

PROJECT	DESIGNATION
1800269	1800269
CONTRACT	BRIDGE FILE NO.
B-41448	

INDIANA DEPARTMENT OF TRANSPORTATION



SMALL STRUCTURE PLANS

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
CV 250-078-51.30	RC Box Culvert	1 Span @ 5'-0" Skew: 33° Rt.	UNT Bear Creek	17+70.93 "A"

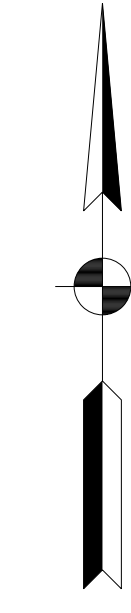
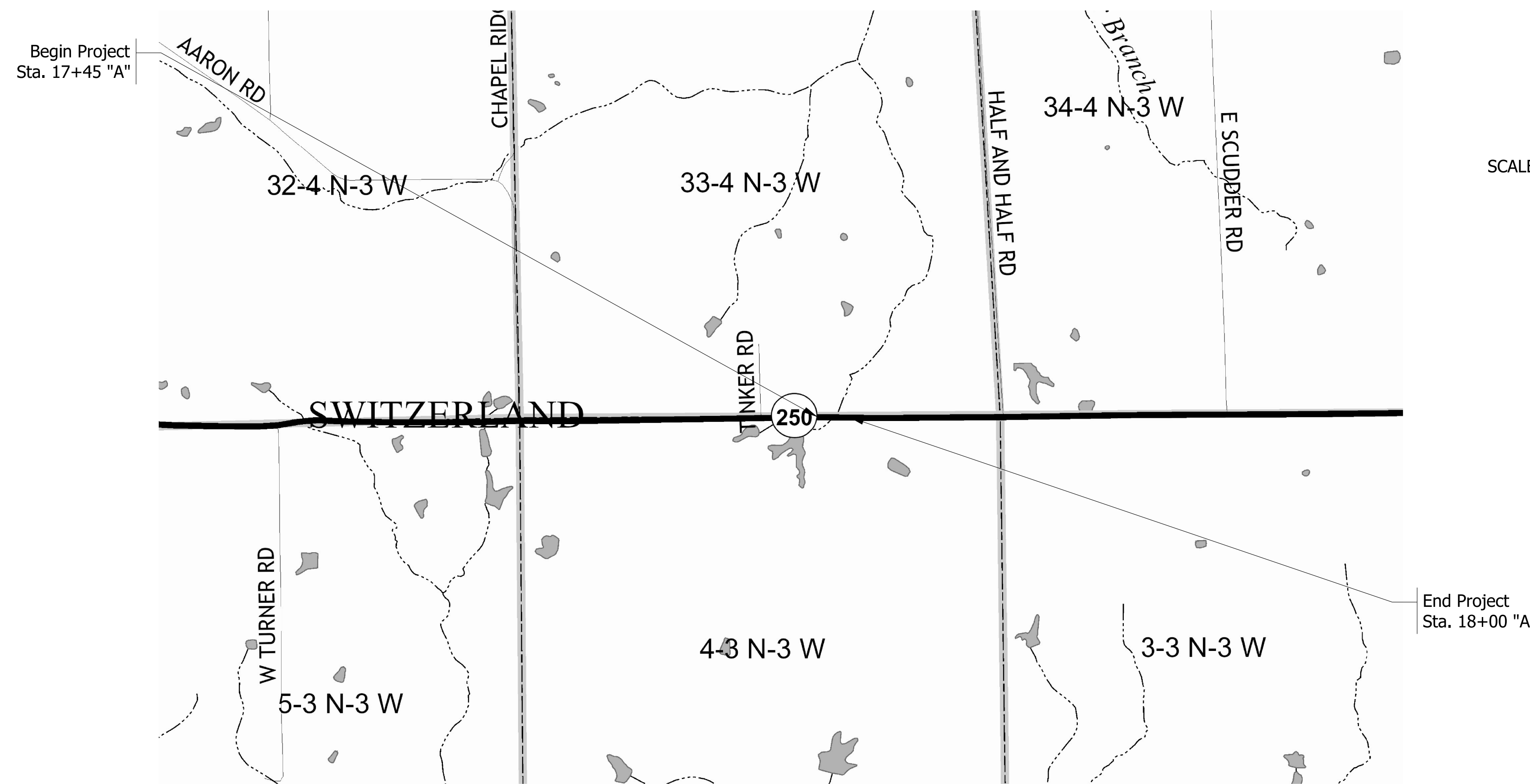
TRAFFIC DATA		
A.A.D.T. (2023)		653 V.P.D.
A.A.D.T. (2043)		684 V.P.D.
D.H.V (2043)		71 V.P.H.
DIRECTIONAL DISTRIBUTION		50.08 %
TRUCKS		9.49 % A.A.D.T. 17.91 % D.H.V.

DESIGN DATA	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R (Non-Freeway)
FUNCTIONAL CLASSIFICATION	Major Collector
RURAL/URBAN	Rural
TERRAIN	Level
ACCESS CONTROL	None

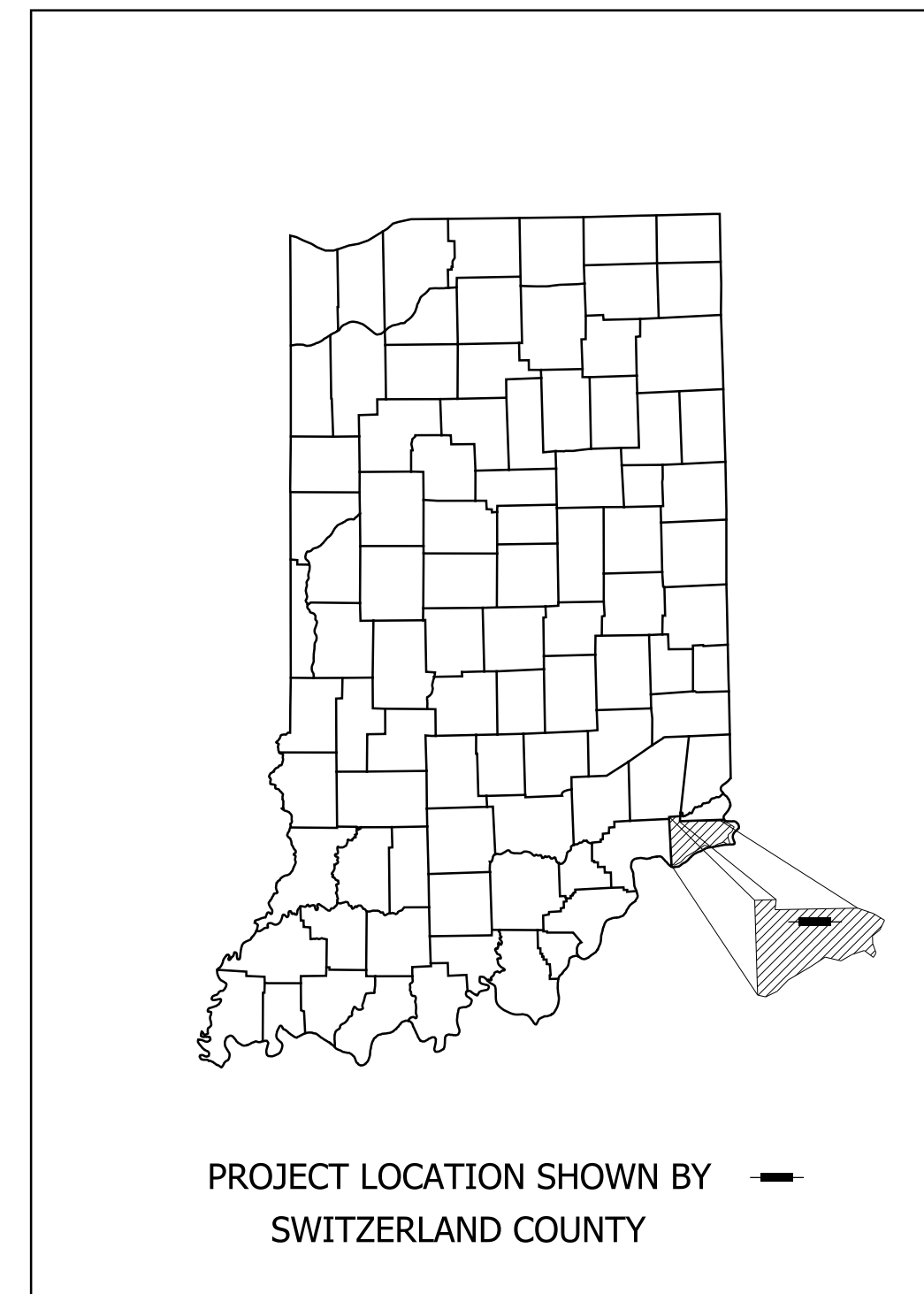
KIN PROJECT INFORMATION	
DESIGNATION	PROJECT DESCRIPTION
1801013	Small Structure Replacement on SR 250, 9.11 mi E. of SR 129
1800289	Bridge Superstructure Replacement on SR 250 over Indian Creek, 2.94 mi. E. of SR 129
Pending	Pavement Resurfacing on SR 250 from SR 129 to SR 56

ROUTE: SR 250 AT: RP 51+30
PROJECT NO. 1800269 P.E.
 1800269 R/W
 1800269 CONST.

Small Structure Replacement on SR 250 over UNT Bear Creek
Located 4.61 Miles East of SR 129, at RP 51+30
Section 33, T-4-N, R-3-W, & Section 4, T-3-N, R-3-W, Pleasant Township, Switzerland County



SCALE: 1" = 1000'



LATITUDE: 38° 52' 25" LONGITUDE: 85° 06' 18"

BRIDGE LENGTH: N/A MI.
ROADWAY LENGTH: 0.070 MI.
TOTAL LENGTH: 0.070 MI.
MAX. GRADE: -5.16% %

HUC: 05090203070050

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2021
TO BE USED WITH THESE PLANS



PLANS PREPARED BY: STRAND ASSOCIATES, INC. (812)372-9911
629 WASHINGTON ST., COLUMBUS, IN 47201 PHONE NUMBER

CERTIFIED BY: _____ DATE _____

APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE _____

	BRIDGE FILE NO.	
	DESIGNATION	
	1800269	
SURVEY BOOK	SHEETS	
	1	of 16
CONTRACT	PROJECT	
B-41448	1800269	

UTILITIES

ELECTRIC:	SOUTHEASTERN INDIANA REMC OSGOOD, IN 47037 PH: (812) 689-4111 EMAIL: perryh@seirem.com ATTN: Perry Hardy
COMMUNICATION:	CENTURYLINK PH: (419) 226-6342 EMAIL: john.c.unverferth@centurylink.com ATTN: John Unverferth
COMMUNICATION:	SEI COMMUNICATIONS PH: (812) 667-5100 EMAIL: brutherj@seidata.com ATTN: Jarrod Bruther
WATER:	PATRIOT MUNICIPAL UTILITIES PATRIOT, IN 47038 PH: (812) 594-2243 EMAIL: jpd71777@aol.com ATTN: Joey Duckworth
GAS:	TEXAS GAS TRANSMISSION LLC PH: (337) 856-2211 EMAIL: joy.parrott@bwpmpl.com ATTN: Joy Parrott

GENERAL NOTES

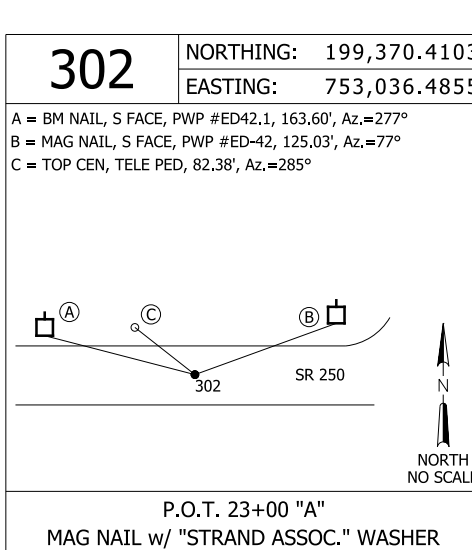
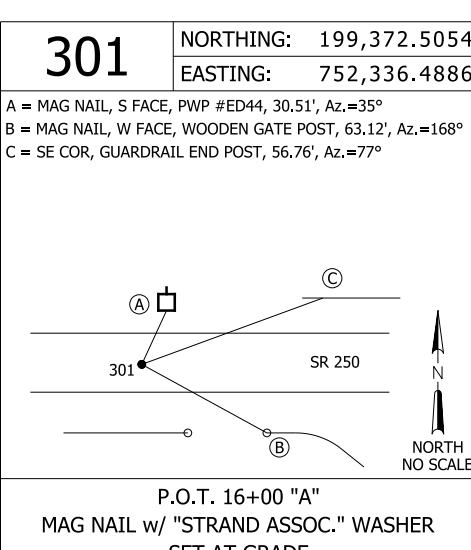
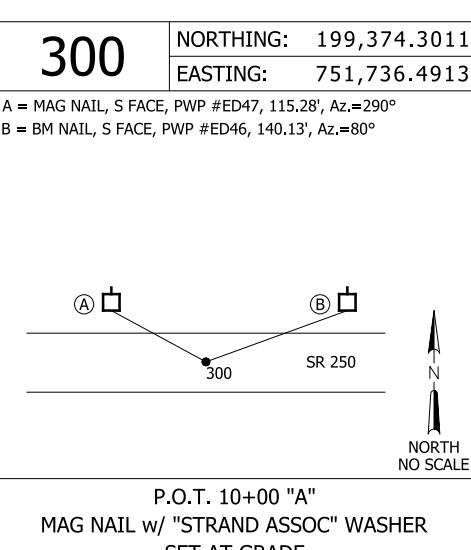
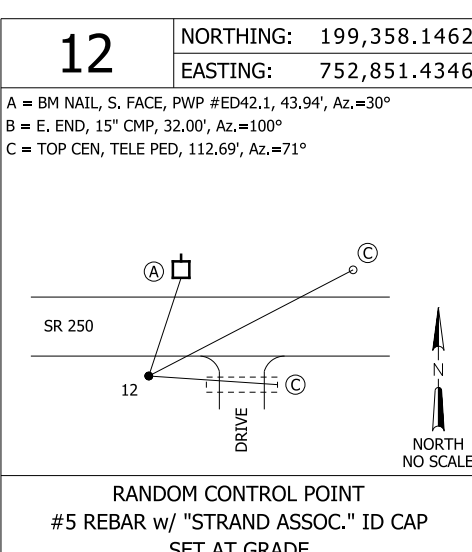
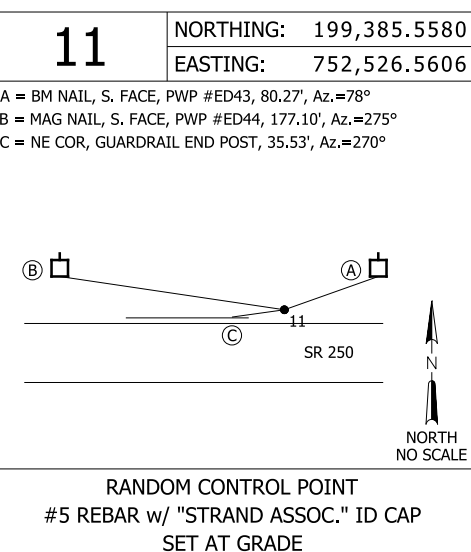
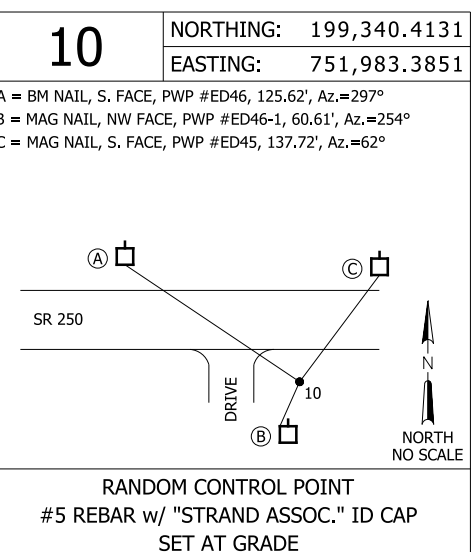
All earth shoulders, median areas, and cut and fill slopes shall be plain or mulch seeded except where sodding is specified.
The final cross sections of the grading contract will be the original cross sections of the paving contract. However, partial or complete cross sections shall be taken if necessary to determine the actual excavation quantities.
The paper relocation will be cross sectioned by the Engineer before construction.

INDEX

SHEET NO.	DRAWINGS INDEX
1	TITLE SHEET
2	INDEX AND GENERAL NOTES
3	TYPICAL CROSS SECTIONS
4	PLAT NO. 1
5	DETOUR ROUTE
6	PLAN & PROFILE
7	CONSTRUCTION DETAILS
8	LAYOUT
9-10	STRUCTURE DETAILS
11	EROSION CONTROL PLANS
12	MISCELLANEOUS TABLES
13-16	CROSS SECTIONS

REVISIONS

SHEET NO.	DATE	REVISED

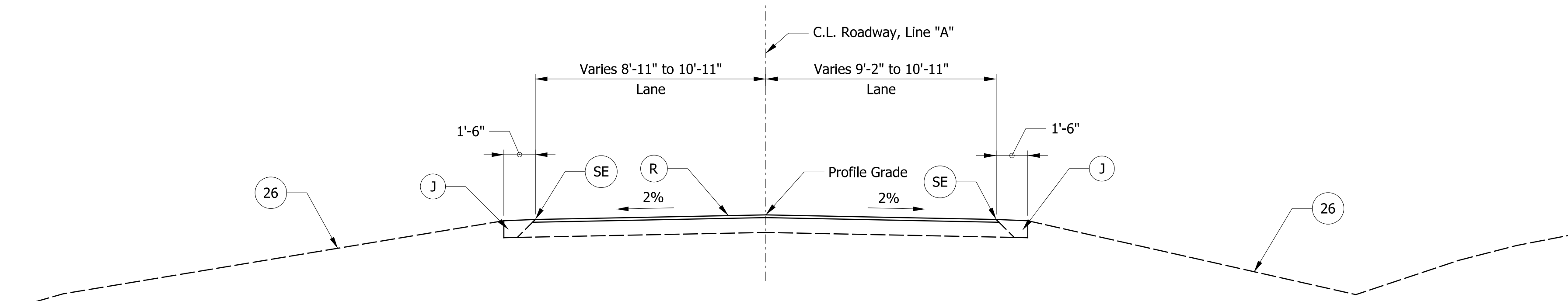


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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE NA	BRIDGE FILE NO.
	GENERAL NOTES AND INDEX S.R. 250 OVER UNT BEAR CREEK	VERTICAL SCALE NA	DESIGNATION NO. 1800269
DESIGNED: STO DRAWN: STO CHECKED: ALB CHECKED: ALB		SURVEY BOOK NO. SHEETS _____ 2 of 16	CONTRACT NO. PROJECT NO. B-41448 1800269

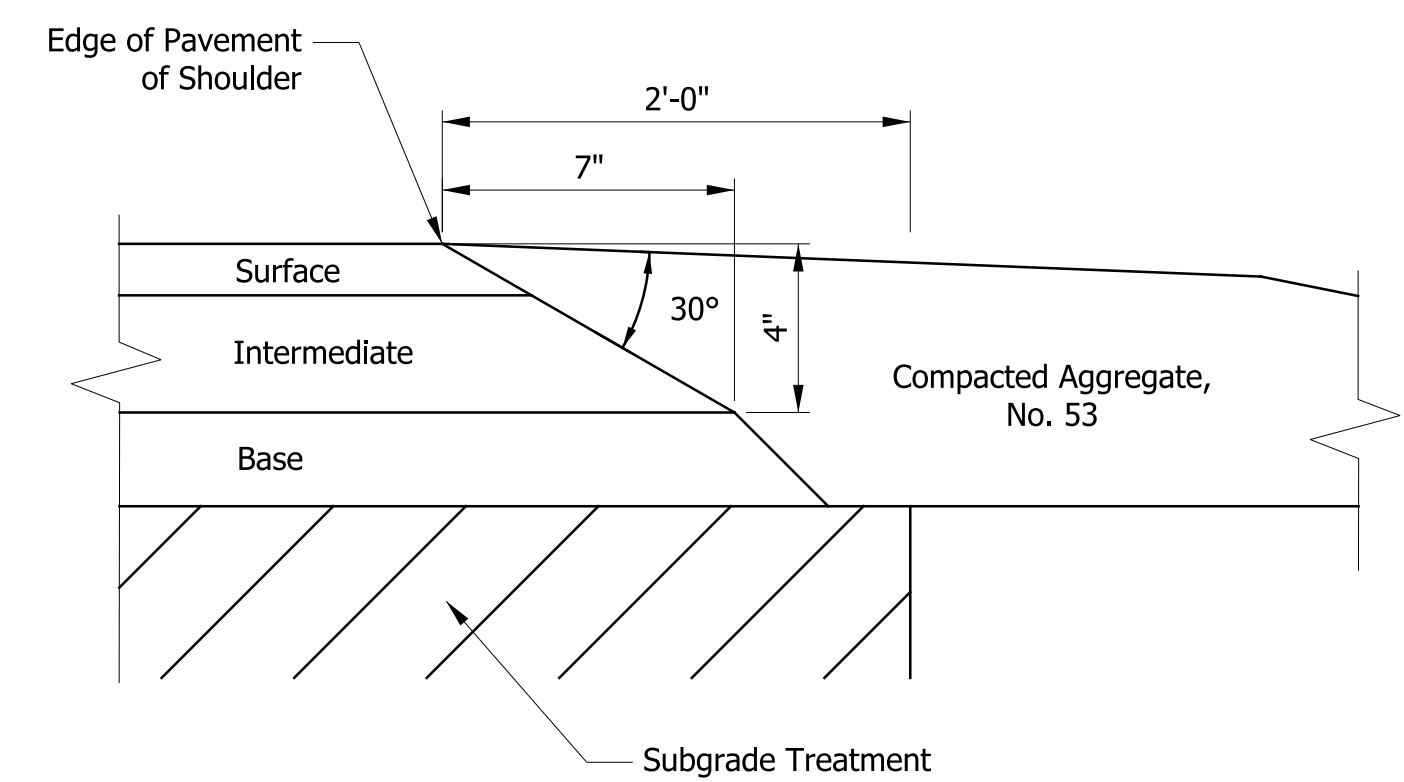
Legend

- 26 Seed Mixture, R
- SE Safety Edge
- J Compacted Aggregate No. 53
- K Full Depth HMA Pavement
- R 165 #/SY QC/QA-HMA, 2, 64, Surface, 9.5 mm on Wedge & Level (as directed) on Milling, 1.5"

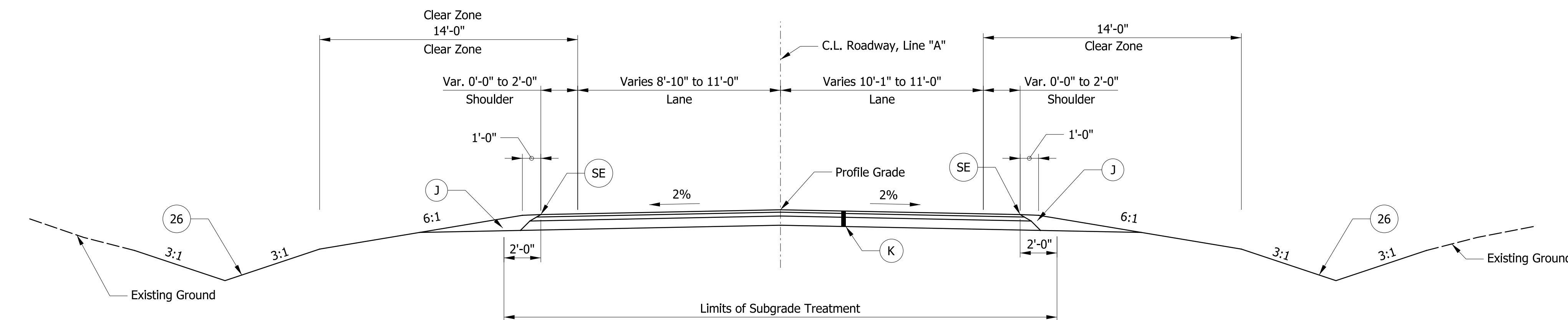


TYPICAL INCIDENTAL SECTION

Sta. 16+00 "A" to Sta. 16+70 "A"
Sta. 18+93 "A" to Sta. 19+19 "A"

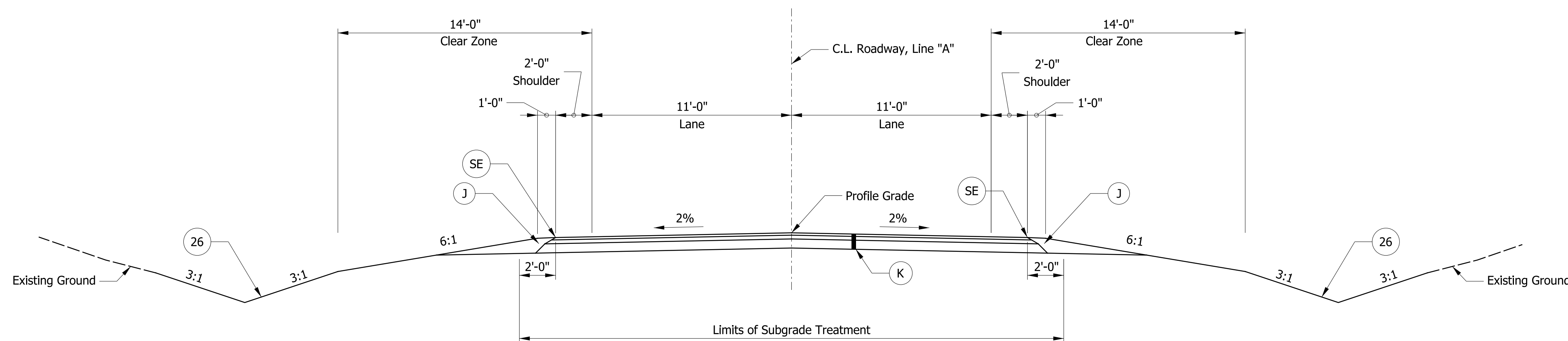


SAFETY EDGE ON HMA PAVEMENT



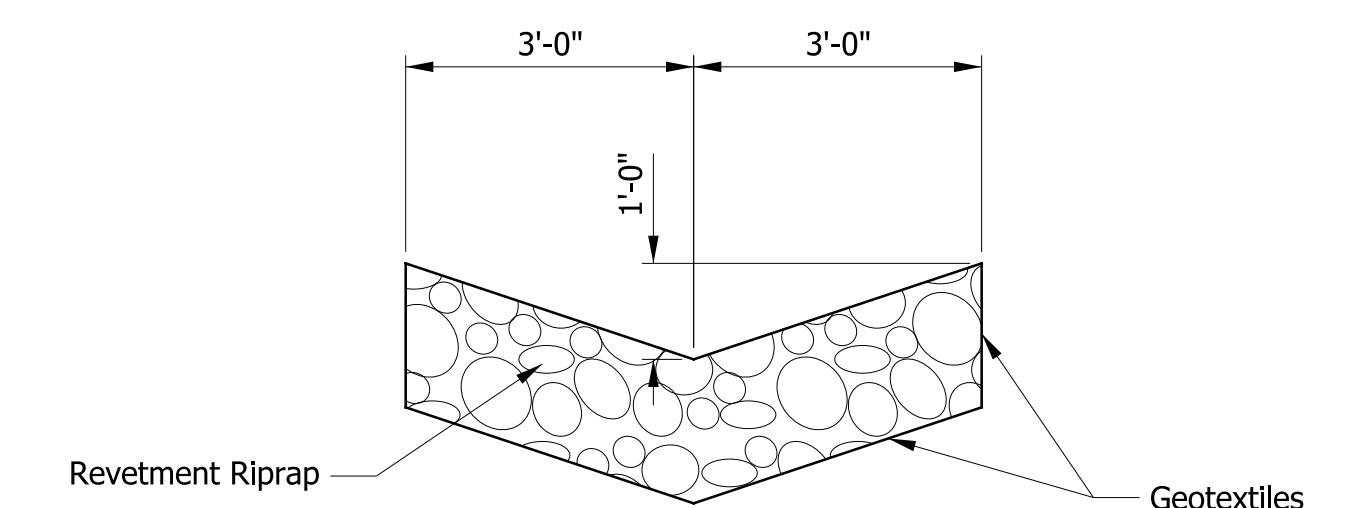
TYPICAL INCIDENTAL SECTION

Sta. 16+70 "A" to Sta. 17+45 "A"
Sta. 18+00 "A" to Sta. 18+93 "A"



TYPICAL ROADWAY SECTION

Sta. 17+45 "A" to Sta. 18+00 "A"



RIPRAP DITCH

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____

DESIGNED: STO DRAWN: STO
CHECKED: ALB CHECKED: ALB

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
S.R. 250 OVER UNT BEAR CREEK

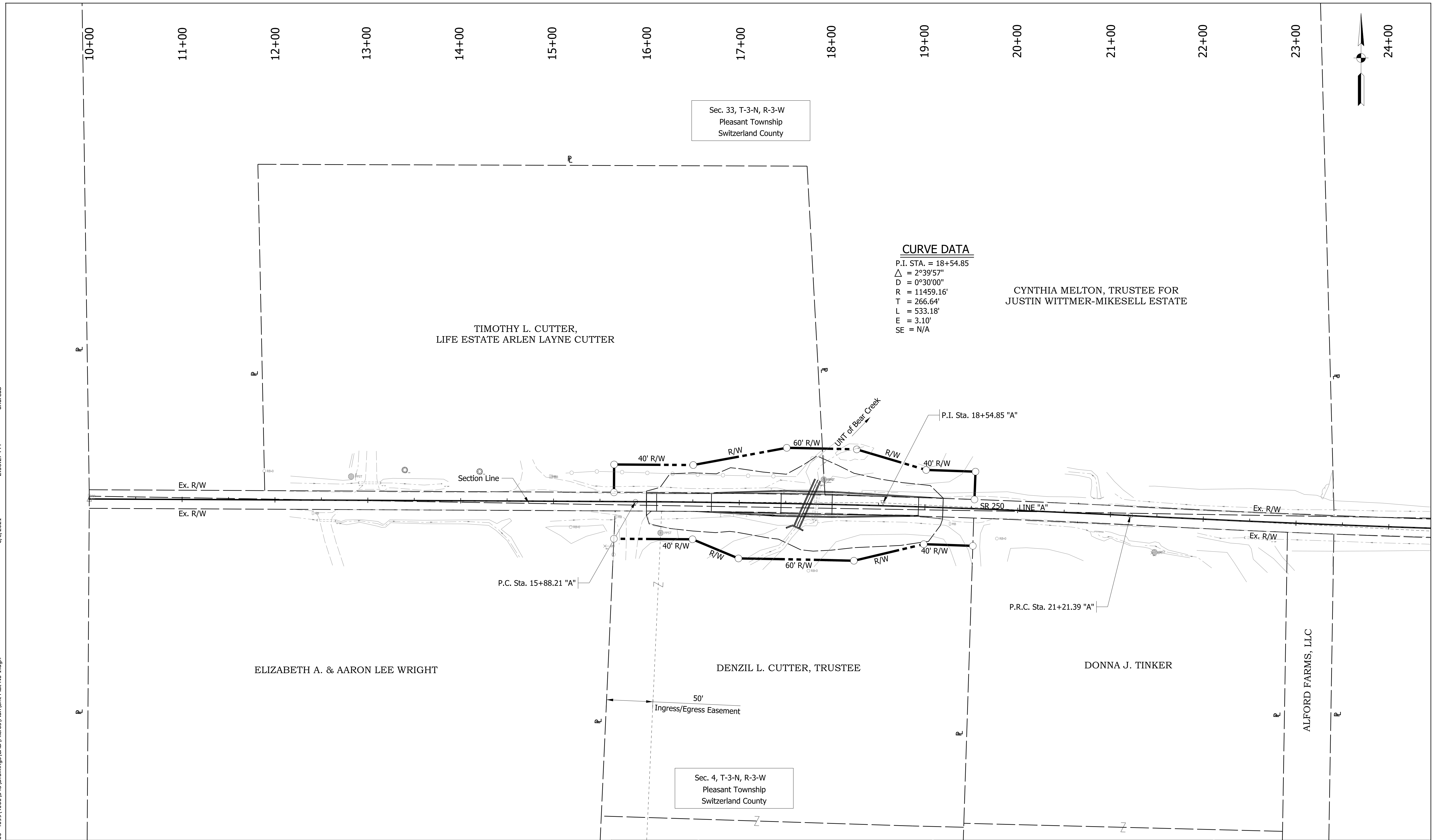
HORIZONTAL SCALE 1/4" = 1'-0"	BRIDGE FILE NO.
VERTICAL SCALE 1/4" = 1'-0"	DESIGNATION NO. 1800269
SURVEY BOOK NO.	SHEETS 3 of 16
CONTRACT NO. B-41448	PROJECT NO. 1800269

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Sec. 33, T-3-N, R-3-W
Pleasant Township
Switzerland County

CURVE DATA

P.I. STA. = 18+54.85
 $\Delta = 2^{\circ}39'57''$
 $D = 0^{\circ}30'00''$
 $R = 11459.16'$
 $T = 266.64'$
 $L = 533.18'$
 $E = 3.10'$
 $SE = N/A$

CYNTHIA MELTON, TRUSTEE FOR
JUSTIN WITTMER-MIKESELL ESTATE

TIMOTHY L. CUTTER,
LIFE ESTATE ARLEN LAYNE CUTTER

ELIZABETH A. & AARON LEE WRIGHT

DENZIL L. CUTTER, TRUSTEE

DONNA J. TINKER

ALFORD FARMS, LLC

Sec. 4, T-3-N, R-3-W
Pleasant Township
Switzerland County

RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE

DESIGNED: STO DRAWN: STO

CHECKED: ALB CHECKED: ALB

INDIANA
DEPARTMENT OF TRANSPORTATION

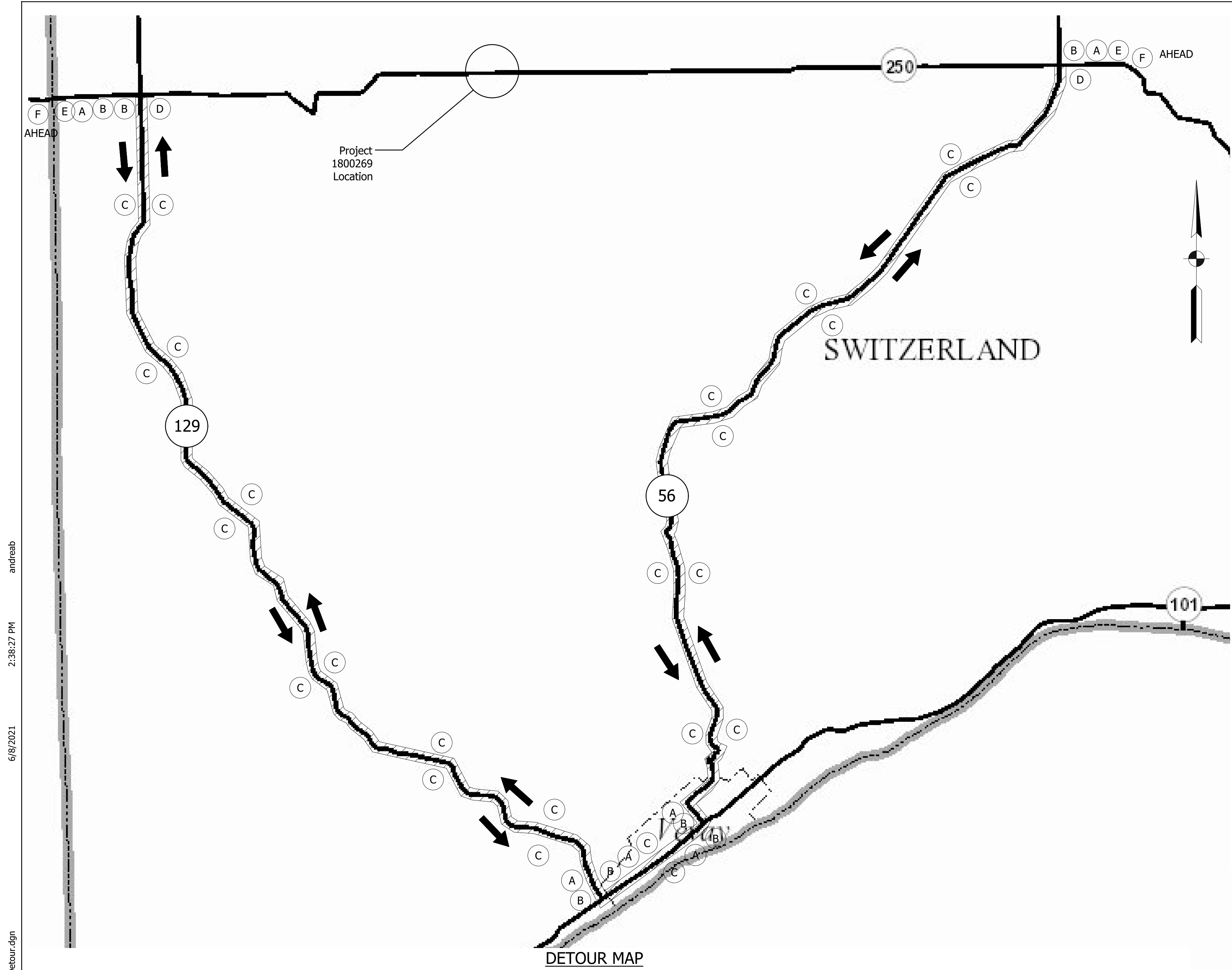
PLAT NO. 1
S.R. 250 OVER UNT BEAR CREEK

HORIZONTAL SCALE BRIDGE FILE NO.

1" = 50'
VERTICAL SCALE DESIGNATION NO.
NA 1800269

SURVEY BOOK NO. SHEETS
4 of 16

CONTRACT NO. PROJECT NO.
B-41448 1800269



Detour Route Marker Assemblies		
A	DRMA (Advance Turn)	6 Ea.
B	DRMA (Directional)	6 Ea.
C	DRMA (Confirming)	24 Ea.
D	DRMA (End)	2 Ea.

Road Closure Sign Assemblies		
N	RCSA (R11-4)	2 Ea.
P	RCSA (R11-2)	2 Ea.

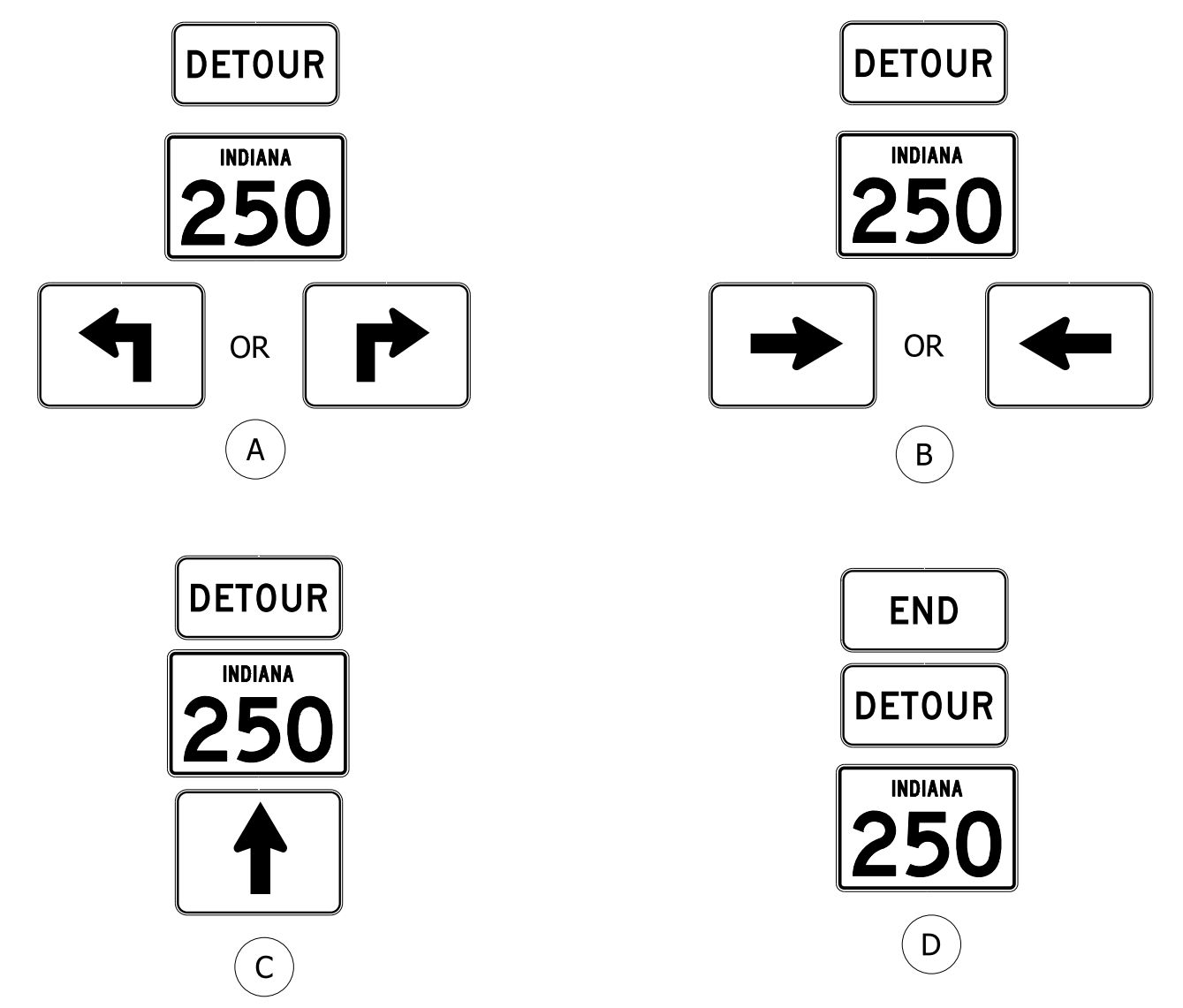
Type A Construction Signs		
I	XG20-2 (End Construction)	2 Ea.
J	XW20-1 (Road Construction Ahead)	2 Ea.
Q	XW2-6-A Worksite Penalty Sign	2 Ea.

Type A Construction Signs		
E	XW20-2 (Detour Ahead)	2 Ea.
F	XW20-3 (Road Closed _____)	14 Ea.
G	XG20-5 (Closure Date)	2 Ea.

Barricades		
K	Barricade, Type III-A (No. of 12' Units)	48 Lft. (4)
L	Barricade, Type III-B (No. of 12' Units)	48 Lft. (4)

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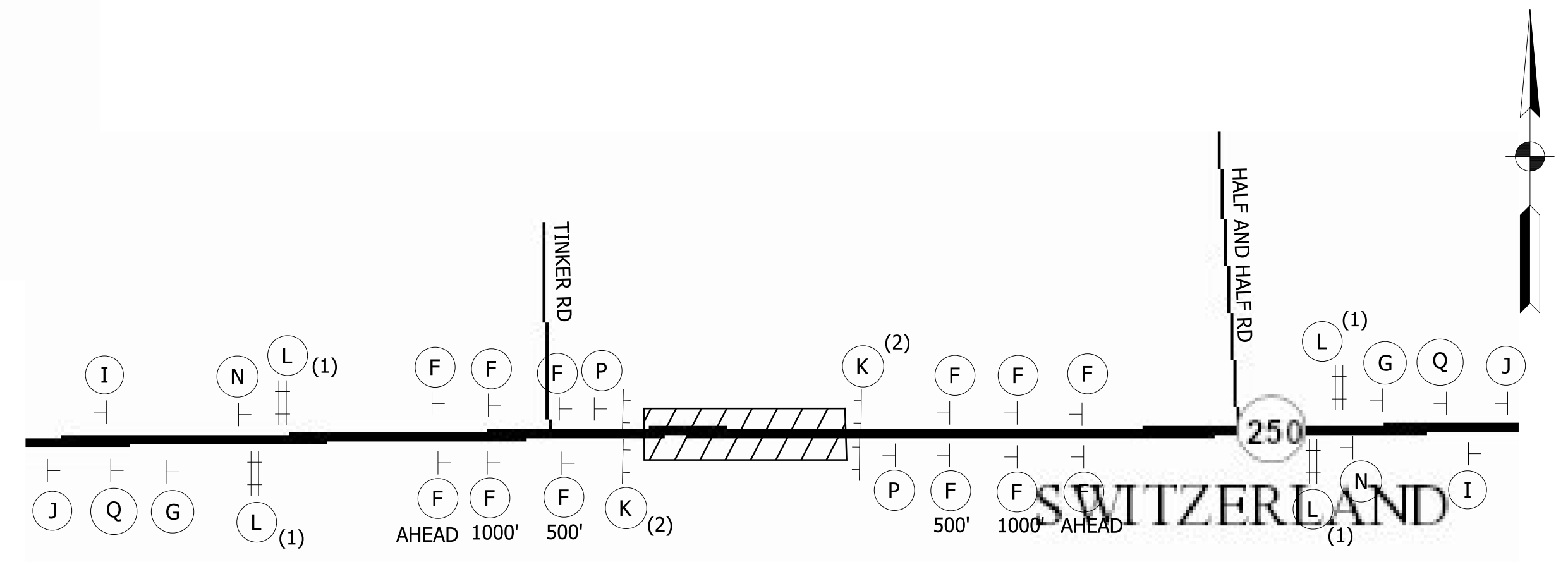
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DETOUR MAP

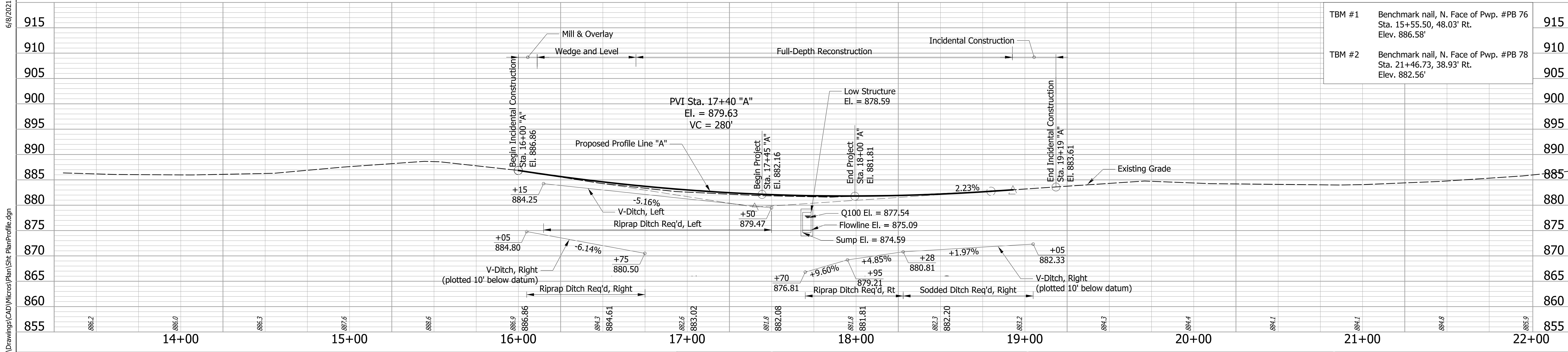
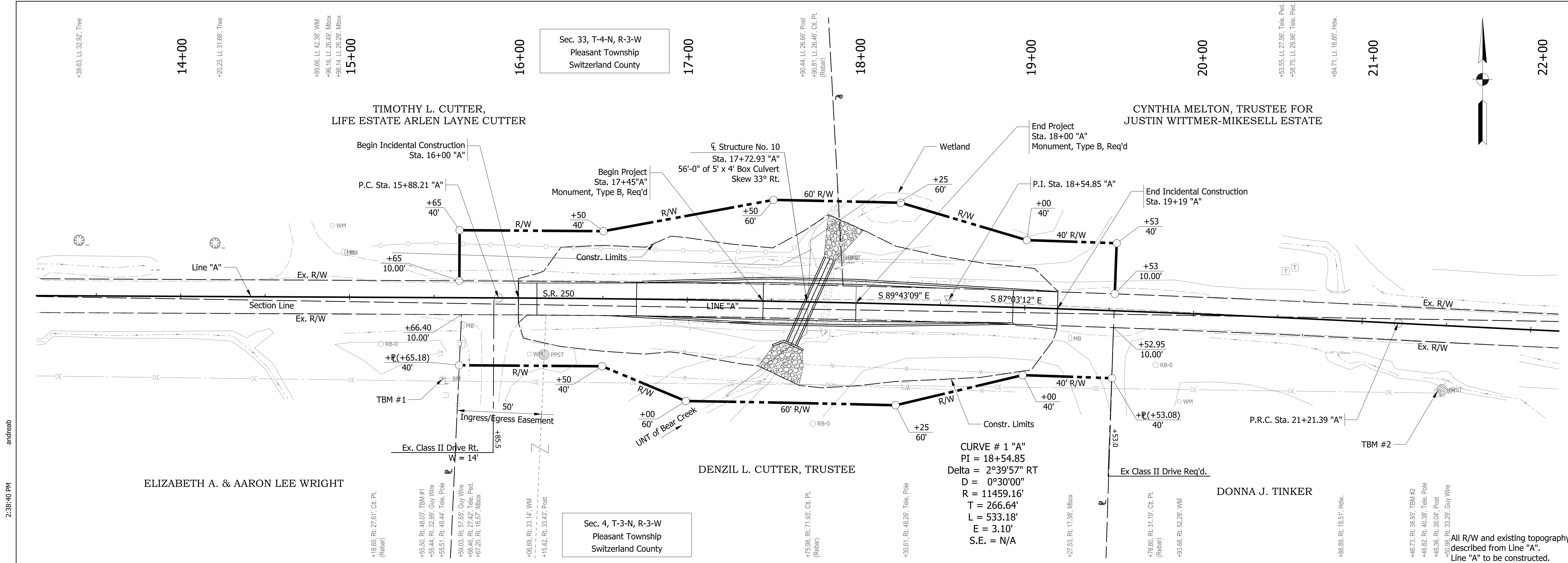
LEGEND

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



PROJECT LOCATION MAP
NOT TO SCALE

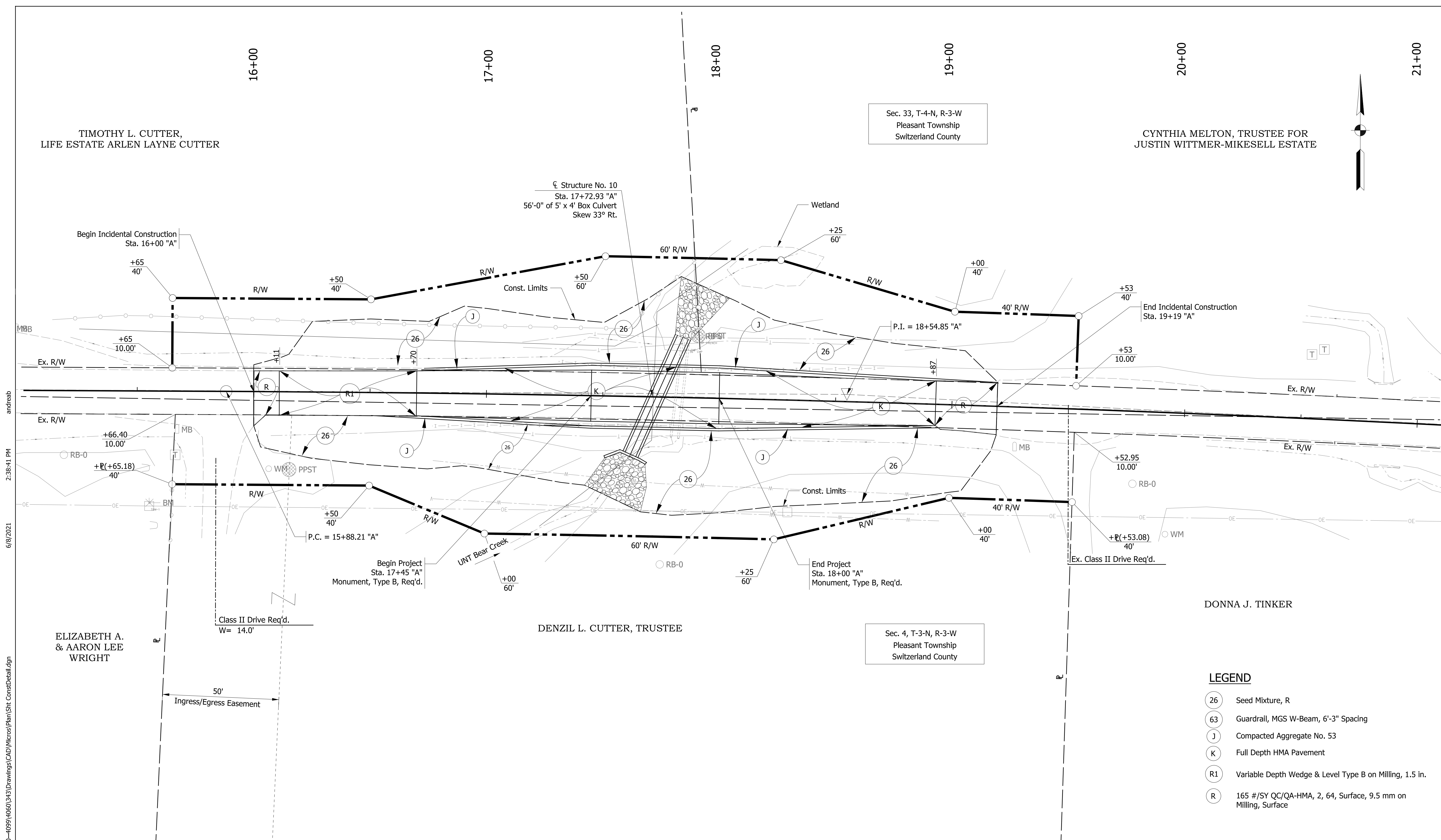
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE NO.
	DESIGNED: STO		DRAWN: STO	1" = 4000'
CHECKED: ALB	CHECKED: ALB	MAINTENANCE OF TRAFFIC S.R. 250 OVER UNT BEAR CREEK	VERTICAL SCALE	1800269
			NA	SURVEY BOOK NO.
			5 of 16	
			CONTRACT NO.	PROJECT NO.
			B-41448	1800269



TBM #1	Benchmark nail, N. Face of Pwp. #PB 76 Sta. 15+55.50, 48.03' Rt. Elev. 886.58'	915
TBM #2	Benchmark nail, N. Face of Pwp. #PB 78 Sta. 21+46.73, 38.93' Rt. Elev. 882.56'	910

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE	BRIDGE FILE NO.
DESIGNED: STO		DRAWN: STO					1" = 30'	
CHECKED: ALB		CHECKED: ALB			PLAN AND PROFILE		VERTICAL SCALE	DESIGNATION NO.
					S.R. 250 OVER UNT BEAR CREEK		1" = 10'	1800269
							SURVEY BOOK NO.	SHEETS
								6 of 16
							CONTRACT NO.	PROJECT NO.
							B-41448	1800269

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DONNA J. TINKER

- LEGEND**
- (26) Seed Mixture, R
 - (63) Guardrail, MGS W-Beam, 6'-3" Spacing
 - (J) Compacted Aggregate No. 53
 - (K) Full Depth HMA Pavement
 - (R1) Variable Depth Wedge & Level Type B on Milling, 1.5 in.
 - (R) 165 #/SY QC/QA-HMA, 2, 64, Surface, 9.5 mm on Milling, Surface

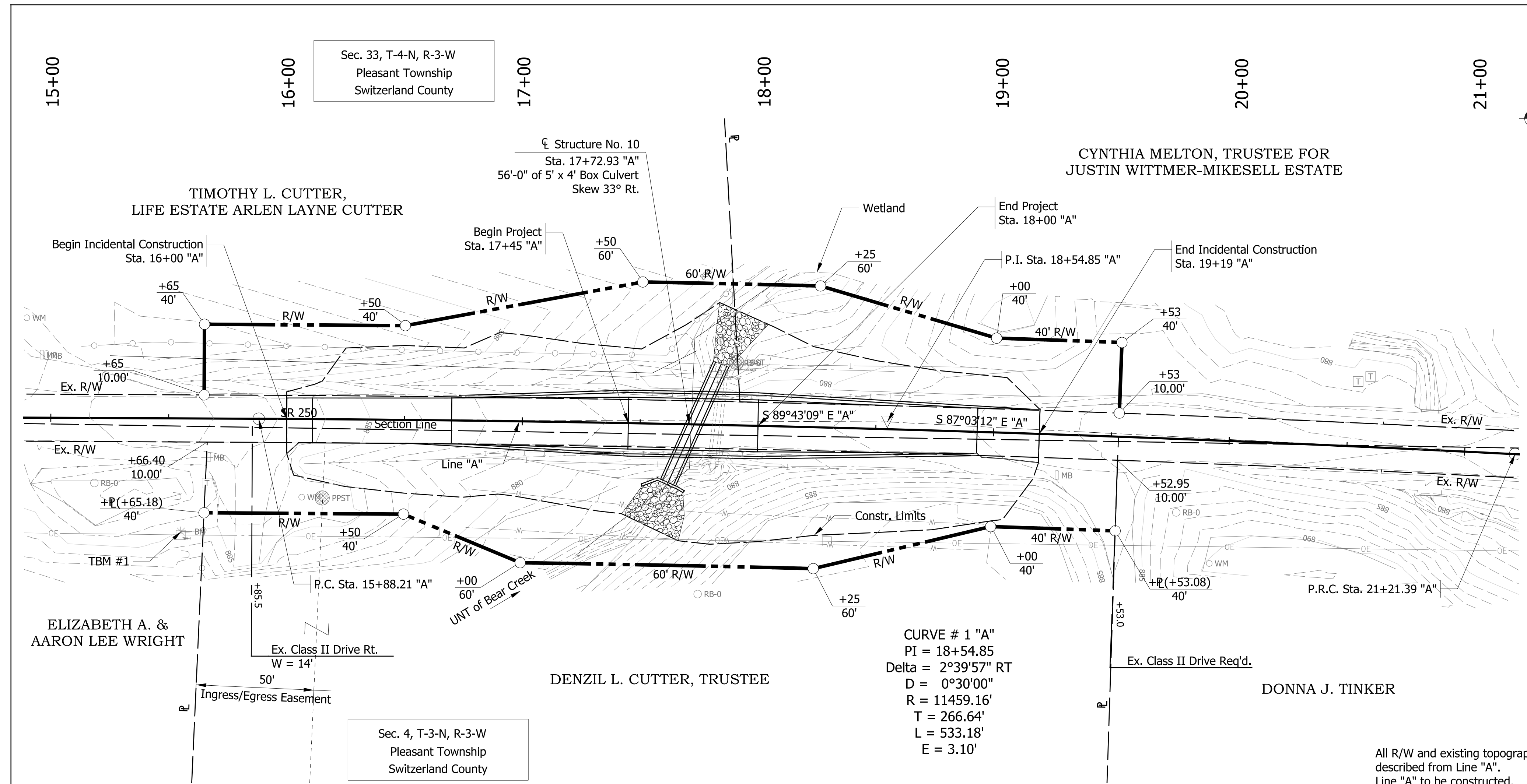
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: STO	DRAWN: STO	
CHECKED: ALB	CHECKED: ALB	

INDIANA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

S.R. 250 OVER UNT BEAR CREEK

HORIZONTAL SCALE	BRIDGE FILE NO.
1" = 20'	
VERTICAL SCALE	DESIGNATION NO.
NA	1800269
SURVEY BOOK NO.	SHEETS
	7 of 16
CONTRACT NO.	PROJECT NO.
B-41448	1800269



EXISTING STRUCTURE

The original structure (CV 250-078-51.30) was a 4-ft x 3.2-ft three sided concrete structure approximately 30 feet in length. The structure was replaced by two temporary 36-in corrugated metal pipes. Existing structure to be removed.

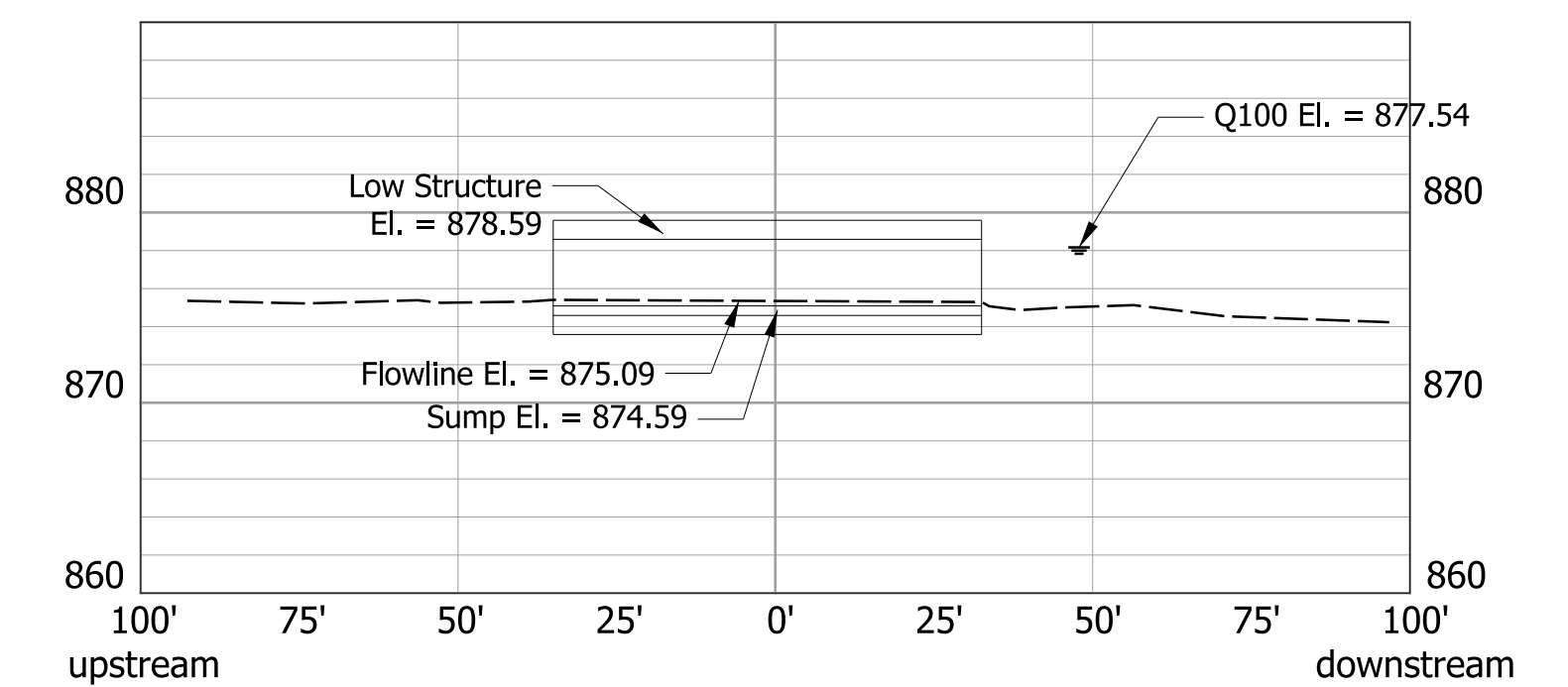
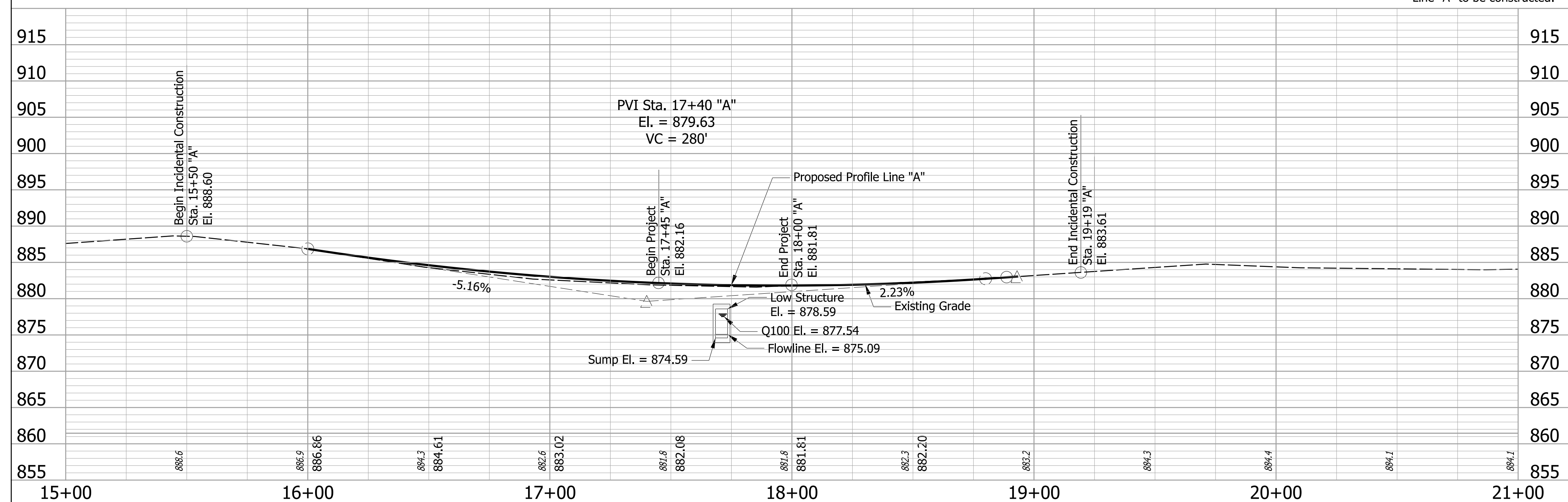
EARTHWORK TABULATION

Fill + 25%	394 CYS
Usable Common Excavation	268 CYS
Unusable Common Excavation	385 CYS
Total Common Excavation	653 CYS
Total Borrow	129 CYS
Benching	155 CYS

No direct payment for Benchng. Benchng will not be paid for as Common Excavation.

HYDRAULIC DATA

Drainage Area	=	0.16 sq. mi.
Q100 Discharge	=	115.4 cfs
Q100 Elevation	=	877.54 ft
10% EP Outlet Velocity		
Existing	=	7.34 fps
Proposed	=	5.93 fps
Backwater @ Q100		
Existing	=	2.90 ft
Proposed	=	2.01 ft



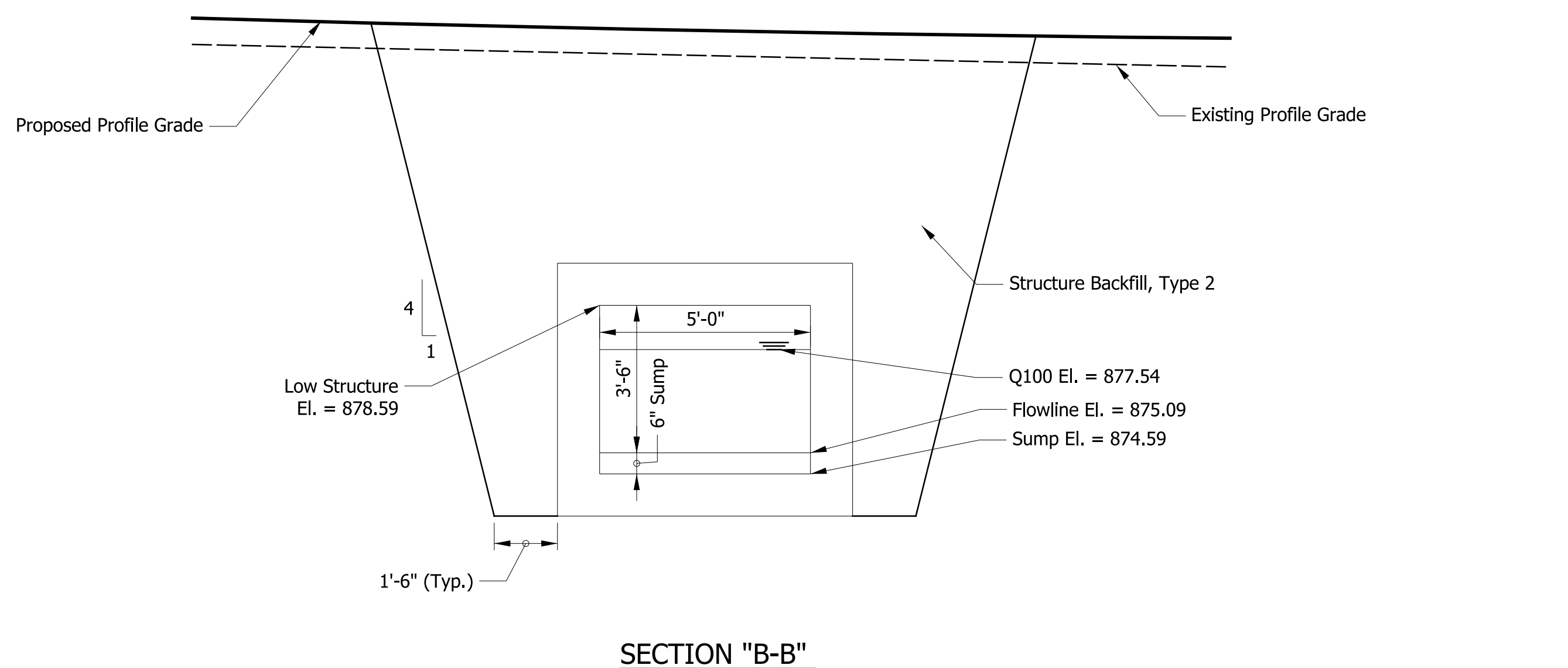
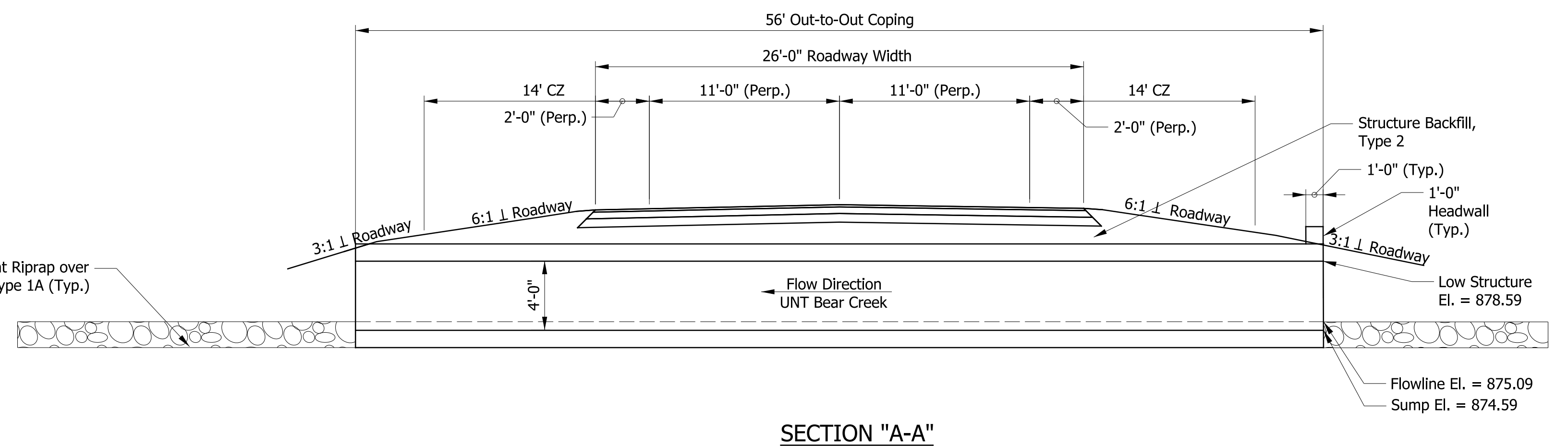
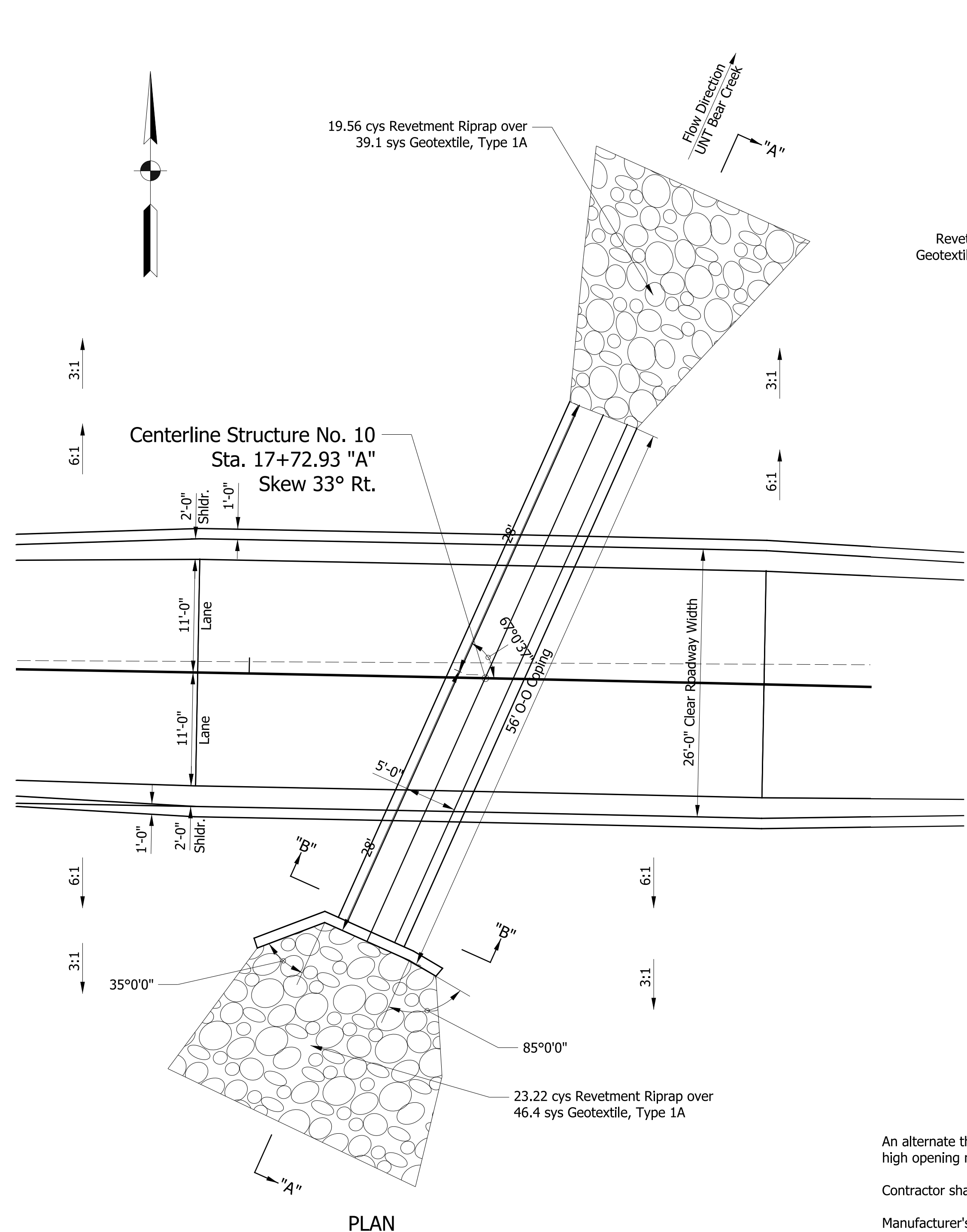
STREAM PROFILE

REINFORCED CONCRETE BOX CULVERT
SPAN: 5'-0"
RISE: 4'-0", SUMP: 0'-6", CLEAR HEIGHT: 3'-6"
LENGTH: 56'-0", SKEW: 33° RT.
SR 250 OVER UNT OF BEAR CREEK
SWITZERLAND COUNTY

15+00	16+00	17+00	18+00	19+00	20+00	21+00	RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION HORIZONTAL SCALE 1" = 30' VERTICAL SCALE 1" = 10' SURVEY BOOK NO. _____ SHEETS 8 of 16 CONTRACT NO. B-41448 PROJECT NO. 1800269
DESIGNED: STO	DRAWN: STO	CHECKED: ALB	CHECKED: ALB	LAYOUT S.R. 250 OVER UNT BEAR CREEK				

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GENERAL NOTES

An alternate three-sided arch-top structure with a 5-ft perpendicular span and a 4-ft high opening may be substituted for the structure shown.

Contractor shall verify the existing flowline elevation to set the appropriate sump depth.

Manufacturer's dimensions for pre-cast structures (except opening size) shall override shown dimension.

Waterproofing membrane shall be installed on the structure in accordance with the special provisions.

If unsuitable materials are encountered at the base of excavation, the material shall be removed and replaced up to 12" with compacted aggregate No. 53 at the discretion of the Project Engineer.

See Standard Drawing E 715-BKFL-01 for backfill trench elevation view.

DESIGN STRENGTH	
Reinforcing Steel (Grade 60)	$f_y = 60,000$ psi
Class C Concrete	$f'_c = 4,000$ psi
Class B Concrete	$f'_c = 3,000$ psi
Class A Concrete	$f'_c = 3,500$ psi

FOUNDATION DESIGN	
Nominal Bearing Resistance (Q_n)	12,900 psf
Resistance factor (ϕ)	0.45
Factored Bearing Resistance (Q_r)	5,800 psf
Friction angle between wingwall and soil backfill (δ)	20°
Friction factor at base of foundation (f)	--
Angle of internal friction of foundation soil (ϕ)	N/A

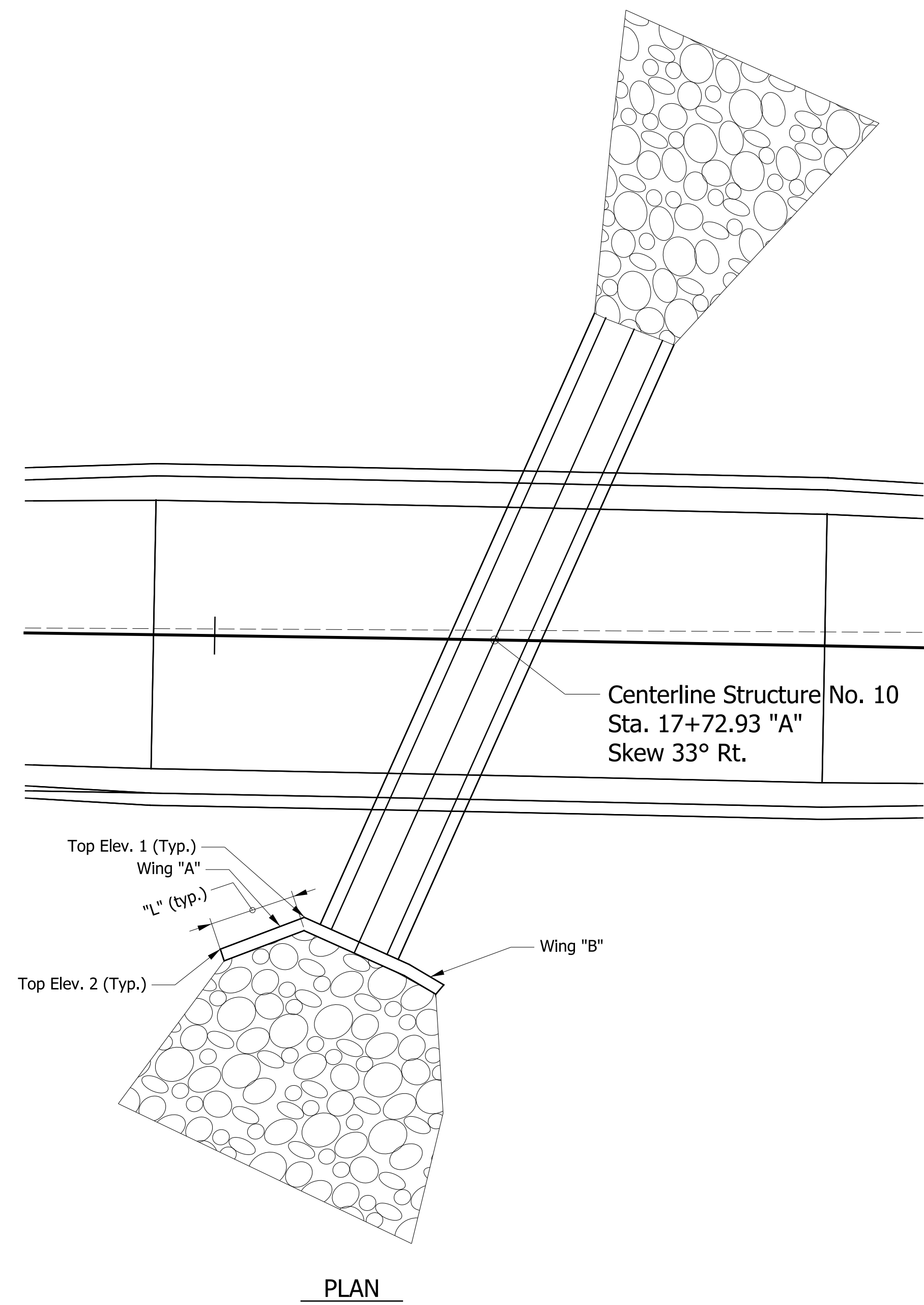
*This information is based on a minimum footing width of 3 feet.
 **Note to Reviewer: Soil Data to be updated after completion of Geotechnical Report.

REINFORCED CONCRETE BOX CULVERT
 SPAN: 5'-0"
 RISE: 4'-0", SUMP: 0'-6", CLEAR HEIGHT: 3'-6"
 LENGTH: 56', SKEW: 33° RT.
 SR 250 OVER UNT BEAR CREEK
 SWITZERLAND COUNTY

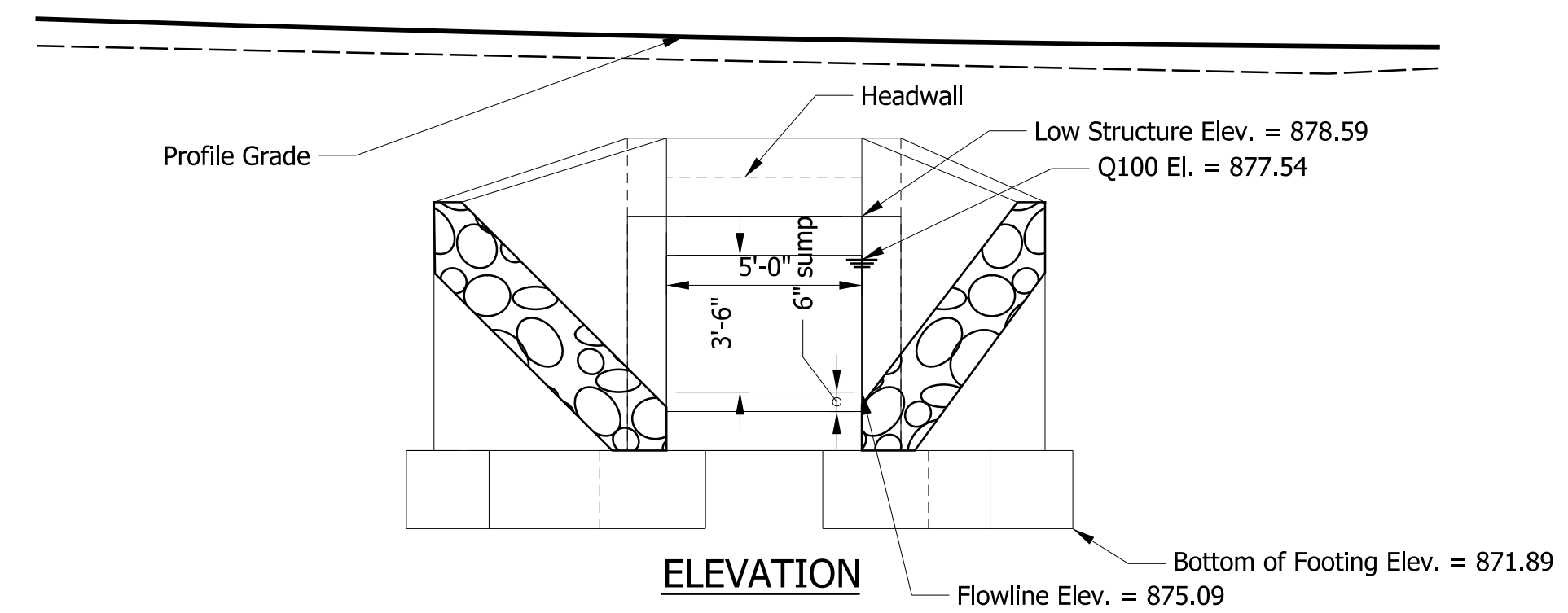
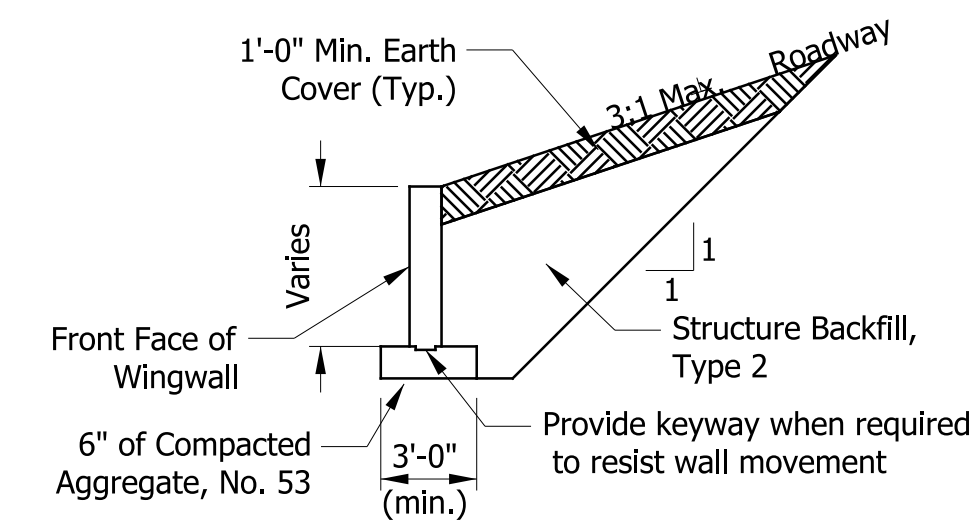
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE NO.	
	DESIGNED: STO	DRAWN: STO		VERTICAL SCALE	DESIGNATION NO.	
CHECKED: ALB	CHECKED: ALB		GENERAL PLAN S.R. 250 OVER UNT BEAR CREEK	1/8" = 1'-0"	1800269	
				1/8" = 1'-0"	SURVEY BOOK NO.	SHEETS
					9	of 16
				CONTRACT NO.	PROJECT NO.	
				B-41448	1800269	

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WINGWALL TABLE				
WING	TOP ELEV 1	TOP ELEV 2	LENGTH "L"	AREA
"A"	881.59	879.95	7'	62.2 sft
"B"	881.59	879.95	3'	26.6 sft

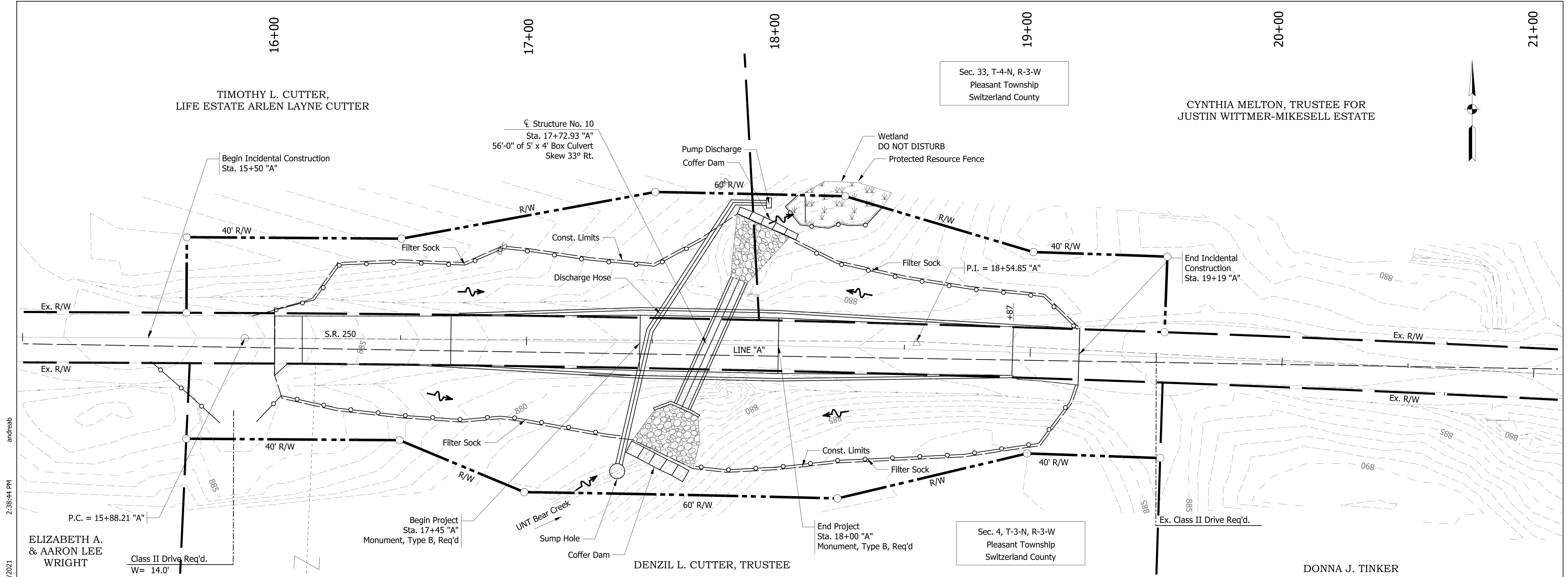


RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: STO _____	DRAWN: STO _____	
CHECKED: ALB _____	CHECKED: ALB _____	

INDIANA
DEPARTMENT OF TRANSPORTATION

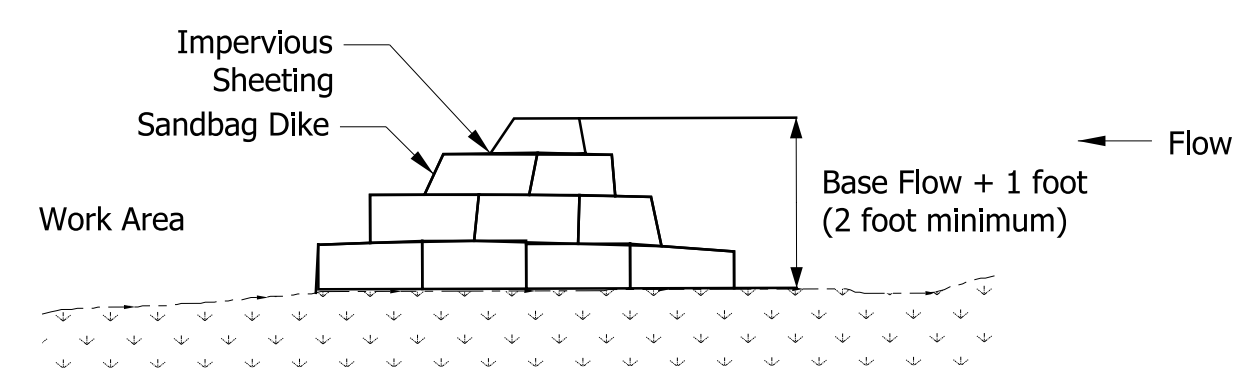
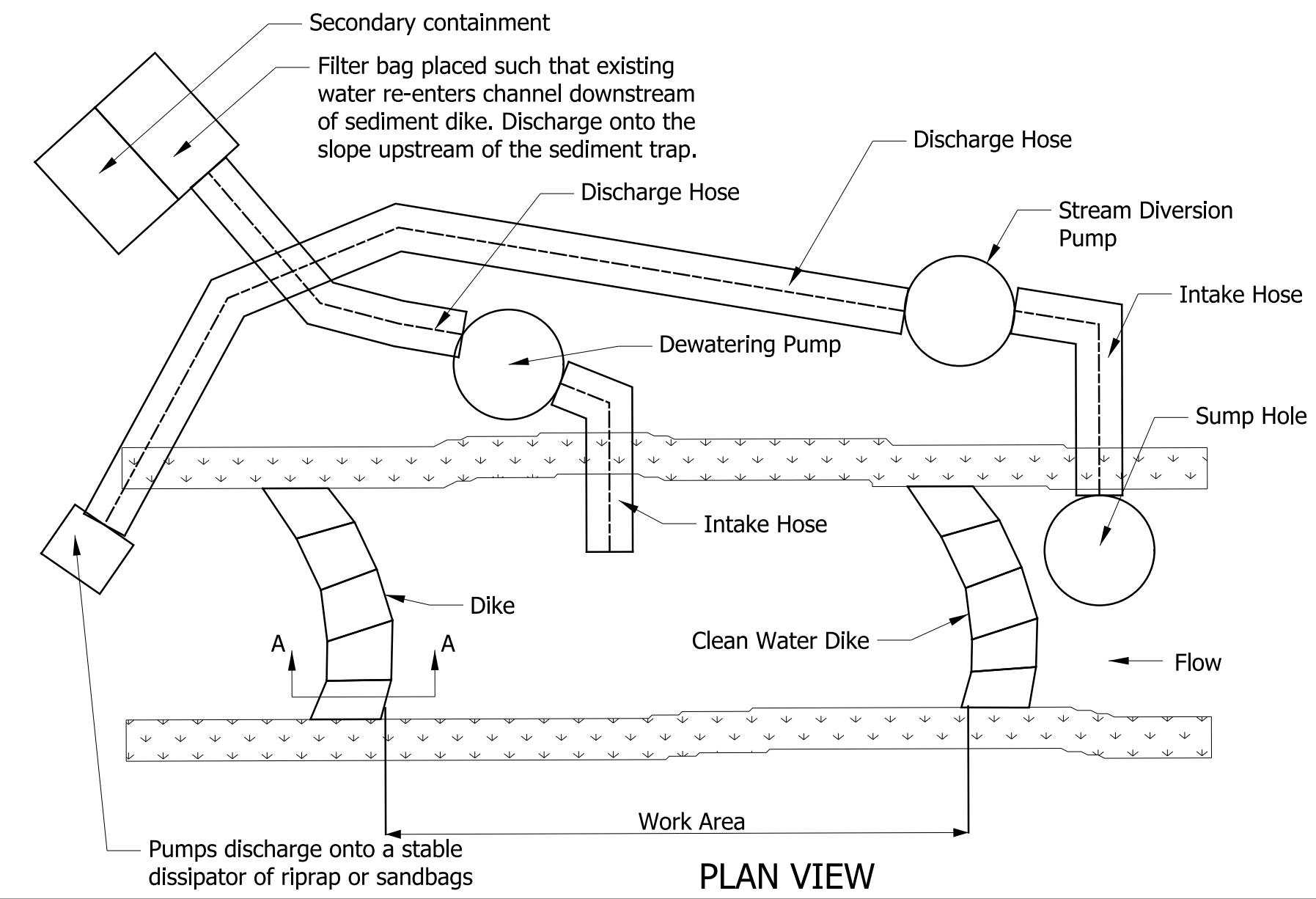
GENERAL PLAN TYPICALS
S.R. 250 OVER UNT BEAR CREEK

HORIZONTAL SCALE 1/8" = 1'-0"	BRIDGE FILE NO.
VERTICAL SCALE 1/8" = 1'-0"	DESIGNATION NO. 1800269
SURVEY BOOK NO.	SHEETS 10 of 16
CONTRACT NO. B-41448	PROJECT NO. 1800269



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SECTION "A-A"
PUMP AROUND DETAIL
 NOT TO SCALE

- NOTES**
- Clean water dike shall be 3'-0" high and 23'-0" wide.
 - Sediment dike shall be 2'-0" high and 20'-0" wide.
 - Intake hose shall be positioned so it does not rest on the stream bed.
 - Pump around shall be in place for the duration of construction activities in the channel.

TEMPORARY FILTER SOCK			
STATION	TO STATION	LT. / RT.	LENGTH
15+51	17+37	RT	188'
17+68	19+18	RT	193'
16+18	17+76	LT	164'
18+01	18+44	LT	53'
18+05	19+18	LT	121'
TOTAL			719'

- LEGEND**
- Temporary Filter Sock
 - Water Flow Direction
 - Cofferdam

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION EROSION CONTROL DETAILS S.R. 250 OVER UNT BEAR CREEK	HORIZONTAL SCALE 1" = 20'	BRIDGE FILE NO.
		VERTICAL SCALE NA	DESIGNATION NO. 1800269
DESIGNED: STO	DRAWN: STO	SURVEY BOOK NO.	SHEETS 11 of 16
CHECKED: ALB	CHECKED: ALB	CONTRACT NO. B-41448	PROJECT NO. 1800269