FIRST AMENDMENT TO LICENSE FOR JOGGING, HIKING AND BICYCLE TRAIL
NSL 38818-A1

This First Amendment to License for Jogging, Hiking and Bicycle Trail ("Amendment") is entered into as of this day ___ of, _____ 2025, by and between **Northern Indiana Public Service Company LLC,** an Indiana limited liability company ("Licensor") and the **Town of Munster, Indiana** ("Licensee").

BACKGROUND

WHEREAS, Licensor entered into a License for Jogging, Hiking and Bicycle Trail, dated February 16, 1998, and identified as NIPSCO Agreement #38818 ("the **License**") pursuant to which Licensor granted Licensee a license to construct, operate and maintain a jogging, hiking and bicycle trail;

WHEREAS, Licensor and Licensee understand that the jogging, hiking and bicycle trail now require the construction of improvements that will require Licensor to operate outside of the Premises;

WHEREAS, Licensor and Licensee understand that the Premises shall be used for the purpose of a jogging, hiking and bicycle trail (the "**Trail**");

WHEREAS, Licensor and Licensee hereby desire to amend the License in order to expand the Premises and Trail.

AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are acknowledged, the parties agree as follows:

1. **Definitions.** All capitalized terms used herein, which are not defined herein, shall have the meanings ascribed to them in the License.
2. **Revised Exhibit A.** Licensor and Licensee hereby amend the License so that Exhibit "A" of the License shall be deleted and replaced in its entirety with the Revised Exhibit A, attached hereto and incorporated by reference herein, to expand the Premises and Trail.
3. **Effect on License Agreement.** Except as specifically modified herein, the parties hereto confirm the terms, conditions and covenants of the License Agreement.
4. **Binding Effect.** This Amendment shall be binding upon, and shall inure to the benefit of, the parties hereto and their respective successors and assigns.
5. **Full Force and Effect.** All other terms and conditions of the License shall remain in full force and effect.
6. **Governing Law.** This Amendment is to be governed in all respects by the laws of the State of Indiana.
7. **Counterparts.** This Amendment may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

~ Signature page follows ~

IN WITNESS WHEREOF, the Town of Munster, Indiana and NIPSCO have duly executed this First Amendment to the NIPSCO License for Jogging, Hiking and Bicycle Trail NIPSCO Agreement 38818 this ___ day of _____ 2025.

TOWN OF MUNSTER, INDIANA

LICENSEE

By: _____

Name: _____

Title: _____

NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC, an Indiana limited liability company

LICENSOR

By: _____

Name: _____

Title: _____

REVISED EXHIBIT "A"

EXHIBIT "A" (REVISED 38818) SUMMARY -

1. **Exhibit A Index – See Page 1a**
2. **Alignment from 1998 License for Jogging, Hiking and Bicycle Trail – See Pages 2a to 3a**
3. **Alignment from 2025 License for Jogging, Hiking and Bicycle Trail – See Pages 1 to 44 of SEH Inc. Final Prints labeled SHARED-USE PATH PLANS / MUNSTER - HIGHLAND CONNECTOR / MUNSTER, INDIANA - HIGHLAND, INDIANA / PROJECT NO. 1173597 P.E. / 1173597 CONST., dated January 30, 2025**
    a. **NIPSCO / Munster Bike Trail License 38818 to modify license footprint to include the following:**
        i. Munster is hereby responsible for construction of the Jogging, Hiking and Bicycle Trail in accordance with SEH Inc. Final Prints labeled SHARED-USE PATH PLANS / MUNSTER - HIGHLAND CONNECTOR / MUNSTER, INDIANA - HIGHLAND, INDIANA / PROJECT NO. 1173597 P.E. / 1173597 CONST., dated January 30, 2025 from
            1. STA 100+00 to 109+83.69
            2. STA 200+38.62 to 212+05.77
    b. **NIPSCO / Munster Bike Trail License 38818 to modify license footprint to include the following:**
        i. Munster is hereby responsible for operation, maintenance and replacement of the Jogging, Hiking and Bicycle Trail in accordance with SEH Inc. Final Prints labeled SHARED-USE PATH PLANS / MUNSTER - HIGHLAND CONNECTOR / MUNSTER, INDIANA - HIGHLAND, INDIANA / PROJECT NO. 1173597 P.E. / 1173597 CONST., dated January 30, 2025 from
            1. STA 100+00 to 104+45
            2. STA 200+38.62 to 212+05.77
4. ***NOTE: Modify Page 10 of 44 intersection at 104+10 with a note stating "Shall be updated upon completion of intersection design. Prior to construction activity."***

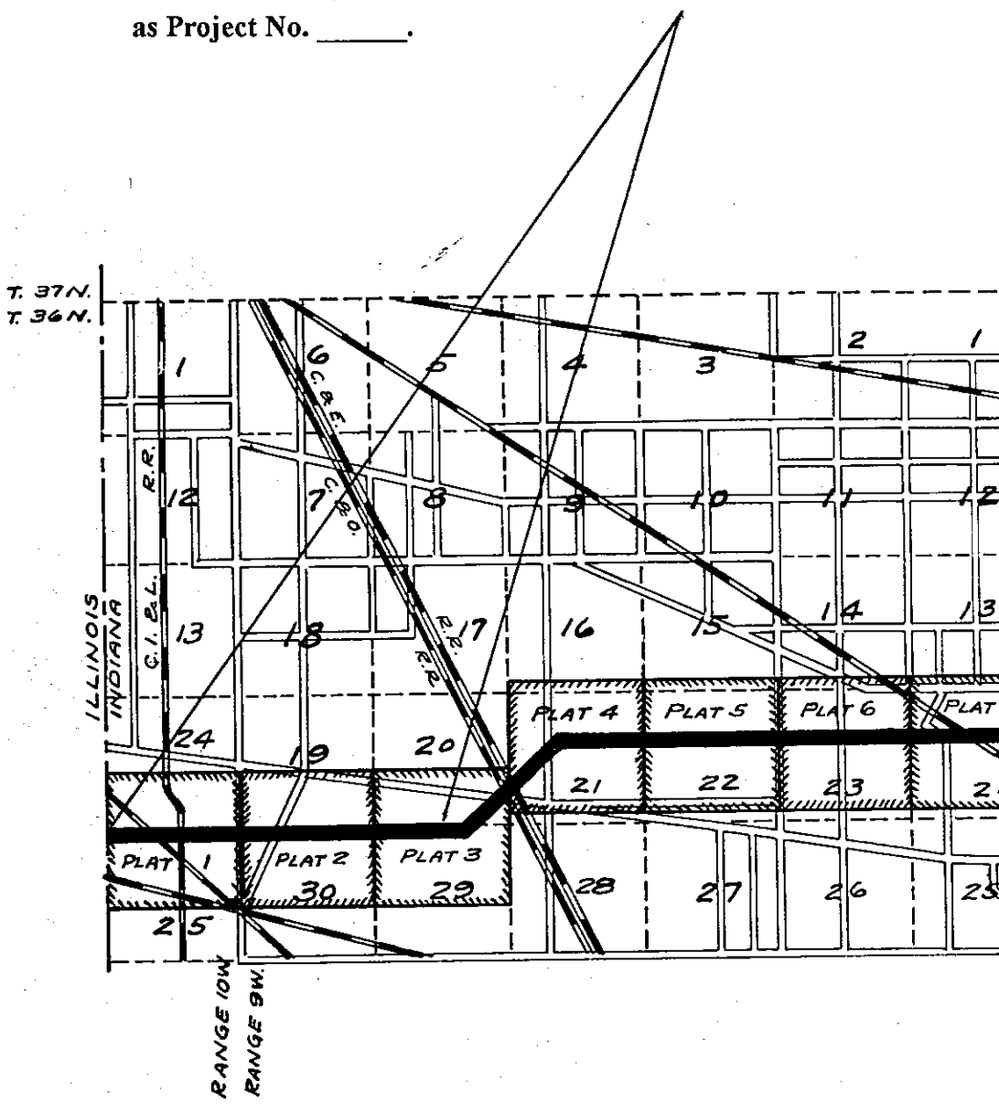
NIPSCO
NORTHERN INDIANA PUBLIC SERVICE COMPANY
801 EAST 86TH AVENUE MERRILLVILLE, INDIANA 46410

EXHIBIT "A'

License for Jogging, Hiking and Bicycle Trail as shown on Robinson E

drawings (__ sheets) submitted to NIPSCO in letter dated _____

as Project No. _____.



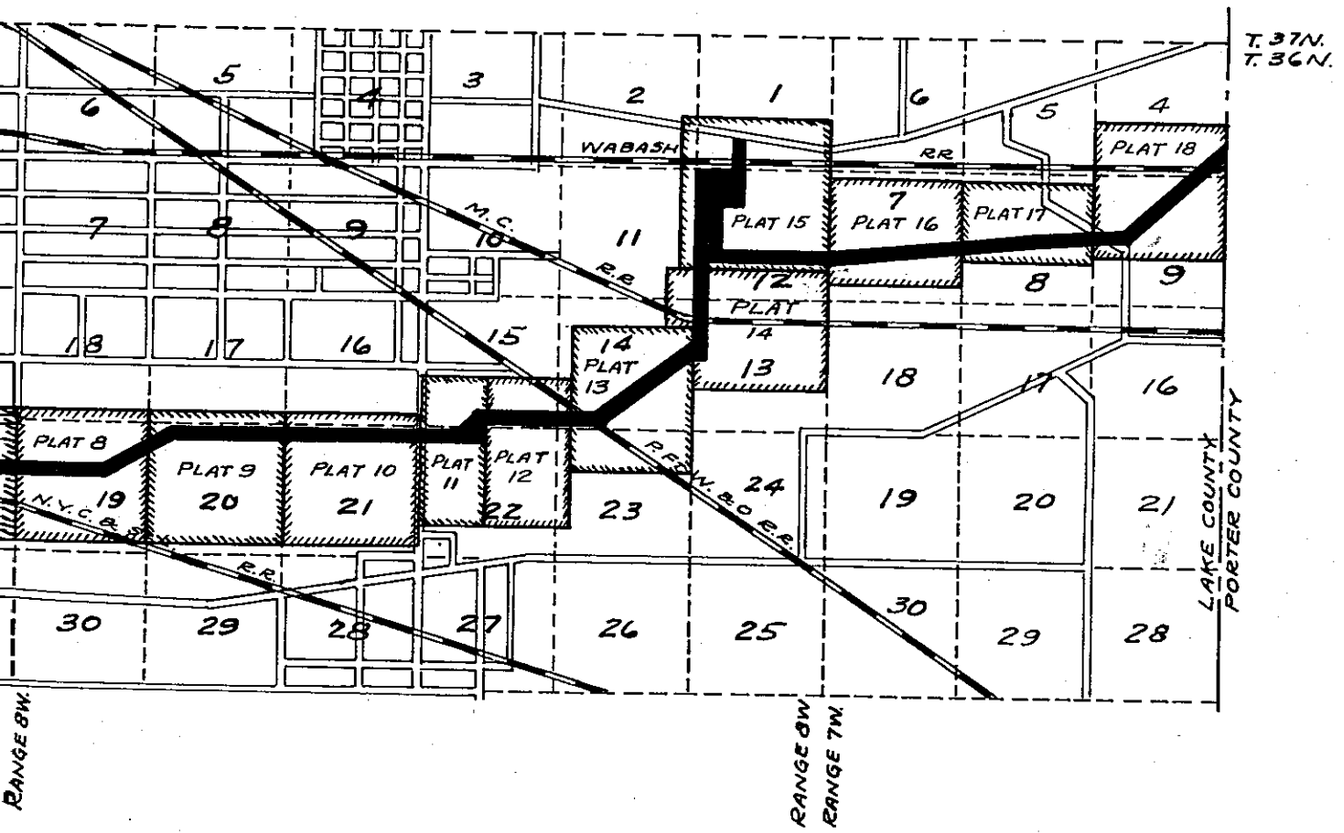
LAKE COUNTY
SUPER POWER
RIGHT-OF-WAY

INDEX
MAP

NORTHERN INDIANA PUBLIC SERVICE COMPANY

gineering, LTD. Final

_____, and known



PROJECT	DESIGNATION
1173597	1173597
CONTRACT	BRIDGE FILE
R-34603	MUNST-00001 & HIGHL-00001

INDIANA DEPARTMENT OF TRANSPORTATION

SHARED-USE PATH PLANS
MUNSTER - HIGHLAND CONNECTOR
MUNSTER, INDIANA - HIGHLAND, INDIANA
PROJECT NO. 1173597 P.E.
1173597 CONST.

PROJECT DESCRIPTION:

DESIGN OF TWO ALIGNMENTS IN THE TOWNS OF MUNSTER AND HIGHLAND.
LINE "A" - STARTING APPROXIMATELY 186 FEET EAST OF FIRST POWER POLE WEST OF HART DITCH HEADING EAST FOR 983.69 FEET TO PEDESTRIAN CROSSING OF LINCOLN STREET ON EAST SIDE OF PARKWAY DRIVE.
LINE "B" - STARTING APPROXIMATELY 145 FEET WEST OF THE WILDWOOD DRIVE ON THE NORTH SIDE OF MARTHA STREET HEADING NORTH FOR 1,169.3 FEET TO PROPOSED LINE "A"

STRUCTURE INFORMATION

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
MUNST-00001	PREFABRICATED STEEL TRUSS	SPAN: 110'-0" SKEW: 0°	HART DITCH	102+08.50 LINE "A"
HIGHL-00001	PREFABRICATED STEEL TRUSS	SPAN: 110'-0" SKEW: 0°	CADY MARSH DITCH	105+92.50 LINE "A"

TRAFFIC DATA	
A.A.D.T. (2010)	N/A
A.A.D.T. (PROJECTED 2024)	N/A
D.H.V. (2024)	N/A
DIRECTIONAL DISTRIBUTION	N/A
TRUCKS	N/A
DESIGN DATA	
DESIGN SPEED	15 M.P.H.
PROJECT DESIGN CRITERIA	SHARED-USE PATH
FUNCTIONAL CLASSIFICATION	SHARED-USE PATH
RURAL/URBAN	URBAN
TERRAIN	LEVEL
ACCESS CONTROL	NONE

TOWN OF MUNSTER
TOWN COUNCIL MEMBERS

GEORGE SHINKON — 1-6-25 — DATE

JOE HOFFERTH — 1-6-25 — DATE

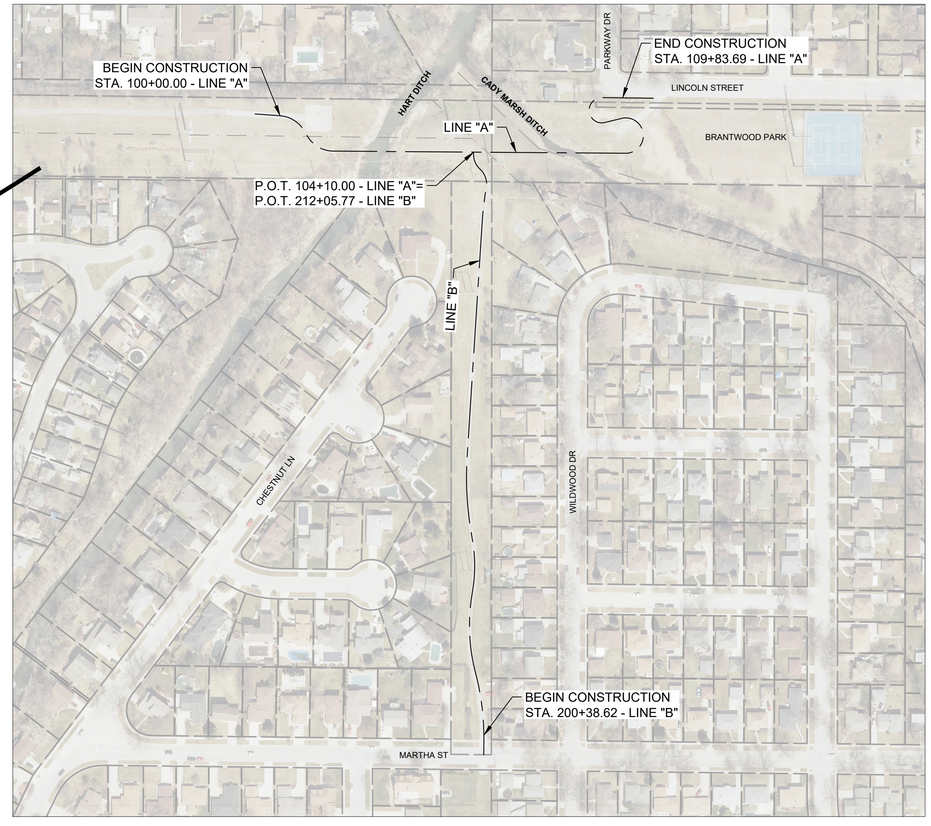
CHUCK GARDINER — 1-6-25 — DATE

DAVID B NELLANS — 1-6-25 — DATE

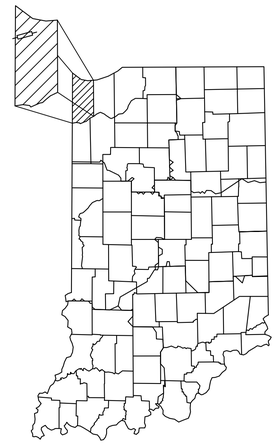
JONATHAN PETERSON — 1-6-25 — DATE

EMPLOYEE OF RESPONSIBLE CHARGE

P. Abbott 01.06.25
PATRICIA ABBOTT, INTERIM TOWN MANAGER, ERC — DATE



LOCATION MAP



PROJECT LOCATION SHOWN BY

GROSS PROJECT LENGTH:	2,150.84 LF
NET PROJECT LENGTH:	2,146.84 LF
MAXIMUM ELEVATION:	612.53
MINIMUM ELEVATION:	604.23
MAXIMUM GRADE:	4.41%
MINIMUM GRADE:	0.00%
LATITUDE:	41° 33' 6.5" N
LONGITUDE:	87° 28' 52" W

3OF 3A

0 150 300
75
SCALE 1:150

THESE PLANS REFERENCE SURVEY USING INDIANA STATE PLANES WEST ZONE US FOOT VERTICAL DATUM - NAVD88

INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED 2024 TO BE USED WITH THIS SET OF PLANS

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

PREPARED BY: SHORT ELLIOTT HENDRICKSON, INC. (219) 513-2500 PHONE

CERTIFIED BY: 1/30/2025 DATE

APPROVED FOR LETTING: DATE

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

BRIDGE FILE	
MUNST-00001 & HIGHL-00001	
DESIGNATION	
1173597	

SURVEY BOOK	SHEETS		
	1	of	44
CONTRACT	PROJECT		
R-34603	1173597		

GENERAL NOTES:

1.	UTILITIES SHOWN ON PLANS ARE APPROXIMATE IN LOCATION AND ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT BE ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES WHETHER IDENTIFIED BELOW AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE DESIGN ENGINEER.
2.	THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

SHEET INDEX

44 TOTAL SHEETS IN THIS PLAN SET

REVISIONS

SHEET NO.	DATE	REVISED

UTILITIES

NIPSCO GAS
MARIA GARCIA-HERNANDEZ
219.647.6260
MGARCIA@HERNANDEZ@NISOURCE.COM

NIPSCO ELECTRIC
MATT DILLMAN
219.647.4914
MDILLMAN@NISOURCE.COM

AT&T
DENNIS PORTEGA
219.662.4689
DP7986@ATT.COM

COMCAST
REENA THOMAS
574.320.8203
REENA_THOMAS@COMCAST.COM

WOLVERINE
DUNCAN MACLEOD
616.916.0055
DMACLEOD@WPLCO.COM

BUCKEYE PIPELINE
JANA OLTHOFF
219.796.8226

Indiana 811
SAFETY IS IN YOUR HANDS.
EVERY DIG. EVERY TIME.
INDIANA UNDERGROUND
1.800.382.5544 OR CALL 811
24 HOURS A DAY 7 DAYS A WEEK

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ 1/30/2025
DESIGN ENGINEER DATE

DESIGNED: PWS DRAWN: NWF
CHECKED: JED CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

INDEX & GENERAL NOTES
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
- - -	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
- - -	1173597

SURVEY BOOK	SHEETS
	2 of 44
CONTRACT	PROJECT
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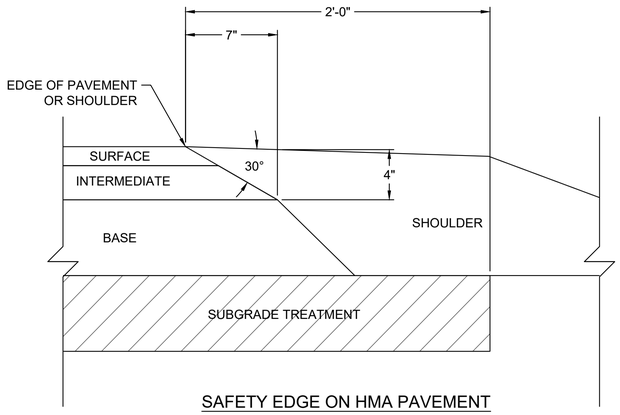
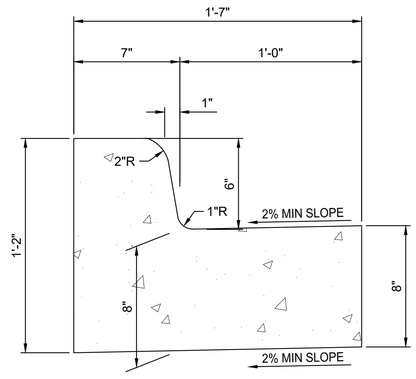
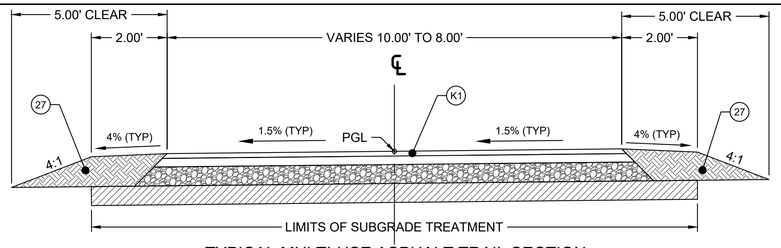
Save: 1/30/2025 12:04 PM pstepanovic Plot: 1/30/2025 12:50 PM X:\KOM\MUNST\15790115-final-dsgn\51-drawings\10-Civil\cad\dwg\sheet\MU157901 - TITLE.dwg



SAFETY EDGE ON HMA PAVEMENT

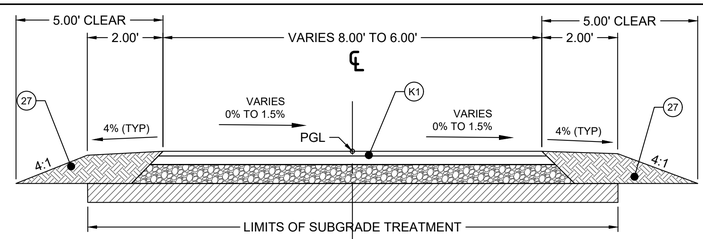


COMBINED CONCRETE CURB AND GUTTER (MODIFIED)



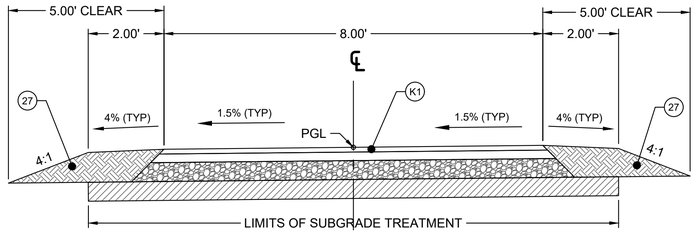
TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "A" - STA 100+00.00 TO STA 100+25.00



TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "A" - STA 109+09.15 TO STA 109+21.14

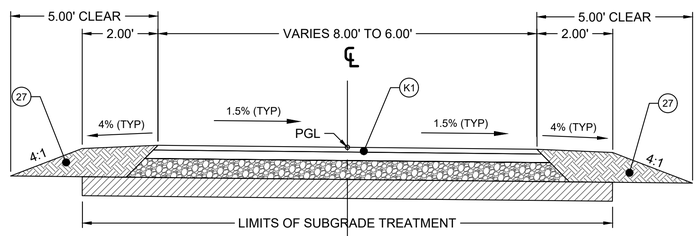


TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "A" - STA 100+25.00 TO STA 101+47.71

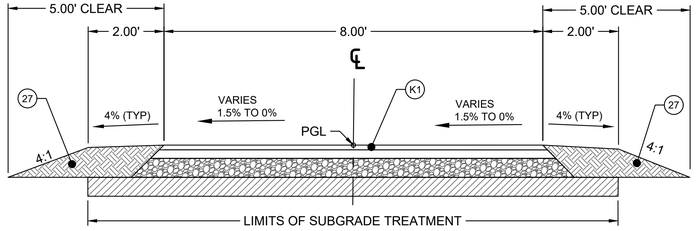
LINE "A" - STA 103+00.62 TO STA 104+57.37

LINE "A" - STA 107+15.62 TO STA 108+97.13



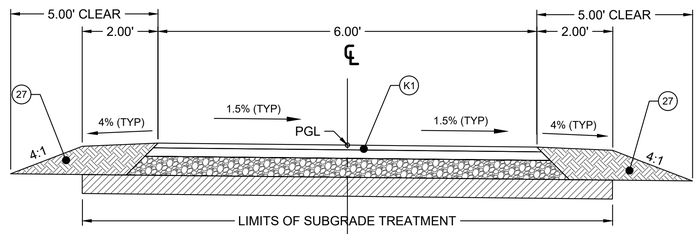
TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "A" - STA 109+21.14 TO STA 109+49.42



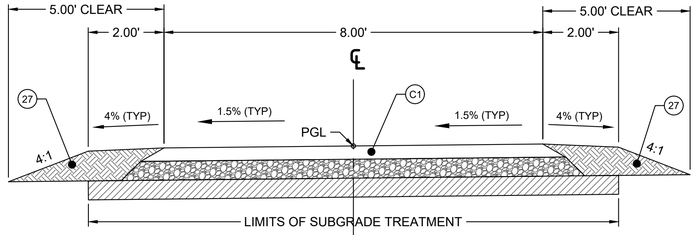
TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "A" - STA 108+97.13 TO STA 109+09.15



TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "A" - STA 109+49.42 TO STA 109+65.06



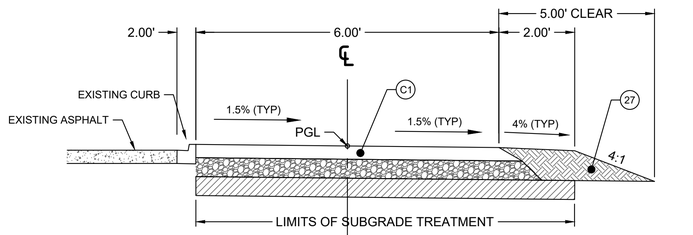
TYPICAL MULTI-USE CONCRETE TRAIL SECTION

LINE "A" - STA 101+47.71 TO STA 101+52.71

LINE "A" - STA 102+95.62 TO STA 103+00.62

LINE "A" - STA 104+57.37 TO STA 104+62.37

LINE "A" - STA 107+10.62 TO STA 107+15.62



TYPICAL MULTI-USE CONCRETE TRAIL SECTION

LINE "A" - STA 109+65.06 TO STA 109+83.69

(K1) HMA FOR SIDEWALKS CONSISTING OF:
1.5" HMA SURFACE, TYPE A (165 #/SYS) ON
2.5" HMA INTERMEDIATE, TYPE A (275 #/SYS) ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(C1) CONCRETE FOR SIDEWALKS CONSISTING OF:
6" EXPOSED AGGREGATE CONCRETE ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(27) INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)

(BW) BOARDWALK, SEE DETAIL SHEETS 34 - 36

(BR) BRIDGE, SEE DETAIL SHEETS 17 - 29

(CR) CONCRETE CURB RAMP, SEE DETAIL SHEET 18

(15) COMBINED CONCRETE CURB AND GUTTER (MODIFIED)

(RR) REVETMENT RIPRAP

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS DRAWN: NWF

CHECKED: JED CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
NOT TO SCALE	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NOT TO SCALE	1173597

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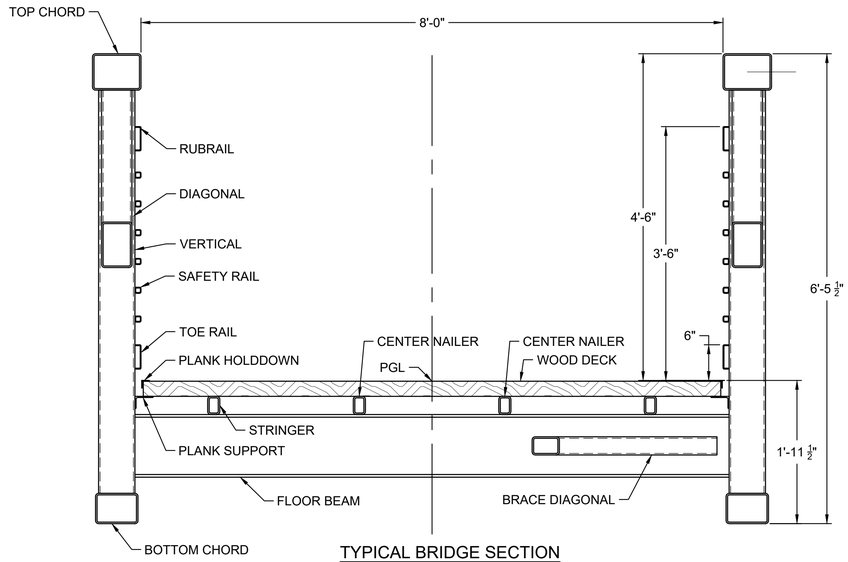
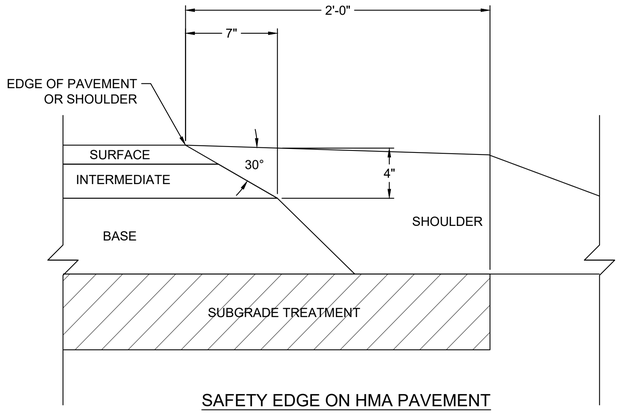


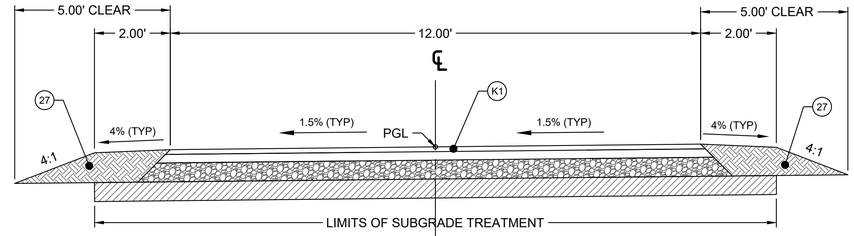
TYPICAL BRIDGE SECTION

LINE "A" - STA 101+53.50 TO STA 102+63.50

LINE "A" - STA 105+37.50 TO STA 106+47.50



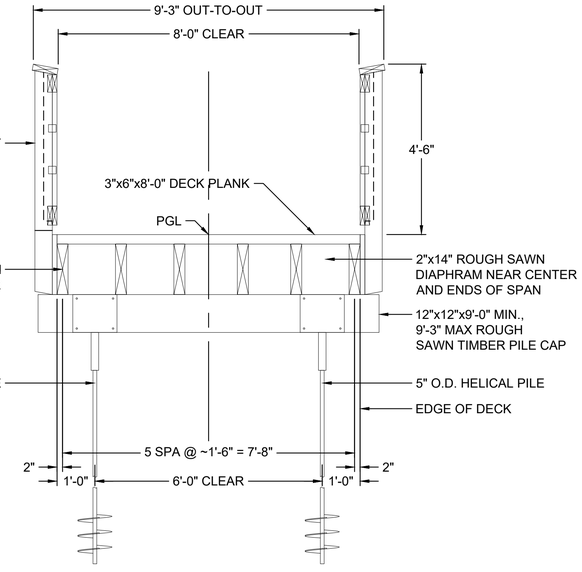
SAFETY EDGE ON HMA PAVEMENT



TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "B" - STA 200+38.62 TO STA 201+25.00

LINE "B" - STA 205+75.00 TO STA 209+25.00

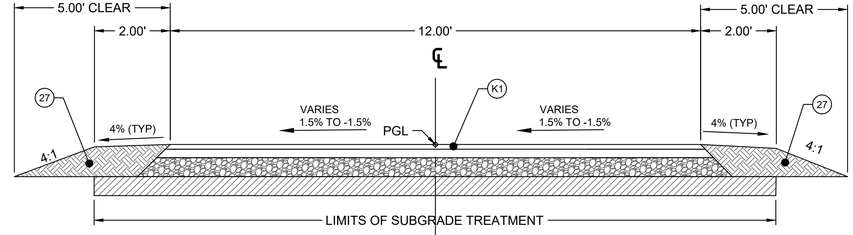


TYPICAL BOARDWALK SECTION

LINE "A" - STA 102+63.62 TO STA 102+95.62

LINE "A" - STA 104+57.37 TO STA 105+37.37

LINE "A" - STA 106+47.62 TO STA 107+10.62

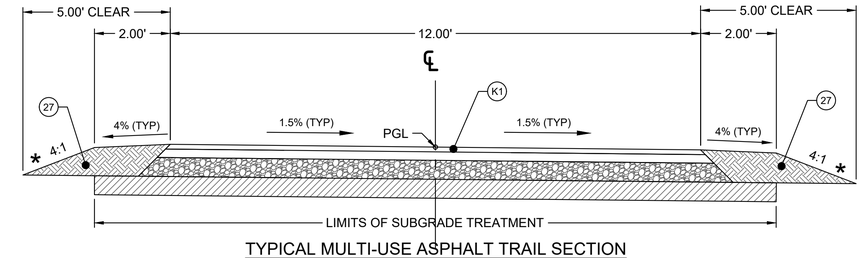


TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "B" - STA 201+25.00 TO STA 201+75.00

LINE "B" - STA 205+25.00 TO STA 205+75.00

LINE "B" - STA 209+25.00 TO STA 209+75.00



TYPICAL MULTI-USE ASPHALT TRAIL SECTION

LINE "B" - STA 201+75.00 TO STA 205+25.00

LINE "B" - STA 209+75.00 TO STA 212+01.77

* SLOPE 3:1 - STA 211+35 TO STA 211+80

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(RR) REVETMENT RIPRAP

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED No. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER — ELTON L. PETERS

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS	DRAWN: NWF
CHECKED: JED	CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
MUNSTER - HIGHLAND CONNECTOR

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NOT TO SCALE	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NOT TO SCALE	1173597
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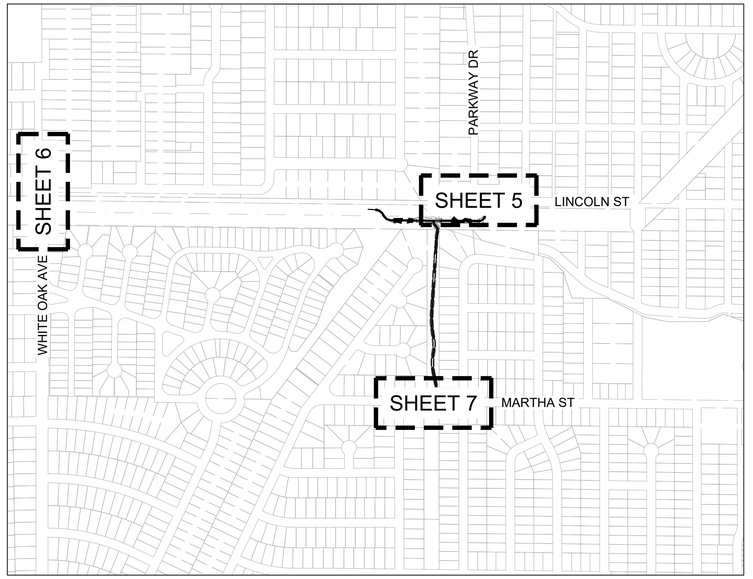
MAINTENANCE OF TRAFFIC

PEDESTRIAN MAINTENANCE OF TRAFFIC



KEY MAP

NOT TO SCALE

LEGEND

A — ROAD WORK AHEAD — W20–1

B — END ROAD WORK — G20–2

C — TRAIL CLOSED — NHE–17514

TRAFFIC SIGN

TYPE III BARRICADE

N

40 0 40 80

scale 20 feet

CONSTRUCTION SIGN SCHEDULE				
SIGN NO	DESCRIPTION	SIZE (IN)	TYPE	EST. QTY.
XW20-1	ROAD WORK AHEAD	36 X 36	A	2
G20-2	END ROAD WORK	18 X 36	B	2
NHE-17514	TRAIL CLOSED	36 X 36	A	1

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS DRAWN: NWF

CHECKED: JED CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597
SURVEY BOOK	SHEETS
	5 of 44
CONTRACT	PROJECT
R-34603	1173597

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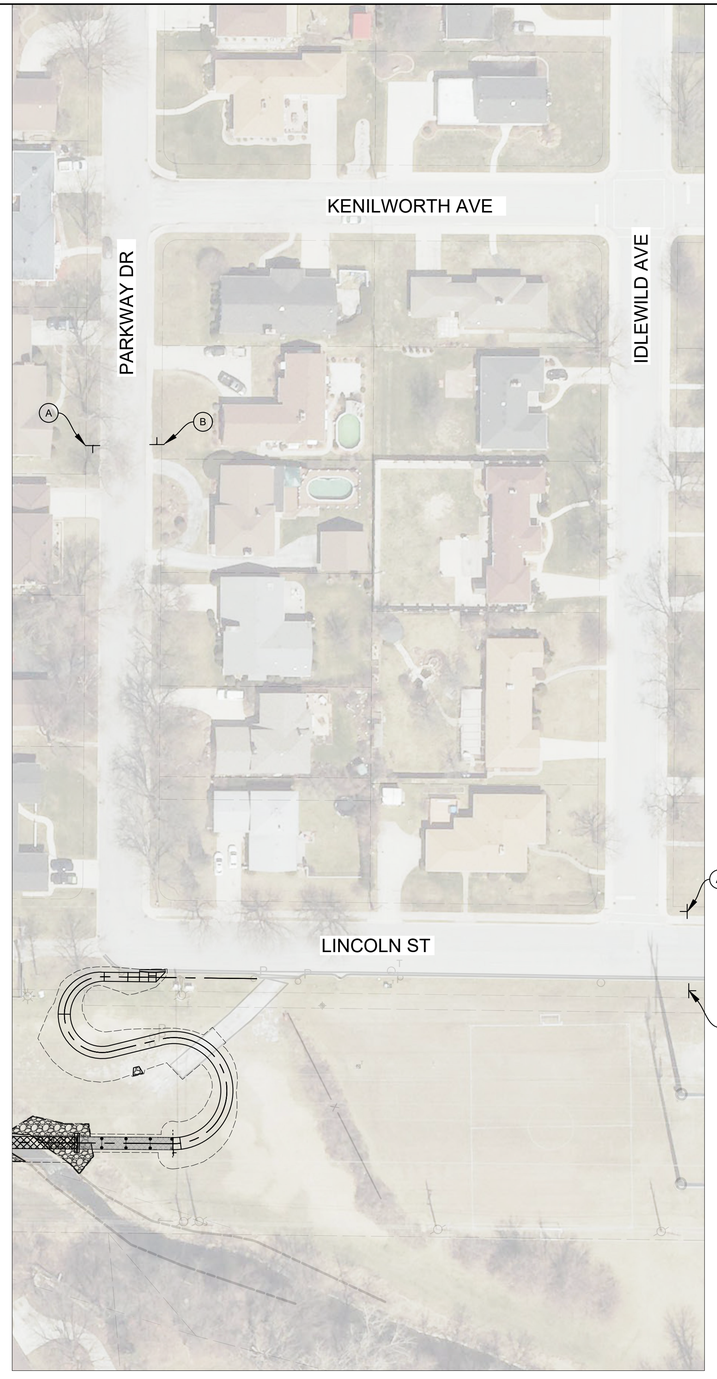
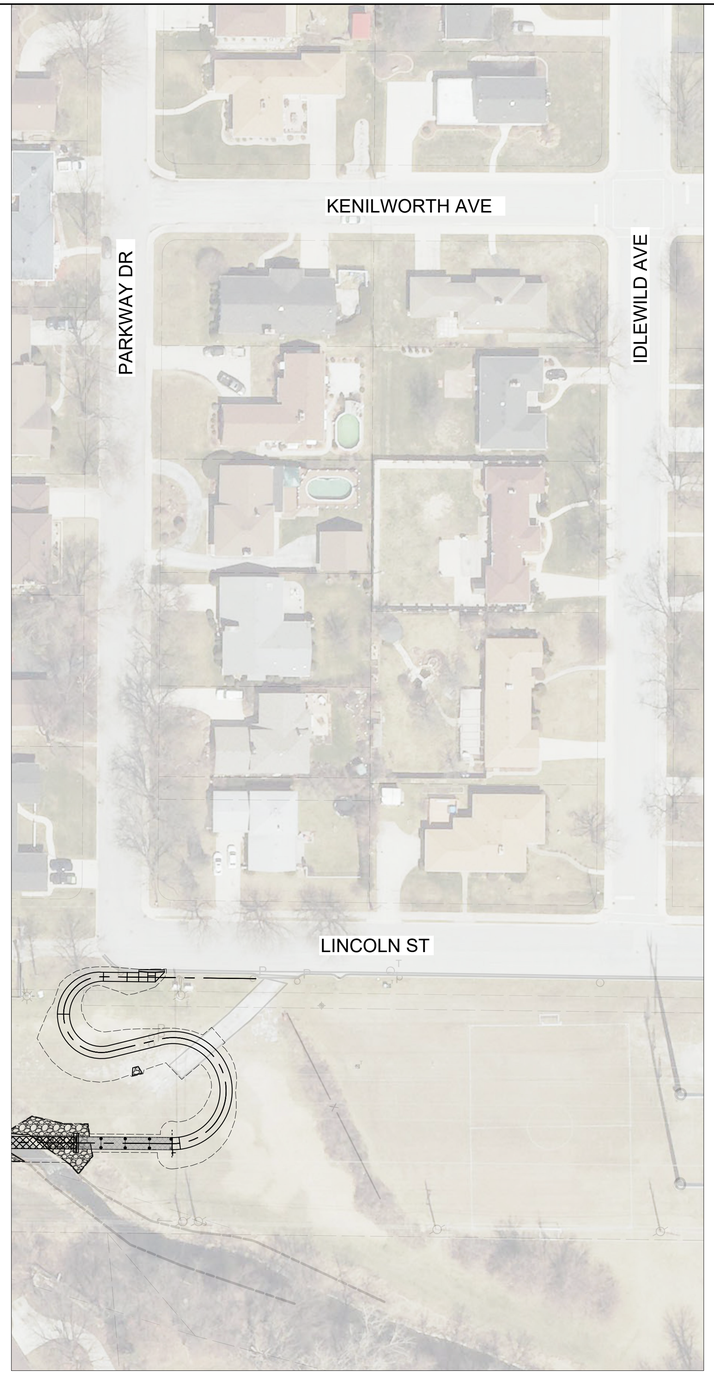
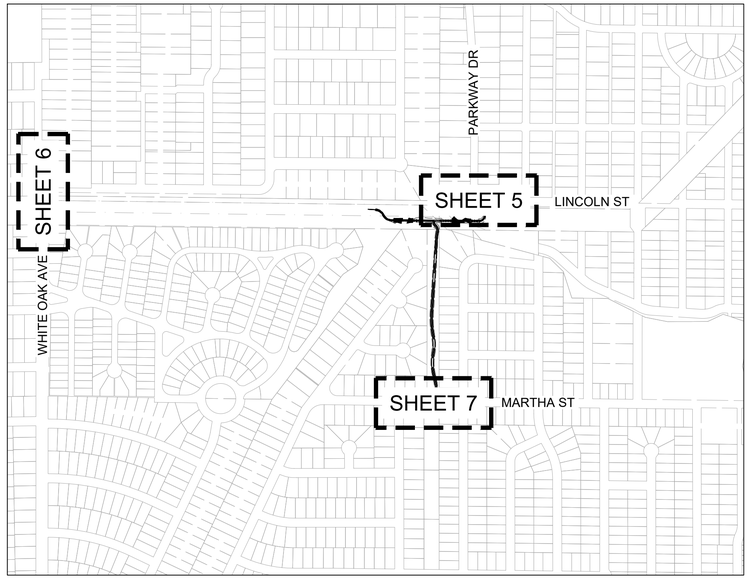


MAINTENANCE OF TRAFFIC



PEDESTRIAN MAINTENANCE OF TRAFFIC



KEY MAP

NOT TO SCALE

LEGEND

A	B	C
ROAD WORK AHEAD	END ROAD WORK	TRAIL CLOSED
W20-1	G20-2	NHE-17514

TRAFFIC SIGN

TYPE III BARRICADE

N

50 0 50 100

scale 25 feet

CONSTRUCTION SIGN SCHEDULE				
SIGN NO	DESCRIPTION	SIZE (IN)	TYPE	EST. QTY.
XW20-1	ROAD WORK AHEAD	36 X 36	A	2
G20-2	END ROAD WORK	18 X 36	B	2

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INDIANA DEPARTMENT OF TRANSPORTATION

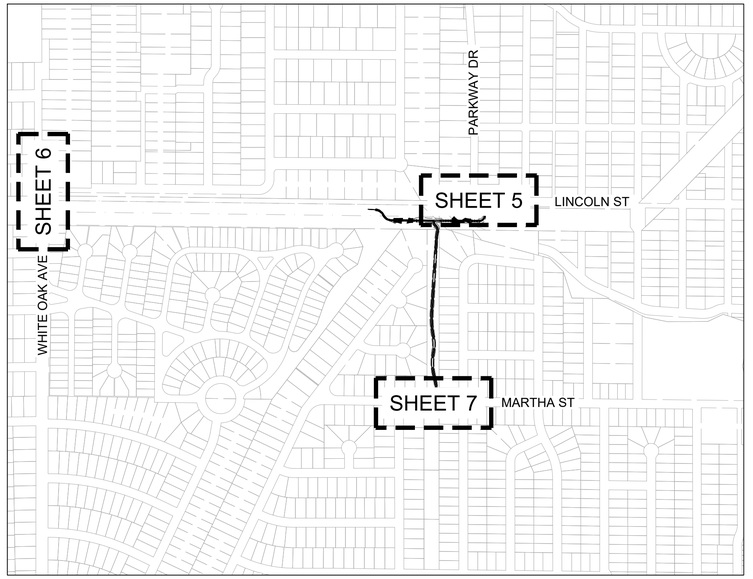
MAINTENANCE OF TRAFFIC
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

SURVEY BOOK	SHEETS
	6 of 44
CONTRACT	PROJECT
R-34603	1173597

MAINTENANCE OF TRAFFIC

PEDESTRIAN MAINTENANCE OF TRAFFIC



KEY MAP

NOT TO SCALE

LEGEND

A — ROAD WORK AHEAD — W20-1

B — END ROAD WORK — G20-2

C — TRAIL CLOSED — NHE-17514

TRAFFIC SIGN

TYPE III BARRICADE

50 0 50 100

scale 25 feet

CONSTRUCTION SIGN SCHEDULE				
SIGN NO	DESCRIPTION	SIZE (IN)	TYPE	EST. QTY.
XW20-1	ROAD WORK AHEAD	36 X 36	A	2
G20-2	END ROAD WORK	18 X 36	B	2
NHE-17514	TRAIL CLOSED	36 X 36	A	1

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INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597
SURVEY BOOK	SHEETS
	7 of 44
CONTRACT	PROJECT
R-34603	1173597

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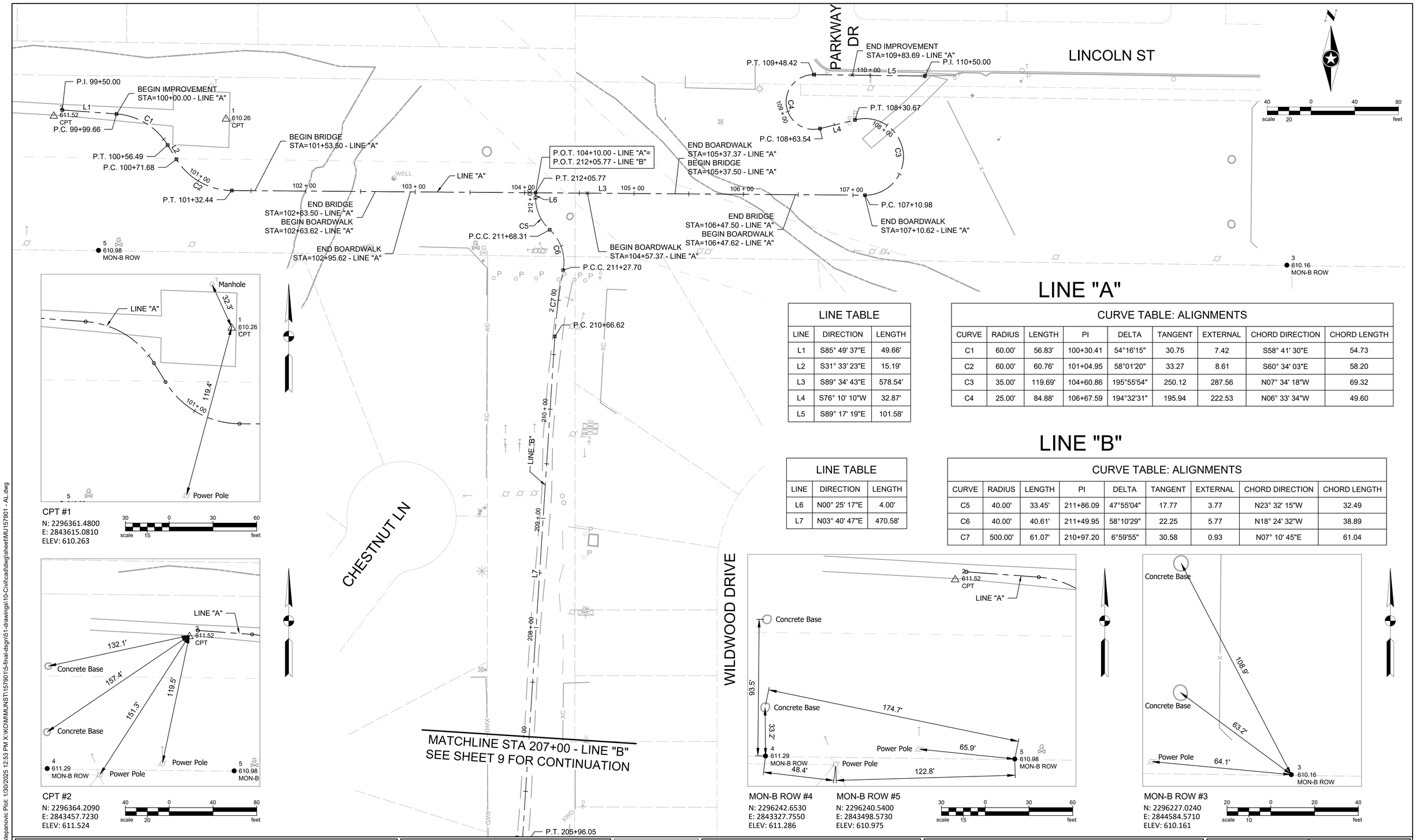

CPT #1
N: 2296361.4800
E: 2843615.0810
ELEV: 610.263

30 0 30 60
scale 15 feet

CPT #2
N: 2296364.2090
E: 2843457.7230
ELEV: 611.524

40 0 40 80
scale 20 feet

LINE "A"

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S85° 49' 37"E	49.66'
L2	S31° 33' 23"E	15.19'
L3	S89° 34' 43"E	578.54'
L4	S76° 10' 10"W	32.87'
L5	S89° 17' 19"E	101.58'

CURVE TABLE: ALIGNMENTS								
CURVE	RADIUS	LENGTH	PI	DELTA	TANGENT	EXTERNAL	CHORD DIRECTION	CHORD LENGTH
C1	60.00'	56.83'	100+30.41	54°16'15"	30.75	7.42	S58° 41' 30"E	54.73
C2	60.00'	60.76'	101+04.95	58°01'20"	33.27	8.61	S60° 34' 03"E	58.20
C3	35.00'	119.69'	104+60.86	195°55'54"	250.12	287.56	N07° 34' 18"W	69.32
C4	25.00'	84.88'	106+67.59	194°32'31"	195.94	222.53	N06° 33' 34"W	49.60

LINE "B"

LINE TABLE		
LINE	DIRECTION	LENGTH
L6	N00° 25' 17"E	4.00'
L7	N03° 40' 47"E	470.58'

CURVE TABLE: ALIGNMENTS								
CURVE	RADIUS	LENGTH	PI	DELTA	TANGENT	EXTERNAL	CHORD DIRECTION	CHORD LENGTH
C5	40.00'	33.45'	211+86.09	47°55'04"	17.77	3.77	N23° 32' 15"W	32.49
C6	40.00'	40.61'	211+49.95	58°10'29"	22.25	5.77	N18° 24' 32"W	38.89
C7	500.00'	61.07'	210+97.20	6°59'55"	30.58	0.93	N07° 10' 45"E	61.04

MON-B ROW #4
N: 2296242.6530
E: 2843327.7550
ELEV: 611.286

MON-B ROW #5
N: 2296240.5400
E: 2843498.5730
ELEV: 610.975

30 0 30 60
scale 15 feet

MON-B ROW #3
N: 2296227.0240
E: 2844584.5710
ELEV: 610.161

20 0 20 40
scale 10 feet

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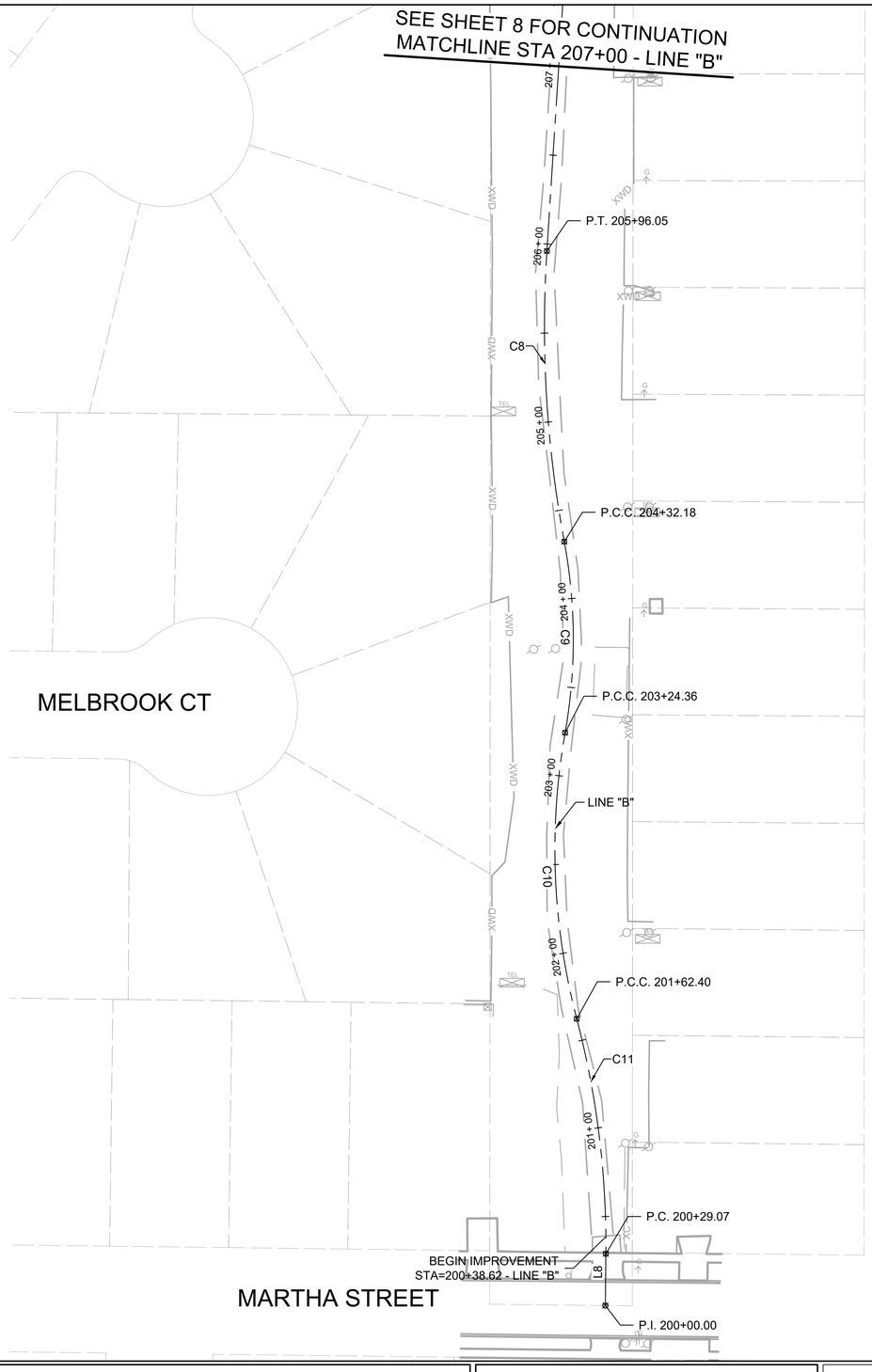
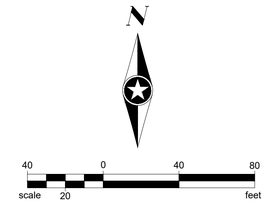
INDIANA DEPARTMENT OF TRANSPORTATION

ALIGNMENT PLAN
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 40'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

SURVEY BOOK	SHEETS
	8 of 44
CONTRACT	PROJECT
R-34603	1173597





LINE "B"

LINE TABLE		
LINE	DIRECTION	LENGTH
L7	N03° 40' 47"E	470.58'
L8	N00° 34' 39"E	29.07'

CURVE TABLE: ALIGNMENTS								
CURVE	RADIUS	LENGTH	PI	DELTA	TANGENT	EXTERNAL	CHORD DIRECTION	CHORD LENGTH
C8	660.00'	163.87'	205+14.54	14°13'33"	82.36	5.12	N03° 25' 59"W	163.45
C9	300.00'	107.82'	203+78.86	20°35'29"	54.50	4.91	N00° 15' 01"W	107.24
C10	375.00'	161.96'	202+44.66	24°44'46"	82.26	8.92	N02° 19' 39"W	160.71
C11	500.00'	133.33'	200+96.13	15°16'41"	67.06	4.48	N07° 03' 42"W	132.93

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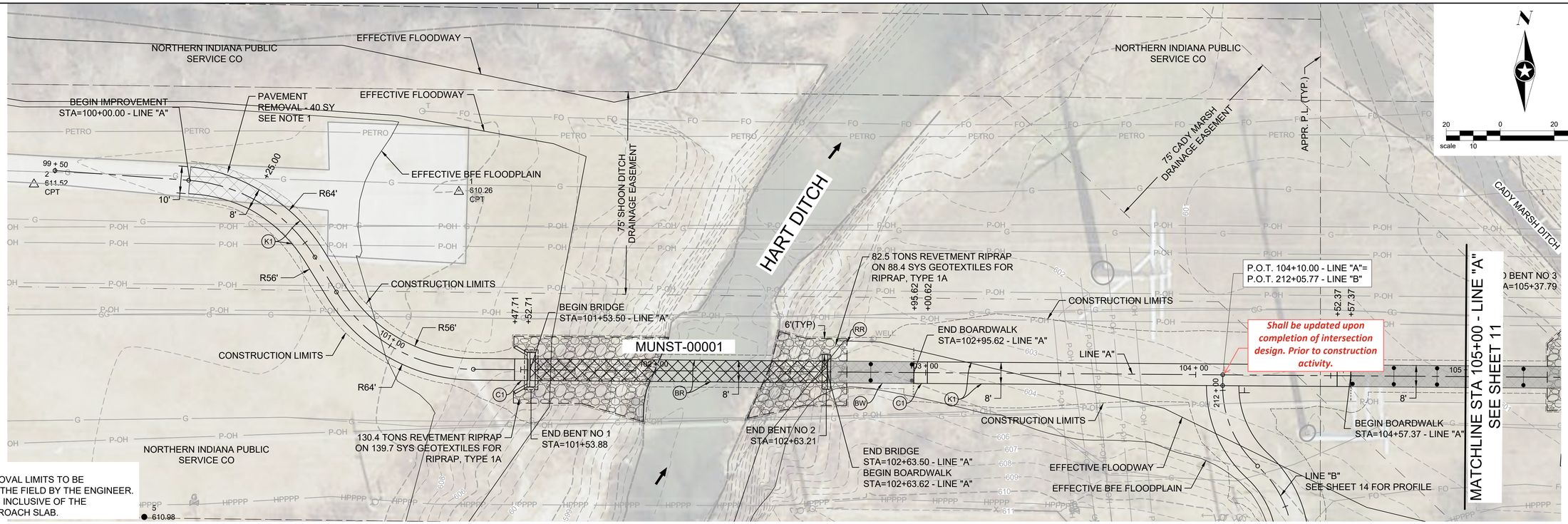
ALIGNMENT PLAN
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 40'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597
SURVEY BOOK	SHEETS
	9 of 44
CONTRACT	PROJECT
R-34603	1173597



NOTES
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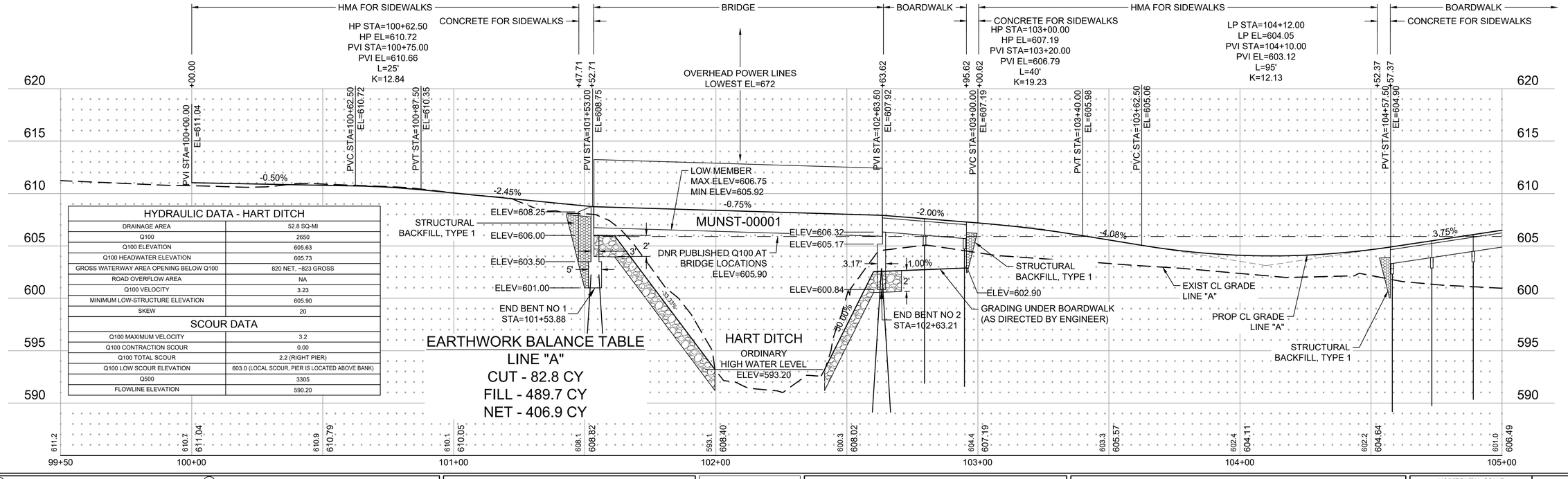
2. REINFORCING IS INCLUSIVE OF THE CONCRETE APPROACH SLAB.



HYDRAULIC DATA - HART DITCH	
DRAINAGE AREA	52.8 SQ-MI
Q100	2650
Q100 ELEVATION	605.63
Q100 HEADWATER ELEVATION	605.73
GROSS WATERWAY AREA OPENING BELOW Q100	820 NET, ~823 GROSS
ROAD OVERFLOW AREA	NA
Q100 VELOCITY	3.23
MINIMUM LOW-STRUCTURE ELEVATION	605.90
SKEW	20
SCOUR DATA	
Q100 MAXIMUM VELOCITY	3.2
Q100 CONTRACTION SCOUR	0.00
Q100 TOTAL SCOUR	2.2 (RIGHT PIER)
Q100 LOW SCOUR ELEVATION	603.0 (LOCAL SCOUR, PIER IS LOCATED ABOVE BANK)
Q500	3305
FLOWLINE ELEVATION	590.20

EARTHWORK BALANCE TABLE
LINE "A"
CUT - 82.8 CY
FILL - 489.7 CY
NET - 406.9 CY

(K1) HMA FOR SIDEWALKS CONSISTING OF: 1.5" HMA SURFACE, TYPE A (165 #/SYS) ON 2.5" HMA INTERMEDIATE, TYPE A (275 #/SYS) ON 6" COMPACTED AGGREGATE IN NO. 53, BASE, ON GEOTEXTILE, TYPE 1A, ON SUBGRADE TREATMENT TYPE IC

(C1) CONCRETE FOR SIDEWALKS CONSISTING OF: 6" EXPOSED AGGREGATE CONCRETE ON 6" COMPACTED AGGREGATE IN NO. 53, BASE, ON GEOTEXTILE, TYPE 1A, ON SUBGRADE TREATMENT TYPE IC

(27) INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)

(BW) BOARDWALK, SEE DETAIL SHEETS 34 - 36

(BR) BRIDGE, SEE DETAIL SHEETS 17 - 29

(CR) CONCRETE CURB RAMP, SEE DETAIL SHEET 18

(15) COMBINED CONCRETE CURB AND GUTTER (MODIFIED)

(RR) REVETMENT RIPRAP

SEH of Indiana
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REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

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INDIANA DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE - LINE "A"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597
SURVEY BOOK	SHEETS
	10 of 44
CONTRACT	PROJECT
R-34603	1173597

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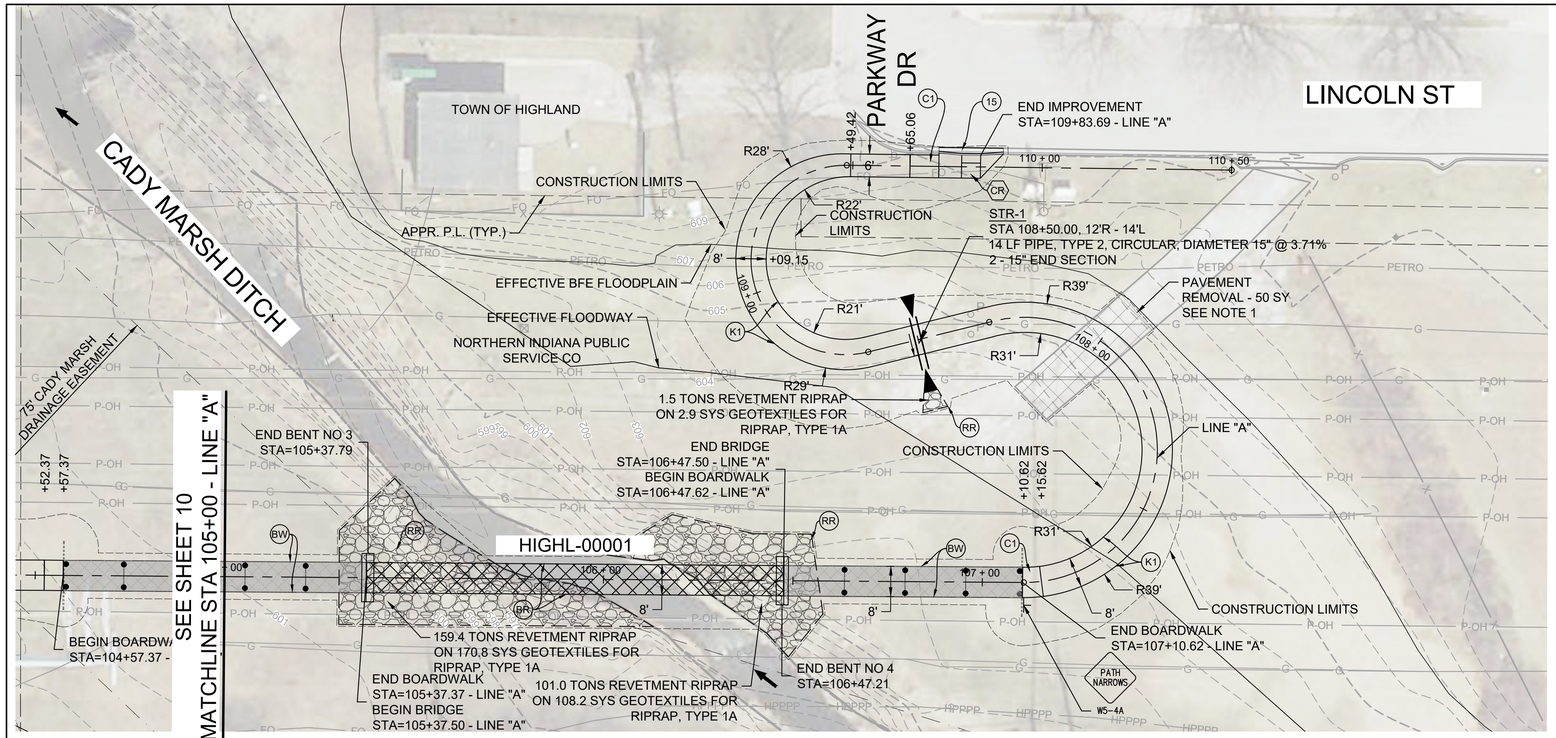

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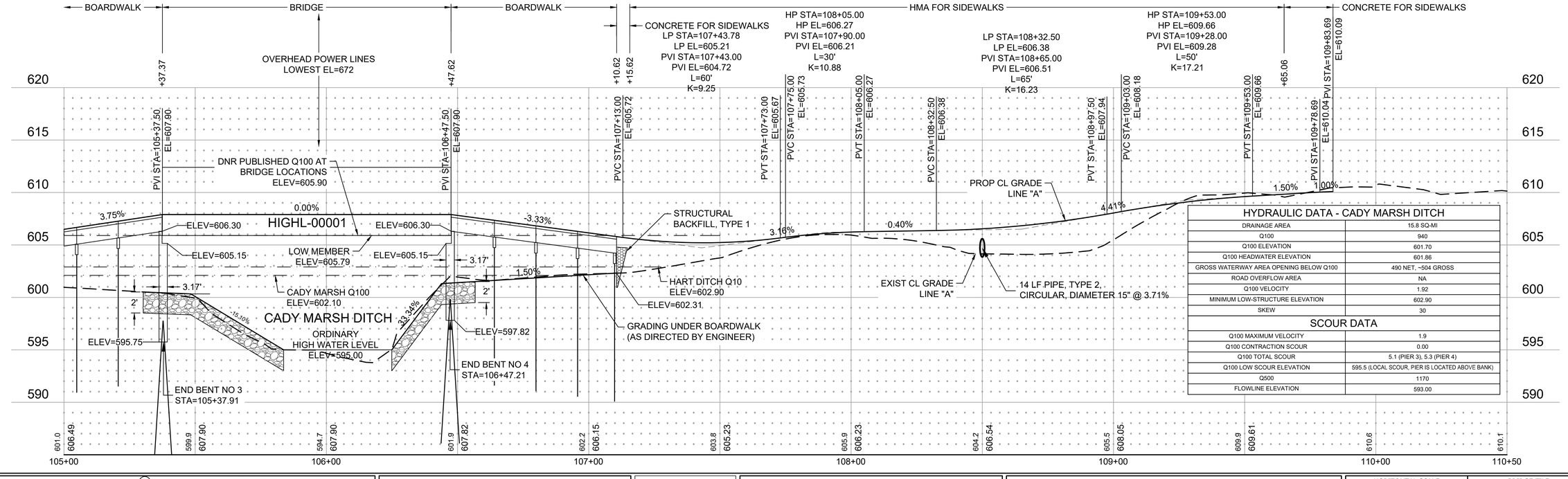

HYDRAULIC DATA - CADY MARSH DITCH	
DRAINAGE AREA	15.8 SQ-MI
Q100	940
Q100 ELEVATION	601.70
Q100 HEADWATER ELEVATION	601.86
GROSS WATERWAY AREA OPENING BELOW Q100	490 NET, ~504 GROSS
ROAD OVERFLOW AREA	NA
Q100 VELOCITY	1.92
MINIMUM LOW-STRUCTURE ELEVATION	602.90
SKEW	30
SCOUR DATA	
Q100 MAXIMUM VELOCITY	1.9
Q100 CONTRACTION SCOUR	0.00
Q100 TOTAL SCOUR	5.1 (PIER 3), 5.3 (PIER 4)
Q100 LOW SCOUR ELEVATION	595.5 (LOCAL SCOUR, PIER IS LOCATED ABOVE BANK)
Q500	1170
FLOWLINE ELEVATION	593.00

(K1) HMA FOR SIDEWALKS CONSISTING OF:
1.5" HMA SURFACE, TYPE A (165 #/SYS) ON
2.5" HMA INTERMEDIATE, TYPE A (275 #/SYS) ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(C1) CONCRETE FOR SIDEWALKS CONSISTING OF:
6" EXPOSED AGGREGATE CONCRETE ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

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(BR) BRIDGE, SEE DETAIL SHEETS 17 - 29
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(15) COMBINED CONCRETE CURB AND GUTTER (MODIFIED)
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INDIANA DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE - LINE "A"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597
SURVEY BOOK	SHEETS
	11 of 44
CONTRACT	PROJECT
R-34603	1173597

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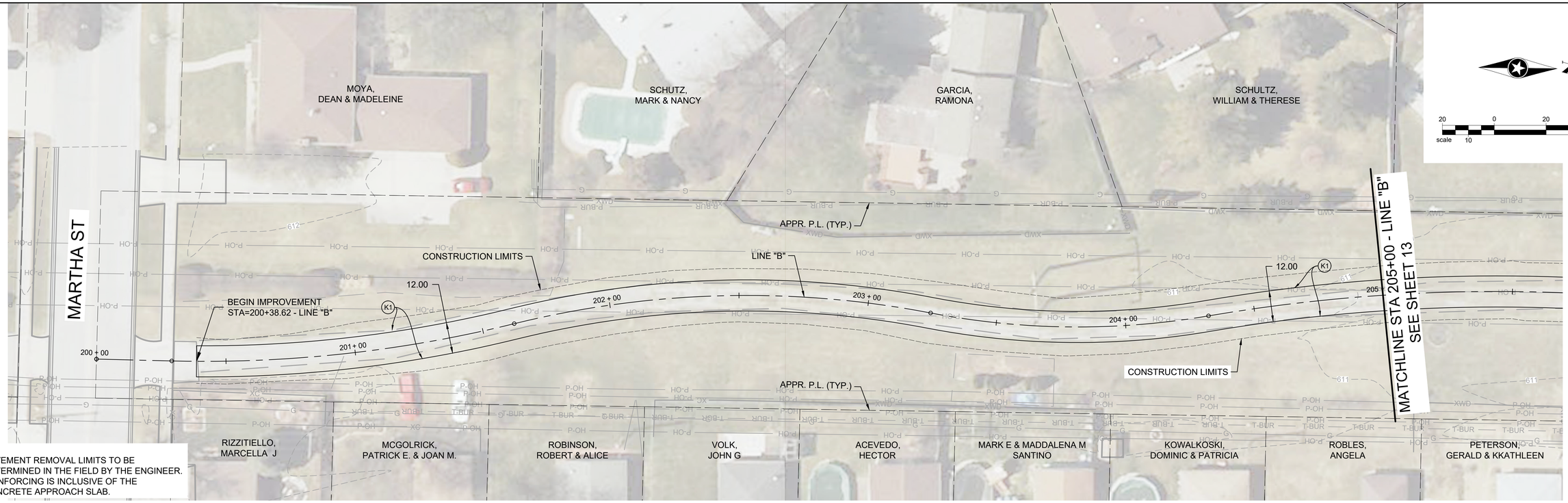

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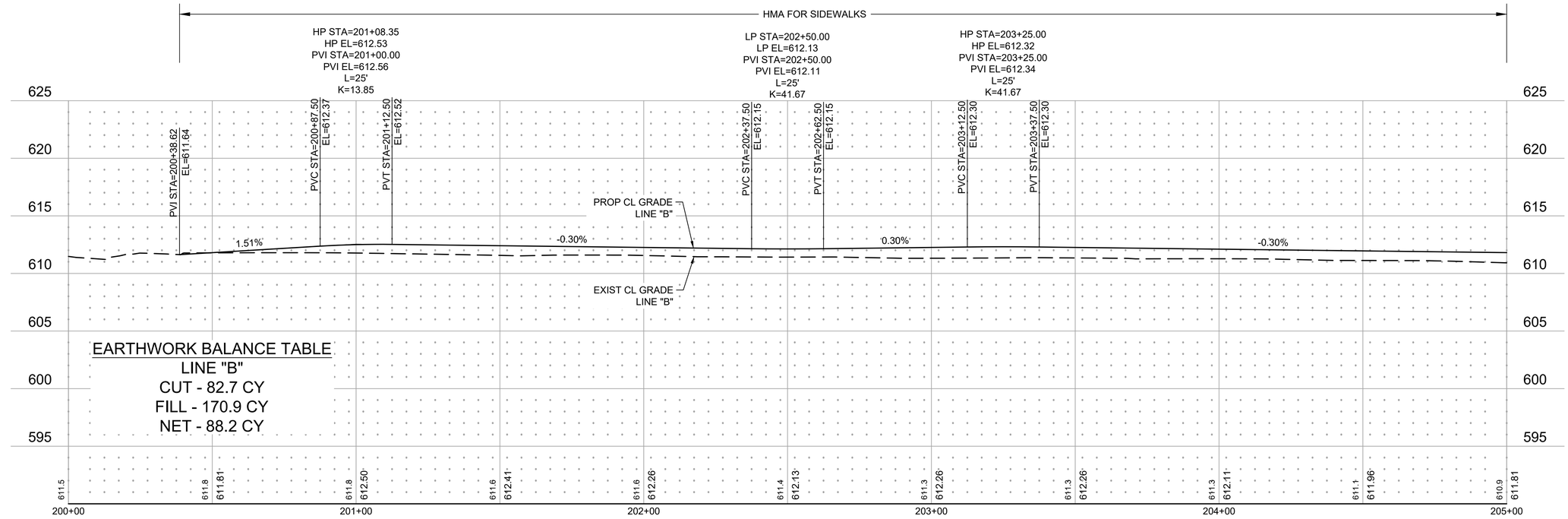

EARTHWORK BALANCE TABLE
LINE "B"
CUT - 82.7 CY
FILL - 170.9 CY
NET - 88.2 CY

(K1) HMA FOR SIDEWALKS CONSISTING OF:
1.5" HMA SURFACE, TYPE A (165 #/SYS) ON
2.5" HMA INTERMEDIATE, TYPE A (275 #/SYS) ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(C1) CONCRETE FOR SIDEWALKS CONSISTING OF:
6" EXPOSED AGGREGATE CONCRETE ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(27) INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)
(BW) BOARDWALK, SEE DETAIL SHEETS 34 - 36
(BR) BRIDGE, SEE DETAIL SHEETS 17 - 29
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(15) COMBINED CONCRETE CURB AND GUTTER (MODIFIED)
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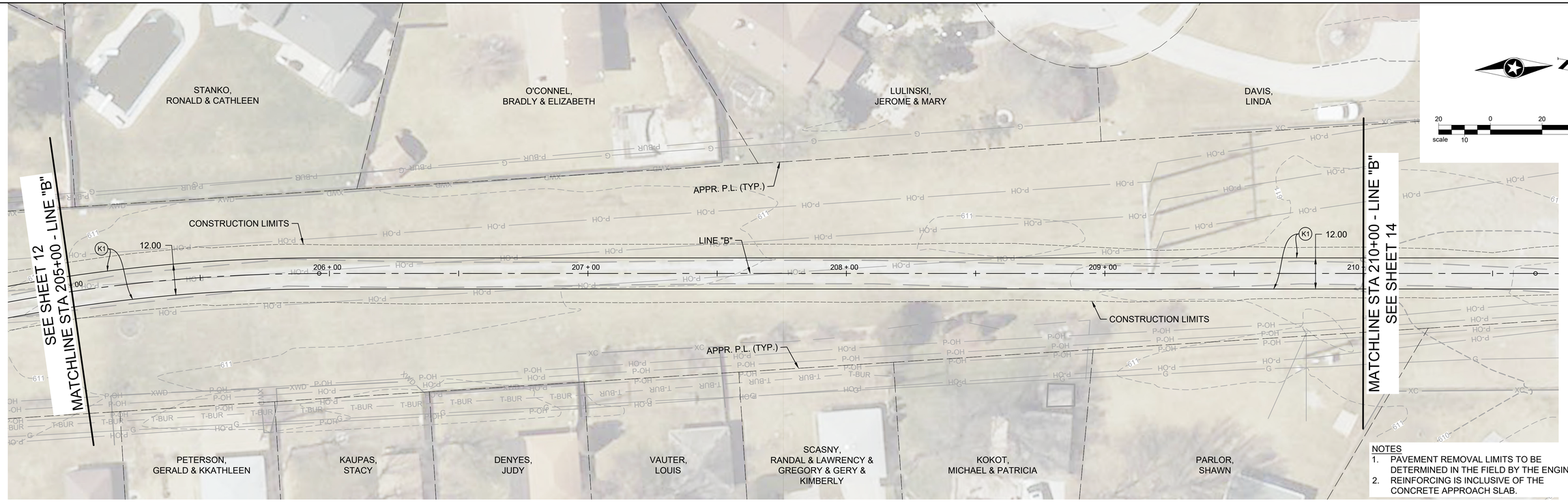
INDIANA DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE - LINE "B"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597

SURVEY BOOK	SHEETS
	12 of 44
CONTRACT	PROJECT
R-34603	1173597



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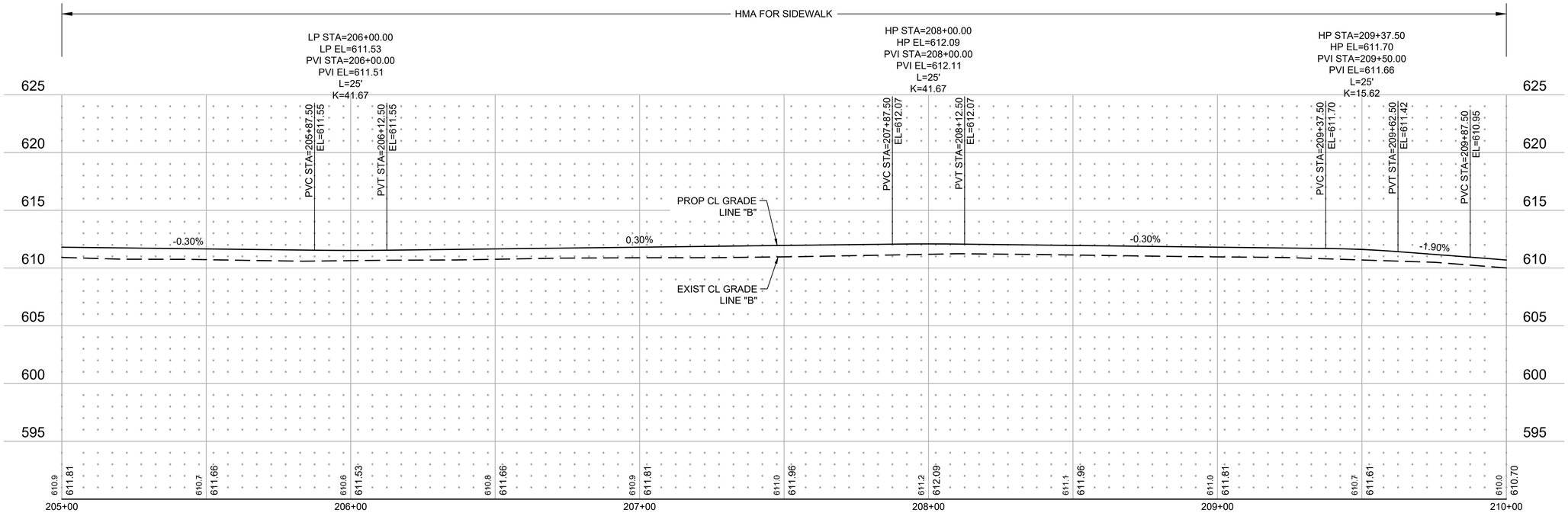

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INDIANA DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE - LINE "B"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597
SURVEY BOOK	SHEETS
	13 of 44
CONTRACT	PROJECT
R-34603	1173597

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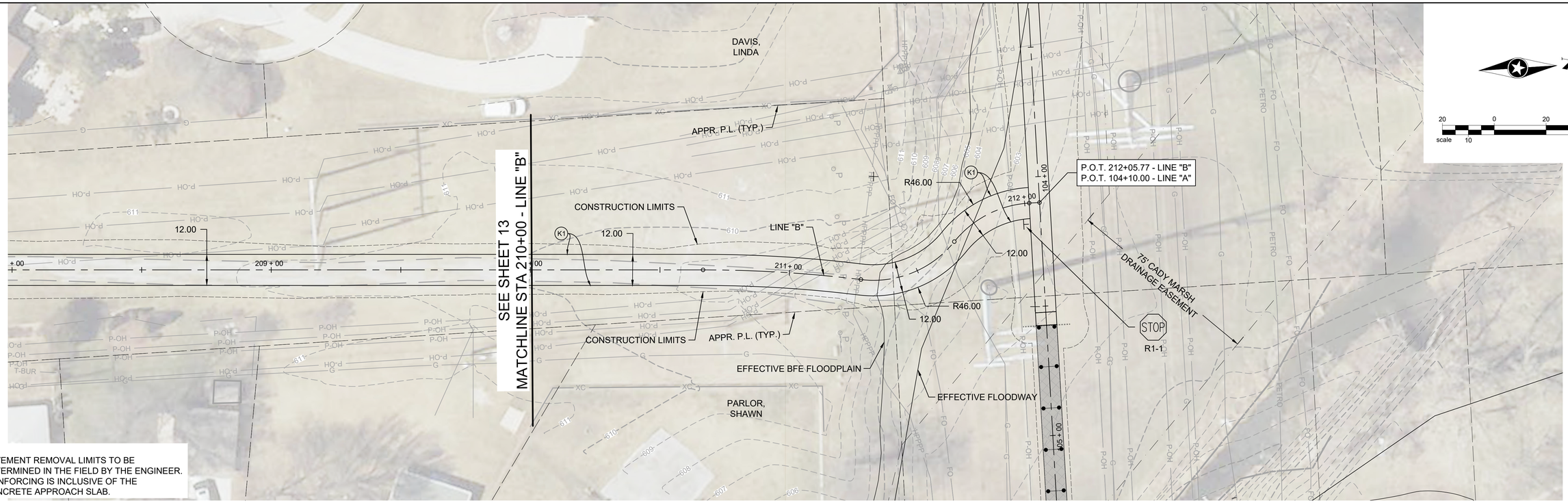

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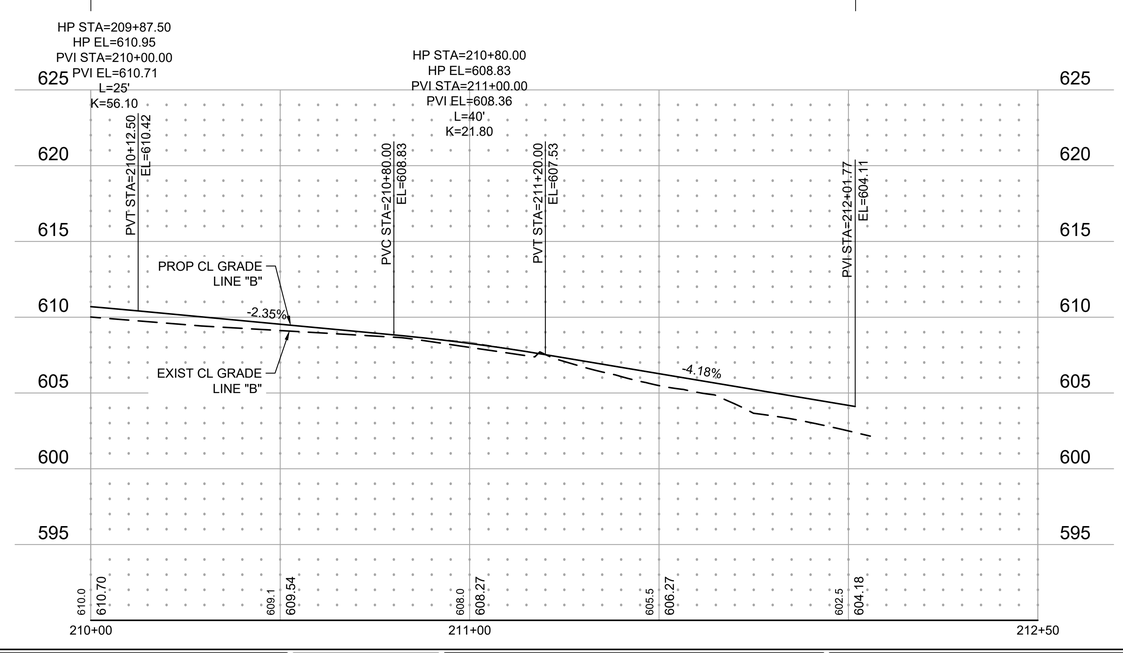
1. PAVEMENT REMOVAL LIMITS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. REINFORCING IS INCLUSIVE OF THE CONCRETE APPROACH SLAB.



(K1) HMA FOR SIDEWALKS CONSISTING OF:
1.5" HMA SURFACE, TYPE A (165 #/SYS) ON
2.5" HMA INTERMEDIATE, TYPE A (275 #/SYS) ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(C1) CONCRETE FOR SIDEWALKS CONSISTING OF:
6" EXPOSED AGGREGATE CONCRETE ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(27) INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)
(BW) BOARDWALK, SEE DETAIL SHEETS 34 - 36
(BR) BRIDGE, SEE DETAIL SHEETS 17 - 29
(CR) CONCRETE CURB RAMP, SEE DETAIL SHEET 18
(15) COMBINED CONCRETE CURB AND GUTTER (MODIFIED)
(RR) REVETMENT RIPRAP

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED No. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER
PETER L. FITZGERALD

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS | DRAWN: NWF
CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE - LINE "B"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597

SURVEY BOOK	SHEETS
	14 of 44
CONTRACT	PROJECT
R-34603	1173597

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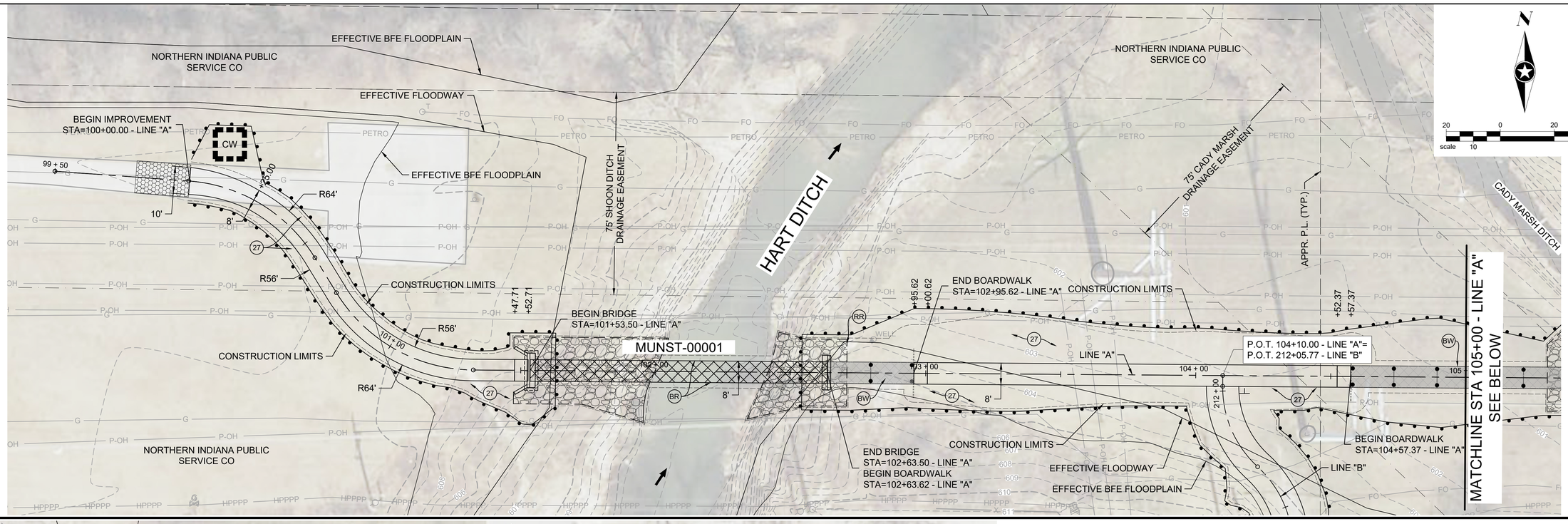

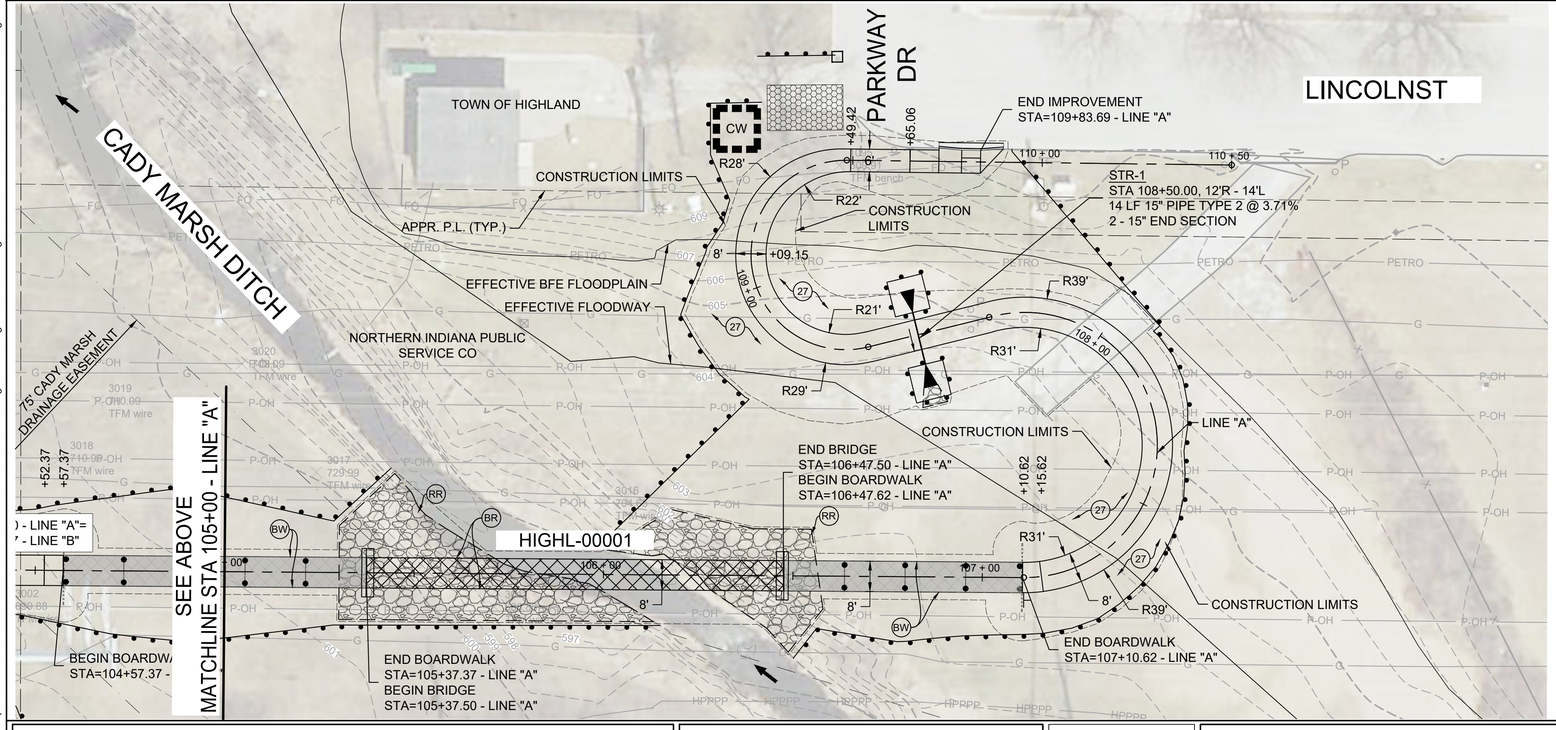

EROSION CONTROL QUANTITIES	
ITEM DESCRIPTION	QUANTITY
FILTER SOCK	3855 LN FT
NO. 2 STONE - CONSTRUCTION ENTRANCE	53.00 TONS
NO. 2 STONE - CONCRETE WASHOUT	26.00 TONS
INLET PROTECTION	1 EACH
INDOT SEEDING MULCHED TYPE U	2337 SYS
TOPSOIL	260 CYS
EROSION CONTROL BLANKET	2337 SYS

FILTER SOCK

INLET PROTECTION

CW CONCRETE WASHOUT

CONSTRUCTION ENTRANCE

27 INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)

NOTE:
ALL TEMPORARY EROSION CONTROL MEASURES TO CONFORM TO INDOT STANDARD DRAWINGS E 205-TECD

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ 1/30/2025
DESIGN ENGINEER DATE

DESIGNED: PWS DRAWN: NWF
CHECKED: JED CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

LANDSCAPING & EROSION CONTROL - LINE "A"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

SURVEY BOOK	SHEETS
	15 of 44
CONTRACT	PROJECT
R-34603	1173597

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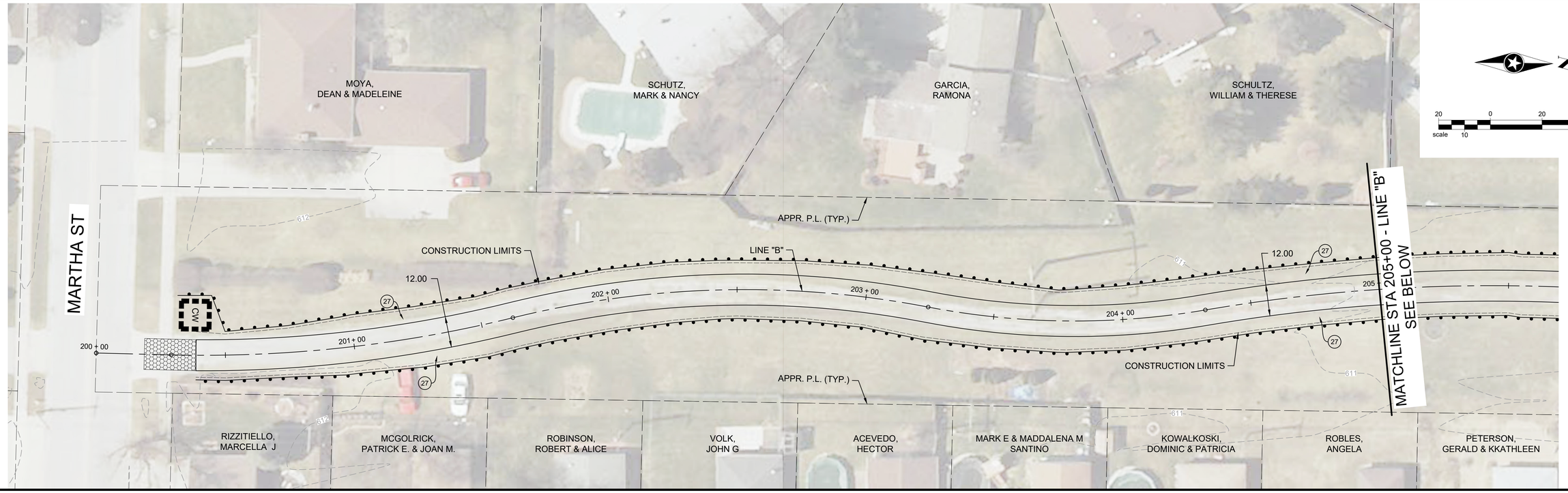

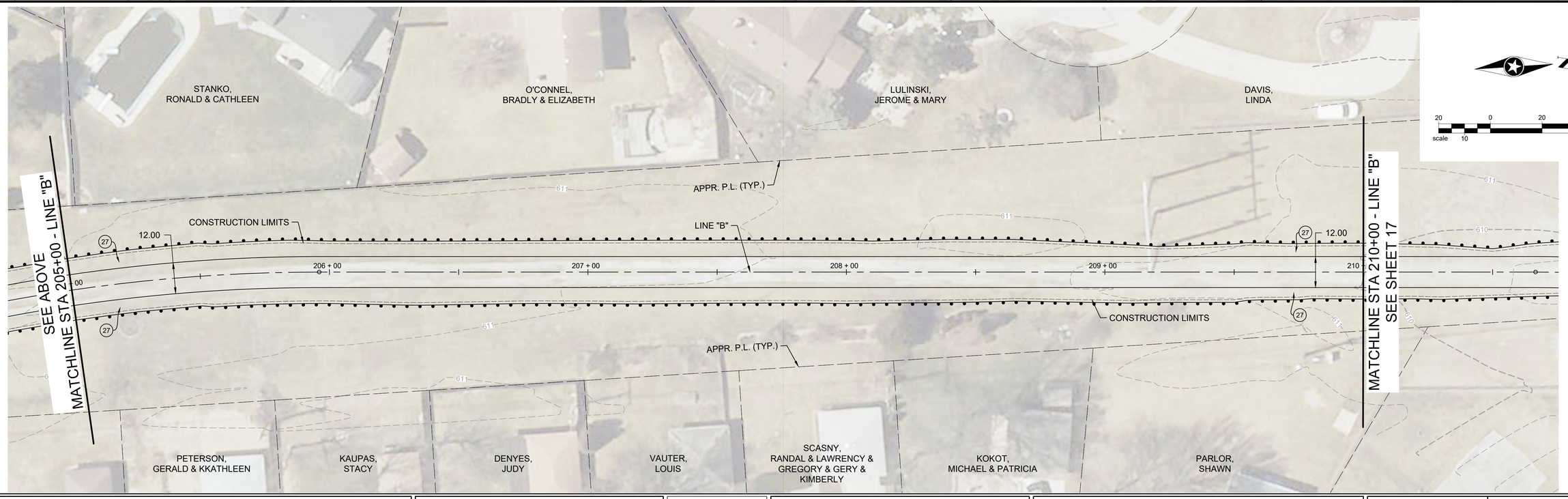

FILTER SOCK

INLET PROTECTION

CW CONCRETE WASHOUT

CONSTRUCTION ENTRANCE

NOTE:
ALL TEMPORARY EROSION CONTROL MEASURES TO CONFORM TO INDOT STANDARD DRAWINGS E 205-TECD

27 INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS DRAWN: NWF

CHECKED: JED CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

LANDSCAPING & EROSION CONTROL - LINE "B"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

SURVEY BOOK	SHEETS		
	16	of	44
CONTRACT	PROJECT		
R-34603	1173597		

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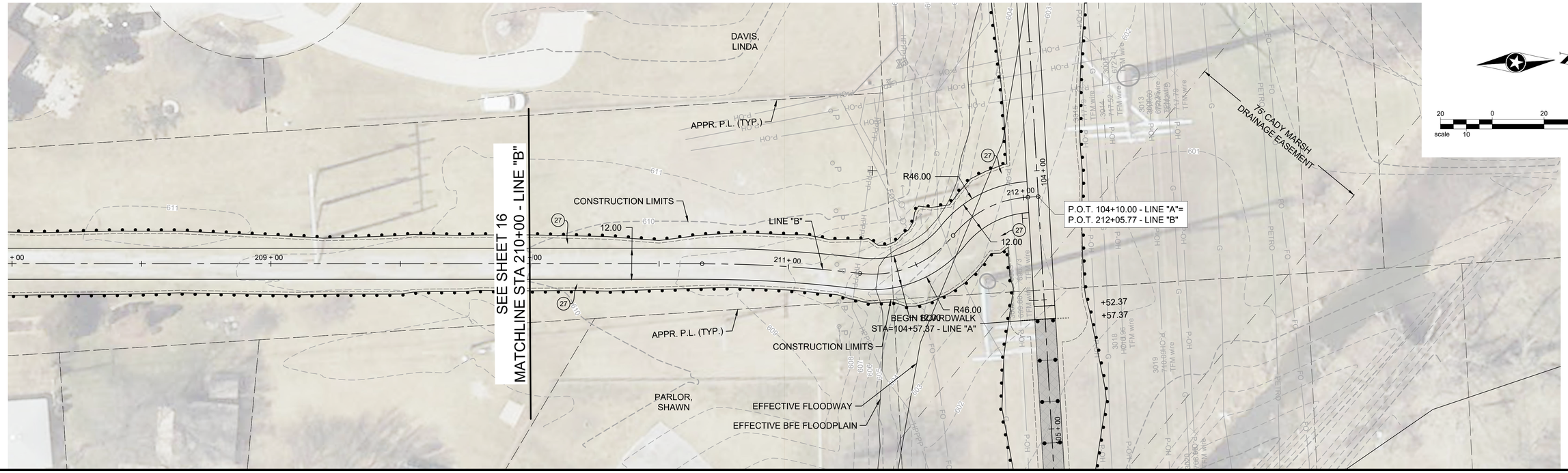


FILTER SOCK

CW CONCRETE WASHOUT

INLET PROTECTION

CONSTRUCTION ENTRANCE

(27) INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)

NOTE:
ALL TEMPORARY EROSION CONTROL MEASURES TO CONFORM TO INDOT STANDARD DRAWINGS E 205-TECD

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 1/30/2025 DATE

DESIGNED: PWS DRAWN: NWF

CHECKED: JED CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

LANDSCAPING & EROSION CONTROL - LINE "B"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

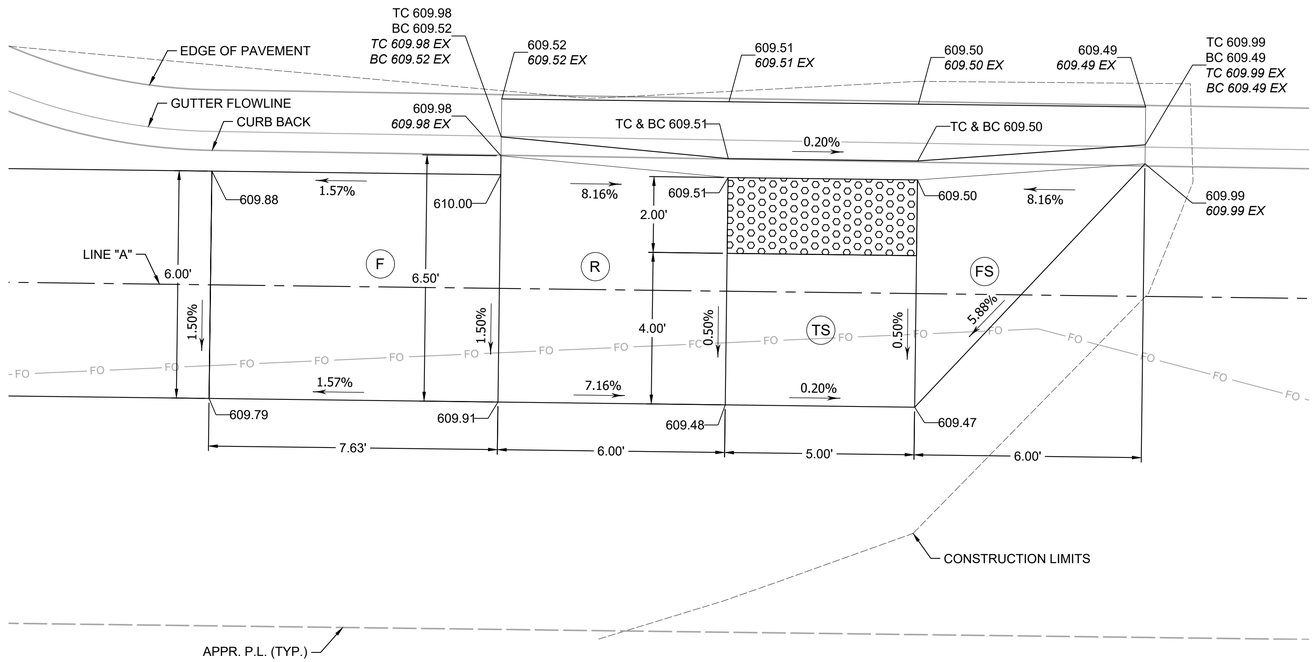
SURVEY BOOK	SHEETS
	17 of 44
CONTRACT	PROJECT
R-34603	1173597

PARKWAY DRIVE

N

2 0 2 4
scale 1 feet

LINCOLN STREET



PARALLEL CURB RAMP
AT LINCOLN AVE AND PARKWAY DR

LEGEND:

R	RAMP
TS	TURNING SPACE
FS	FLARED SIDE
F	CONCRETE TRAIL
TC	TOP OF CURB
BC	BOTTOM OF CURB (GUTTER FLOWLINE)
	DETECTABLE WARNING SURFACE PER INDOT STANDARDS

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER — LEVI K. FETTERS

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS | DRAWN: NWF

CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 2'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597
SURVEY BOOK	SHEETS
	18 of 44
CONTRACT	PROJECT
R-34603	1173597

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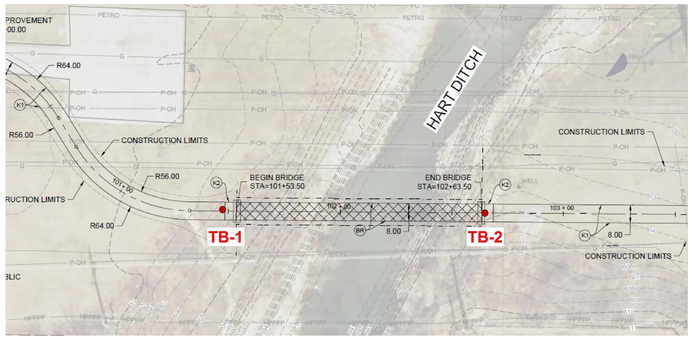
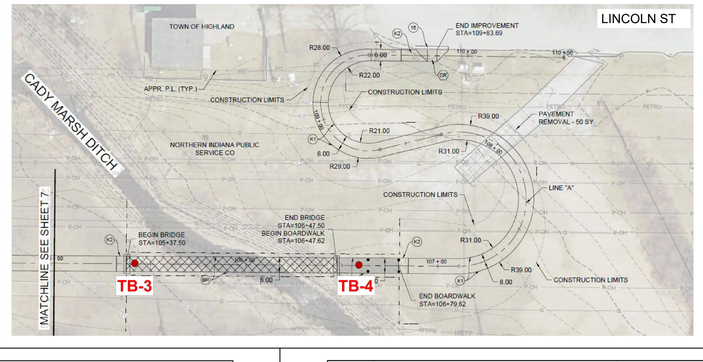
PILE LOADING FOR GEOTECHNICAL TESTING ①

	BENT NO. 1	BENT NO. 2	BENT NO. 3	BENT NO. 4
PILE SIZE, TYPE, AND GRADE	HELICAL PILES, 12"-14"-16" PLATES, 5" MIN, DIA.	HELICAL PILES, 12"-14"-16" PLATES, 5" MIN, DIA.	HELICAL PILES, 12"-14"-16" PLATES, 5" MIN, DIA.	HELICAL PILES, 12"-14"-16" PLATES, 5" MIN, DIA.
FACTORED DESIGN LOAD, QF (KIP)	50.0	36.1	37.5	36.1
FACTORED DESIGN SOIL RESISTANCE, RK (KIP)	N/A	N/A	N/A	N/A
RESISTANCE FACTOR	N/A	N/A	N/A	N/A
DOWNDRAG LOAD, DD (KIP), DUE TO EMBANKMENT FILL	N/A	N/A	N/A	N/A
DOWNDRAG LOAD, D (KIP), DUE TO LIQUEFACTION	N/A	N/A	N/A	N/A
NOMINAL SOIL RESISTANCE, RN (KIP)	N/A	N/A	N/A	N/A
DOWNDRAG FRICTION, RS (KIP)	N/A	N/A	N/A	N/A
SCOUR ZONE FRICTION, RN (KIP)	N/A	N/A	N/A	N/A
RELAXATION OF TIP IN SHALE (KIP)	N/A	N/A	N/A	N/A
NOMINAL DRIVING RESISTANCE, RNDR (KIP)	N/A	N/A	N/A	N/A
ESTIMATED PILE TIP ELEVATION (MINIMUM)	602.25	602.84	597.75	599.82
TESTING METHOD	SEE USP FOR HELICAL PILE TESTING REQUIREMENTS			

① MANUFACTURER'S HELICAL PILE CONFIGURATION MAY VARY. SEE USP FOR HELICAL PILE SUBMITTAL REQUIREMENTS





INDOT BORING LOG — TB-1

BORING NO.: TB-1 | SHEET 1 OF 1 | NORTHING: | EASTING: | DATUM: | DATE STARTED: 03-13-24 | DATE COMPLETED: 03-13-24

GEOTECHNICAL CONSULTANT: Advanced Engineering Services (AES)
DES NO.: 1173597 STRUCTURE #: R-34603
PROJECT TYPE: Proposed Munster-Higland Connector Trail Pedestrian Bridge
LOCATION: Munster and Highland, Indiana
COUNTY: Lake PROJECT NO.: 2024-1024G

ELEVATION: 609.0 | STATION: 101+40 | OFFSET: 0.0 ft | LINE: 'A' | DEPTH: 90.0 ft
BORING METHOD: Hollow Stem Auger | RIG TYPE: CME 55 ATV | CASING DIA.: N/A | CORE SIZE: N/A
HAMMER: Auto | DRILLER/INSP: TH/JA | TEMPERATURE: 50 °F | WEATHER: Cloudy

GROUNDWATER: ▽ Encountered at 8.0 ft ▼ At completion 7.5 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY-PCF	HAND PEN., TSF	UNCONF. COMP., TSF	ATTERBERG LIMITS LL	PL	PI	REMARKS
605.0	0	**Sandy Loam A-4**, Dark brown To Black, Moist, With Organic Matter , Trace Gravel (FILL), (Lab No. 1)	1	1-1-2-2	67	4.6		1.00					2.0, LOI = 4.0%
	9.0		1	1-1-2-3	75	6.7							
600.0		**Sand A-3**, Brown, Moist, Loose to Medium Dense, Trace Gravel (FILL), (Lab No. 2)	SS 2	5-4-5-7	67	7.7							
	10.0		SS 3	8-9-8	100	22.4							
595.0			SS 4	6-5-3	89	21.4							
		Clay A-6, Gray, Moist, Soft to Medium Stiff, Trace Gravel, (Lab No. 3)	SS 5	2-2-3	100	28.8	101.9	1.00	1.29	32	17	15	
590.0			SS 6	2-3-4	100	21.9		0.75					
	20		SS 7	2-3-4	56	20.5		0.50					
585.0			SS 8	2-4-5	100	20.1		1.00					
	27.0	Noted Gray Sand Seam at about 30ft, (VISUAL)	SS 9	5-11-11	100	16.7							
580.0	30		SS 10										
		Silt A-4, Gray, Moist, Very Stiff to Hard, Trace Gravel, (Lab No. 4)	SS 11	5-6-11	100	17.0		2.50					
575.0			SS 12	7-15-26	100	30.4		1.75					
	42.0		SS 13	4-2-5	100	20.1		1.25					
570.0			SS 14	4-6-8	100	20.3		1.75					
565.0			SS 15	4-6-8	100	18.5		2.00					
	50	**Clay A-6 (9)**, Gray, Moist, Medium Stiff to Hard, Trace Gravel, (Lab No. 3)	SS 16	5-8-12	100	15.4		4.50					
560.0			SS 17	11-13-20	100	16.3	121.1	4.50	3.92	28	13	15	64.3, pH = 6.5
555.0			SS 18	10-14-21	100	13.2		4.50					
	60		SS 19	12-19-29	100	14.6		4.50					75.0, Test Area Cleared by Hydro-vac and backfilled Prior to Drilling
550.0			SS 20	10-18-33	100	14.2		4.50					
	72.0	**Silt A-4**, Gray, Moist, Hard, Trace Gravel, (Lab No. 4)	SS 21	10-15-21	100	13.8		4.50					85.0, Borehole backfilled as per Indiana Aquifer Protection Guidelines.
545.0	70		SS 22	12-17-24	100	22.8		4.50					
	80												
540.0													
	90												
535.0		Bottom of Boring at 90.0 ft											
530.0													
525.0													
520.0													
515.0													

INDOT BORING LOG — TB-2

BORING NO.: TB-2 | SHEET 1 OF 1 | NORTHING: | EASTING: | DATUM: | DATE STARTED: 03-12-24 | DATE COMPLETED: 03-12-24

GEOTECHNICAL CONSULTANT: Advanced Engineering Services (AES)
DES NO.: 1173597 STRUCTURE #: R-34603
PROJECT TYPE: Proposed Munster-Higland Connector Trail Pedestrian Bridge
LOCATION: Munster and Highland, Indiana
COUNTY: Lake PROJECT NO.: 2024-1024G

ELEVATION: 605.0 | STATION: 102+70 | OFFSET: 0.0 ft | LINE: 'A' | DEPTH: 90.0 ft
BORING METHOD: Hollow Stem Auger | RIG TYPE: CME 55 ATV | CASING DIA.: N/A | CORE SIZE: N/A
HAMMER: Auto | DRILLER/INSP: TH/JA | TEMPERATURE: 43 °F | WEATHER: Cloudy

GROUNDWATER: ▽ Encountered at 4.0 ft ▼ At completion 3.5 ft ▼ 3.5 ft After 24 hours

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY-PCF	HAND PEN., TSF	UNCONF. COMP., TSF	ATTERBERG LIMITS LL	PL	PI	REMARKS
600.0	0	**Sand A-3 (0)**, Brown, Moist, With Organic Matter, Trace Gravel (FILL), (Lab No. 2)	SS 1	2-2-3-3	42	20.0							2.0, LOI = 5.1%
	6.0		SS 1	3-3-4-5	50	11.2							4.0, SO4=23 ppm
595.0			SS 2	3-3-5-8	58	23.4				NP	NP	NP	5.0, pH = 7.2
	10		SS 2	3-2-2	100	23.3		0.25					
590.0			SS 3	2-3-3	100	27.2		0.75					
		Clay A-6, Gray, Moist, Soft to Very Stiff, Trace Gravel, (Lab No. 3)	SS 4	2-2-2	100	13.7		0.50					
585.0			SS 5	2-3-4	100	21.9		1.25					
	20		SS 6	2-4-5	100	20.0		1.00					
580.0			SS 7	4-4-4	100	20.2	115.7	1.50	2.20	32	14	18	
			SS 8	6-7-10	100	14.5		2.25					
575.0	30		SS 9	5-6-8	100	16.5		3.00					
	37.0	**Silt A-4**, Gray, Moist, Hard, Trace Gravel, (Lab No. 4)	SS 10	14-18-19	100	19.4		0.75					
570.0			SS 11	19-30-30	100	18.7		0.75					
	40		SS 12	4-7-9	100	17.1		2.00					
565.0			SS 13	6-10-16	100	15.0		4.00					
	47.0	**Clay A-6**, Gray, Moist, Very Stiff to Hard, Trace Gravel, (Lab No. 3)	SS 14	6-10-13	100	16.1		4.00					
560.0	50		SS 15	6-16-22	100	16.0		3.50					
			SS 16	10-17-27	100	13.7		4.50					
555.0			SS 17	20-44-64	100	14.3		4.50					
	60		SS 18	16-20-27	100	10.3		4.50					
550.0			SS 19	12-18-25	100	14.5		4.50					
	72.0	**Silt A-4**, Gray, Moist, Hard, Trace Gravel, (Lab No. 4)	SS 20	18-25-26	100	19.0		2.00					75.0, Test Area Cleared by Hydro-vac and backfilled Prior to Drilling
545.0	70												
													85.0, Borehole backfilled as per Indiana Aquifer Protection Guidelines.
540.0	80												
	90												
535.0		Bottom of Boring at 90.0 ft											
530.0													
525.0													
520.0													
515.0													
510.0													

INDOT BORING LOG — TB-3

BORING NO.: TB-3 | SHEET 1 OF 1 | NORTHING: | EASTING: | DATUM: | DATE STARTED: 03-11-24 | DATE COMPLETED: 03-11-24

GEOTECHNICAL CONSULTANT: Advanced Engineering Services (AES)
DES NO.: 1173597 STRUCTURE #: R-34603
PROJECT TYPE: Proposed Munster-Higland Connector Trail Pedestrian Bridge
LOCATION: Munster and Highland, Indiana
COUNTY: Lake PROJECT NO.: 2024-1024G

ELEVATION: 600.0 | STATION: 105+40 | OFFSET: 0.0 ft | LINE: 'A' | DEPTH: 90.0 ft
BORING METHOD: Hollow Stem Auger | RIG TYPE: CME 55 ATV | CASING DIA.: N/A | CORE SIZE: N/A
HAMMER: Auto | DRILLER/INSP: TH/JA | TEMPERATURE: 44 °F | WEATHER: Cloudy

GROUNDWATER: ▽ Encountered at 1.5 ft ▼ At completion 1.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY-PCF	HAND PEN., TSF	UNCONF. COMP., TSF	ATTERBERG LIMITS LL	PL	PI	REMARKS
595.0	0	**Sandy Loam A-4 (0)**, Dark brown To Black, Moist, With Organic Matter , Trace Gravel (FILL), (Lab No. 1)	SS 1	1-2-2-3	92	28.2		1.00		NP	NP	NP	1.0, pH = 6.3, SO4=<20 ppm
	2.0		SS 2	2-2-2-3	100	27.0							2.0, LOI = 4.6%
590.0		**Sand A-3**, Brown, Moist, Very Loose to Loose, Trace Gravel (FILL), (Lab No. 2)	SS 3	1-3-3	100	23.0							
	5.0		SS 4	2-2-4	100	21.8		1.00					
585.0			SS 5	2-3-4	100	20.8		0.25					
		Clay A-6, Gray, Moist, Medium Stiff, Trace Gravel, (Lab No. 3)	SS 6	2-2-4	100	26.0		0.25					
580.0	20		SS 7	2-3-4	100	21.2							
	22.0		SS 8	4-5-7	100	18.9		1.50					
575.0			SS 9	4-5-5	100	14.6	132.2	1.25	2.29	20	11	9	
	30	**Silt A-4**, Gray, Moist, Medium Stiff to Very Stiff, Trace Gravel, (Lab No. 4)	SS 10	5-7-10	100	14.7		1.75					
570.0			SS 11	4-6-6	100	20.0		2.25					
	42.0		SS 12	4-6-8	100	24.4		2.25					
565.0			SS 13	5-8-12	100	14.4		0.25					
	50	**Clay A-6**, Gray, Moist, Stiff to Hard, Trace Gravel, (Lab No. 3) Noted Gray Sand Seam at about 55ft, (VISUAL)	SS 14	8-11-12	100	13.8		3.25					
560.0			SS 15	4-8-13	100	16.6							
			SS 16	1-20-30	100	13.3		1.75					
555.0	60		SS 17	32-40-50	100	13.6		4.50					
	67.0		SS 18	20-25-26	100	11.5		4.50					
550.0		**Silt A-4**, Gray, Moist, Hard, Trace Gravel, (Lab No. 4)	SS 19	14-18-25	100	15.5		4.50					75.0, Test Area Cleared by Hydro-vac and backfilled Prior to Drilling
	70		SS 20	11-14-24	100	17.2		2.50					
545.0			SS 21	12-20-20	100	18.0		4.50					85.0, Borehole backfilled as per Indiana Aquifer Protection Guidelines.
	80												
540.0													
	90												
535.0		Bottom of Boring at 90.0 ft											
530.0													
525.0													
520.0													
515.0													
510.0													

INDOT BORING LOG — TB-4

BORING NO.: TB-4 | SHEET 1 OF 1 | NORTHING: | EASTING: | DATUM: | DATE STARTED: 03-07-24 | DATE COMPLETED: 03-07-24

GEOTECHNICAL CONSULTANT: Advanced Engineering Services (AES)
DES NO.: 1173597 STRUCTURE #: R-34603
PROJECT TYPE: Proposed Munster-Higland Connector Trail Pedestrian Bridge
LOCATION: Munster and Highland, Indiana
COUNTY: Lake PROJECT NO.: 2024-1024G

ELEVATION: 602.0 | STATION: 106+60 | OFFSET: 0.0 ft | LINE: 'A' | DEPTH: 90.0 ft
BORING METHOD: Hollow Stem Auger | RIG TYPE: CME 55 ATV | CASING DIA.: N/A | CORE SIZE: N/A
HAMMER: Auto | DRILLER/INSP: TH/JA | TEMPERATURE: 47 °F | WEATHER: Cloudy

GROUNDWATER: ▽ Encountered at 4.0 ft ▼ At completion 4.0 ft

ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	MOISTURE CONTENT	DRY DENSITY-PCF	HAND PEN., TSF	UNCONF. COMP., TSF	ATTERBERG LIMITS LL	PL	PI	REMARKS
600.0	0	**Sandy Loam A-4**, Dark brown To Black, Moist, With Organic Matter , Trace Gravel (FILL), (Lab No. 1)	SS 1	0-2-2-2	83	27.0							2.0, LOI = 4.8%
	1.0		SS 1	0-1-2-4	83	28.6							4.0, LOI = 4.4%
595.0		**Sand A-3**, Brown, Moist, With Organic Matter, Trace Gravel (FILL), (Lab No. 2)	SS 2	2-4-4-2	83	35.1							6.0, LOI = 3.8%
	7.0		SS 2	2-2-4	100	24.6		1.50					
590.0			SS 3	3-3-6	100	20.9		2.50					
		Clay A-6, Gray, Moist, Medium Stiff, Trace Gravel, (Lab No. 3)	SS 4	2-4-4	100	17.6		1.75					
585.0			SS 5	2-4-5	100	17.6		2.50					
	20		SS 6	3-5-6	100	20.0		3.25					
580.0	22.0		SS 7	3-5-7	100	17.2		3.00					
			SS 8	3-4-6	100	18.1		4.50					
575.0	30	**Silt A-4**, Gray, Moist, Medium Stiff to Stiff, Trace Gravel, (Lab No. 4)	SS 9	5-6-6	100	23.0		3.25					
			SS 10	3-5-6	100	19.5		3.25					
570.0	42.0		SS 11	3-4-6	100	19.7		2.75					
			SS 12	3-4-7	100	20.0		2.75					
565.0	50	**Clay A-6**, Gray, Moist, Medium Stiff to Very Stiff, Trace Gravel, (Lab No. 3)	SS 13	5-7-11	100	14.6		4.50					
			SS 14	5-8-11	100	15.2		4.50					
560.0	52.0		SS 15	11-20-27	100	12.0		4.50					
			SS 16	16-22-33	100	14.1		4.50					
555.0	60	**Silt A-4 (3)**, Gray, Moist, Very Stiff to Hard, Trace Gravel, (Lab No. 4)	SS 17	35-35-32	100	17.6							70.0, Test Area Cleared by Hydro-vac and backfilled Prior to Drilling
			SS 18	38-60-36	100	15.1		4.50					
550.0	70		SS 19	12-16-22	100	17.7		4.50					80.0, Borehole backfilled as per Indiana Aquifer Protection Guidelines.
			SS 20	8-13-15	100	20.4	121.4	4.50	2.34	20	14	6	89.3, pH = 6.8
545.0	80		SS 21										
			SS 22										
540.0	90												
	90.0	Bottom of Boring at 90.0 ft											
535.0													
530.0													
525.0													
520.0													
515.0													
510.0													

INDOT BORING LOG MUNSTER PEDESTRIAN BRIDGE.GPJ INDOT_69.GDT 8/1/24

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SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

LEAH FETTERS REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 1/30/2025 DATE

DESIGNED: PWS | DRAWN: NWF | CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
NONE	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597
SURVEY BOOK	SHEETS
	19 of 44
CONTRACT	PROJECT
R-34603	1173597

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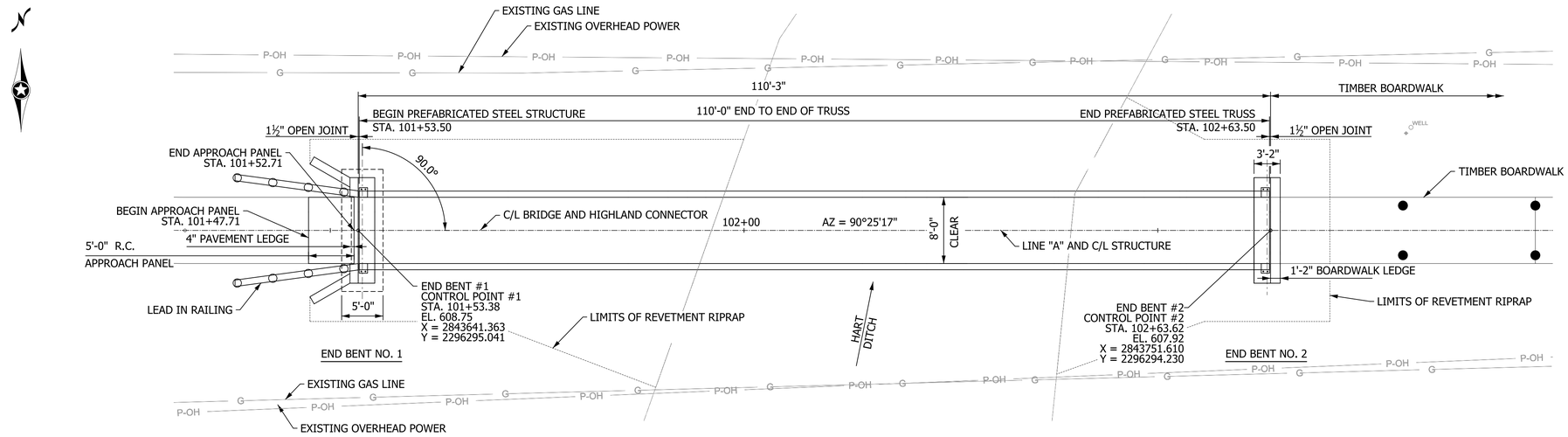
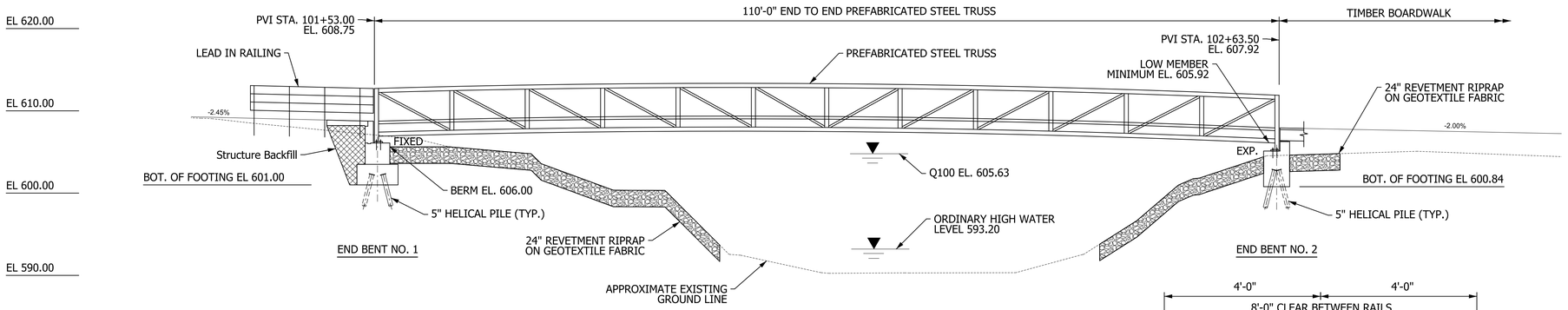
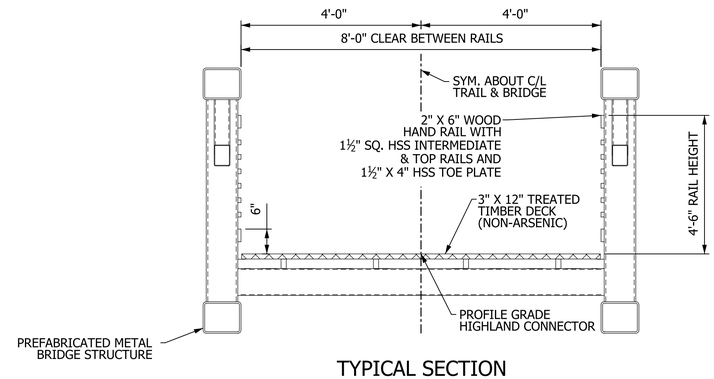
1/30/2025



PLAN



ELEVATION



TYPICAL SECTION

DESIGN DATA

2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
AND THE 2009 (AND CURRENT INTERIM) AASHTO LRFD
GUIDE SPECS FOR DESIGN OF PEDESTRIAN BRIDGES.
LOAD RESISTANCE FACTOR DESIGN METHOD
DEAD LOAD DETERMINED FROM MANUFACTURERS SHOP
DRAWINGS OF SIMILAR SIZED BRIDGES
PEDESTRIAN LIVE LOAD 90 PSF
or H5 (10,000 LBS) MAINTENANCE VEHICLE-
(WITHOUT IMPACT)
MAXIMUM ALLOWABLE DESIGN STRESSES:
REINFORCED CONCRETE: CLASS A
f'c = 3500 PSI
fy = 60000 PSI FOR REINFORCEMENT, GRADE 60
(EPOXY COATED)
STRUCTURAL STEEL:
WEATHERING STEEL, PER ASTM A847 COLD-FORMED
WELDED SQUARE AND RECTANGULAR TUBING, AND
ASTM A588, ASTM A606, OR ASTM A242 PLATE AND
STRUCTURAL SHAPES (Fy = 50,000 PSI).

LIST OF SHEETS

CONSTRUCTION NOTES:

THE 2013 INDIANA DEPARTMENT OF TRANSPORTATION DESIGN MANUAL - PART 4 - STRUCTURAL (BRIDGE DESIGN) SHALL APPLY.

DRAWINGS ARE NOT TO BE SCALED

THE BAR SIZES SHOWN IN THIS PLAN IN THE U.S. CUSTOMARY DESIGNATIONS

ALL BARS TO BE EPOXY COATED

REINFORCING STEEL COVER SHALL BE 3" IN FOOTINGS EXCEPT BOTTOM STEEL WHICH SHALL BE 4", AND 2" IN ALL OTHER PARTS UNLESS NOTED

PREFABRICATED STEEL TRUSS BRIDGE
1 SPAN: 110'-0"
8'-0" CLEAR TRAIL
SKEW: SQUARE
TRAIL OVER HART DITCH
LAKE COUNTY

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

MICHAEL HOWARD DUPONT
REGISTERED
No. PE11400491
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: HWC DRAWN: HWC
CHECKED: MHD CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
WEST BRIDGE

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597

SURVEY BOOK	SHEETS
- - -	20 of 44
CONTRACT	PROJECT
R-34603	1173597

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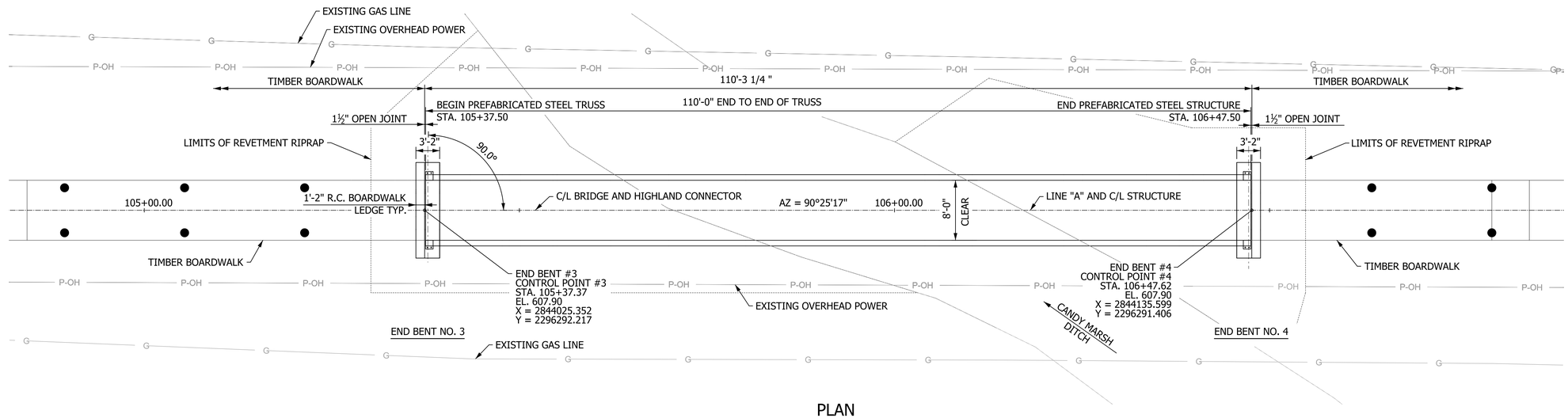

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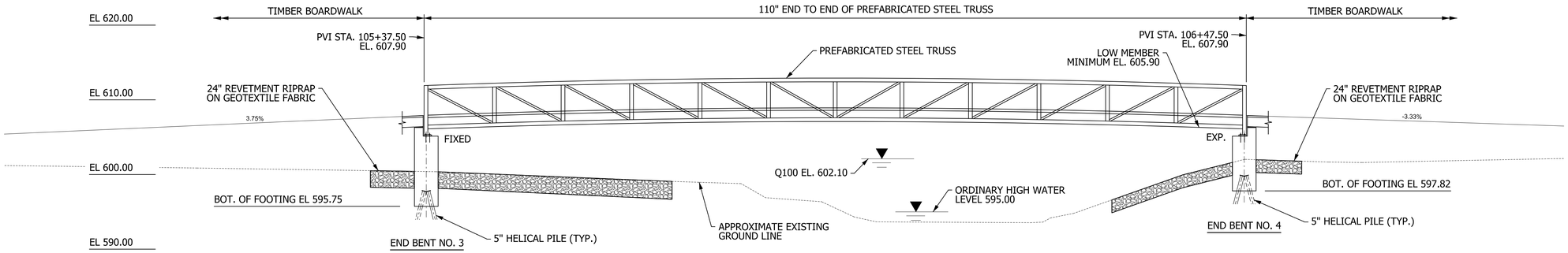

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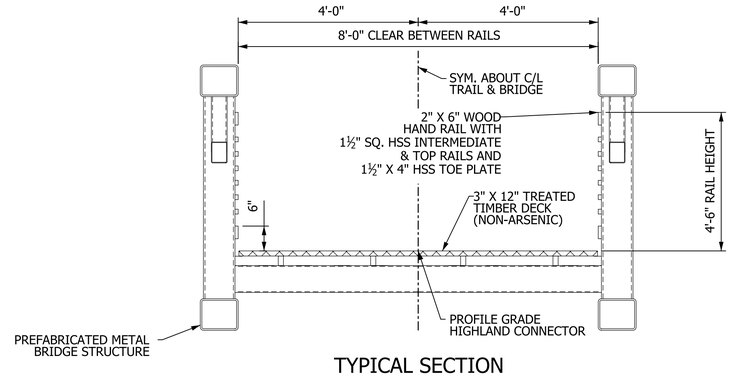

TYPICAL SECTION

CONSTRUCTION NOTES:

THE 2013 INDIANA DEPARTMENT OF TRANSPORTATION DESIGN MANUAL - PART 4 - STRUCTURAL (BRIDGE DESIGN) SHALL APPLY.

DRAWINGS ARE NOT TO BE SCALED

THE BAR SIZES SHOWN IN THIS PLAN IN THE U.S. CUSTOMARY DESIGNATIONS

ALL BARS TO BE EPOXY COATED

REINFORCING STEEL COVER SHALL BE 3" IN FOOTINGS EXCEPT BOTTOM STEEL WHICH SHALL BE 4", AND 2" IN ALL OTHER PARTS UNLESS NOTED

PREFABRICATED STEEL TRUSS BRIDGE
1 SPAN: 110'-0"
8'-0" CLEAR TRAIL
SKEW: SQUARE
TRAIL OVER CANDY MARSH DITCH
LAKE COUNTY

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

MICHAEL HOWARD DUPONT REGISTERED No. PE11400491 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: HWC DRAWN: HWC

CHECKED: MHD CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
EAST BRIDGE

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597

SURVEY BOOK	SHEETS
- - -	21 of 44
CONTRACT	PROJECT
R-34603	1173597

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COMPUTED HELICAL PILE LOADS- KIPS/PILE	
FACTORED DEAD LOAD + EARTH PRESSURE	32.4
FACTORED LIVE LOAD	17.8
* * FACTORED DESIGN LOAD = PILE BEARING RESISTANCE	50.0

* * BASED ON STRENGTH I LOAD COMBINATION.

HELICAL PILE NOTES:

SEE SOIL EXPLORATION REPORT OF GEOTECHNICAL ENGINEERING EXPLORATION, BY ADVANCED ENGINEERING SERVICES DATED AUGUST 1, 2024 FOR SOIL INFORMATION.

6 HELICAL PILES REQUIRED FOR EACH END BENT 1. HELICAL CONFIGURATION IS BASED OFF USING 50 KIP DOWNWARD CAPACITY USING 12-14-16 PLATE CONFIGURATION WITH ESTIMATED DEPTH OF 70'.

PILES SHALL HAVE A MINIMUM DIAMETER OF 5.0", WITH A MINIMUM WALL THICKNESS OF 1/4".

PILES SHALL BE FILLED WITH GROUT.

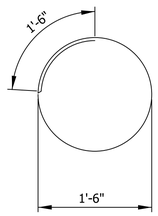
HELICAL PILE SPACING IS SHOWN AT THE BOTTOM OF THE FOOTING. BATTER HELICAL PILE AT 3" PER FOOT IN DIRECTION SHOWN ON PLAN.

NOTES:

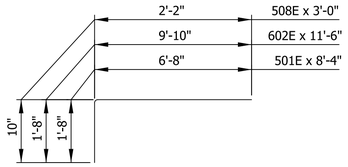
PROVIDE 2" COVER OVER REINFORCEMENT UNLESS SHOWN OTHERWISE

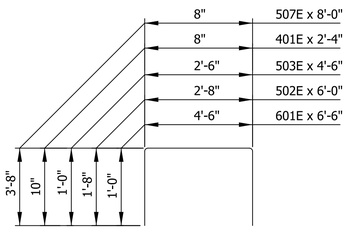
PROVIDE 3/4" CHAMFER ON ALL ABOVE GRADE CORNERS

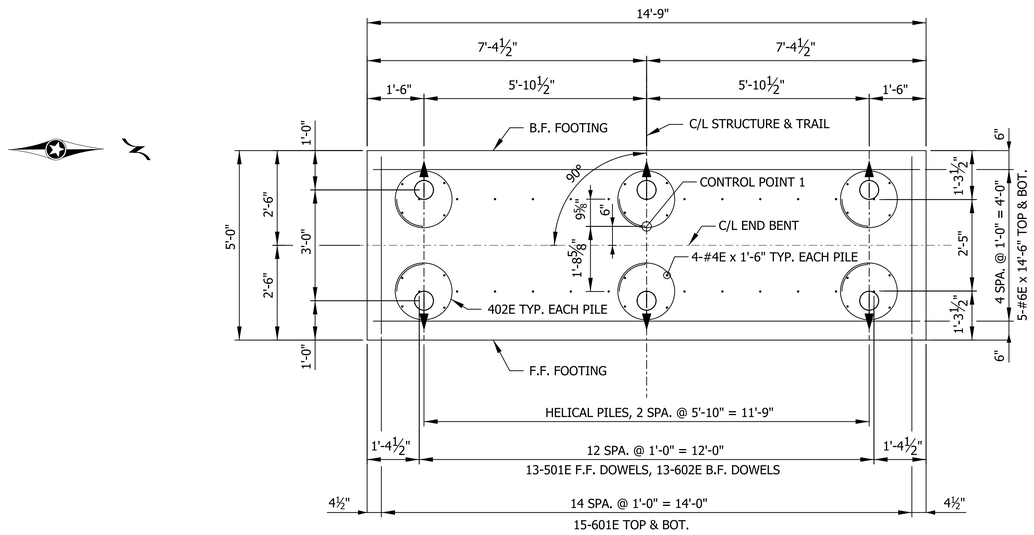
F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE



402E x 6'-4"

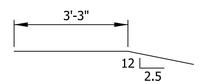




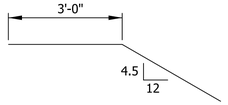


SOUTH END NORTH END

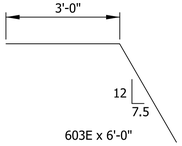
FOOTING PLAN



504E x 4'-9"



505E x 6'-0"



603E x 6'-0"

BAR BENDING DIAGRAM

NOTE: BENT BAR DIMENSIONS GIVEN ARE OUT TO OUT.

BILL OF MATERIALS FOR END BENT NO. 1

REINFORCING BARS EPOXY COATED			
SIZE & MARK	NO. OF BARS	LENGTH (FT.-IN.)	WEIGHT (LBS.)
#6E	10	14'-6"	
#6E	5	12'-6"	
#6E	20	4'-9"	
601E	30	6'-6"	
602E	13	11'-6"	
603E	18	6'-0"	
		TOTAL #6	1140
#5E	16	12'-6"	
#5E	13	6'-9"	
#5E	16	4'-9"	
501E	13	8'-4"	
502E	13	6'-0"	
503E	10	4'-6"	
504E	4	4'-9"	
505E	20	6'-0"	
507E	20	8'-0"	
508E	7	3'-0"	
		TOTAL #5	940
#4E	24	1'-6"	
401E	13	2'-4"	
402E	24	6'-4"	
		TOTAL #4	150
Total Epoxy Coated Reinforcing Bars for End Bent No. 1			2230 Lbs
CONCRETE			
Concrete Class "A" in End Bent No. 1			13 Cys
MISCELLANEOUS			
Helical Piling, (5" Dia. 1/4" Steel Thickness)			420 Lft.

SEH of Indiana
931 Ridge Road, Suite E
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Phone: 219.513.2500

MICHAEL HOWARD DUPONT REGISTERED No. PE11400491 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael Dupont 1/30/2025
DESIGN ENGINEER DATE

DESIGNED: MHD DRAWN: HWC
CHECKED: CAD CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

END BENT NO. 1

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
- - -	22 of 44
CONTRACT	PROJECT
R-34603	1173597

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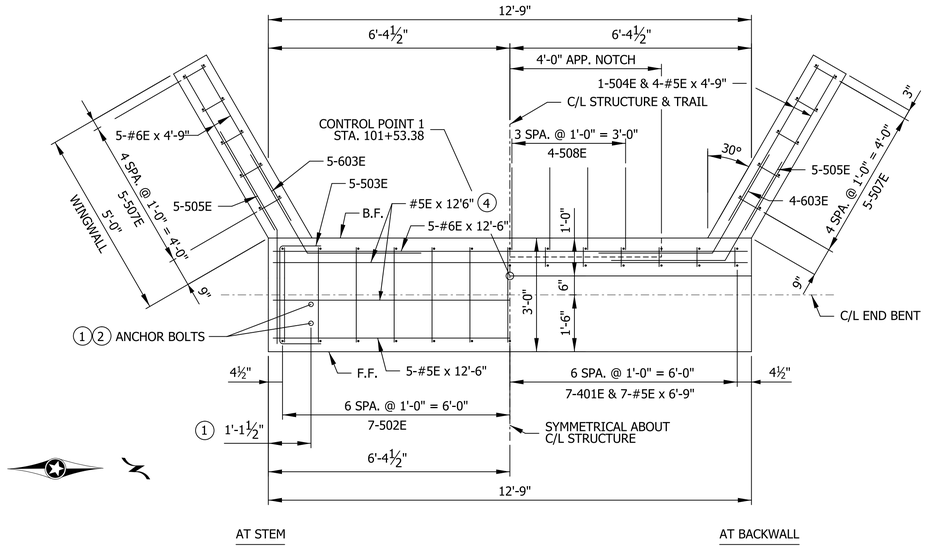
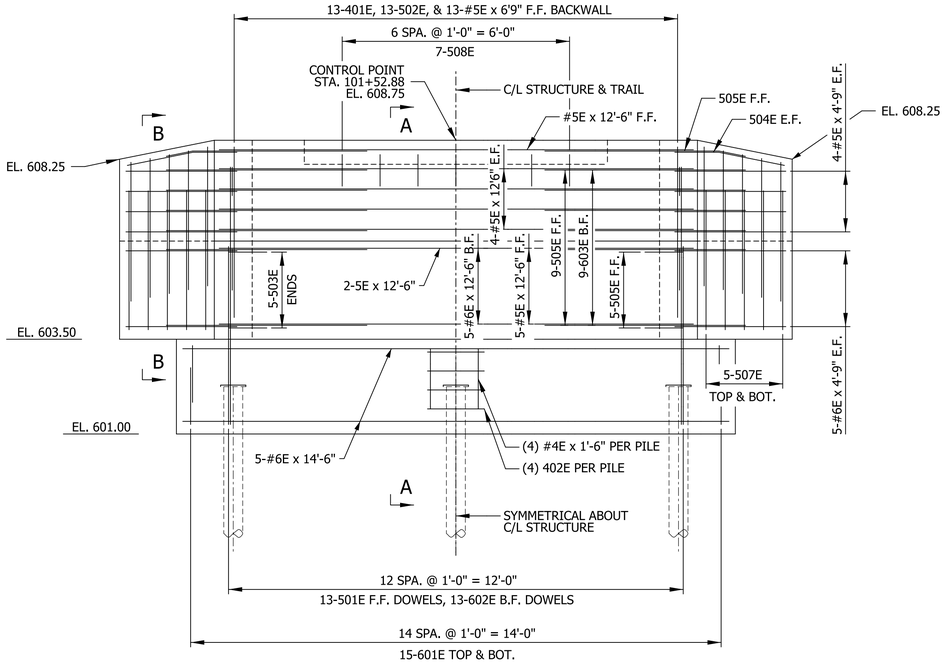
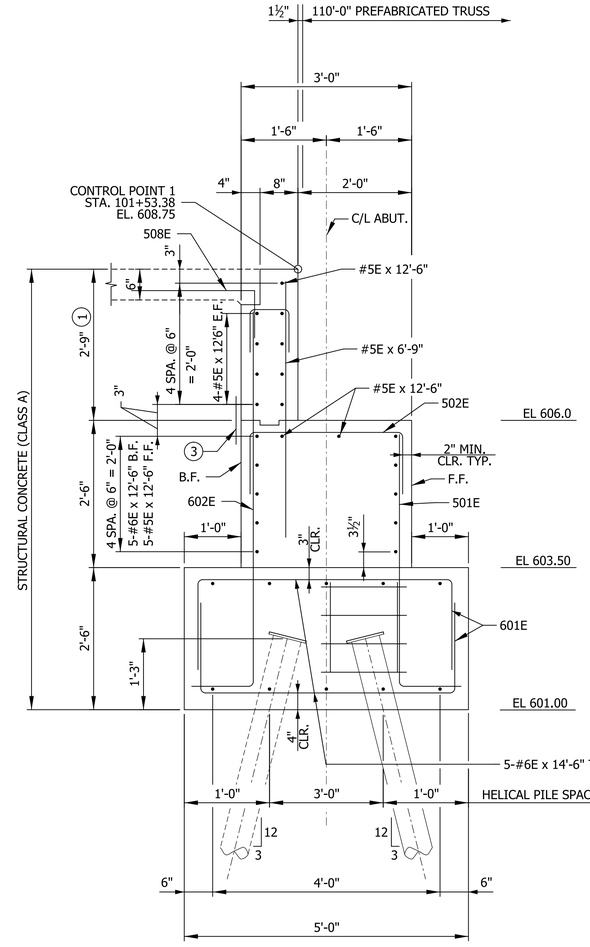


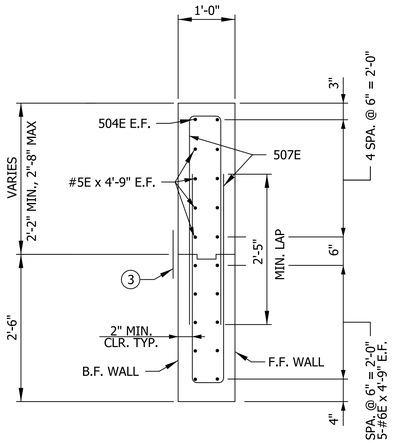
ABUTMENT PLAN



ABUTMENT ELEVATION



SECTION A-A



SECTION B-B

NOTES:

PROVIDE 2" COVER OVER REINFORCEMENT UNLESS SHOWN OTHERWISE

PROVIDE 3/4" CHAMFER ON ALL ABOVE GRADE CORNERS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

(1) VERIFY DIMENSION WITH SUPERSTRUCTURE MANUFACTURER.

(2) HOT DIPPED GALVANIZED ANCHOR BOLTS, DBL. NUTS, AND WASHERS. SUPERSTRUCTURE MANUFACTURER SHALL BE RESPONSIBLE FOR DETERMINING LOCATION. ANCHOR BOLTS TO HAVE 1 1/2" MIN. DIAMETER INSTALLED TO A DEPTH OF 1'-3".

(3) OPTIONAL CONSTRUCTION JOINT - IF JOINT IS USED, A MEMBRANE WATERPROOFING SYSTEM SHALL BE APPLIED TO THE BACK FACE OF THE ABUTMENT AND WINGWALLS.

(4) ADJUST BAR TO PROVIDE 2" CLEAR TO ANCHOR BOLTS BASED OFF OF SUPERSTRUCTURE SHOP DRAWINGS.

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Phone: 219.513.2500

MICHAEL HOWARD DUPONT
REGISTERED
No. PE11400491
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

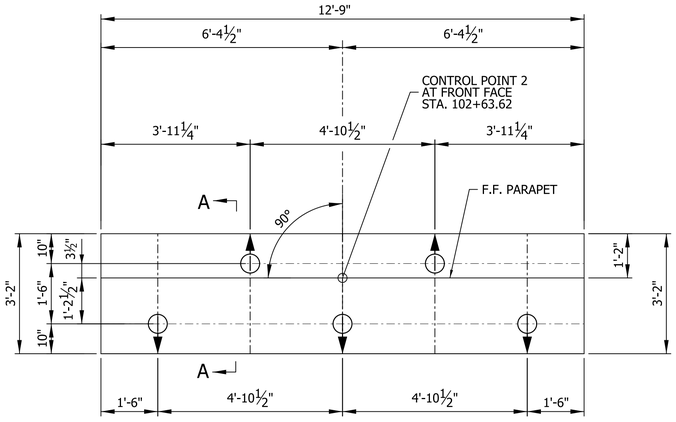
DESIGNED: MHD	DRAWN: HWC
CHECKED: CAD	CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

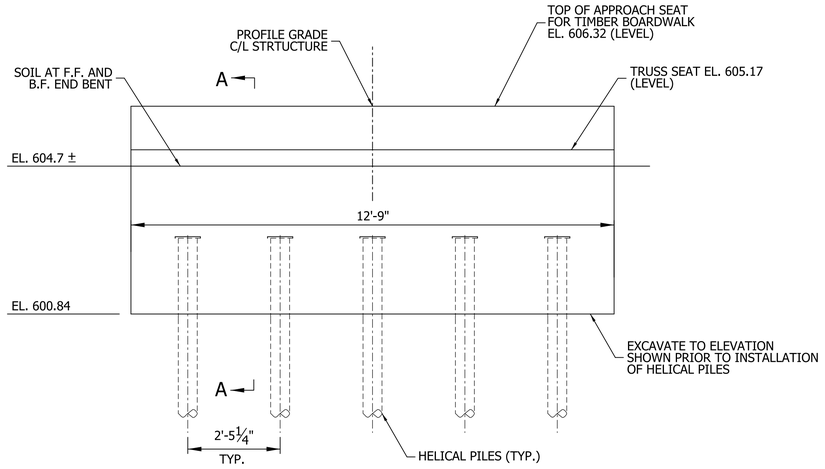
END BENT NO. 1

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597

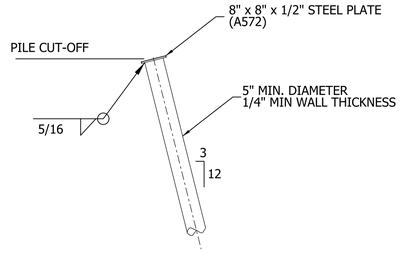
SURVEY BOOK	SHEETS
- - -	23 of 44
CONTRACT	PROJECT
R-34603	1173597



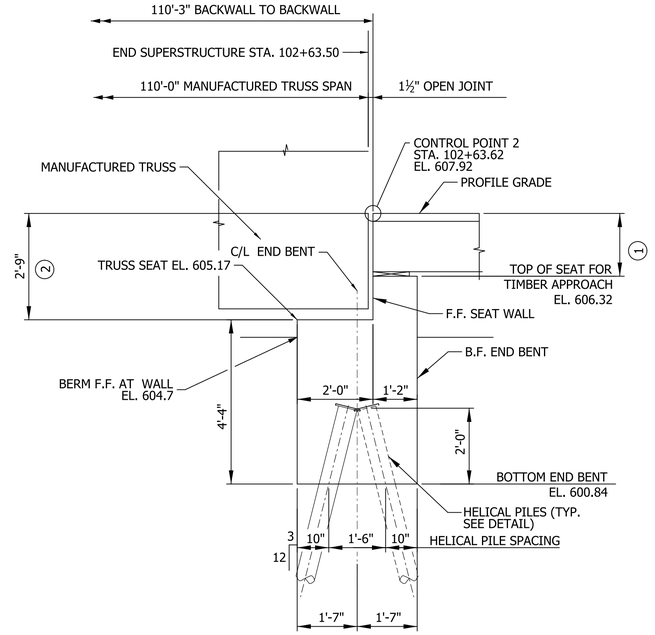
PLAN



ELEVATION



HELICAL PILE DETAIL



SECTION A-A

COMPUTED HELICAL PILE LOADS- KIPS/PILE	
FACTORED DEAD LOAD + EARTH PRESSURE	19.1
FACTORED LIVE LOAD	17.0
** FACTORED DESIGN LOAD = PILE BEARING RESISTANCE	36.1

** BASED ON STRENGTH I LOAD COMBINATION.

HELICAL PILE NOTES:

SEE SOIL EXPLORATION REPORT OF GEOTECHNICAL ENGINEERING EXPLORATION, BY ADVANCED ENGINEERING SERVICES DATED AUGUST 1, 2024 FOR SOIL INFORMATION.

5 HELICAL PILES REQUIRED FOR EACH END BENT 2. HELICAL CONFIGURATION IS BASED OFF USING 50 KIP DOWNWARD CAPACITY USING 12-14-16 PLATE CONFIGURATION WITH ESTIMATED DEPTH OF 70'.

PILES SHALL HAVE A MINIMUM DIAMETER OF 5.0", WITH A MINIMUM WALL THICKNESS OF 1/4".

PILES SHALL BE FILLED WITH GROUT.

HELICAL PILE SPACING IS SHOWN AT THE BOTTOM OF THE FOOTING. BATTER HELICAL PILE AT 3" PER FOOT IN DIRECTION SHOWN ON PLAN.

NOTES:

PROVIDE 2" COVER OVER REINFORCEMENT UNLESS SHOWN OTHERWISE

PROVIDE 3/4" CHAMFER ON ALL ABOVE GRADE CORNERS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

(1) TIMBER BOARDWALK, TOTAL DEPTH 1'-7¼"
3" TIMBER PLANK (2.5" ACTUAL)
16" ROUGH SAWN TIMBER (15.25" ACTUAL)
2" SILL (1.5" ACTUAL)

(2) VERIFY DIMENSION WITH SUPERSTRUCTURE MANUFACTURER. 2'-9" DIMENSION SHOWN, ADJUST AS NECESSARY

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

MICHAEL HOWARD DUPONT REGISTERED No. PE11400491 STATE OF INDIANA PROFESSIONAL ENGINEER

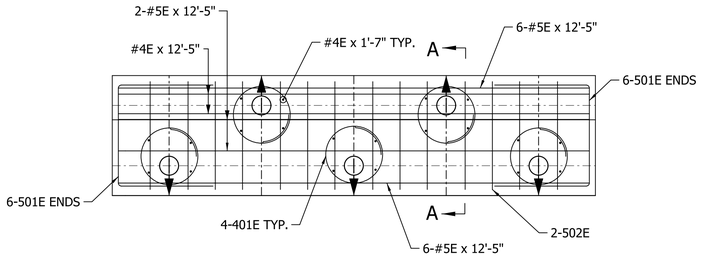
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: HWC DRAWN: HWC
CHECKED: MHD CHECKED: MHD

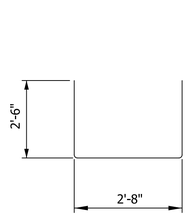
INDIANA DEPARTMENT OF TRANSPORTATION

END BENT NO. 2

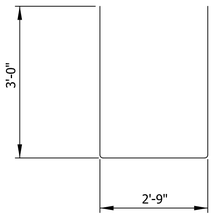
HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
- - -	24 of 44
CONTRACT	PROJECT
R-34603	1173597



PLAN



501E x 7'-8"



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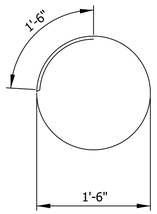
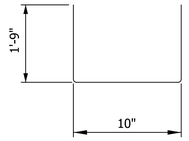


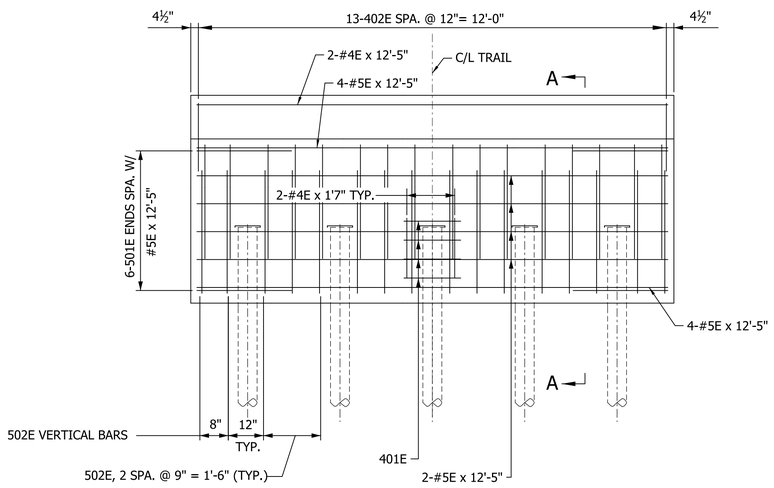
401E x 6'-3"



402E x 4'-4"

BILL OF MATERIALS FOR END BENT NO. 2

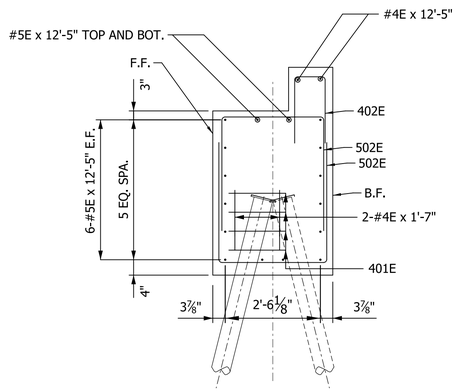
REINFORCING BARS EPOXY COATED			
SIZE & MARK	NO. OF BARS	LENGTH (FT.-IN.)	WEIGHT (LBS.)
#5E	16	12'-5"	
501E	12	7'-8"	
502E	32	8'-9"	
		TOTAL #5	600
#4E	20	1'-7"	
#4E	2	12'-5"	
401E	20	6'-3"	
402E	13	4'-4"	
		TOTAL #4	160
Total Epoxy Coated Reinforcing Bars for End Bent No. 2			760 Lbs
CONCRETE			
Concrete Class "A" in End Bent No. 2			7 Cys
MISCELLANEOUS			
Helical Piling, (5"Dia. 1/4" min. Steel Thickness)			350 Lft.



ELEVATION

BAR BENDING DIAGRAM

NOTE: BENT BAR DIMENSIONS GIVEN ARE OUT TO OUT.



SECTION A-A

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

MICHAEL HOWARD DUPONT REGISTERED No. PE11400491 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL	Michael Dupont DESIGN ENGINEER	1/30/2025 DATE	
DESIGNED: HWC		DRAWN: HWC	
CHECKED: MHD		CHECKED: MHD	

INDIANA DEPARTMENT OF TRANSPORTATION

END BENT NO. 2

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
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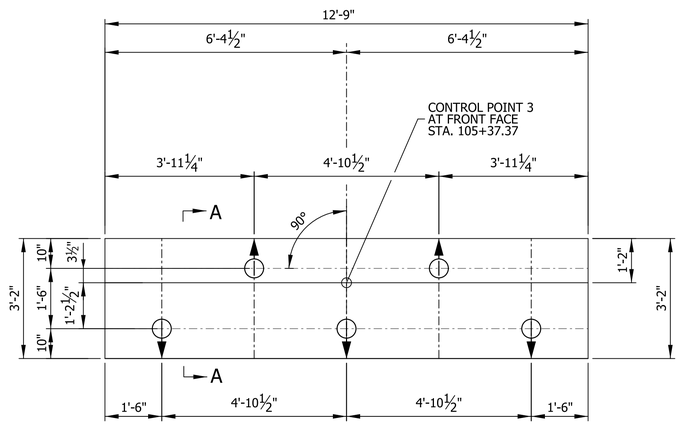
CONTRACT	PROJECT
R-34603	1173597



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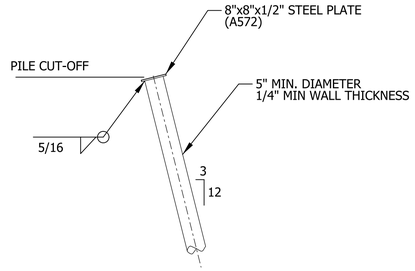
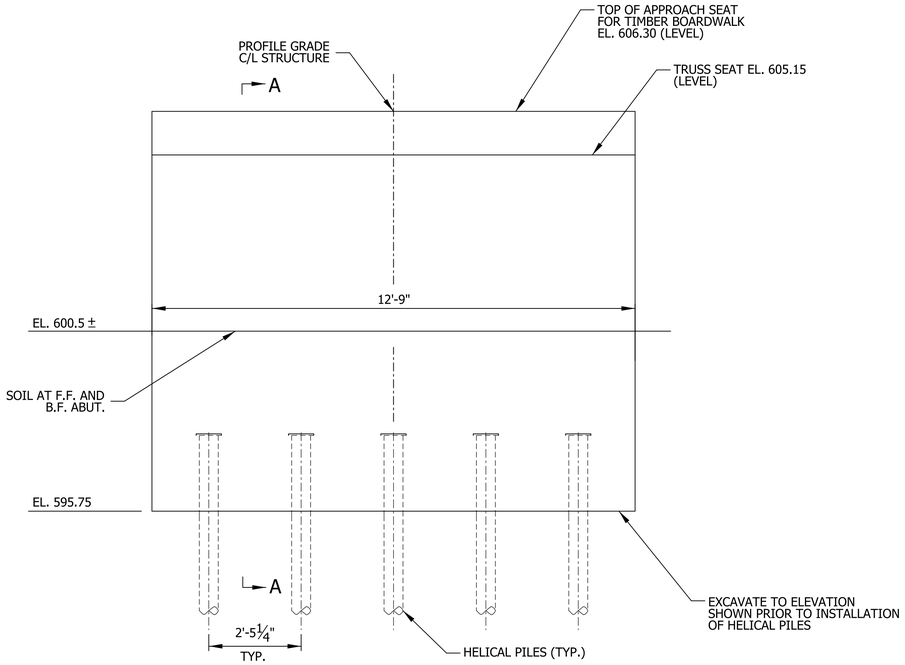


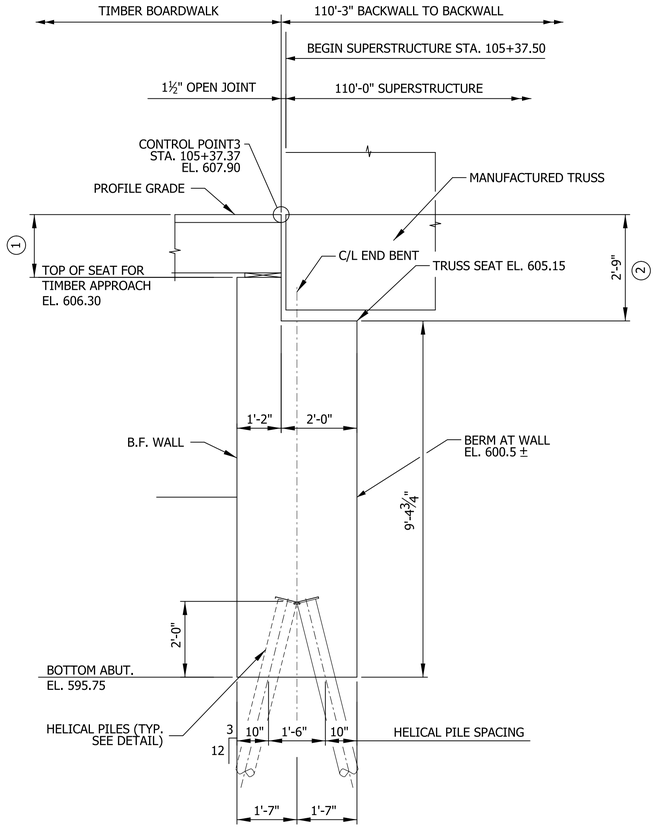
HELICAL PILE DETAIL

COMPUTED HELICAL PILE LOADS- KIPS/PILE	
FACTORED DEAD LOAD + EARTH PRESSURE	25.1
FACTORED LIVE LOAD	17.0
** FACTORED DESIGN LOAD = PILE BEARING RESISTANCE	42.1

** BASED ON STRENGTH I LOAD COMBINATION.



ELEVATION



SECTION A-A

HELICAL PILE NOTES:

SEE SOIL EXPLORATION REPORT OF GEOTECHNICAL ENGINEERING EXPLORATION, BY ADVANCED ENGINEERING SERVICES DATED AUGUST 1, 2024 FOR SOIL INFORMATION.

5 HELICAL PILES REQUIRED FOR EACH END BENT 3.
HELICAL CONFIGURATION IS BASED OFF USING 50 KIP DOWNWARD CAPACITY USING 12-14-16 PLATE CONFIGURATION WITH ESTIMATED DEPTH OF 70'.

PILES SHALL HAVE A MINIMUM DIAMETER OF 5.0", WITH A MINIMUM WALL THICKNESS OF 1/4".

PILES SHALL BE FILLED WITH GROUT.

HELICAL PILE SPACING IS SHOWN AT THE BOTTOM OF THE FOOTING. BATTER HELICAL PILE AT 3" PER FOOT IN DIRECTION SHOWN ON PLAN.

NOTES:

PROVIDE 2" COVER OVER REINFORCEMENT UNLESS SHOWN OTHERWISE

PROVIDE 3/4" CHAMFER ON ALL ABOVE GRADE CORNERS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

(1) TIMBER BOARDWALK, TOTAL DEPTH 1'-7¼"
3" TIMBER PLANK (2.5" ACTUAL)
16" ROUGH SAWN TIMBER (15.25" ACTUAL)
2" SILL (1.5" ACTUAL)

(2) VERIFY DIMENSION WITH SUPERSTRUCTURE MANUFACTURER. 2'-9" DIMENSION SHOWN, ADJUST AS NECESSARY

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Phone: 219.513.2500

MICHAEL HOWARD DUPONT REGISTERED No. PE11400491 STATE OF INDIANA PROFESSIONAL ENGINEER

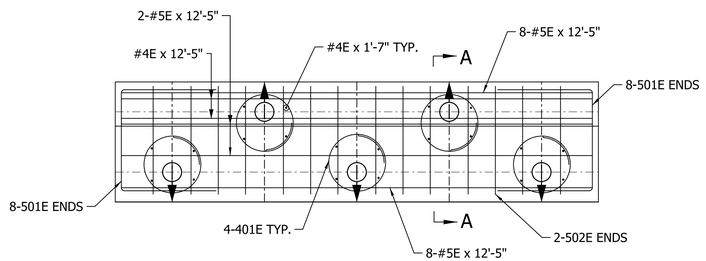
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: HWC | DRAWN: HWC
CHECKED: MHD | CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

END BENT NO. 3

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
- - -	26 of 44
CONTRACT	PROJECT
R-34603	1173597



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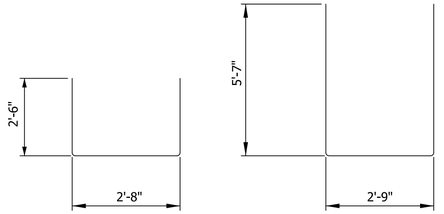
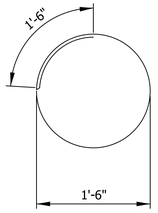
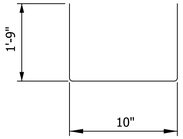


501E x 7'-8"

502E x 13'-11"



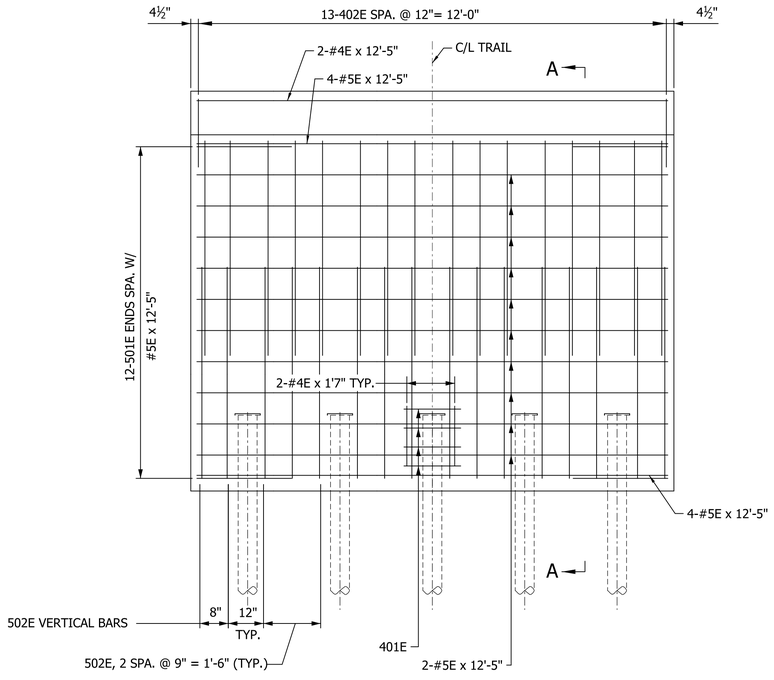
401E x 6'-3"



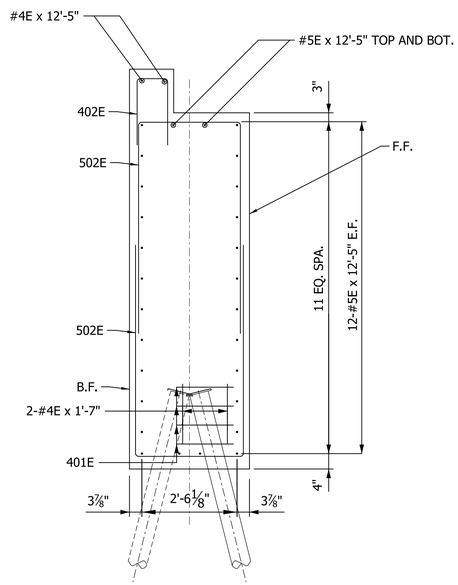
402E x 4'-4"

BAR BENDING DIAGRAM

NOTE: BENT BAR DIMENSIONS GIVEN ARE OUT TO OUT.



ELEVATION



SECTION A-A

BILL OF MATERIALS FOR END BENT NO. 3

REINFORCING BARS EPOXY COATED			
SIZE & MARK	NO. OF BARS	LENGTH (FT.-IN.)	WEIGHT (LBS.)
#5E	28	12'-5"	
501E	24	7'-8"	
502E	32	13'-11"	
		TOTAL #5	1020
#4E	20	1'-7"	
#4E	2	12'-5"	
401E	20	6'-3"	
402E	13	4'-4"	
		TOTAL #4	160
Total Epoxy Coated Reinforcing Bars for End Bent No. 3			1180 Lbs

CONCRETE	
Concrete Class "A" in End Bent No. 3	15 Cys
MISCELLANEOUS	
Helical Piling, (5" Dia. 1/4" min. Steel Thickness)	350 Lft.

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MICHAEL HOWARD DUPONT REGISTERED No. PE11400491 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: HWC | DRAWN: HWC

CHECKED: MHD | CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

END BENT NO. 3

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
- - -	27 of 44
CONTRACT	PROJECT
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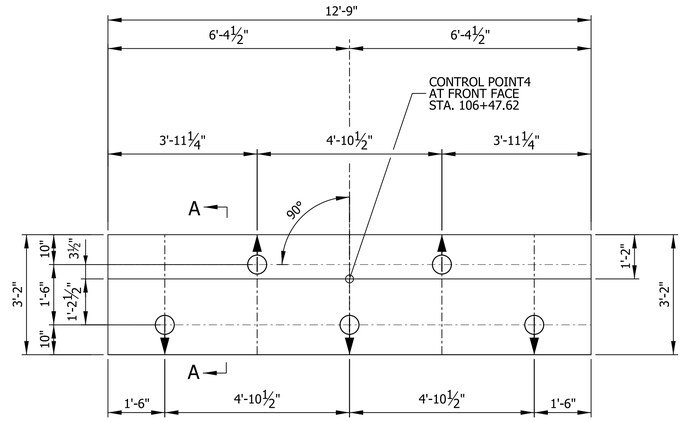

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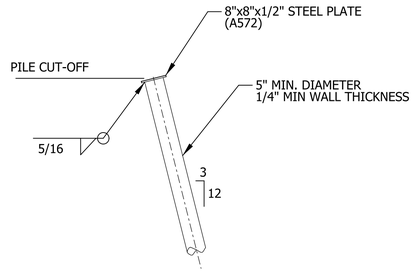
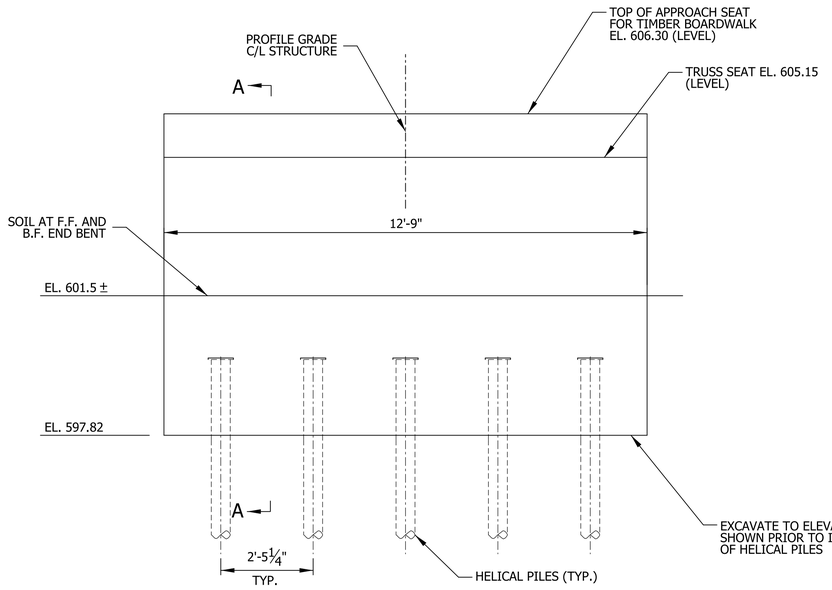


HELICAL PILE DETAIL

COMPUTED HELICAL PILE LOADS- KIPS/PILE	
FACTORED DEAD LOAD + EARTH PRESSURE	23.7
FACTORED LIVE LOAD	17.0
** FACTORED DESIGN LOAD = PILE BEARING RESISTANCE	40.7

** BASED ON STRENGTH I LOAD COMBINATION.



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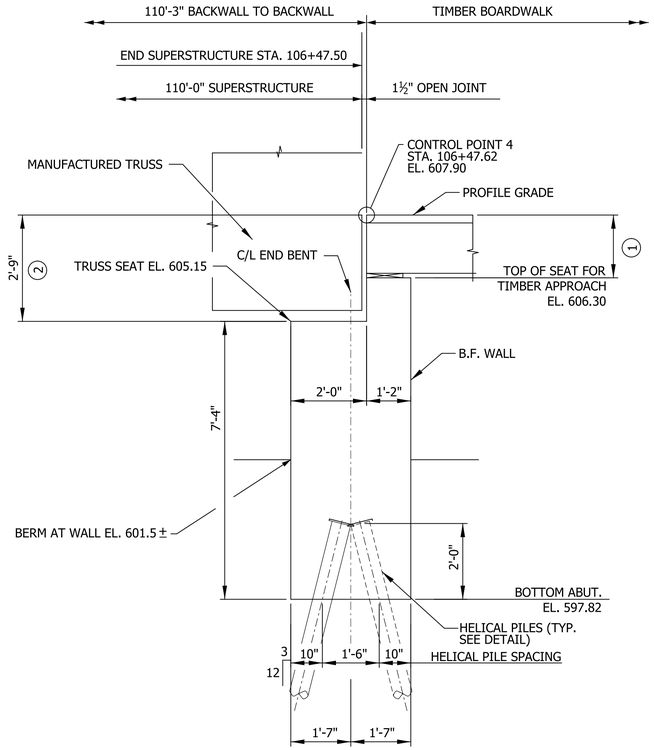

SECTION A-A

HELICAL PILE NOTES:

SEE SOIL EXPLORATION REPORT OF GEOTECHNICAL ENGINEERING EXPLORATION, BY ADVANCED ENGINEERING SERVICES DATED AUGUST 1, 2024 FOR SOIL INFORMATION.

5 HELICAL PILES REQUIRED FOR EACH END BENT 4.
HELICAL CONFIGURATION IS BASED OFF USING 50 KIP DOWNWARD CAPACITY USING 12-14-16 PLATE CONFIGURATION WITH ESTIMATED DEPTH OF 70'.

PILES SHALL HAVE A MINIMUM DIAMETER OF 5.0", WITH A MINIMUM WALL THICKNESS OF 1/4".

PILES SHALL BE FILLED WITH GROUT.

HELICAL PILE SPACING IS SHOWN AT THE BOTTOM OF THE FOOTING. BATTER HELICAL PILE AT 3" PER FOOT IN DIRECTION SHOWN ON PLAN.

NOTES:

PROVIDE 2" COVER OVER REINFORCEMENT UNLESS SHOWN OTHERWISE

PROVIDE 3/4" CHAMFER ON ALL ABOVE GRADE CORNERS

F.F. = FRONT FACE
B.F. = BACK FACE
E.F. = EACH FACE

(1) TIMBER BOARDWALK, TOTAL DEPTH 1'-7¼"
3" TIMBER PLANK (2.5" ACTUAL)
16" ROUGH SAWN TIMBER (15.25" ACTUAL)
2" SILL (1.5" ACTUAL)

(2) VERIFY DIMENSION WITH SUPERSTRUCTURE MANUFACTURER. 2'-9" DIMENSION SHOWN, ADJUST AS NECESSARY

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RECOMMENDED FOR APPROVAL Michael Dupont 1/30/2025
DESIGN ENGINEER DATE

DESIGNED: HWC DRAWN: HWC
CHECKED: MHD CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

END BENT NO. 4

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
- - -	28 of 44
CONTRACT	PROJECT
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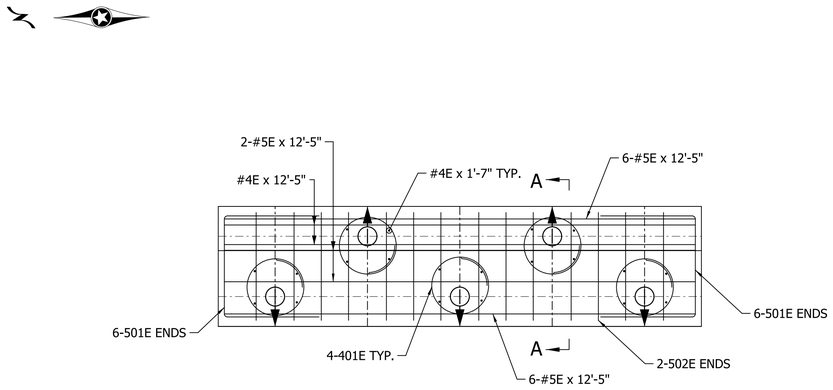

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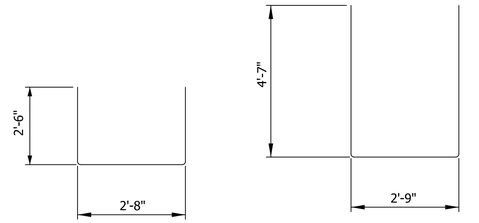
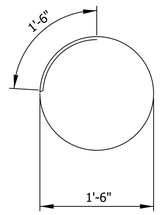
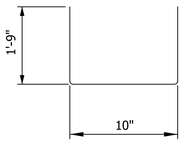


501E x 7'-8"

502E x 11'-11"



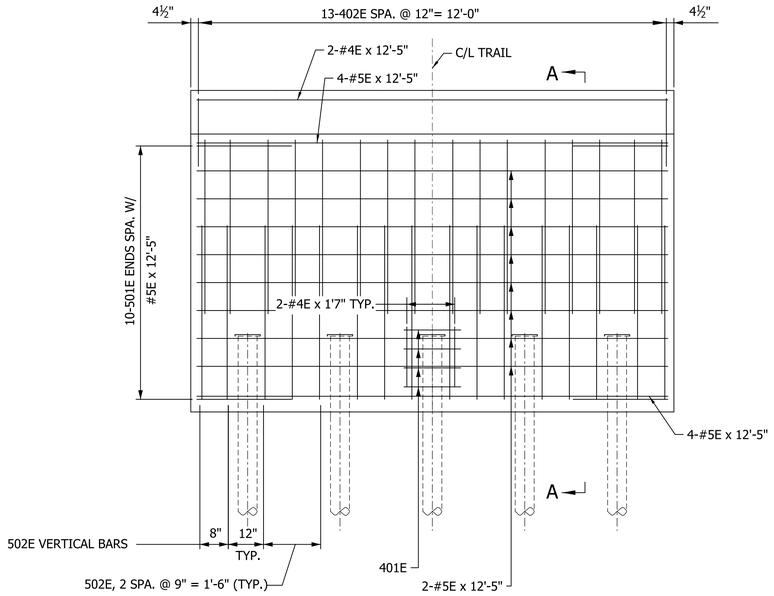
401E x 6'-3"



402E x 4'-4"

BAR BENDING DIAGRAM

NOTE: BENT BAR DIMENSIONS GIVEN ARE OUT TO OUT.



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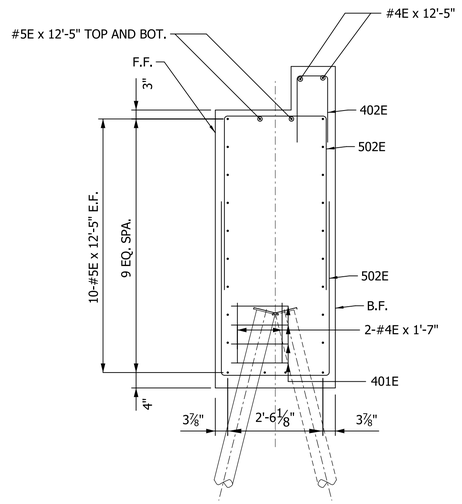

SECTION A-A

BILL OF MATERIALS FOR END BENT NO. 4

REINFORCING BARS EPOXY COATED			
SIZE & MARK	NO. OF BARS	LENGTH (FT.-IN.)	WEIGHT (LBS.)
#5E	24	12'-5"	
501E	20	7'-8"	
502E	32	11'-11"	
		TOTAL #5	870
#4E	20	1'-7"	
#4E	2	12'-5"	
401E	20	6'-3"	
402E	13	4'-4"	
		TOTAL #4	160
Total Epoxy Coated Reinforcing Bars for End Bent No.4			1030 Lbs

CONCRETE	
Concrete Class "A" in End Bent No. 4	12 Cys
MISCELLANEOUS	
Helical Piling, (5" Dia. 1/4" min. Steel Thickness)	350 Lft.

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Munster, Indiana 46321
Phone: 219.513.2500

MICHAEL HOWARD DUPONT · REGISTERED · No. PE11400491 · STATE OF INDIANA · PROFESSIONAL ENGINEER

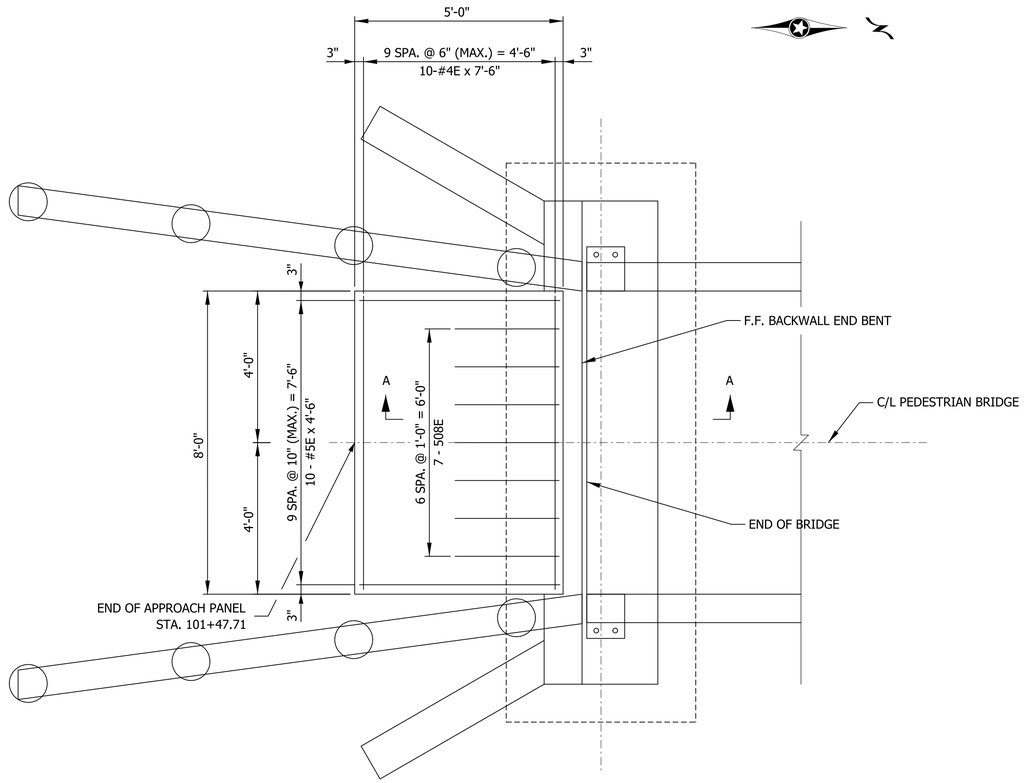
RECOMMENDED FOR APPROVAL Michael Dupont 1/30/2025
DESIGN ENGINEER DATE

DESIGNED: HWC DRAWN: HWC
CHECKED: MHD CHECKED: MHD

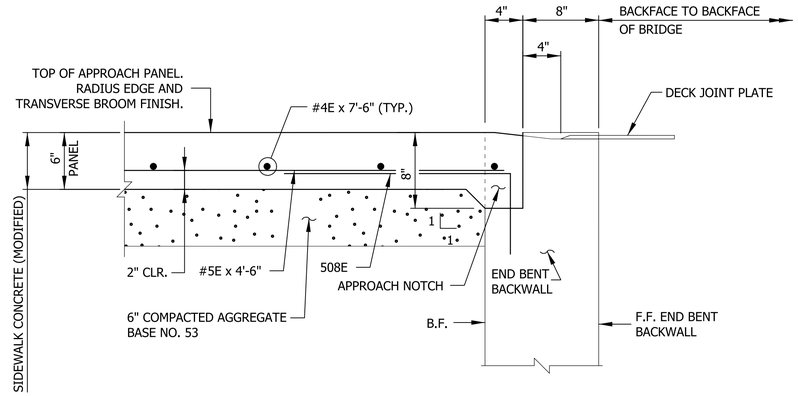
INDIANA DEPARTMENT OF TRANSPORTATION

END BENT NO. 4

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
- - -	29 of 44
CONTRACT	PROJECT
R-34603	1173597



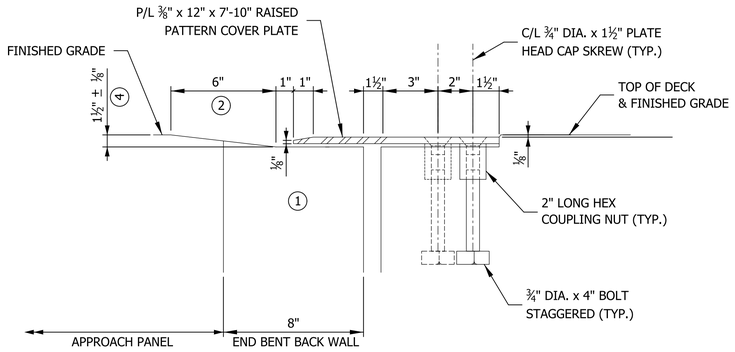
BRIDGE APPROACH PANEL PLAN



SECTION A-A

BILL OF MATERIALS FOR APPROACH PANEL			
REINFORCING BARS EPOXY COATED			
SIZE & MARK	NO. OF BARS	LENGTH (FT.-IN.)	WEIGHT (LBS.)
#5E	10	4'-6"	50
#4E	10	7'-6"	50
Total Epoxy Coated Reinforcing Bars for Approach Panel			100 Lbs
CONCRETE			
Reinforced Concrete Bridge Approach 6"			5 Sy

(1) Quantity is for ONE approach panel



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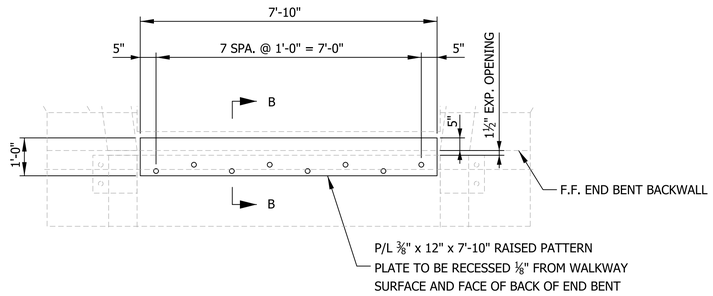

COVER PLATE DETAIL

NOTES:

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION.

COUNTERSINK CAP SCREWS 1/16" BELOW TOP OF PLATE.

FURNISHING AND INSTALLING COVER PLATE IS INCIDENTAL TO PRE-ENGINEERED STEEL TRUSS BRIDGE, SEE UNIQUE SPECIAL PROVISIONS.

¾" DIA. X 1½" FLATHEAD CAP SCREW WITH ½" SQUARE OR HEX SOCKET. COUNTERSINK CAP SCREWS 1/16" FROM TOP OF PLATE. APPLY BRIDGE BEARING LUBRICANT TO SCREW THREADS.

(1) PROVIDE SMOOTH CONCRETE FINISH BENEATH PLATE WITH 0" MIN. TO ⅛" MAX. GAP BETWEEN CONCRETE AND UNDERSIDE OF PLATE. PROVIDE BOND BREAKER (DUCT TAPE, ETC.) TO UNDERSIDE OF COVER PLATE.

(2) DIMENSIONS SHOWN ARE REQUIRED TO COMPLY WITH A.D.A. STANDARDS.

(3) LUBRICATE WITH BRIDGE GREASE.

(4) ½" BEVELED RECESS IN CONCRETE REQUIRED FOR STEEL COVER PLATE.

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DESIGNED: HWC DRAWN: HWC

CHECKED: MHD CHECKED: MHD

INDIANA DEPARTMENT OF TRANSPORTATION

APPROACH PANEL DETAIL

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597

SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
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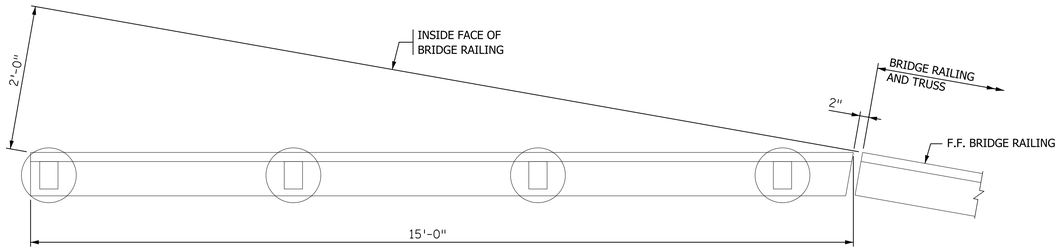
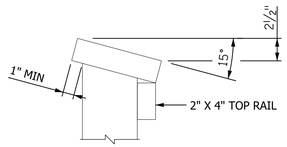


HALF APPROACH RAILING PLAN



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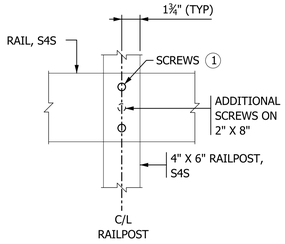
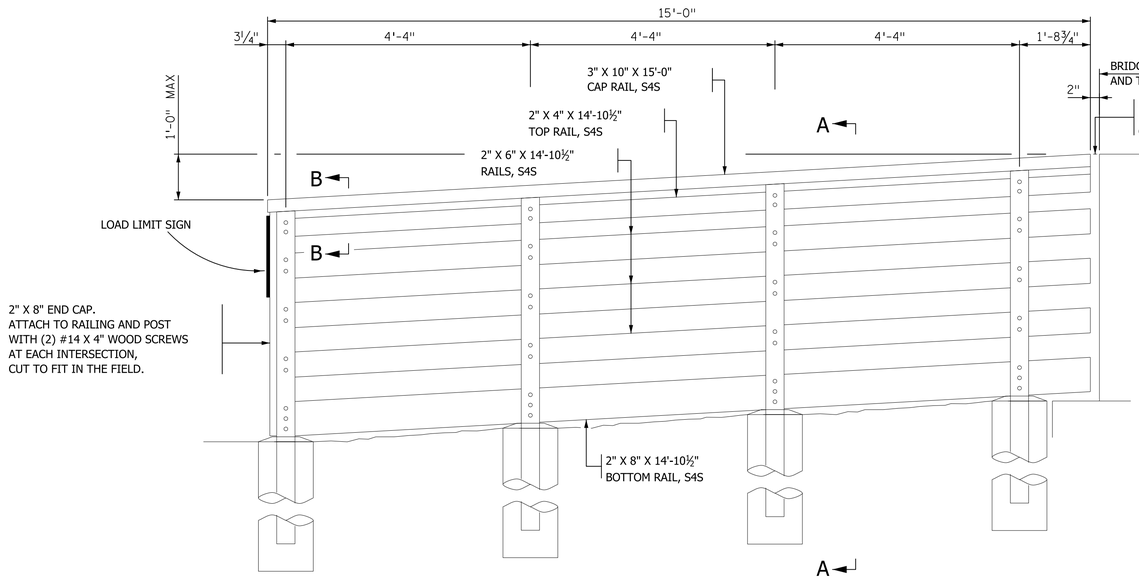
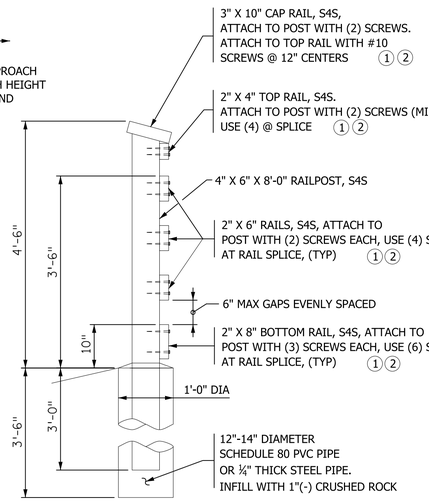


RAILPOST DETAIL 1



APPROACH RAILING ELEVATION



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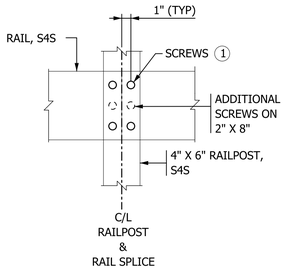

RAILPOST DEATIL 2

NOTE:
DRILLING POST HOLE & AGGREGATE IS INCIDENTAL TO OTHER ITEMS

NOTES:

QUANTITIES FOR APPROACH LEAD-IN RAILING ARE INCLUDED AS INCIDENTAL TO PRE-ENGINEERED STEEL TRUSS BRIDGE. SEE USP.

(1) RAIL HARDWARE SHALL BE CERAMIC COATED STAR DRIVE LAG SCREWS. 5/16" DIAMETER. 5" LONG FOR RAIL CAP. 4" LONG FOR RAIL MEMBERS.

(2) RAILING & RAIL CAP SHALL BE CUT TO LENGTH AS REQUIRED IN THE SHOP. SOME FIELD TRIMMING WILL BE REQUIRED, SPLICES SHALL BE STAGGERED.

TIMBER NOTES:

ALL TIMBER SHALL BE COPPER NAPHTHENATE OR ACQ PRESSURE TREATED, UNLESS OTHERWISE SPECIFIED. POSTS TO BE TREATED FOR GROUND CONTACT USE.

RAILPOSTS, RAILING & RAIL CAP TO BE DOUGLAS FIR OR SOUTHERN YELLOW PINE, NO. 1 & BTR., S4S.

ALL TIMBER IS S4S OTHERWISE NOTED.

ALL TIMBER CUT OR DRILLED IN FIELD SHALL BE TREATED WITH AN APPROVED PRESERVATIVE.

RAIL HARDWARE SHALL BE CERAMIC COATED STAR DRIVE LAG SCREWS. 5/16" DIAMETER. 5" LONG FOR RAIL CAP AND WEAR PLANKS. 4" LONG FOR RAIL MEMBERS.

ALL TIMBER TO BE CUT TO LENGTH, DRESSED TO SIZE REQUIRED AND ALL PRACTICAL FRAMING TO BE DONE PRIOR TO TREATMENT.

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Munster, Indiana 46321
Phone: 219.513.2500

MICHAEL HOWARD DUPONT REGISTERED No. PE11400491 STATE OF INDIANA PROFESSIONAL ENGINEER

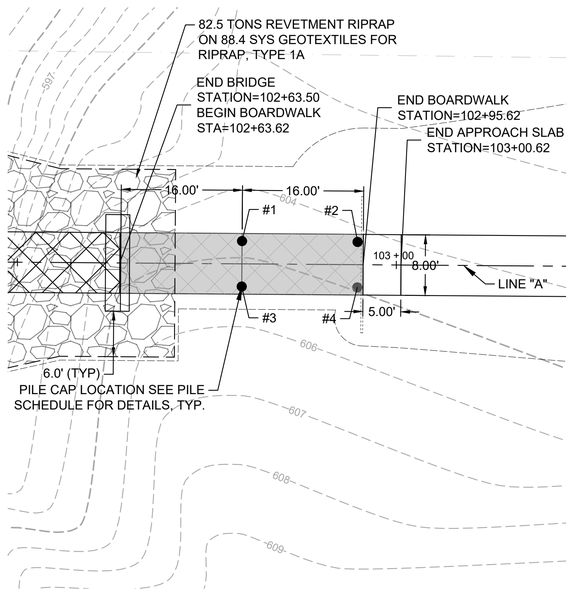
RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

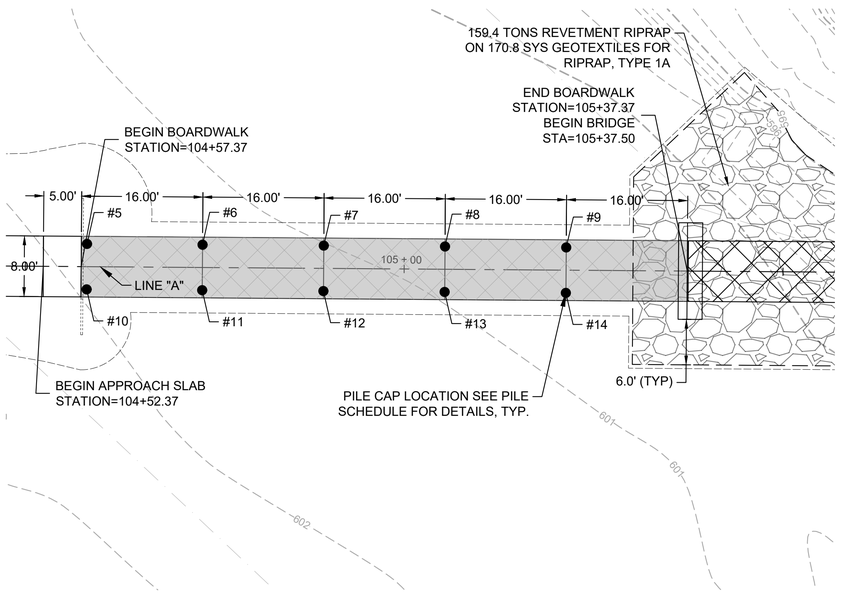
DESIGNED: HWC | DRAWN: HWC
CHECKED: MHD | CHECKED: MHD

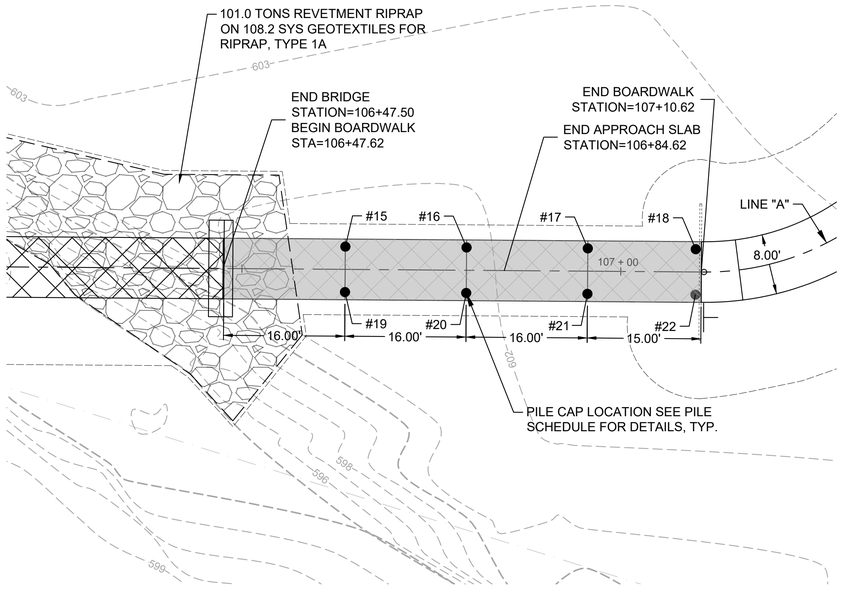
INDIANA DEPARTMENT OF TRANSPORTATION

APPROACH RAILING DETAIL

HORIZONTAL SCALE	BRIDGE FILE
	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
	1173597
SURVEY BOOK	SHEETS
- - -	31 of 44
CONTRACT	PROJECT
R-34603	1173597







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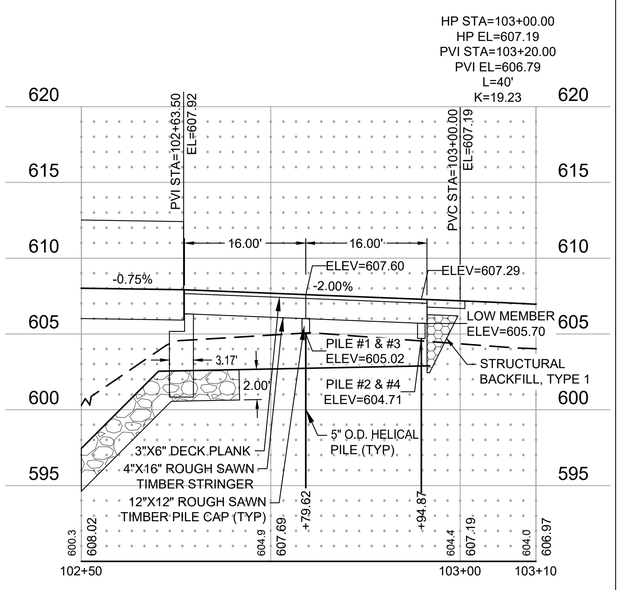
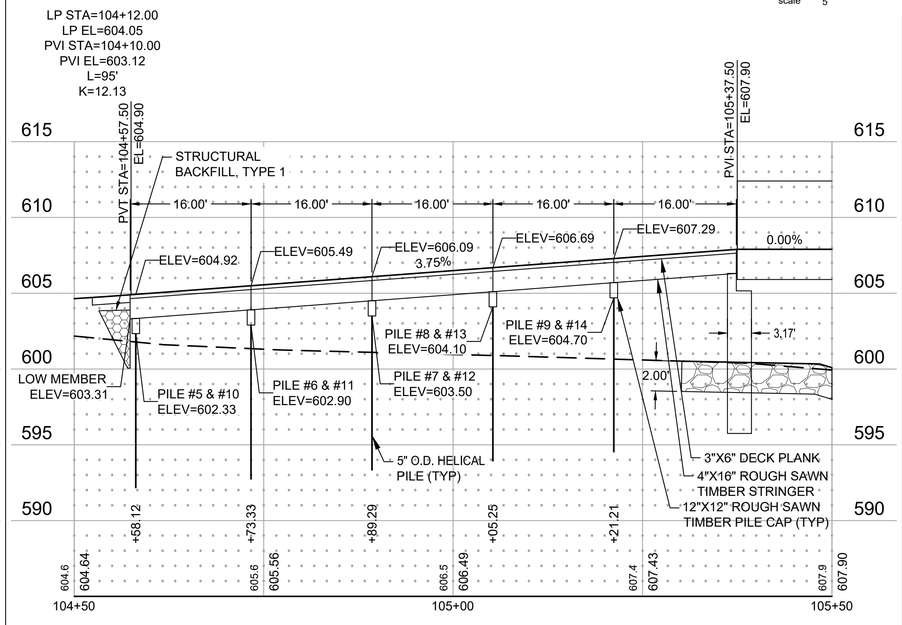
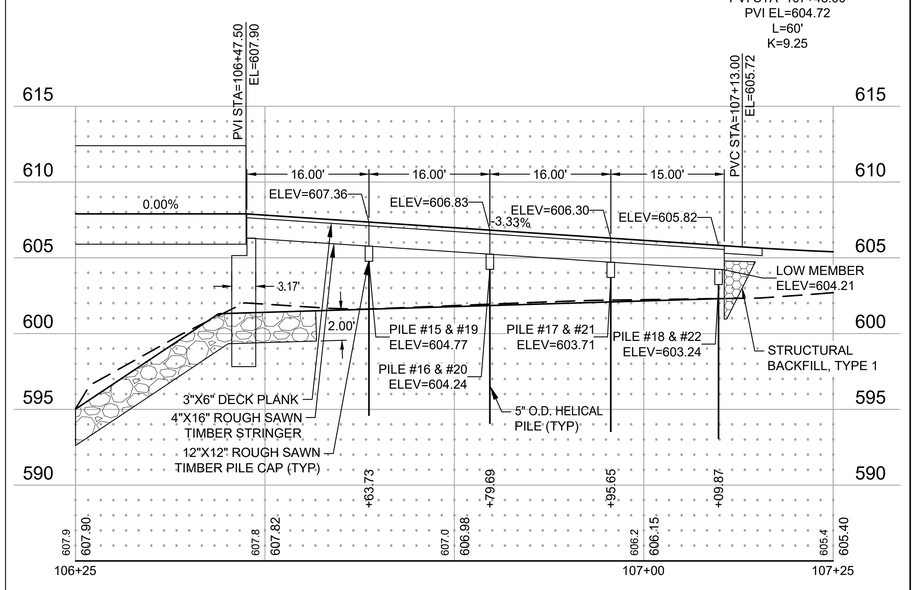
10 0 10 20
scale 5 feet

CONSTRUCTION NOTES
THE INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS 2024 SHALL GOVERN.

SHEET INDEX







(K1) HMA FOR SIDEWALKS CONSISTING OF:
1.5" HMA SURFACE, TYPE A (165 #/SYS) ON
2.5" HMA INTERMEDIATE, TYPE A (275 #/SYS) ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(C1) CONCRETE FOR SIDEWALKS CONSISTING OF:
6" EXPOSED AGGREGATE CONCRETE ON
6" COMPACTED AGGREGATE IN NO. 53, BASE, ON
GEOTEXTILE, TYPE 1A, ON
SUBGRADE TREATMENT TYPE IC

(27) INDOT MULCHED SEEDING TYPE U, TOPSOIL 4" W/ EROSION CONTROL BLANKET (REESTABLISH DISTURBED AREAS)
(BW) BOARDWALK, SEE DETAIL SHEETS 34 - 36
(BR) BRIDGE, SEE DETAIL SHEETS 17 - 29
(CR) CONCRETE CURB RAMP, SEE DETAIL SHEET 18
(15) COMBINED CONCRETE CURB AND GUTTER (MODIFIED)
(RR) REVETMENT RIPRAP

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DESIGNED: PWS | DRAWN: NWF
CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE - BOARDWALK
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597
SURVEY BOOK	SHEETS
	32 of 44
CONTRACT	PROJECT
R-34603	1173597

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BOARDWALK SUBSTRUCTURE LAYOUT AND PILE SCHEDULE

STRUCTURE NUMBER	STATION	OFFSET	NORTHING	EASTING	DECK ELEVATION	EX GROUND ELEVATION	ESTIMATED PILE TIP EL.	ESTIMATED HELICAL PILE LENGTH (LF)	HELIX PLATE SIZE (IN)	MINIMUM MOMENT OF INERTIA (IN^4)	DESCRIPTION
1	102+79.62	3.00' LT	2296297.1124	2843767.6300	607.60	604.73	574.60	33	10-12-14	3.39	BOARDWALK
2	102+94.87	3.00' LT	2296297.0002	2843782.8796	607.29	604.22	574.29	33	10-12-14	3.39	BOARDWALK
3	102+79.62	3.00' RT	2296291.1125	2843767.5859	607.60	605.40	574.60	32	10-12-14	3.39	BOARDWALK
4	102+94.87	3.00' RT	2296291.0004	2843782.8355	607.29	604.87	574.29	32	10-12-14	3.39	BOARDWALK
5	104+58.12	3.00' LT	2296295.7995	2843946.1251	604.92	601.67	573.92	34	10-12-14	3.39	BOARDWALK
6	104+73.37	3.00' LT	2296295.6873	2843961.3747	605.50	601.27	574.50	35	10-12-14	3.39	BOARDWALK
7	104+89.37	3.00' LT	2296295.5696	2843977.3743	606.10	601.02	574.10	36	10-12-14	3.39	BOARDWALK
8	105+05.37	3.00' LT	2296295.4519	2843993.3738	606.70	600.81	571.70	36	10-12-14	3.39	BOARDWALK
9	105+21.37	3.00' LT	2296295.3343	2844009.3734	607.30	600.59	571.30	36	10-12-14	3.39	BOARDWALK
10	104+58.12	3.00' RT	2296289.7996	2843946.0810	604.92	601.90	573.92	34	10-12-14	3.39	BOARDWALK
11	104+73.37	3.00' RT	2296289.6875	2843961.3306	605.50	601.41	574.50	34	10-12-14	3.39	BOARDWALK
12	104+89.37	3.00' RT	2296289.5698	2843977.3302	606.10	601.18	574.10	34	10-12-14	3.39	BOARDWALK
13	105+05.37	3.00' RT	2296289.4521	2843993.3297	606.70	600.96	571.70	35	10-12-14	3.39	BOARDWALK
14	105+21.37	3.00' RT	2296289.3344	2844009.3293	607.30	600.72	571.30	36	10-12-14	3.39	BOARDWALK
15	106+63.62	3.00' LT	2296294.2880	2844151.6196	607.36	601.63	571.36	36	10-12-14	3.39	BOARDWALK
16	106+79.62	3.00' LT	2296294.1703	2844167.6191	606.83	601.95	571.83	35	10-12-14	3.39	BOARDWALK
17	106+95.62	3.00' LT	2296294.0526	2844183.6187	606.30	602.23	571.30	35	10-12-14	3.39	BOARDWALK
18	107+09.87	3.00' LT	2296293.9478	2844197.8683	605.82	602.33	571.82	34	10-12-14	3.39	BOARDWALK
19	106+63.62	3.00' RT	2296288.2881	2844151.5754	607.36	601.67	571.36	36	10-12-14	3.39	BOARDWALK
20	106+79.62	3.00' RT	2296288.1705	2844167.5750	606.83	601.93	571.83	35	10-12-14	3.39	BOARDWALK
21	106+95.62	3.00' RT	2296288.0528	2844183.5746	606.30	602.19	571.30	35	10-12-14	3.39	BOARDWALK
22	107+09.87	3.00' RT	2296287.9480	2844197.8242	605.82	602.29	571.82	34	10-12-14	3.39	BOARDWALK

DESIGN DATA

2019 AND CURRENT INTERIM A.A.S.H.T.O. LRFD BRIDGE DESIGN SPECIFICATIONS AND 2009 LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

LOAD AND RESISTANCE FACTOR DESIGN METHOD.

DESIGN LOADING: PEDESTRIAN LOADING 90 PSF OR A H5 TRUCK.
POSTED BOARDWALK LOAD LIMIT 5 TONS.

APPROX. DECK AREA 896 SQ. FT.

MATERIALS:
STRUCTURAL STEEL SHALL BE INDOT 711 CONFORMING TO ASTM A709 GRD 50, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123
SEE SPECIFICATIONS FOR HELICAL PILE.

CONCRETE F'C=3500 PSI, REINF. GRD 60 NON-COATED

TIMBER MATERIALS AND TREATMENT SHALL BE IN ACCORDANCE WITH INDOT 712 AND THE FOLLOWING:

ITEM	DESCRIPTION
STRINGER	DOUGLAS FIR, SELECT STR. ROUGH SAWN, FB=1,500 PSI ACQ WITH RETENTION FOR USE CATEGORY - UC4C (GROUND CONTACT, CRITICAL STRUCTURAL COMPONENTS). DOUGLAS FIR SHALL BE INCISED.
DIAPHRAGMS	
PILE CAP	
DECK PLANKING & ABUTMENT BACKING PLANK	DOUGLAS FIR OR SOUTHERN YELLOW PINE, NO. 1 & BETTER, S4S FB=1,200 PSI TREATMENT SAME AS ABOVE
RAIL POST, RAILS & POST SPACER BLOCK	SOUTHERN YELLOW PINE NO. 2 OR BETTER, S4S FB=850 PSI ACQ WITH RETENTION USE CATEGORY - UC3 (EXTERIOR ABOVE GRND.)

CONSTRUCTION NOTES

ALL DRILLING AND CUTTING OF TIMBER EXCEEDING 2" IN THICKNESS SHALL BE COMPLETED BEFORE PRESSURE TREATMENT UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

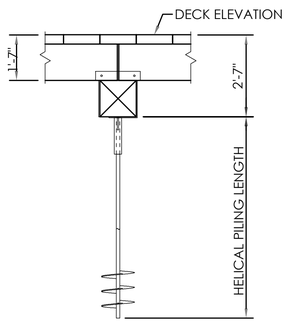
ALL TIMBER IS TO BE PRESSURE TREATED.

STEEL BEAMS, HELICAL PILING, SUPPORT BRACKET AND BRACING, AND ALL ASSOCIATED HARDWARE IS TO BE GALVANIZED PER ATSM A123 AND A153.
HELICAL PILING - SEE SPECIAL PROVISIONS.

TIMBER CONSTRUCTION REQUIREMENTS SHALL CONFORM TO INDOT 712 EXCEPT AS NOTED IN SPECIAL PROVISIONS.

SCHEDULE OF QUANTITIES FOR ENTIRE BOARDWALK

ITEM NO	ITEM	UNIT	QUANTITY
(4)	BOARDWALK, TIMBER	LN FT	175
	REINFORCED CONCRETE BRIDGE APPROACH, 6IN	SQ YD	13
	REINFORCING BAR, EPOXY COATED	LBS	300
(2)(3)	HELICAL PILE LENGTH	LN FT	760



BOARDWALK PILES

COMPUTED VERTICAL HELICAL PILE LOAD - KIPS/PILE		
	*FACTORED LOADS	WORKING LOAD
DEAD LOAD	3.5	2.8
LIVE LOAD	10.2	5.8
FACTORED DESIGN LOAD	13.7	8.6

* BASED ON STRENGTH I LOAD COMBINATION W/ DEAD LOAD FACTOR OF 1.25 & LIVE LOAD FACTOR OF 1.75

SEE UNIQUE SPECIAL PROVISION FOR HELICAL PILES.

SEE PLAN & PROFILE SHEETS FOR PIER & HELICAL PILE LOCATIONS.

(1) EACH PILE INCLUDES:
- 10' LONG HELICAL PILE
- TOP SUPPORT BRACKET WITH DIAGONAL BRACING

(2) MINIMUM WALL THICKNESS 0.250"

(3) PILE DIAMETER AND HELICAL PLATE SIZE VARIES. SEE PILE TABLE IN THESE PLANS FOR REQUIRED MIN. MOMENT OF INERTIA AND HELICAL PLATE SIZE.

(4) TIMBER BOARDWALK ITEM INCLUDES RAILING, LEAD-IN RAILING, BOARDWALK END MARKER AND LOAD LIMIT SIGNS. CONTRACTOR TO PROVIDE EXTRA BOX OF SCREWS FOR DECK AND RAILING AND TWO 48"x120" MIN WIRE MESH PANELS. (INCIDENTAL)

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INDIANA DEPARTMENT OF TRANSPORTATION

HELICAL PILE SCHEDULE AND BOARDWALK QUANTITIES
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
NONE	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

SURVEY BOOK	SHEETS
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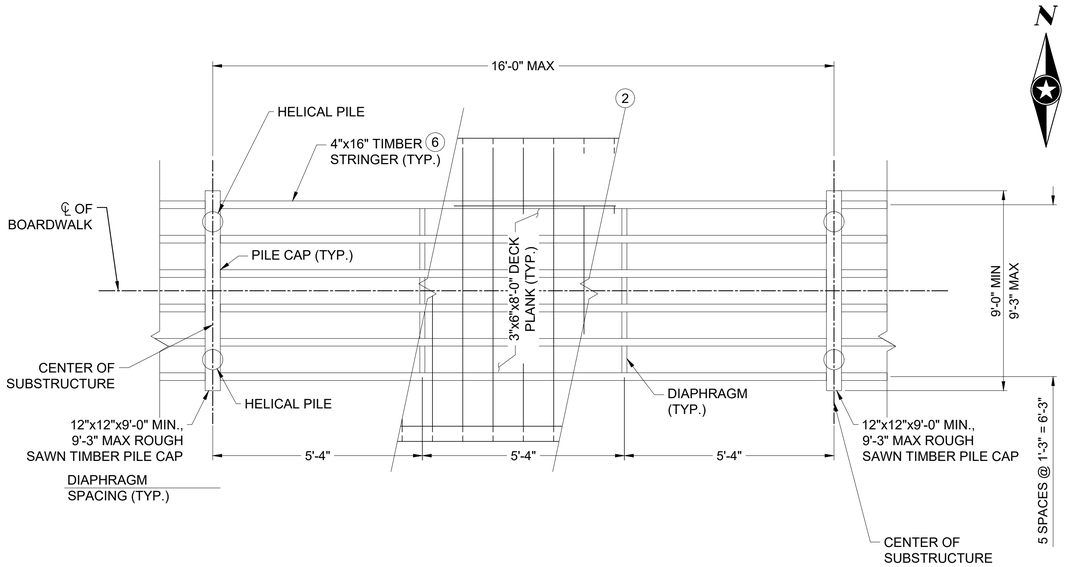
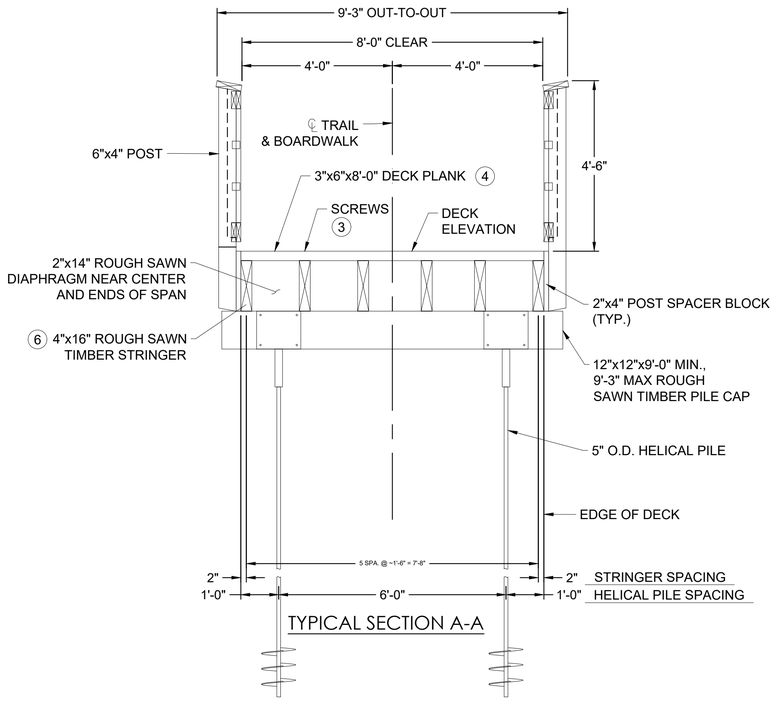
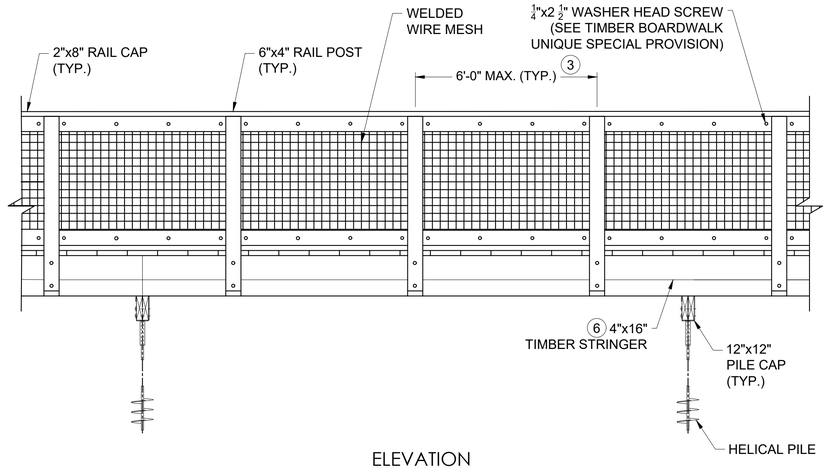
CONTRACT	PROJECT
R-34603	1173597



FRAMING PLAN



TYPICAL SECTION A-A



ELEVATION

NOTES:

1. WHEN BOARDWALK IS ON CURVED ALIGNMENT, STRINGERS, CURB, AND RAILING WILL BE CHORDS BETWEEN PIER SUBSTRUCTURE. LAYOUT DECK PLANK WITH NO EDGE GAP TO ½" MAX GAP ON CURVES. USE NO GAP TO ¼" GAP ON TANGENT ALIGNMENT. PLANK MAY NEED TO BE TAPER CUT TO MAINTAIN GAP.
2. MEASURED ALONG ℄ OF TRAIL CHORD AS SHOWN.
3. SCREWS - 2 PER PLANK AT EACH EXTERIOR STRINGER AND AT 1" FROM ALTERNATING DECK PLANK EDGES AT INTERIOR STRINGERS, DRIVE TO TOP OF SCREW HEAD FLUSH WITH TOP OF DECK. SEE TIMBER BOARDWALK UNIQUE SPECIAL PROVISION FOR SCREW TYPE.
4. PLACE DECK PLANK WITH GROWTH RINGS CONVEX SIDE UP. (CENTER TREE FROM WHICH PLANK IS CUT WOULD BE BELOW DECK.)
5. BOLT 2-3"x12" TOGETHER TO FORM 1-6"x12" BEAM USE 6-½" DIA. BOLTS W/PLATE WASHERS.
6. CONNECT TO PILE CAP WITH PRE-MANUFACTURED CONNECTOR. WORKING LOAD = 1500 LBS.
7. TIMBER DIMENSIONS SHOWN ARE NOMINAL. CONTRACTOR SHALL VERIFY NECESSARY TIMBER DIMENSIONS.
8. CONTRACTOR TO VERIFY LENGTH OF CONNECTORS TO MEET WOOD DIMENSIONS PROVIDED.
9. RAILING DIMENSIONS TO BE ADJUSTED AS NECESSARY DUE TO BRIDGE CURVE

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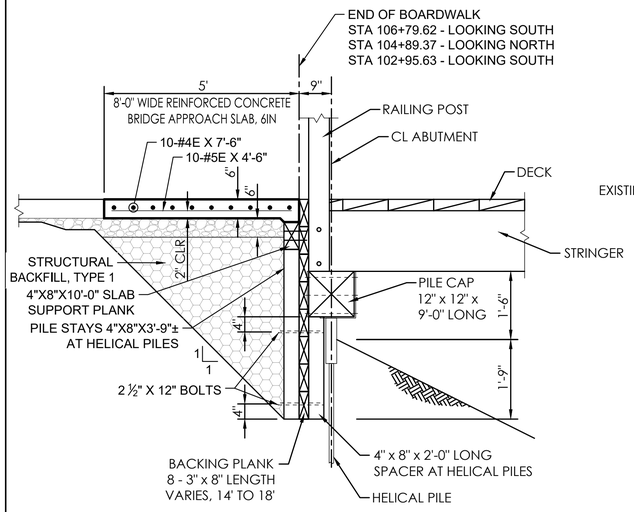
INDIANA DEPARTMENT OF TRANSPORTATION

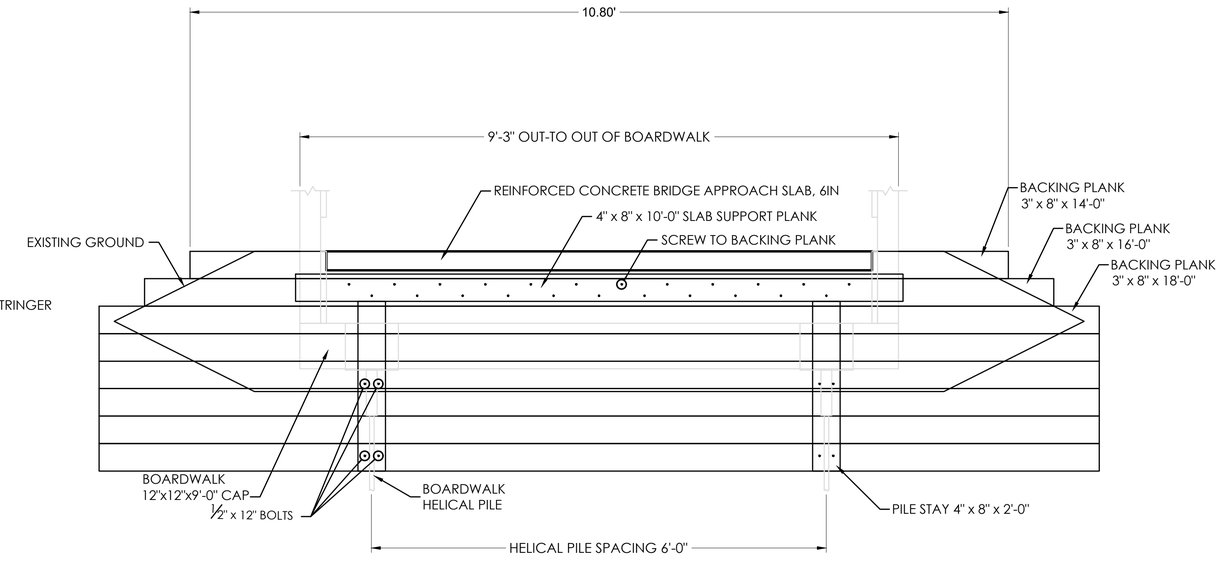
BOARDWALK DETAILS
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
- - -	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
- - -	1173597

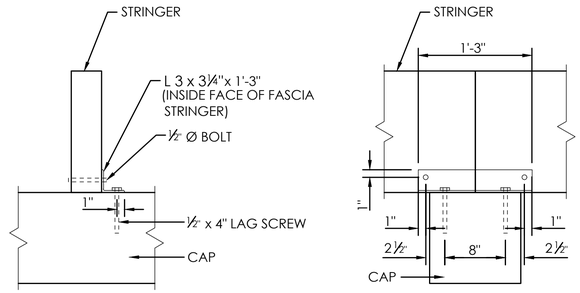
SURVEY BOOK	SHEETS
	34 of 44
CONTRACT	PROJECT
R-34603	1173597



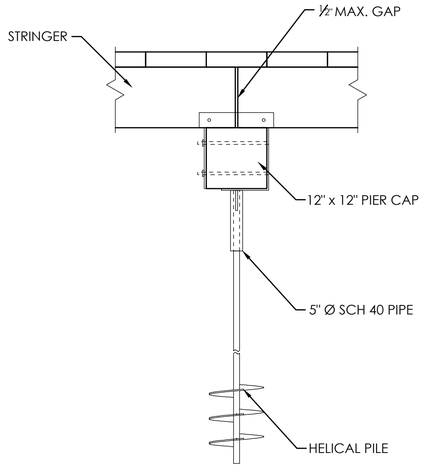
ABUTMENT SECTION



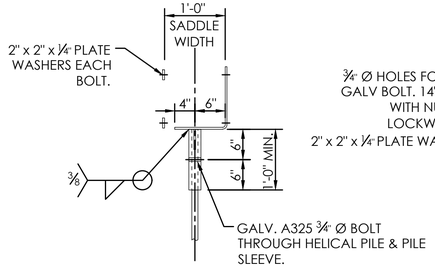
ABUTMENT ELEVATION
BACK SIDE SHOWN



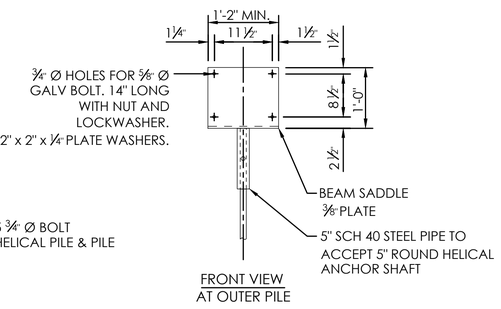
DETAIL
TIMBER STRINGER TO CAP AT INSIDE FACE FASCIA AND EVERY OTHER INTERIOR STRINGER



PIER DETAIL



SIDE VIEW

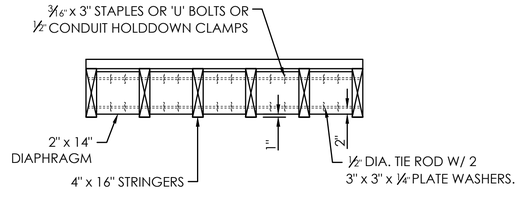


FRONT VIEW
AT OUTER PILE

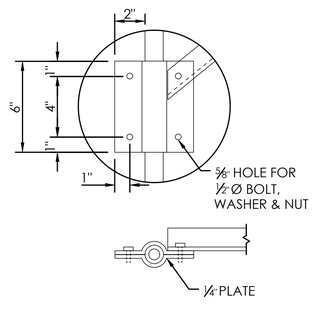
SUPPORT BRACKET DETAIL

SUPPORT BRACKET NOTES:

1. HOT DIPPED GALVANIZED PER ASTM A-153.



TIMBER DIAPHRAGM DETAIL



CLAMP CONNECTION DETAIL
BRACED TO HELICAL PILE

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BOARDWALK DETAILS
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
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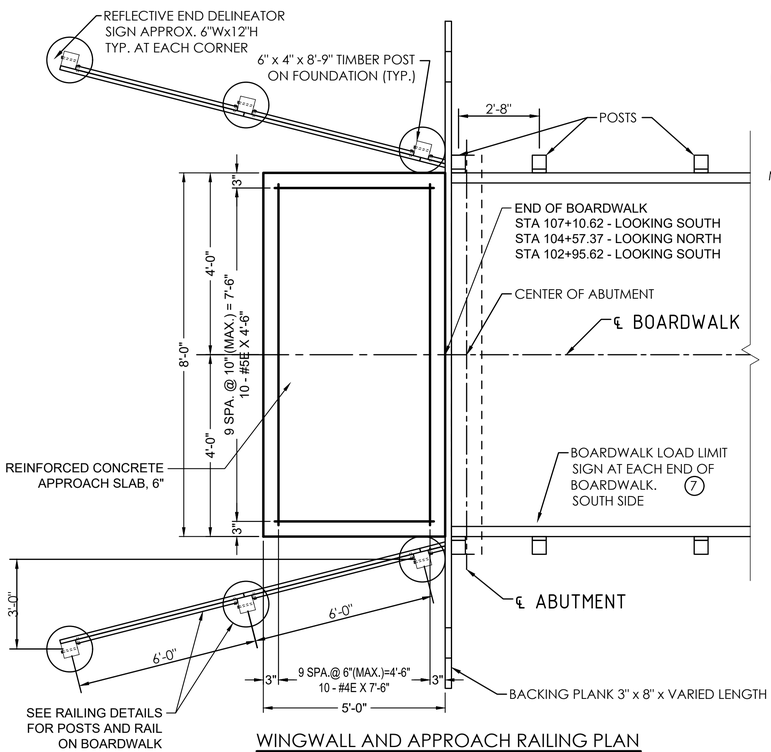
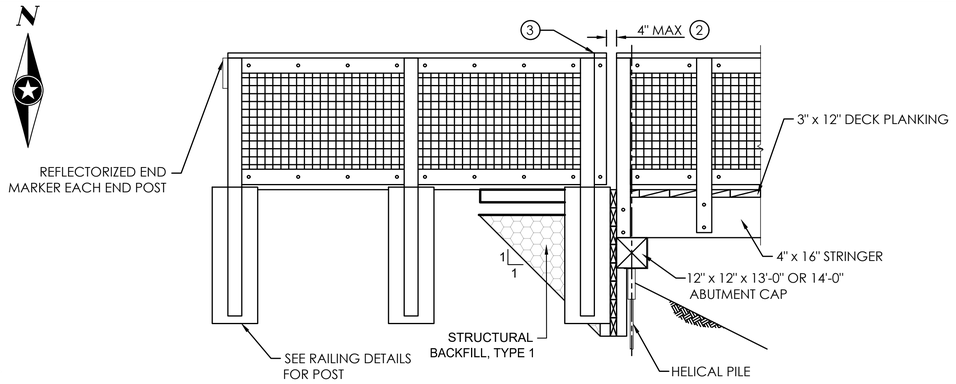
VERTICAL SCALE	DESIGNATION
- - -	1173597
SURVEY BOOK	SHEETS
	35 of 44
CONTRACT	PROJECT
R-34603	1173597

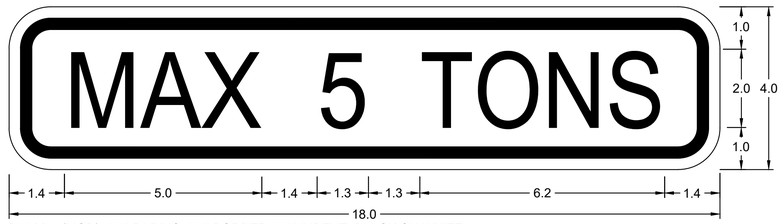


WINGWALL AND APPROACH RAILING PLAN

WEST SHOWN EAST SIMILAR

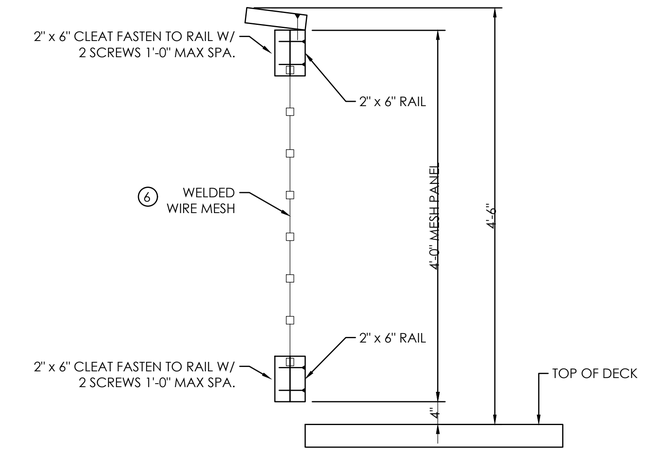


APPROACH RAILING ELEVATION ②③

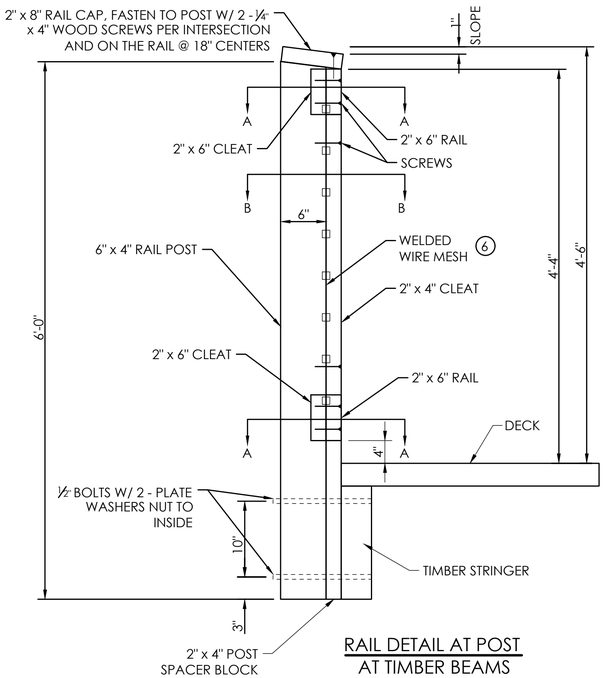


R12-X1a (MOD); 1.0" RADIUS, 0.3" BORDER, 0.3" INDENT, BLACK ON WHITE;
"MAX 5 TONS" D 67% SPACING;
TABLE OF LETTER AND OBJECT LEFTS.

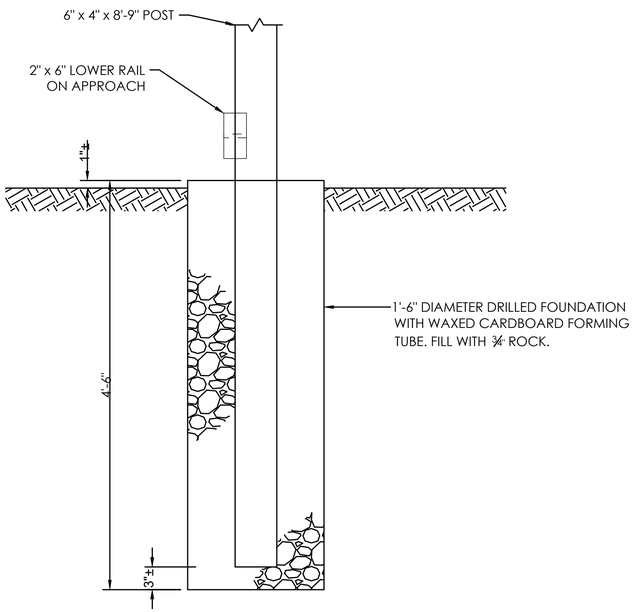
M	A	X	5	T	O	N	S
1.4	3.2	5.1	7.8	10.4	11.9	13.6	15.3



RAIL SECTION AT MESH PANEL 4'-6" HIGH



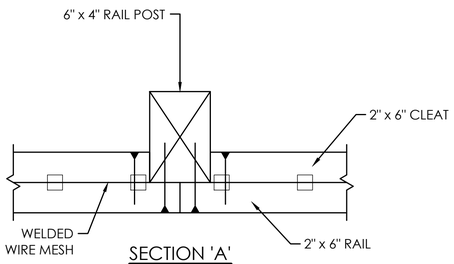
RAIL DETAIL AT POST AT TIMBER BEAMS



RAIL POST FOOTING AT APPROACHES

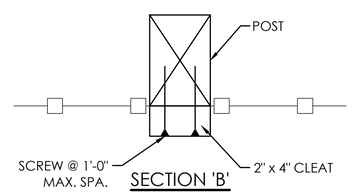
BOARDWALK LOAD LIMIT SIGN

2 REQUIRED



SECTION 'A'

PLAN VIEW
RAIL POST CONNECTION



SECTION 'B'

PLAN VIEW
MID POST CONNECTION

NOTES:

1. TIMBER DIMENSIONS SHOWN ARE NOMINAL. CONTRACTOR SHALL VERIFY NECESSARY TIMBER DIMENSIONS.
2. ALL GAPS BETWEEN APPROACH AND BRIDGE RAILING SHALL BE LESS THAN 4".
3. TOP ELEVATIONS OF APPROACH RAILING AND BOARDWALK RAILING SHALL MATCH.
4. HOLD-DOWNS SHALL BE GALVANIZED PER ASTM A123. BOLTS/NAILS LISTED ARE BASED ON USE OF THE SIMPSON HTT5 HOLD-DOWNS.
5. CONTRACTOR TO VERIFY LENGTH OF CONNECTORS TO MEET WOOD DIMENSIONS PROVIDED.
6. 2" x 2" x 0.156 GAUGE HOT DIP GALVANIZED WELDED WIRE MESH TRIMMED FLUSH ON ALL FOUR SIDES.
7. BOARDWALK LOAD LIMIT SIGN, SEE SPECIAL PROVISIONS "TIMBER BOARDWALK" ATTACH TO UPPER RAIL WITH 6 - ½" x 2" SS SCREWS WITH WASHERS. (INCIDENTAL TO BOARDWALK)

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS | DRAWN: NWF | CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

BOARDWALK DETAILS
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
- - -	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
- - -	1173597

SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
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SUMMARY OF BRIDGE QUANTITIES

ITEM	CONCRETE				PIPE ROADWAY DRAIN CASTING EXTENSION	PIPE, END BENT PIPE, 6"	RAILING, CONCRETE, PF-1	CONCRETE BRIDGE RAILING TRANSITION, TPF-1	THREADED TIE BAR ASSEMBLY	REINF. BARS	REINF. BARS, EPOXY COATED	THREADED TIE BAR ASSEMBLY, EPOXY COATED	REINF. CONC. BRIDGE APPROACH (6")	TERMINAL JOINT, TYPE HMA	FIELD DRILLED HOLE IN CONCRETE	FIELD DRILLED HOLE	BRIDGE EXPANSION JOINT, PCF	GRATES, BASINS AND FITTINGS, CAST IRON	STRUCTURE BACKFILL TYPE 1	GEOTEXTILE FOR UNDERDRAIN, TYPE 2B	GEOTEXTILE FOR PAVEMENT, TYPE 2B	COMPACTED AGGREGATE, NO 53	SUBGRADE TREATMENT, TYPE II	RIPRAP, CLASS 1	RIPRAP, CLASS 2	GEOTEXTILE FOR RIPRAP, TYPE 1A	REVETMENT RIPRAP	SURFACE SEAL*	PRE-ENGINEERED STEEL TRUSS BRIDGE	HELICAL PILING (5" DIA. x 1/4" STEEL THICKNESS)	SHEAR STUD CONNECTORS
	CLASS C	CLASS A	CLASS B																											
	SUPERSTR.	SUBSTR.	ABOVE FTG.	IN FTG.																										
	CYS	CYS	CYS	CYS	EACH	LFT	LFT	EACH	EACH	LBS	LBS	EACH	SYS	LFT	EACH	EACH	LFT	EACH	CYS	SYS	SYS	CYS	SYS	TON	TON	SYS	TONS	SFT	EACH	LFT	EACH
BENT NO. 1		13.0									2230															139.7	130.4			420	
BENT NO. 2		7.0									760															88.4	82.5			350	
BENT NO. 3		15.0									1180															170.8	158.4			350	
BENT NO. 4		12.0									1030															108.2	101.0			350	
SUPERSTRUCTURE																													2		
REINFORCED CONCRETE BRIDGE APPROACH, 6IN - BENT NO. 1											100		5						26.4			0.83	6.70								
REINFORCED CONCRETE BRIDGE APPROACH, 6IN																			4.38			0.83	6.70								
REINFORCED CONCRETE BRIDGE APPROACH, 6IN																			4.42			0.83	6.70								
REINFORCED CONCRETE BRIDGE APPROACH, 6IN																			4.41			0.83	6.70								
TIMBER BOARDWALK											300		13																	463	
TOTALS		47									5600		18						39.61			3.32	26.80			507.10	472.30		2	1933	

SEH of Indiana
931 Ridge Road, Suite E
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Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER — PETER W. STEPANOVIC

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS | DRAWN: NWF

CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE SUMMARY OF QUANTITIES
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
NONE	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
R-34603	1173597

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION		DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH	LENGTH	HMA FOR SIDEWALK		SIDEWALK, CONCRETE 6"	SIDEWALK, CONCRETE, DECORATIVE	SAWCUT	MILLING		HMA FOR ROADWAY		HMA FOR APPROACHES			PATCH, FULL DEPTH HMA PAVEMENT, TYPE B	TACK COAT	GEOTEXTILE FOR PAVEMENT, TYPE 1A	COMPACTED AGGREGATE FOR BASE NO. 53		COMPACTED AGGREGATE FOR SHOULDER NO. 53	SUBGRADE TREATMENT		RIBBON CURB, CONCRETE, 12 IN.	CURB AND GUTTER, CONCRETE, MODIFIED	PCCP FOR DRIVEWAYS, 9"	SODDING	TOPSOIL	CURB RAMP	CURB RAMP DECORATIVE	DETECTABLE WARNING SURFACES	CURB AND GUTTER REMOVAL	SIDEWALK CONCRETE REMOVAL	REMARKS
					SURFACE TYPE B	INTERMD TYPE B				DEPTH		SURFACE TYPE B	SURFACE TYPE C	SURFACE TYPE B	INTERMD TYPE B	BASE TYPE B				DEPTH			TYPE												
					LBS PER SYD							LBS PER SYD		LBS PER SYD																				
					165	275				1.5"	2.0"	165	220	165	275	800				4"	6"		IC	III										
Begin Station	End Station		FT	FT	TONS	TONS	SYS.	SYS.	LFT.	SYS	SYS	TONS	TONS				TONS	TONS	SYS	CYS	CYS	TONS	SYS	SYS	LFT.	LFT.	SYS.	SYS.	CYS.	SYS	SYS	SYS	LFT.	SYS.	
Line "A"																																			
100+00.00	100+25.00	HMA Sidewalk	9	25.00	2.06	3.44												0.01	27.78		4.63		36.11												
100+25.00	101+47.71	HMA Sidewalk	8	122.71	9.00	15.00												0.05	122.71		20.45		163.61												
101+53.50	102+63.50	Bridge	8	110.00																															
102+63.62	102+95.62	Boardwalk	8	32.00																															
103+00.62	104+52.37	HMA Sidewalk	8	151.75	11.13	18.55												0.07	151.75		25.29		202.33												
104+57.37	105+37.37	Boardwalk	8	80.00																															
105+37.50	106+47.50	Bridge	8	110.00																															
106+47.62	107+10.62	Boardwalk	8	63.00																															
107+15.62	109+09.15	HMA Sidewalk	8	193.53	14.19	23.65												0.09	193.53		32.25		258.04												
109+09.15	109+49.42	HMA Sidewalk	7	40.27	2.58	4.31												0.02	35.80		5.97		49.22												
109+49.42	109+65.06	HMA Sidewalk	6	15.64	0.86	1.43												0.01	12.16		2.03		17.38												
109+65.06	109+83.69	PCC Sidewalk	6	18.63			12.42												14.49		2.42		20.70			18				9.5		1.1	18		
Line "B"																																			
200+38.62	212+01.77	HMA Sidewalk	12	1163.15	127.95	213.24												0.78	1680.11		280.02		2067.82												
					167.77	**279.62**	**12.42**											**1.02**	**2238.32**		**373.05**		**2815.22**			**18.00**				**9.50**		**1.10**	**18.00**		

STRUCTURE DATA

STRUCTURE NUMBER	LOCATION: STATION	LOCATION: LEFT	LOCATION: CROSS	LOCATION: RIGHT	SIZE (IN.)	PIPE TYPE	MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE AND TYPE	LENGTH (LFT)	SKEW	COVER MIN (FT)	COVER MAX (FT)	FLOW LINE UP STREAM (ELEV.)	FLOW LINE DOWN STREAM (ELEV.)	SERVICE LIFE (YR)	SITE DESIGNATION	pH	BACKFILL METHOD	STRUCTURE BACKFILL TYPE	STRUCTURE BACKFILL CYS	REVETMENT RIPRAP (TONS)	GEOTEXTILE FOR RIPRAP, TYPE 1A (SYS)	VIDEO INSPECTION (LFT)	PIPE END SECTION (EA.)	GRATED BOX END SECTION TYPE	GRATED BOX END SECTION SLOPE	GRATED BOX END SECTION EA.	SAFETY METAL END SECTION TYPE	SAFETY METAL END SECTION SLOPE	SAFETY METAL END SECTION EA.		REMARKS
	LINE "A"																														
1	108+50.00		X		15	2	END SECTION	14	N/A	1.2	1.2	604.32	603.8	75		6.5	N/A			2.7	2.9		2								

SHEET SIGN & POST SUMMARY

SIGN						POST										
PLAN SHEET NO. / LINE	SIGN LOCATION (STA.)	SIGN CODE	SIGN SIZE (IN. x IN.)			GROUND - MOUNTED SIGN AREA (ft^2)			SQUARE							
									2 1/2" X 2 1/2" - 12 GA. (TYPE 3)			2" X 2" - 12 GA. (TYPE 2)			2 1/4" X 2 1/4" - 12 GA. (TYPE 1)	
									UNREINFORCED ANCHOR			REINFORCED ANCHOR			REINFORCED ANCHOR	
						0.080"	0.100"	0.125"	POST LENGTH (FT.)			POST LENGTH (FT.)			POST LENGTH (FT.)	
									1	2	TOTAL	1	2	TOTAL	1	TOTAL
8	107+11 RT	W5-4a	18	X	18	2.25									10.5	10.5
11	211+98.5 RT	R1-1	18	X	18	2.25									10.5	10.5
					TOTAL	5.00	0.00	0.00						0.0		21.0

PIPE MATERIAL TABLE

			STRUCTURE NUMBER: 1
INT. DE	PIPE TYPE / SHAPE (CIRC or DEF)		CIR
	SMOOTH PIPE SIZE		15
	CORRUGATED PIPE SIZE		-
	SEMI-SMOOTH PIPE SIZE		-
CONC.	RCP / RCHEP (S)	CLASS	II
		$D_{0.01}$ RATING	1000
	NON-REINFORCED CONCRETE PIPE, CLASS 3 (S)		
PLASTIC PIPE	CORRUGATED PE PIPE, TYPE S (S) *		
	PROFILE WALL (RIBBED) PE PIPE (S) *		
	PROFILE WALL (CLOSED) PE PIPE (S) *		
	SMOOTH WALL PE PIPE (S) / MAXIMUM DR		
	COURRUGATED PP PIPE (S)		
	PROFILE WALL PVC PIPE (S)		
	SMOOTH WALL PVC PIPE (S)		
CLAY	VITRIFIED CLAY PIPE, EXTRA STRENGTH (S)		
CORRUGATED STEEL PIPE / PIPE ARCH	FULLY BIT. PAVED & LINED (S)	CORR. PROFILE	
		THICKNESS	
	ZINC COATED (C)	CORR. PROFILE	
		THICKNESS	
	ZINC COATED W/ BPI (LS)	CORR. PROFILE	
		THICKNESS	
	ALUM. COATED TYPE 2 (C)	CORR. PROFILE	
		THICKNESS	
	ALUM. COATED TYPE 2 W/ BPI (C) (S) IA OR IIA	CORR. PROFILE	
		THICKNESS	
	POLYMER PRECOATED GALVANIZED (C)	CORR. PROFILE	
		THICKNESS	
	POLYMER PRECOATED GALVANIZED (S) IA OR IIIA	CORR. PROFILE	
		THICKNESS	
COR. ALUM. PIPE/P-ARCH	CORRUGATED ALUM. ALLOY PIPE W/ BPI	CORR. PROFILE	
		THICKNESS	
	CORRUGATED ALUM. ALLOY PIPE (C)	CORR. PROFILE	
		THICKNESS	
SPIRAL RIB STEEL PIPE	STR. PLATE ALUMINUM ALLOY PIPE (C)	CORR. PROFILE	
		THICKNESS	
	STR. PLATE ALUMINUM ALLOY PIPE W/ BPI (C)	CORR. PROFILE	
		THICKNESS	
	STR. PLATE STEEL PIPE (C)	CORR. PROFILE	
		THICKNESS	
	STR. PLATE STEEL PIPE W/ CFP (C)	CORR. PROFILE	
		THICKNESS	

LEGEND

PIPE MATERIAL
- RCP REINFORCED CONCRETE PIPE
- RCHEP REINFORCED ELLIPTICAL CONCRETE PIPE
- PE POLYETHYLENE
- DR DIMENSION RATIO
- PVC POLYVINYL CHLORIDE
- PP POLYPROPYLENE
- CORR CORRUGATION
- ALUM ALUMINUM
- STR STRUCTURAL
- (LS) LOCK SEAM PIPE REQUIRED

PIPE PROTECTION
- BPI BITUMINOUS PAVED INSERT
- CFP CONCRETE FIELD PAVING
- BIT BITUMINOUS

SHAPE
- CIR CIRCULAR PIPE
- DEF DEFORMED PIPE

INTERIOR DESIGNATION
- (S) SMOOTH PIPE MATERIAL
- (C) CORRUGATED PIPE MATERIAL
- (SS) SEMI-SMOOTH PIPE MATERIAL

PIPE SIZE
CIRCULAR PIPE IS SHOWN AS DIAMETER IN INCHES
DEFORMED PIPE IS SHOWN AS AREA IN SQUARE FEET

* REFER TO STANDARD DRAWINGS 715-PHCL-20 THROUGH -22 FOR NOMINAL DIAMETER APPROPRIATE FOR PAY ITEM DIAMETER.

* TABULATED THICKNESS REFERS TO TOP AND SIDE PLATES. FOR PIPES AND PIPE-ARCHES WITH A THICKNESS LESS THAN .280 IN., BOTTOM PLATES SHALL BE OF NEXT GREATER AVAILABLE THICKNESS.

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER — LEIGH L. PITTS

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE: 1/30/2025

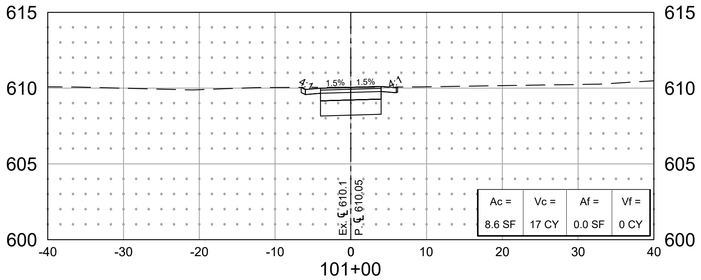
DESIGNED: PWS | DRAWN: NWF | CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

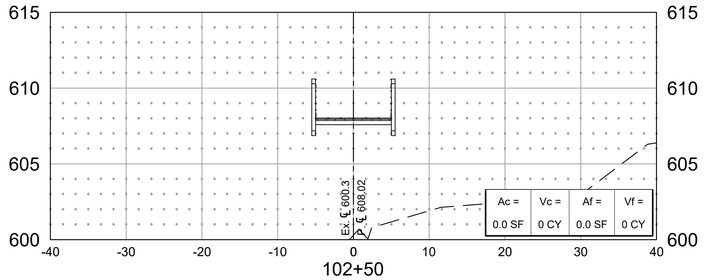
SUMMARY OF QUANTITIES AND APPROACH TABLE
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
NONE	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
NONE	1173597

SURVEY BOOK	SHEETS
	38 of 44
CONTRACT	PROJECT
R-34603	1173597



101+00



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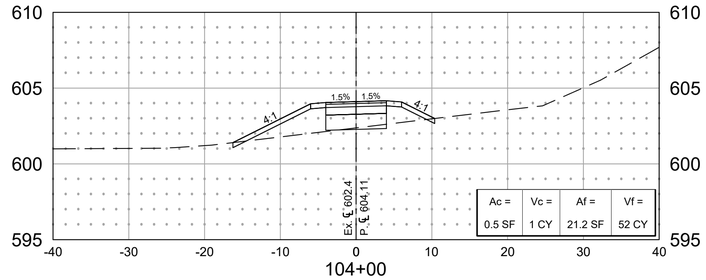

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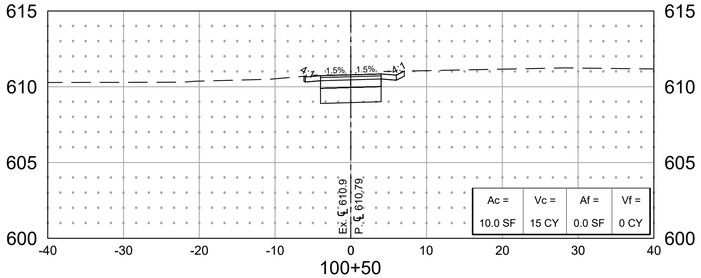

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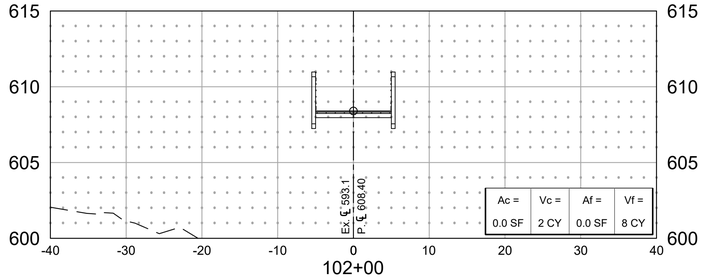

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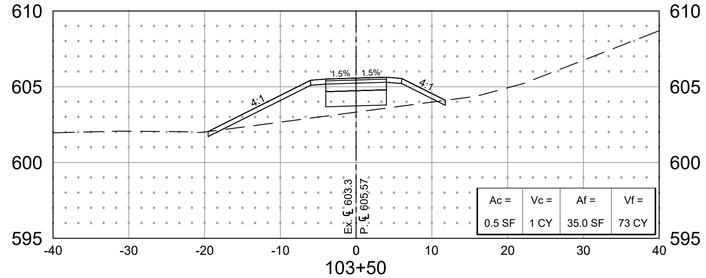

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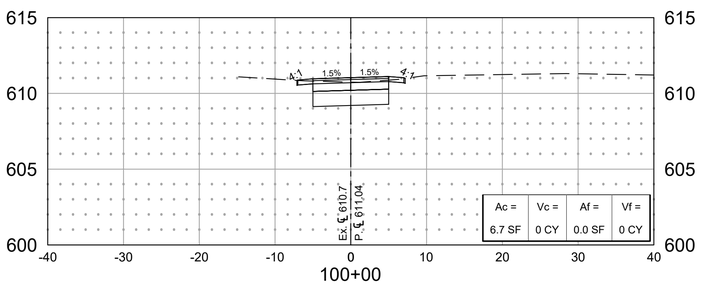

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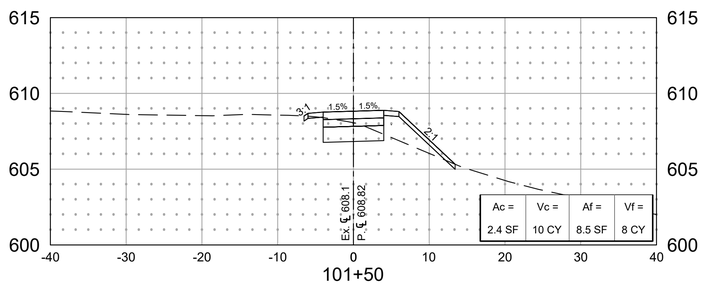
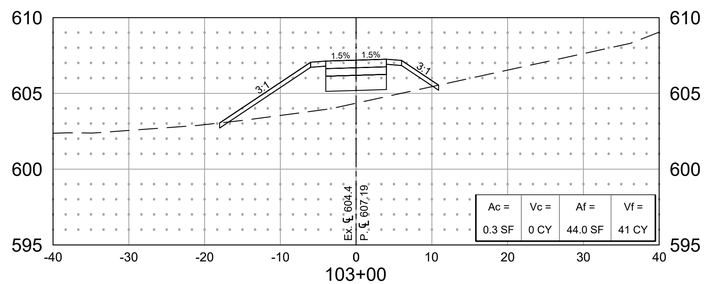


101+50



103+00

SEH of Indiana
931 Ridge Road, Suite E
Munster, Indiana 46321
Phone: 219.513.2500

REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 1/30/2025 DATE

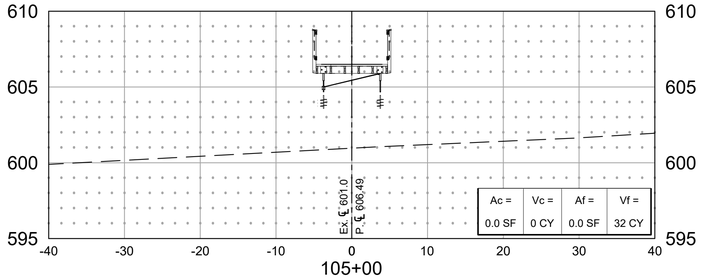
DESIGNED: PWS | DRAWN: NWF

CHECKED: JED | CHECKED: GRP

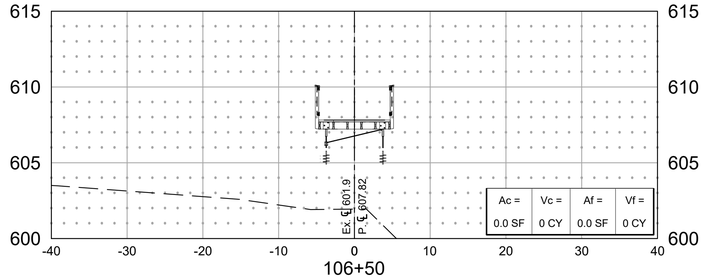
INDIANA DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS - LINE "A"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597
SURVEY BOOK	SHEETS
	39 of 44
CONTRACT	PROJECT
R-34603	1173597



105+00



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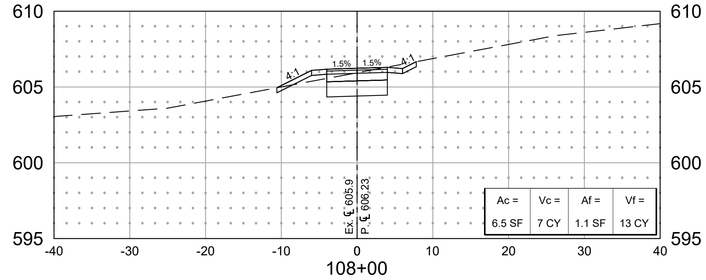
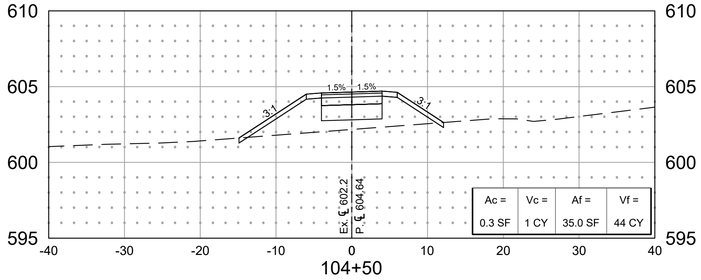
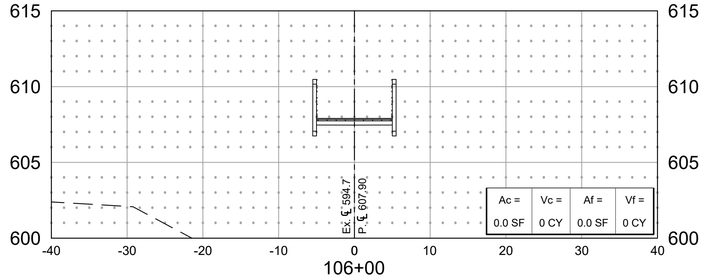


108+00



104+50



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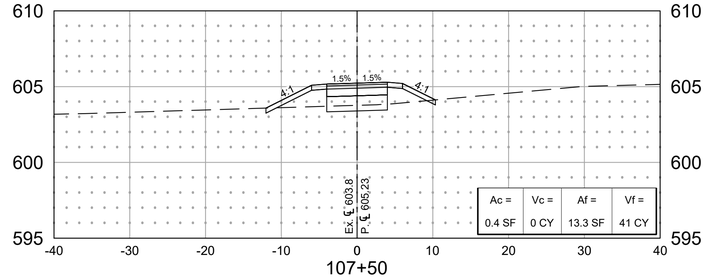

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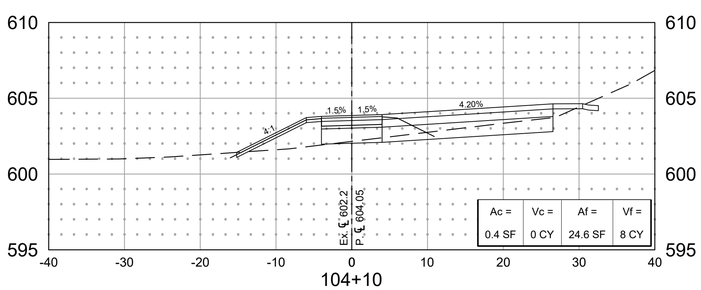

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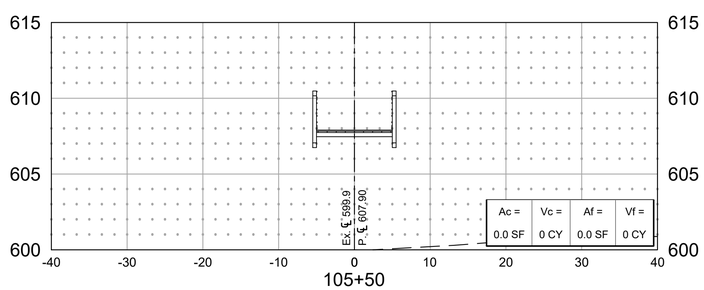

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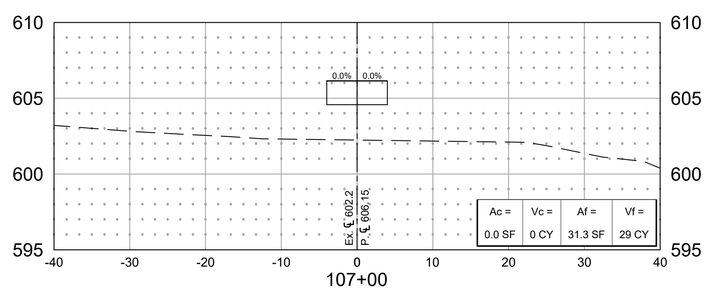

107+00

SEH of Indiana
931 Ridge Road, Suite E
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REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER — GLENN R. PETERSEN

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER — 1/30/2025 DATE

DESIGNED: PWS | DRAWN: NWF

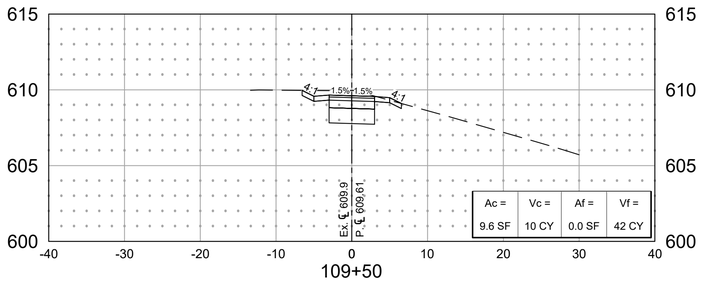
CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS - LINE "A"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597

SURVEY BOOK	SHEETS
	40 of 44
CONTRACT	PROJECT
R-34603	1173597



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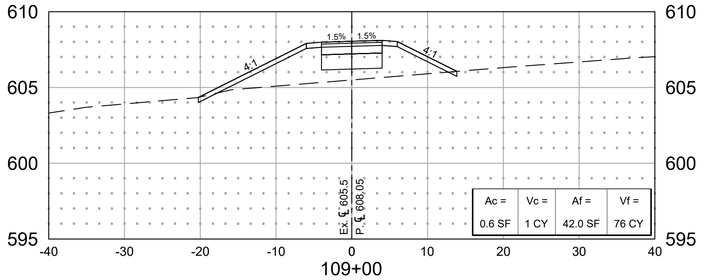

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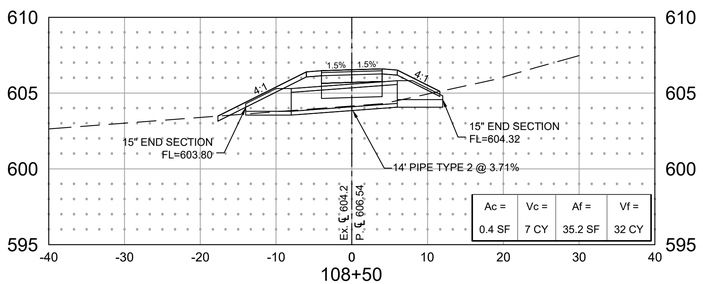

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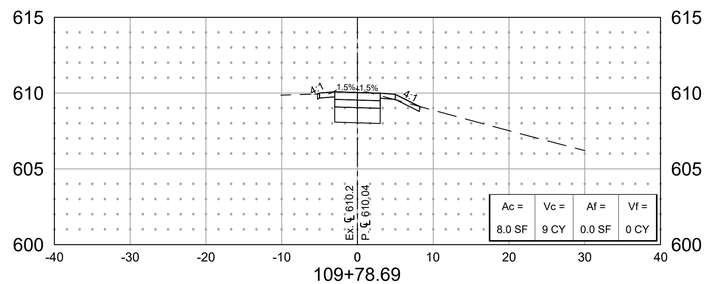

109+78.69

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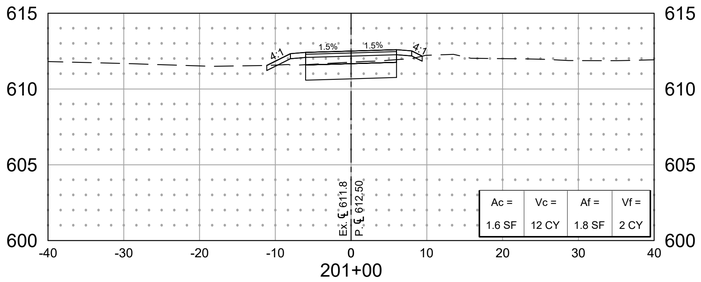
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597

SURVEY BOOK	SHEETS
	41 of 44
CONTRACT	PROJECT
R-34603	1173597



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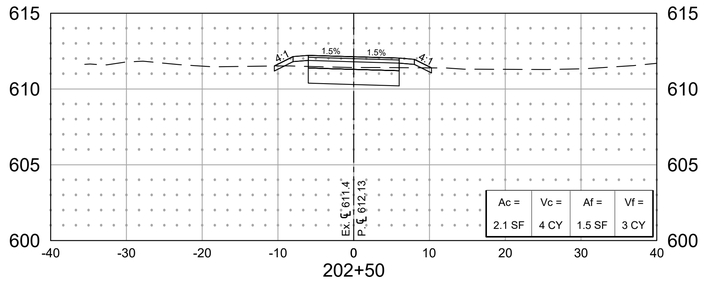

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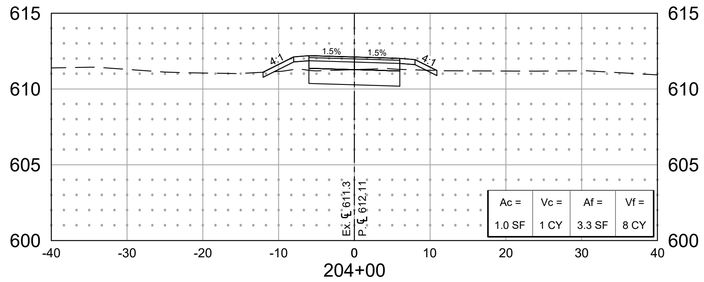

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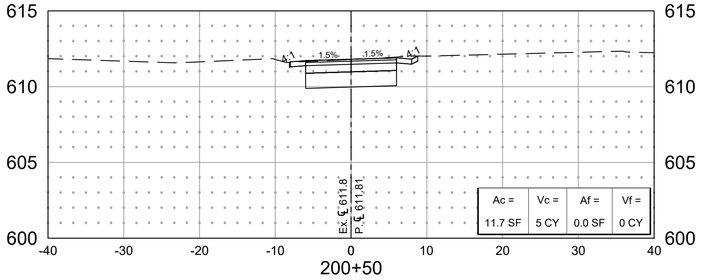

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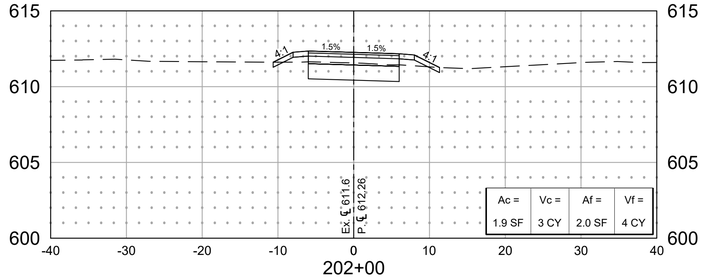

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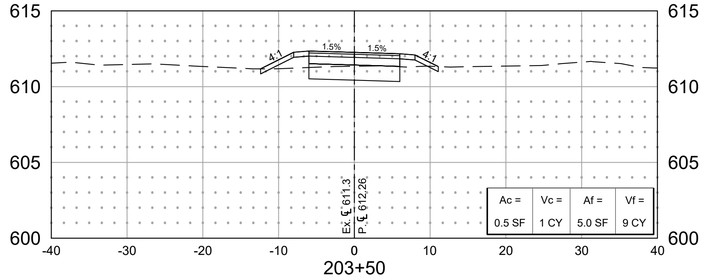

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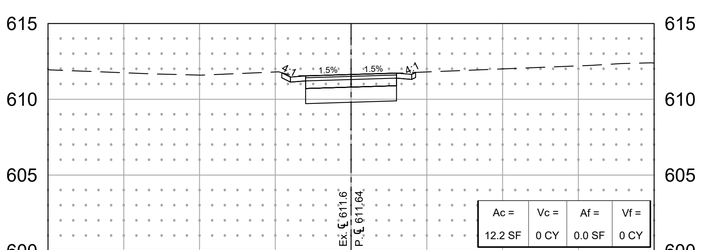

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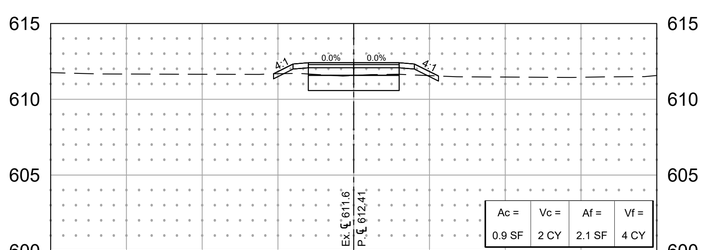

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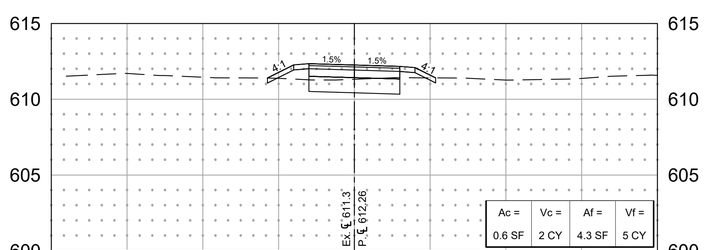

203+00

SEH of Indiana
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REGISTERED NO. 11700767 STATE OF INDIANA PROFESSIONAL ENGINEER

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DESIGNED: PWS | DRAWN: NWF

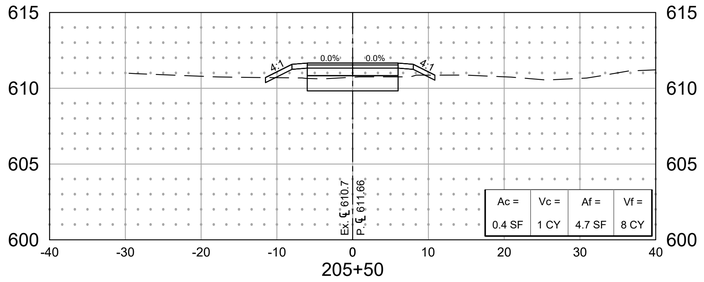
CHECKED: JED | CHECKED: GRP

INDIANA DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS - LINE "B"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597

SURVEY BOOK	SHEETS
	42 of 44
CONTRACT	PROJECT
R-34603	1173597



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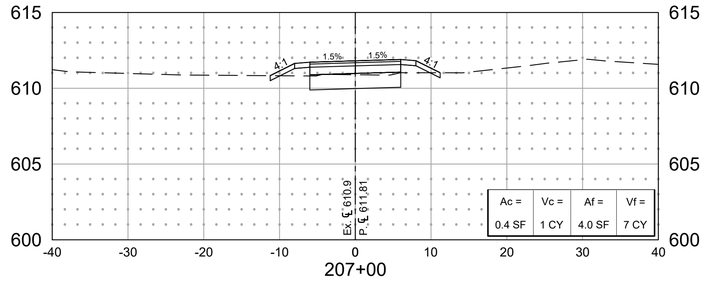

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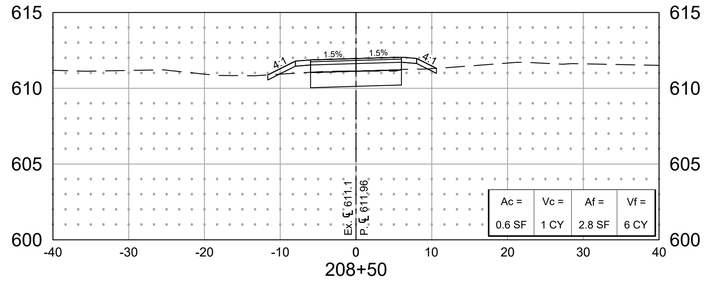

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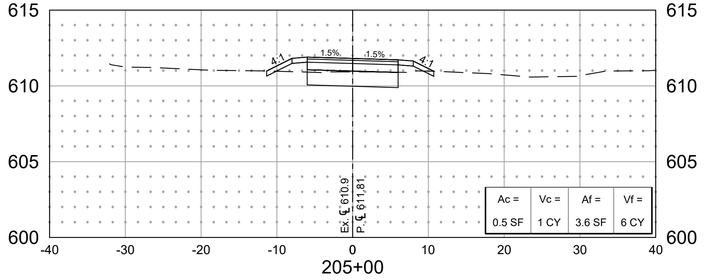

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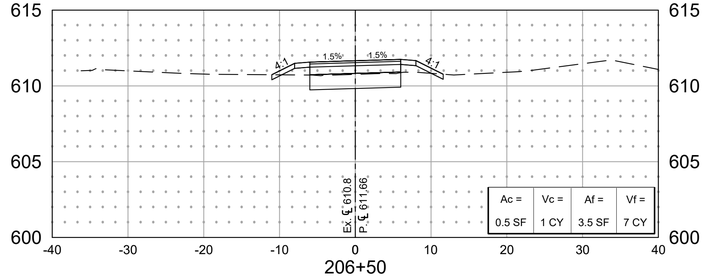

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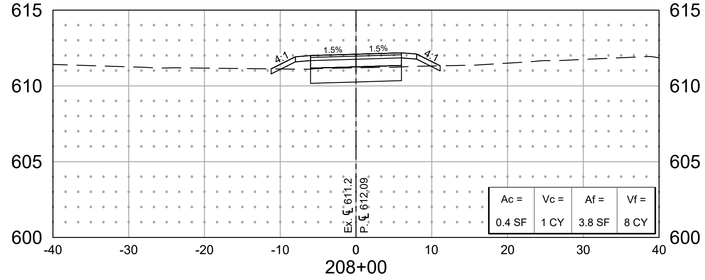

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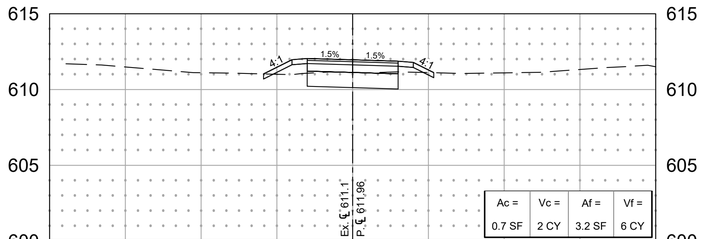

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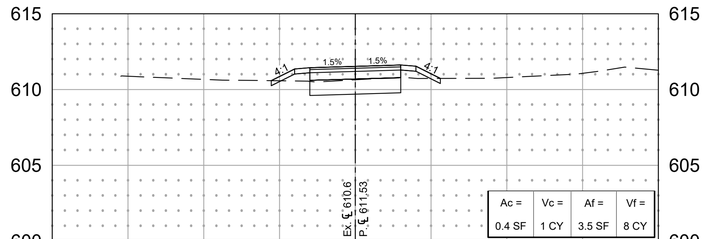

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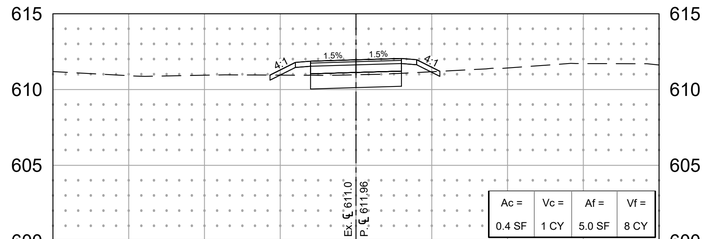

207+50

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DESIGN ENGINEER — 1/30/2025 DATE

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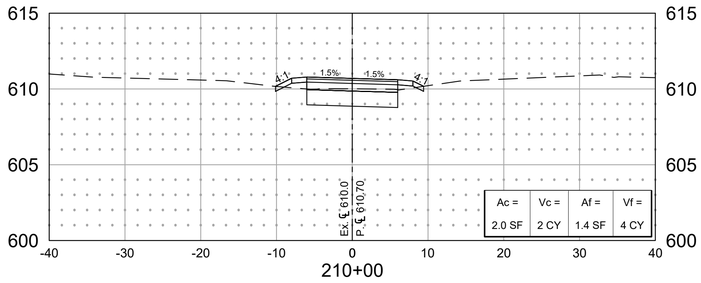
INDIANA DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS - LINE "B"
MUNSTER - HIGHLAND CONNECTOR

HORIZONTAL SCALE	BRIDGE FILE
1" = 10'	MUNST-00001 & HIGHL-00001
VERTICAL SCALE	DESIGNATION
1" = 5'	1173597

SURVEY BOOK	SHEETS
	43 of 44
CONTRACT	PROJECT
R-34603	1173597



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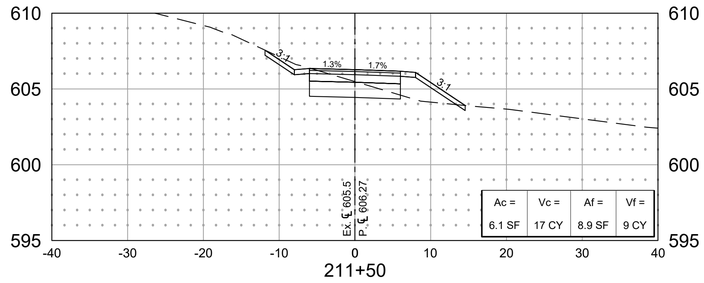

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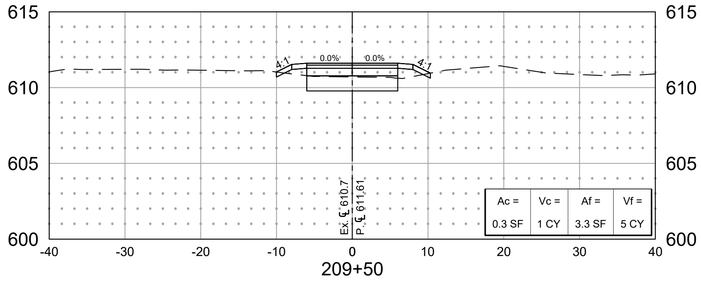

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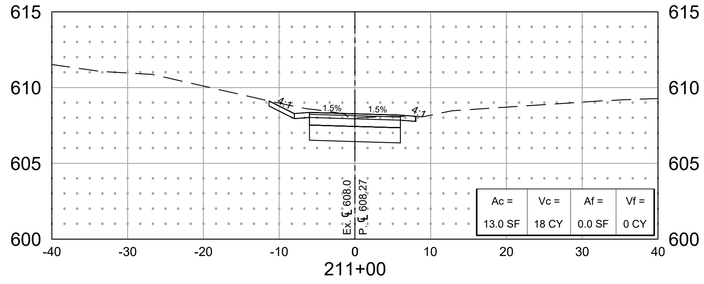

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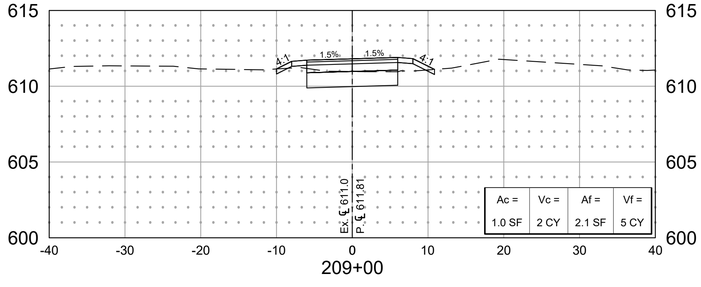

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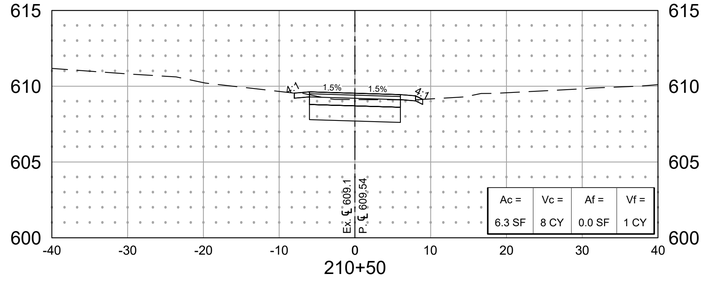

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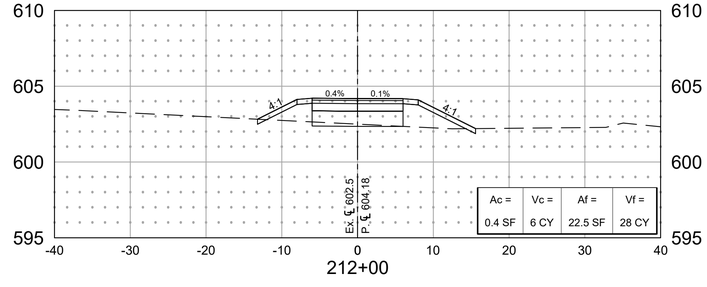

212+00

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	44 of 44
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