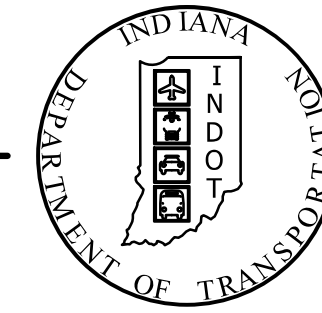


PROJECT	DESIGNATION
1700048	1700047
CONTRACT	BRIDGE FILE
R-40409	CV 058-047-90.45

INDIANA DEPARTMENT OF TRANSPORTATION



STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
CV 058-047-90.45	PRECAST REINFORCED CONCRETE BOX	SPAN: 6' SKEW: 45°	UNNAMED TRIBUTARY TO LEATHERWOOD CREEK	☐ STRUCTURE STA. 15+00.62 "A"

TRAFFIC DATA		
A.A.D.T.	(2022)	538 V.P.D.
A.A.D.T.	(2042)	570 V.P.D.
D.H.V	(2042)	73 V.P.H.
DIRECTIONAL DISTRIBUTION		39.06 %
TRUCKS		4.53 % A.A.D.T. 12.83 % D.H.V.

DESIGN DATA	
DESIGN SPEED	45 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	MAJOR COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	ROLLING
ACCESS CONTROL	NONE

ROAD PLANS

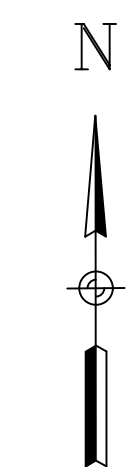
SMALL STRUCTURE REPLACEMENT

ROUTE: SR 58 OVER UNNAMED TRIBUTARY TO LEATHERWOOD CREEK RP: 90+45

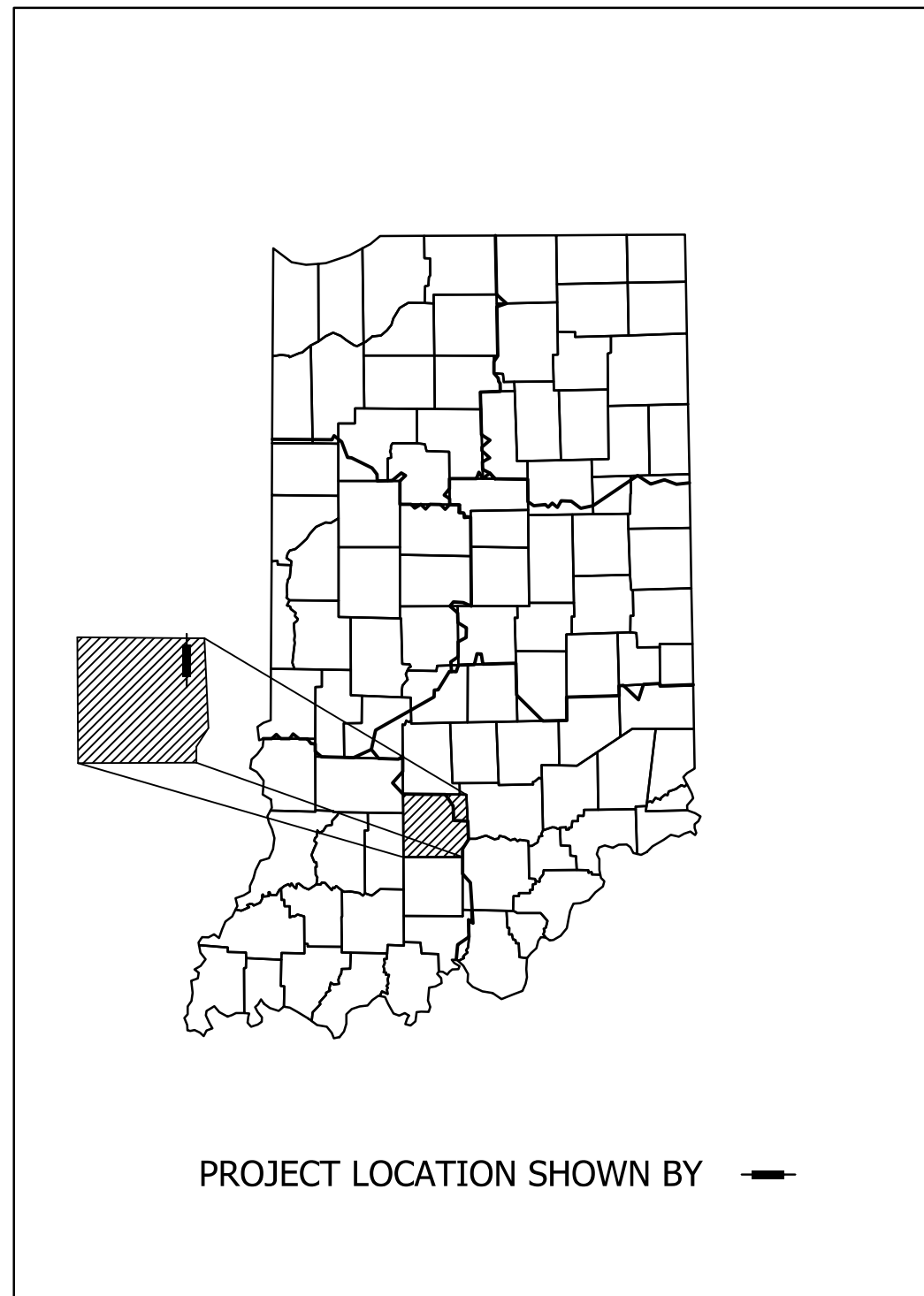
KIN PROJECT INFORMATION			
DES. NO. 1700048 (Lead)	LATITUDE:	38° 57' 33" N	Small Str. Replacement
CV 058-036-102.43	LONGITUDE:	86° 09' 18" W	
DES. NO. 1700045	LATITUDE:	38° 57' 29" N	Small Str. Replacement
CV 058-036-98.96	LONGITUDE:	86° 12' 50" W	
DES. NO. 1700047	LATITUDE:	38° 55' 36" N	Small Str. Replacement
CV 058-047-90.45	LONGITUDE:	86° 20' 24" W	

Small Structure Replacement on SR 58
 Located 1.39 Miles East of SR 446 at Unnamed Tributary to Leatherwood Creek
 all in Section 30, T-6-N, R-2-E, Pleasant Run Township, Lawrence County, Indiana

PROJECT NO. 1700047 P.E.
1700047 R/W
1700047 CONST.



SCALE: 1" = 2000'

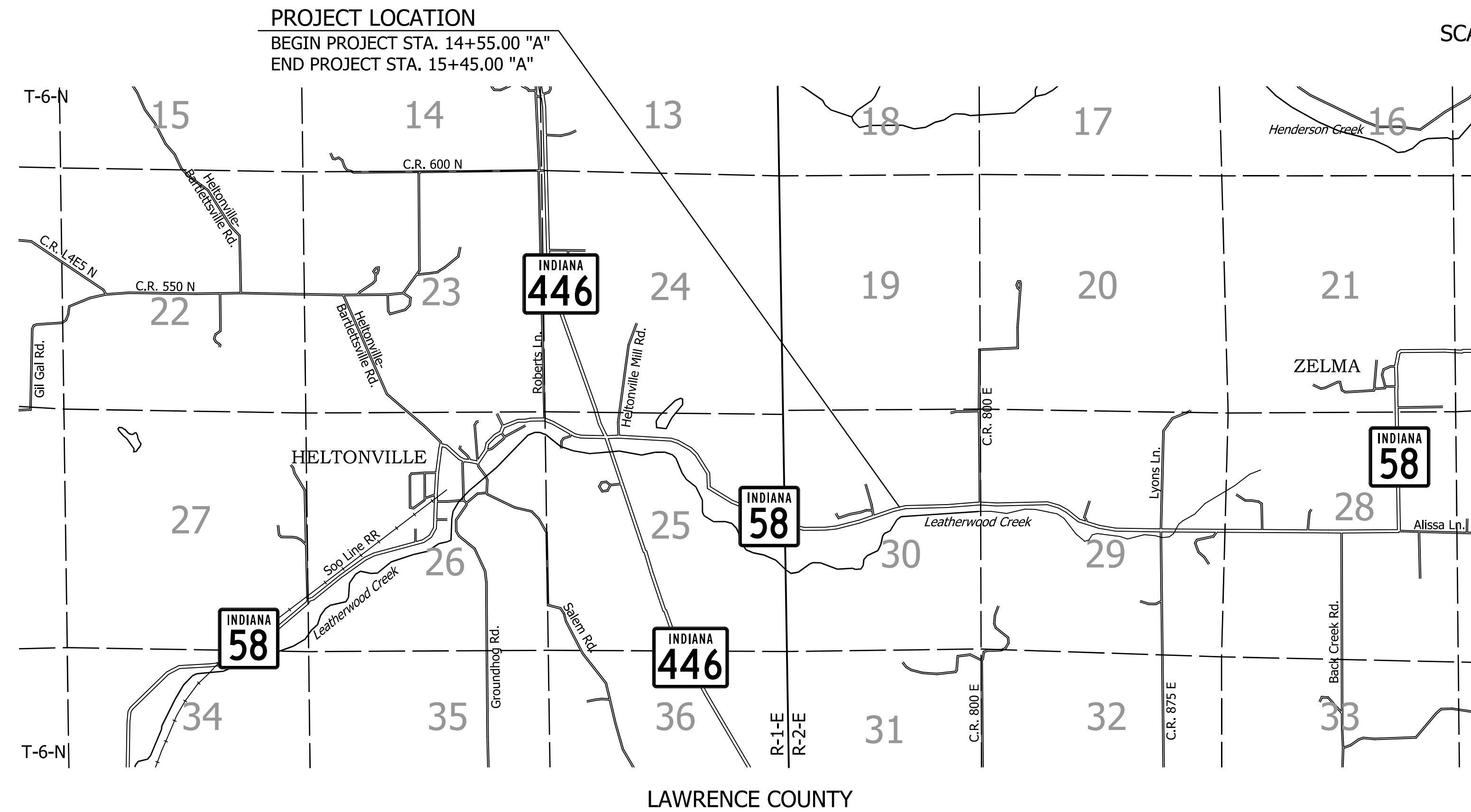


LATITUDE: 38° 55' 36" N LONGITUDE: 86° 20' 24" W

ROADWAY LENGTH:	0.009	MI.
BRIDGE LENGTH:	0	MI.
TOTAL LENGTH:	0.009	MI.
MAX. GRADE:	2.22	%

HUC: 05120208040030

Stage 2 Due:
July 13, 2020



INDIANA DEPARTMENT OF TRANSPORTATION
 STANDARD SPECIFICATIONS DATED 2020
 TO BE USED WITH THESE PLANS



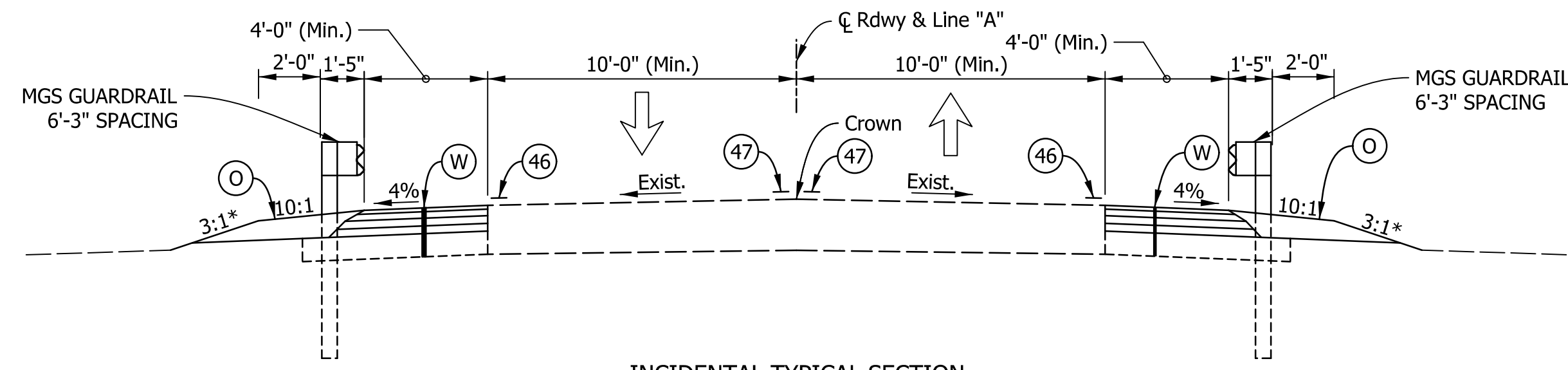
DRAFT

PLANS PREPARED BY:	Beam, Longest & Neff, L.L.C.	(317) 849-5832 PHONE NUMBER
CERTIFIED BY:		DATE
APPROVED FOR LETTING:		DATE

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE FILE	
CV 058-047-90.45	
DESIGNATION	
1700047	
SURVEY BOOK	SHEETS
ELECTRONIC	1 of 18
CONTRACT	PROJECT
R-40409	1700048

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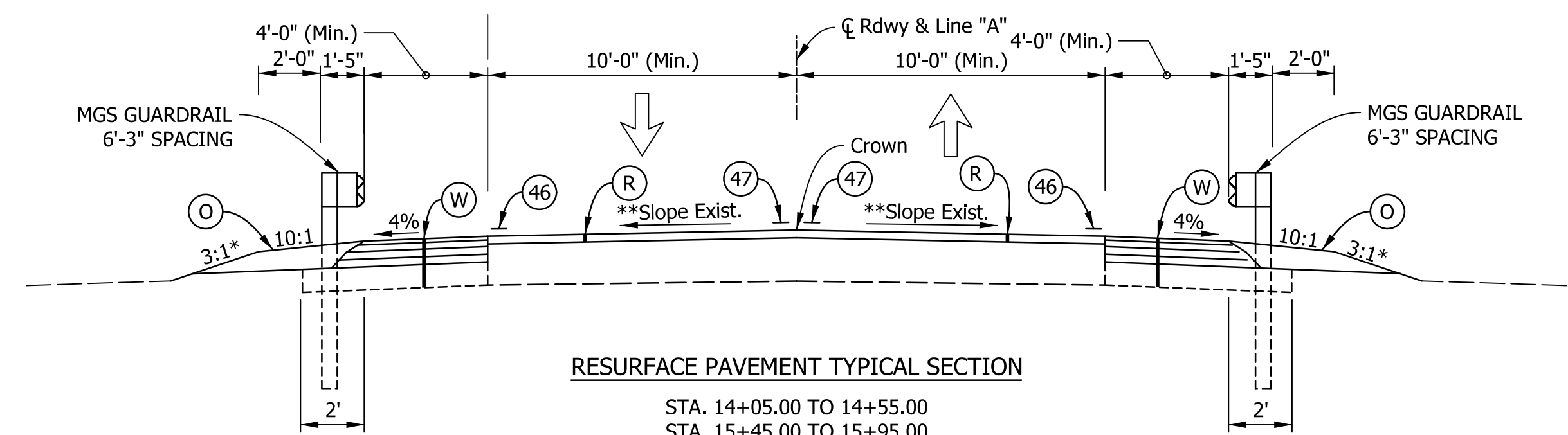
INCIDENTAL TYPICAL SECTION

STA. 13+23.84 TO 14+05.00 RT.
STA. 15+95.00 TO 16+46.32 LT.

Note To Reviewer:
Final Pavement Design will be requested following Stage 2 Submittal.

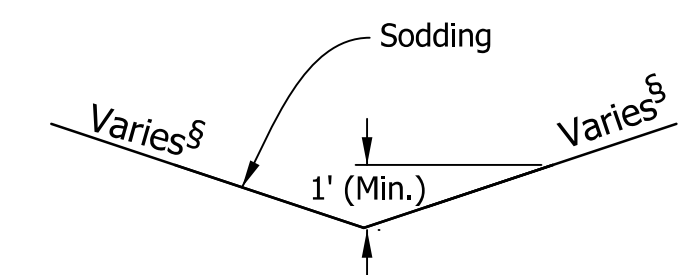
LEGEND

- (K) Full Depth HMA Pavement Consisting of:
165 lb/syd, QC/QA-HMA, 2, 64, Surface 9.5 mm on,
275 lb/syd, QC/QA-HMA, 2, 64, Intermediate 19.00 mm on,
330 lb/syd, QC/QA-HMA, 2, 64, Base 25.0 mm on,
3 in. of Compacted Aggregate No. 53 on,
Subgrade Treatment Type ID
- (R) HMA for Resurface
165 lb/syd, QC/QA-HMA, 2, 64, Surface 9.5 mm on,
Milling, Asphalt, 1.5 in.
- (W) Widening
165 lb/syd, QC/QA-HMA, 2, 64, Surface 9.5 mm on,
Widening with HMA, Type B
(275 lb/syd, HMA Intermediate Type B on,
330 lb/syd, HMA Base) on,
3 in. of Compacted Aggregate No. 53 on,
Subgrade Treatment Type ID
- (O) Compacted Aggregate No. 53
- (46) Line, Thermoplastic, Solid, White, 4 in.
- (47) Line, Thermoplastic, Solid, Yellow, 4 in.

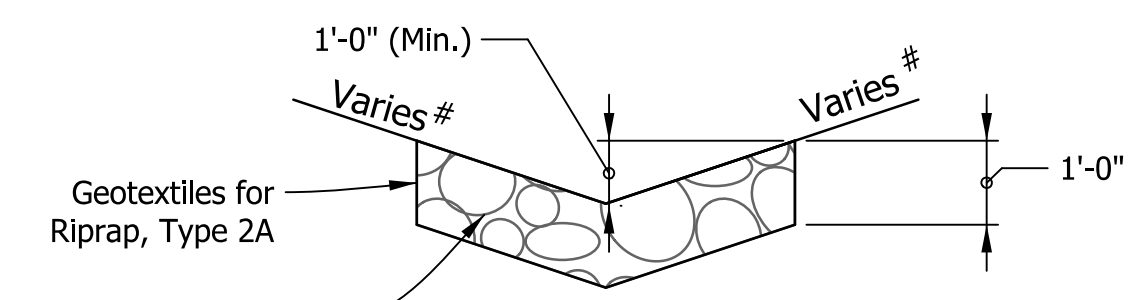


RESURFACE PAVEMENT TYPICAL SECTION

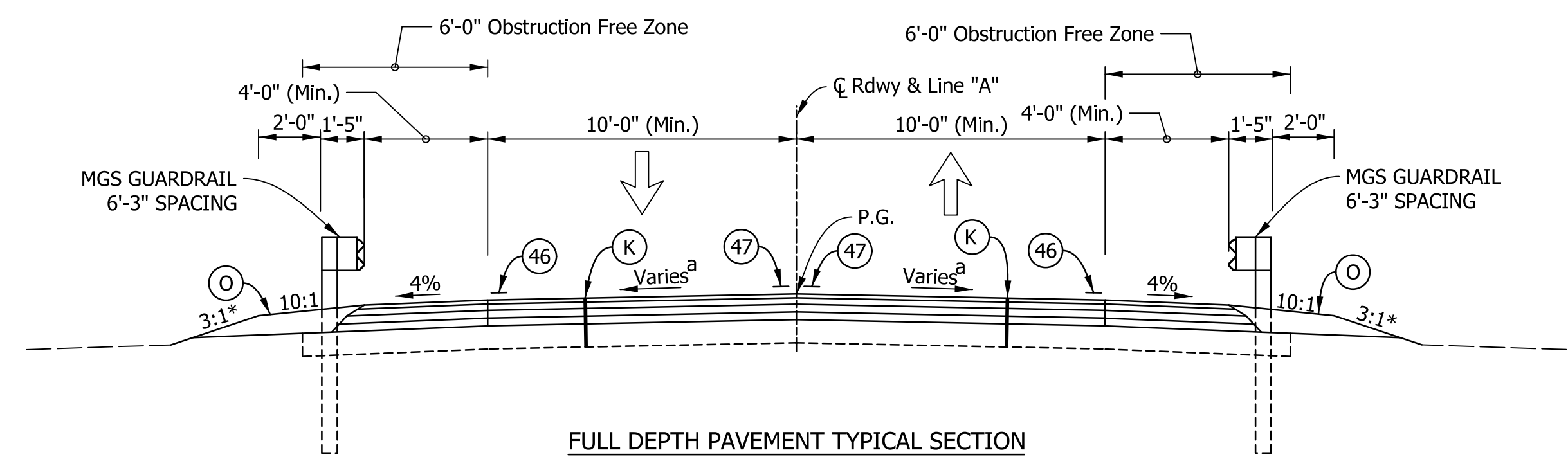
STA. 14+05.00 TO 14+55.00
STA. 15+45.00 TO 15+95.00



TYP. SODDING SIDE DITCH DETAIL
NOT TO SCALE



TYP. RIPRAP V-BOTTOM SIDE DITCH DETAIL
NOT TO SCALE



FULL DEPTH PAVEMENT TYPICAL SECTION

STA. 14+55.00 TO 15+45.00

Notes:
See Standard Drawing for Milling Transition: E 306-TMPT-01
* See Cross Sections for Slopes
** Transition existing cross-slopes to match proposed cross-slopes within Full-Depth pavement limits.

a. See Superelevation Diagram

DRAFT

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: AMP _____	DRAWN: JJP _____	
CHECKED: VGE _____	CHECKED: AMP _____	

INDIANA DEPARTMENT OF TRANSPORTATION	
TYPICAL SECTIONS	

HORIZONTAL SCALE	BRIDGE FILE
1" = 4'	CV 058-047-90.45
VERTICAL SCALE	DESIGNATION
N.A.	1700047
SURVEY BOOK	SHEETS
ELECTRONIC	3 of 18
CONTRACT	PROJECT
R-40409	1700048

12+00

13+00

14+00

15+00

16+00

17+00

18+00

CURVE DATA # 1
 PI = 12+41.45 "A"
 Delta = 3°49'19" Lt.
 R = 2654.62'
 T = 88.57'
 L = 177.08'
 E = 1.48'

CURVE DATA # 2
 PI = 14+49.67 "A"
 Delta = 22°00'37" Rt.
 R = 615.58'
 T = 119.71'
 L = 236.47'
 E = 11.53'

CURVE DATA # 3
 PI = 18+66.28 "A"
 Delta = 4°40'52" Lt.
 R = 3275.30'
 T = 133.87'
 L = 267.59'
 E = 2.73'

Sec. 30, T-6-N, R-2-E
 Pleasant Run Township
 Lawrence County

BEGIN PROJECT
 STA: 14+55.00 "A"
 N: 419277.1513
 E: 832899.7650

END PROJECT
 STA: 15+45.00 "A"
 N: 419281.2804
 E: 832989.5900

BEGIN INCIDENTAL
 STA: 12+31.40 "A"

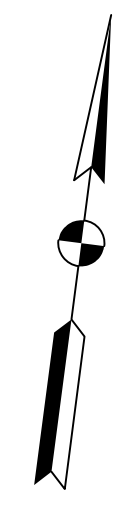
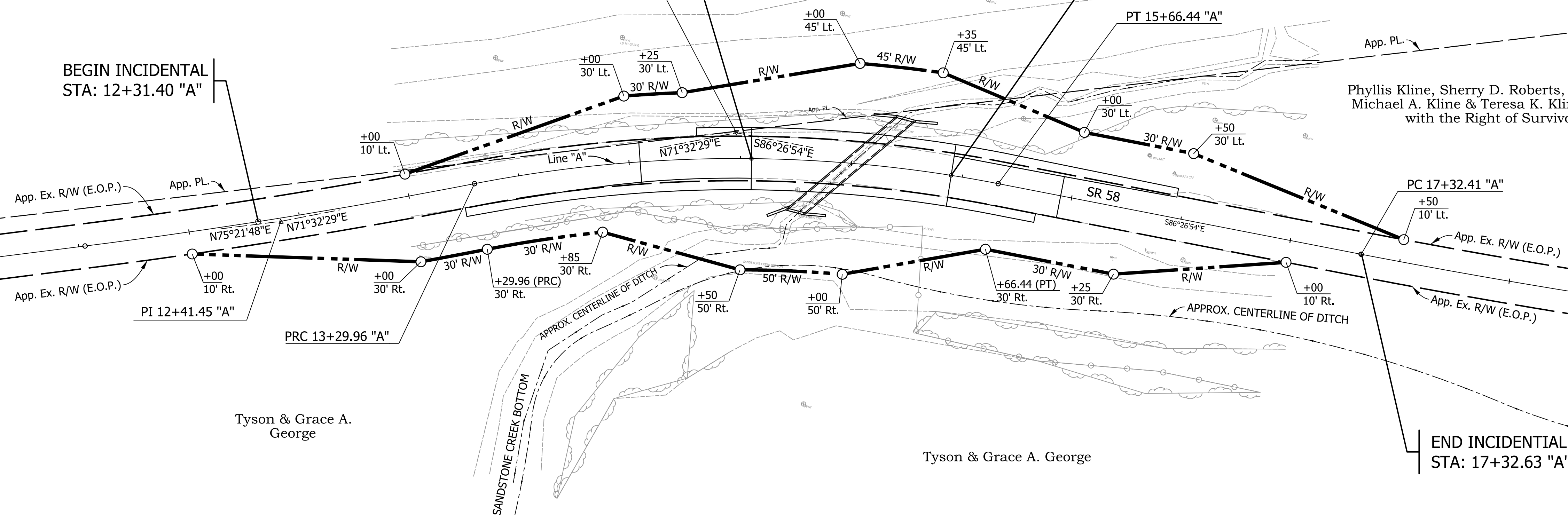
END INCIDENTAL
 STA: 17+32.63 "A"

Nancy Waldon

Tyson & Grace A. George

Tyson & Grace A. George

Phyllis Kline, Sherry D. Roberts, Tony H. Kline,
 Michael A. Kline & Teresa K. Kline as Tenants
 with the Right of Survivorship



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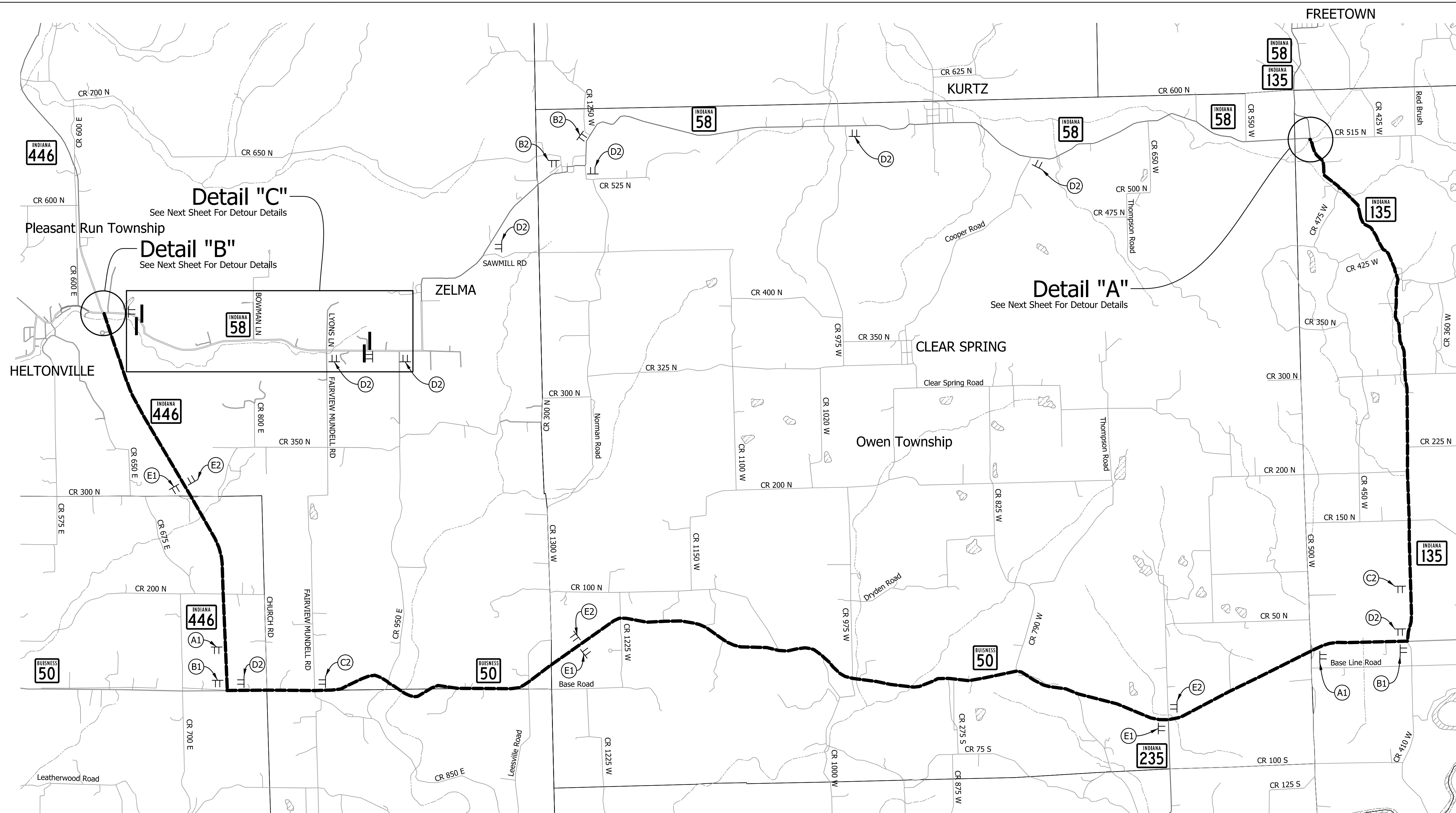
RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: AMP	DRAWN: JJP	
CHECKED: VGE	CHECKED: AMP	

INDIANA DEPARTMENT OF TRANSPORTATION	
SR 58 OVER UNT TO LEATHERWOOD CREEK PLAT #1	

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE CV 058-047-90.45
VERTICAL SCALE N.A.	DESIGNATION 1700047
SURVEY BOOK ELECTRONIC	SHEETS 4 of 18
CONTRACT R-40409	PROJECT 1700048

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- ROAD CLOSED 1000 FT
(K) XW-20-3 (1000)
- ROAD CLOSED 500 FT
(L) XW-20-3 (500)
- DETOUR AHEAD
(M) XW20-2
- ROAD CLOSED AHEAD
(N) XW20-3

DETOUR ROUTE MARKER ASSEMBLIES

- LEGEND**
- Detour Route
 - Road Closure Sign Assembly
 - Barricades Type III-A
 - Barricades Type III-B
 - Construction Sign and Supports
 - Low Intensity Construction Warning Light, Type A
 - High Intensity Construction Warning Light, Type B

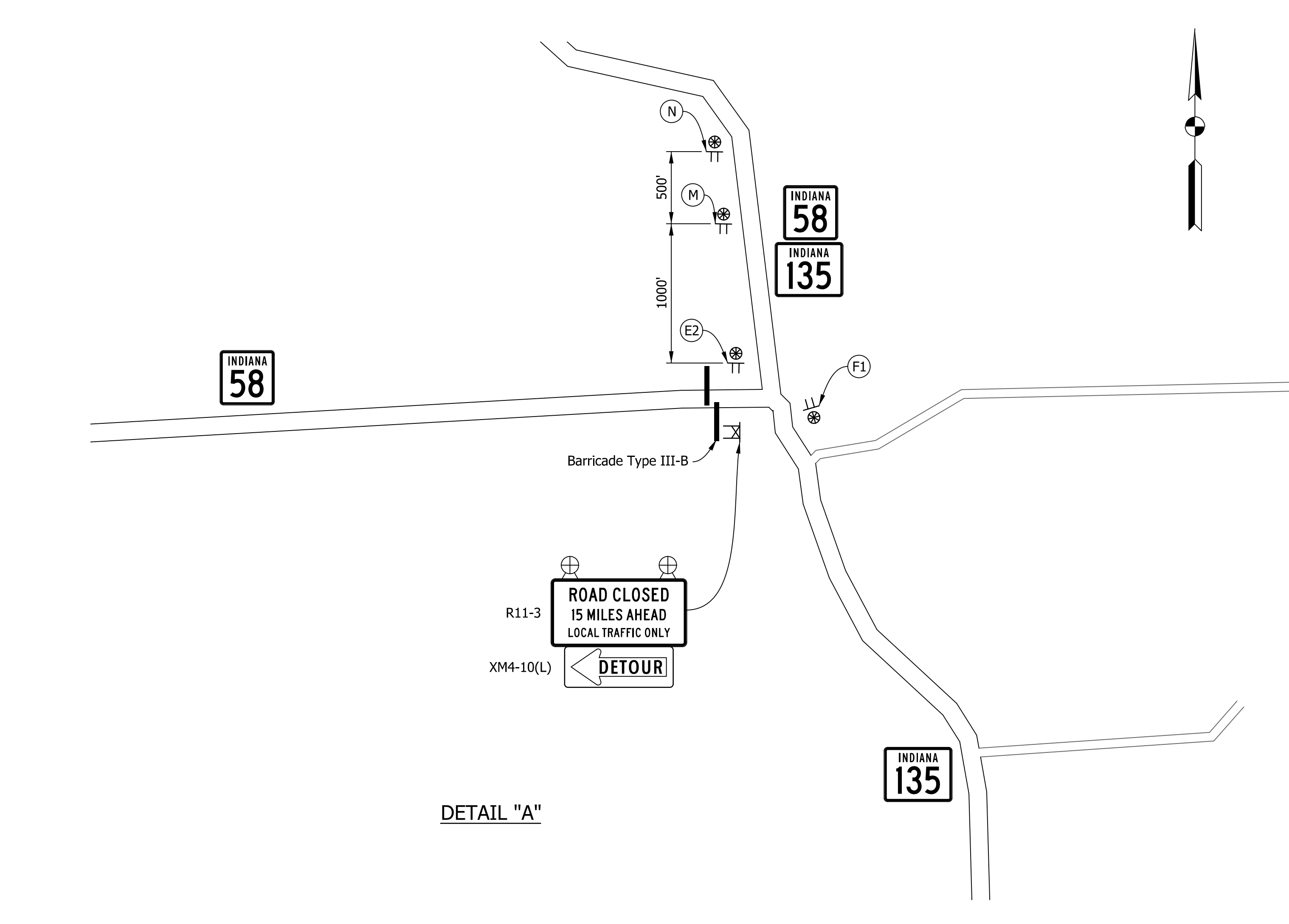
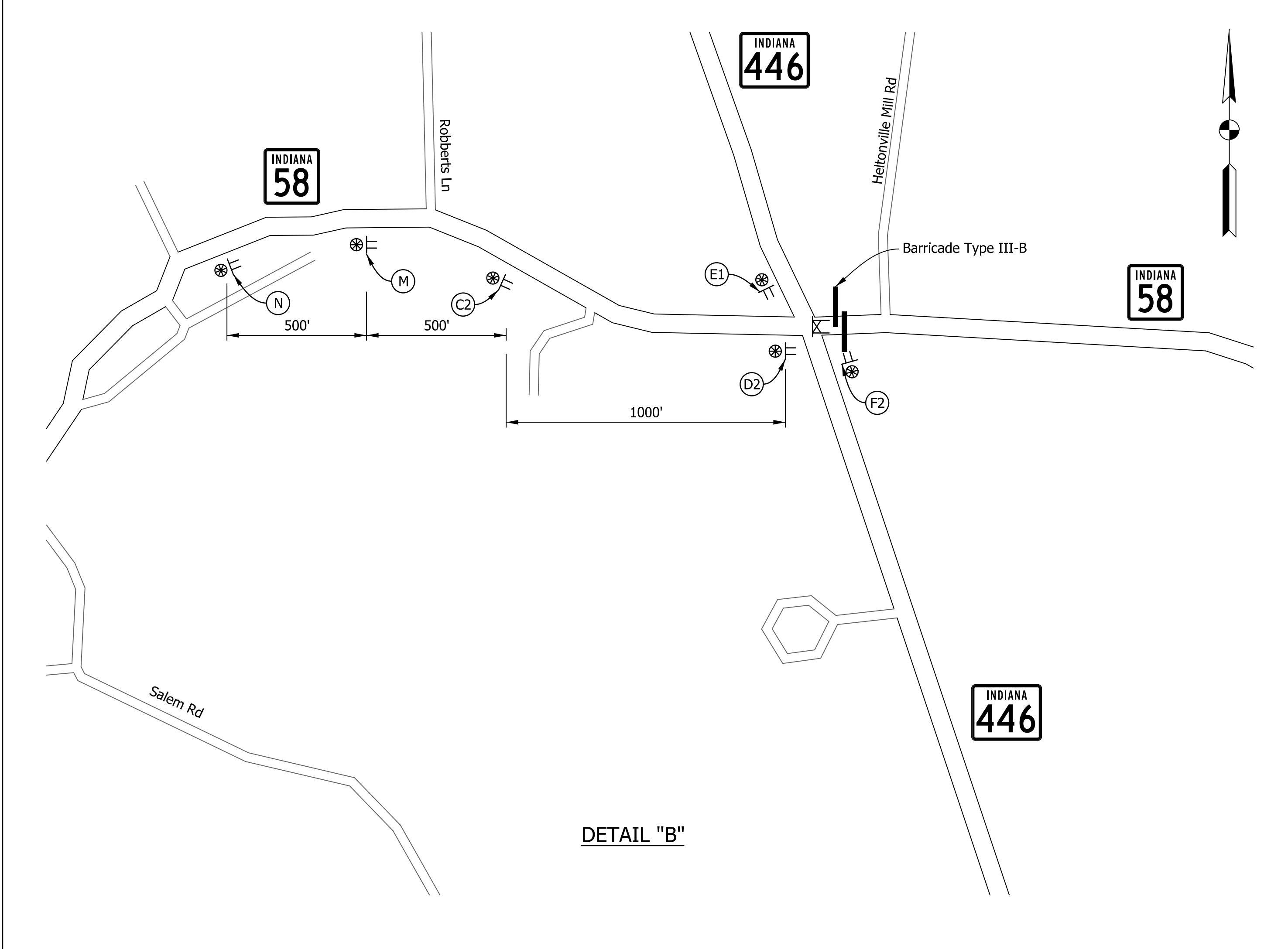
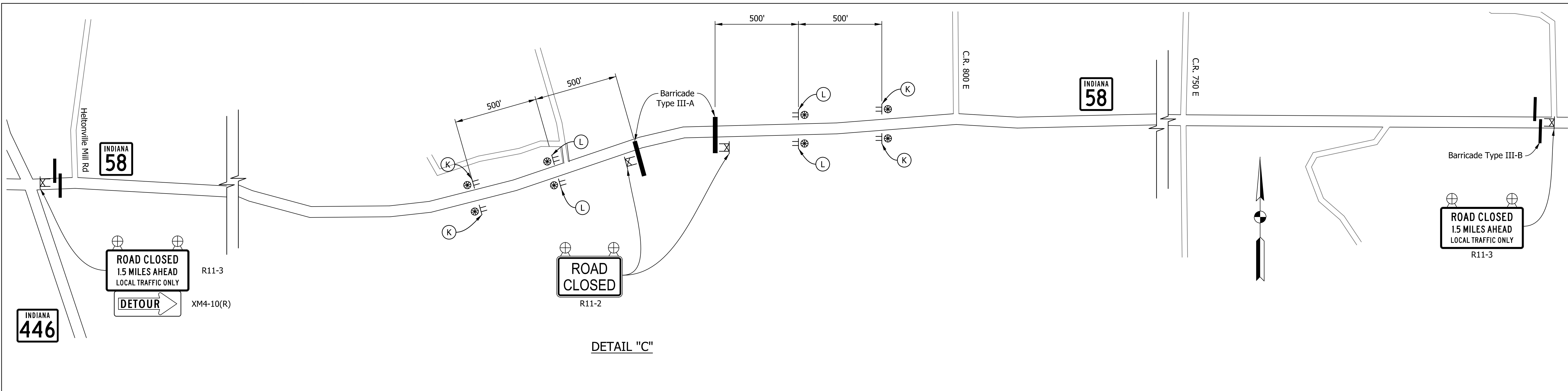
- | | | | | | | | | | | | | | |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------------|---------------------------------|
| DETOUR EAST INDIANA 58 M1-6 | DETOUR WEST INDIANA 58 M1-6 | DETOUR EAST INDIANA 58 M1-6 | DETOUR WEST INDIANA 58 M1-6 | DETOUR EAST INDIANA 58 M1-6 | DETOUR WEST INDIANA 58 M1-6 | DETOUR EAST INDIANA 58 M1-6 | DETOUR WEST INDIANA 58 M1-6 | DETOUR EAST INDIANA 58 M1-6 | DETOUR WEST INDIANA 58 M1-6 | DETOUR EAST INDIANA 58 M1-6 | DETOUR WEST INDIANA 58 M1-6 | END DETOUR EAST INDIANA 58 M1-6 | END DETOUR WEST INDIANA 58 M1-6 |
| (A1) M4-8 M3-2 | (A2) M4-8 M3-4 | (B1) M4-8 M3-2 | (B2) M4-8 M3-4 | (C1) M4-8 M3-2 | (C2) M4-8 M3-4 | (D1) M4-8 M3-2 | (D2) M4-8 M3-4 | (E1) M4-8 M3-2 | (E2) M4-8 M3-4 | (F1) M4-6 M4-8 M3-2 | (F2) M4-6 M4-8 M3-4 | | |
| M5-1(L) | M5-1(L) | M6-1(L) | M6-1(L) | M5-1(R) | M5-1(R) | M6-1(R) | M6-1(R) | M6-3 | M6-3 | | | | |

Maintenance of Traffic Quantity Summary Table		
	Unit	Total
Road Closure Sign Assembly	EACH	5
Detour Route Marker Assembly	EACH	28
Construction Sign, A	EACH	12
Barricade, III-A	LFT	48
Barricade, III-B	LFT	72

DRAFT

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
DESIGNED: AMP	DRAWN: JJP		1" = 3000'	CV 058-047-90.45
CHECKED: VGE	CHECKED: AMP	MAINTENANCE OF TRAFFIC DETOUR MAP	VERTICAL SCALE	DESIGNATION
			N.A.	1700047
			SURVEY BOOK	SHEETS
		ELECTRONIC	5 of 18	
		CONTRACT	PROJECT	
		R-40409	1700048	

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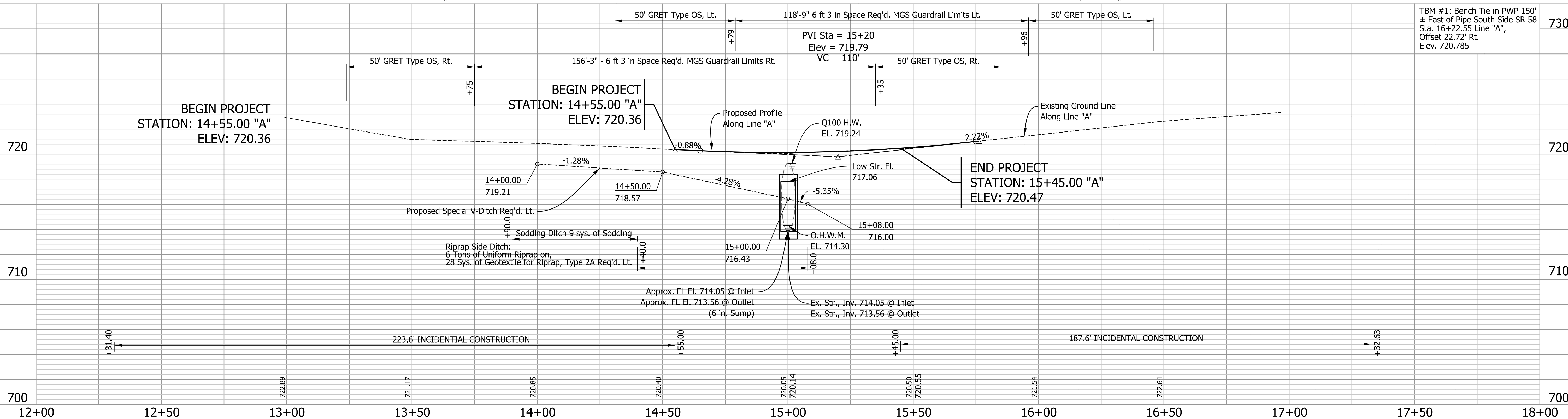
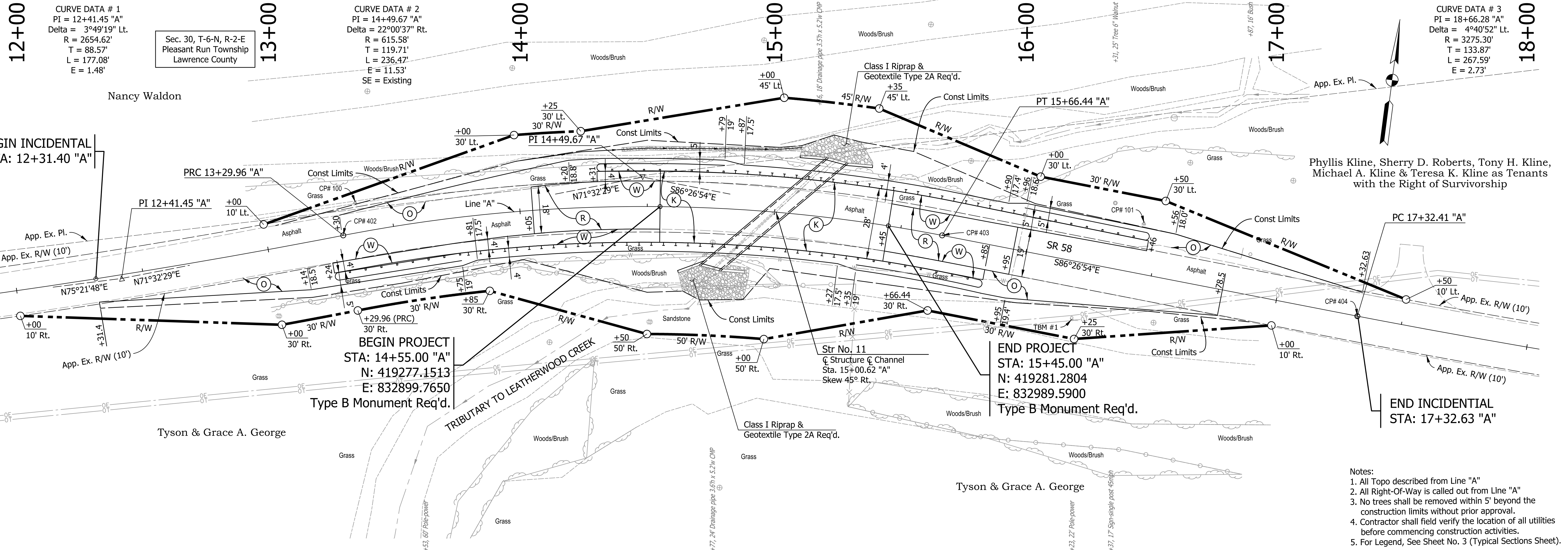
NOTES:
 See Previous Sheet for Detail Location.
 See Previous Sheet for Detour Route map.
 See Previous Sheet for Detour Route Marker Assemblies & Legend.

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: AMP _____	DRAWN: JJP _____	
CHECKED: VGE _____	CHECKED: AMP _____	

INDIANA
 DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
 DETOUR DETAILS

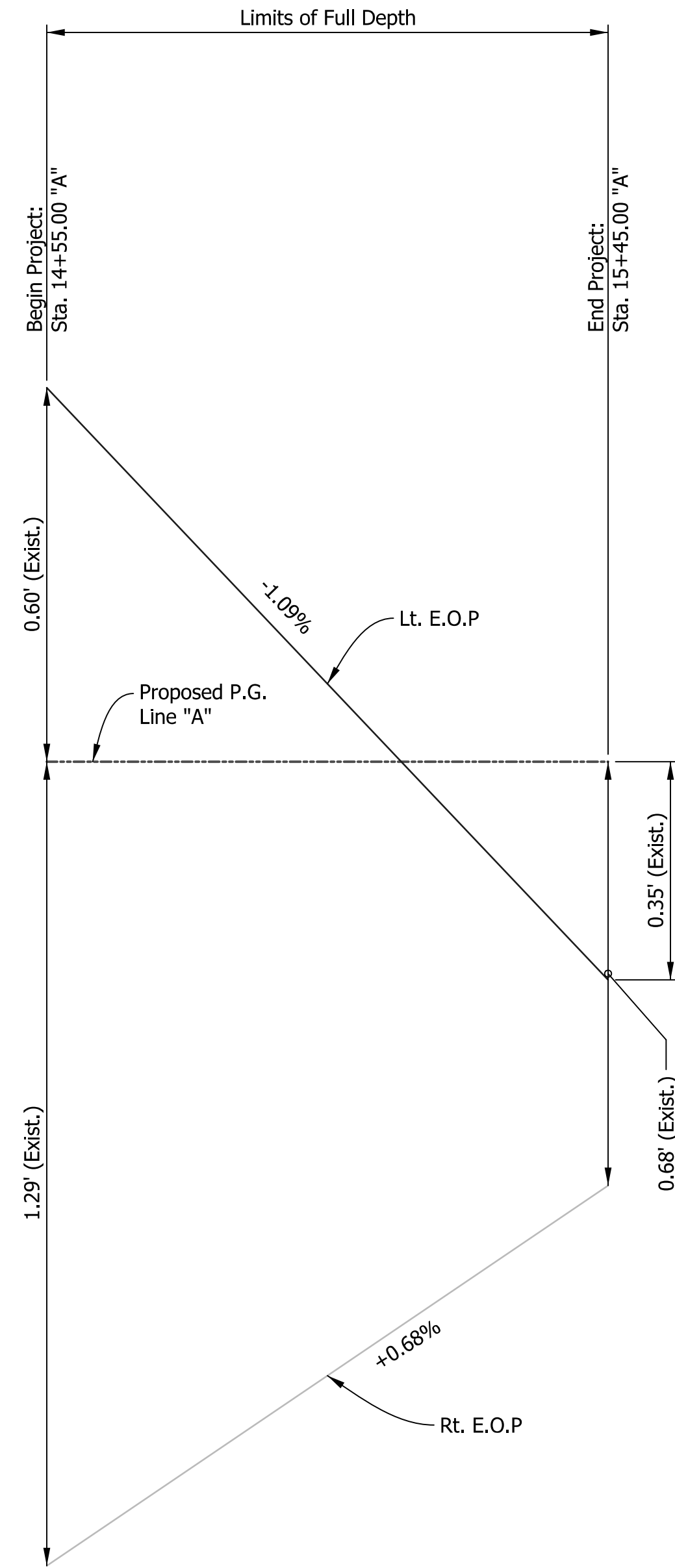
HORIZONTAL SCALE 1" = 300'	BRIDGE FILE CV 058-047-90.45
VERTICAL SCALE N.A.	DESIGNATION 1700047
SURVEY BOOK ELECTRONIC	SHEETS 6 of 18
CONTRACT R-40409	PROJECT 1700048



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<p>MAG NAIL w/WASHER SET P.C. STA. 11+52.88 LINE "A"</p>	<p>MAG NAIL w/WASHER SET P.C. STA. 13+29.96 LINE "A"</p>	<p>MAG NAIL w/WASHER SET P.T. STA. 15+66.44 LINE "A"</p>	<p>WOOD HUB w/MAG NAIL SET STA. 13+36.88 LINE "A", 11.81' LT.</p>	<p>CAPPED REBAR SET STA. 16+43.24 LINE "A", 19.81' LT.</p>	<p>RECOMMENDED FOR APPROVAL _____</p> <p>DESIGNED: AMP DRAWN: JJP</p> <p>CHECKED: VGE CHECKED: AMP</p>	<p style="text-align: center;">INDIANA DEPARTMENT OF TRANSPORTATION</p> <p style="text-align: center;">PLAN AND PROFILE</p>	<p>HORIZONTAL SCALE 1" = 20'</p> <p>VERTICAL SCALE 1" = 5'</p> <p>SURVEY BOOK ELECTRONIC</p> <p>CONTRACT R-40409</p>	<p>BRIDGE FILE CV 058-047-90.45</p> <p>DESIGNATION 1700047</p> <p>SHEETS 7 of 18</p> <p>PROJECT 1700048</p>
--	--	--	---	--	--	---	--	---

PI Sta. 14+49.67 "A"
 R = 615.58'
 SE = Existing
 Design Speed = 45 M.P.H.



Note:
 1. Proposed superelevation shall match the existing superelevation.

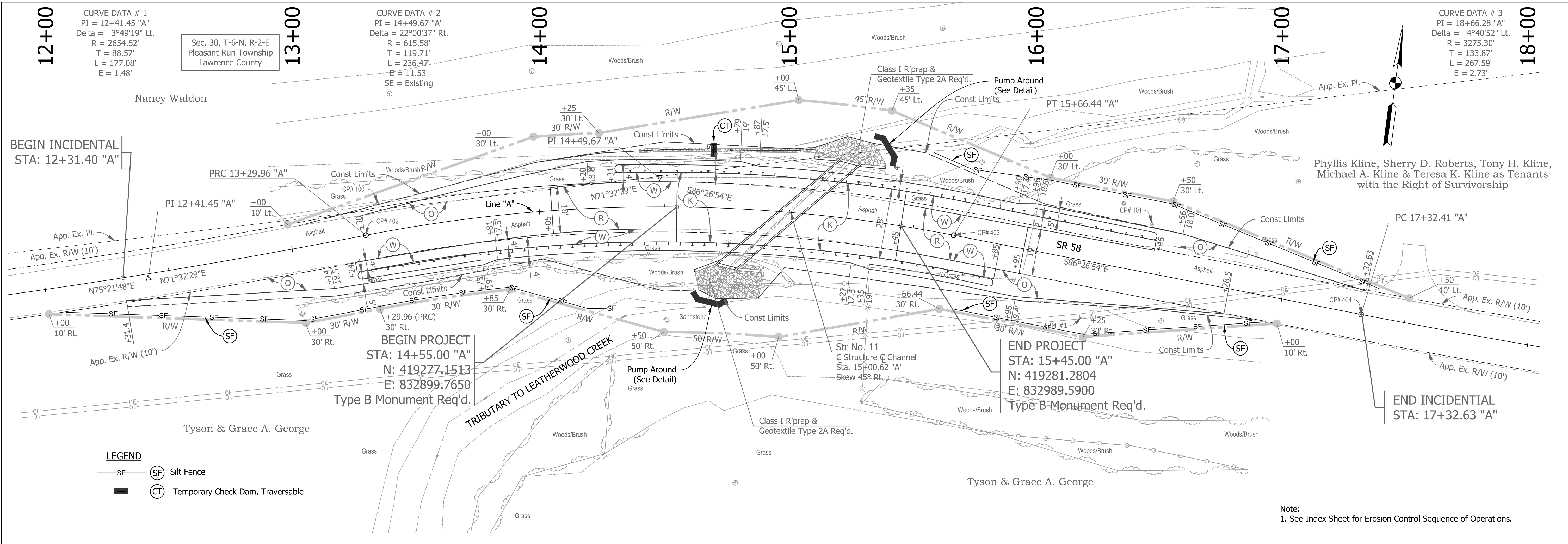
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RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: AMP _____	DRAWN: JJP _____	
CHECKED: VGE _____	CHECKED: AMP _____	

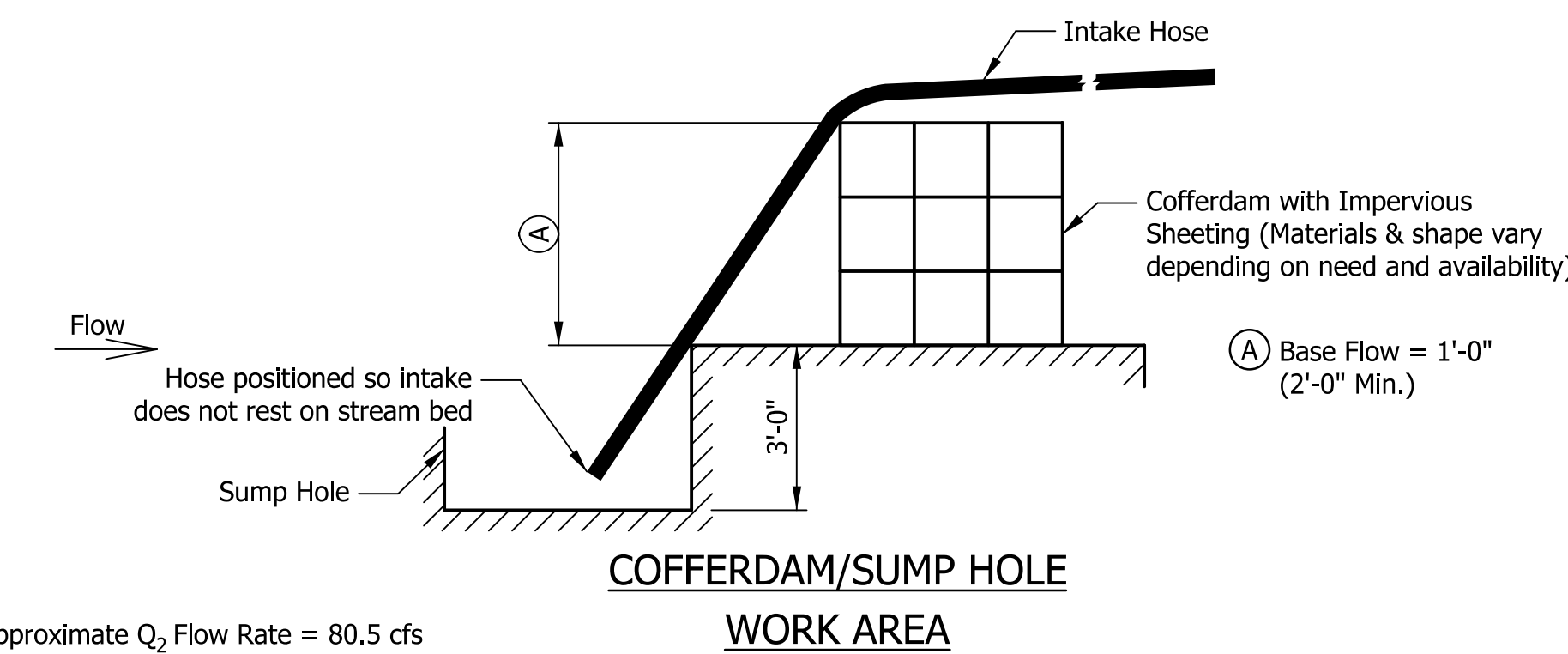
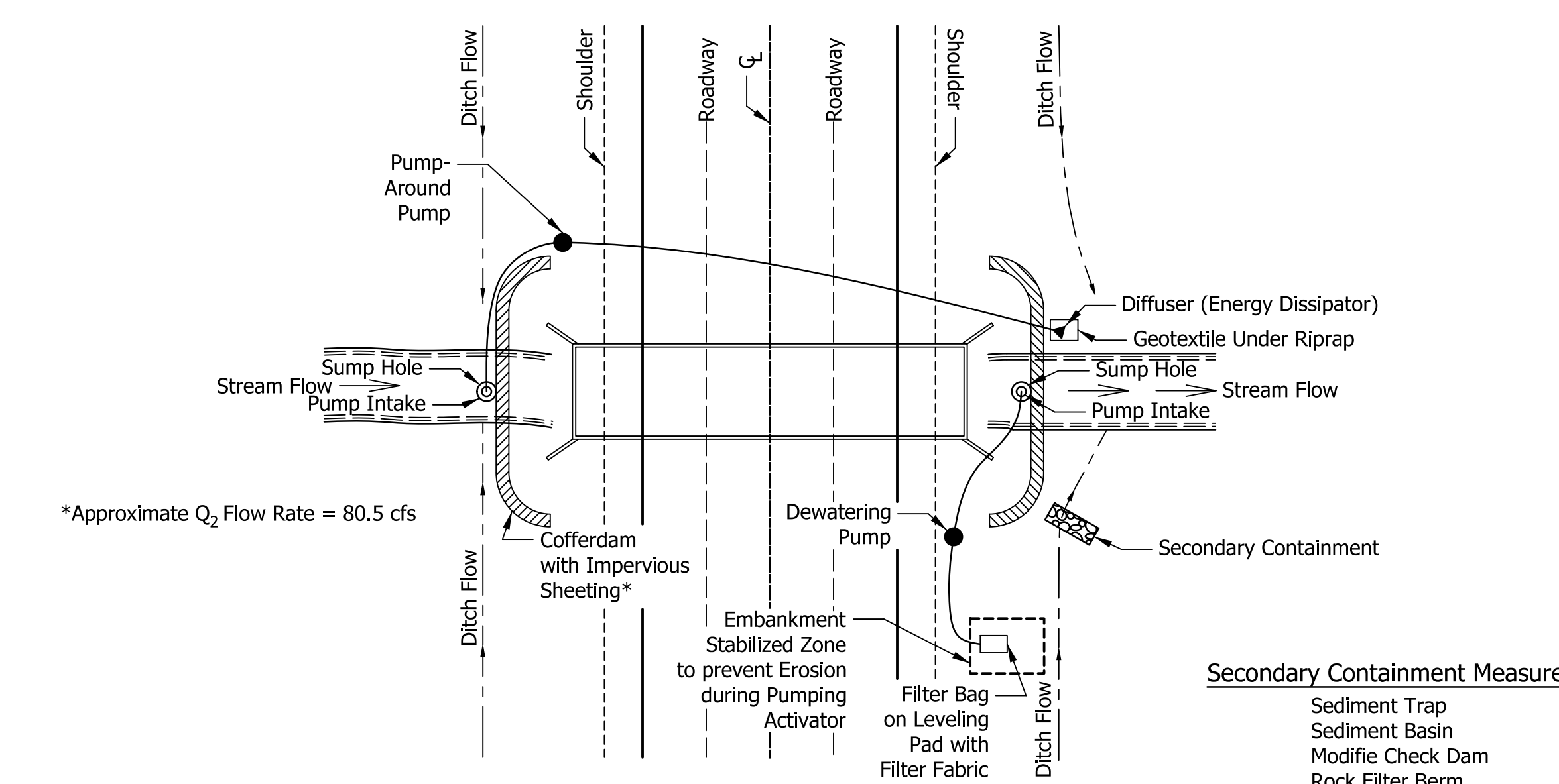
INDIANA
 DEPARTMENT OF TRANSPORTATION

SUPERELEVATION

HORIZONTAL SCALE 1"=20'	BRIDGE FILE CV 058-047-90.45
VERTICAL SCALE 1"=100'	DESIGNATION 1700047
SURVEY BOOK ELECTRONIC	SHEETS 8 of 18
CONTRACT R-40409	PROJECT 1700048



Note:
 1. See Index Sheet for Erosion Control Sequence of Operations.



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RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	
DESIGNED: AMP	DRAWN: JJP		HORIZONTAL SCALE 1" = 20'	BRIDGE FILE CV 058-047-90.45
CHECKED: VGE	CHECKED: AMP		VERTICAL SCALE N.A.	DESIGNATION 1700047
TEMPORARY EROSION CONTROL			SURVEY BOOK	SHEETS
			ELECTRONIC	9 of 18
			CONTRACT	PROJECT
			R-40409	1700048

12+00

13+00

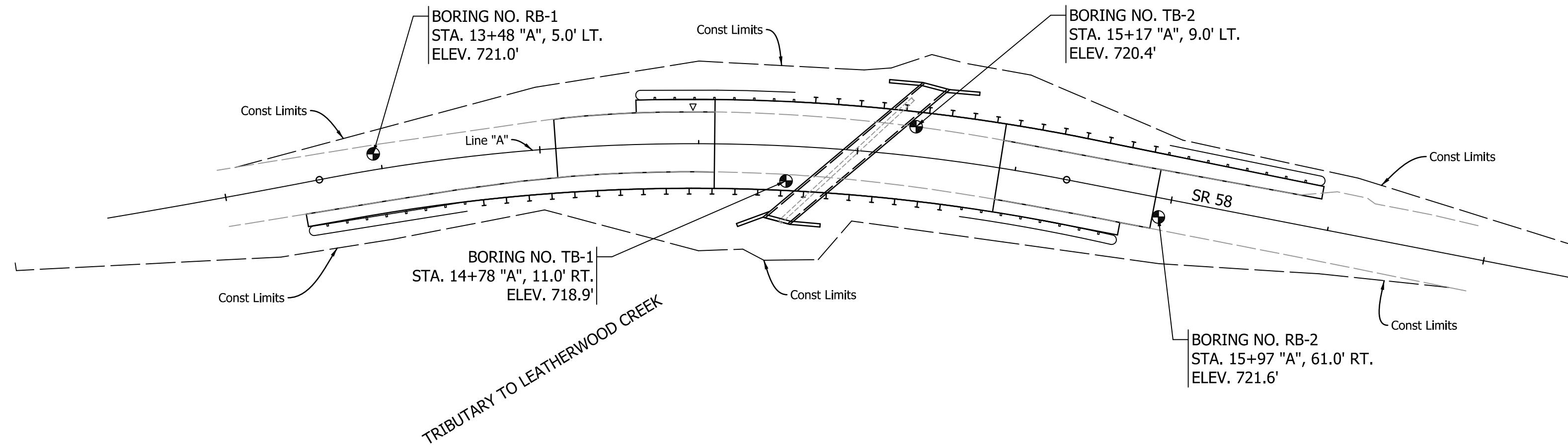
14+00

15+00

16+00

17+00

18+00



STANDARD PENETRATION TEST:
 Driving 2" O.D. Split-Barrel Sampler 18" with a 140 lb. Hammer falling 30".
 Blow counts indicate number of blows per 6" interval. First 6" for setting Sampler.

TEST BORING RECORD																																																																																																	
CLIENT : Beam, Longest and Neff, L.L.C.						BORING NO. : RB-1																																																																																											
PROJECT : Small Structure Replacement						SHEET : 1 OF 1																																																																																											
ROUTE NO. : SR 58 COUNTY : Lawrence						DATE STARTED : 03-20-20																																																																																											
LOCATION : SR 58 over Unnamed Tributary to Leatherwood Creek						DATE COMPLETED : 03-20-20																																																																																											
DES NO. : 1700047 PROJECT NO. : 1700048						CTL PROJECT NO. : 19050052IND																																																																																											
Boring Elevation: 721.0 Feet		Boring Depth: 7.5 feet		Boring Method: SFA		Hammer: Automatic		Rig Type: CME-550 ATV		Hammer Efficiency: 89.9																																																																																							
Latitude: -38.9267849		Station: 13+48		Driller/Inspector: ED/DW		Temperature: 60° F		Casing Diameter: 4.0" O.D.		Weather: Cloudy																																																																																							
Longitude: -86.3434111		Offset: 5.0 feet Lt		Core Size: ---		Groundwater: Encountered at 1.0 feet		At completion 0.5 feet		Caved in at 5.5 feet																																																																																							
<table border="1"> <thead> <tr> <th>Stratum Elevation</th> <th>Sample Depth</th> <th>SOIL/MATERIAL DESCRIPTION</th> <th>Stratum Depth</th> <th>Sample Number</th> <th>SPT per 6"</th> <th>Recovery (%)</th> <th>Moisture Content (%)</th> <th>Unconfined Compression (ksf)</th> <th>Atterberg Limits</th> <th>LL</th> <th>PL</th> <th>PI</th> </tr> </thead> <tbody> <tr> <td>720.3</td> <td>0.0</td> <td>ASPHALT CONCRETE (8") (Visual)</td> <td>0.7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>719.8</td> <td>1.2</td> <td>SAND AND GRAVEL BASE (6") (Visual)</td> <td>1.2</td> <td>4</td> <td>8</td> <td>67</td> <td>24.3</td> <td></td> <td>25</td> <td>19</td> <td>6</td> </tr> <tr> <td>2.5</td> <td>3.0</td> <td>Brown, Moist, Medium Stiff, SANDY LOAM A-4 (1), Lab 3</td> <td>3.0</td> <td>SS-1</td> <td>7</td> <td>100</td> <td>22.0</td> <td>0.342 @ 15.0%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5.0</td> <td>4.0</td> <td></td> <td>4.0</td> <td>SS-2</td> <td>10</td> <td>83</td> <td>19.2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>715.0</td> <td>6.0</td> <td>Gray, Moderately Weathered, Soft, SHALE (Visual)</td> <td>6.0</td> <td>SS-3</td> <td>50/3"</td> <td>17</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>713.5</td> <td>7.5</td> <td>Bottom of Boring at 7.5 feet</td> <td>7.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												Stratum Elevation	Sample Depth	SOIL/MATERIAL DESCRIPTION	Stratum Depth	Sample Number	SPT per 6"	Recovery (%)	Moisture Content (%)	Unconfined Compression (ksf)	Atterberg Limits	LL	PL	PI	720.3	0.0	ASPHALT CONCRETE (8") (Visual)	0.7										719.8	1.2	SAND AND GRAVEL BASE (6") (Visual)	1.2	4	8	67	24.3		25	19	6	2.5	3.0	Brown, Moist, Medium Stiff, SANDY LOAM A-4 (1), Lab 3	3.0	SS-1	7	100	22.0	0.342 @ 15.0%				5.0	4.0		4.0	SS-2	10	83	19.2					715.0	6.0	Gray, Moderately Weathered, Soft, SHALE (Visual)	6.0	SS-3	50/3"	17						713.5	7.5	Bottom of Boring at 7.5 feet	7.5								
Stratum Elevation	Sample Depth	SOIL/MATERIAL DESCRIPTION	Stratum Depth	Sample Number	SPT per 6"	Recovery (%)	Moisture Content (%)	Unconfined Compression (ksf)	Atterberg Limits	LL	PL	PI																																																																																					
720.3	0.0	ASPHALT CONCRETE (8") (Visual)	0.7																																																																																														
719.8	1.2	SAND AND GRAVEL BASE (6") (Visual)	1.2	4	8	67	24.3		25	19	6																																																																																						
2.5	3.0	Brown, Moist, Medium Stiff, SANDY LOAM A-4 (1), Lab 3	3.0	SS-1	7	100	22.0	0.342 @ 15.0%																																																																																									
5.0	4.0		4.0	SS-2	10	83	19.2																																																																																										
715.0	6.0	Gray, Moderately Weathered, Soft, SHALE (Visual)	6.0	SS-3	50/3"	17																																																																																											
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DES NO. : 1700047 PROJECT NO. : 1700048						CTL PROJECT NO. : 19050052IND																																																																																															
Boring Elevation: 721.6 Feet		Boring Depth: 7.5 feet		Boring Method: SFA		Hammer: Automatic		Rig Type: CME-550 ATV		Hammer Efficiency: 89.9																																																																																											
Latitude: -38.9268065		Station: 15+97		Driller/Inspector: ED/DW		Temperature: 60° F		Casing Diameter: 4.0" O.D.		Weather: Cloudy																																																																																											
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DRAFT

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AMP	DRAWN: JJP	
CHECKED: VGE	CHECKED: AMP	

INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	CV 058-047-90.45
VERTICAL SCALE	DESIGNATION
N.A.	1700047
SURVEY BOOK	SHEETS
ELECTRONIC	10 of 18
CONTRACT	PROJECT
R-40409	1700048

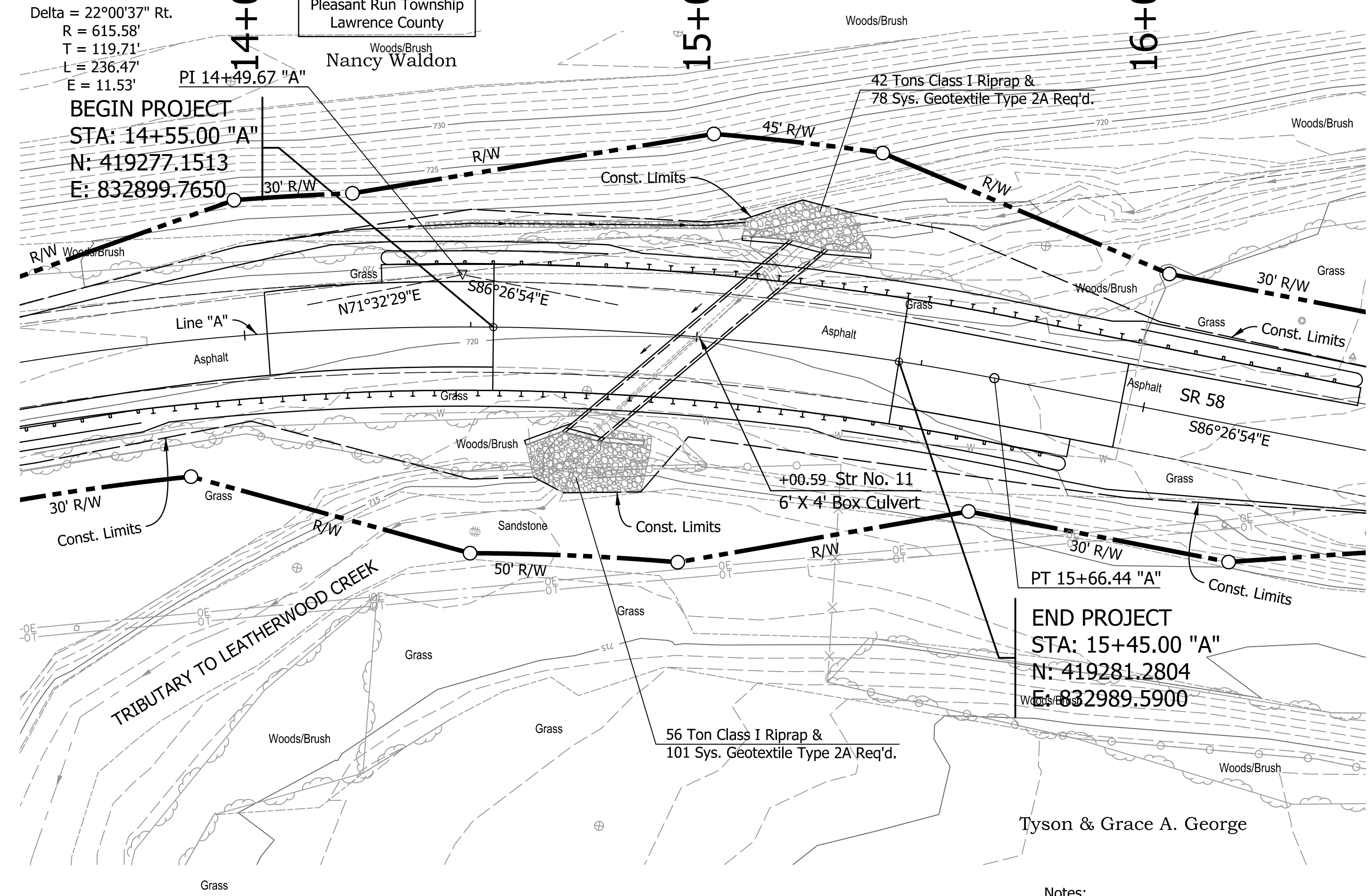
CURVE DATA # 2
 PI = 14+49.67 "A"
 Delta = 22°00'37" Rt.
 R = 615.58'
 T = 119.71'
 L = 236.47'
 E = 11.53'

Sec. 30, T-6-N, R-2-E
 Pleasant Run Township
 Lawrence County

14+00
 PI 14+49.67 "A"
 BEGIN PROJECT
 STA: 14+55.00 "A"
 N: 419277.1513
 E: 832899.7650

15+00

16+00



Notes:
 1. All Right-Of-Way is called out from Line "A"

EXISTING STRUCTURE

Present Structure is a 63" Span x 43" Corrugated Metal pipe.
 Present Structure is to be Removed.

EARTHWORK SUMMARY		
COMMON EXCAVATION		
LINE "X"	104	CYS
TOTAL, COMMON EXCAVATION	105	CYS
STRUCTURE EXCAVATION	210	CYS
TOTAL EXCAVATION	315	CYS
FILL		
LINE "X"	84	CYS
SUBTOTAL, FILL	84	CYS
SWELL (25%)	21	CYS
TOTAL FILL	105	CYS
USABLE COMMON EX.	315	CYS
USABLE EXCAVATION AS FILL (50%)	158	CYS
TOTAL BORROW	0	CYS

*Excavation for the structure is included in the cost of the structure.

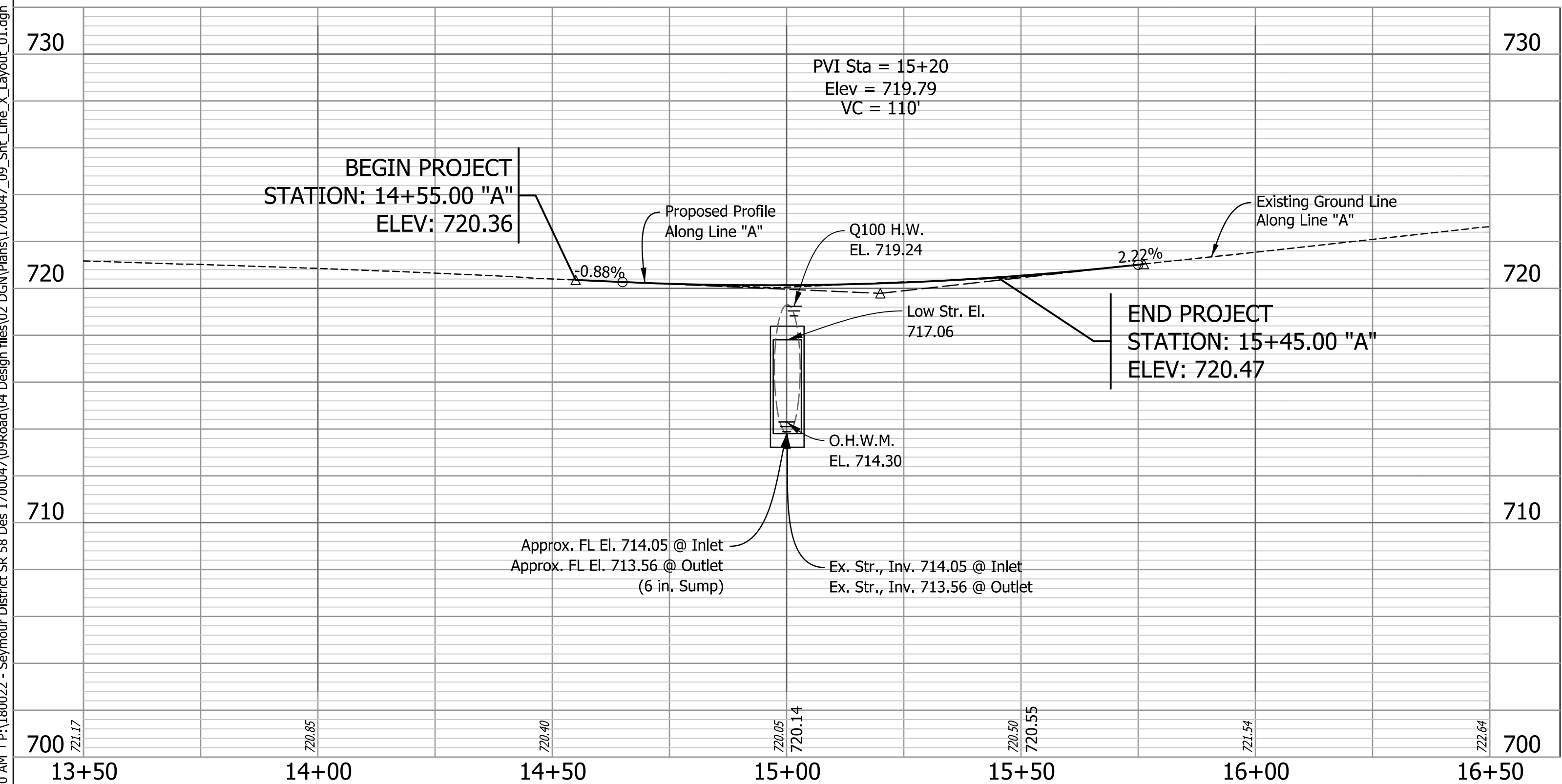
*Rounded up to the nearest 5 CYS per IDM 17-1.03 item 4.

*Benching is required for construction. The estimated quantity for benching will be calculated for the STG 3 Submittal. The benching quantity is not included in the Earthwork Summary in accordance with 203.22.

HYDRAULIC DATA

Drainage Area	126.42	Acres
Design Discharge, Q100	152.2	Cfs.
High Water Elevation, Q100	El. 719.24	
Existing Small Structure		
Waterway Area		
Net Area Thru Str.	15.3	Sft
Gross Area thru Str.	15.3	Sft
Area Over Road	0	Sft
Velocity thru Str.	5.15	Fps.
Backwater at Q100	1.15	ft.
Low Structure Elev.	El. 719.3	
Proposed Culvert		
Waterway Area		
Net Area Thru Culvert	21	Sft
Provided Gross Area thru Culvert	21	Sft
Area Over Road	0	Sft
Velocity thru Str. Q10	4.14	Fps.
Backwater at Q100	0.99	ft.
Proposed Low Structure Elev.	El. 717.06	
Skew	45°	Rt.

REINFORCED CONCRETE BOX STRUCTURE
 6' SPAN x 4' RISE x 70' LONG,
 28' CLEAR ROADWAY
 SR 58 OVER UNT TO LEATHERWOOD CREEK
 IN LAWRENCE COUNTY



DRAFT

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
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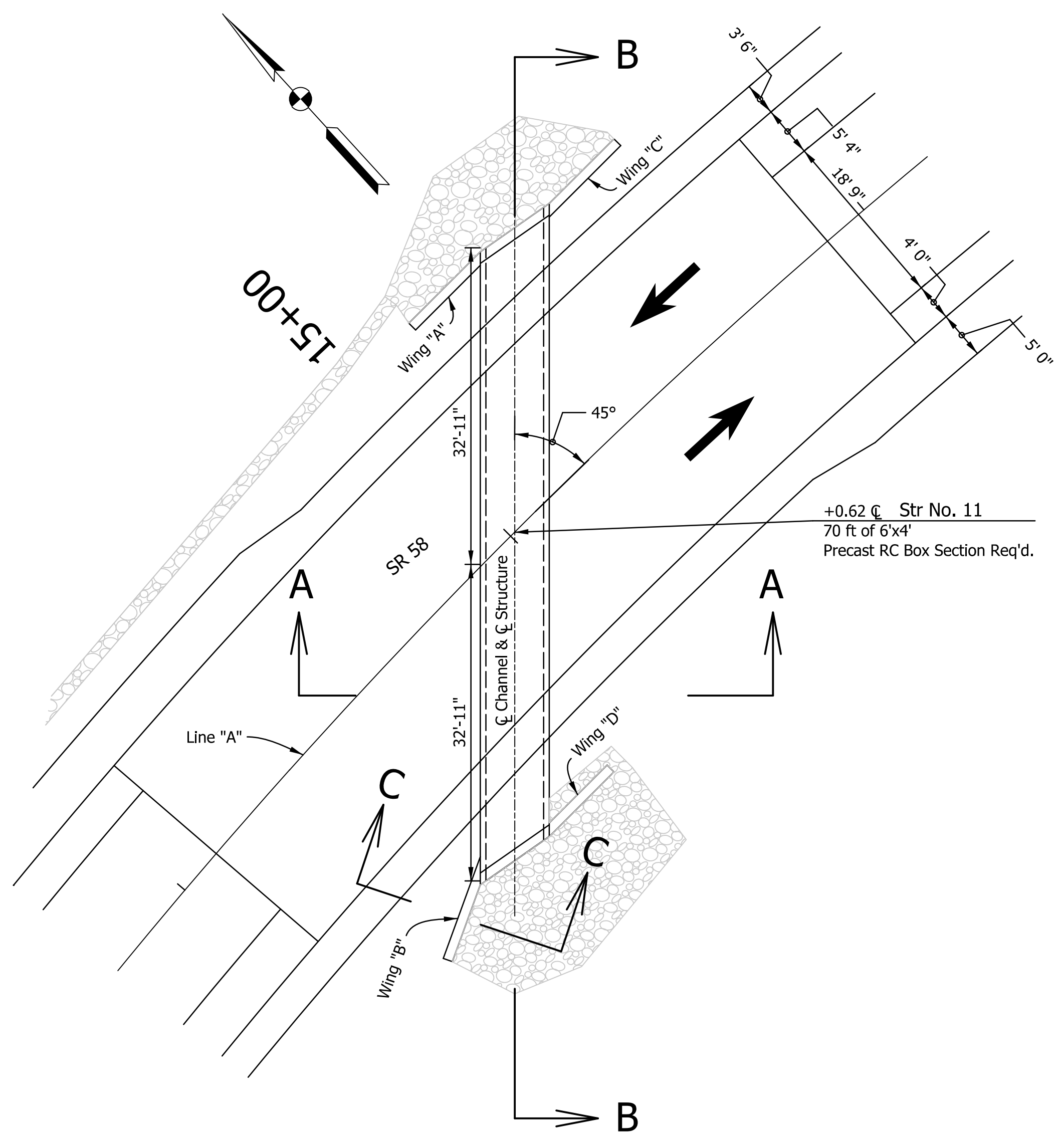
INDIANA
 DEPARTMENT OF TRANSPORTATION

LAYOUT

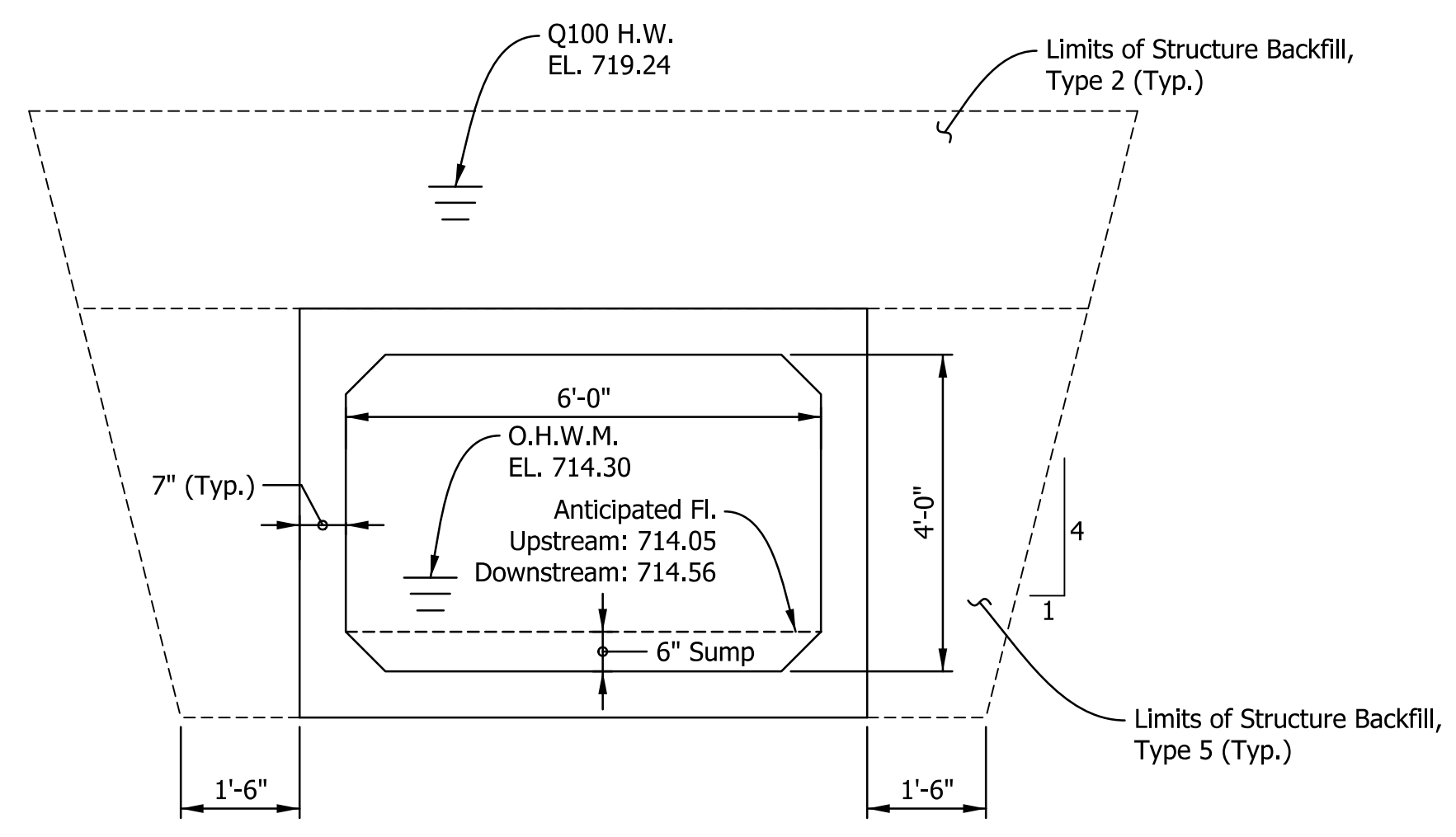
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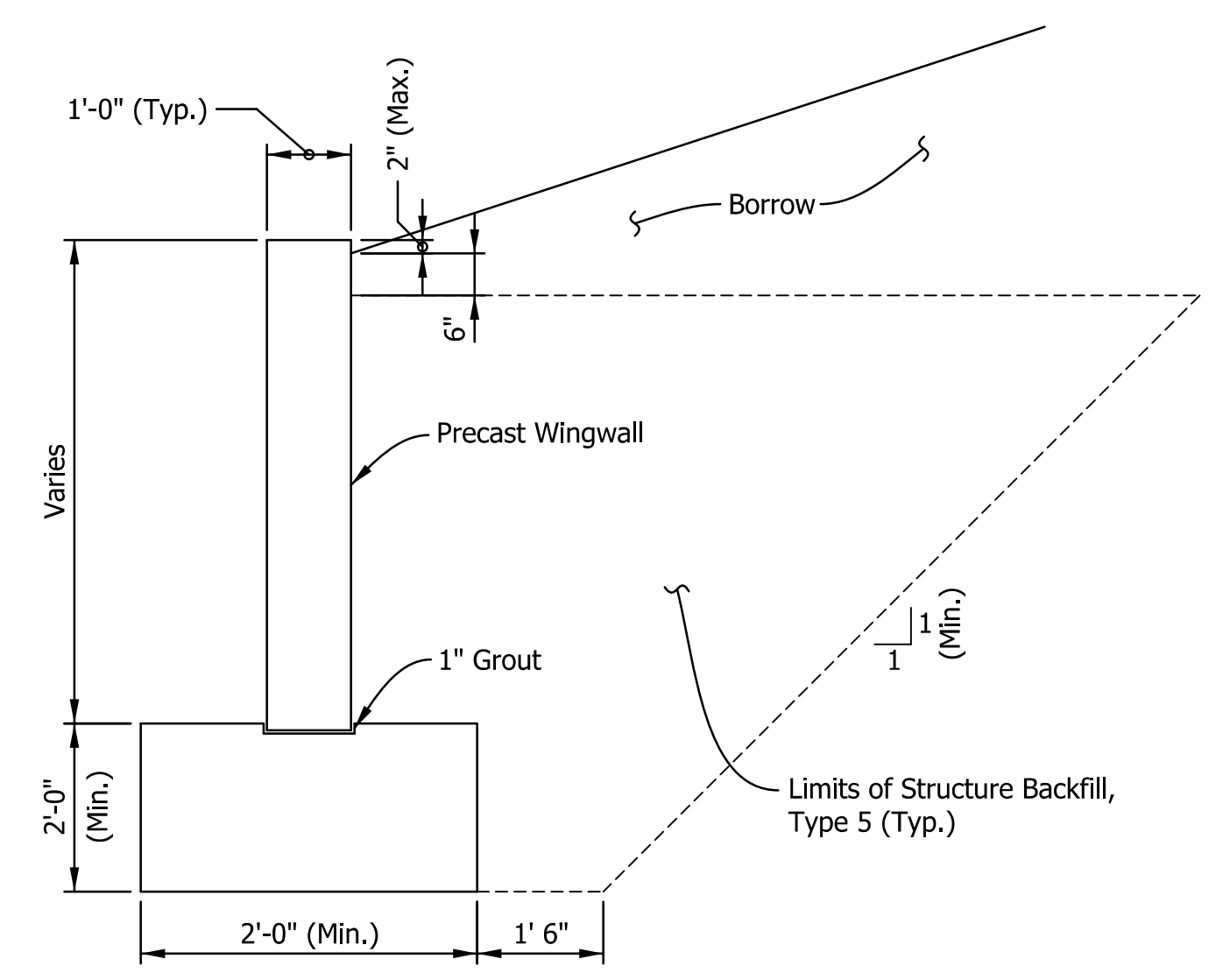
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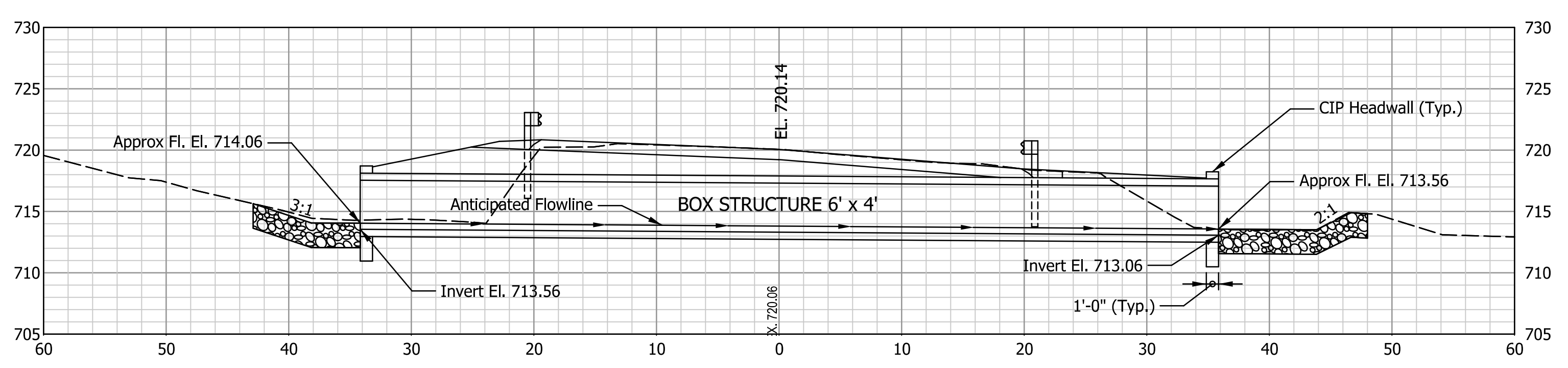
PLAN
SCALE: 1" = 10'



SECTION A-A
SCALE: 1" = 2'



SECTION C-C
SCALE: 1" = 2'



SECTION B-B
SCALE: 1" = 4' (Vertical) 1" = 4' (Horizontal)

GENERAL NOTES

- Reinforcing steel covering in footings and base slab shall be 3" in the top and sides and 4" in the bottom. All other parts to be 2" unless otherwise noted.
- Alternate Cast-In-Place Wingwalls may be substituted for the Precast Wingwall shown in Section C-C.
- Contractor shall verify the existing flowline elevation to set appropriate sump depth (6" sump).
- Wingwalls to be set on outside of the ends of the precast four-sided structure. The minimum width for the wingwall footing shall be 2'-0".
- The exterior precast unit shall be mechanically fastened to the adjacent unit at both ends of the structure. Mechanical fastening detail shall be provided by Precast Manufacturer.
- The exposed faces of C.I.P. wingwalls to be sealed in accordance with Article 702.21 of the Specifications.

DESIGN DATA

- Live Load:** Designed for HL-93 loading in accordance with 2017 AASHTO LRFD Bridge Design Specifications and all subsequent interims.
- Dead Load:** Actual Weight plus 35 psf for future wearing surface.
- Design Strengths:** To be in accordance with 2017 AASHTO LRFD Bridge Design Specifications and all subsequent interims.
- Concrete:**
 - Class "A": $f_c = 3500$ psi
 - Class "B": $f_c = 3000$ psi
 - Class "C": $f_c = 4000$ psi
- Reinforcing Steel:** Grade 60; $f_y = 60,000$ psi

REINFORCED CONCRETE BOX STRUCTURE
6' SPAN x 4' RISE x 70' LONG,
28' CLEAR ROADWAY
SR 58 OVER UNT TO LEATHERWOOD CREEK
IN LAWRENCE COUNTY

Note: For Elevation and End Section Detail, See Sheet No. 13

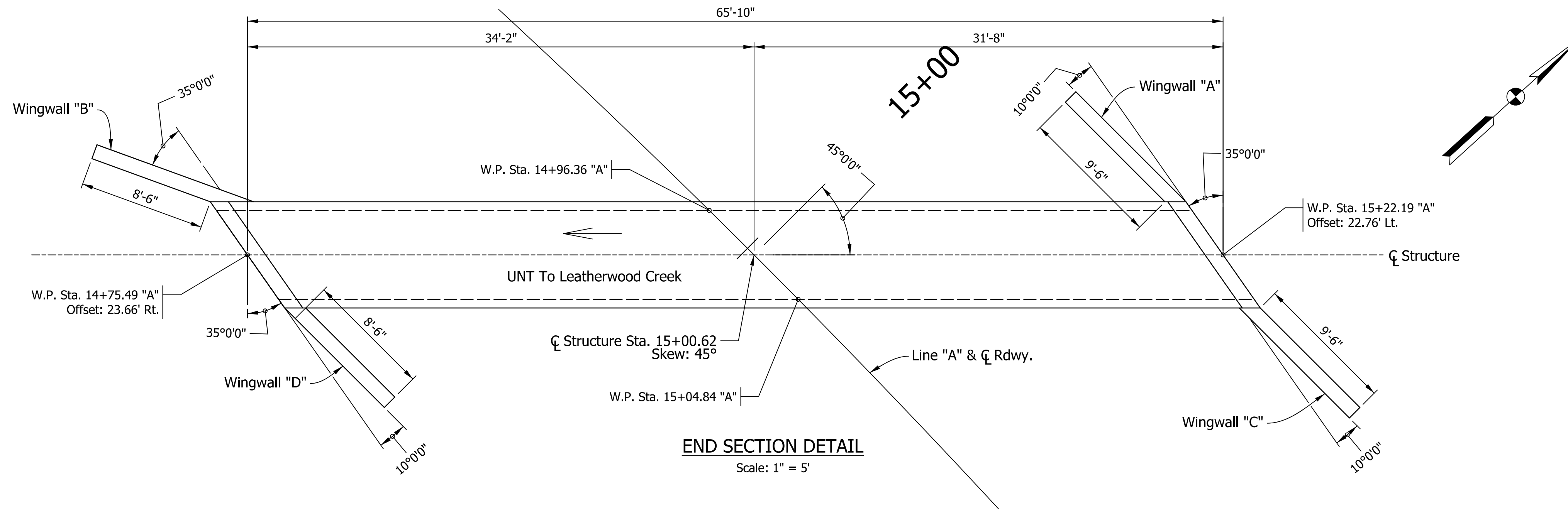
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RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: AMP _____	DRAWN: JJP _____	
CHECKED: VGE _____	CHECKED: AMP _____	

INDIANA
DEPARTMENT OF TRANSPORTATION

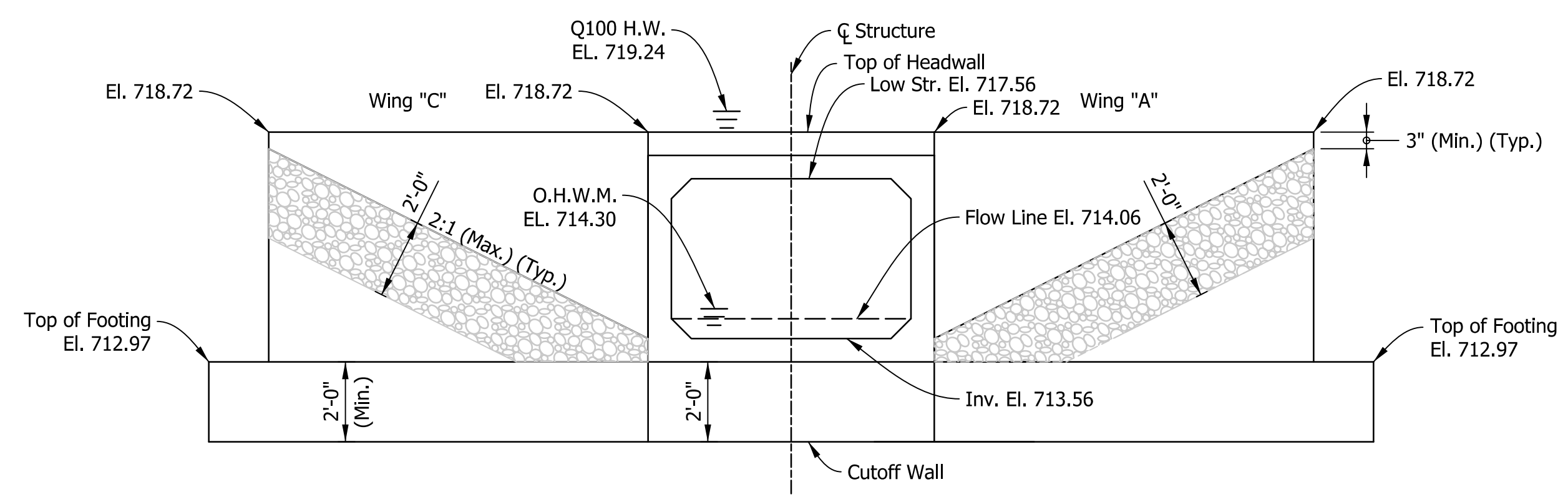
GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	CV 058-047-90.45
VERTICAL SCALE	DESIGNATION
AS NOTED	1700047
SURVEY BOOK	SHEETS
ELECTRONIC	12 of 18
CONTRACT	PROJECT
R-40409	1700048

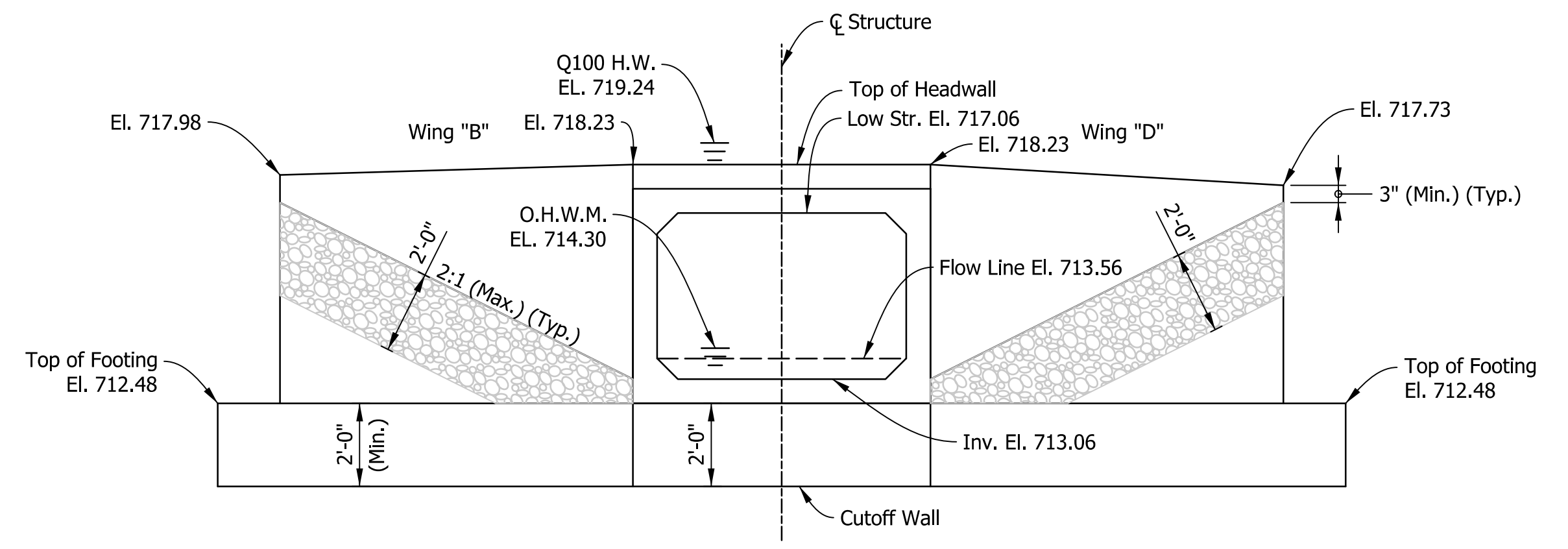


WING INFORMATION		
	AREAS	LENGTH
Wing "A"	54.6 Sft.	9'-6"
Wing "B"	47.8 Sft.	8'-6"
Wing "C"	54.6 Sft.	9'-6"
Wing "D"	47.8 Sft.	8'-6"

SOIL PARAMETERS FOR FOUNDATION/WINGWALL DESIGN	
PARAMETERS	ESTIMATED VALUE
Minimum Bottom of Footing Elevations	Minimum 2' below competent rock
Minimum Footing Width, Feet	2.0
Nominal Bearing Resistance (q_n)	42.2
Bearing Resistance Factor (Φ_b)	0.45
Factored Bearing Resistance of Foundation Soil (q_f)	19 ksf
Friction Angle of Rock (Φ)	N/A
Friction Angle between Footing & Rock (δ)	N/A
Friction Factor ($\tan\delta$)	N/A
Nominal Cohesion of Foundation Rock (C)	8100 psf
Nominal Adhesion between Foundation Rock and Concrete (C_A)	5400 psf
Friction Angle of Backfill Material	30°
Friction Angle between Wall and Backfill (δ_f)	20°
Total Unit Weight of Foundation Rock	150 psf
Unit Weight of Backfill Material	125 psf



ELEVATION WINGWALL A & C
Scale: 1" = 3'



ELEVATION WINGWALL B & D
Scale: 1" = 3'

Note: For General Plan, Sections, General Notes, See Sheet No. 12

REINFORCED CONCRETE BOX STRUCTURE
6' SPAN x 4' RISE x 70' LONG,
28' CLEAR ROADWAY
SR 58 OVER UNT TO LEATHERWOOD CREEK
IN LAWRENCE COUNTY

DRAFT

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE AS NOTED	BRIDGE FILE CV 058-047-90.45
DESIGNED: AMP	DRAWN: JJP		VERTICAL SCALE AS NOTED	DESIGNATION 1700047
CHECKED: VGE	CHECKED: AMP	GENERAL PLAN	SURVEY BOOK ELECTRONIC CONTRACT R-40409	SHEETS 13 of 18 PROJECT 1700048

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STRUCTURE DATA

STRUCTURE NUMBER	LOCATION				PIPE TYPE	DESCRIPTION MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE AND TYPE	LENGTH LFT	SKEW	COVER		FLOW LINE				SITE DESIGNATION	PH	BACKFILL METHOD	SCOUR PROTECTION				CONCRETE, CLASS A, FOR STR.	PIPE REMOVE	PIPE END SECTION	GRATED BOX END SECTION			SAFETY METAL END SECTION			CONNECT TO STR.	CULVERT ASSET ID	REMARKS	
	STATION	LEFT	RIGHT	CROSS					SIZE IN. x IN.	MIN FT	MAX FT	UP STREAM ELEV.	DOWN STREAM ELEV.	SUMP DEPTH IN.				SERVICE LIFE YRS	CLASS 1 RIPRAP TON	GEOTEXTILES FOR RIPRAP TYPE 2A SYS.	REVIEMENT RIPRAP TONS				CLASS 1 RIPRAP TONS	TYPE	SLOPE	EA.	TYPE	SLOPE				EA.
Line "A"																																		
11	15+00.62			X	72 X 48	Reinforced Concrete Box	70.0	45	0	2.0	713.55	713.06	6.00	75	Y	6.8	1	69	189	207	98											CV 058-047-90.45	Wingwalls Req'd.	

R/W MARKERS				
LINE	STATION	OFFSET	Lt.	Rt.
A	13+00.00	30		X
A	13+29.96	30		X
A	13+85.00	30		X
A	14+00.00	30	X	
A	14+25.00	30	X	
A	14+50.00	50		X
A	15+00.00	50		X
A	15+00.00	45	X	
A	15+35.00	45	X	
A	15+66.44	30	X	X
A	16+00.00	30	X	
A	16+25.00	30	X	
A	16+50.00	30	X	
PROJECT TOTAL				13

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION	WIDTH FT	LENGTH FT	RADI FT	DISTANCE BEYOND R/W LINE FT	SURFACE BEYOND R/W LINE			GRADE	EXCAVATION	HMA FOR WIDENING, TYPE B	HMA MATERIALS						MILLING, ASPHALT, 1 1/2 IN.	SUBGRADE TREATMENT, TYPE ID	ASPHALT FOR TACK COAT	JOINT ADHESIVE, SURFACE	JOINT ADHESIVE, INTERMEDIATE	COMPACTED AGGREGATE FOR BASE NO. 53				COMPACTED AGGREGATE NO. 53		GEOTEXTILE FOR SUBGRADE TYPE 2A	SUBGRADE TREATMENT, TYPE II	REMARKS			
						COMPACTED AGGREGATE BASE	HMA	CONCRETE				LBS. PER SYD.		LBS. PER SYD.		DEPTH (IN)							DEPTH											
												1	2	3	4	CUT	FILL						275	330	165	275	330	3				10		
						SYS	SYS	SYS				%	%	%	%	CYS	CYS						SYS	SYS	SYS	SYS	SYS	SYS				SYS	SYS	SYS
Mainline Pavement																																		
Line "A"																																		
14+55 to 15+45	Full depth																																	
Incidental Pavement																																		
Line "A"																																		
14+05 to 15+95	Resurfacing																																	
13+24 to 16+46	Widening																																	
COLUMN TOTALS																																		
UNIT																																		
QUANTITY																																		

GUARDRAIL SUMMARY TABLE

STATION TO STATION	LOCATION				MGS W-BEAM GUARDRAIL LENGTH				END TREATMENTS								REMARKS	
	LEFT	MEDIAN LEFT	MEDIAN RIGHT	RIGHT	DOUBLE FACED AT 6.25' SPA	MGS W-BEAM, 6.3' SPA	LONG POST AT 3.13' SPA	LONG POST AT 1.56' SPA	GUARDRAIL FLARE RATE	TYPE "OS"	TYPE 1	TERMINAL SYSTEM		CONNECTOR SYSTEM		GUARDRAIL REMOVE		CONNECTOR SYSTEM
												TYPE	EACH	TYPE	EACH			
13+24				x						1								
13+75	15+35			x		156.25												
14+31		x								1								
14+79	15+96	x				118.75												
15+86			x							1								
16+46		x								1								
TOTAL						275				4								
UNIT						FT				EACH								

PAVEMENT MARKINGS SUMMARY OF QUANTITIES

LOCATION	LINE, THERMOPLASTIC		TRANSVERSE MARKINGS CROSSHATCH LINE	
	SOLID WHITE	SOLID YELLOW	SOLID YELLOW	SOLID YELLOW
	4 in	4 in	24 in	24 in
14+05 to 15+95	380	380		
PROJECT TOTAL	380	380		

MONUMENT AND SECTION CORNER

LINE	POINT TYPE	STATION	MONUMENT TYPE				SECTION CORNER
			A	B	C	D	
A	POB	14+55.00		1			
A	POE	15+45.00		1			
PROJECT TOTALS			0	2	0	0	0

PAVED SIDE DITCH, RIPRAP DITCH, AND SODDING SUMMARY TABLE

FROM STATION	TO STATION	LEFT	MEDIAN	RIGHT	PAVED SIDE DITCH					RIPRAP DITCH			SODDING					NURSERY SODDING FOR LAWNS		
					ACTUAL LENGTH	CUT OFF WALLS (8' EQUIV. LENGTH EACH)	LUGS (8' EQUIV. LENGTH EACH)	TOTAL EQUIVALENT PAY LENGTHS			REVETMENT RIPRAP	UNIFORM RIPRAP	GEOTEXTILES FOR RIPRAP TYPE 2A	FOR PAVED SIDE DITCHES	FOR DITCHES	FOR MEDIAN	FOR SHOULDER BREAK		SODDING AT BRIDGE CONE	TOTAL SODDING
								LFT	EACH	EACH										
Line "A"																				
13+90	14+40	X																9		
14+50	15+08	X																6		
PROJECT TOTALS																		9		

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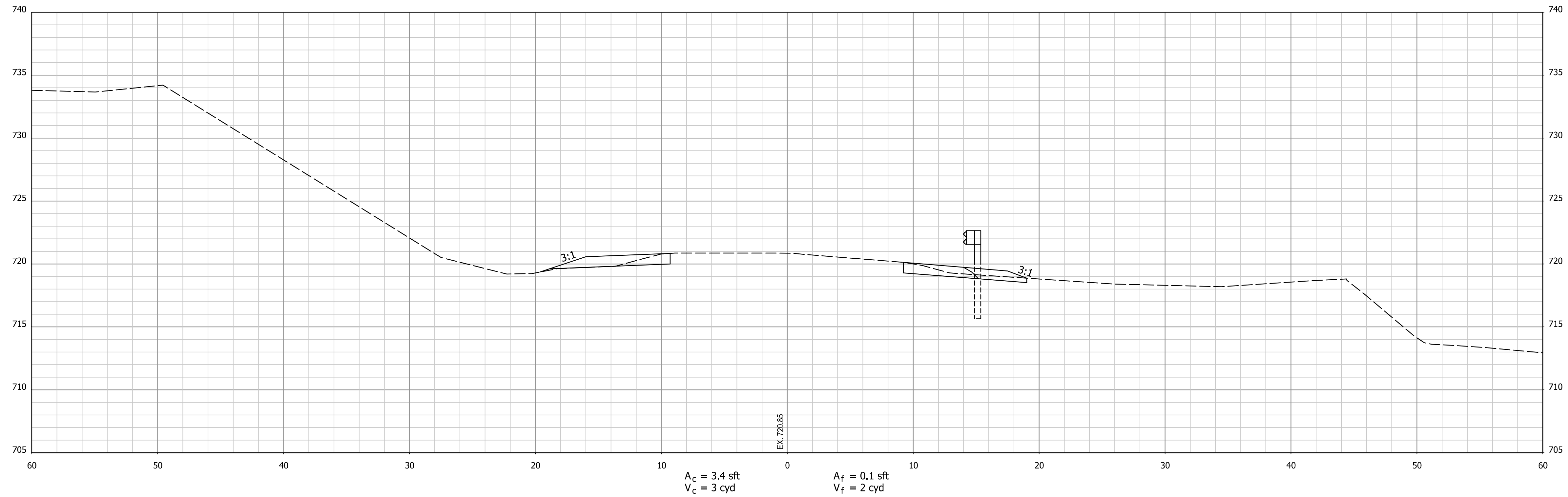
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DESIGNED: AMP	DRAWN: JJP	
CHECKED: VGE	CHECKED: AMP	

INDIANA DEPARTMENT OF TRANSPORTATION

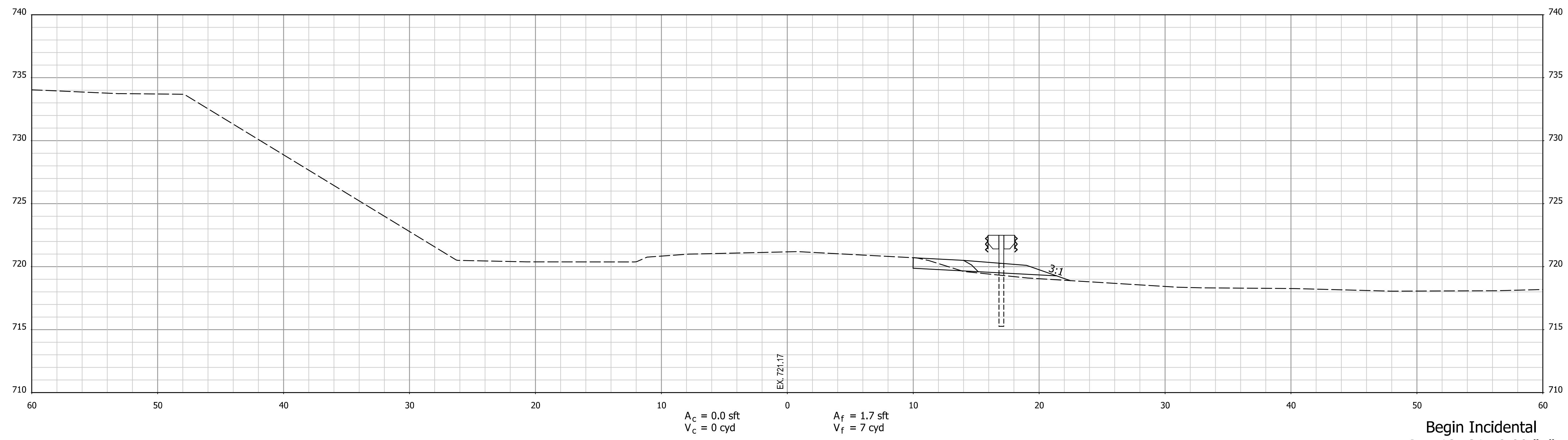
ROAD SUMMARY OF QUANTITIES

HORIZONTAL SCALE	BRIDGE FILE
N.A.	CV 058-047-90.45
VERTICAL SCALE	DESIGNATION
N.A.	1700047
SURVEY BOOK	SHEETS
ELECTRONIC	14 of 18
CONTRACT	PROJECT
R-40409	1700048

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14+00



13+50

Begin Incidental
Sta. 12+31.40.00 "A"

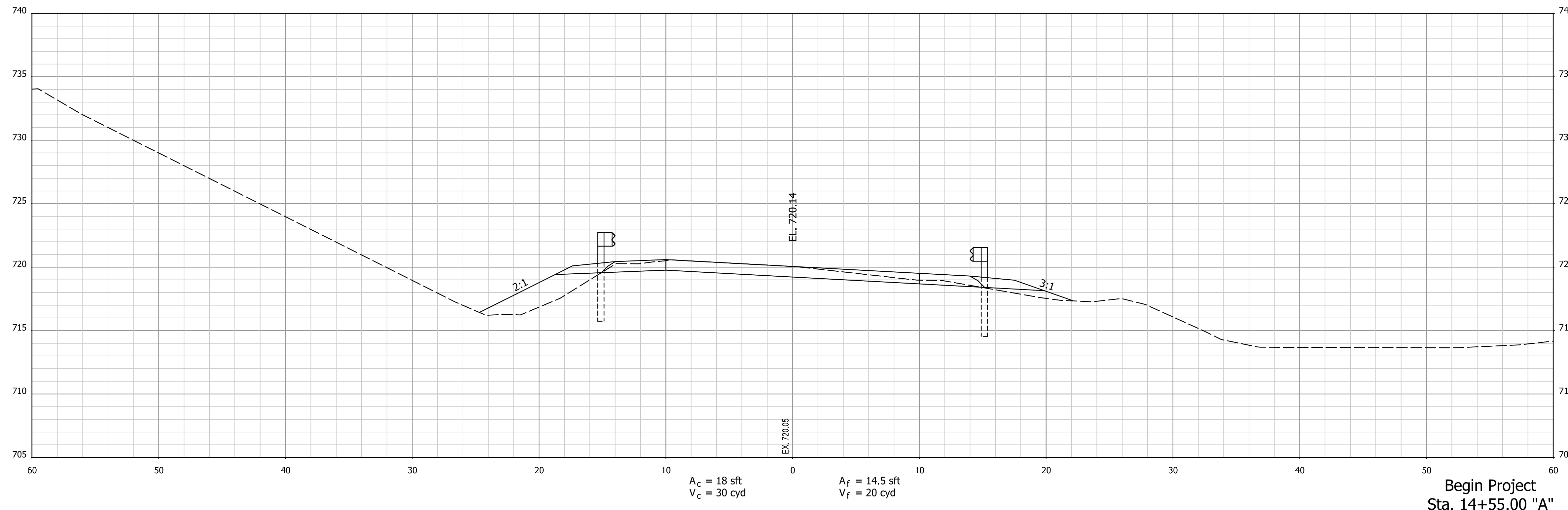
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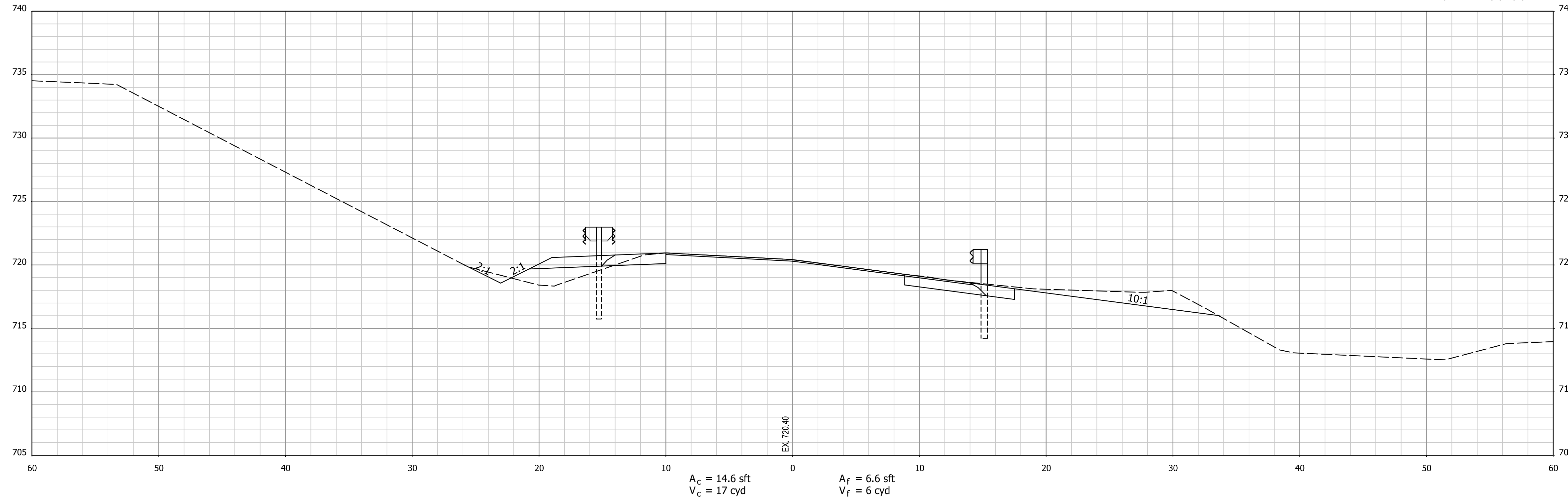
INDIANA DEPARTMENT OF TRANSPORTATION	
CROSS SECTIONS STA. 13+50 TO STA. 14+00 "A"	

HORIZONTAL SCALE 1" = 5'	BRIDGE FILE CV 058-047-90.45
VERTICAL SCALE 1" = 5'	DESIGNATION 1700047
SURVEY BOOK ELECTRONIC	SHEETS 15 of 18
CONTRACT R-40409	PROJECT 1700048

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15+00



14+50

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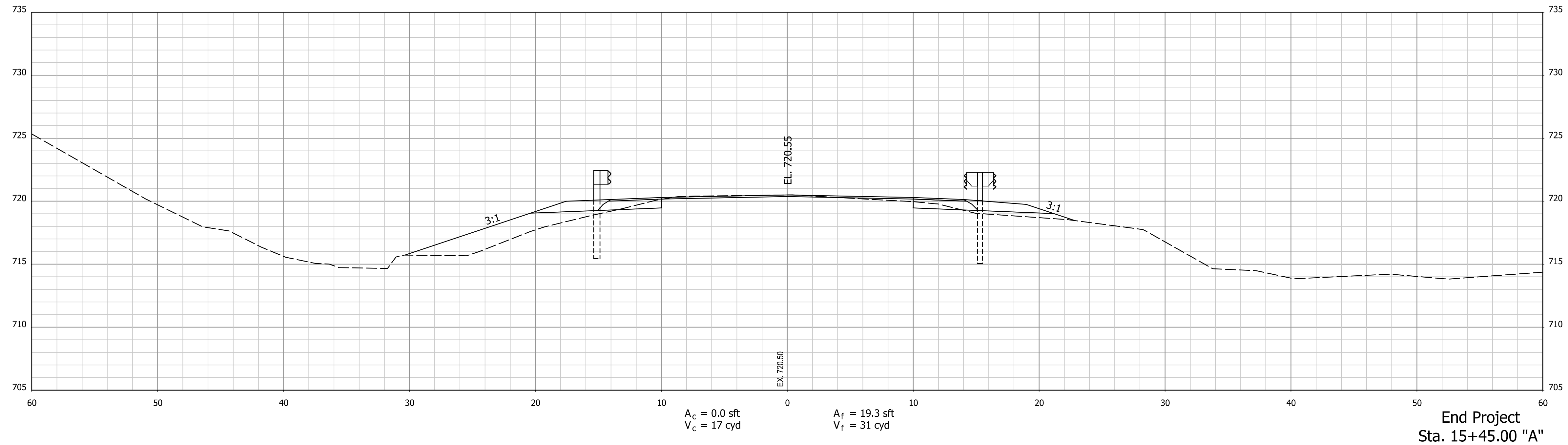
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INDIANA
DEPARTMENT OF TRANSPORTATION

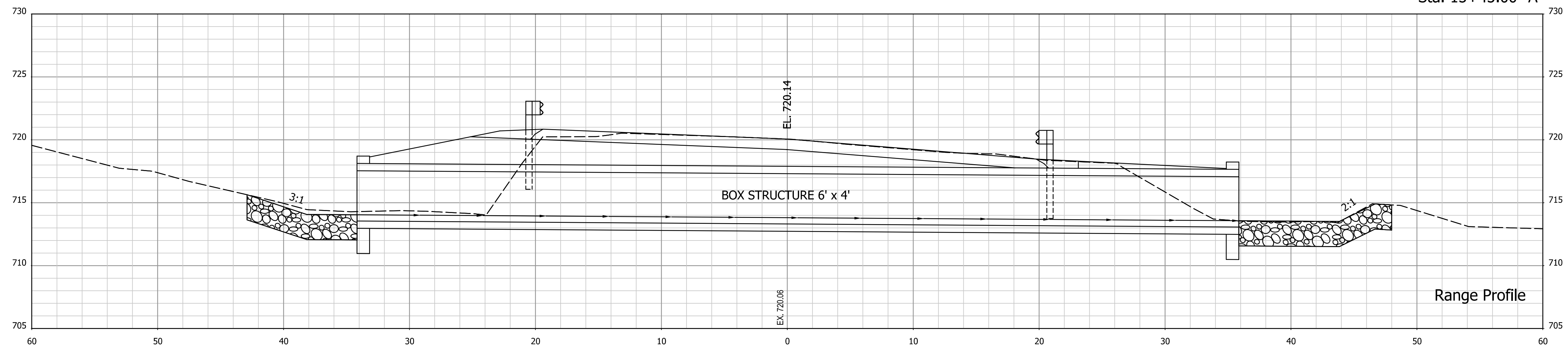
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STA. 14+50 TO STA. 15+00 "A"

HORIZONTAL SCALE 1" = 5'	BRIDGE FILE CV 058-047-90.45
VERTICAL SCALE 1" = 5'	DESIGNATION 1700047
SURVEY BOOK ELECTRONIC	SHEETS 16 of 18
CONTRACT R-40409	PROJECT 1700048

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15+50



15+01

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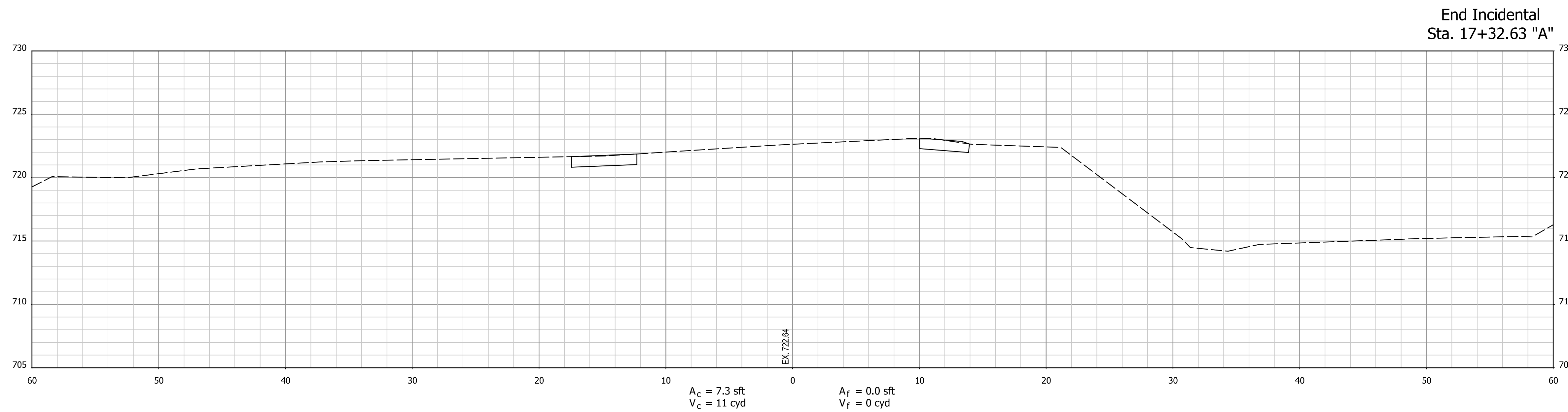
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INDIANA
DEPARTMENT OF TRANSPORTATION

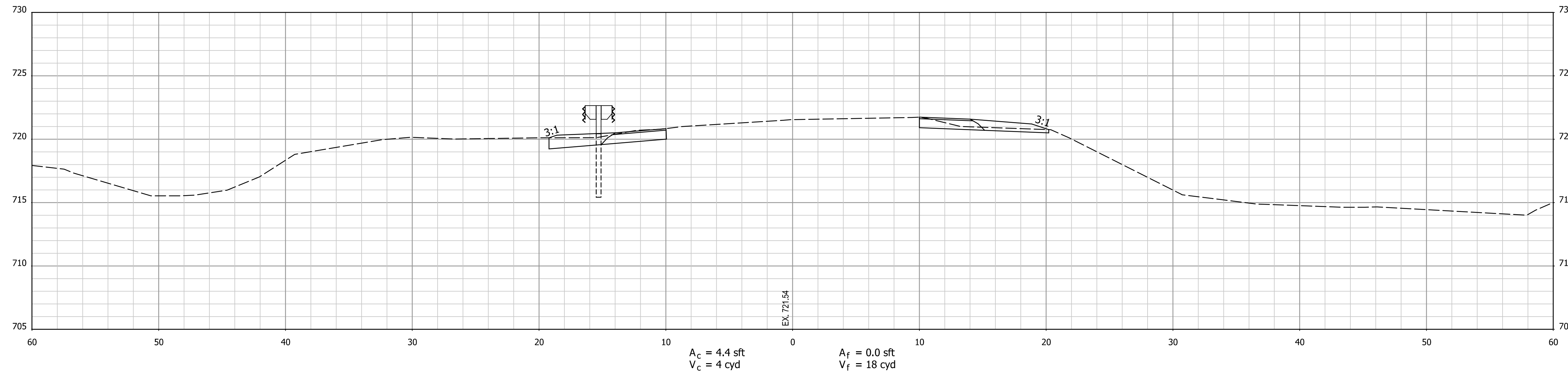
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STA. 15+01 TO STA. 15+50 "A"

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VERTICAL SCALE 1" = 5'	DESIGNATION 1700047
SURVEY BOOK ELECTRONIC	SHEETS 17 of 18
CONTRACT R-40409	PROJECT 1700048

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16+50



16+00

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DESIGNED: AMP _____	DRAWN: JJP _____	
CHECKED: VGE _____	CHECKED: AMP _____	

INDIANA
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
STA. 16+00 TO STA. 16+50 "A"

HORIZONTAL SCALE 1" = 5'	BRIDGE FILE CV 058-047-90.45
VERTICAL SCALE 1" = 5'	DESIGNATION 1700047
SURVEY BOOK ELECTRONIC	SHEETS 18 of 18
CONTRACT R-40409	PROJECT 1700048