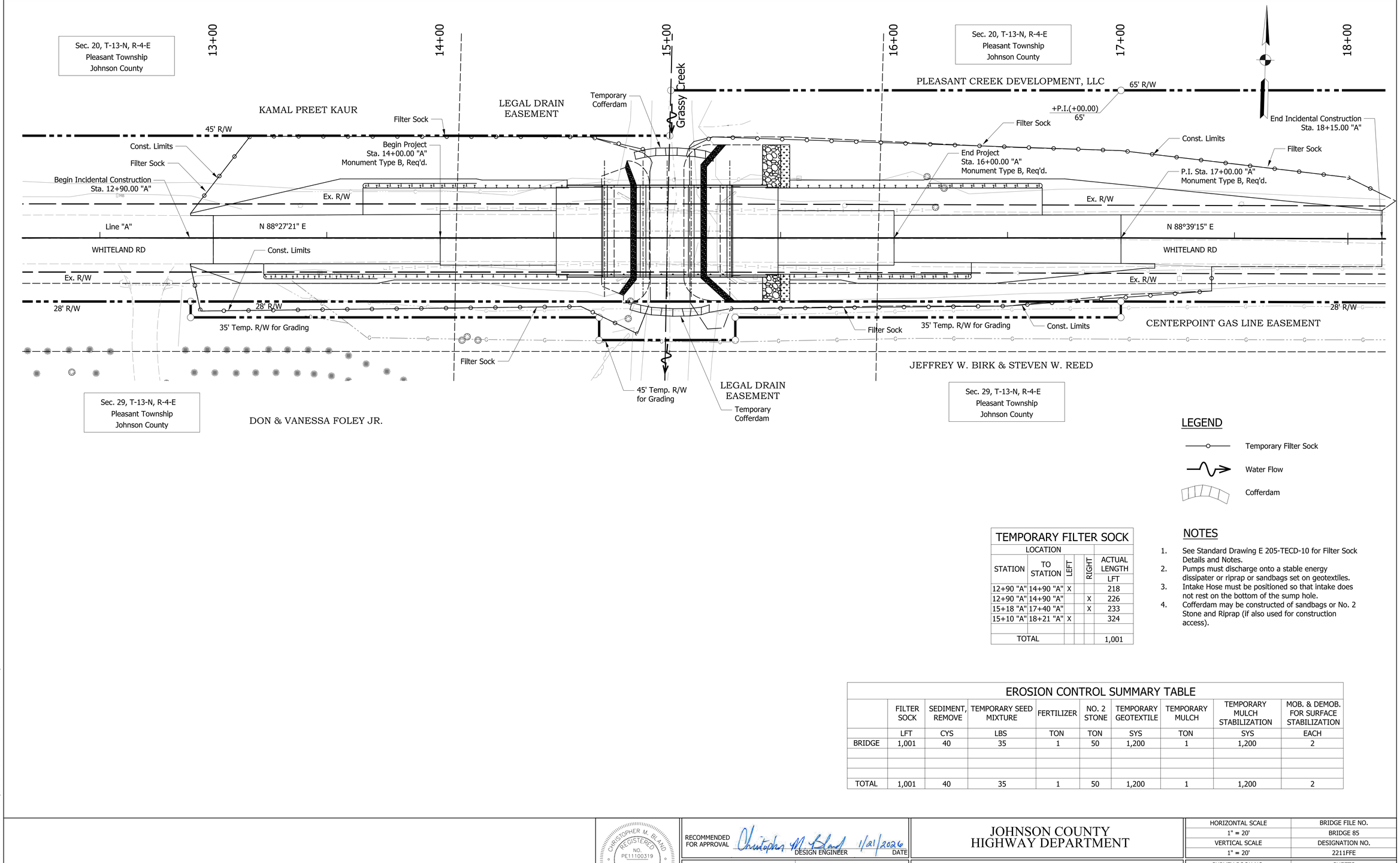

LEGEND

- Temporary Filter Sock
- Water Flow
- Cofferdam

TEMPORARY FILTER SOCK

LOCATION				
STATION	TO STATION	LEFT	RIGHT	ACTUAL LENGTH LFT
12+90 "A"	14+90 "A"	X		218
12+90 "A"	14+90 "A"		X	226
15+18 "A"	17+40 "A"		X	233
15+10 "A"	18+21 "A"	X		324
TOTAL				1,001

NOTES

1. See Standard Drawing E 205-TECD-10 for Filter Sock Details and Notes.
2. Pumps must discharge onto a stable energy dissipater or riprap or sandbags set on geotextiles.
3. Intake Hose must be positioned so that intake does not rest on the bottom of the sump hole.
4. Cofferdam may be constructed of sandbags or No. 2 Stone and Riprap (if also used for construction access).

EROSION CONTROL SUMMARY TABLE

	FILTER SOCK	SEDIMENT, REMOVE	TEMPORARY SEED MIXTURE	FERTILIZER	NO. 2 STONE	TEMPORARY GEOTEXTILE	TEMPORARY MULCH	TEMPORARY MULCH STABILIZATION	MOB. & DEMOB. FOR SURFACE STABILIZATION
	LFT	CYS	LBS	TON	TON	SYS	TON	SYS	EACH
BRIDGE	1,001	40	35	1	50	1,200	1	1,200	2
TOTAL	1,001	40	35	1	50	1,200	1	1,200	2

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE EROSION CONTROL PLAN
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 20'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 20'	2211FFE
SURVEY BOOK NO.	SHEETS
	8 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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LOG OF TEST BORING

Terracon

Project: Whiteland Road Structure Replacements
Location: Johnson Co., IN
Client: Strand Associates, Inc.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-1 | Elevation 780 | Datum WGS 84 | Proj. No. CJ235021 | Sheet 1 of 3

Proj. No. — | Struct. No. Johnson 85 & P-004 | Station 14+70 | Offset 5 Rt. A | Weather Sunny | Temp. 70° F | Driller — | Inspector B.N.

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_d pcf	W %	LL %	PL %	PI %
				0		**ASPHALTIC CONCRETE**							
SS-1	X	55	5				1½ ½			16.4 12.4			
SS-2	X	60	6				1½ 1½			15.1 10.4			
SS-3	X	85	7	5	775	**CLAY LOAM**, medium stiff to stiff, moist, brown and gray, with sandy loam seam near 5 ft, (fill to 5ft), A-6(6), SS-4 : SG = 2.71	1½			23.3			
SS-4	X	70	10				½		128.1	18.3	29	15	14
SS-5	X	100	56	10	770		3			7.7			
SS-6	X	95	54			**LOAM**, with some gravel, very stiff to hard, moist, gray	>4½			7.2			
SS-7	X	90	75/1	15	765		4½			11.0			
SS-8	X	85	39			**SAND**, dense, moist, gray							
				20	760								
SS-9	X	100	27			**CLAY LOAM**, stiff to hard, moist, gray, with sandy loam seam near 39 ft, with silty loam seam near 40 ft, with cobbles near 54.5 ft, A-4(1), SS-14 : SG = 2.71	>4½			10.2			
				25	755								
SS-10	X	85	50/4				>4½			10.1			
				30	750								

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	BF After Drilling
To Water	23	22	
To Cave-in		29	

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

GENERAL NOTES

Start 5/22/24 End 5/22/24 Rig CME 750X
Drilling Method 3¼" I.D. HSA
Remarks **Backfilled with auger cuttings, bentonite chips and concrete patch at surface.**

LOG OF TEST BORING

Terracon

Project: Whiteland Road Structure Replacements
Location: Johnson Co., IN
Client: Strand Associates, Inc.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-1 | Elevation 780 | Datum WGS 84 | Proj. No. CJ235021 | Sheet 2 of 3

Proj. No. — | Struct. No. Johnson 85 & P-004 | Station 14+70 | Offset 5 Rt. A | Weather Sunny | Temp. 70° F | Driller — | Inspector B.N.

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_d pcf	W %	LL %	PL %	PI %
SS-11	X	100	85	35	745		1¾			8.7			
SS-12	X	70	44	40	740		>4½			13.2			
SS-13	X	85	54	45	735	**CLAY LOAM**, stiff to hard, moist, gray, with sandy loam seam near 39 ft, with silty loam seam near 40 ft, with cobbles near 54.5 ft, A-4(1), SS-14 : SG = 2.71	4			8.4			
SS-14	X	70	48	50	730		4½	3.18	130.9	10.3	19	13	6
SS-15	X	45	68	55	725		4¼			8.7			
SS-16	X	100	48	60	720	**CLAY**, stiff to hard, moist, dark gray, with sandy clay loam seam near 66 ft, A-6	4			21.2			
SS-17	X	100	21	65	715		1			9.6			
						SAND, medium dense to dense, wet, gray, with silty clay seam near 74.5 ft							

Continued Next Page

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

LOG OF TEST BORING

Terracon

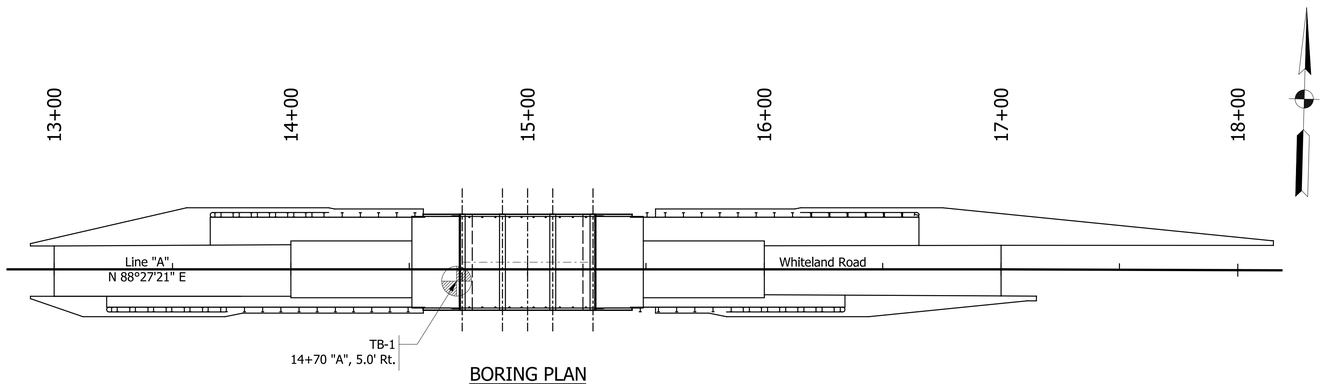
Project: Whiteland Road Structure Replacements
Location: Johnson Co., IN
Client: Strand Associates, Inc.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-1 | Elevation 780 | Datum WGS 84 | Proj. No. CJ235021 | Sheet 3 of 3

Proj. No. — | Struct. No. Johnson 85 & P-004 | Station 14+70 | Offset 5 Rt. A | Weather Sunny | Temp. 70° F | Driller — | Inspector B.N.

SAMPLE No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_d pcf	W %	LL %	PL %	PI %
SS-18	X	0	42	70	710								
						SAND, medium dense to dense, wet, gray, with silty clay seam near 74.5 ft							
SS-19	X	100	29	75	705								
SS-20	X	100	51	80	700	**GRAVELLY SAND**, medium dense to very dense, wet, gray, with heaving sand encountered below 75 ft							
SS-21	X	100	59	85	695								
SS-22	X	100	57	90	690								
						End of Boring at 90 ft							

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



BORING PLAN

PILE LOADING FOR GEOTECHNICAL TESTING

	Bent No. 1	Pier No. 2	Pier No. 3	Bent No. 4
Pile Size, Type, and Grade	HP 12 x 53 Grade 50	HP 12 x 53 Grade 50	HP 12 x 53 Grade 50	HP 12 x 53 Grade 50
Factored Design Load, Qf (kip)	143	116	98	128
Factored Design Soil Resistance, Rr (kip)	143	116	98	128
Resistance Factor	0.55	0.55	0.55	0.55
Downdrag Load, DD (kip)	Negligible	Negligible	Negligible	Negligible
Nominal Soil Resistance, Rn (kip)	260	211	178	233
Downdrag Friction, Rs (kip)	Negligible	Negligible	Negligible	Negligible
Scour Zone Friction, Rn (kip)	N/A	25	28	N/A
Relaxation of Tip in Shale (kip)	N/A	N/A	N/A	N/A
Nominal Driving Resistance, Rndr (kip)	260	236	206	233
Estimated Pile Tip Elevation	730	730	730	730
Minimum Pile Tip Elevation	741	752	752	741
Maximum Pile Tip Elevation	730	730	730	730
Testing Method	Dynamic Formula ISS 701.05 (a)			

NOTES

1. N indicates the number of blows required to drive a 1⅜" I.D., 1" O.D. Split-Spoon Sampler 6" by means of a 140-lb weight falling 30".
2. Piles shall not be driven below El. 730.

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS | DRAWN: GOS
CHECKED: CMB | CHECKED: CMB

INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS - TB-1
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1/32" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	9 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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LOG OF TEST BORING

Terracon

Project: Whiteland Road Structure Replacements
Location: Johnson Co., IN
Client: Strand Associates, Inc.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-2
Elevation 780
Datum WGS 84
Proj. No. CJ235021
Sheet 1 of 3

Proj. No. ---
Struct. No. Johnson 85 & P-004
Station 15+45
Offset 4 Lt. A
Weather Sunny
Temp. 70° F
Driller B.N.
Inspector ---

No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
						ASPHALTIC CONCRETE							
SS-1	X	60	4				1			18.3			
							1			18.1			
SS-2	X	65	4			**CLAY LOAM**, medium stiff to stiff, moist, brown (fill)	1½			18.0			
							1½			18.2			
SS-3	X	80	6	5	775		¾			18.1			
SS-4	X	85	11			**CLAY**, with some gravel, medium stiff, moist, brown and gray	½			21.2			
SS-5	X	95	50/.4	10	770		>4½			8.4			
SS-6	X	30	50/.5				>4½			7.3			
SS-7	X	85	50/.1	15	765		>4½			8.8			
SS-8	X	85	50			**CLAY LOAM**, with some gravel, very stiff to hard, moist, gray, with sand seams near 19 ft and 20 ft, with cobbles near 29 ft, with sand seams near 39 ft and 44 ft, SS-9 : SG = 2.73, A-4(2), SS-13 : SG = 2.71	>4½			10.0			
SS-9	X	100	67	25	755		>4½	7.85	135.3	7.9	21	12	9
SS-10	X	0	50/.4	30	750								

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	BF After Drilling
To Water	22	25	
To Cave-in	39	39	

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

GENERAL NOTES

Start 5/21/24 End 5/21/24 Rig CME 750X
Drilling Method 3¼" I.D. HSA
Remarks **Backfilled with auger cuttings, bentonite chips and concrete patch at surface.**

LOG OF TEST BORING

Terracon

Project: Whiteland Road Structure Replacements
Location: Johnson Co., IN
Client: Strand Associates, Inc.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-2
Elevation 780
Datum WGS 84
Proj. No. CJ235021
Sheet 2 of 3

Proj. No. ---
Struct. No. Johnson 85 & P-004
Station 15+45
Offset 4 Lt. A
Weather Sunny
Temp. 70° F
Driller B.N.
Inspector ---

No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
SS-11	X	95	98/0.8	35	745		3½			7.1			
SS-12	X	85	81	40	740		4			13.3			
SS-13	X	95	50/.4	45	735	**CLAY LOAM**, with some gravel, very stiff to hard, moist, gray, with sand seams near 19 ft and 20 ft, with cobbles near 29 ft, with sand seams near 39 ft and 44 ft, SS-9 : SG = 2.73, A-4(2), SS-13 : SG = 2.71							
SS-14	X	100	84/1	50	730		>4½			8.6			
SS-15	X	90	52	55	725		>4½			10.7			
SS-16	X	80	61	60	720	**CLAY**, hard, moist, dark gray, A-6(9), SS-16 : SG = 2.66	>4½	6.59	128.2	12.4	34	13	21
SS-17	X	100	66	65	715	**SAND**, medium dense to very dense, wet, gray, with heaving sand encountered below 70 ft, with sandy loam seam near 74 ft							

Continued Next Page

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

LOG OF TEST BORING

Terracon

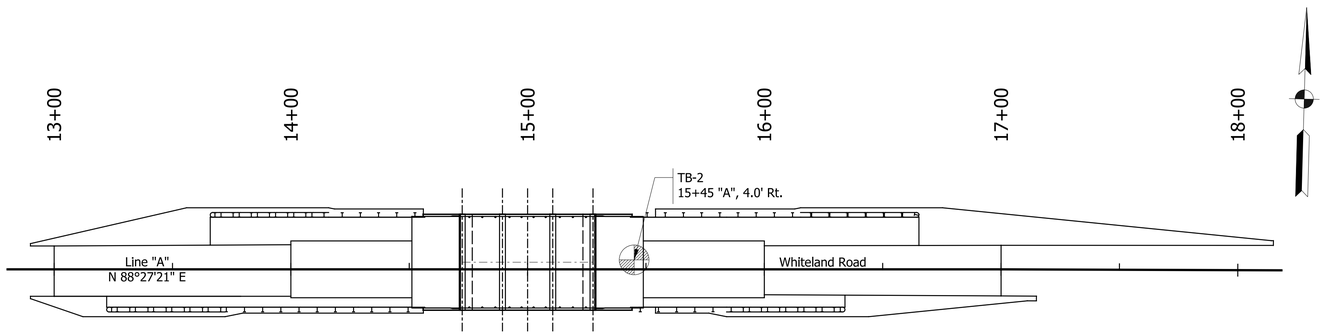
Project: Whiteland Road Structure Replacements
Location: Johnson Co., IN
Client: Strand Associates, Inc.
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. TB-2
Elevation 780
Datum WGS 84
Proj. No. CJ235021
Sheet 3 of 3

Proj. No. ---
Struct. No. Johnson 85 & P-004
Station 15+45
Offset 4 Lt. A
Weather Sunny
Temp. 70° F
Driller B.N.
Inspector ---

No.	Type	Rec %	N Value	Depth ft	Elev	DESCRIPTION/CLASSIFICATION and REMARKS	q_p tsf	q_u tsf	γ_t pcf	W %	LL %	PL %	PI %
SS-18	X	100	25	70	710	**SAND**, medium dense to very dense, wet, gray, with heaving sand encountered below 70 ft, with sandy loam seam near 74 ft							
SS-19	X	100	58	75	705								
SS-20	X	100	69	80	700	**GRAVELLY SAND**, very dense, wet, gray, with sand and gravel seam near 79 ft							
SS-21	X	100	87	85	695								
SS-22	X	100	89	90	690	End of Boring at 90 ft							

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



BORING PLAN

NOTES

1. N indicates the number of blows required to drive a 1⅜" I.D., 1" O.D. Split-Spoon Sampler 6" by means of a 140-lb weight falling 30".
2. Piles shall not be driven below El. 730.
3. See Sht. 9 for Pile Loading Summary.

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Christopher M Bland 1/21/2026
DESIGN ENGINEER — DATE

DESIGNED: GOS | DRAWN: GOS
CHECKED: CMB | CHECKED: CMB

INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS - TB-2
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1/32" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	10 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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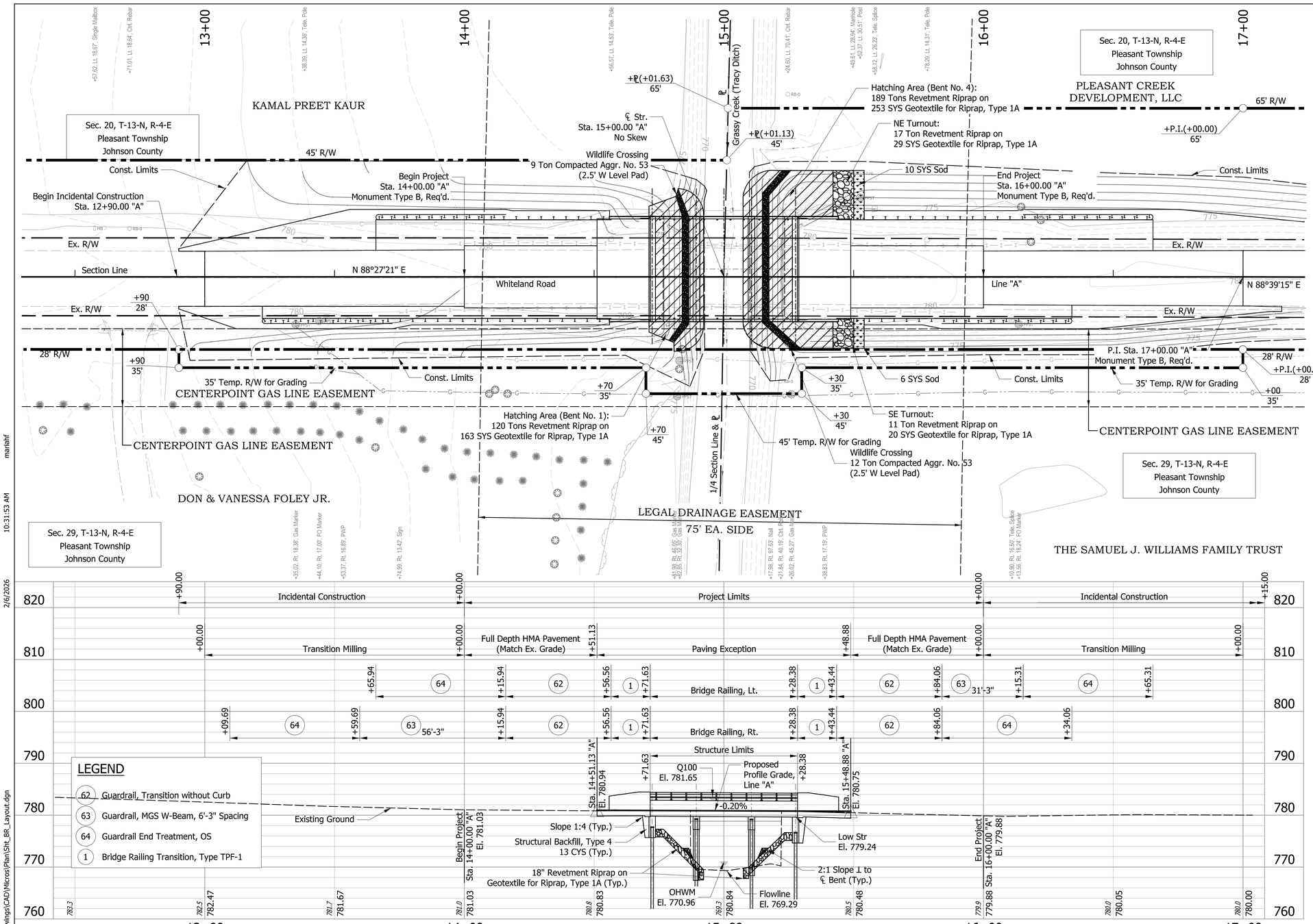


LEGEND

- (62) Guardrail, Transition without Curb
- (63) Guardrail, MGS W-Beam, 6'-3" Spacing
- (64) Guardrail End Treatment, OS
- (1) Bridge Railing Transition, Type TPF-1

EXISTING STRUCTURE

The existing structure (41-00085) is a single span adjacent concrete box beam bridge originally built in 1985 with a 37'-2" span and 23'-7" clear roadway width. Existing structure to be removed.

HYDRAULIC DATA

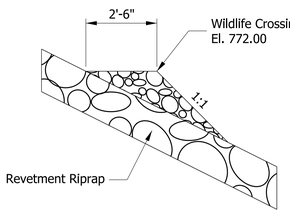
Drainage Area	=	8.37	sq. mi.
Q100	=	3,693	cfs
Q500	=	4,678	cfs
Q100 Elevation	=	781.65	ft.
Existing Backwater	=	1.02	ft.
Proposed Backwater	=	0.92	ft.
Velocity @ Q100	=	5.73	ft/s
Ex. Waterway Opening	=	295.51	sq. ft.
Prov. Waterway Opening	=	322.99	sq. ft.
Road Overflow Waterway Area	=	484	sq. ft.
Low Structure Elevation	=	779.24	ft.

HYDRAULIC SCOUR DATA

Q100 Contraction Scour	=	8.67	ft.
Q100 Total Scour	=	8.67	ft.
Q100 Low Scour Elevation	=	760.40	ft.
Q100 Max Velocity	=	7.231	ft/s
Q500 Contraction Scour	=	7.24	ft.
Q500 Total Scour	=	7.24	ft.
Q500 Low Scour Elevation	=	761.83	ft.
Q500 Max Velocity	=	6.86	ft/s

EARTHWORK TABULATION

Fill + 25%	870	cys
Common Excavation		
Usable	0	cys
Unusable	235	cys
Borrow	870	cys
Waterway Excavation	260	cys
Benching (Estimated)	360	cys



SECTION AT WILDLIFE CROSSING

Not to Scale

REINFORCED CONCRETE SLAB BRIDGE
3 SPANS: 17'-0", 21'-3", 17'-0"
38'-8" CLEAR ROADWAY; NO SKEW
WHITELAND ROAD OVER GRASSY CREEK
JOHNSON COUNTY

CHRISTOPHER M. BLAND
REGISTERED
NO. PE11100319
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/21/2026 — DATE

DESIGNED: GOS — DRAWN: GOS
CHECKED: CMB — CHECKED: CMB

JOHNSON COUNTY HIGHWAY DEPARTMENT

BRIDGE LAYOUT
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 20'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 10'	2211FFE
SURVEY BOOK NO.	SHEETS
	11 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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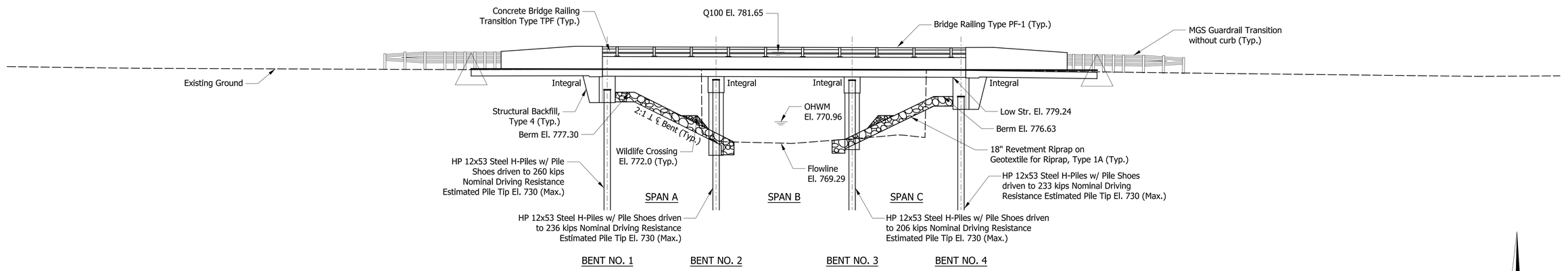
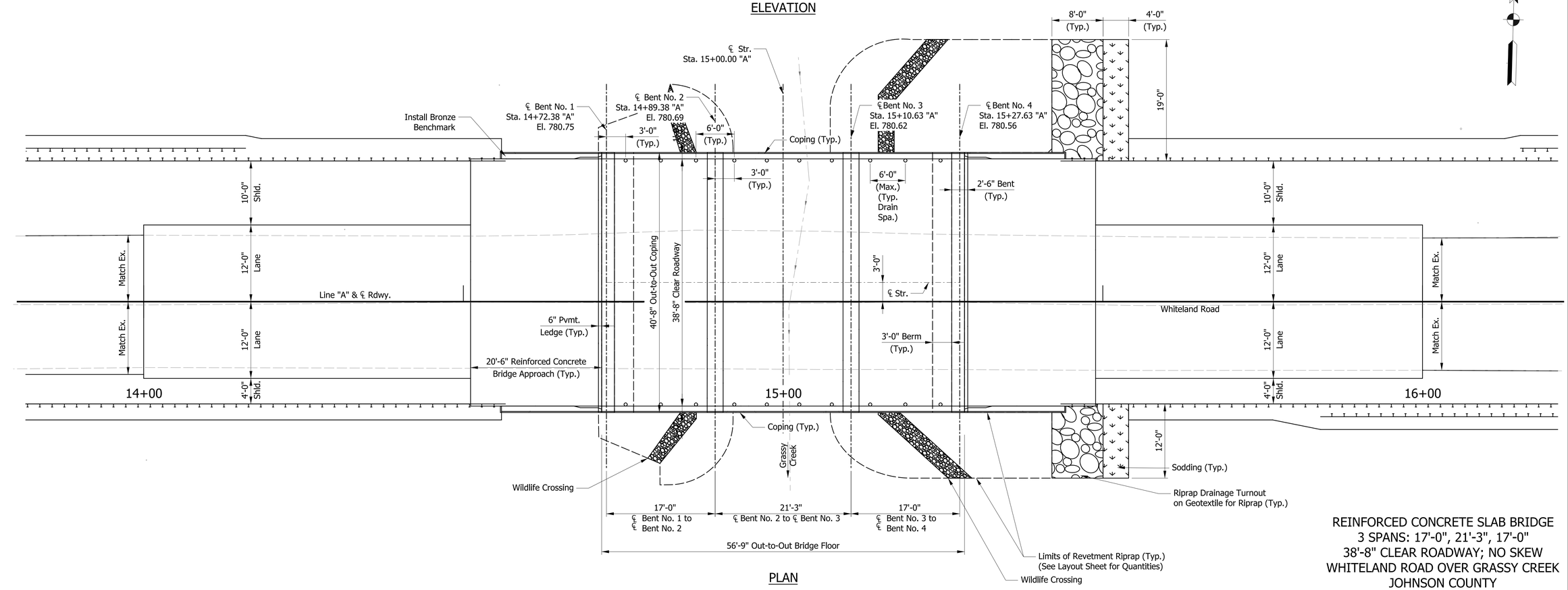
STRUCTURE TO BE BUILT ON A -0.20% GRADE



ELEVATION



PLAN

REINFORCED CONCRETE SLAB BRIDGE
3 SPANS: 17'-0", 21'-3", 17'-0"
38'-8" CLEAR ROADWAY; NO SKEW
WHITELAND ROAD OVER GRASSY CREEK
JOHNSON COUNTY

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

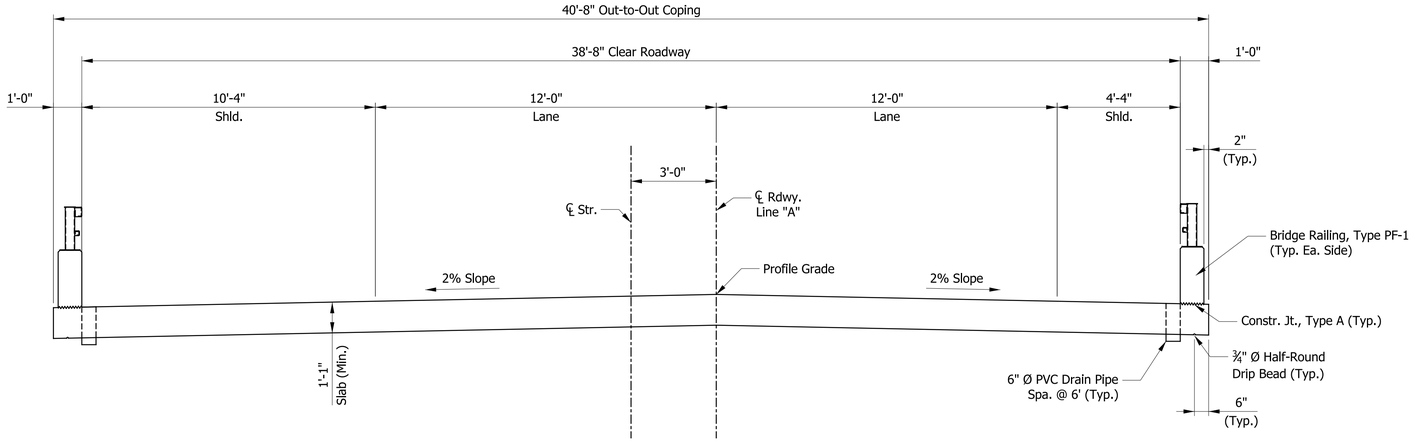
RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

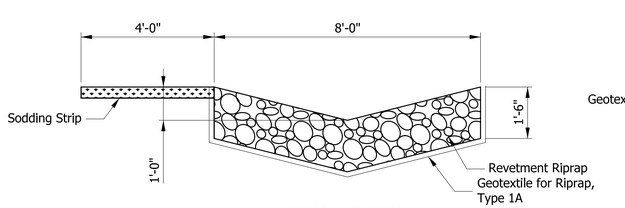
JOHNSON COUNTY HIGHWAY DEPARTMENT

BRIDGE GENERAL PLAN
WHITELAND ROAD OVER GRASSY CREEK

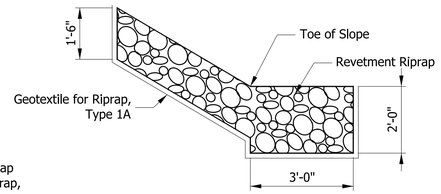
HORIZONTAL SCALE	BRIDGE FILE NO.
1/8" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1/8" = 1'-0"	2211FFE
SURVEY BOOK NO.	SHEETS
	12 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE



TYPICAL SECTION



TYPICAL SECTION



ELEVATION AT TOE OF SLOPE

RIPRAP TURNOUT DETAILS
Not to Scale

GENERAL NOTES

1. Reinforcing steel cover shall be 2½" in top and 2" minimum in bottom of floor slab, and 2" in all other parts, unless noted.

DESIGN DATA

Designed for HL-93 loading, in accordance with AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020 and its subsequent interims.

DEAD LOAD

Actual weight plus 35 lb/ft² for future wearing surface.

FLOOR SLAB

Designed with a 12½" structural depth plus ½" sacrificial wearing surface.

DESIGN STRESSES

CONCRETE

Class C f'c = 4,000 psi

REINFORCING STEEL

Grade 60 fy = 60,000 psi

SEISMIC DESIGN DATA

Seismic Performance Zone	Zone 1
Acceleration Coefficient	0.056
Seismic Soil Profile Type	Class D

REINFORCED CONCRETE SLAB BRIDGE
3 SPANS: 17'-0", 21'-3", 17'-0"
38'-8" CLEAR ROADWAY; NO SKEW
WHITELAND ROAD OVER GRASSY CREEK
JOHNSON COUNTY

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

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JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE GENERAL PLAN
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
3/8" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
3/8" = 1'-0"	2211FFE
SURVEY BOOK NO.	SHEETS
	13 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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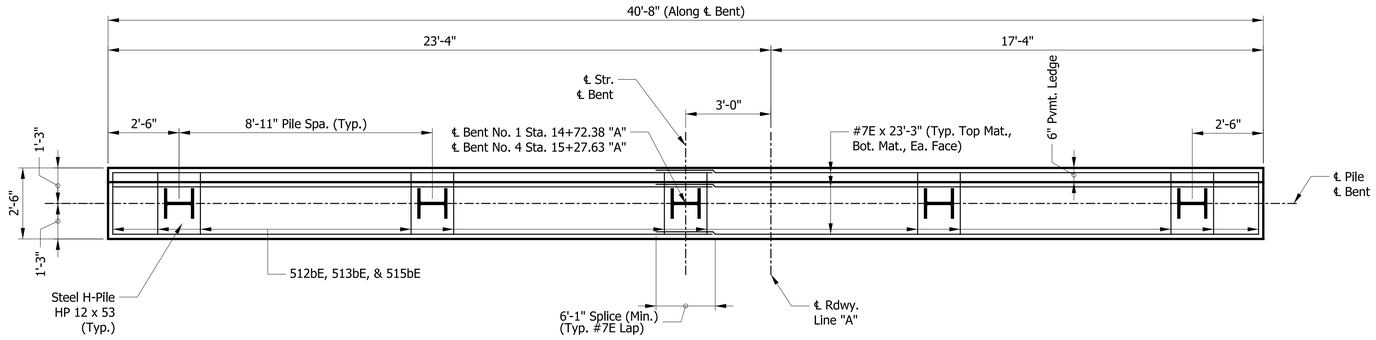
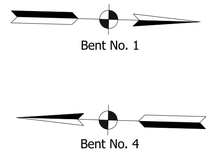
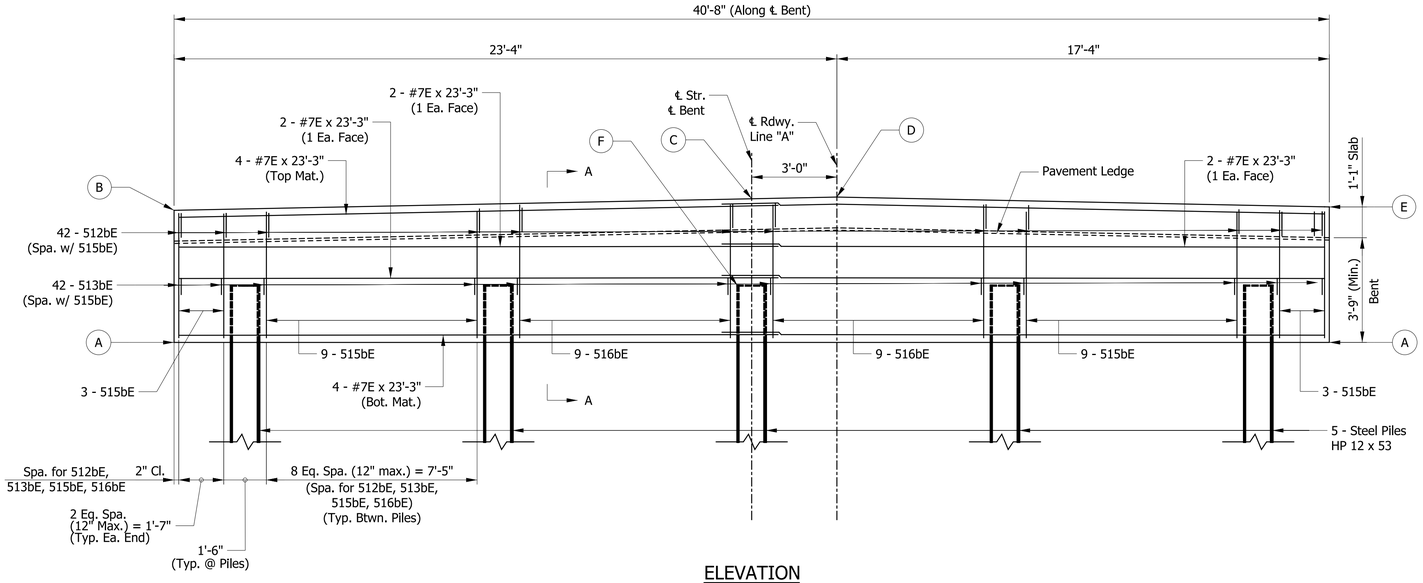


PLAN VIEW

(Bent No. 1 shown. Bent No. 4 mirrored about ℄ Str.)





ELEVATION
(ALONG ℄ BENT)

(Bent No. 1 shown. Bent No. 4 mirrored about ℄ Str.)

TABLE OF ELEVATIONS		
LOCATION	BENT NO. 1	BENT NO. 4
A	775.62	775.51
B	780.57	780.34
C	780.84	780.73
D	780.90	780.79
E	780.45	780.46
*F	777.62	777.51

* Top of Pile

NOTES

1. For Design Data and General Notes, see Sht. 13
2. For Reinforcement Bar Notes, see Std. Drawing E 703-BRST-01
3. The letter "E" denotes epoxy coated reinforcing
4. For Section "A-A", see Sht. 16
5. For Bar Bend Details and Bill of Materials, see Sht. 17

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
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CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

SUBSTRUCTURE DETAILS
EXTERIOR BENT DETAILS

HORIZONTAL SCALE	BRIDGE FILE NO.
3/8" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
3/8" = 1'-0"	2211FFE
SURVEY BOOK NO.	SHEETS
	14 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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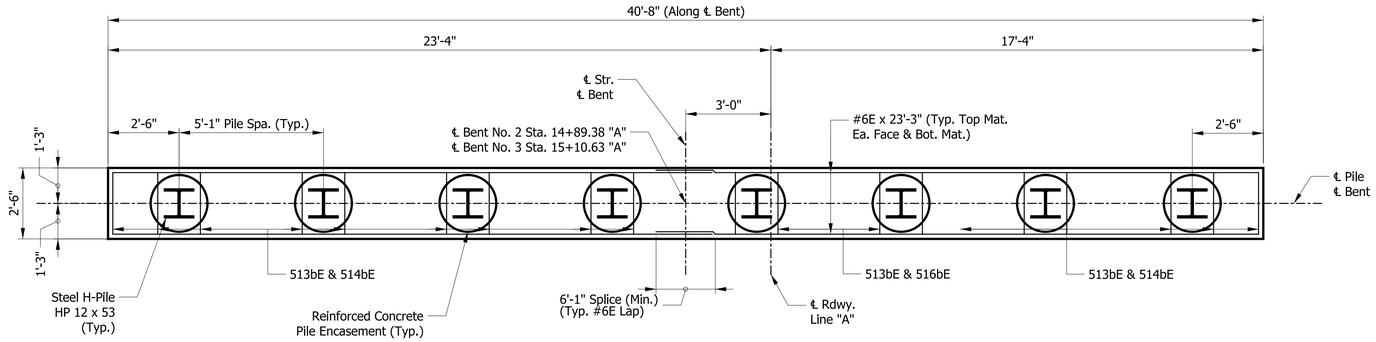
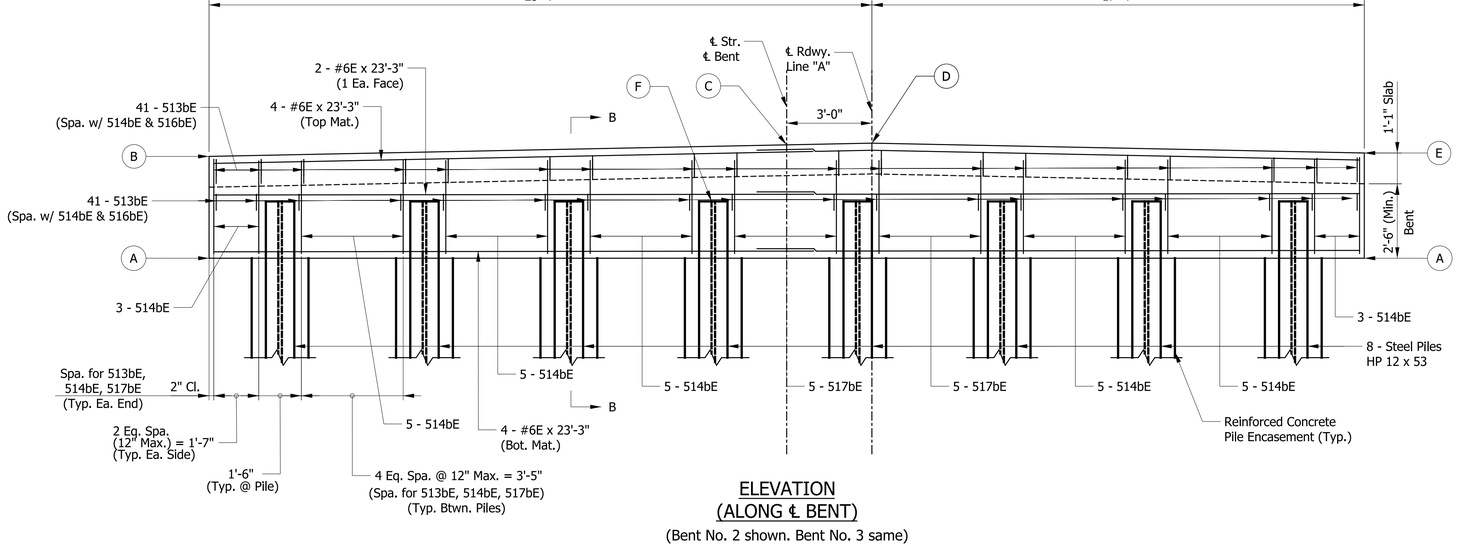


PLAN VIEW

(Bent No. 2 shown. Bent No. 3 same)



ELEVATION
(ALONG ℄ BENT)

(Bent No. 2 shown. Bent No. 3 same)

TABLE OF ELEVATIONS		
LOCATION	BENT NO. 2	BENT NO. 3
A	776.83	776.79
B	780.54	780.49
C	780.80	780.76
D	780.86	780.82
E	780.42	780.37
*F	778.83	778.79

* Top of Pile

NOTES

1. For Design Data and General Notes, see Sht. 13
2. For Reinforcement Bar Notes, see Std. Drawing E 703-BRST-01
3. The letter "E" denotes epoxy coated reinforcing
4. For Section "B-B", see Sht. 16
5. For Bar Bend Details and Bill of Materials, see Sht. 17
6. For Reinforced-Concrete Encasement for Pile Notes, see Std. Drawing E 701-BPIL-01.

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

SUBSTRUCTURE DETAILS
INTERIOR BENT DETAILS

HORIZONTAL SCALE	BRIDGE FILE NO.
3/8" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
3/8" = 1'-0"	2211FFE
SURVEY BOOK NO.	SHEETS
	15 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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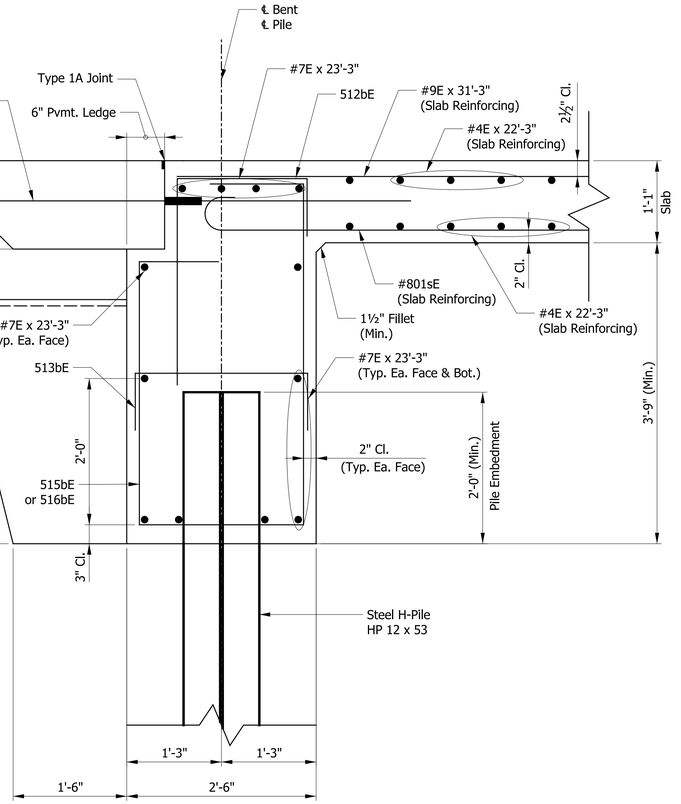
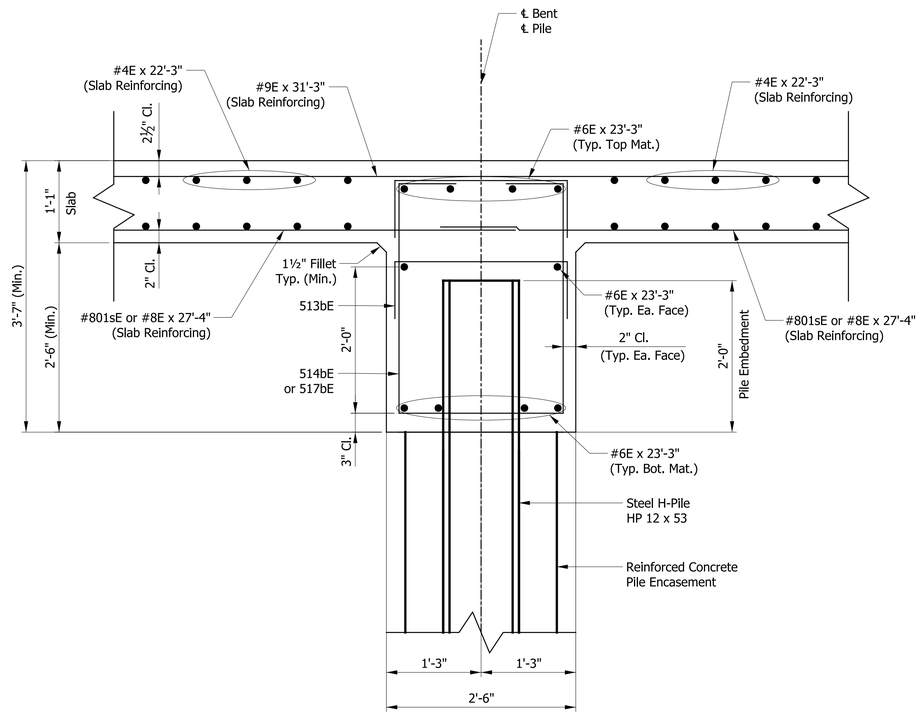


SECTION "A-A"
EXTERIOR BENT



SECTION "B-B"
INTERIOR BENT

NOTES

1. For Design Data and General Notes, see Sht. 13.
2. For Reinforcing Bar Notes, see Std. Drawing E 703-BRST-01.
3. The letter "E" denotes epoxy coated reinforcing.
4. For Location of Section "A-A" and Section "B-B", see Sht. 14-15.
5. For Bar Bend Details and Bill of Materials, see Sht. 17.
6. For Backfill Placement, see Std. Drawing E 211-BFIL-04.

CHRISTOPHER M. BLAND
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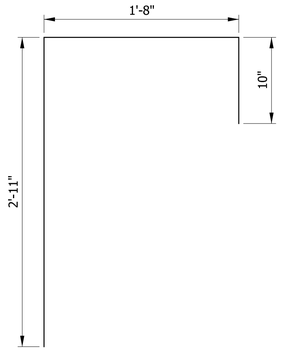
DESIGN ENGINEER — DATE

DESIGNED: GOS | DRAWN: GOS
CHECKED: CMB | CHECKED: CMB

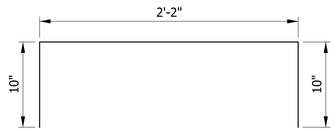
JOHNSON COUNTY
HIGHWAY DEPARTMENT

SUBSTRUCTURE DETAILS
BENT DETAILS

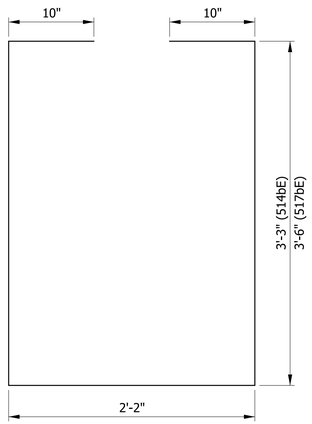
HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 1'-0"	2211FFE
SURVEY BOOK NO.	SHEETS
	16 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE



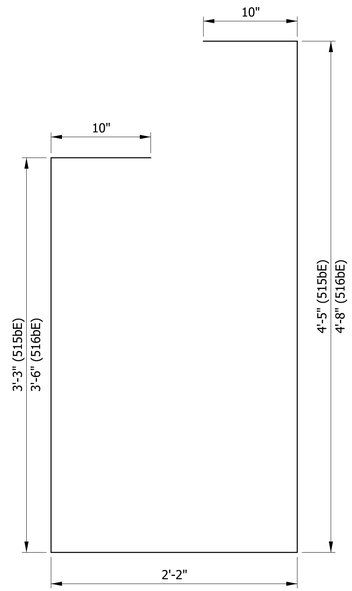
512bE x 5'-5"



513bE x 3'-10"



514bE x 10'-4"
517bE x 10'-10"



515bE x 11'-6"
516bE x 12'-0"

BAR BEND DETAILS

Not to Scale

BILL OF MATERIALS (PER ONE EXTERIOR BENT)

SIZE & MK	NO. OF BARS	LENGTH	WEIGHT
#7E	24	23'-3"	
TOTAL #7E			1,141#
512bE	42	5'-5"	
513bE	42	3'-10"	
515bE	24	11'-6"	
516bE	18	12'-0"	
TOTAL #5E			919#
TOTAL EPOXY-COATED STEEL			2,060#
MISCELLANEOUS			
Pile Shoe, HP 12x53			5 EACH
Pile, Steel, HP 12x53 (4 @ 50 LFT)			200 LFT
Test Pile, Indicator, Production (1 @ 60 LFT)			60 LFT
Test Pile, Indicator, Restrike			1 EACH
Structural Backfill, Type 4			13 CYS

BILL OF MATERIALS (PER ONE INTERIOR BENT)

SIZE & MK	NO. OF BARS	LENGTH	WEIGHT
#6E	20	23'-3"	
TOTAL #6E			699#
513bE	82	3'-10"	
514bE	31	10'-4"	
517bE	10	10'-10"	
TOTAL #5E			775#
TOTAL EPOXY-COATED STEEL			1,474#
MISCELLANEOUS			
Pile Shoe, HP 12x53			8 EACH
Pile, Steel, HP 12x53 (7 @ 50 LFT)			350 LFT
Test Pile, Indicator, Production (1 @ 60 LFT)			60 LFT
Test Pile, Indicator, Restrike			1 EACH
Reinforced Concrete Encasement for H-Piles			79 LFT

NOTES

1. For Design Data and General Notes, see Sht. 13.
2. For Reinforcement Bar Notes, see Std. Drawing E 703-BRST-01.
3. The letter "E" denotes epoxy coated reinforcing.
4. Concrete, C, Superstrucutre is billed with superstructure.

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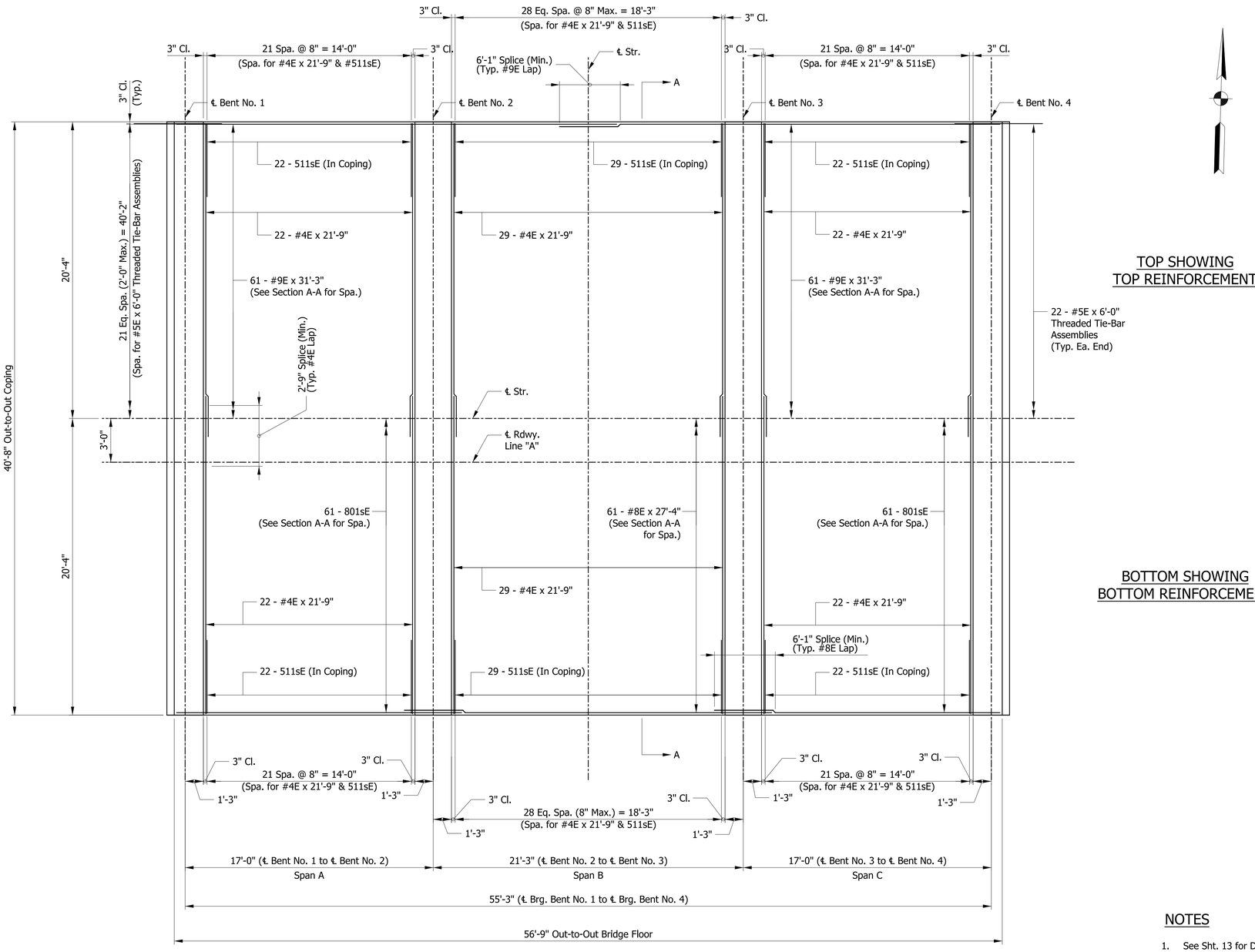
JOHNSON COUNTY HIGHWAY DEPARTMENT

SUBSTRUCTURE DETAILS
BENT DETAILS

HORIZONTAL SCALE	BRIDGE FILE NO.
As Noted	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
As Noted	2211FFE

SURVEY BOOK NO.	SHEETS
	17 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE



PLAN

TOP SHOWING
TOP REINFORCEMENT

BOTTOM SHOWING
BOTTOM REINFORCEMENT

NOTES

1. See Sht. 13 for Design Data and General Notes.
2. The letter "E" denotes epoxy coated reinforcement.
3. For Reinforcing Bar Notes, see Standard Drawing E 703-BRST-01.
4. For Section A-A, see Sht. 19.
5. For Bar Bend Details and Bill of Materials, see Sht. 20.

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DESIGN ENGINEER — DATE

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JOHNSON COUNTY
HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS
SLAB REINFORCMENT

HORIZONTAL SCALE	BRIDGE FILE NO.
1/4" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	18 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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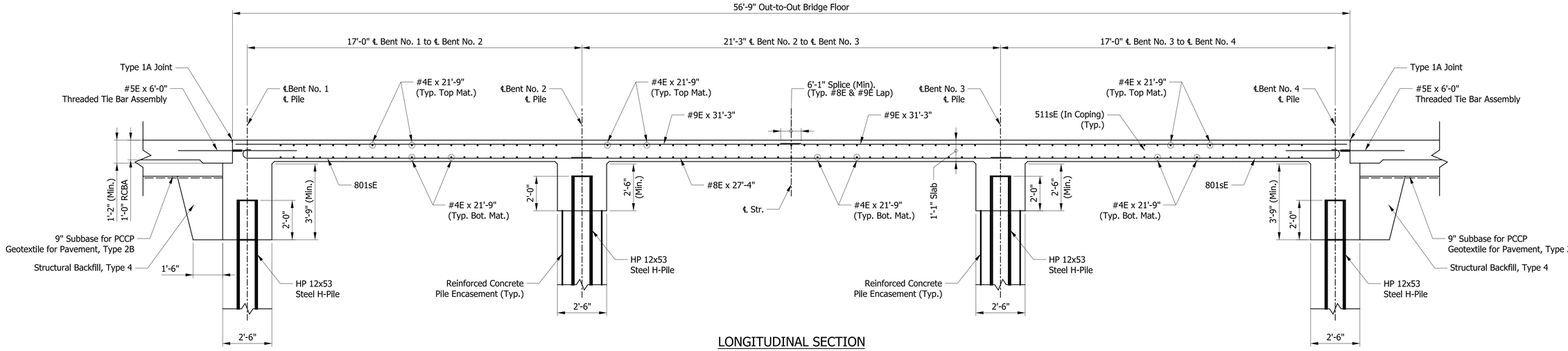
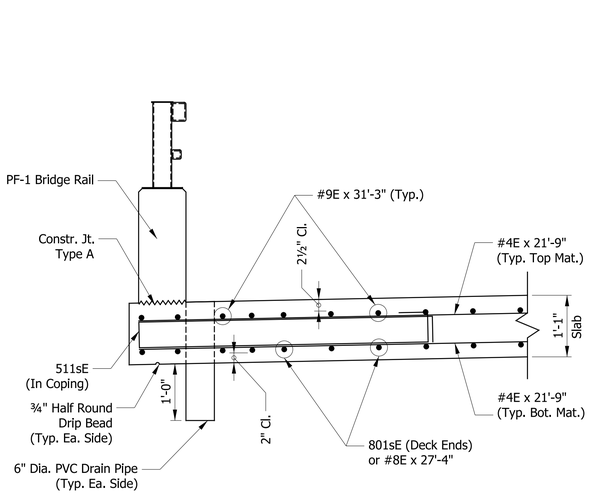


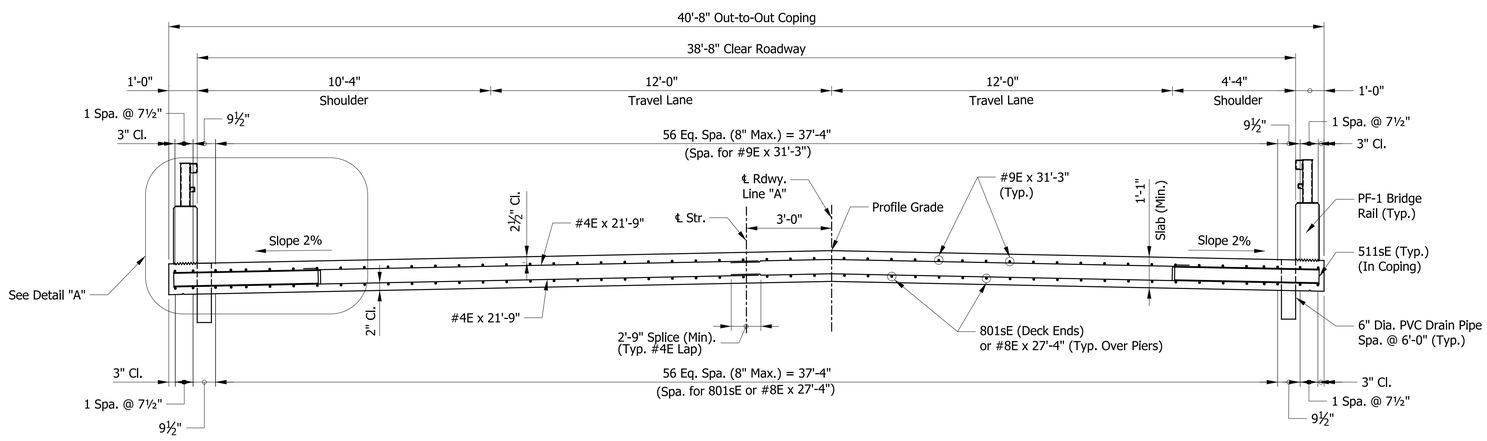
LONGITUDINAL SECTION

Scale: 3/8" = 1'-0"



DETAIL "A"

Scale: 3/4" = 1'-0"



SECTION A-A

Scale: 3/8" = 1'-0"

NOTES

1. See Sht. 13 for Design Data and General Notes.
2. The letter "E" denotes epoxy coated reinforcement.
3. For Reinforcing Bar Notes, see Standard Drawing E 703-BRST-01.
4. For Bar Bend Details and Bill of Materials, see Sht. 20.
5. For PF-1 Bridge Railing Details, see Standard Drawing E 706-BRPP-02.
6. For Details of 6" Dia. PVC Drain Pipe, see Standard Drawing E 704-SBFD-01.

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JOHNSON COUNTY HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
As Noted	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
As Noted	2211FFE
SURVEY BOOK NO.	SHEETS
	19 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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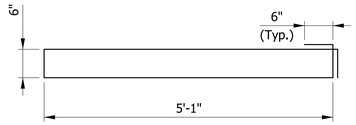
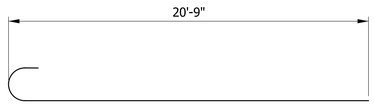


511sE x 12'-2"



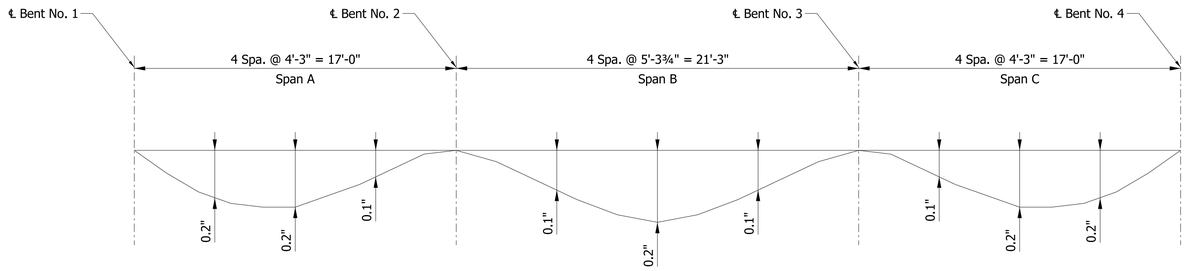
801sE x 21'-3"

BAR BEND DETAILS

Not to Scale

BILL OF MATERIALS SUPERSTRUCTURE

SIZE & MK	NO. OF BARS	LENGTH	WEIGHT
#9E	122	31'-3"	
TOTAL #9E			12,963#
#8E	61	27'-4"	
801sE	122	21'-8"	
TOTAL #8E			11,510#
511sE	146	12'-2"	
TOTAL #5E			1,853
#4E	292	21'-9"	
TOTAL #4E			4,243#
TOTAL EPOXY-COATED STEEL			30,569#
MISCELLANEOUS			
Concrete, C, Superstructure			139.6 CYS
#5E x 6'-0" Threaded Tie Bar			44 EACH
Longitudinal Grooving			244 SYS



CONCRETE DEAD LOAD DEFLECTION DIAGRAM

Not to Scale

NOTES

1. See Sht. 13 for Design Data and General Notes.
2. The letter "E" denotes epoxy coated reinforcement.
3. For Reinforcing Bar Notes, see Standard Drawing E 703-BRST-01.

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

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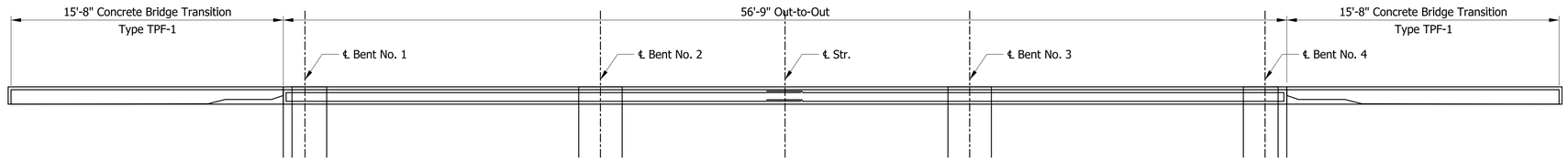
JOHNSON COUNTY HIGHWAY DEPARTMENT

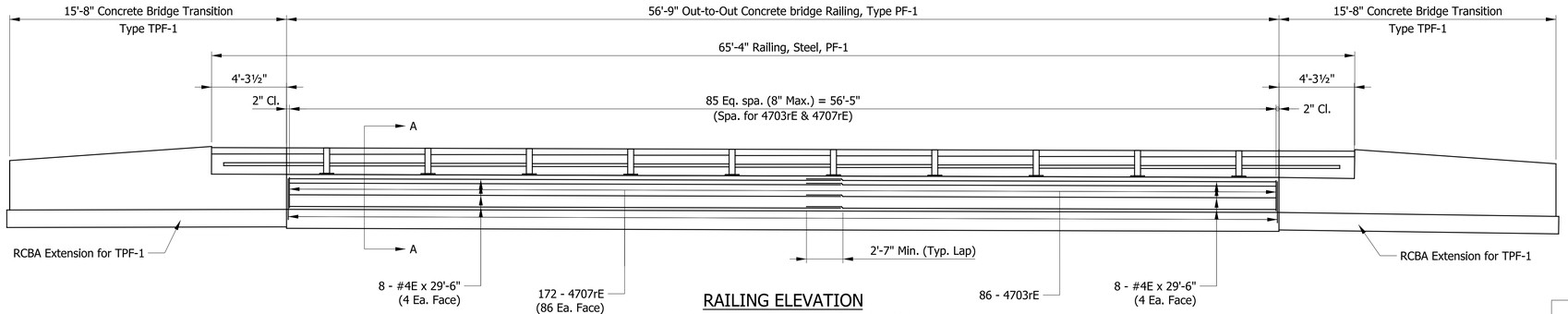
SUPERSTRUCTURE DETAILS
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
N/A	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	20 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE



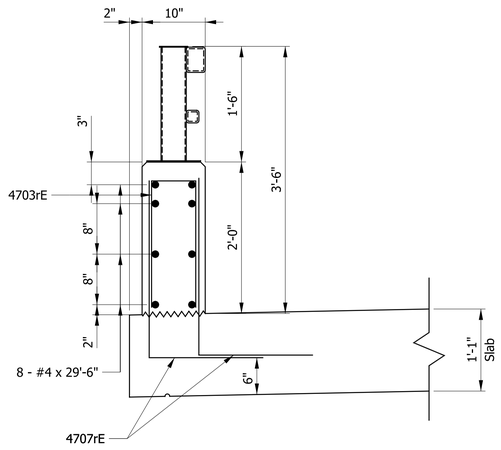
RAILING PLAN

(North Railing Shown. South Railing Same by 180°)
Scale: 1/4" = 1'-0"



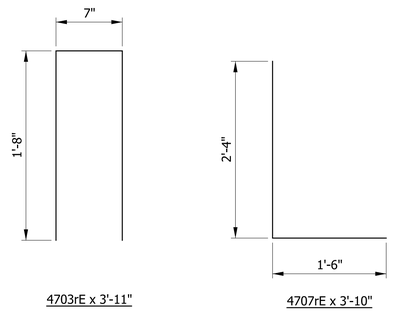
RAILING ELEVATION

(North Railing Shown. South Railing Same by 180°)
Scale: 1/4" = 1'-0"



SECTION A-A

Scale: 1" = 1'-0"



4703rE x 3'-11"

4707rE x 3'-10"

BAR BEND DETAILS

Not to Scale

BILL OF MATERIALS (PER ONE RAILING)

SIZE & MK	NO. OF BARS	LENGTH	WEIGHT
#4E	16	29'-6"	
4703rE	86	3'-11"	
4707rE	172	3'-10"	
TOTAL #4E			981#
TPF-1 RAILING TRANS. (2 x 730#)			1,460#
TOTAL EPOXY-COATED STEEL			2,441#
MISCELLANEOUS			
Railing, Concrete PF-1			3.5 CYS
Railing, Steel PF-1			66 LFT
Railing Transition, Type TPF-1			2 EACH

NOTES

1. For General Notes and Design Data, see Sht. 13.
2. All reinforcing bars shall be epoxy coated.
3. For Reinforcing Bar Notes, see Standard Drawing E 703-BRST-01.
4. For details of RCBA extension for TPF-1, see Standard Drawing E 609-TBAE-01 through -03.
5. For details of Bridge Rail Transition, TPF-1, see Standard Drawing E-706-TTPP-01 through -03.
6. For additional details and pay limits of Bridge Railing, Type PF-1, see Standard Detail E 706-BRPP-02 and -04 through -05.

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

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JOHNSON COUNTY HIGHWAY DEPARTMENT

RAILING DETAILS
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
As Noted	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
As Noted	2211FFE
SURVEY BOOK NO.	SHEETS
	21 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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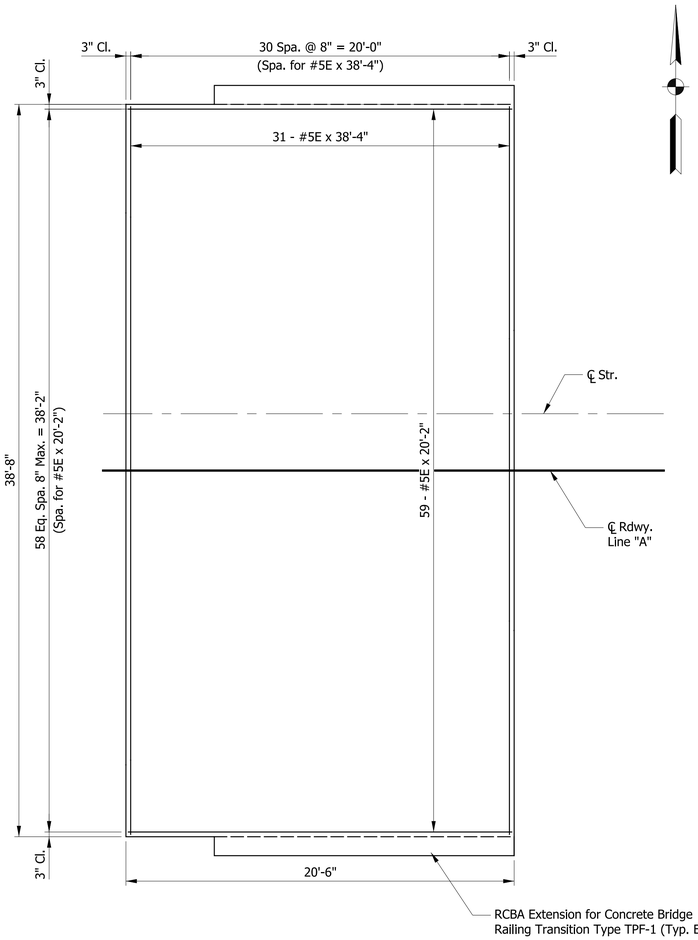
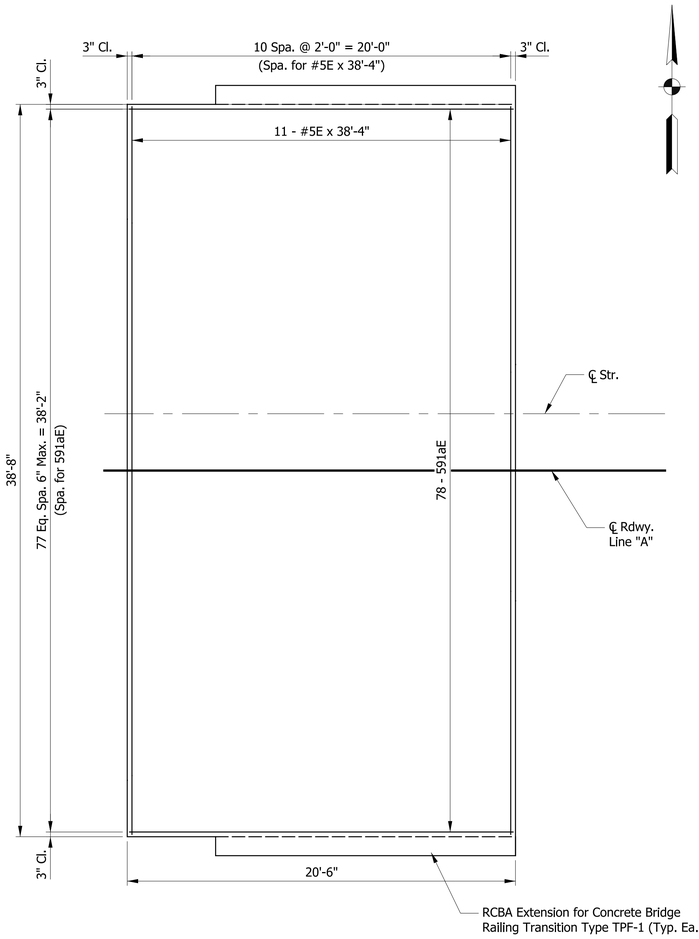


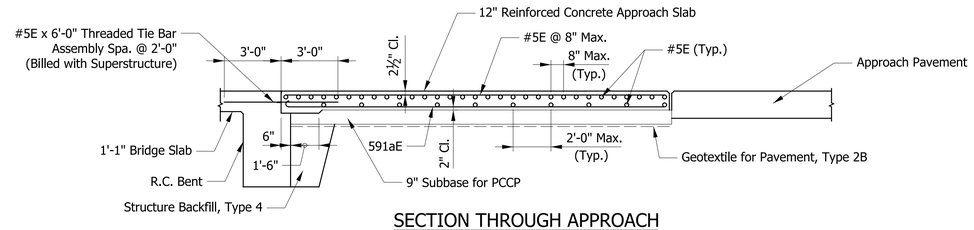
WEST APPROACH PLAN
SHOWING TOP REINFORCING

(East RCBA Mirrored about ℄ Str.)



WEST APPROACH PLAN
SHOWING BOTTOM REINFORCING

(East RCBA Mirrored about ℄ Str.)

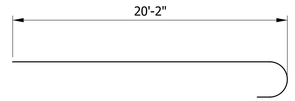


SECTION THROUGH APPROACH

Not to Scale

BILL OF MATERIALS
(PER ONE APPROACH SLAB)

SIZE OR MK	NO. of BARS	LENGTH	WEIGHT
591aE	78	20'-9"	
#5E	42	38'-4"	
#5E	59	20'-2"	
TOTAL #5E			4,609#
Std. 609-TBAE-03 (TPF Slab Extension 2 x 230#)			460#
TOTAL EPOXY COATED STEEL			5,069#
CONCRETE			
Reinforced Concrete Bridge Approach 12 in.			88.1 SYS
RCBA Extension TPF (2 x 1.8 SYS)			3.6 SYS
TOTAL RCBA			91.7 SYS
MISCELLANEOUS			
Subbase for PCCP			23 CYS
Geotextile for Pavement, Type 2B			92 SYS
Longitudinal Grooving			89 SYS



591aE x 20'-9"

BAR BEND DETAILS

Not to Scale

NOTES:

1. For General Notes and Design Data, see Sht. 13.
2. For details for RCBA Extension for TPF-1, see Std. Drawing Series E609-TBAE. Thickness shall match approach slab thickness of 12".
3. The letter "E" denotes Epoxy Coated Reinforcement.
4. For Pavement :edge Details, see Standard Drawing E 609-RCBA-04.
5. For Reinforcing Bar Bending details and notes, see Standard Drawing E 703-BRST-01.

CHRISTOPHER M. BLAND
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STATE OF INDIANA
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RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/21/2026

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JOHNSON COUNTY
HIGHWAY DEPARTMENT

APPROACH SLAB DETAILS
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1/4" = 1'-0"	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
N/A	2211FFE
SURVEY BOOK NO.	SHEETS
	22 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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SUMMARY OF BRIDGE QUANTITIES

ITEM	CONCRETE				BRIDGE RAILING TRANS. TPF-1	REINF. BARS	REINF. BARS, EPOXY COATED	RAILING STEEL PF-1	RAILING, CONCRETE, PF-1	THREADED TIE-BAR ASSEMBLY	REINF. CONC. BRIDGE APPROACH (12")	SUBBASE FOR PCCP	GEOTEXTILE FOR PAVEMENT TYPE 2B	STRUCTURE BACKFILL TYPE 4	LONGITUDINAL GROOVING	PILES					EXCAVATION, WATERWAY	REMARKS
	CLASS C	CLASS A	CLASS B													STEEL PILE (HP 12 x 53)	PILE SHOE (HP 12 x 53)	TEST PILE, INDICATOR, PRODUCTION	TEST PILE, INDICATOR, RESTRIKE	R.C. PILE ENCASEMENT		
	SUPERSTR	SUBSTR	ABOVE FTG.	IN FTG.																		
	CYS	CYS	CYS	CYS	EACH	LBS	LBS	LFT	CYS	EACH	SYS	CYS	SYS	CYS	SYS	LFT	EACH	LFT	EACH	LFT	CYS	
Superstructure	92.6						30,569			44					244							
Bent No. 1	14.1						2,060							13		200	5	60	1		170	
Bent No. 2	9.4						1,474									350	8	60	1	79		
Bent No. 3	9.4						1,474									350	8	60	1	79		
Bent No. 4	14.1						2,060							13		200	5	60	1		90	
North Railing					2		2,441	66	3.5													
South Railing					2		2,441	66	3.5													
West RCBA @ Bent No. 1							5,069				91.7	23	92		89							
East RCBA @ Bent No. 4							5,069				91.7	23	92		89							
TOTALS	139.6				4		52,657	132	7.0	44	183.4	46	184	26	422	1,100	26	240	4	158	260	

RIPRAP AND SODDING SUMMARY TABLE

LOCATION					PAVEMENT SIDE DITCH							RIPRAP			SODDING							
FROM STATION	TO STATION	LEFT	MEDIAN	RIGHT	ACTUAL LENGTH	CUT OFF WALLS (8 FT EQUIVAL. LENGTH EACH)	TOTAL EQUIVALENT PAY LENGTHS TYPE					RIPRAP, REVETMENT	ARTICULATED CONCRETE BLOCKS	GEOTEXTILES FOR RIPRAP, TYPE 1A	FOR PAVED SIDE DITCHES	FOR DITCHES	FOR MEDIAN	FOR SHOULDER BREAK	SODDING AT BRIDGE CONE	TOTAL SODDING	COMPACTED AGGREGATE NO. 53
					LFT	EACH	LFT	LFT	LFT	LFT	LFT	TONS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	TONS
Bent No. 1												120		163							
Bent No. 4												189		253							
NE Turnout Ditch												17		29						10	
SE Turnout Ditch												11		20						6	
West Wildlife Crossing																					9
East Wildlife Crossing																					12
TOTALS												337		465						16	21

RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
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JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE SUMMARY
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
NA	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
NA	2211FFE
SURVEY BOOK NO.	SHEETS
	23 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH	LENGTH	RADII	DISTANCE BEYOND R/W/LINE	SURFACE BEYOND R/W LINE			GRADE		EXCAVATION		CLEAR ZONE AT DRIVE	HMA FOR WIDENING				HMA FOR ROADS						ASPHALT FOR TACK COAT	MILLING, ASPHALT, 1½"	ROUT & SEAL	JOINT ADHESIVE, SURFACE	JOINT ADHESIVE, INTERMEDIATE	SUBGRADE TREATMENT TYPE IC	COMPACTED AGGREGATE				GEOTEXTILE FOR PAVEMENT, TYPE 2A*	GEOTEXTILE FOR PAVEMENT, TYPE 2B	REMARKS
						COMPACTED AGGREGATE BASE	HMA	PCCP										3, 58S, SURFACE, 9.5 mm	3, 58S, INTERMD, 19.0 mm	3, 58S, BASE, 19.0 mm										NO. 2	NO. 8*	NO. 53			
														LBS PER SYD				LBS PER SYD												4"	12"	4"	10"		
		FT	FT	FT	FT	SYS	SYS	SYS	1 %	2 %	CUT CYS	FILL CYS	FT	TONS	TONS	TONS	TONS	TONS	165 TONS	275 TONS	660 TONS	TONS	TONS	TONS	TON	SYS	TON	LFT	LFT	SYS	CYS	CYS	CYS	TONS	SYS	SYS	
LINE "A"											235	870						91	88	219				1	473	1	718	662	715	80	302	80	262	352	715	
TOTALS											235	870						91	88	219				1	473	1	718	662	715	80	302	80	262	352	715	

* Estimated Quantity

GUARDRAIL SUMMARY TABLE

LOCATION					MGS W-BEAM GUARDRAIL LENGTH								GUARDRAIL FLARE RATE	GUARDRAIL TRANSITION TYPE TPF-1	MGS GUARDRAIL TRANSITION WITHOUT CURB		GUARDRAIL END TREATMENT TYPE OS		CURVED W-BEAM GUARDRAIL SYSTEM				GUARDRAIL REMOVE	GUARDRAIL RESET	IMPACT ATTENUATOR TYPE ___	IMPACT ATTENUATOR TYPE ___	REMARKS
FROM STATION	TO STATION	LEFT	MEDIAN LEFT	MEDIAN RIGHT	RIGHT	STANDARD POST AT 6 FT 3 IN. SPA.	STANDARD POST AT 3 FT 1.5 IN. SPA.	DOUBLE FACED AT 6 FT 3 IN. SPA.	DOUBLE FACED AT 3 FT 1.5 IN. SPA.		SHOP CURVED AT ____ FT. SPA.	NESTING GUARDRAIL							TERMINAL SYSTEM		CONNECTOR SYSTEM						
						LFT	LFT	LFT	LFT	LFT	LFT	EACH		EACH	EACH		EACH		TYPE	EACH	TYPE	EACH	LFT	LFT	EACH	EACH	
Sta. 13+22.19 "A"	Sta. 14+56.56 "A"				X	56.25									1		1						124				
Sta.13+65.94 "A"	Sta. 14+56.56 "A"	X													1		1						106				
Sta. 15+43.44 "A"	Sta. 16+34.06 "A"				X										1		1						89				
Sta. 15+43.44 "A"	Sta. 16+65.31 "A"	X				31.25									1		1						117				
TOTALS						87.50									4		4						436				

R/W MARKER TABLE

STATION	SIDE		OFFSET
	LT	RT	
10+70.54		X	28'
11+73.79	X		45'
17+00.00		X	28'
17+00.00	X		65'
24+00.00	X		65'
26+59.96		X	28'
27+50.00	X		65'
28+31.45	X		65'

PAVEMENT MARKINGS TABLE

LOCATION	LINE, PAINT								LINE, PERFORATED PLASTIC		LINE, THERMOPLASTIC					TRANSVERSE MARKING, PREFORMED PLASTIC		PAVEMENT MESSAGE MARKINGS, THERMOPLASTIC		PAVEMENT MESSAGE MARKINGS, PREFORMED PLASTIC		SNOWPLOWABLE RAISED PAVEMENT MARKER			SNOWPLOWABLE RAISED PAVEMENT MARKER, REMOVE	DELINEATOR W/POST D3 3 IN. DIA.
	BROKEN WHITE 4 IN.	BROKEN YELLOW 6 IN.	BROKEN WHITE 5 IN.	SOLID YELLOW 4 IN.	SOLID WHITE 6 IN.	SOLID WHITE 8 IN.	SOLID WHITE 12 IN.	SOLID WHITE 16 IN.	SOLID WHITE 4 IN.	SOLID YELLOW 4 IN.	SOLID WHITE 4 IN.	SOLID YELLOW 4 IN.	SOLID WHITE 24 IN.	BROKEN WHITE 4 IN.	BROKEN YELLOW 4 IN.	STOP LINE 24 IN.	CROSS WALK 6 IN.	WORN ONLY	LANE ARROW	WORN ONLY	LANE ARROW	ONE WAY WHITE	TWO WAY YELLOW / RED	TWO WAY WHITE / RED		
	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
Line "A"		100			800																					
TOTAL		100			800																					

RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
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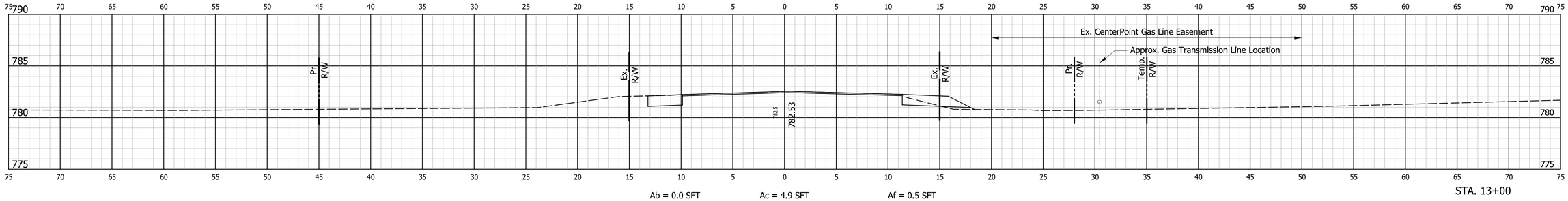
JOHNSON COUNTY HIGHWAY DEPARTMENT

ROADWAY SUMMARY
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
NA	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
NA	2211FFE
SURVEY BOOK NO.	SHEETS
	24 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

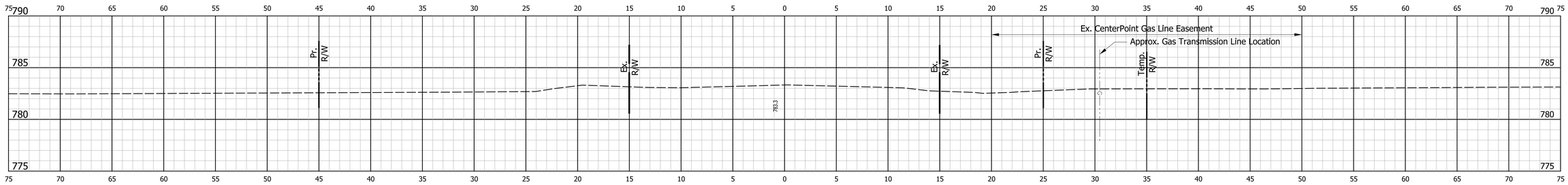


STA. 13+00

Ab = 0.0 SFT Ac = 4.9 SFT Af = 0.5 SFT
Vb = 0 CYS Vc = 2 CYS Vf = 0 CYS

BEGIN INCIDENTAL CONSTRUCTION
STA. 12+90.00 "A"

Ab = 0.0 SFT Ac = 4.9 SFT Af = 0.5 SFT
Vb = 0 CYS Vc = 0 CYS Vf = 0 CYS



STA. 12+50

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 1/21/2026 DATE

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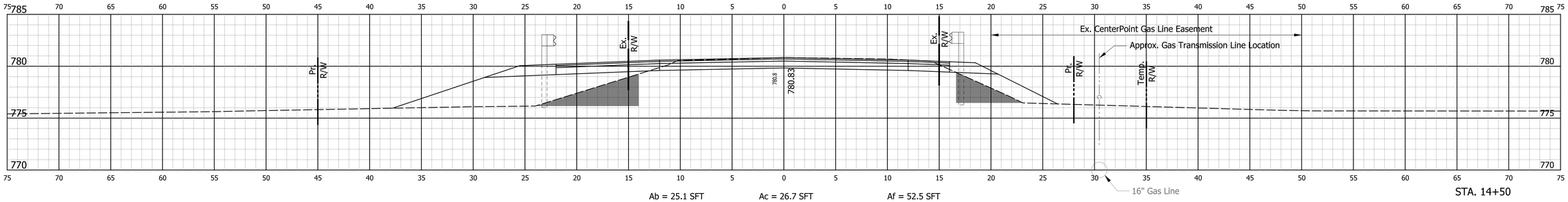
JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE CROSS SECTIONS
STA. 12+50 "A" TO STA. 13+00 "A"

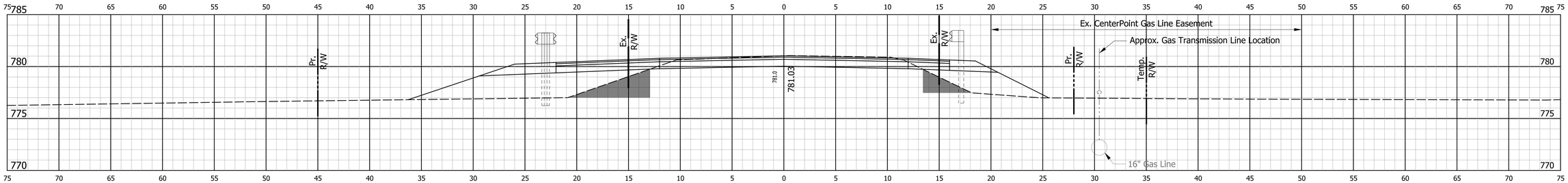
HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 5'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	2211FFE

SURVEY BOOK NO.	SHEETS		
	25	of	41
CONTRACT NO.	PROJECT NO.		
	2211FFE		



Ab = 25.1 SFT Ac = 26.7 SFT Af = 52.5 SFT
Vb = 38 CYS Vc = 46 CYS Vf = 97 CYS

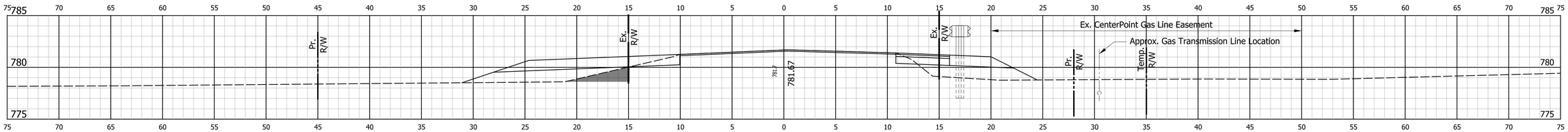
STA. 14+50



Ab = 16.3 SFT Ac = 23.1 SFT Af = 52.8 SFT
Vb = 19 CYS Vc = 25 CYS Vf = 71 CYS

BEGIN PROJECT
STA. 14+00.00 "A"

STA. 14+00



Ab = 4.5 SFT Ac = 3.5 SFT Af = 24.1 SFT
Vb = 4 CYS Vc = 8 CYS Vf = 23 CYS

STA. 13+50

CHRISTOPHER M. BLAND
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1/21/2026
DATE

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JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE CROSS SECTIONS
STA. 13+50 "A" TO STA. 14+50 "A"

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 5'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	2211FFE

SURVEY BOOK NO.	SHEETS
	26 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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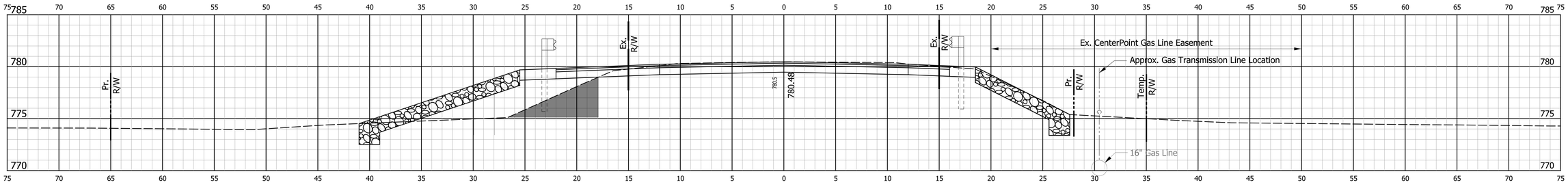


STA. 15+50

Ab = 17.2 SFT
Vb = 23 CYS

Ac = 35.2 SFT
Vc = 28 CYS

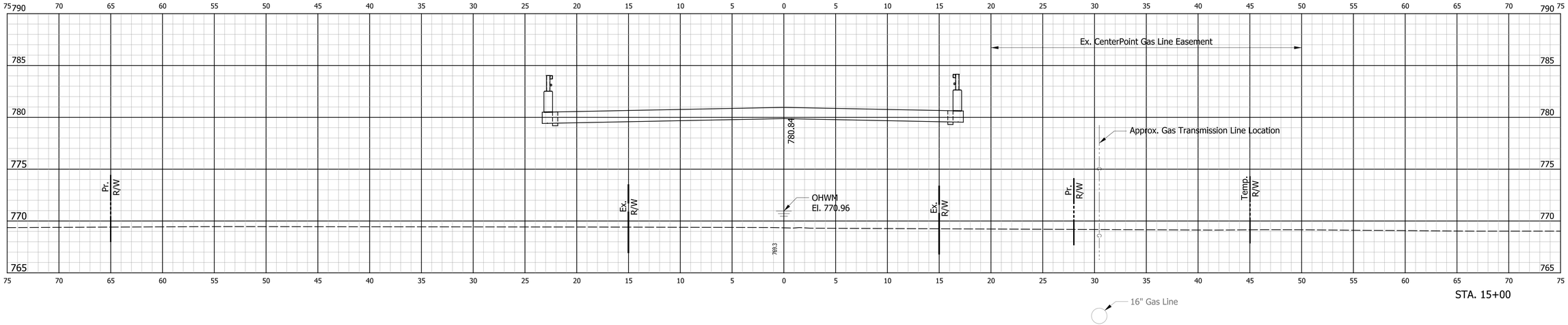
Af = 27.1 SFT
Vf = 22 CYS

END STRUCTURE
STA. 15+28.38 "A"

Ab = 17.2 SFT
Vb = 0 CYS

Ac = 35.2 SFT
Vc = 0 CYS

Af = 27.1 SFT
Vf = 0 CYS



STA. 15+00

BEGIN STRUCTURE
STA. 14+71.63 "A"

Ab = 25.1 SFT
Vb = 36 CYS

Ac = 26.7 SFT
Vc = 21 CYS

Af = 52.5 SFT
Vf = 42 CYS

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

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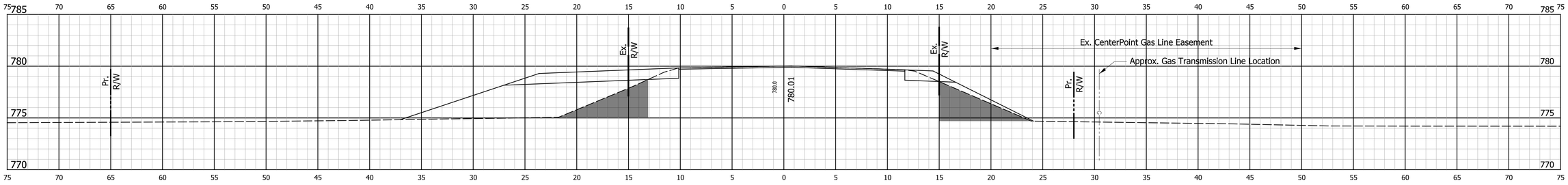
HIGHWAY DEPARTMENT

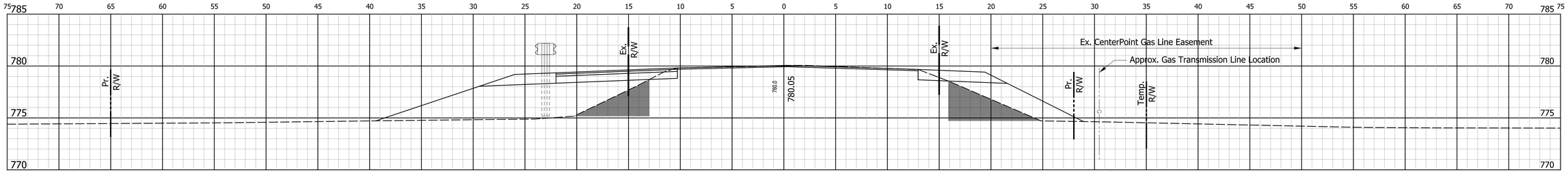
BRIDGE CROSS SECTIONS
STA. 14+71.13 "A" TO STA. 15+50 "A"

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 5'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	2211FFE
SURVEY BOOK NO.	SHEETS
	27 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE



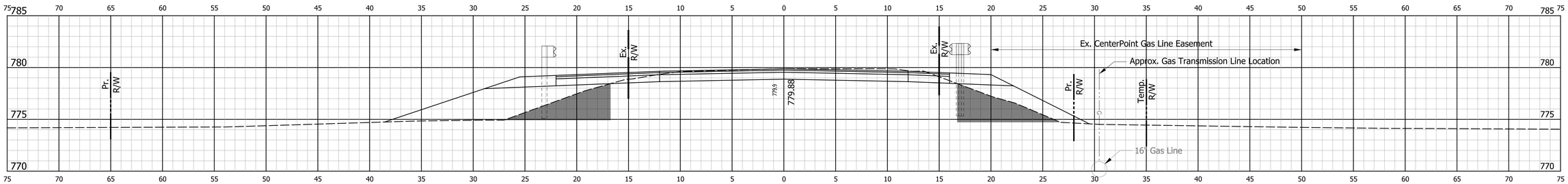
Ab = 32.7 SFT Ac = 3.6 SFT Af = 50.7 SFT
Vb = 58 CYS Vc = 6 CYS Vf = 117 CYS

STA. 17+00



Ab = 30.0 SFT Ac = 3.0 SFT Af = 75.4 SFT
Vb = 63 CYS Vc = 30 CYS Vf = 115 CYS

STA. 16+50



Ab = 38.4 SFT Ac = 29.9 SFT Af = 48.4 SFT
Vb = 37 CYS Vc = 60 CYS Vf = 70 CYS

END PROJECT
STA. 16+00.00 "A"

STA. 16+00

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HIGHWAY DEPARTMENT

BRIDGE CROSS SECTIONS
STA. 16+00 "A" TO STA. 17+00 "A"

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 5'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	2211FFE
SURVEY BOOK NO.	SHEETS
	28 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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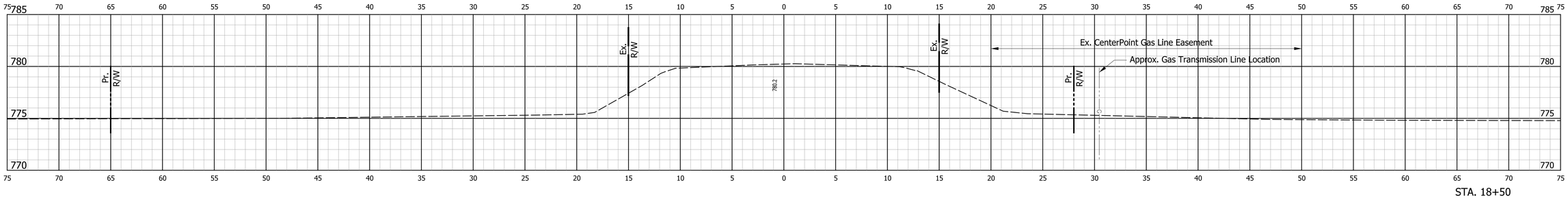
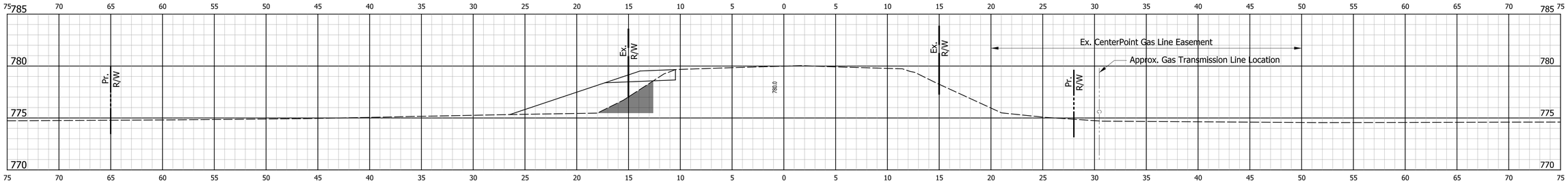


STA. 18+50

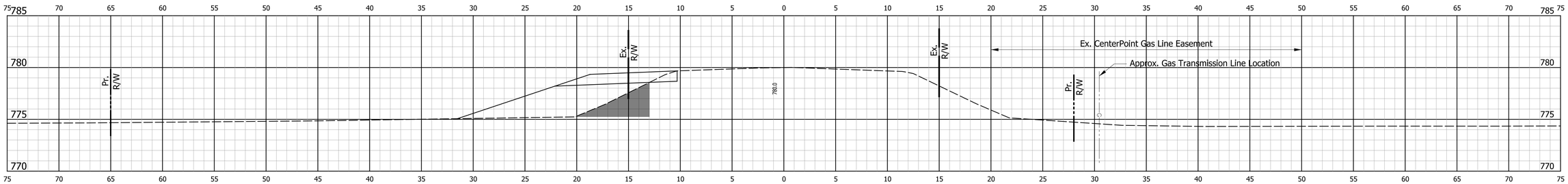
END INCIDENTAL CONSTRUCTION
STA. 18+15.00 "A"

Ab = 7.9 SFT Ac = 1.2 SFT Af = 19.6 SFT
Vb = 18 CYS Vc = 1 CYS Vf = 11 CYS



Ab = 7.9 SFT Ac = 1.2 SFT Af = 19.6 SFT
Vb = 18 CYS Vc = 3 CYS Vf = 47 CYS

STA. 18+00



Ab = 11.5 SFT Ac = 1.5 SFT Af = 31.4 SFT
Vb = 41 CYS Vc = 5 CYS Vf = 76 CYS

STA. 17+50

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

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JOHNSON COUNTY
HIGHWAY DEPARTMENT

BRIDGE CROSS SECTIONS
STA. 17+50 "A" TO STA. 18+50 "A"

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 5'	BRIDGE 85
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	2211FFE
SURVEY BOOK NO.	SHEETS
	29 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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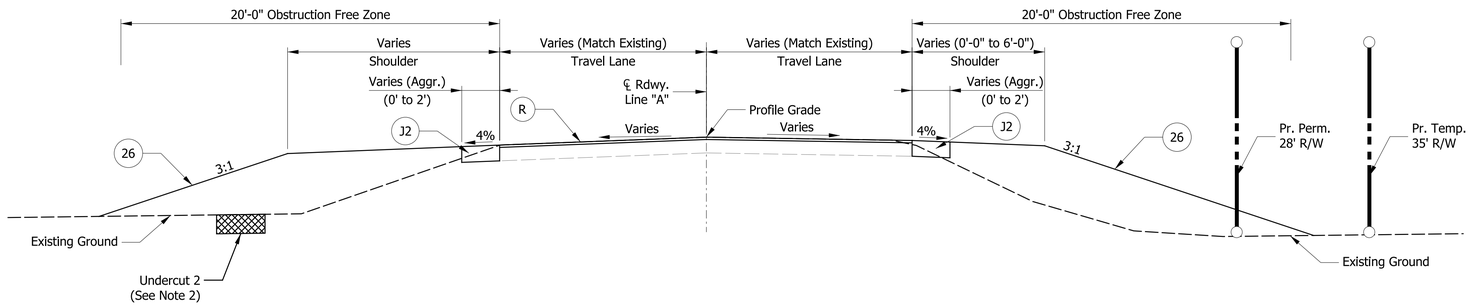
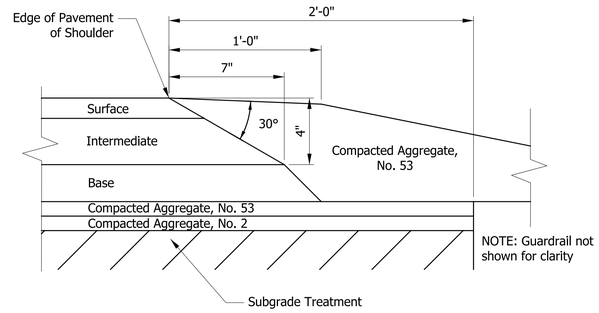


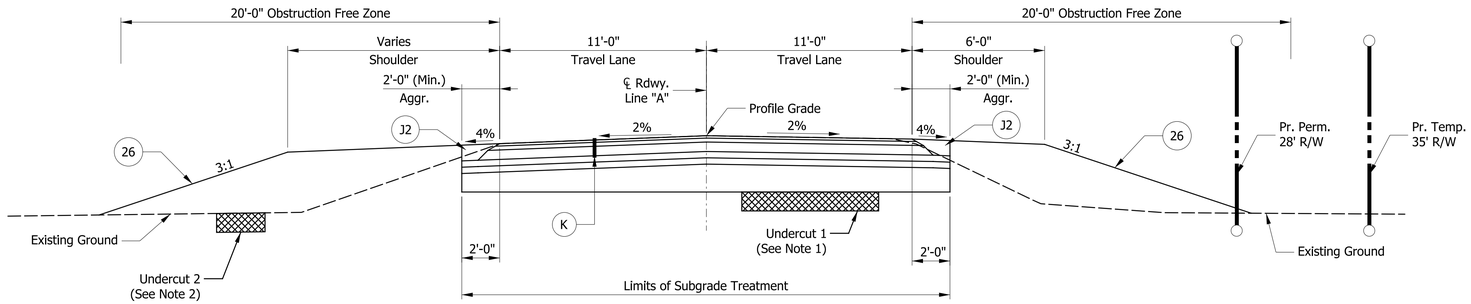
TYPICAL INCIDENTAL SECTION

Sta. 23+18.00 "A" to Sta. 24+10.00 "A"
Sta. 24+80.00 "A" to Sta. 25+60.00 "A"



SAFETY EDGE ON HMA PAVEMENT

Not to Scale



TYPICAL FULL DEPTH SECTION

Sta. 24+10.00 "A" to Sta. 24+80.00 "A"

NOTES

1. Limits of undercut under Subgrade Treatment to be determined by Engineer. Replace unsuitable soil with 12-inches of INDOT No. 8 stone encapsulated with Geotextile for Pavement, Type 2A. Typical Each Side.

2. Limits of undercut under embankment fill to be determined by Engineer. Replace unsuitable soil with 12-inches of INDOT No. 8 stone wrapped in Geotextile for Pavement, Type 2A. Typical Each Side.

LEGEND

- (26) Seed Mixture, Floodplain
- (63) MGS Guardrail
- (J2) 10" Compacted Aggregate, No. 53
- (K) Full Depth HMA Pavement - Mainline
  165 lbs/sys QC/QA-HMA, 3, 58S, Surface, 9.5 mm on
  275 lbs/sys QC/QA-HMA, 3, 58S, Intermediate, 19.0 mm on
  660 lbs/sys QC/QA-HMA, 3, 58S, Base, 25.0 mm on
  4 in. Compacted Aggregate, No. 53 on
  4 in. Compacted Aggregate, No. 2 on
  Subgrade Treatment, Type IC on
  Geotextile for Pavement, Type 2B
- (R) HMA Resurface
  165 lbs/sys QC/QA-HMA, 3, 58S, Surface, 9.5 mm on
  Milling, Asphalt, 1½ in.

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT TYPICAL ROADWAY SECTIONS
WHITELAND ROAD OVER GRASSY CREEK

HORIZONTAL SCALE	CULVERT FILE NO.
1/4" = 1'-0"	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
1/4" = 1'-0"	
SURVEY BOOK NO.	SHEETS
	30 of 41
CONTRACT NO.	PROJECT NO.

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22+00
23+00
24+00
25+00
26+00
27+00
Sec. 20, T-13-N, R-4-E
Pleasant Township
Johnson County
PLEASANT CREEK
DEVELOPMENT, LLC
25' ACCESS EASEMENT
East Grassy Creek
(Scott Highbridge Ditch)
Class IV Drive Req'd.
W = 20.0' L = 25.0'
65' R/W
"Do Not Spray" Sign
Sta. 23+50.00 "A", 15' Lt.
Begin Project
Sta. 24+10.00 "A"
Const. Limits
Begin Incidental Construction
Sta. 23+18.00 "A"
Str. 2
Wing D
Wing C
End Project
Sta. 24+80.00 "A"
"Do Not Spray" Sign
Sta. 25+50.00 "A", 15' Lt.
Const. Limits
End Incidental Construction
Sta. 25+60.00 "A"
Ex. R/W
Section Line
Whiteland Road
Line "A"
N 88°39'15" E
CENTERPOINT GAS LINE EASEMENT
28' R/W
"Do Not Spray" Sign
Sta. 23+50.00 "A", 15' Rt.
35' Temp. R/W for Grading
Wing A
Str. No. 1
Wing B
50' Temp. R/W for Erosion Control
Const. Limits
35' Temp. R/W for Grading
"Do Not Spray" Sign
Sta. 25+50.00 "A", 15' Rt.
CENTERPOINT GAS
LINE EASEMENT
LOT 1
BEECHWOOD
PLAT BOOK "B", PAGE 248
INDIANA GAS
COMPANY, INC.
LEGAL DRAINAGE EASEMENT
75' EA. SIDE
WILLCRAFT, INC.
THE SAMUEL J. WILLIAMS
FAMILY TRUST
Sec. 29, T-13-N, R-4-E
Pleasant Township
Johnson County

LEGEND

- J2 12 in. Compacted Aggregate, No. 53
- K Full Depth HMA Pavement
- R HMA Resurface
- 26 Seed Mixture, Floodplain
- 34 Line, Paint, Solid, White, 6 IN.
- 35 Line, Paint, Solid, Yellow, 6 IN.
- 36 Line, Paint, Broken, Yellow, 6 IN.

NOTES

1. See Sht. 35 for Wingwall Elevations.

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — Christopher M. Bland, DESIGN ENGINEER — 1/21/2026 DATE

DESIGNED: GOS | DRAWN: GOS
CHECKED: CMB | CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT CONSTRUCTION DETAILS
WHITELAND RD OVER E. GRASSY CREEK

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 20'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
N/A	
SURVEY BOOK NO.	SHEETS
	31 of 41
CONTRACT NO.	PROJECT NO.

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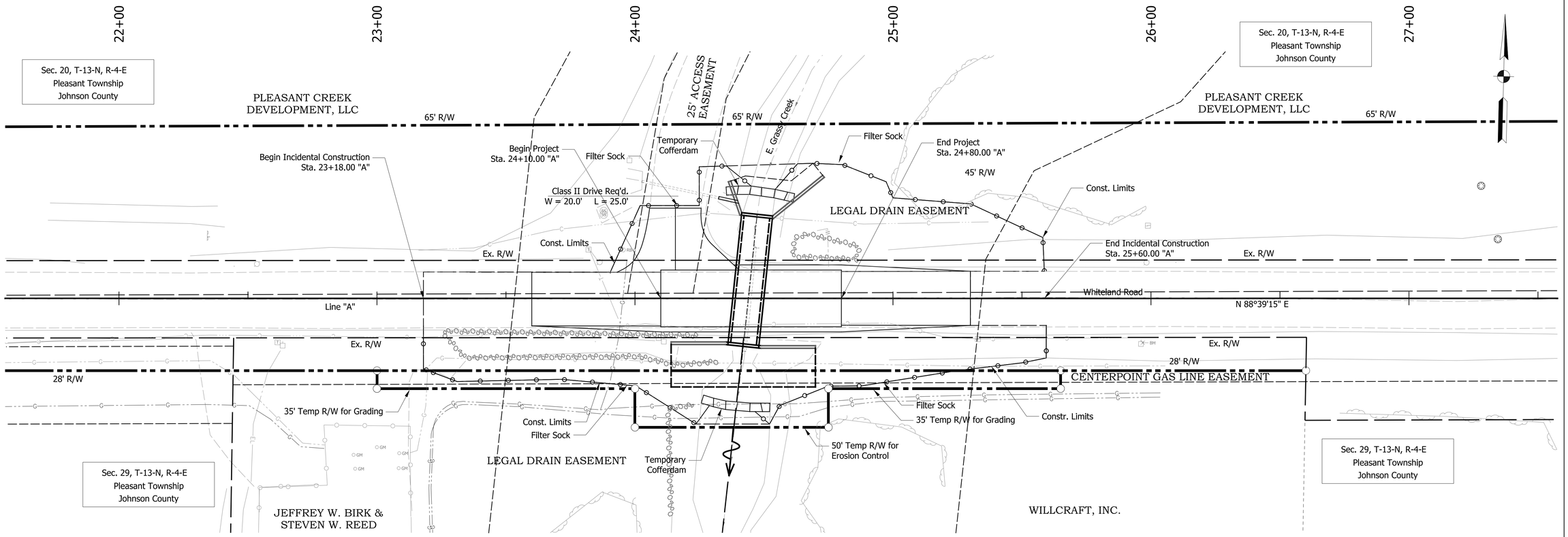

LEGEND

- Temporary Filter Sock
- Water Flow
- Cofferdam

NOTES

1. See Standard Drawing E 205-TECD-10 for Filter Sock Details and Notes.
2. Pumps must discharge onto a stable energy dissipater or riprap or sandbags set on geotextiles.
3. Intake Hose must be positioned so that intake does not rest on the bottom of the sump hole.
4. Cofferdam may be constructed of sandbags or No. 2 Stone and Riprap (if also used for construction access).

EROSION CONTROL SUMMARY TABLE

	FILTER SOCK	SEDIMENT, REMOVE	TEMPORARY SEED MIXTURE	FERTILIZER	NO. 2 STONE	TEMPORARY GEOTEXTILE	TEMPORARY MULCH	TEMPORARY MULCH STABILIZATION	MOB. & DEMOB. FOR SURFACE STABILIZATION
	LFT	CYS	LBS	TON	TON	SYS	TON	SYS	EACH
CULVERT	491								2
TOTAL	491								2

TEMPORARY FILTER SOCK

LOCATION				
STATION	TO STATION	LEFT	RIGHT	ACTUAL LENGTH
				LFT
23+90 "A"	24+45 "A"	X		90
23+18 "A"	24+30 "A"		X	137
24+45 "A"	25+60 "A"		X	134
24+54 "A"	25+60 "A"	X		130
TOTAL				491

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT EROSION CONTROL PLAN
WHITELAND RD OVER E. GRASSY CREEK

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 20'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
N/A	
SURVEY BOOK NO.	SHEETS
	32 of 41
CONTRACT NO.	PROJECT NO.

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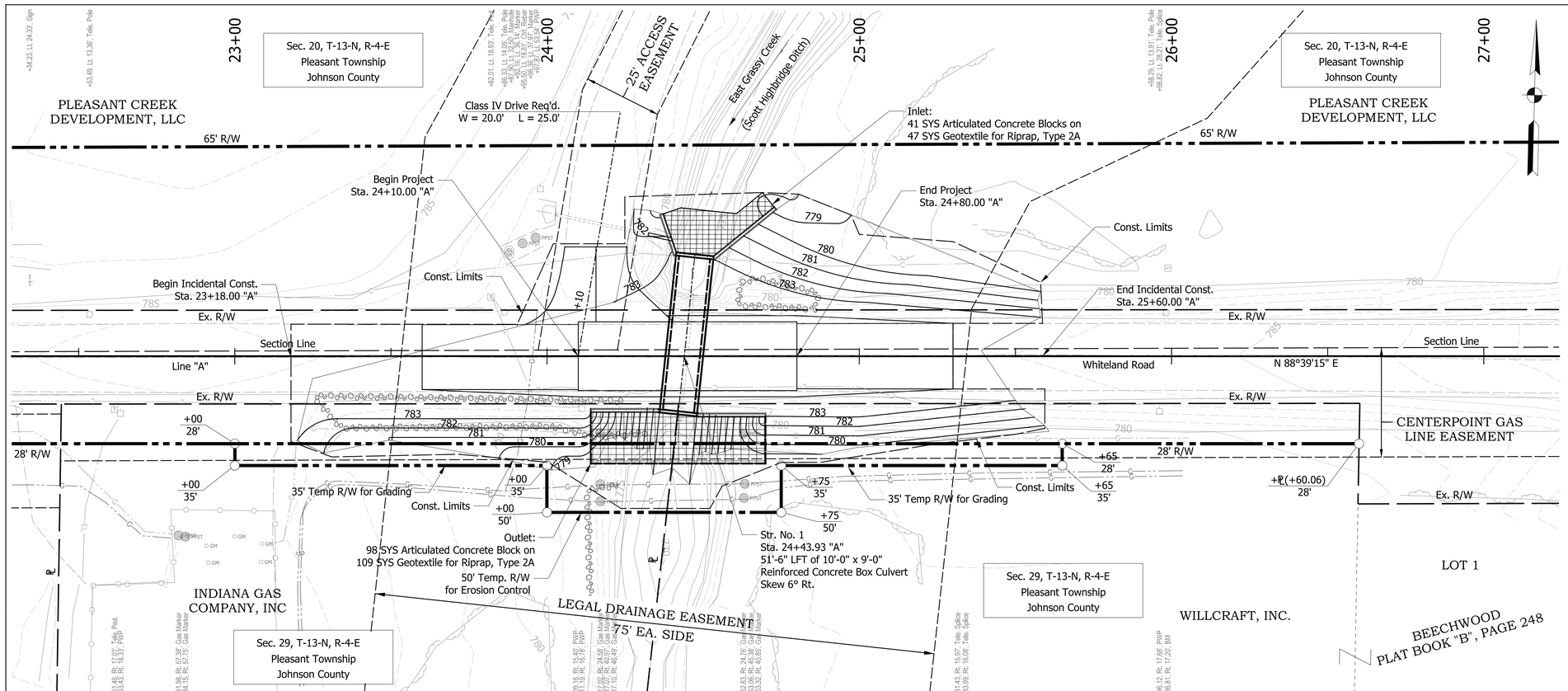

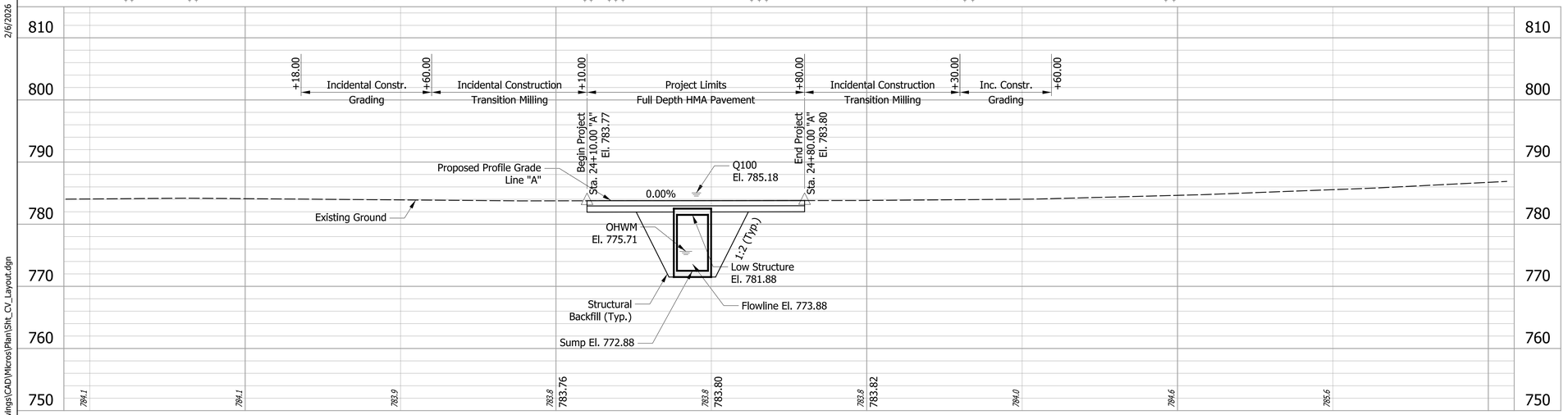

EXISTING STRUCTURE

The existing structure is a 11'-2" x 7'-7" steel multi-plate pipe arch. Existing structure to be removed.

HYDRAULIC DATA

Drainage Area	=	4.69	sq. mi.
Q100	=	1,684	cfs
Q500	=	2,189	cfs
Q100 Elevation	=	785.18	ft.
Existing Backwater	=	3.59	ft.
Proposed Backwater	=	3.48	ft.
Velocity @ Q100	=	4.39	ft/s
Ex. Waterway Opening	=	63.64	sq. ft.
Prov. Waterway Opening	=	75.31	sq. ft.
Road Overflow Waterway Area	=	312	sq. ft.
Low Structure Elevation	=	781.88	ft.

HYDRAULIC SCOUR DATA

Q100 Contraction Scour	=	7.49	ft.
Q100 Total Scour	=	7.49	ft.
Q100 Low Scour Elevation	=	766.31	ft.
Q100 Max Velocity	=	12.60	ft/s
Q500 Contraction Scour	=	6.94	ft.
Q500 Total Scour	=	6.94	ft.
Q500 Low Scour Elevation	=	766.86	ft.
Q500 Max Velocity	=	14.72	ft/s

EARTHWORK TABULATION

Fill + 25%	=	345 cys
Common Excavation		
Usable	=	0 cys
Unusable	=	235 cys
Borrow	=	345 cys
Waterway Excavation	=	0 cys
Benching (Estimated)	=	305 cys

REINFORCED CONCRETE BOX CULVERT
SPAN: 10'-0" SPAN
RISE: 9'-0", SUMP: 1'-0", CLEAR HEIGHT: 8'-0"
LENGTH: 51'-6", SKEW: 6° RT.
WHITELAND ROAD OVER EAST GRASSY CREEK

CHRISTOPHER M. BLAND
REGISTERED
NO. PE11100319
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Christopher M Bland 1/21/2026
DESIGN ENGINEER — DATE

DESIGNED: GOS | DRAWN: GOS
CHECKED: CMB | CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT LAYOUT
WHITELAND RD OVER E. GRASSY CREEK

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 20'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
1" = 40'	
SURVEY BOOK NO.	SHEETS
	33 of 41
CONTRACT NO.	PROJECT NO.

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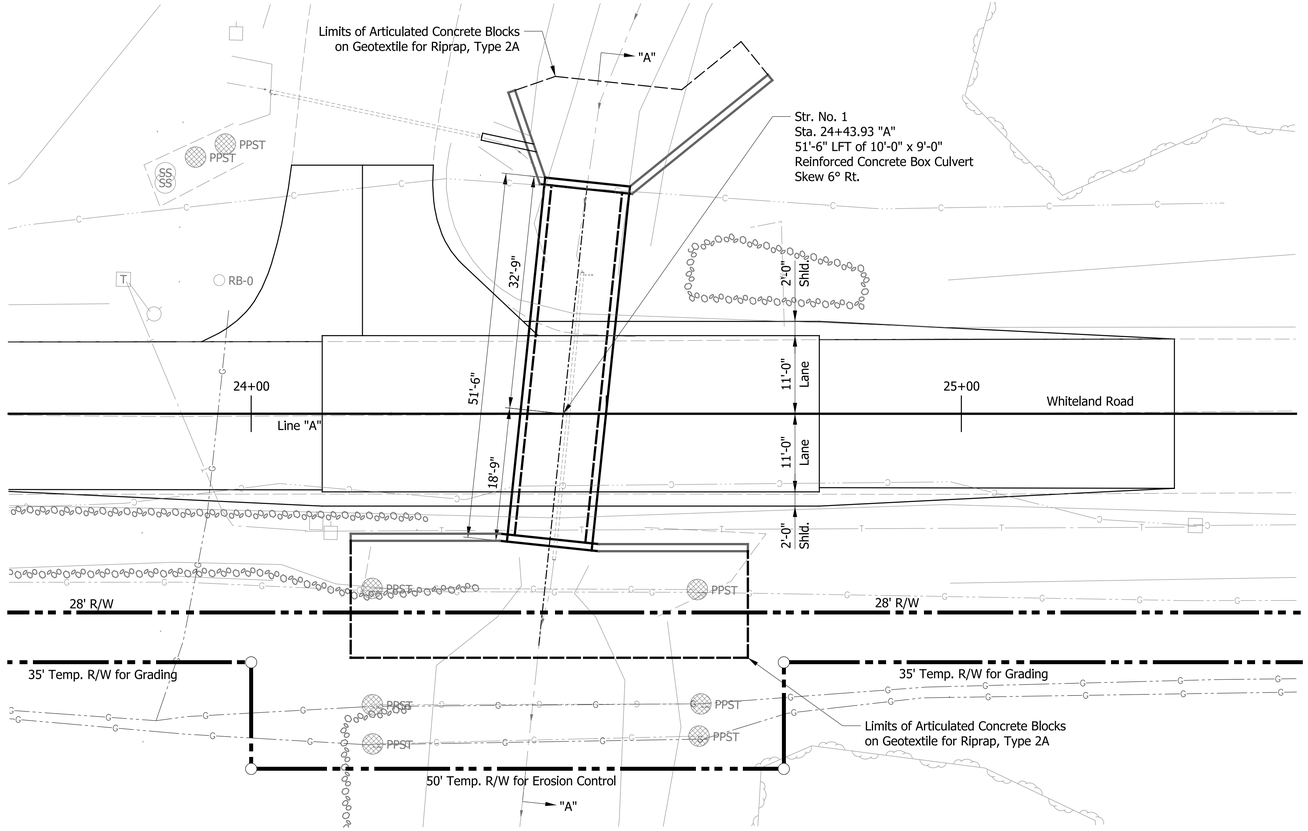
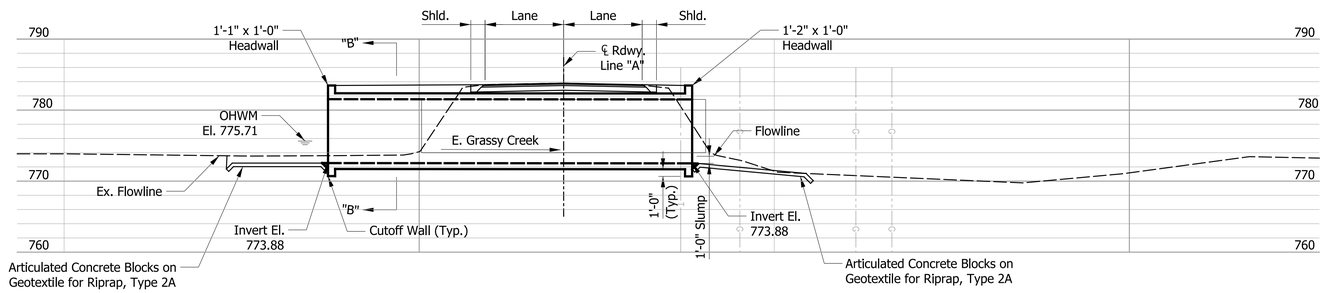


PLAN

3/32" = 1'-0"



SECTION "A-A"

3/32" = 1'-0"

GENERAL NOTES

1. Contractor shall verify the existing flowline elevation to set the appropriate sump depth.
2. Manufacturer's dimensions for pre-cast structures (except opening size) shall override shown dimension.
3. Waterproofing membrane shall be installed on the structure in accordance with the special provisions.

DESIGN DATA

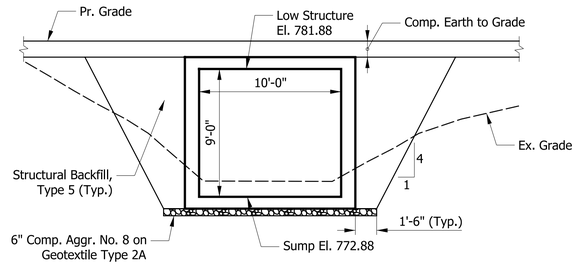
Live Load:
Designed for HL-93 loading, in accordance with AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020 and its subsequent interims.

Dead Load:
Actual weight plus 35 psf (composite) for future wearing surface.

Wingwalls and headwalls shall be designed in accordance with standard specifications 714 for box culverts or 723 for three-sided structures.

UNIT STRESSES

Gr. 60 Steel	fy = 60,000 psi
Class C	f'c = 4,000 psi
Class B	f'c = 3,000 psi
Class A	f'c = 3,500 psi



SECTION "B-B"

3/16" = 1'-0"

REINFORCED CONCRETE BOX CULVERT
SPAN: 10'-0" SPAN
RISE: 9'-0", SUMP: 1'-0", CLEAR HEIGHT: 8'-0"
LENGTH: 51'-6", SKEW: 6° RT.
WHITELAND ROAD OVER EAST GRASSY CREEK

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN
WHITELAND RD OVER E. GRASSY CREEK

HORIZONTAL SCALE	CULVERT FILE NO.
As Noted	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
As Noted	
SURVEY BOOK NO.	SHEETS
	34 of 41
CONTRACT NO.	PROJECT NO.

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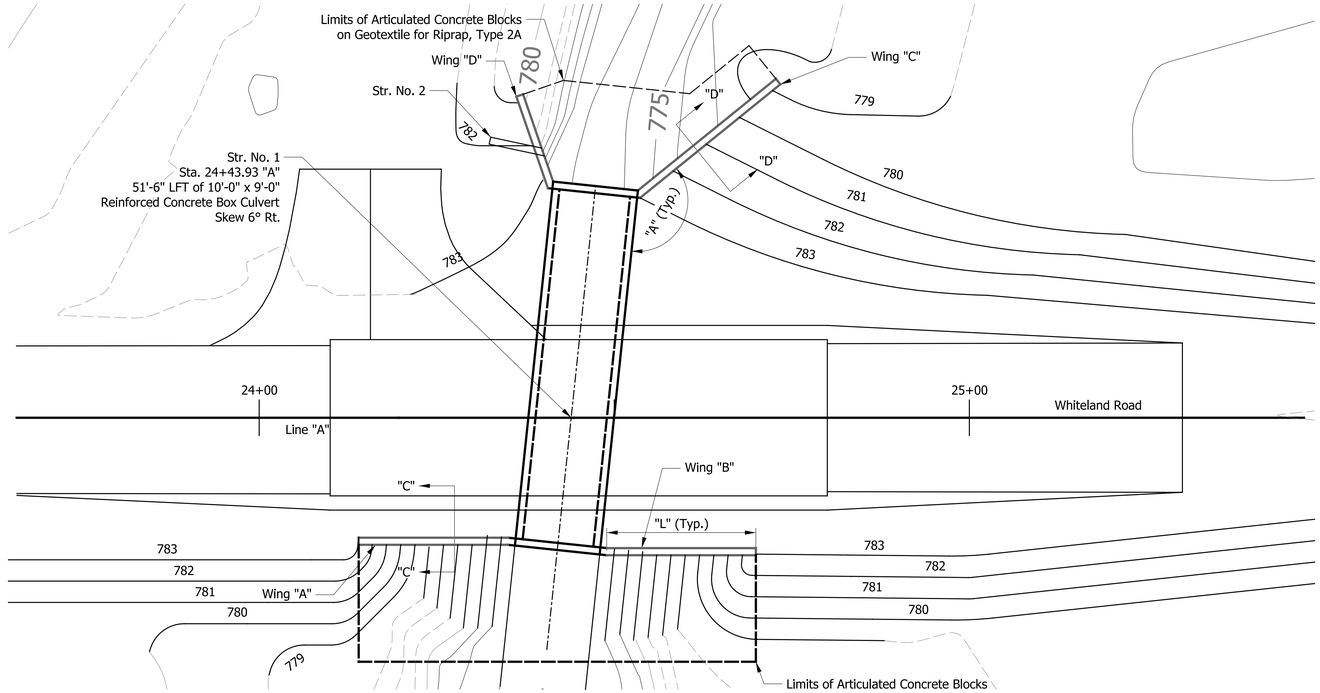


PLAN

3/32" = 1'-0"

NOTES

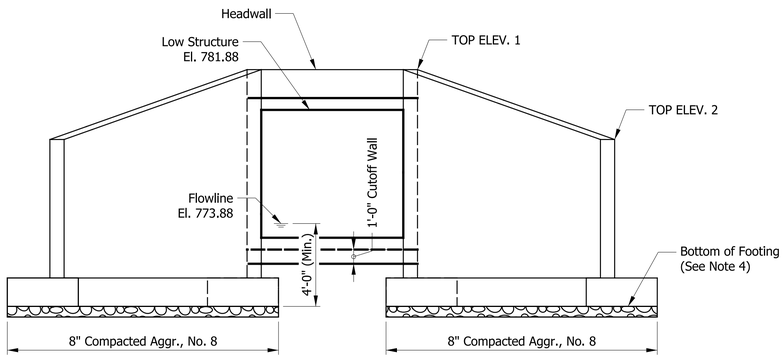
1. For General Notes & Design Data, see Sht. 34.
2. Top of south header wall and wingwalls must be 4" Max. above the earth cover.
3. Top of north header wall and wingwalls must be 6" Max. above the earth cover.
4. Bottom of footing will be a minimum of 4 feet below the flowline.

WINGWALL TABLE					
WING	TOP ELEV. 1	TOP ELEV. 2	ANGLE "A"	LENGTH "L"	FACE AREA
"A"	783.50	783.50	96°	21'-0"	286.0 SFT
"B"	783.50	783.50	84°	21'-0"	286.0 SFT
"C"	784.00	779.25	135°	25'-0"	293.6 SFT
"D"	784.00	781.50	155°	13'-0"	167.3 SFT

* Top of Headwall is equal to "TOP ELEV. 1"

FOUNDATION DESIGN	
Nominal Bearing Resistance (Qn)	17,700 psf
Resistance factor (φ)	0.45
Factored Bearing Resistance (Qr)	8,000 psf
Friction angle between wingwall and soil backfill (δ)	20°
Friction angle at base of foundation (f)	26°
Drained Angle of internal friction of foundation soil (Φ)	30°

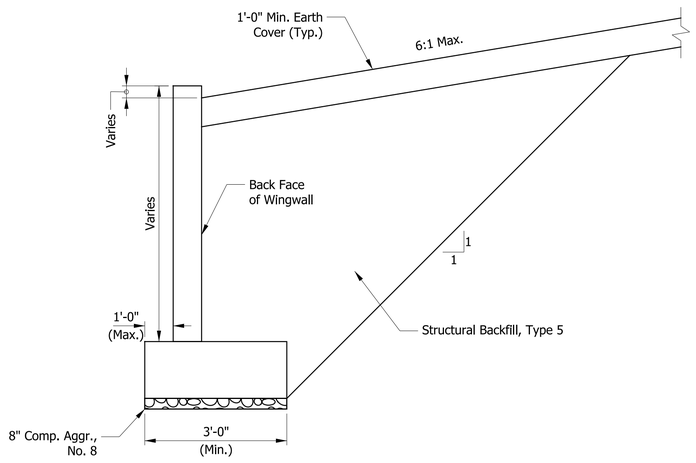
*This information is based on a minimum footing width of 3 feet.



ELEVATION

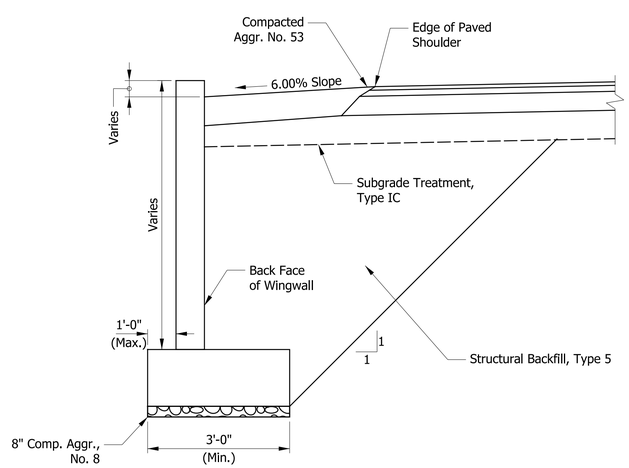
3/16" = 1'-0"

NOTE:
Articulated Concrete Blocks not shown for clarity.



SECTION "D-D"

3/8" = 1'-0"



SECTION "C-C"

3/8" = 1'-0"

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 1/21/2026

DESIGNED: GOS | DRAWN: GOS

CHECKED: CMB | CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

WINGWALL DETAILS
WHITELAND RD OVER E. GRASSY CREEK

HORIZONTAL SCALE	CULVERT FILE NO.
As Noted	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
As Noted	
SURVEY BOOK NO.	SHEETS
	35 of 41
CONTRACT NO.	PROJECT NO.

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STRUCTURE DATA

* If contractor elects to use metal pipe, thicknesses shown below are to be used.

STRUCTURE NUMBER	LOCATION: STATION	LOCATION: LEFT	LOCATION: CROSS	LOCATION: RIGHT	SIZE	PIPE TYPE	MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE AND TYPE	LENGTH	SKEW, RIGHT	FLOW LINE: COVER	FLOW LINE: UP STREAM	FLOW LINE: DOWN STREAM	SERVICE LIFE	SITE DESIGNATION	pH	BACKFILL METHOD	STRUCTURE BACKFILL		COMP. AGGR., NO. 8	CONCRETE, CLASS A, FOR STR.	VIDEO INSPECTION	PIPE END SECTION	GRATED BOX END SECTION			SAFETY METAL END SECTION			REMARKS
					IN.			LFT		FT	ELEV.	ELEV.	YR				TYPE	CYS	CYS	CYS	LFT	EA.	TYPE	SLOPE	EA.	SIZE	SLOPE	EA.	
1	24+43.93 "A"		X		10' x 9'		RC Box Culvert	51.5	6	0	773.88	773.88	75	ABRA.	7.0	2	5	305	21										Headwalls, Wingwalls, & CLV P-004
2	24+32.49 "A"	X			12 IN.	3	Wing D Outlet	8		2	779.50	779.04	75	ABRA.	7.0														Connect to Ex. Pipe

RIPRAP AND SODDING SUMMARY TABLE

LOCATION: FROM STATION	LOCATION: TO STATION	LEFT	MEDIAN	RIGHT	PAVEMENT SIDE DITCH: ACTUAL LENGTH	CUT OFF WALLS (8 FT EQUIVAL. LENGTH EACH)	TOTAL EQUIVALENT PAY LENGTHS, TYPE					RIPRAP: RIPRAP, REVETMENT	RIPRAP: ARTICULATED CONCRETE BLOCKS	RIPRAP: GEOTEXTILES FOR RIPRAP, TYPE 2A	SODDING: FOR PAVED SIDE DITCHES	SODDING: FOR DITCHES	SODDING: FOR MEDIAN	SODDING: FOR SHOULDER BREAK	SODDING: SODDING AT BRIDGE CONE	SODDING: TOTAL SODDING	COMPACTED AGGREGATE NO. 53
					LFT	EACH	LFT	LFT	LFT	LFT	LFT	TONS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	TONS
Culvert Inlet		X											41	47							
Culvert Outlet				X									98	109							
TOTALS													139	156							

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH	LENGTH	RADII	DISTANCE BEYOND R/W/LINE	SURFACE BEYOND R/W LINE: COMPACTED AGGREGATE BASE	SURFACE BEYOND R/W LINE: HMA	SURFACE BEYOND R/W LINE: PCCP	GRADE: 1	GRADE: 2	EXCAVATION: CUT	EXCAVATION: FILL	CLEAR ZONE AT DRIVE	HMA FOR WIDENING (LBS PER SYD)				HMA FOR ROADS (LBS PER SYD): 3, 64, SURFACE, 9.5 mm, 165	3, 64, INTERMD, 19.0 mm, 275	3, 64, BASE, 19.0 mm, 660				ASPHALT FOR TACK COAT	MILLING, ASPHALT, 1½"	ROUT & SEAL	JOINT ADHESIVE, SURFACE	JOINT ADHESIVE, INTERMEDIATE	SUBGRADE TREATMENT TYPE IC	COMPACTED AGGREGATE: NO. 2, 4"	COMPACTED AGGREGATE: NO. 8*, 12"	COMPACTED AGGREGATE: NO. 53, 4"	COMPACTED AGGREGATE: NO. 53, 10"	GEOTEXTILE FOR PAVEMENT, TYPE 2A*	GEOTEXTILE FOR PAVEMENT, TYPE 2B	REMARKS
		FT	FT	FT	FT	SYS	SYS	SYS	%	%	CYS	CYS	FT	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TONS	TON	SYS	TON	LFT	LFT	SYS	CYS	CYS	CYS	TONS	SYS	SYS	
LINE "A"											235	345						34	25	61				1	232	1	170	70	202	23	139	23	26	114	202	
24+10.00	Class IV Drive	20	25	17					-3.28									6	5	13					37		25	25	39	4		4			39	
TOTALS											235	345						40	30	74				1	269	1	195	95	241	27	139	27	26	114	241	

* Estimated Quantity

PAVEMENT MARKINGS TABLE

LOCATION	LINE, PAINT: BROKEN WHITE 4 IN.	BROKEN YELLOW 6 IN.	BROKEN WHITE 5 IN.	SOLID YELLOW 6 IN.	SOLID WHITE 6 IN.	SOLID WHITE 8 IN.	SOLID WHITE 12 IN.	SOLID WHITE 16 IN.	LINE, PERFORATED PLASTIC: SOLID WHITE 4 IN.	SOLID YELLOW 4 IN.	LINE, THERMOPLASTIC: SOLID WHITE 4 IN.	SOLID YELLOW 4 IN.	SOLID WHITE 24 IN.	BROKEN WHITE 4 IN.	BROKEN YELLOW 4 IN.
	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT
Line "A"		50		170	340										
TOTAL		50		170	340										

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY HIGHWAY DEPARTMENT

STRUCTURE SUMMARY
WHITELAND RD OVER E. GRASSY CREEK

HORIZONTAL SCALE	CULVERT FILE NO.
NA	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
NA	2211FFE
SURVEY BOOK NO.	SHEETS
	36 of 41
CONTRACT NO.	PROJECT NO.
	2211FFE

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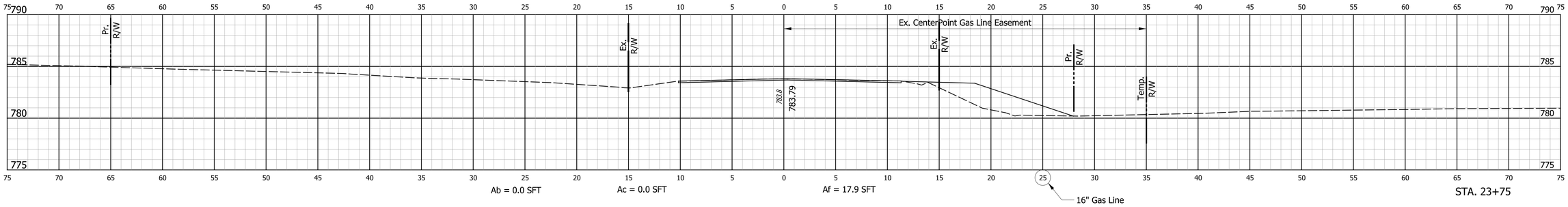
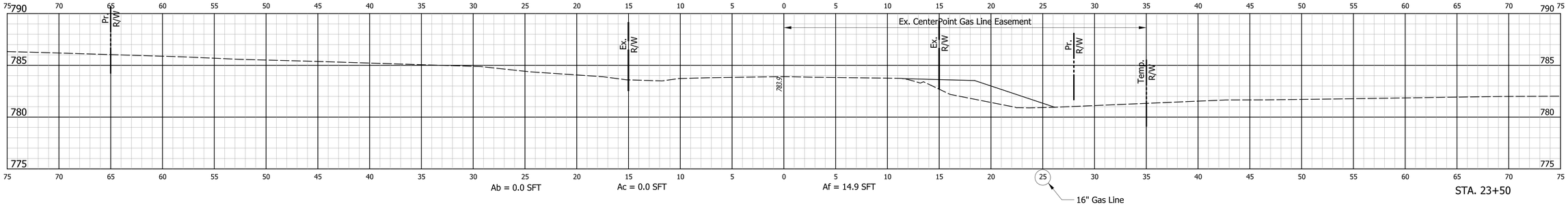


Ab = 0.0 SFT Ac = 0.0 SFT Af = 17.9 SFT

Vb = 0 CYS Vc = 0 CYS Vf = 15 CYS

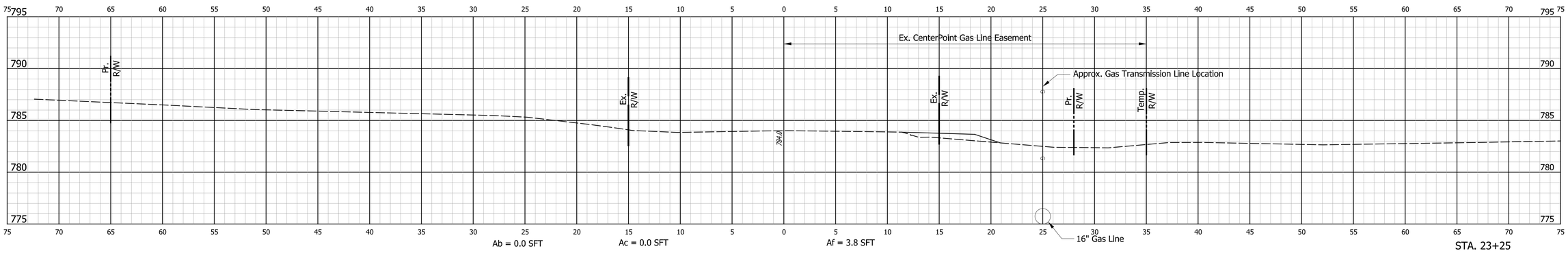
STA. 23+75



Ab = 0.0 SFT Ac = 0.0 SFT Af = 14.9 SFT

Vb = 0 CYS Vc = 0 CYS Vf = 9 CYS

STA. 23+50



Ab = 0.0 SFT Ac = 0.0 SFT Af = 3.8 SFT

Vb = 0 CYS Vc = 0 CYS Vf = 1 CYS

STA. 23+25

BEGIN INCIDENTAL CONSTRUCTION
STA. 23+18.00 "A"

Ab = 0.0 SFT Ac = 0.0 SFT Af = 3.8 SFT

Vb = 0 CYS Vc = 0 CYS Vf = 0 CYS

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS

CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT CROSS SECTIONS
STA. 23+25 "A" TO STA. 23+75 "A"

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 5'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	
SURVEY BOOK NO.	SHEETS
	37 of 41
CONTRACT NO.	PROJECT NO.

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2/6/2026
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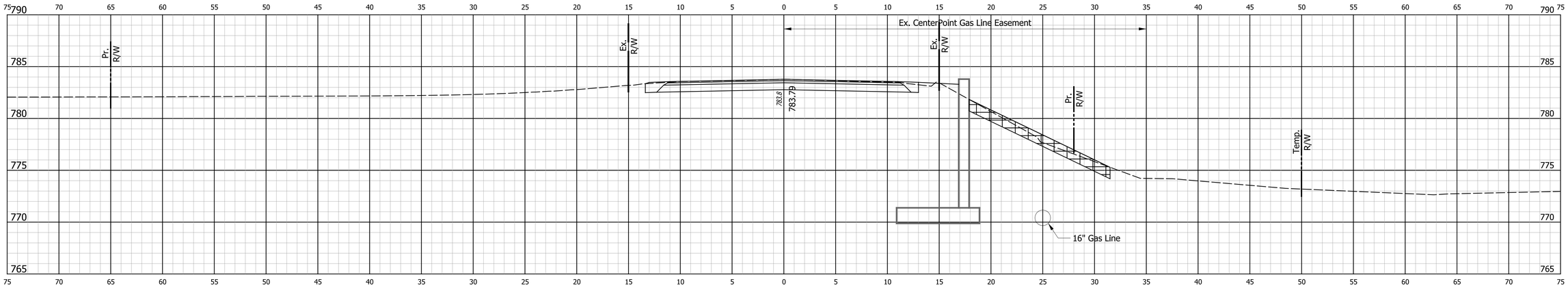


Ab = 0.0 SFT Ac = 25.2 SFT Af = 1.2 SFT

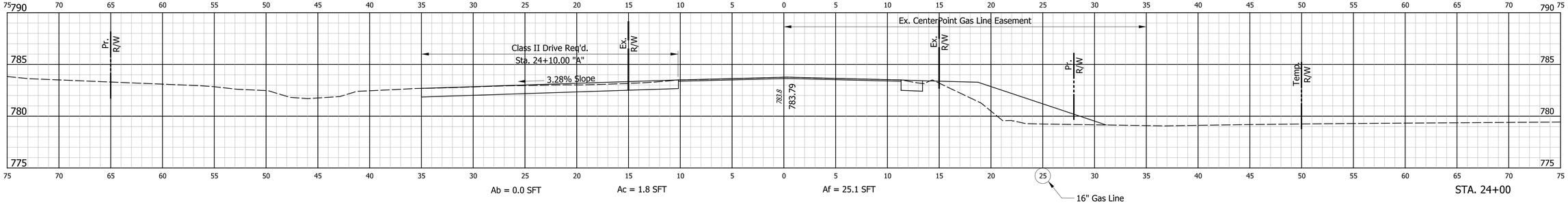
Vb = 0 CYS Vc = 110 CYS Vf = 1 CYS

STA. 24+25

BEGIN PROJECT
STA. 24+10.00 "A"

Ab = 0.0 SFT Ac = 371.3 SFT Af = 1.2 SFT

Vb = 0 CYS Vc = 69 CYS Vf = 5 CYS



Ab = 0.0 SFT Ac = 1.8 SFT Af = 25.1 SFT

Vb = 0 CYS Vc = 1 CYS Vf = 20 CYS

STA. 24+00

CHRISTOPHER M. BLAND REGISTERED NO. PE11100319 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS

CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT CROSS SECTIONS
STA. 24+00 "A" TO STA. 24+25 "A"

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 5'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	

SURVEY BOOK NO.	SHEETS		
	38	of	41
CONTRACT NO.	PROJECT NO.		

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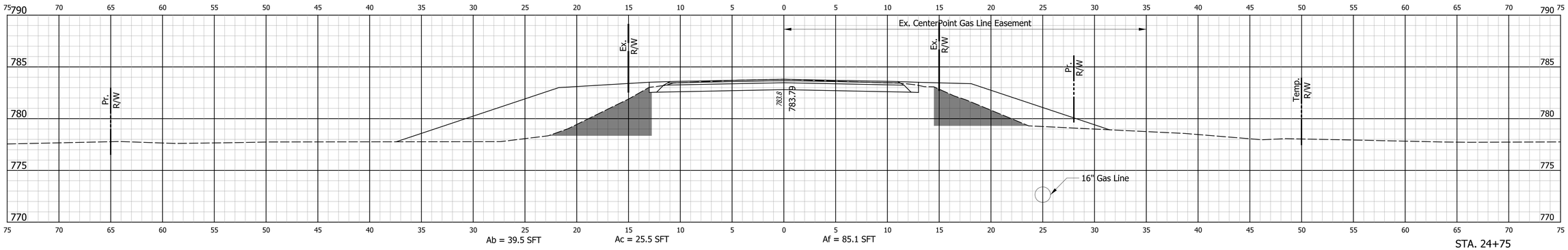
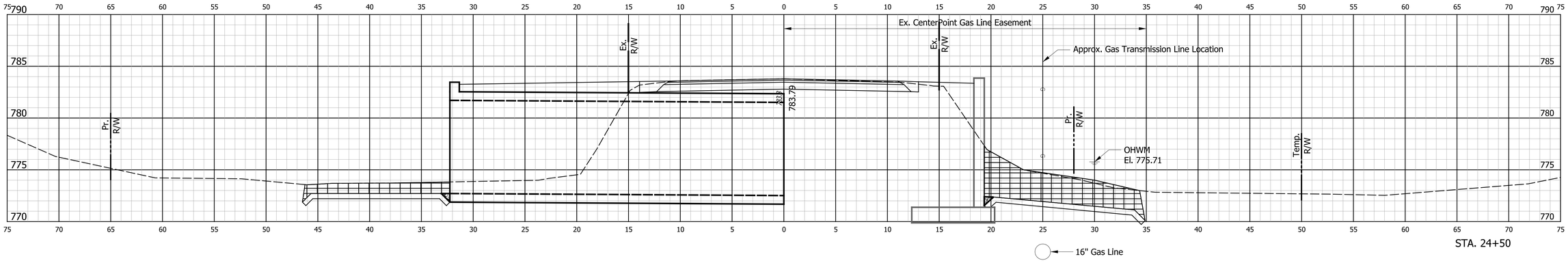


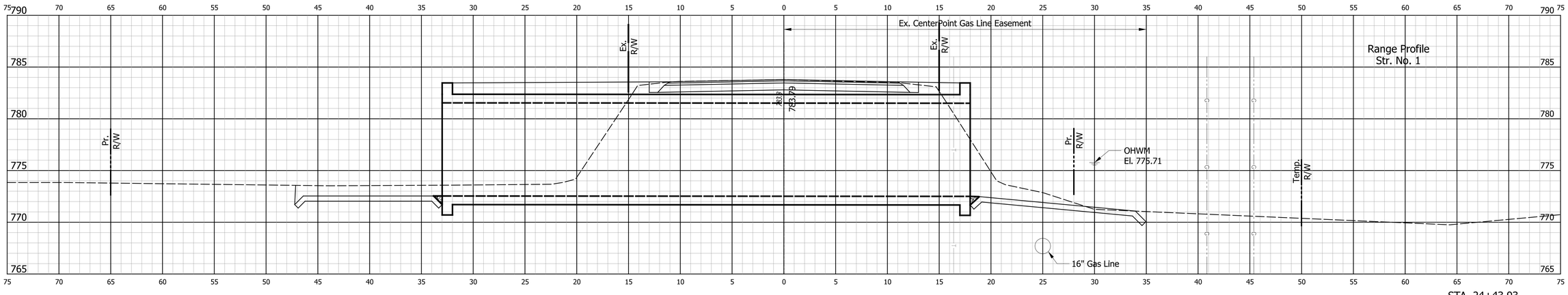
Ab = 39.5 SFT
Ac = 25.5 SFT
Af = 85.1 SFT

Vb = 53 CYS
Vc = 23 CYS
Vf = 79 CYS

STA. 24+75



STA. 24+50



Ab = 0.0 SFT
Ac = 25.2 SFT
Af = 1.2 SFT

Vb = 0 CYS
Vc = 18 CYS
Vf = 1 CYS

BEGIN STRUCTURE
STA. 24+43.93 "A"

STA. 24+43.93

CHRISTOPHER M. BLAND
REGISTERED
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STATE OF INDIANA
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Christopher M Bland 1/21/2026
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DESIGNED: GOS
DRAWN: GOS
CHECKED: CMB
CHECKED: CMB

JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT CROSS SECTIONS
STA. 24+43.93 "A" TO STA. 24+75 "A"

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 5'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	
SURVEY BOOK NO.	SHEETS
	39 of 41
CONTRACT NO.	PROJECT NO.

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2/6/2026
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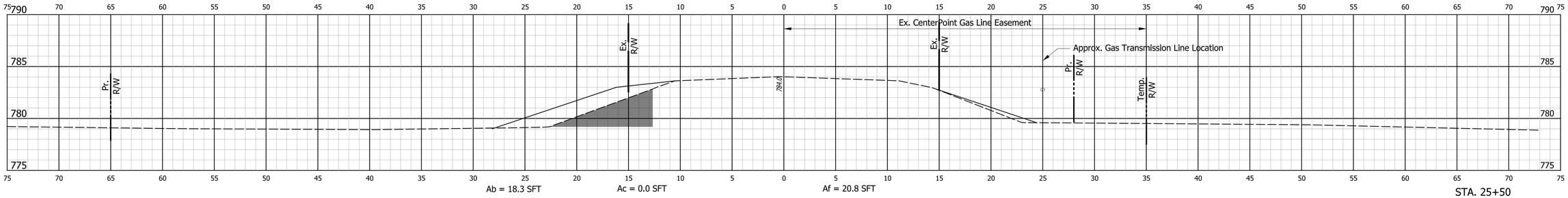

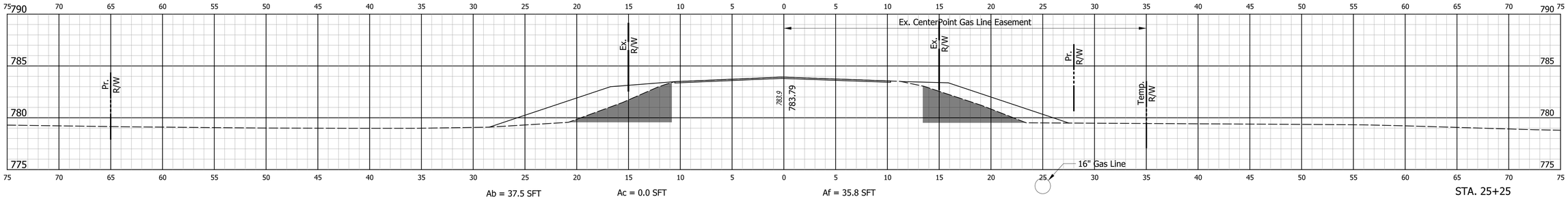

END PROJECT
STA. 24+80.00 "A"

Ab = 39.5 SFT Ac = 1.9 SFT Af = 85.1 SFT

Vb = 53 CYS Vc = 4 CYS Vf = 16 CYS

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RECOMMENDED FOR APPROVAL Christopher M Bland 1/21/2026
DESIGN ENGINEER DATE

DESIGNED: GOS DRAWN: GOS
CHECKED: CMB CHECKED: CMB

JOHNSON COUNTY HIGHWAY DEPARTMENT

CULVERT CROSS SECTIONS
STA. 25+00 "A" TO STA. 25+50 "A"

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 5'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	
SURVEY BOOK NO.	SHEETS
	40 of 41
CONTRACT NO.	PROJECT NO.

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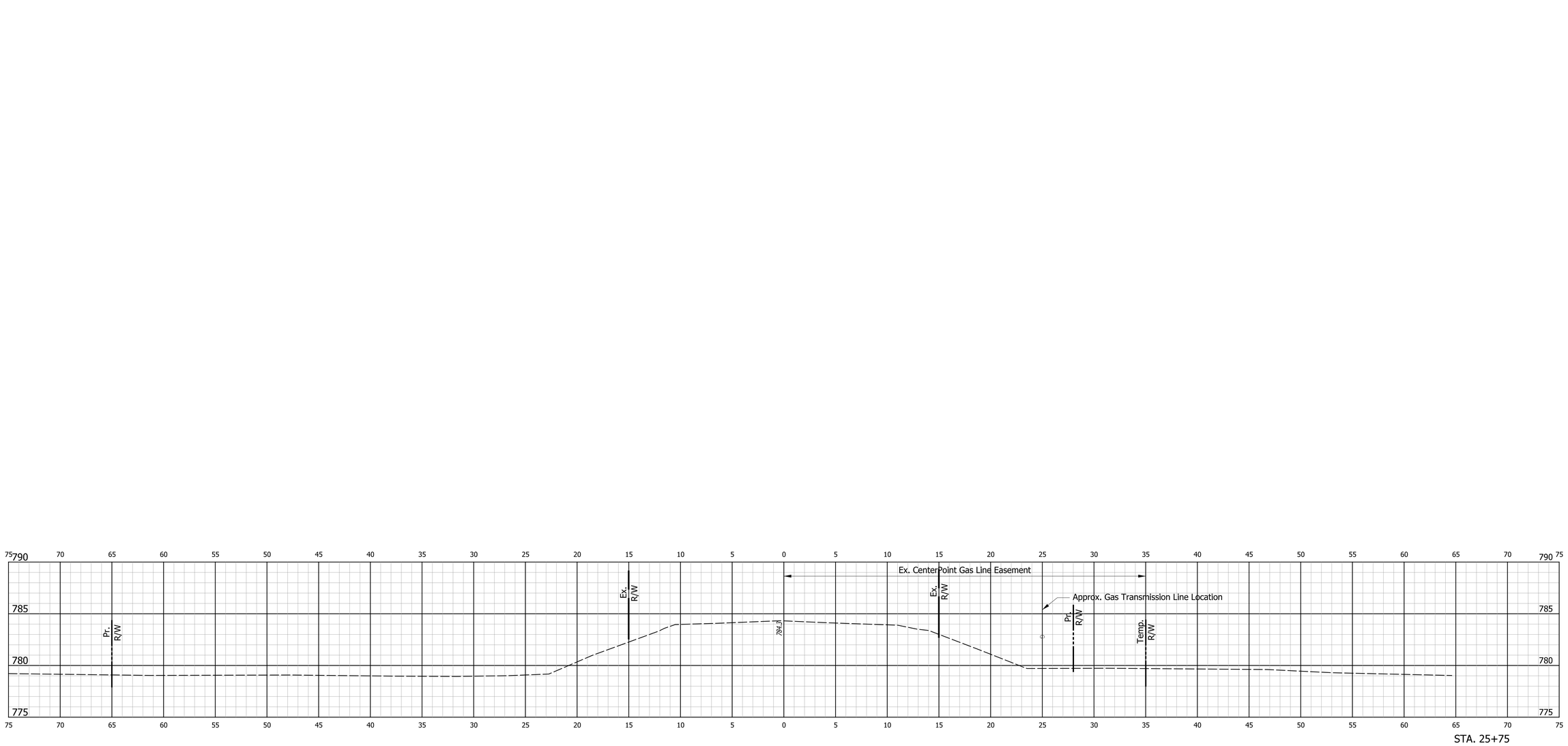

END INCIDENTAL CONSTRUCTION
STA. 25+60.00 "A"

Ab = 18.3 SFT Ac = 0.0 SFT Af = 20.8 SFT

Vb = 34 CYS Vc = 0 CYS Vf = 8 CYS

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RECOMMENDED FOR APPROVAL Christopher M. Bland 1/21/2026
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JOHNSON COUNTY
HIGHWAY DEPARTMENT

CULVERT CROSS SECTIONS
STA. 25+75 "A" TO STA. 26+25 "A"

HORIZONTAL SCALE	CULVERT FILE NO.
1" = 5'	CULVERT P-004
VERTICAL SCALE	DESIGNATION NO.
1" = 5'	
SURVEY BOOK NO.	SHEETS
	41 of 41
CONTRACT NO.	PROJECT NO.