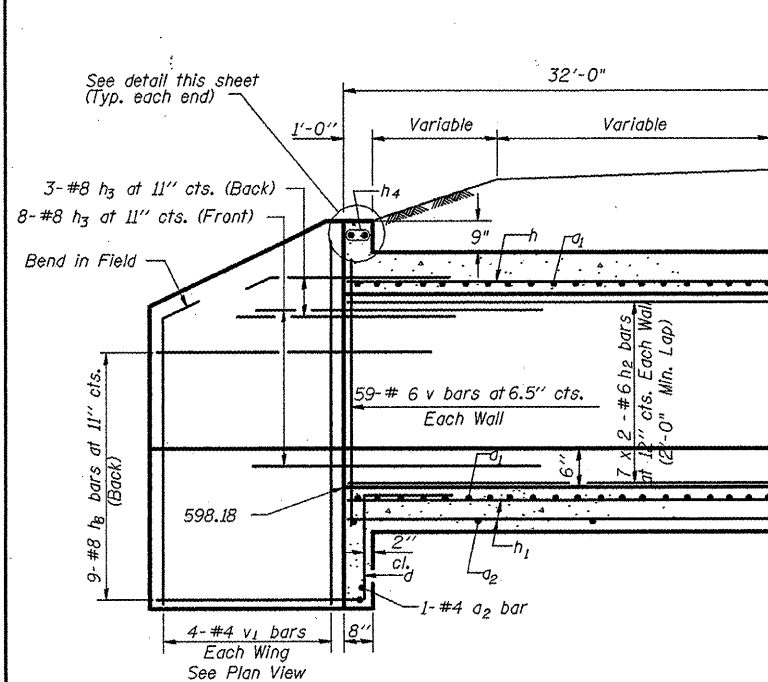
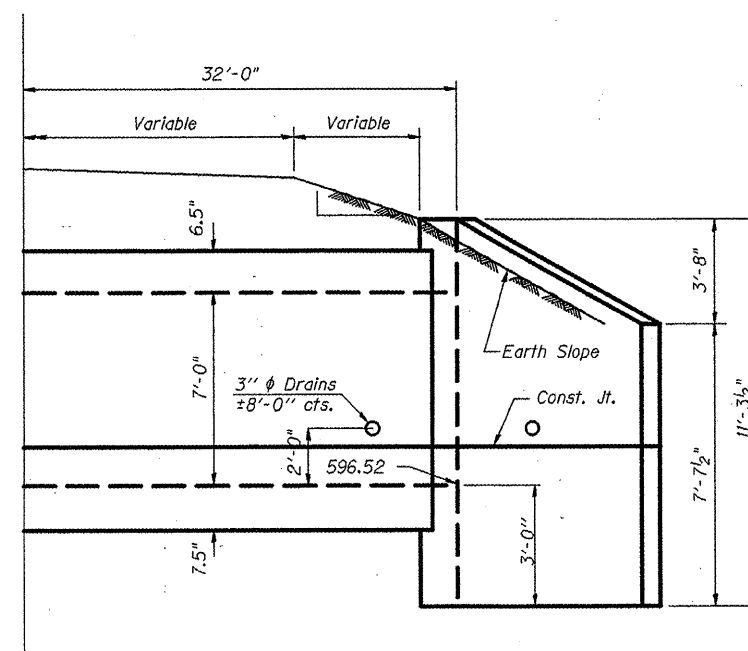
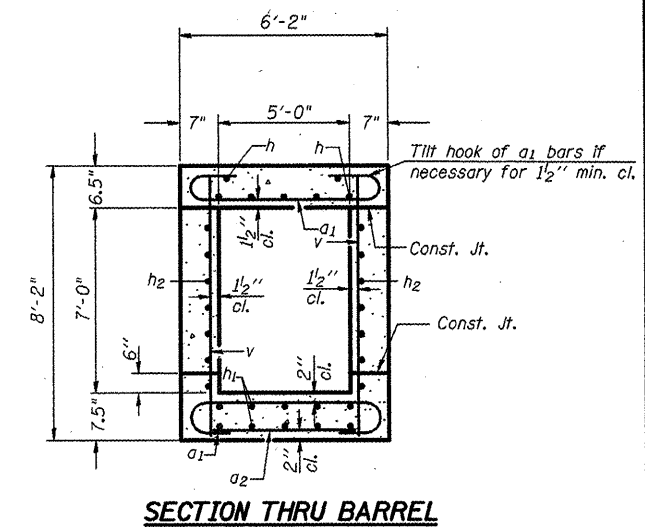
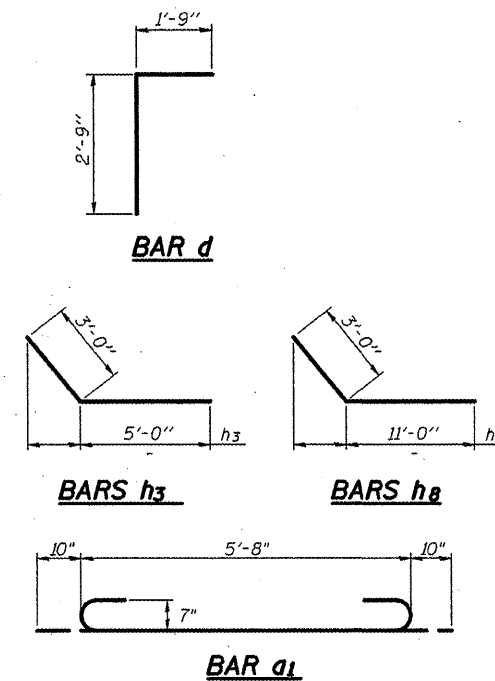




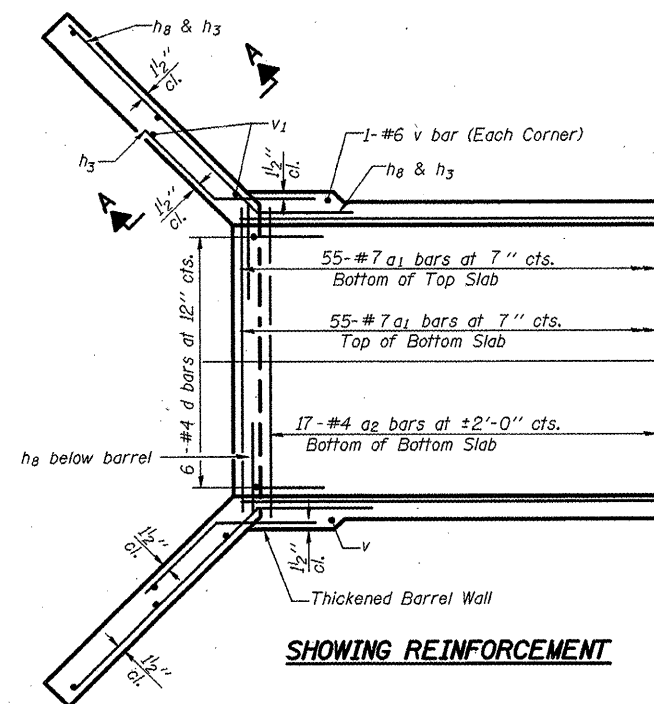
HALF LONG. SECTION



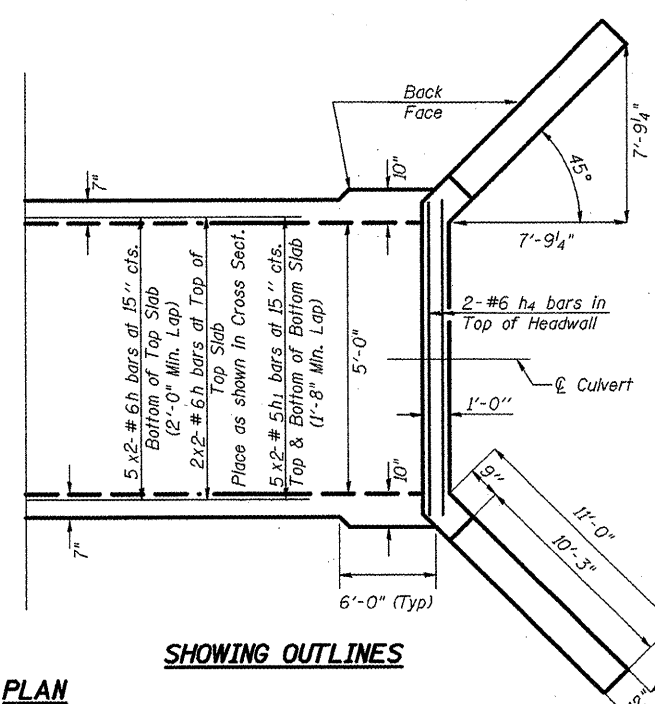
HALF ELEVATION



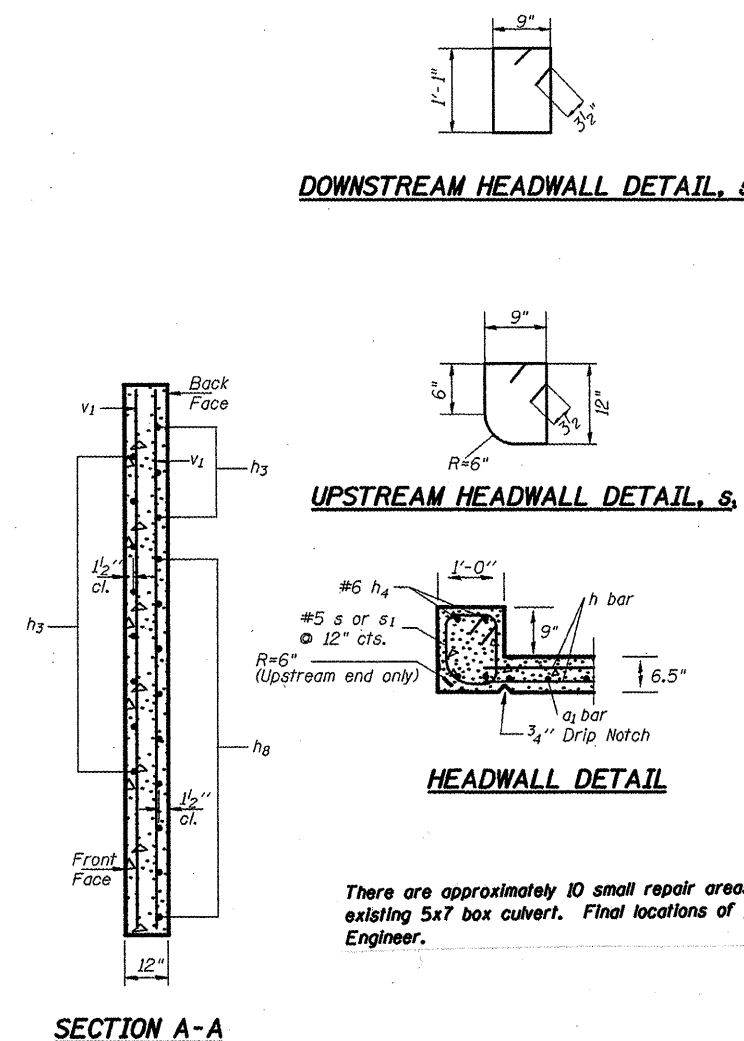
SECTION THRU BARREL



SHOWING REINFORCEMENT



PLAN



SECTION A-A

BILL OF MATERIAL

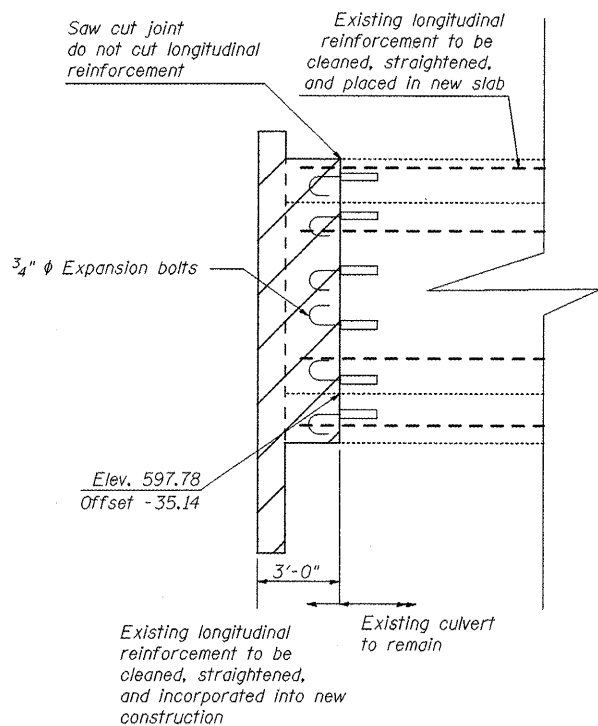
Bar	No.	Size	Length	Shape
q ₁	220	#7	7'-4"	C
q ₂	36	#4	5'-8"	—
d	12	#4	4'-6"	L
h	28	#6	16'-10"	—
h ₁	40	#5	16'-8"	—
h ₂	56	#6	16'-10"	—
h ₃	44	#8	8'-0"	L
h ₄	4	#6	5'-10"	—
h ₈	36	#8	14'-0"	—
v	240	#6	8'-2"	—
v ₁	16	#4	10'-11"	—
s	6	#5	4'-5"	C
s ₁	6	#5	4'-5"	C
Concrete Removal			Cu. Yd.	27
Concrete Box Culverts			Cu. Yd.	54
Reinforcement Bars			Pound	11725
3/4" Ø Expansion Bolts			Each	28
Str Rep Con DP <5			Sq. Ft.	59
Rock Fill			Ton	81
Geotech. Fabric			Sq. Yd.	68
Filter Fabric			Sq. Yd.	135
R&D Unsuitable			Cu. Yd.	39
Temp. Soil Retention			Sq. Ft.	522

DESIGN STRESSES

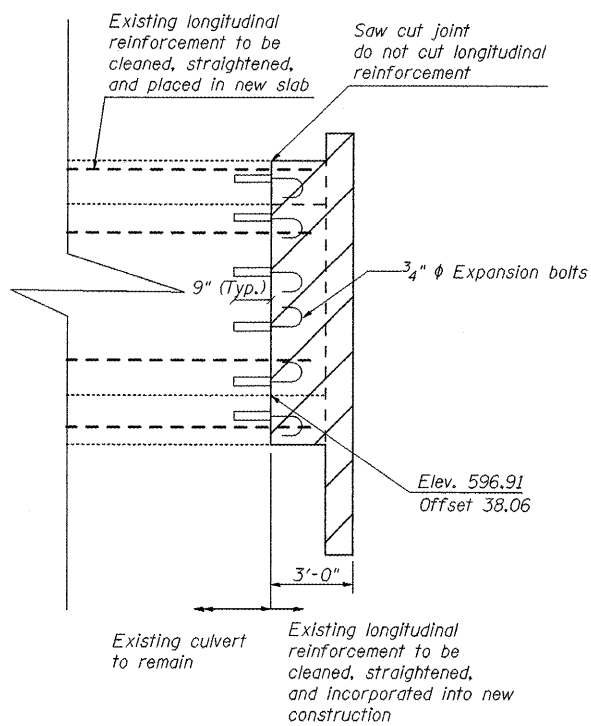
$$f_y = 60,000 \text{ psi}$$
$$f'_c = 3,500 \text{ psi}$$

There are approximately 10 small repair areas throughout the length of the existing 5x7 box culvert. Final locations of patches shall be determined by the Engineer.

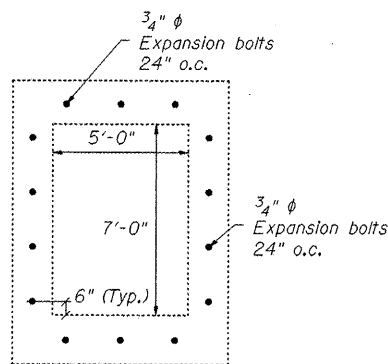
LOADING HS 20-44 & ALT.



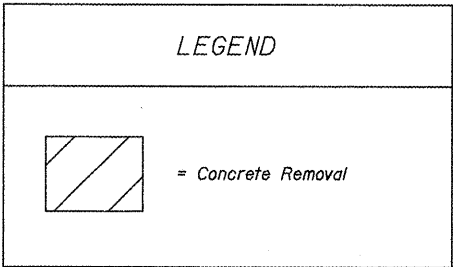
EAST CULVERT EXTENSION



WEST CULVERT EXTENSION

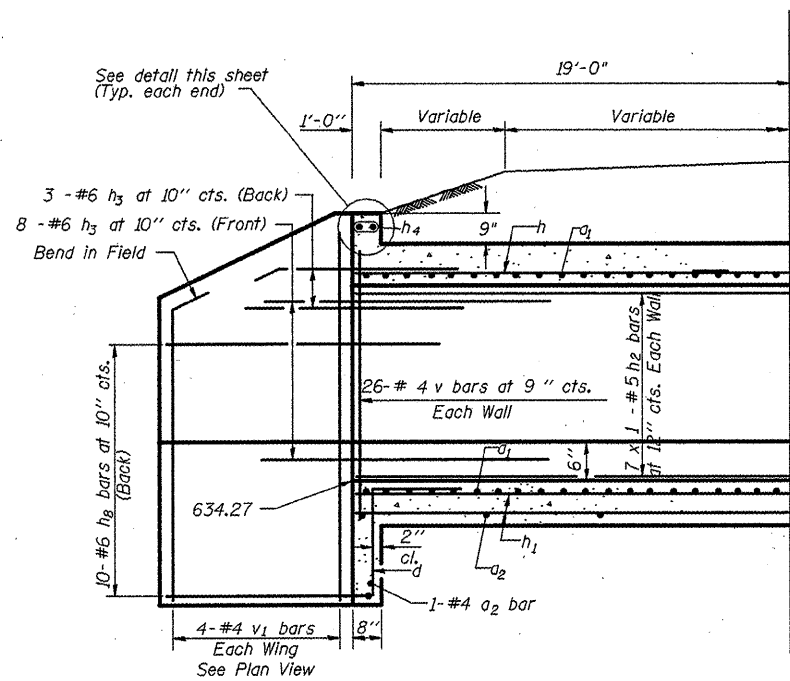


SECTION THRU EXISTING BARREL

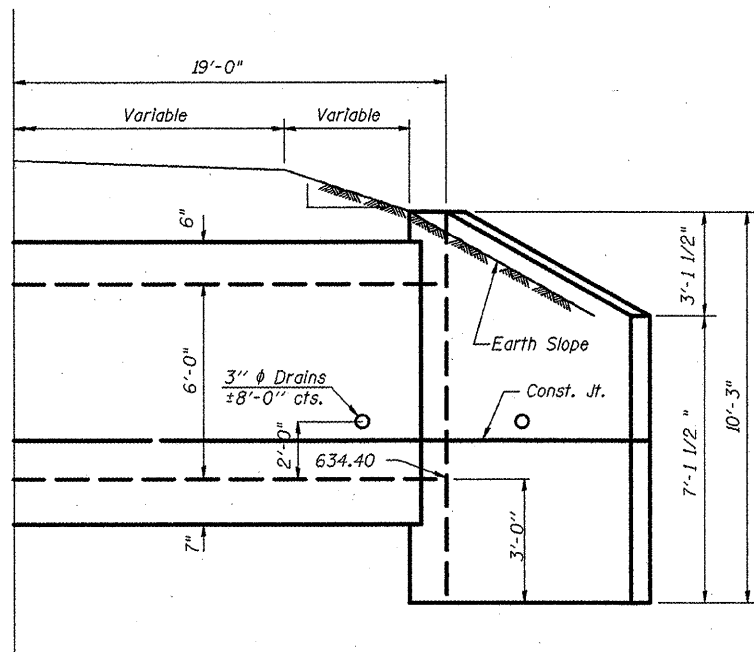


NOTES

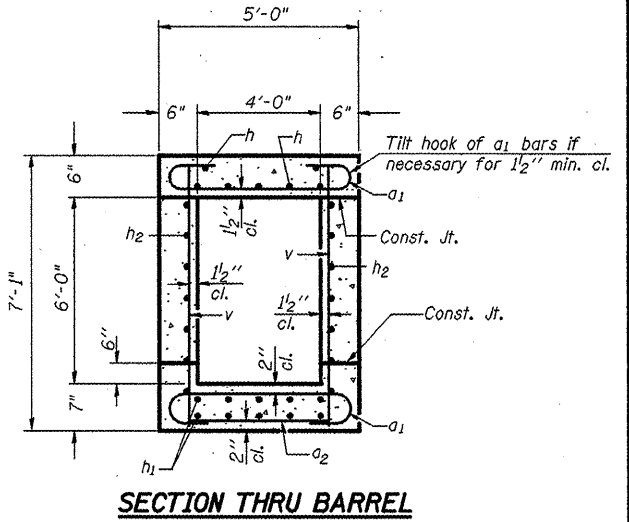
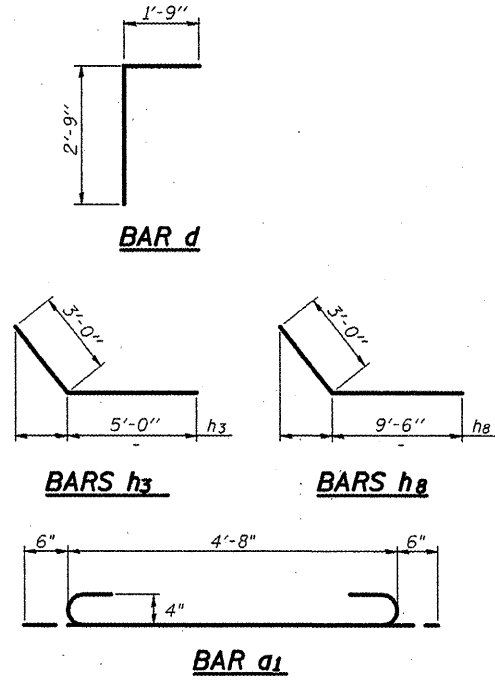
If Resident Engineer determines existing rebar is in good condition, the j-bolts may be excluded from this contract.



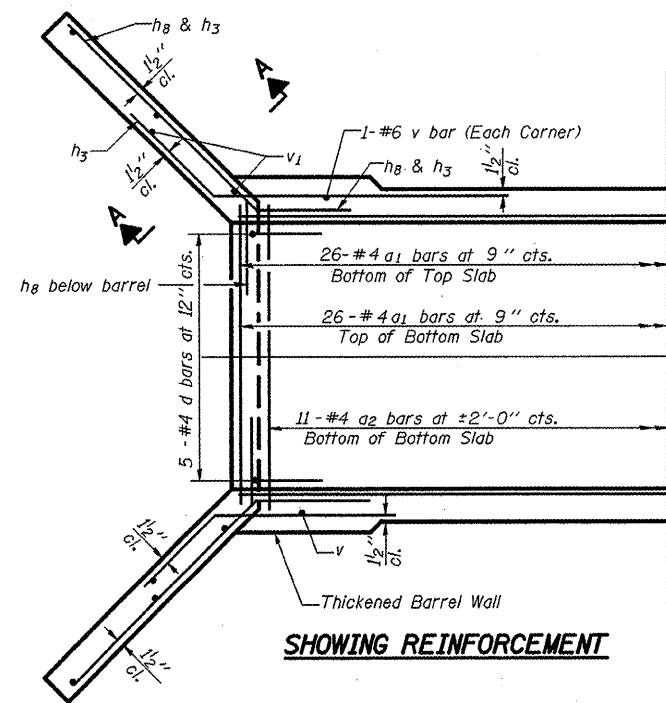
HALF LONG. SECTION



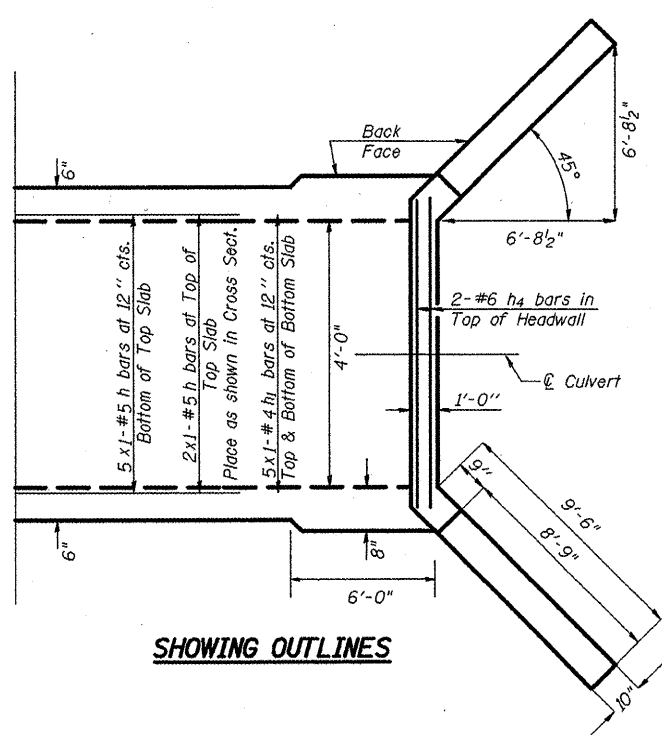
HALF ELEVATION



SECTION THRU BARREL



SHOWING REINFORCEMENT

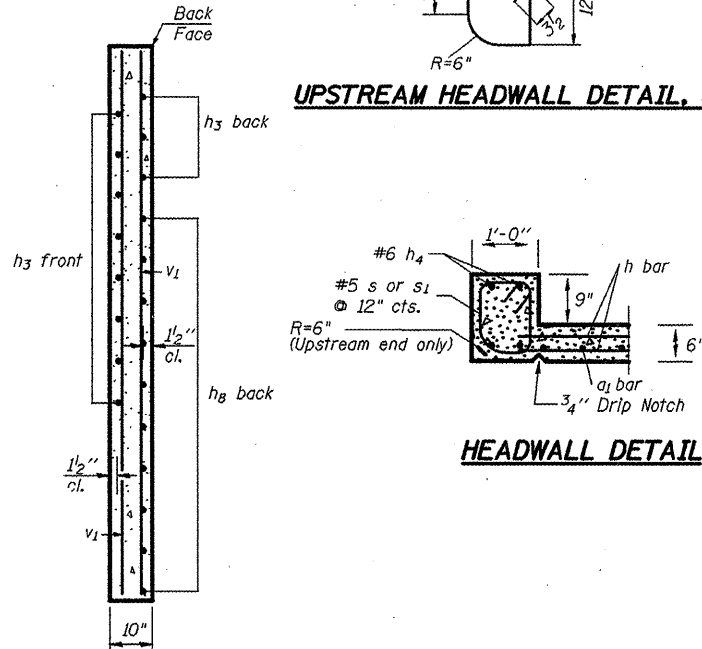


SHOWING OUTLINES

PLAN

DOWNSTREAM HEADWALL DETAIL, S

UPSTREAM HEADWALL DETAIL, S



HEADWALL DETAIL

SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1	104	#4	5'-8"	C
a2	24	#4	4'-8"	C
d	10	#4	4'-6"	C
h	14	#5	18'-8"	C
h1	20	#4	18'-8"	C
h2	28	#5	18'-8"	C
h3	44	#6	8'-0"	C
h4	4	#6	4'-8"	C
h8	40	#6	12'-6"	C
v	108	#4	6'-9"	C
v1	16	#4	9'-11"	C
s	6	#5	4'-5"	C
s1	6	#5	4'-5"	C
Concrete Removal		Cu. Yd.	7.2	
Concrete Box Culverts		Cu. Yd.	28.3	
Reinforcement Bars		Pound	3521	
2 1/2" Expansion Bolts		Each	28	
Rock Fill		Ton	97.4	
Geotech Fabric		Sq Yd	46.4	
Filter Fabric		Sq. Yd.	107.6	
R&D Unsuitable		Cu. Yd.	47.5	
Temp Soil Retention		Sq. Ft.	685.8	

DESIGN STRESSES

fy = 60,000 psi
f'c = 3,500 psi

LOADING HS 20-44 & ALT.

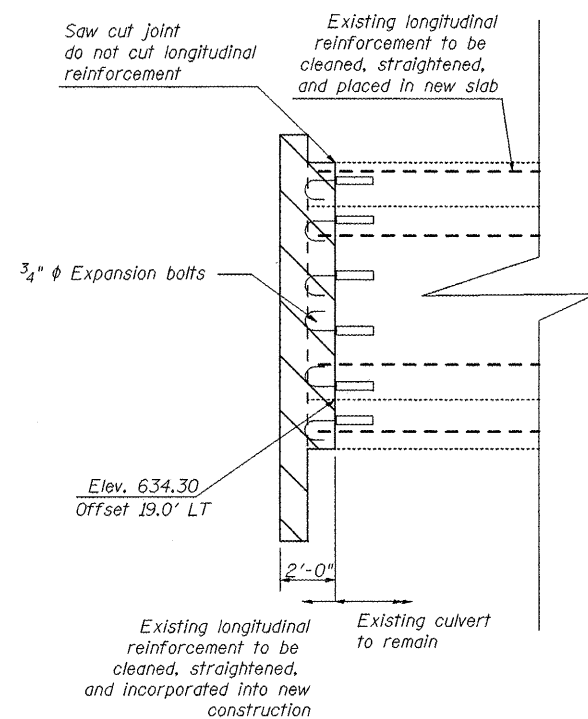
NOTES

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
Reinforcement Bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
All construction joints shall be bonded.

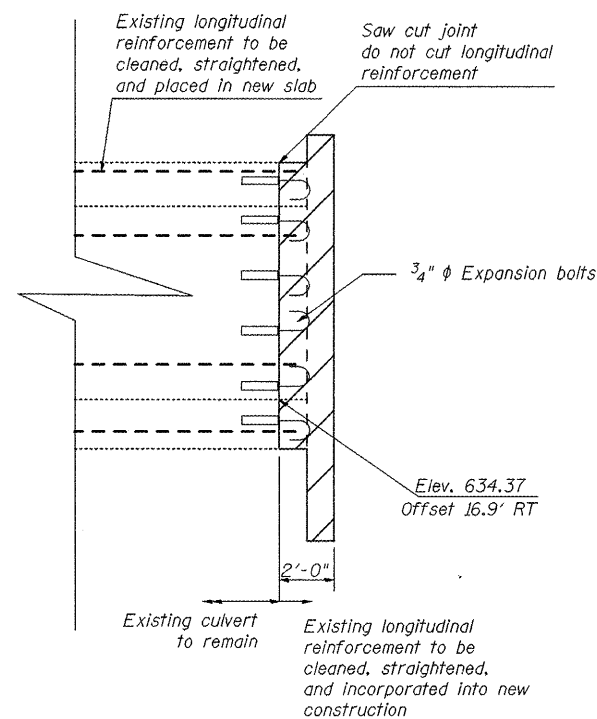
SSB-H-0

10-22-04

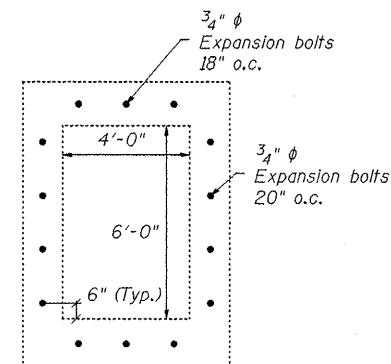
FILE NAME = miscellaneous.sheets.dgn	USER NAME = harsk,j	DESIGNED - KJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BOX CULVERT EXTENSION DETAIL STA 793+46	F.A.P. RTE. 317	SECTION 16W-2,RS-4,17W-1,RS-3	COUNTY FULTON	TOTAL SHEETS 240	SHEET NO. 103
PLOT SCALE = 1/8"=1'-0"	PLOT DATE = 4/19/2010	DRAWN - JGJ	REVISED -	CHECKED -	REVISD -	SCALE:	SHEET NO. 1 OF 2 SHEETS	STA. TO STA.	CONTRACT NO. 88703	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



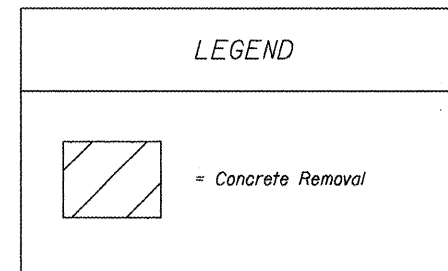
EAST CULVERT EXTENSION



WEST CULVERT EXTENSION



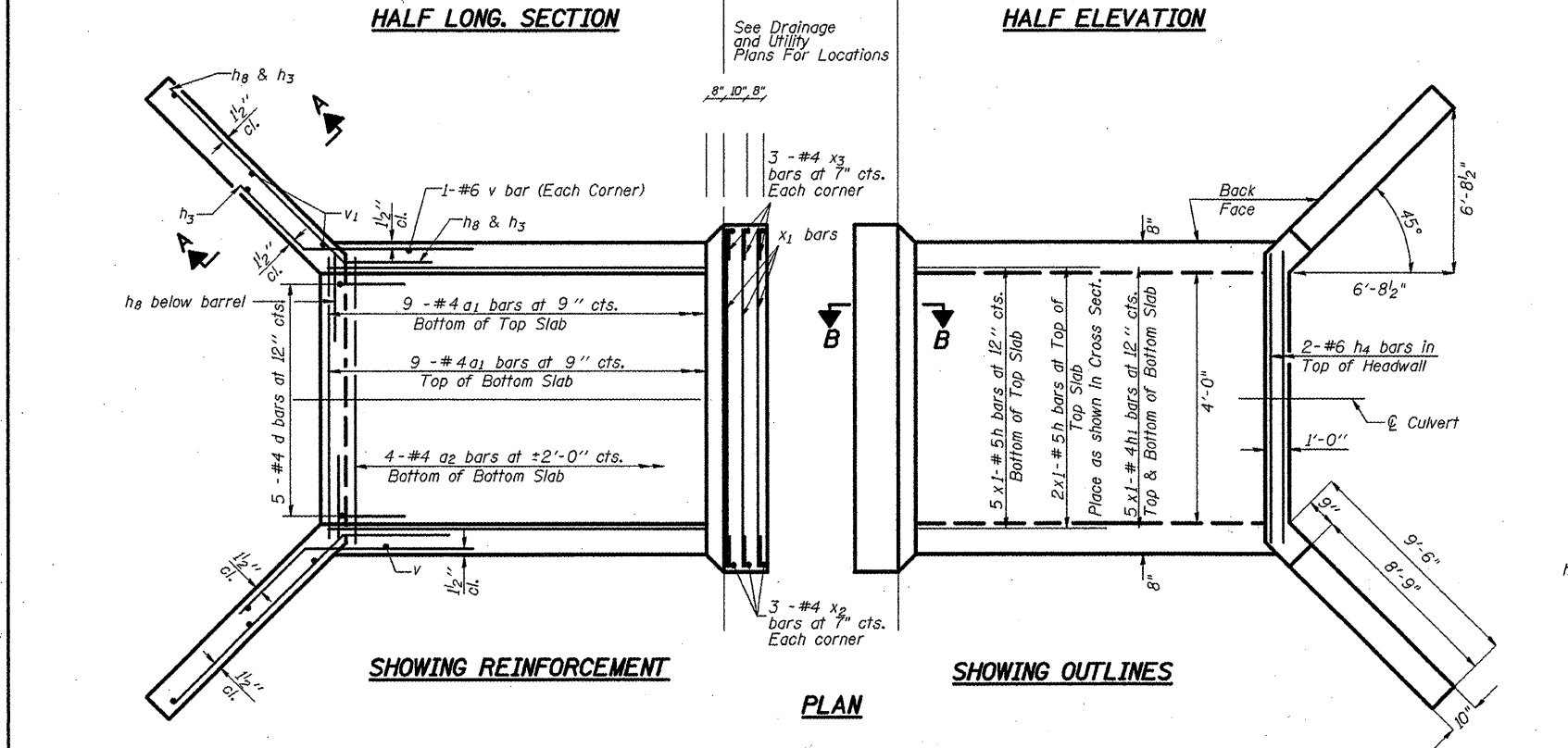
SECTION THRU EXISTING BARREL



NOTES

If Resident Engineer determines existing rebar is in good condition, the j-bolts may be excluded from this contract.

FILE NAME = miscellaneous.sheets.dgn	USER NAME = jochumsjg	DESIGNED - KJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BOX CULVERT EXTENSION DETAIL STA 793 + 46	F.A.P RTE.		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - JGJ	REVISED -			317	16W-2,RS-4;17W-1,RS-3	FULTON	240	104	
	PLOT SCALE = 100.0000 ' / IN.	CHECKED - BJT	REVISED -			CONTRACT NO. 88703					
	PLOT DATE = 3/22/2010	DATE - 01-05-10	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
SCALE: SHEET NO. 2 OF 2 SHEETS STA. TO STA.											



The design of the 4 x 6 precast box shall be as required for a 6 x 6 precast box, M259, Table 1 for 3 feet of fill except M shall be 48 in.

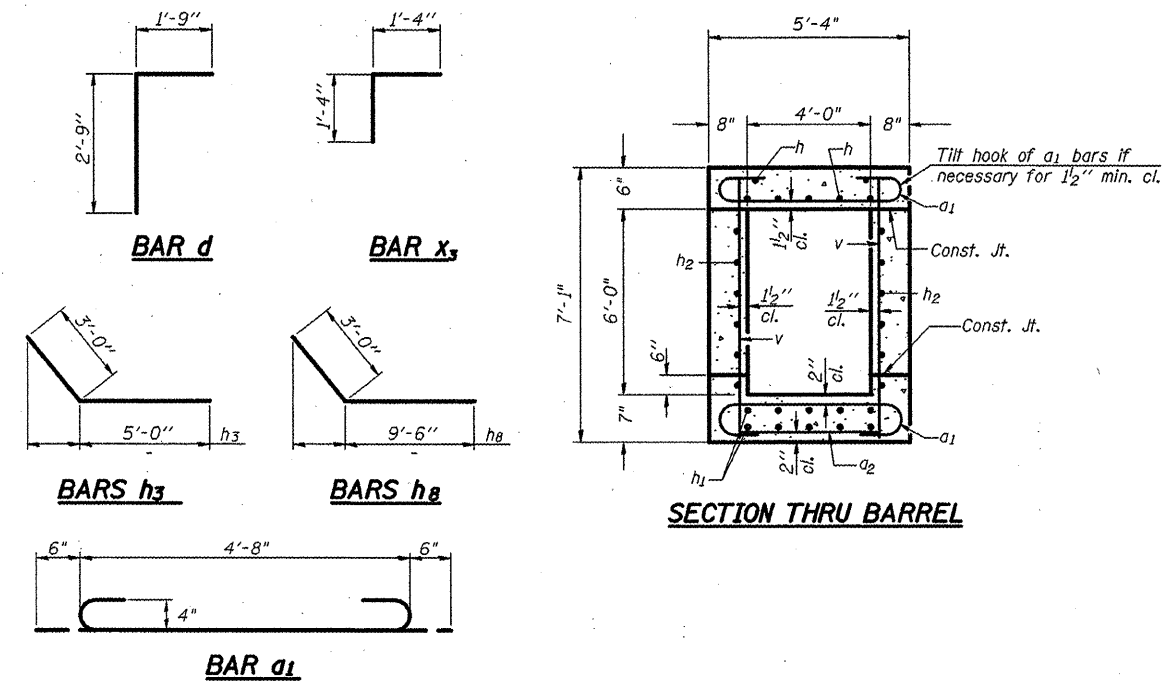
NOTES

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

Reinforcement Bars shall conform to the requirements of ASTM A 706 Grade 60. See Special Provisions.

Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

All construction joints shall be bonded.



BILL OF MATERIAL

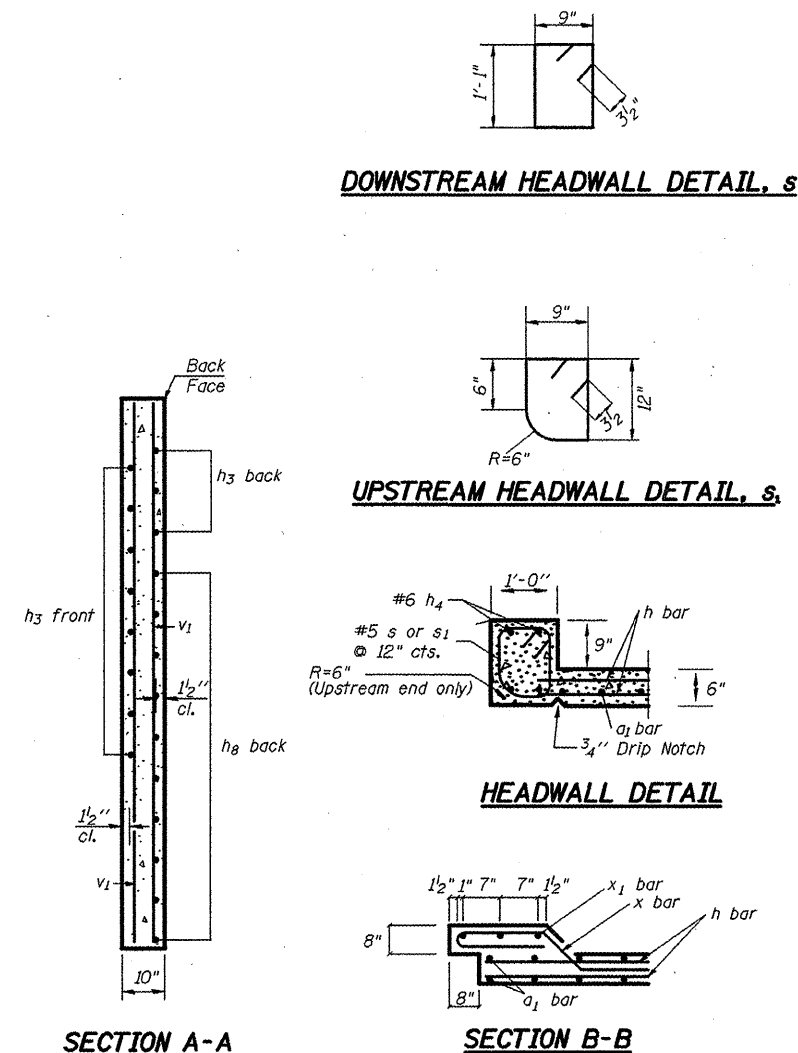
Bar	No.	Size	Length	Shape
a_1	36	#4	5'-8"	
a_2	10	#4	4'-8"	
d	10	#4	4'-6"	
h	14	#5	5'-8"	
h_1	20	#4	5'-8"	
h_2	24	#5	5'-8"	
h_3	44	#6	8'-0"	
h_4	4	#6	4'-8"	
h_5	40	#6	12'-6"	
v	40	#4	6'-9"	
v_1	16	#4	9'-11"	
s	6	#5	4'-5"	
s_1	6	#5	4'-5"	
x	64	#4	5'-3"	
x_1	12	#4	6'-4"	
x_2	12	#4	8'-1"	
x_3	24	#4	2'-8"	
Concrete Box Culverts			Cu. Yd.	21.9
Reinforcement Bars			Pound	2529
Precast Box 4x6*			Feet	60.0
Temp. Soil Retention			Sq. Ft.	330.0
Geotech Fabric			Sq. Ft.	104.0
Rock Fill			Ton	315.7
Trench Backfill			Cu. Yd.	366.0
R&D Unsuitable			Cu. Yd.	154.0
Filter Fabric			Sq. Yd.	259.2

DESIGN STRESSES

$$f_y = 60,000 \text{ psi}$$
$$f'_c = 3,500 \text{ psi}$$

*Design Fill Height of 3.0 ft.
with AASHTO Designation of M259
on Precast Box Culvert

LOADING HS 20-44 & ALT.





LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 674-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 674 + 09 (Culvert) Sta. 674+17-42' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 611.0 CORE DIA. _____ CASING _____
DATE STARTED 7-12-93 COMPLETED 7-12-93 DRILLING METHOD HSA

DATE STARTED		7-12-93		COMPLETED		SAMPLES							NOTES	
ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _u (tsf)	W (%)					
611.0		0.0	30											
609.1	Lt. brn. clayey silt, w/f. sand, occas. vegetative fibers	1.9		4-2-2	1	ss	17"	1.16	21					
			5	2-3-3	2	ss	18	0.62	27					
604.1	Lt. brn. gr. mottled clayey silt, w/tr. f. sand moist	6.9		2-3-5	3	ss	18	0.93	24	WATER 7-12-93				
										DD 7.0' 10:55a				
										BAR DRY 1:35pm				
										AAR 20.8' 2:00				
										DWL 0.5' 2:00p				
										7-13-93				
			10	2-3-4	4	ss	18	0.54	26					
598.8	till moist	12.2		3-9-13	5	ss	18	3.1	18					
			15	13-17-23	6	ss	18	4.27	11					
				11-13-20	7	ss	18	3.49	13					
			20	7-11-20	8	ss	18	3.10	12					
590.3	till moist	20.7												



LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 674-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 674 + 09 (Culvert) Sta. 674+17-42' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 611.0 CORE DIA. _____ CASING _____
DATE STARTED 7-12-93 COMPLETED 7-12-93 DRILLING METHOD HSA

DATE STARTED		COMPLETED		SAMPLES								NOTES
ELEV.	DESCRIPTION	STRATA	DEPTH	BLOWS FT.	NO.	TYPE	RECOV.	Q _u	W			
		DEPTH	SCALE								(+/-)	(%)
			30									
589.3	Blk. gr. weak sandstone moist	21.7										
				5-8-12	9	ss	18"	2.91	10			
			25	5-9-11	10	ss	18	2.72	18			
				6-8-11	11	ss	18	2.33	20			
			30	7-9-10	12	ss	18	1.78	20			
677.5	till moist	33.5		6-7-17	13	ss	18	2.91	19			
	END OF BORING 33.5'		35									

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

LOG OF BORING

CONTRACTED WITH Hanson Engineers BORING NO. 683-B-1
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta. 683 + 30 (Culvert) Sta. 683 + 21 - 35' Rt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 608.6' CORE DIA. CASING
DATE STARTED 7-13-93 COMPLETED 7-13-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES							NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (#ft)	W (%)		
608.6		0.0	30								
606.8	Brn. silt, w/clay, tr. f. sand, occas. f. gravel moist	1.8									
	Gr. silt, w/tr. clay, f. sand			2-2-1	1	ss	17"	1.01	27		
604.2	moist	4.4									WATER 7-13-93
	Lt. brn. clayey silt, w/tr. f. sand, occas. f. gravel, silt- stone seams			3-2-4	2	ss	18	1.24	20		DD DRY 2:00pm BAR DRY 2:00pm AAR DCI 29.1'
				11-12- 18	3	ss	18	1.2	19		DWL 0.6' 2:15pm 7-14-93
599.3	till moist	9.3									
	Gr. silty clay, w/ tr. f. sand, occas. f. gravel		10	10-12- 12	4	ss	18	2.27	12		
596.7	till moist	11.9									
	Gr. clayey silt, w/tr. f. sand, occas. f. gravel			5-5-11	5	ss	18	2.68	13		
594.2	till moist	14.4									
	Gr. brn. silty clay, w/tr. f. sand, occas. f.m. gravel, cobble		15	7-8-11	6	ss	18	3.5	14		
				6-9-11	7	ss	18	2.89	13		
			20	5-8-11	8	ss	18	3.92	13		

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

LOG OF BORING

CONTRACTED WITH Hanson Engineers BORING NO. 683-B-1
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta. 683 + 30 (Culvert) Sta. 683 + 21 - 35' Rt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 608.6' CORE DIA. CASING
DATE STARTED 7-13-93 COMPLETED 7-13-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA	DEPTH	SAMPLES							NOTES
		DEPTH	SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _v (#ft)	W (%)		
			30								
				8-10-15	9	ss	18"	4.12	13		
582.7	till moist	25.9	25								
	Brn. clayey silt, w/tr. f. sand, occas. f. c. gravel, cobble			10-16-24	10	ss	18	2.89	12		
579.2	till moist	29.4		12-14-16	11	ss	11	--	15		
577.6	Gr. silty clay, w/ weathered shale moist	31.0	30								
	END OF BORING 31.0'			11-30-41	12	ss	18	4.33	11		
			35								

FILE NAME =
miscellaneous_sheets.dgn

USER NAME = joshua.jg

DESIGNED -

REVISED -

DRAWN -

REVISED -

PLOT SCALE = 1/8" = 1'-0"

CHECKED -

REVISED -

PLOT DATE = 2/22/2010

DATE -

REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P.
RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
317 16W-2,RS-417W-1,RS-3 FULTON 246 108
CONTRACT NO. 88703
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

LOG OF BORING

CONTRACTED WITH Hanson Engineers BORING NO. 683-B-2
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta. 683 + 30 (Culvert) Sta. 683 + 30 - 32' Lt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 610.7' CORE DIA. CASING
DATE STARTED 7-13-93 COMPLETED 7-13-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	QU	W	
610.7		0.0	30					(H/P)	(%)	
	Lt. brn. lt. gr. silt, w/clay, tr. f. sand, organic fibers			2-1-2	1	ss	18"	1.24	24	
605.9	v. moist	4.8								
	Lt. brn. silt, w/tr. f. sand, clay moist	6.9		1-2-1	2	ss	18	0.62	23	WATER 7-13-93
603.8										DD 9.0' 10:05am BAR 24.1' 11:05a AAR 20.4' 11:40a
	Lt. brn. gr. clayey silt, w/tr. f. sand, occas. f. gravel			4-6-8	3	ss	18	1.24	14	DWL 1.1' 11:40am 7-14-93
601.3	till moist	9.4								
	Gr. silty clay w/tr. f. sand, occas. f. gravel		10	10-13- 20	4	ss	18	3.88	11	
				7-8-11	5	ss	18	3.1	12	
			15	4-7-9	6	ss	18	2.33	13	
				5-7-9	7	ss	18	2.91	12	
			20	5-9-10	8	ss	18	2.72	14	

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

LOG OF BORING

CONTRACTED WITH Hanson Engineers BORING NO. 683-B-2
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta. 683 + 30 (Culvert) Sta. 683 + 30 - 32' Lt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 610.7' CORE DIA. CASING
DATE STARTED 7-13-93 COMPLETED 7-13-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	QU	W	
			30					(H/P)	(%)	
589.0	till moist	21.7								
	Lt. gr. brn. silty clay, w/f. sand, occas. f. gravel, sand pockets			6-8-12	9	ss	18"	3.3	15	
			25	7-11- 17	10	ss	18	4.65	13	
582.2	till moist	28.5		9-15- 24	11	ss	18	4.85	15	
	END OF BORING 28.5'		30							

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

F.A.P.
RTE. SECTION COUNTY TOTAL SHEETS SHEET
317 16W-2,RS-4;17W-1,RS-3 FULTON 240 109
CONTRACT NO. 88703
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1908 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 705-B-1
PROJECT NAME US 24 CONTRACT NO. 705-B-1
LOCATION Sta 705 + 03 (Culvert) Sta. 705 + 27 - 87' Rt. (Boring)
DATUM 600.4 HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 600.4 CORE DIA. 8" CASING 8"
DATE STARTED 7-15-93 COMPLETED 7-15-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _v (pcf)	W (%)	NOTES
600.4	Lt. brn. silt, w/tr. f. sand, root hairs, vegetative fibers	0.0	30							
598.5	moist	1.9								
	Lt. brn. lt. gr. silt, w/tr. f. sand			3-2-4	1	ss	18"	0.82	29	
596.0	moist	4.4								WATER 7-15-93
594.7	Gr. clayey silt, w/f. sand, weathered shale	5.7		3-2-11	2	ss	18	0.62	19	DD DRY 8:20am BAR DRY 8:20am AAR DCI 8.1' 8:
593.8	Gr. weathered shale	6.6								
	Lt. gr. shale			43-57/3	3	ss	9		8	DWL 0.5 8:35am 7-16-93
				82-18/1"	4	ss	7		9	
588.0	moist	12.4		100/5 1/2	5	ss	5 1/2		9	
	END OF BORING 12.4'									

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1908 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 705-B-2
PROJECT NAME US 24 CONTRACT NO. 705-B-2
LOCATION Sta. 705 + 03 (Culvert) Sta. 704 + 63 - 49' Lt. (Boring)
DATUM 606.6 HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 606.6 CORE DIA. 8" CASING 8"
DATE STARTED 7-15-93 COMPLETED 7-15-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _v (pcf)	W (%)	NOTES
606.6	1.1" dk. brn. brn. clayey silt, lt. brn. clayey silt, root hairs	0.0	30							
				3-2-6	1	ss	14"	0.49	27	
602.3	moist	4.3								
	Brn. dk. brn. clayey silt, w/tr. f. sand			2-3-4	2	ss	18	0.66	25	WATER 7-15-93
599.7	moist	6.9								DD 7.0' 11:10am BAR 14.9' 11:30a AAR 8.9' 12:00pm
	Gr. clayey silt, w/tr. f. sand, occas. f. gravel			4-5-4	3	ss	18	0.54	22	DWL 0.6' 12:00pm 7-16-93
597.0		9.6								
	Lt. gr. weathered shale, w/clay			25-40/60/7"	4	ss	18		14	Pushed 3" T 1.0'- 19" recovery B#705-B-2A
594.7	moist	11.9		90-10/1 1/2"	5	ss	6 1/2		14	
	Lt. gr. shale			100/5 1/2	6	ss	5		14	
591.7	moist	14.9								
	END OF BORING 14.9'									

SOIL BORING LOG

Page 1 of 1

Date 1/21/10

ROUTE	FAP 317 (US 24)	DESCRIPTION	US 24 Between Summum and Astoria - WB Lane	LOGGED BY	KS
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SECTION	<u>16W-2, RS-4; 17W-1, RS-3</u>	LOCATION	<u>Woodland Road District, SEC. 9, TWP. 3N, RNG. 2E, 4th PM,</u> <u>Latitude N40° 15' 4.06'', Longitude W90° 17' 39.01''</u>
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COUNTY Fulton DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 715+10
Offset 13.00ft RT
Ground Surface Elev. 617.20

D	B	U	M
E	L	C	O
P	O	S	I
T	W		S
H	S	Qu	T
(ft)	(/6")	(tsf)	(%)

Surface Water Elev.	<u>NONE</u>	ft
Stream Bed Elev.	<u>NA</u>	ft
Groundwater Elev.:		
First Encounter	<u>NONE</u>	ft
Upon Completion	<u>NONE</u>	ft
After <u>NONE</u> Hrs.	<u>NONE</u>	ft

D	B	U	M
E	L	C	O
P	O	S	I
T	W		S
H	S	Qu	T
(ft)	(/6")	(tsf)	(%)

14 inches Aggregate Shoulder

Soft to Very Stiff
Brown, Moist
LOAM, little gravel

Very Stiff to Stiff
Brown to Gray, Moist
SILTY CLAY LOAM, little gravel

Stiff
Brown to Olive, Moist
SILTY CLAY
LL: 51, PL: 22

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Page 1 of 1

Date 1/21/10

ROUTE	FAP 317 (US 24)	DESCRIPTION	US 24 Between Summum and Astoria - EB Lane	LOGGED BY	KS
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SECTION	<u>16W-2, RS-4; 17W-1, RS-3</u>	LOCATION	<u>Woodland Road District, SEC. 9, TWP. 3N, RNG. 2E, 4th PM,</u> <u>Latitude N40° 15' 4.17", Longitude W90° 17' 37.96"</u>
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COUNTY	<u>Fulton</u>	DRILLING METHOD	<u>HSA</u>	HAMMER TYPE	<u>AUTO</u>
--------	---------------	-----------------	------------	-------------	-------------

STRUCT. NO. _____
Station _____

BORING NO. B-2
Station 714+92
Offset 14.00ft LT
Ground Surface Elev. 617.10

D	B	U	M
E	L	C	C
P	O	S	
T	W		
H	S	Qu	
(††)	(/6")	(†sf)	(†)

Surface Water Elev.	<u>NONE</u>	ft
Stream Bed Elev.	<u>NA</u>	ft
Groundwater Elev.:		
First Encounter	<u>NONE</u>	ft
Upon Completion	<u>NONE</u>	ft
After <u>NONE</u> Hrs.	<u>NONE</u>	ft

D	B	U	M
E	L	C	O
P	O	S	I
T	W		S
H	S	Qu	T
(ft)	(/6")	(+sf)	(%)

12 Inches Aggregate Shoulder

Very Stiff to Stiff
Brown, Moist
LOAM, trace gravel

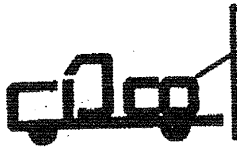
Stiff to Very Stiff
Brown to Gray, Moist
SILTY CLAY LOAM, trace gravel
LL: 45, PL: 23
A-7-6 (24)

Stiff
Brown to Olive, Moist
SILTY CLAY

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING LOGS



LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968CONTRACTED WITH Hanson Engineers BORING NO. 733-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 733 + 65 (Culvert) Sta. 733+80 - 22' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 647.5 CORE DIA. _____ CASING _____
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _u	w	
647.5		0.0	30					(4.0)	(%)	#A Blk. brn. clayey silt, mix w/f.c. sand, roots moist fill-disturbed
646.5	See #A	1.0								
	Yel. brn. silt, some clay, tr. f.m. sand			2-3-4	1	ss	18"	0.99	30	
643.6	loess moist	3.9		1-2-1	2	ss	16	0.29	31	
	Yel. brn. brn. lt. gray mottled silt, some clay, tr. dk. brn. iron stains									WATER 7-20-93
640.3	loess v. moist wet	7.2		3-4-5	3	ss	18	0.37	25	DD DRY 2:20pm BAR DRY 2:20pm AAR DRY 2:40pm
	Lt. gray-yel. brn. mottled silt			4-5-7	4	ss	18	0.82	25	DWL 14.5' 2:40pm 7-21-93
			10							
635.5	loess moist	12.0		3-4-4	5	ss	18	0.62	28	
	Brn. gray mottled clayey silt, tr. dk. brn. iron stains			3-4-5	6	ss	18	0.82	26	
			15							
630.7	loess moist	16.8		3-4-4	7	ss	18	1.07	24	
	Brn. & gray mottled clayey silt, tr. f.c. sand, tr. f.c. gravel			3-3-3	8	ss	18	1.03	35	
			20							



LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968CONTRACTED WITH Hanson Engineers BORING NO. 733-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 733 + 65 (Culvert) Sta. 733+80 - 22' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 647.5 CORE DIA. _____ CASING _____
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _u	w	
			30							
	till moist	23.0		3-4-4	9	ss	18"	0.95	24	
624.5	Yel. brn. clayey silt, tr. f.c. sand, tr. f.m. gravel, tr. coal			5-7-8	10	ss	18	1.40	18	
		25								
	till moist	26.4		7-10-16	11	ss	18	3.09	25	
	Brn. gray mottled clayey silt, tr. f.c. sand, tr. f.c. gravel, tr. coal, occas. shale									
617.5	till	30.0		7-11-15	12	ss	18	3.92	15	
	END OF BORING 30.0'									

FILE NAME =
miscellaneous_sheets.dgn

USER NAME = jochums.jg

DESIGNED -

REVISED -

DRAWN -

REVISED -

PLOT SCALE = 100.0000' / IN.

CHECKED -

REVISED -

PLOT DATE = 2/22/2010

DATE -

REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P.
RTE.SECTION
16W-2,RS-4;17W-1,RS-3COUNTY
FULTONTOTAL SHEETS
240SHEET NO.
112

CONTRACT NO. 88703

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 542-5968CONTRACTED WITH Hanson Engineers BORING NO. 733-B-2
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta 733+65 (Culvert) Sta. 733+55 - 41' Lt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 647.7' CORE DIA. _____ CASING _____
DATE STARTED 8-11-93 COMPLETED 8-11-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA		SAMPLES							NOTES
		DEPTH	SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _u	W		
647.7		0.0	30					(6.6)	(%)		#A Brn. clayey silt, w/tr. f. sand, root hairs topsoil moist
647.3	See #A	0.4									
	Lt. brn. clayey silt w/tr. f. sand			3-4-4	1	ss	16"	1.15	24		
642.8	moist	4.9									
	Lt. brn. lt. gr. silt, w/f. sand			3-4-6	2	ss	18	0.66	25		WATER 8-11-93
											DD 31.8' 3:05pm
											BAR 34.2' 3:25pm
				3-4-6	3	ss	18	0.66	24		AAR 26.5' 4:05pm
											DWL 13.2' 12:05pm
				4-5-5	4	ss	18	--	24		
635.4	moist	12.3									
	Lt. brn. silt, w/f. sand			2-3-4	5	ss	18	0.62	24		
632.6	moist	15.1		2-3-4	6	ss	18	1.07	24		
	Lt. brn. mottled clayey silt, w/tr. f. sand										
630.8	moist	16.9									
	Lt. gr. brn. clayey silt, w/tr. f. sand, occas. f. gravel blk. mottling			3-4-5	7	ss	18	1.32	25		
				3-3-4	8	ss	18	0.91	30		

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 542-5968CONTRACTED WITH Hanson Engineers BORING NO. 733-B-2
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta 733+65 (Culvert) Sta. 733+55 - 41' Lt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 647.7' CORE DIA. _____ CASING _____
DATE STARTED 8-11-93 COMPLETED 8-11-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA		SAMPLES							NOTES
		DEPTH	SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _u	W		
			30					(6.6)	(%)		
				4-4-4	9	ss	18"	1.40	23		
				5-6-8	10	ss	18	1.90	17		
				4-4-10	11	ss	18	2.89	15		
619.5	till moist	28.2									
	Lt. gr. lt. brn. silty clay, w/f. sand, occas. f.m. gravel, silty f. sand lenses			6-9-13	12	ss	18	3.40	16		
615.7	till moist	32.0									
	Lt. brn. silty f. sand, w/f. gravel			8-17-24	13	ss	18	3.30	16		
613.6	wet	34.1									
	Gr. silty clay, w/tr. f. sand, occas. f. gravel			7-11-13	14	ss	18	2.89	13		
611.7	till moist	36.0									
	END OF BORING 36.0'										

FILE NAME =
miscellaneous_sheets.dgn

USER NAME = jochumsjg

DESIGNED -

REVISED -

DRAWN -

REVISED -

PLOT SCALE = 1/8" = 1' IN.

CHECKED -

REVISED -

PLOT DATE = 2/22/2010

DATE -

REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P.
RTE.

SECTION

COUNTY

TOTAL SHEETS

SHEET NO.

317

16W-2,RS-4+17W-1,RS-3

FULTON

240 113

CONTRACT NO. 88703

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 862-5968CONTRACTED WITH Hanson Engineers BORING NO. 743-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 743 + 25 (Culvert) Sta. 743 + 25 - 50' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 634.9' CORE DIA. _____ CASING _____
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (pcf)	w (%)	
634.9	Lt. brn. silt, w/tr. f. sand, clay, root hairs	0.0	30							
633.0	moist	1.9								
	Lt. brn. lt. g r. mottled silt, w/tr. clay, f. sand			2-3-4	1	ss	17"	0.53	31	
630.6	moist	4.3								
	Lt. brn. clayey silt, w/tr. f. sand, occas. f. gravel			5	3-5-9	2	ss	18	2.05	22
628.0	moist	6.9								
	Lt. brn. mottled silty clay, w/tr. f. sand, occas. f. gravel, sandstone pockets			6-6-8	3	ss	18	1.81	17	
				10	3-4-6	4	ss	18	1.03	19
				3-8-11	5	ss	18	2.27	15	
620.5	moist	14.4								
	Lt. brn. mottled silty clay, w/tr. f. sand, occas. f. gravel sandstone			15	3-11- 11	6	ss	18	3.09	15
618.0	till moist	16.9								
	Gr. silty clay, w/tr. f. sand, occas. f. gravel			7-8- 12	7	ss	18	2.68	15	
				20	7-9-13	8	ss	18	2.89	

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 862-5968CONTRACTED WITH Hanson Engineers BORING NO. 743-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 743 + 25 (Culvert) Sta. 743 + 25 - 50' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 634.9' CORE DIA. _____ CASING _____
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (pcf)	w (%)	
			30							
				10-12- 17	9	ss	18"	3.71	13	
611.1	till moist	23.8								
	Blk. gr. sandy shale		25	23-77/ 5	10	ss	11		20	
607.3	moist	27.6		80-20/ 1/2	11	ss	6 1/2		18	
	END OF BORING 27.6'		30							
			35							

RECORD OF SOIL EXPLORATION

Contracted With _____ IDOT _____
Project Name _____ US Route 24 _____
Location _____ Astoria, Illinois _____
Station 743 + 25 (Culvert) Sta. 743 + 25 - 40' Lt. (Boring)
Boring Method _____ Hand Auger _____
Weather & Temp. _____ Clear - 50's _____
Engineer _____ CEB, RJM _____

Boring #	743 - B-2
Job #	93S3020
Elevation	631.5
Log Method	2" Shelby Tube
Depth	---
Start	11/1/93
Finish	11/1/93

[illegible]

General Remarks: Boring terminated at 6.5 ft because auger hole would not stay open due to wet, sloughing silt soil. Soil sample number 3 appeared to recover the wet soil that sloughed into the hole.

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1908 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 862-5868

CONTRACTED WITH Hanson Engineers BORING NO. 772-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta 772+97 (Culvert) Sta. 773+17 - 33' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 655.9' CORE DIA. _____ CASING _____
DATE STARTED 8-12-93 COMPLETED 8-12-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA	DEPTH	SAMPLES							NOTES
		DEPTH	SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _a	w		
655.9	Brn. clayey silt, w/tr.	0.0	30						(tr)	(%)	
654.9	f. sand, root hairs topsoil moist	1.0									
653.5	Brn. clayey silt, w/ tr. f. sand moist	2.4									
	Lt. gr. lt. brn. mottled clayey silt, w/ tr. f. sand, occas. organic fibers			4-6-5	1	ss	17"	1.32	19		
650.1	moist	5.8	5	1-4-5	2	ss	18	1.20	27		
	Lt. brn.lt. gr. silt, w /f. sand										
				3-3-4	3	ss	18	0.33	17		
			10	3-3-3	4	ss	18	0.58	17		
644.0	moist	11.9									
	Lt. gr.lt. brn. silt, w/f. sand, occas. blk. organic fibers			2-3-2	5	ss	18	0.91	31		
			15	2-2-2	6	ss	18	0.58	19		
639.1	moist	16.8									
	Brn. clayey silt, w/tr. f.s and, occas. f. gravel silt lenses			2-4-4	7	ss	18	0.87	25		
			20	2-3-5	8	ss	18	0.82	26		

WATER 8-12-93
DD 12.0' 8:10am
BAR 26.3' 9:00am
AAR 5.7' 9:30am

100

CONTRACTED WITH Hanson Engineers BORING NO. 772-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta 772+97 (Culvert) Sta. 773+17 - 33' Rt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 655.4 CORE DIA. _____ CASING _____
DATE STARTED 8-12-93 COMPLETED 8-12-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA	DEPTH	SAMPLES						NOTES
		DEPTH	SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _u	C _w	
			30					(#)	(%)	
633.2	till moist	22.7		3-8-9	9	ss	18"	1.65	21	
631.5	Lt. gr. lt. brn. silty clay, w/tr. f. sand, occas. f. gravel till moist	24.4								
			25	2-3-3	10	ss	18	0.95	28	
	Lt. brn. lt. gr. silt, w/clay, f. sand, occas. f. gravel, sandy silt, clay silt seam									
				3-3-4	11	ss	18	1.24	34	
626.5		29.4								
	Brn. silty clay, w/tr. f. sand, occas. f. gravel		30	10-13-16	12	ss	18	2.68	17	
623.5	till moist	32.4								
	Gr. silty clay, w/tr. f. sand, occas. f. gravel			2-12-20	13	ss	18	2.89	12	
621.1	till moist	34.8								
	Lt. gr. dk. gr. sandy silt, tr. sandstone, tr. shale layered	36.0	35	5-11-13	14	ss	18	1.65	15	
619.9										
	END OF BORING 36.0'		40							

CONTRACTED WITH Hanson Engineers BORING NO. 772-B-2
 PROJECT NAME US 24 CONTRACT NO. _____
 LOCATION Sta 772+97 (Culvert) Sta. 772+94-46' Lt. (Boring)
 DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
 SURFACE ELEV. 653.2' CORE DIA. _____ CASING _____
 DATE STARTED 8-12-93 COMPLETED 8-12-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES				Q _u	W	NOTES
				BLOWS FT.	NO.	TYPE	RECOV.			
653.2	Brn. clayey silt, w/tr. f. sand, root hairs	0.0	30					(47)	(%)	
652.0	topsoil moist	1.2								
651.0	Brn. clayey silt, w/tr. f. sand moist	2.2		3-4-4	1	ss	17"	1.40	27	
648.8	Lt. brn. lt. gr. mottled clayey silt, w/f. sand, occas. organic fibers moist	4.4								
646.3	Lt. gr. lt. brn. silt, w/f. sand moist	6.9	5	1-2-2	2	ss	18	0.41	27	WATER 8-12-93 DD 12.0' 10:50am BAR 21.2' 11:30am AAR 5.9' 12:05pm
641.3	Lt. brn. lt. gr. silt, w/f. sand, occas. organic fibers, roots moist	11.9	10	2-1-2	3	ss	18	0.49	29	
638.5	Lt. gr. lt. brn. silt, w/tr. f. sand, clay moist	14.7	15	2-4-4	4	ss	18	0.91	27	
633.9	Brn. clayey silt, w/tr. f. sand, occas. silt lenses, f. gravel till moist	19.3	20	3-3-3	5	ss	18	0.62	28	
				2-3-4	6	ss	18	0.66	29	
				2-3-4	7	ss	18	0.91	26	
				2-3-6	8	ss	18	1.13	17	

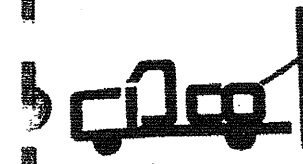


LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 772-B-2
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta 772+97 (Culvert) Sta. 772+94 - 46' 4" (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 653.2' CORE DIA. CASING
DATE STARTED 8-12-93 COMPLETED 8-12-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (kcf)	ω (%)	
			30							
	occas. f. gravel pockets			2-3-5	9	ss	18"	1.81	24	
628.8	till v. moist	24.4								
	Lt. gr. lt. brn. mottled clayey silt, w/f. sand, occas. f. gravel, silt seams	26.9	25	3-4-4	10	ss	18	1.15	25	
626.3	Brn. silty clay, w/tr. f. sand, occas. f. gravel, gr. mottling			8-11-13	11	ss	18	2.89	18	
	till moist	31.0	30	11-21-38	12	ss	18	3.30	13	
622.2	END OF BORING 31.0'									
			95							



LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 793-B-1
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta. 793 + 48 (Culvert) Sta. 793 + 33 - 45' 4" (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 643.7' CORE DIA. CASING
DATE STARTED 7-16-93 COMPLETED 7-16-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (kcf)	ω (%)	
643.7		0.0	30							#A Dk. brn. clayey silt, w/t
643.2	See #A	0.5								f. sand, root hairs moist
	Lt. brn. clayey silt, w/tr. f. sand, occas. silt seams			4-3-5	1	ss	18"	.82	27	
				5	3-3-3	2	ss	10	.45	28
				2-4-7	3	ss	18	.91	25	WATER 7-16-93
633.9	moist	9.8								DD 9.5' 9:50pm
	Lt. brn. lt. gr. clayey silt, w/tr. f. sand, occas. f. gravel			10	4-4-6	4	ss	18	.95	26
				2-3-5	5	ss	18	.91	23	BAR 37.2' 11:50a
628.8	till moist	14.9								AAR 30.8' 11:55a
	Lt. gr. lt. brn. clayey silt, w/tr. f. sand, occas. f. gravel			15	4-5-8	6	ss	18	2.27	21
626.3	till moist	17.4								DWL 9.8' 11:55am
625.3	Gr. sandy clay, w/silt, occas. f. gravel	18.4								7-17-93
	Gr. clayey silt, w/tr. f. sand, occas. f. gravel			20	5-7-9	8	ss	18	1.57	15

FILE NAME =
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USER NAME = jochumsjg
PLOT SCALE = 100.0000' / IN.
PLOT DATE = 2/22/2010

DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4,17W-1,RS-3	FULTON	240	117
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS/FED. AID PROJECT				

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 793-B-1
PROJECT NAME US 24 CONTRACT NO. 793 + 33 - 45' Rt. (Boring)
LOCATION Sta. 793 + 48 (Culvert)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 643.7 CORE DIA. 7-16-93 CASING HSA
DATE STARTED 7-16-93 COMPLETED 7-16-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _v (pcf)	W (%)	NOTES
			30							
620.4	till moist	23.3		8-11-18	9	ss	18"	2.27	15	
	Gr. silty clay, w/ tr. f. sand, occas. f. gravel, sandstone, sand lenses	25		7-11-13	10	ss	18"	3.09	11	
				13-23-33	11	ss	18"		14	
		30		11-19-20	12	ss	18"		12	
				11-13-20	13	ss	18"		12	
		35		10-17-22	14	ss	18"		12	
				12-14-26	15	ss	18"	2.89	12	
602.5	till moist	41.2		13-22-26	16	ss	18"	3.71	12	
	END OF BORING 41.2'									

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 793-B-2
PROJECT NAME US 24 CONTRACT NO. 793 + 28 - 60' Lt. (Boring)
LOCATION Sta. 793 + 48 (Culvert)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 634.0 CORE DIA. 7-19-93 CASING HSA
DATE STARTED 7-19-93 COMPLETED 7-19-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	BLOWS FT.	NO.	TYPE	RECOV.	Q _v (pcf)	W (%)	NOTES
634.0		0.0	30							
	Dk. brn.-brn. silt, w/tr. f. sand, organic fibers									
630.8	wet	3.2		2-2-2	1	ss	18"	.49	30	
	Lt. brn. gr. clayey silt, w/tr. f. sand			3-3-3	2	ss	18"	.49	31	
627.1	moist	6.9								
	Lt. gr. brn. clayey silt, w/tr. f. sand, occas. f. gravel			3-4-6	3	ss	18"	2.06	19	
624.7	moist	9.3								
	Gr. clayey silt, w/ tr. f. sand, occas. f. gravel			5-6-8	4	ss	18"	1.73	16	
622.1	till moist	11.9								
	Gr. sandy clay, w/ silt, occas. f. gravel, f. sand lenses			9-18-18	5	ss	18"	2.06	12	
619.6	moist	14.4								
	Gr. clayey silt, w/f. sand, occas. f. gravel, f. sand lenses			6-8-11	6	ss	18"	1.65	17	
615.2	till moist	18.8		16-15-23	7	ss	18"	3.92	12	
				9-16-20	8	ss	18"	4.71	12	

WATER 7-19-93
DD 0.0' 11:00am
BAR 23.4' 12:45pm
AAR 17.7' 1:05pm
DWL Surface 1:05
7-20-93

FILE NAME =
miscellaneous_sheets.dgn

USER NAME = jochumsjg

DESIGNED -

REVISED -

DRAWN -

REVISED -

PLOT SCALE = 100.0000' / IN.

CHECKED -

REVISED -

PLOT DATE = 2/22/2010

DATE -

REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE. 317 SECTION 16W-2,RS-4;17W-1,RS-3 COUNTY FULTON TOTAL SHEETS 240 SHEET NO. 118 CONTRACT NO. 88703
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 793-B-2
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta. 793 + 48 (Culvert) Sta. 793 + 28 - 60' Lt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 634.0' CORE DIA. CASING
DATE STARTED 7-19-93 COMPLETED 7-19-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	QU (%)	W (%)	
			30							
	Gr. silty clay, w/f. sand, occas. f.m. gravel, f. sand lenses			12-15-18	9	SS	18"	4.72	13	
608.0	till moist	26.0		9-10-16	10	SS	18	3.92	12	
	END OF BORING 26.0'									
			30							

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 828-B-1
PROJECT NAME US 24 CONTRACT NO.
LOCATION Sta. 828+50 (Culvert) Sta. 828+26 - 52' Rt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 653.3' CORE DIA. CASING
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	QU (%)	W (%)	
653.3		0.0	30							#A Dk. brn. silty clay, tr. f. sand, root hairs
652.5	See #A	0.8								
	Lt. brn. silt, w/tr. f. sand, organic fibers									
				2-2-2	1	SS	17"	.41	32	
649.0	moist	4.3								
	Lt. brn. blk. dk. gr. silt, w/clay, tr. f. sand			2-2-2	2	SS	14	.33	31	WATER 7-20-93
										DD 1.0' 1:10pm BAR 33.1' 2:40pm AAR 2.2' 3:25pm
				3-2-3	3	SS	17	.87	30	DWL 0.0' 3:25pm 7-21-93
643.9	moist	9.4								
	Lt. brn. lt. gr. clayey silt, w/tr. f. sand, occas. f. gravel			3-2-3	4	SS	18	1.24	23	F. sand 19.0'-19.5'
				2-3-4	5	SS	18	.99	23	
				4-5-6	6	SS	18	1.4	23	
636.5	till moist	16.8								
	Lt. gr. silt, w/clay, f. sand, occas. f. gravel			0-2-2	7	SS	18	.29	20	
634.9	gravel moist	18.4								
	Gr. clayey silt, w/f. sand, occas. f. gravel			4-5-7	8	SS	18	1.57	18	

FILE NAME =
miscellaneous_sheets.dgn

USER NAME = jochums.jg

DESIGNED -

REVISED -

DRAWN -

REVISED -

PLOT SCALE = 100.0000' / 1"

CHECKED -

REVISED -

PLOT DATE = 2/22/2010

DATE -

REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

SCALE:

SHEET NO. OF

SHEETS

STA.

TO STA.

F.A.P.
RTE.

SECTION

COUNTY

TOTAL
SHEETS

SHEET
NO.

317

16W-2,RS-4;17W-1,RS-3

FULTON

240

119

CONTRACT NO. 88703

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 828-B-1
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 828 + 50 (Culvert) Sta. 828 + 26 - 52' Lt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 653.3' CORE DIA. _____ CASING _____
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (lb/ft)	ω (%)	
			30							
				4-5-9	9	ss	18"	1.43	14	
	sand lenses, seams									
			25	5-10-13	10	ss	18	2.89	14	
				10-8-10	11	ss	18	1.73	14	
			30	7-8-13	12	ss	18	2.47	12	
621.5	till moist		31.8							
	Gr. silty clay, w/ tr. f. sand, occas. f. gravel			10-13-27	13	ss	18	4.53	11	
619.0	till moist		34.3							
617.6	Lt. gr. sandstone w/ weathered shale		35.7	30-43-57/2	14	ss	14	--	13	
	END OF BORING 35.7'									
			40							

LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 828-B-2
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 828 + 50 (Culvert) Sta. 828 + 61 - 57' Lt. (Boring)
DATUM HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 653.6' CORE DIA. _____ CASING _____
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (lb/ft)	ω (%)	
653.6	Dk. brn. clayey silt, w/tr. f. sand, root hairs		0.0							
651.9	moist		1.7							
650.8	Brn. clayey silt, w/ f. sand		2.8	2-1-2	1	ss	17"	1.33	32	
	Lt. brn. lt. gr. silt, w/tr. f. sand, occas. mottling, wood									
647.9	moist		5.7	2-1-2	2	ss	18	1.29	28	WATER 7-20-93
	Lt. brn. lt. gr. clayey silt, w/tr. f. sand			2-2-3	3	ss	18	1.49	35	DD 6.8' 8:45am BAR 21.9' 9:40am AAR 4.0' 10:55am DWL 2.1' 10:55am 7-21-93
643.2	moist		10.4	3-3-3	4	ss	18	1.03	23	
	Gr. clayey silt, w/tr. f. sand, occas. f. gravel			4-4-5	5	ss	18	1.48	21	
639.3	till moist		14.3							
	Lt. brn. gr. silty clay, w/tr. f. sand, occas. f. gravel			4-6-6	6	ss	18	2.06	24	
636.0	till moist		17.6	2-1-2	7	ss	18	--	20	
	Gr. silty sand									
634.2	wet		19.4	2-3-6	8	ss	18	1.24	18	

FILE NAME =
miscellaneous_sheets.dgn

USER NAME = jochumsjg

DESIGNED -

REVISED -

DRAWN -

REVISED -

PLOT SCALE = 100.0000' / IN.

CHECKED -

REVISED -

PLOT DATE = 2/22/2010

DATE

REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

F.A.P. RTE. 317 SECTION 16W-2,RS-4;17W-1,RS-3 COUNTY FULTON TOTAL SHEETS 240 SHEET NO. 120 CONTRACT NO. 88703
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



LOG OF BORING

CENTRAL ILLINOIS DRILLING COMPANY
1909 OAKWOOD AVE.
BLOOMINGTON, ILLINOIS 61704
(309) 662-5968

CONTRACTED WITH Hanson Engineers BORING NO. 828-B-2
PROJECT NAME US 24 CONTRACT NO. _____
LOCATION Sta. 828 + 50 (Culvert) Sta. 828+61-57' Lt. (Boring)
DATUM _____ HAMMER WT. 140# HAMMER DROP 30" HOLE DIA. 8"
SURFACE ELEV. 653.6' CORE DIA. _____ CASING _____
DATE STARTED 7-20-93 COMPLETED 7-20-93 DRILLING METHOD HSA

ELEV.	DESCRIPTION	STRATA DEPTH	DEPTH SCALE	SAMPLES						NOTES
				BLOWS FT.	NO.	TYPE	RECOV.	Q _v (#)	W (%)	
			30							
	Gr. clayey silt, w/ tr. f. sand, occas. f. gravel			4-4-11	9	ss	18"	1.32	16	
629.5	till moist	24.1								
	Gr. silty clay, w/ f. sand, occas. f. gravel, sand seam		25	5-11- 14	10	ss	18	3.09	15	
625.6	till moist	28.0								
	Gr. silt w/f. sand lenses			7-8-9	11	ss	18	1.65	16	
623.7	till moist	29.9								
	Gr. clayey silt, w/f. sand, occas. f. gravel, sand seams		30	10-8- 13	12	ss	18	1.73	17	
620.7	till moist	32.9								
	Gr. silty clay, w/tr. f.s and, occas. f. gravel			10-20- 28	13	ss	18	4.12	12	
617.9	till moist	35.7	35	9-14- 20	14	ss	18	3.71	17	
617.6	Gr. silty clay, w/tr.	36.0								
	weathered shale									
	END OF BORING 36.0'									
			40							

TOPSOIL SURVEY

FAP 317 (US 24) From Summum to Astoria

88703 D94-060-95

Sta	Offset*	Depth(in) **	Remarks/Extent
676+00	35 Lt	12	
681+00	35 Rt	9	
685+00	30 Lt	9	
685+00	30 Rt	9	
690+00	31 Rt	9	
690+00	31 Lt	6	
695+00	30 Rt	8	
695+00	32 Lt	8	
719+00	40 Rt	0	
723+00	30 Rt	8	
734+00	35 Rt	4	
740+00	32 Lt	9	
746+50	25 Lt	8	
746+50	30 Rt	6	
755+00	30 Lt	8	
755+00	34 Rt	10	
760+00	30 Lt	18+	Very dark & Clayey
760+00	31 Rt	16	Very dark & Clayey
765+00	31 Lt	16	
765+00	31 Rt	20+	
774+00	37 Lt	6	
774+00	32 Rt	8	
779+00	34 Lt	6	
779+00	31 Rt	6	
785+00	33 Lt	8	
785+00	27 Rt	5	
789+00	35 Lt	5	Brown Clay
792+50	34 Rt	0	
795+00	32 Lt	9	
798+00	60 Lt	5	
806+00	34 Lt	12	
806+00	27 Rt	6	
810+50	30 Lt	4	w/ trace of gravels
810+50	28 Rt	4	w/ trace of gravels
823+00	35 Lt	10	
823+00	32 Rt	12	Dk. Brown SiCL
832+00	35 Lt	8	
832+00	29 Rt	6	
840+00	30 Lt	8	
840+00	30 Rt	6	
845+00	34 Lt	8	
845+00	26 Rt	8	
850+00	32 Lt	9	
850+00	28 Rt	8	
855+00	32 Lt	10	
855+00	28 Rt	7	

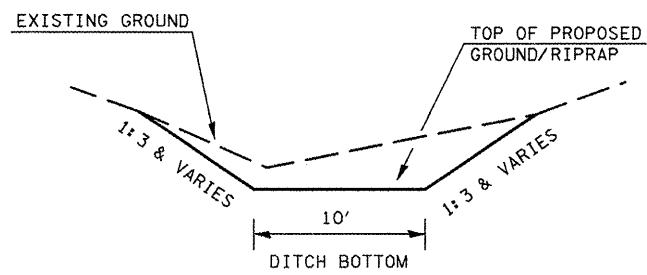
* offset measured from centerline

** Depth represents useable topsoil after clearing 2"± of vegetation

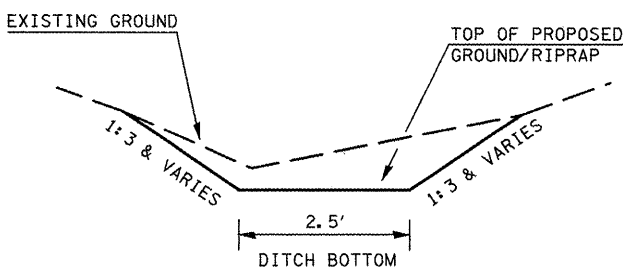
FOR INFORMATION ONLY

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		DRAWN - JGJ	REVISED -							317	16W-2,RS-4;1TW-1,RS-3	FULTON	240	122
	PLOT SCALE = 100.0000 ' / IN.	CHECKED - KJH	REVISED -							CONTRACT NO. 88703				
	PLOT DATE = 3/23/2010	DATE -	REVISED -							FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

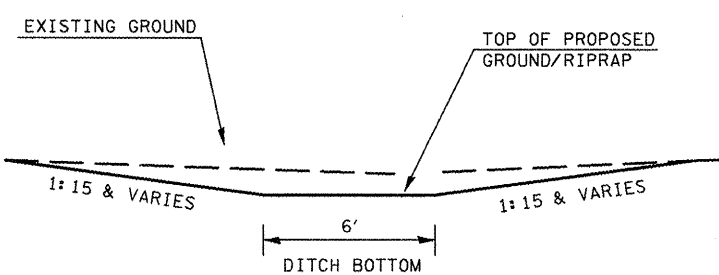
674+01 UPSTREAM & DOWNSTREAM



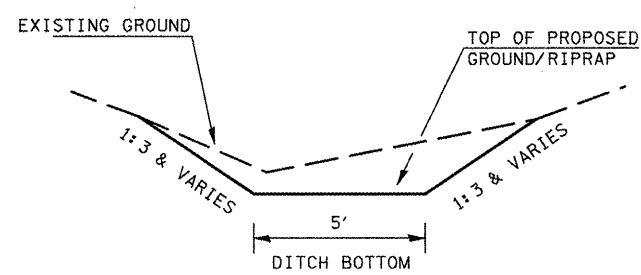
733+64.5 DOWNSTREAM



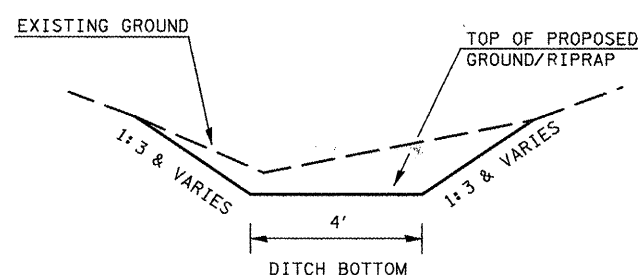
772+96.50 DOWNSTREAM WATERWAY SECTION



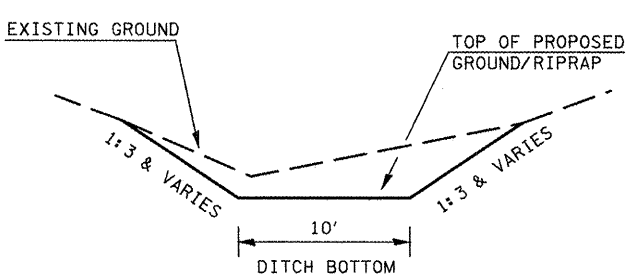
682+90.81 DOWNSTREAM



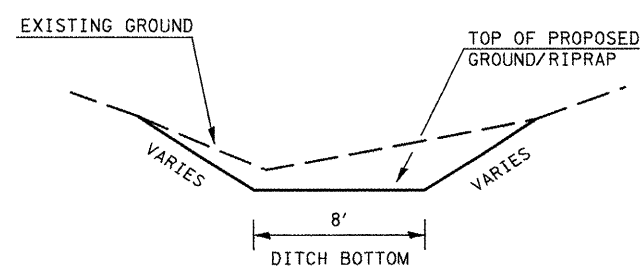
743+43.30 UPSTREAM & DOWNSTREAM



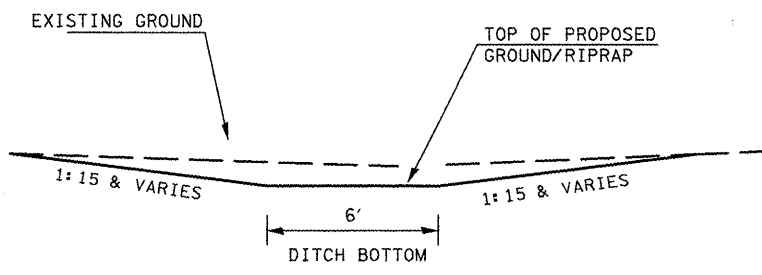
793+46 UPSTREAM & DOWNSTREAM



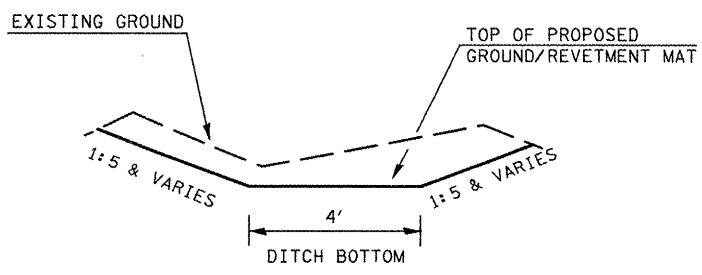
705+03 UPSTREAM & DOWNSTREAM



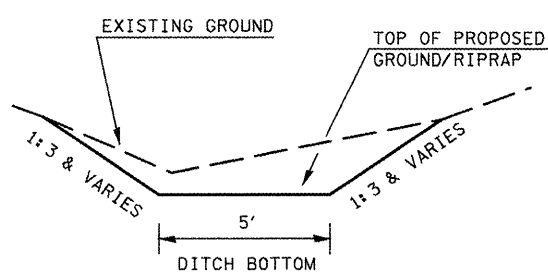
752+63 DOWNSTREAM WATERWAY SECTION



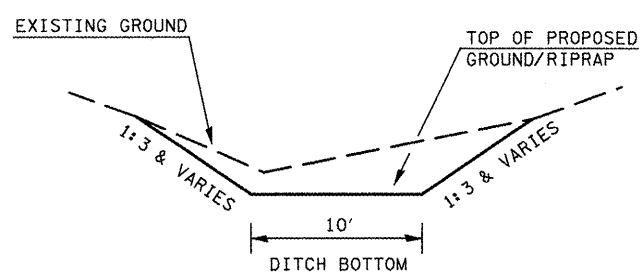
828+50 UPSTREAM & DOWNSTREAM WATERWAY SECTIONS



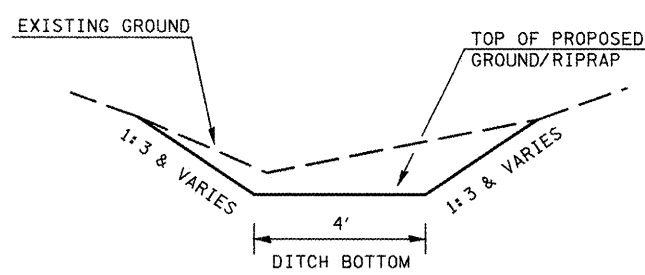
715+46.82 UPSTREAM

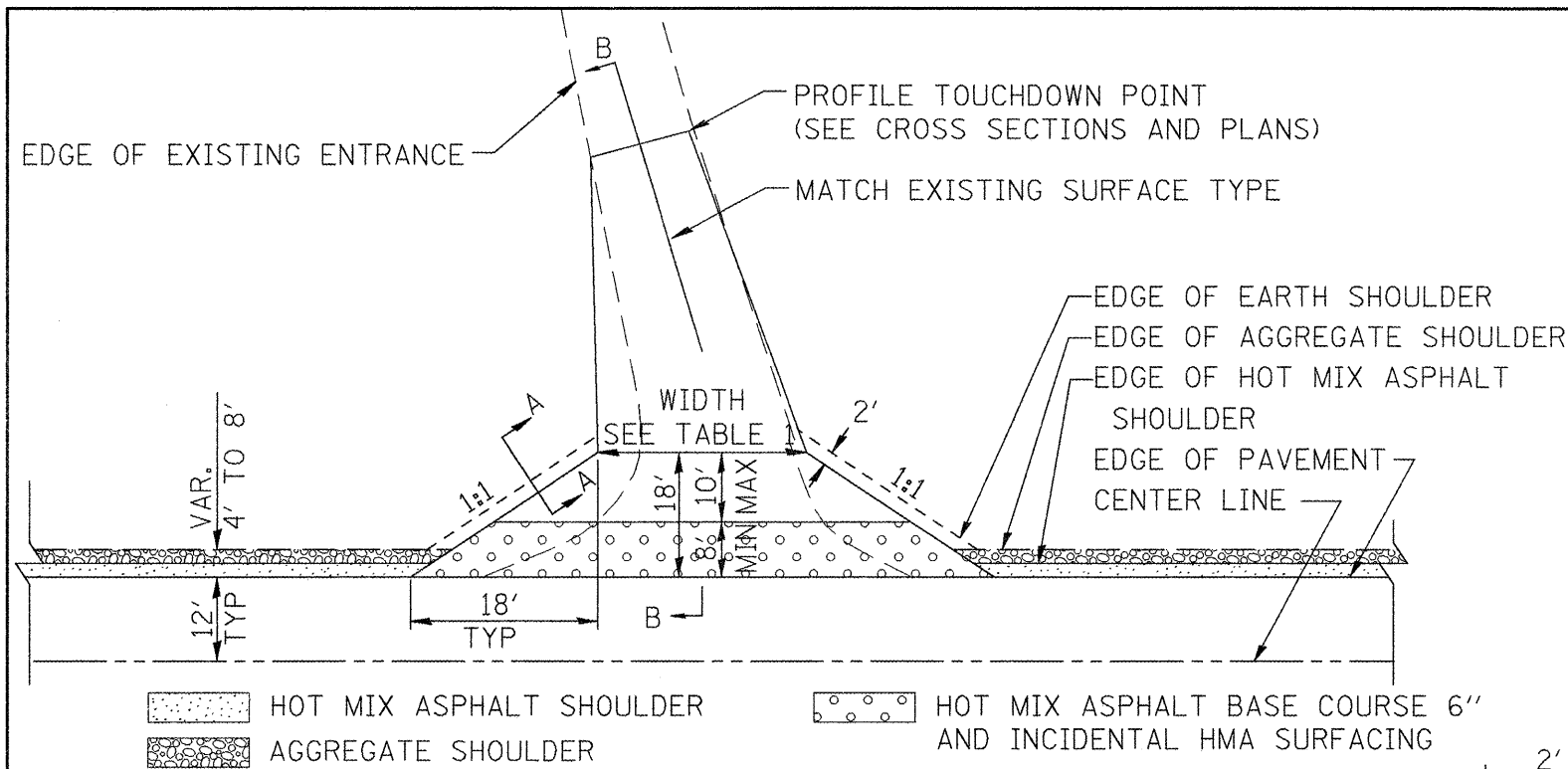


714+81.46 DOWNSTREAM

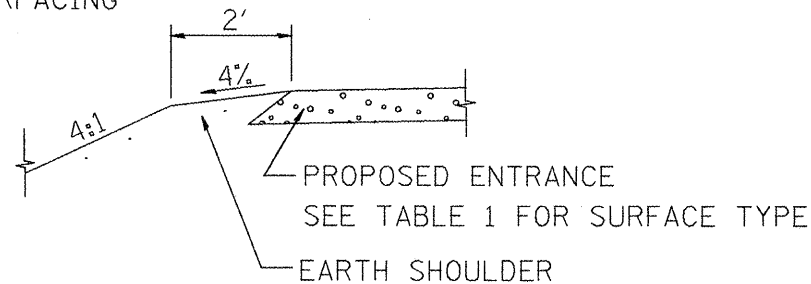


864+33 DOWNSTREAM

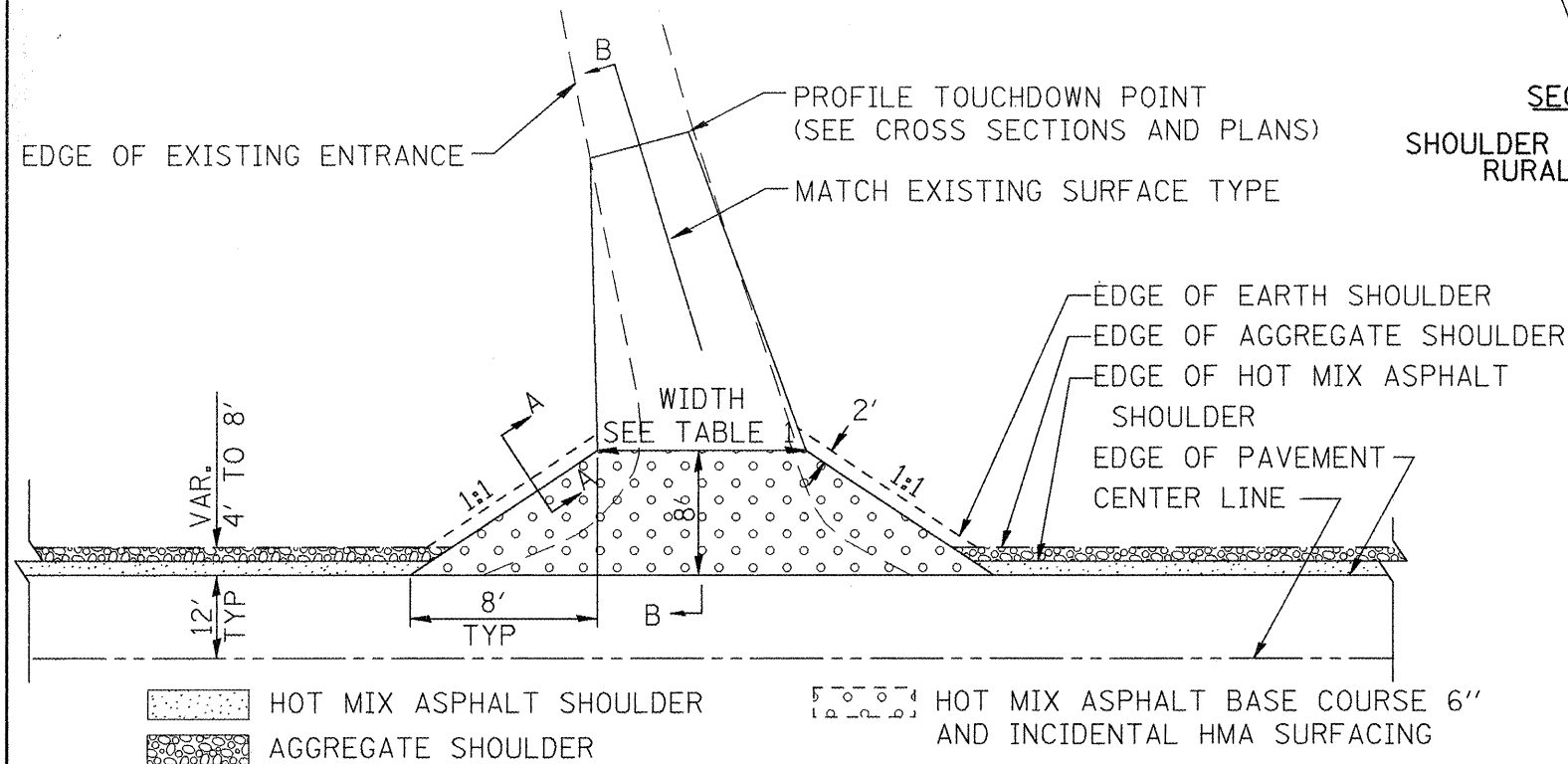




PLAN
COMMERCIAL / FARM-RELATED ENTRANCE



SECTION A-A
SHOULDER TREATMENT FOR
RURAL ENTRANCES



PLAN
PRIVATE ENTRANCE

TABLE 1								
RURAL ENTRANCE DESIGN								
ELEMENT	NON-COMMERCIAL		NON-COMMERCIAL W/ LARGE FARM EQUIPMENT		COMMERCIAL			
					1-WAY OPERATION		2-WAY OPERATION	
WIDTH (W)	12'(3.6m) Min.	24'(7.2m) Max.	20' (6.1m)Max.	30' (9.0m)Max.	14'(4.3m) Min.	24'(7.2m) Max.	24'(7.2m) Min.	35'(10.7m) Max.
FLARE	1:1							
MAX. GRADE (G)	12%		12%		10%			
SURFACE TYPE								
HMA BASE COURSE 6" AND INCIDENTAL HOT MIX ASPHALT SURFACING	8"		----		8"			
AGGREGATE SURFACE COURSE, TYPE B	6"		8"		8"			
PCC DRIVEWAY PAVEMENT	6"		----		7"			

GENERAL NOTES

- ENTRANCES SHALL SLOPE AWAY FROM THE PAVEMENT AT A RATE EQUAL TO THE SHOULDER SLOPE FOR A MINIMUM DISTANCE OF 8'.
- A MINIMUM 8' PAVED SHOULDER SHALL BE CONSTRUCTED BETWEEN LOCATIONS WHERE THE RURAL ENTRANCE IS LESS THAN 50' FROM AN ADJACENT SIDEROAD, ENTRANCE OR MAILBOX TURNOUT.
- A TAPER RATE OF 5:1 IS DESIRABLE WHEN TRANSITING FROM THE RURAL ENTRANCE WIDTH SHOWN IN TABLE 1, TO THE EXISTING ENTRANCE WIDTH.

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-103.06, NEW REVISION BOX	T.P.	10-16-06	REVISED TO 2007 SPEC.	M.A.
07-01-97	REVISE DESIGNER NOTES	J.A.			
01-17-03	ADJUST DESIGN, CHANGE ENTRANCE	J.A.T.R.			
09-15-05	RADIUS FOR FLARE	M.M.A.			

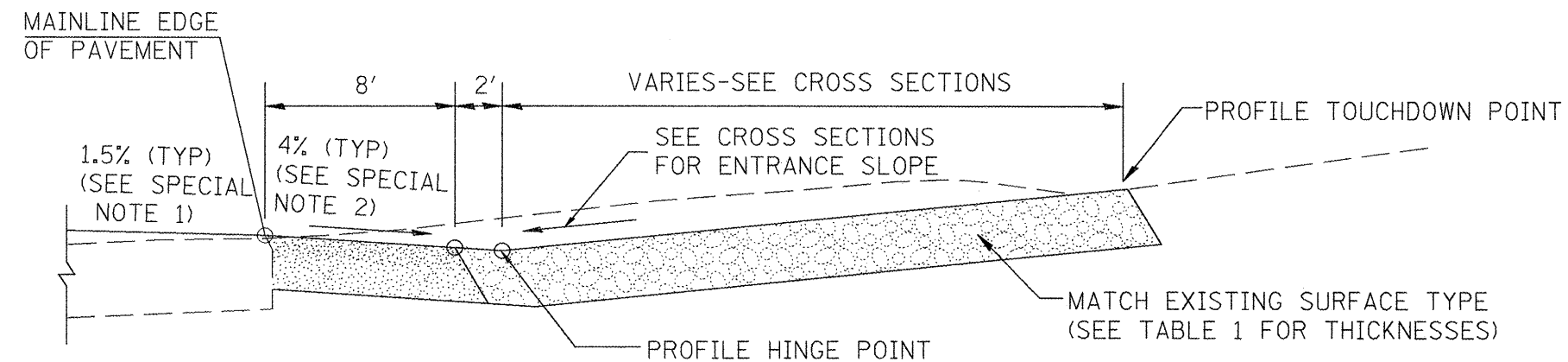
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RURAL ENTRANCE DETAIL

NOT TO SCALE

SHT. 1 OF 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4+17W-1,RS-3	FULTON	240	124
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

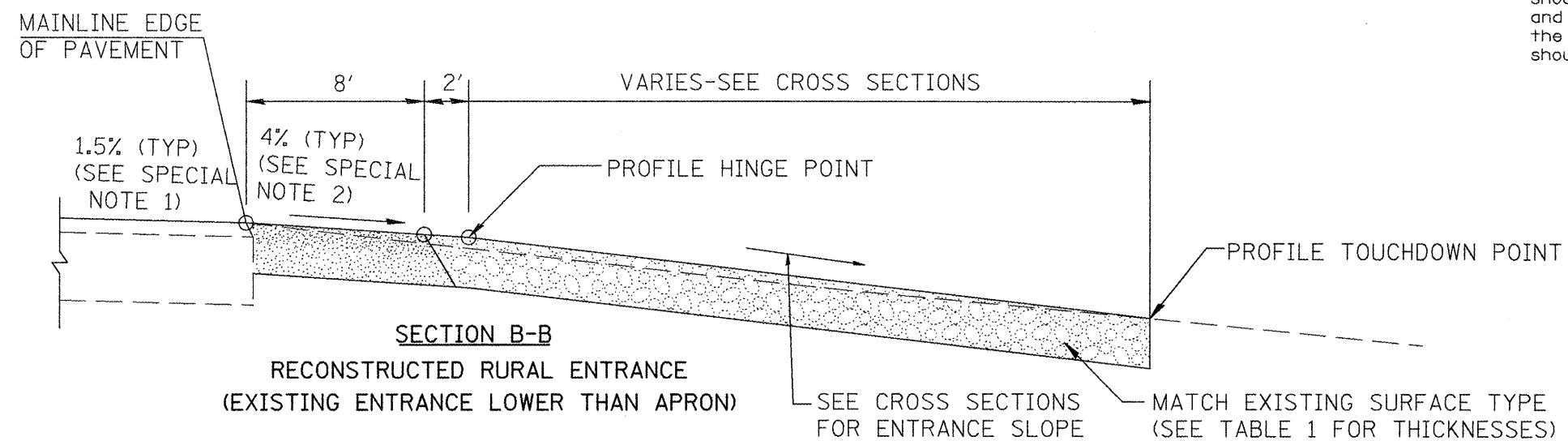


SECTION B-B

RECONSTRUCTED RURAL ENTRANCE
(EXISTING ENTRANCE HIGHER THAN APRON)

SPECIAL NOTES

- ① The mainline pavement cross-slope is 1.5% for tangent alignment. See PLANS for cross-slope on superelevated horizontal curves.
- ② The shoulder slope shall control the entrance profile for a distance of 10' (3.0m) minimum from the pavement edge. The shoulder cross-slope is 4% for tangent alignment. Through superelevated curves, the maximum pavement-shoulder breakover should not be greater than 10% for shoulders 6' (1.8m) and wider and 12% for shoulders 4' (1.2m) and less. Where 12' paved shoulders are provided, the breakover should be at the edge of the paved shoulder rather than at the pavement edge.



SECTION B-B

RECONSTRUCTED RURAL ENTRANCE
(EXISTING ENTRANCE LOWER THAN APRON)

All dimensions are in inches (millimeters)
unless otherwise noted.

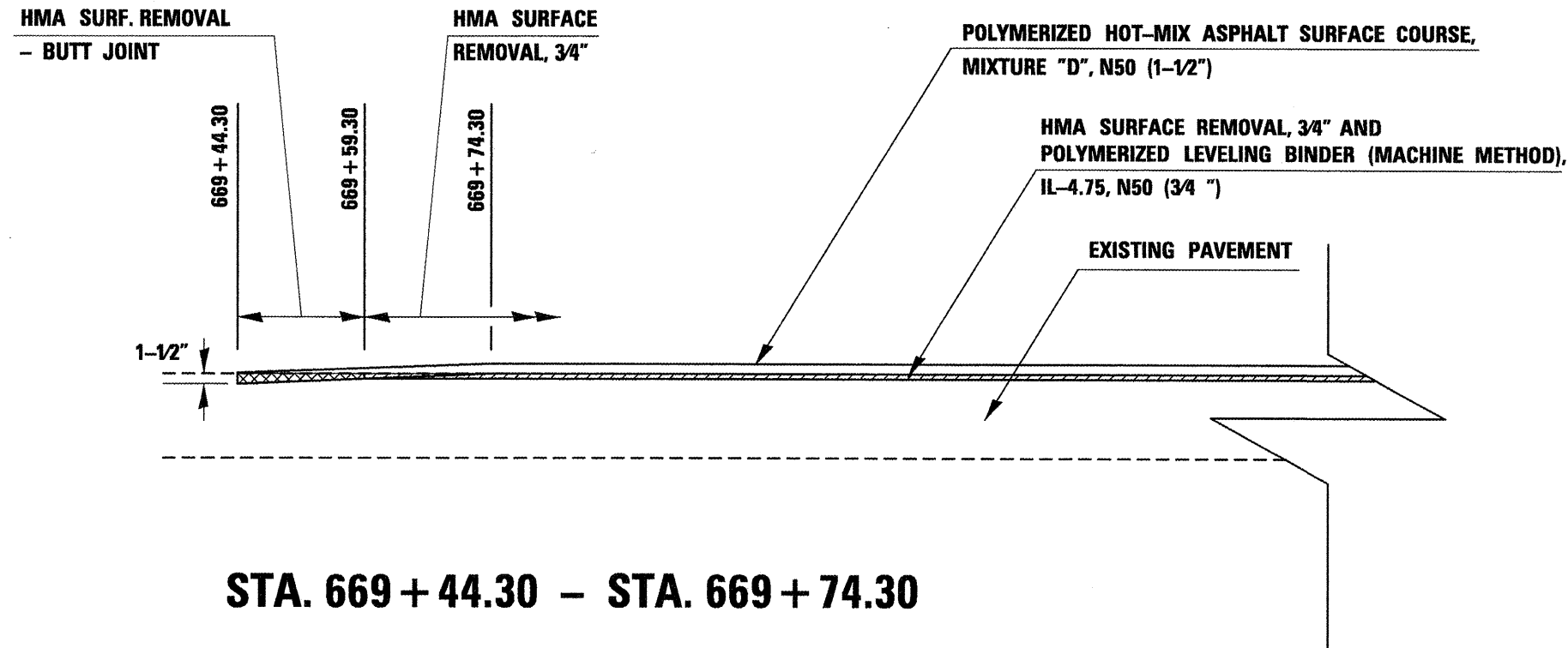
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RURAL ENTRANCE DETAIL

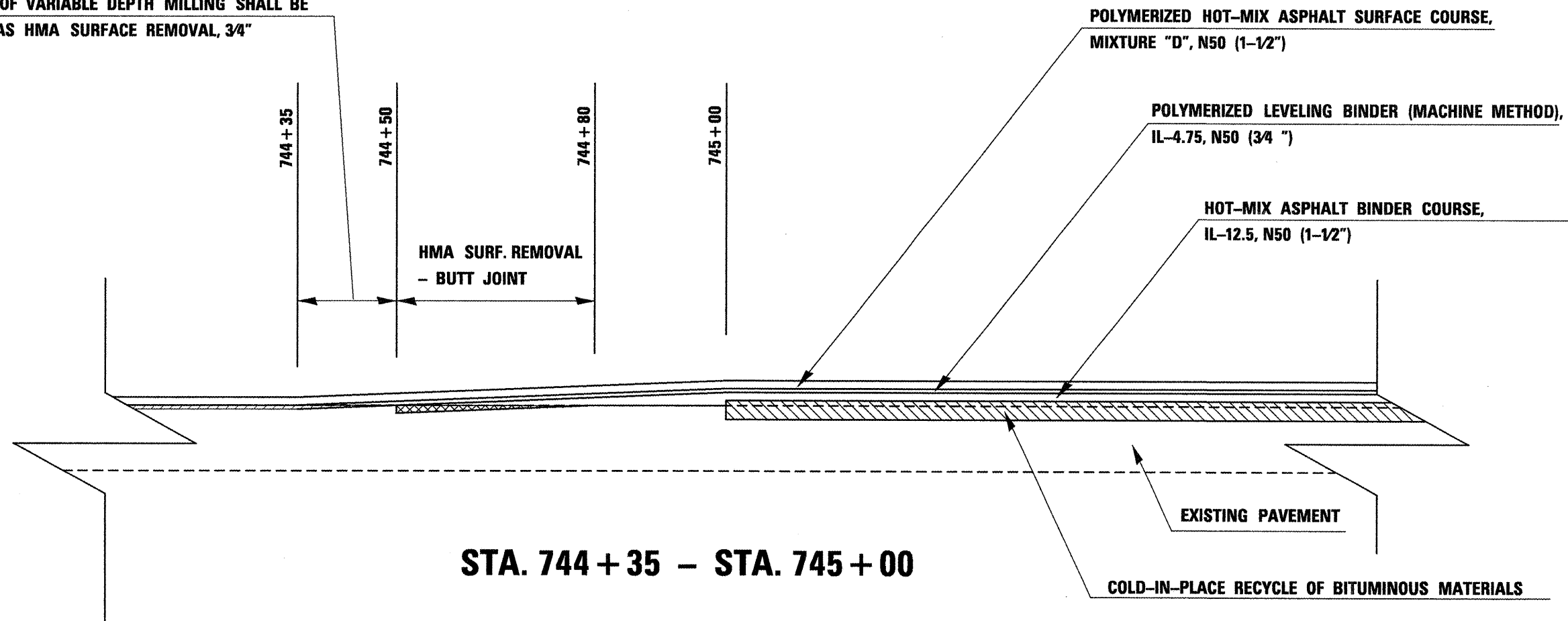
NOT TO SCALE

SHT. 2 OF 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	246	125
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 88703	



SEGMENT OF VARIABLE DEPTH MILLING SHALL BE PAID FOR AS HMA SURFACE REMOVAL, 3/4"

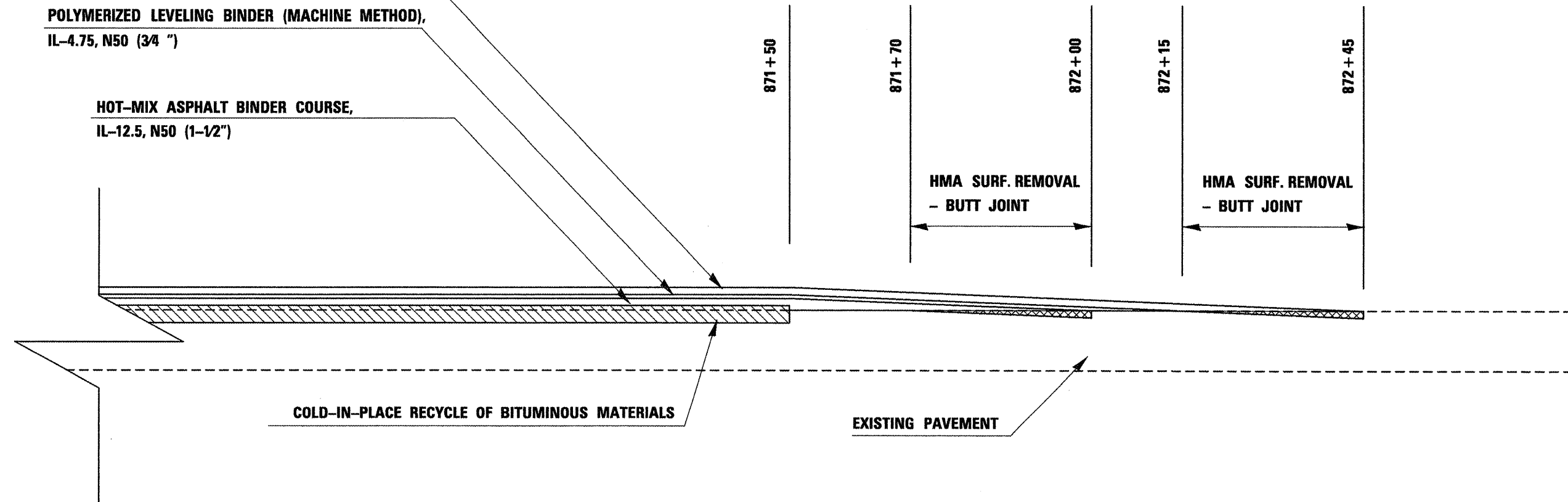


FILE NAME = miscellaneous.sheets.dgn	USER NAME = jochums.jg	DESIGNED - KJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVING TRANSITION DETAILS			F.A.P. RTE. 317	SECTION 16W-2,RS-4;17W-1,RS-3	COUNTY FULTON	TOTAL SHEETS 240	SHEET NO. 126
PLOT SCALE = 100,0000' / IN.	CHECKED - KJH	DRAWN - JGJ	REVISED -		SCALE:	SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 88703	
PLOT DATE = 3/10/2010	DATE -	REVISOR -	REVISOR -									

POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE,
MIXTURE "D", N50 (1-1/2")

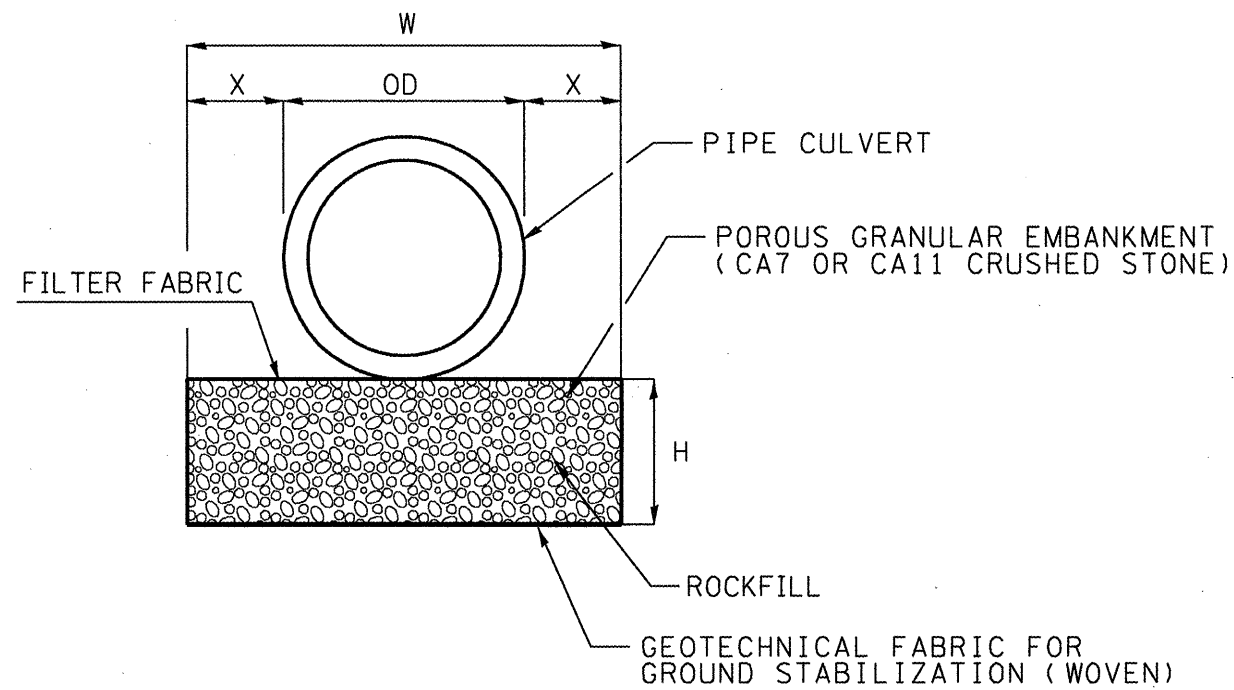
POLYMERIZED LEVELING BINDER (MACHINE METHOD),
IL-4.75, N50 (3/4 ")

HOT-MIX ASPHALT BINDER COURSE,
IL-12.5, N50 (1-1/2")

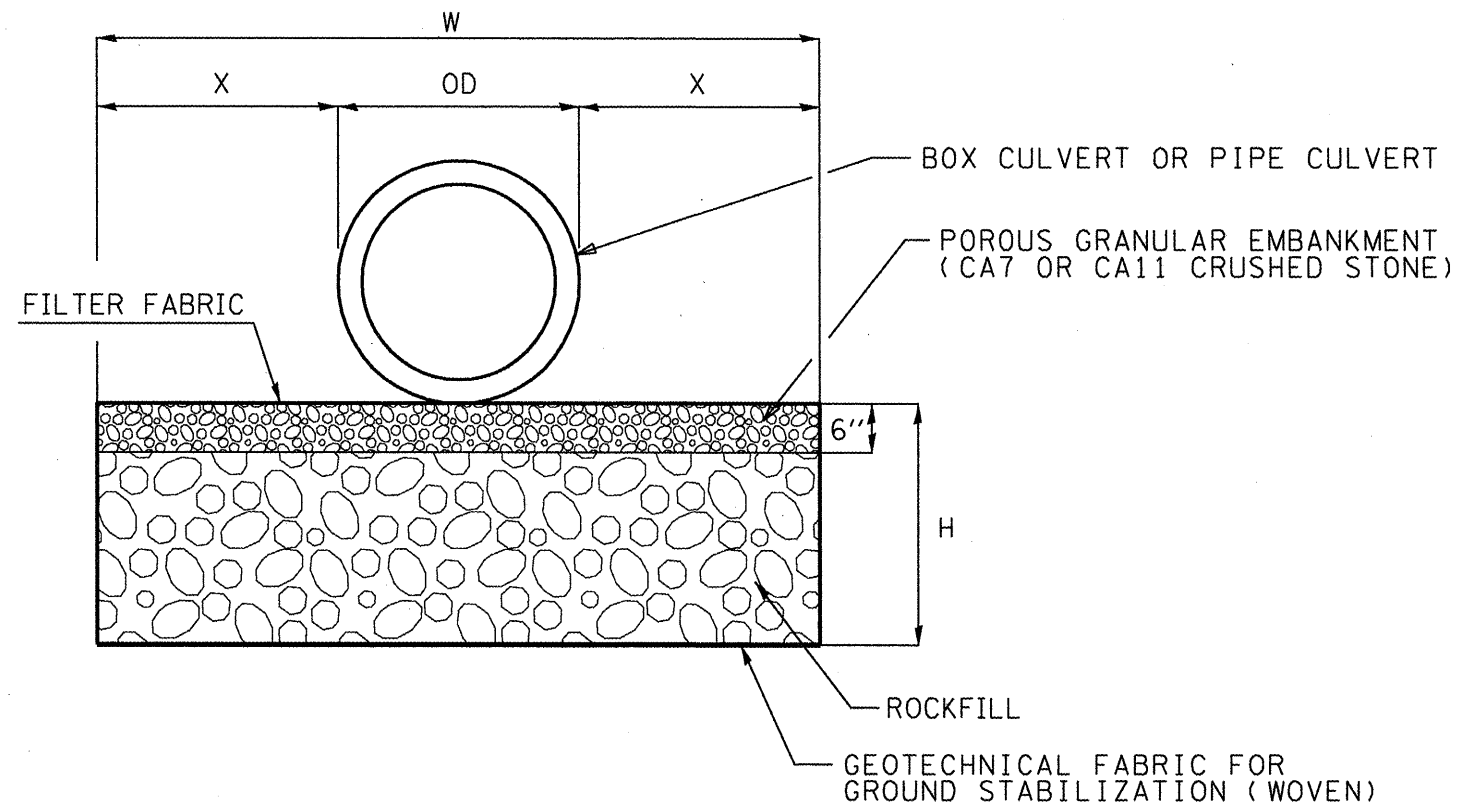


STA. 871 + 50 – STA. 872 + 45

FILE NAME = miscellaneous_sheets.dgn	USER NAME = jochums.jg	DESIGNED - KJH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVING TRANSITION DETAILS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 100.0000' / IN.	DRAWN - JGJ	REVISED -					317	16W-2,RS-4;17W-1,RS-3	FUTLON	240	127
	PLOT DATE = 3/10/2010	CHECKED - KJH	REVISED -		SCALE: SHEET NO. 2 OF 2 SHEETS STA. TO STA.			CONTRACT NO. 88703				
		DATE -	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



ALTERNATE I: FOR 12" TO 18" UNDERCUT



ALTERNATE II: FOR 18" AND GREATER UNDERCUT

CULVERT UNDERCUT QUANTITIES											
CULVERT LOCATION	UNDERCUT DIMENSIONS*					TRENCH BACKFILL (CU. YDS.)	POROUS GRANULAR EMBANKMENT (TON)	ROCK FILL (TON)	GEOTECHNICAL FABRIC (SQ. YDS.)	FILTER FABRIC (SQ. YDS.)	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL (CU. YD.)
	DEPTH 'h' (FT)	'x' (FT)	'OD' (FT)	'w' (FT)	Length 'L' (FT)						
PIPES											
674+01	4	2	4.25	8.25	62.0	10.2	19.4	135.9	56.8	111.9	75.8
683+14	2	2	5.4	9.4	64.7		23.1	69.3	67.6	96.3	45.1
698+70											
714+38	1	2	4.3	8.25	79.0		49.5		72.4	90.0	
733+64.5	2	2	3.1	7.1	43.0		11.6	34.8	33.9	53.0	22.6
743+12	3	2	4.25	8.25	97.0	9.9	30.4	151.9	88.9	153.6	88.9
772+96.5	2	2	3.1	7.1	43.0		11.6	34.8	33.9	53.0	22.6
864+33											
TOTAL						20	146	427	354	558	255

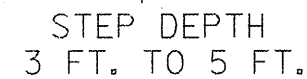
GENERAL NOTES:

- Undercut if the Dynamic Cone Penetrometer tests indicate soil strength is less than 1 ton/sq ft.
- DEFINITIONS:
OD = Outside Diameter or outside width of box culvert
h = Depth of undercut (for box culverts, the upper 6" shall be included in the cost of the various box culvert pay items).
x = 2' for pipe culverts
x = h or minimum 2 feet, which ever is greater for box culverts.
W = Width of undercut = 2x + OD
- Wrap porous granular material and rock fill in filter fabric. The fabric shall be according to the requirements of the applicable portions of section 1080 and section 282 with 6 or 8 oz/sy material allowed.

All dimensions are in inches (millimeters) unless otherwise noted.

SLOPE STEPS DETAIL

TYPICAL CROSS-SECTION EMBANKMENT
CONSTRUCTION ON SIDEHILL

PROPOSED
EMBANKMENT

LIMIT FOR
EMBANKMENT

EXISTING
GROUNDLINE

STEP
WIDTH
(SEE NOTE 2)

PROPOSED SIDEHILL
TREATMENT
(ARTICLE 205.03).

1. Slope Steps will be required for all 12(300) minimum thickness "silver fills" and on a fills with a height of 10'(3.0m).
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

STANDARD EMBANKMENT
(IN ACCORDANCE WITH
205 OF THE STANDARD SPECIFACATION).

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	129
CONTRACT NO. 88703				

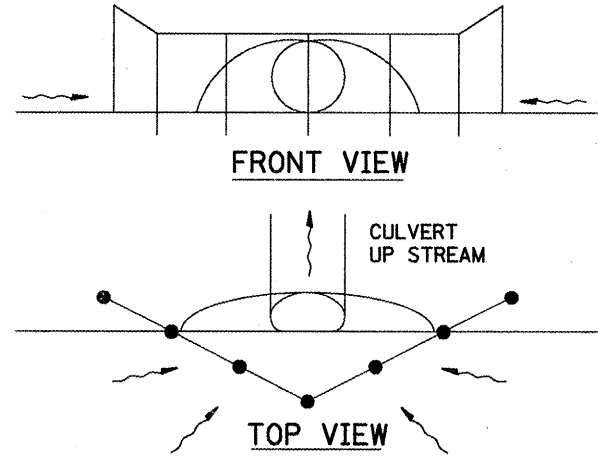
1-1-97	RENUM. L-5.03, NEW REVISION BOX, REVISED TITLE	T.P.			
	BOX, REVISED GENERAL NOTES.				
10-16-06	REVISED TO 2007 SPEC.	M.A.			

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

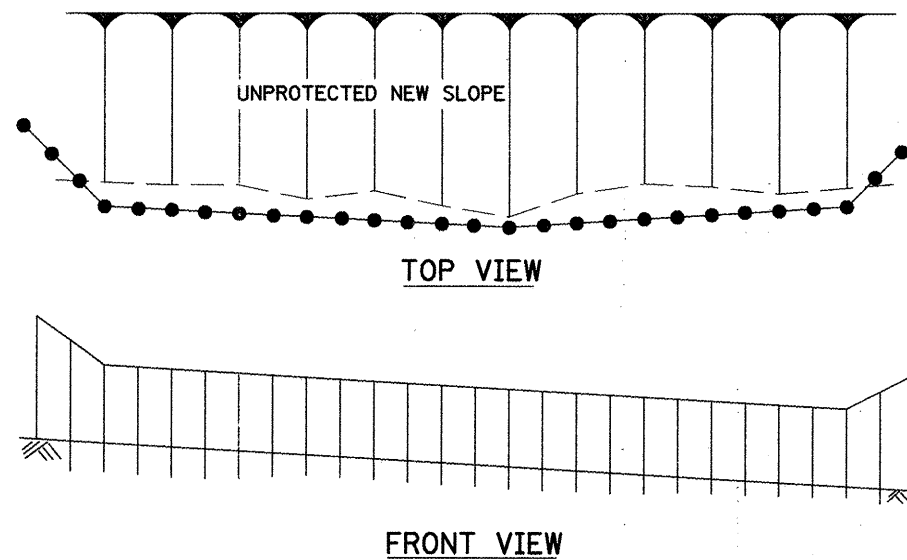
NOT TO SCALE

SLOPE STEPS DETAIL

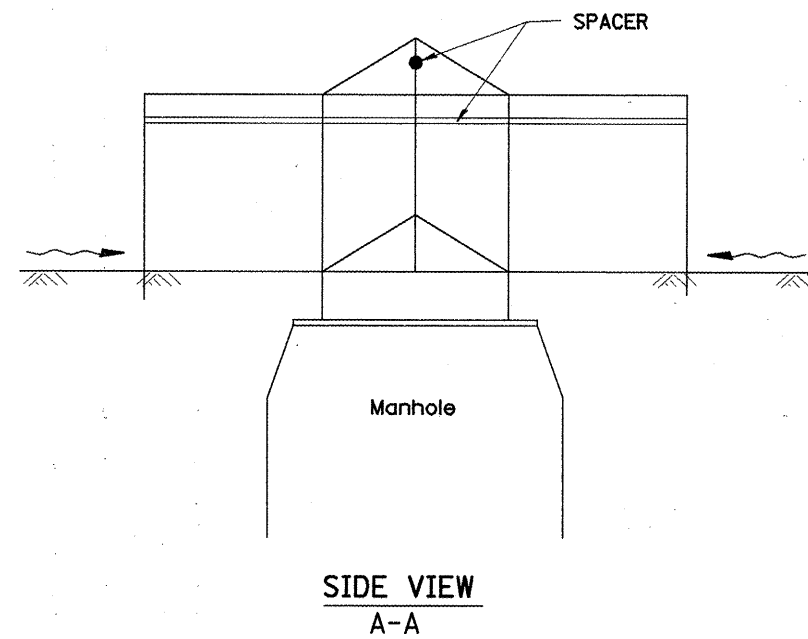
CADD STD. 205001-D4



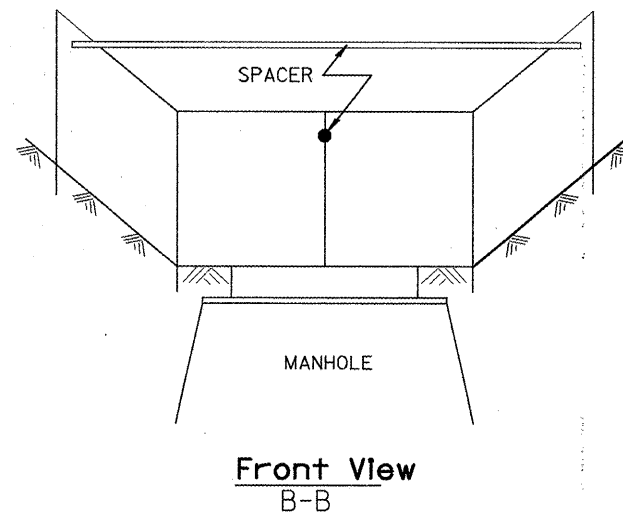
UPSTREAM PIPE CULVERT EROSION CONTROL



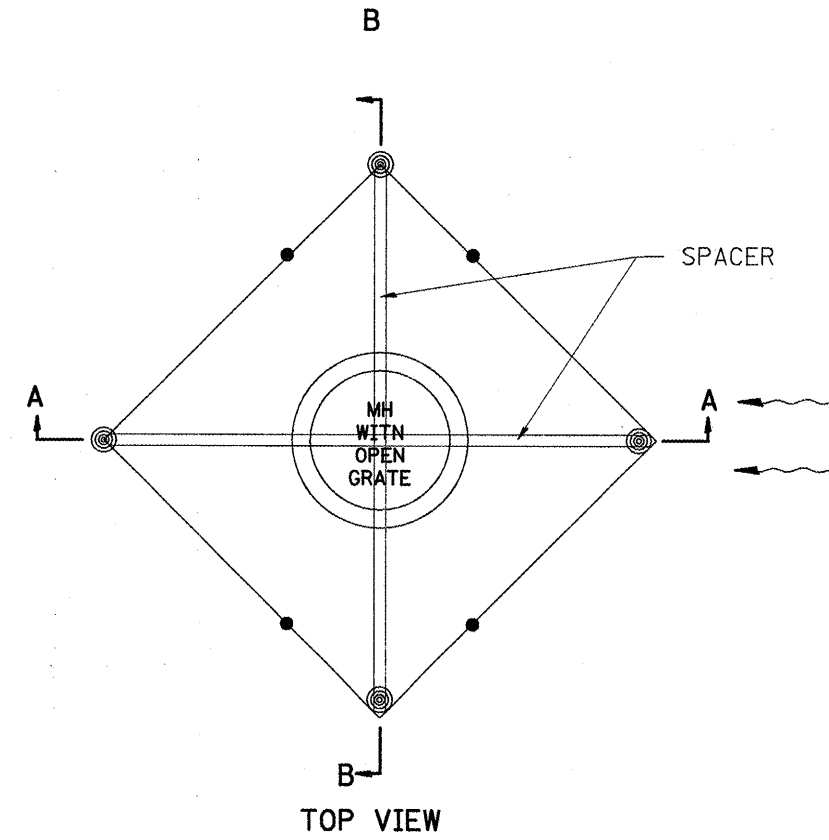
FRONT VIEW



SIDE VIEW
A-A



FRONT VIEW
B-B
EROSION CONTROL
AT
OPEN GRATE MAN HOLE



TOP VIEW

GENERAL NOTES:

1. This work shall be performed in accordance with Sections 280 & 1081, of the Standard Specifications.
2. Additional Timber or Metal Post shall be installed, as needed.

All dimensions are in inches (millimeters) unless otherwise noted.

1-1-97		T.P.			
3-11-03	ELIMINATED SILT FENCE DITCH CHECK	M.A.			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATION OF SILT FILTER FENCE

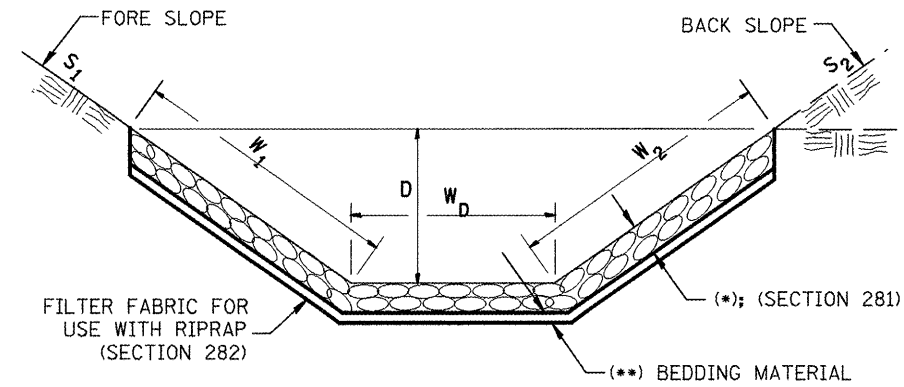
NOT TO SCALE

CADD STD. 280001-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	130
				CONTRACT NO. 88703

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

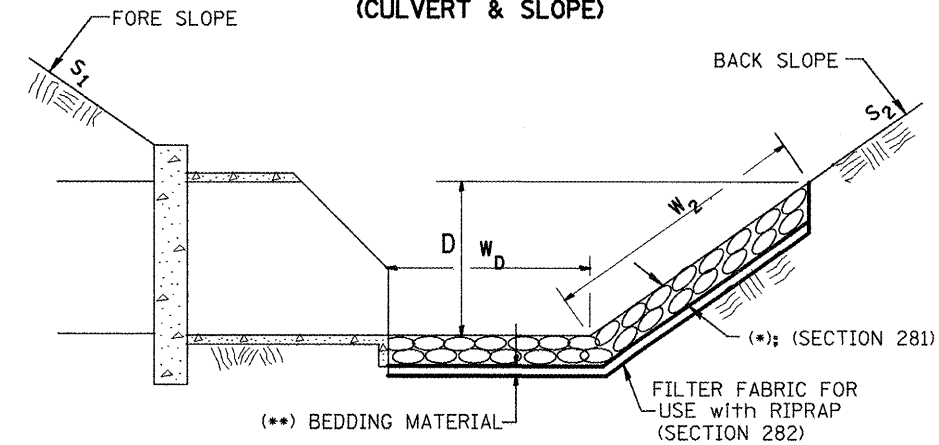
CASE 1
(DITCH)



(*)				
LOCATION	WIDTH (1)	LENGTH	RIPRAP	FABRIC
STA TO STA	lin ft (m)	lin ft (m)	tons (m tons)	sq yds (m ²)
TOTAL				

$$(1) \text{ WIDTH} = W_1 + W_2 + W_D$$

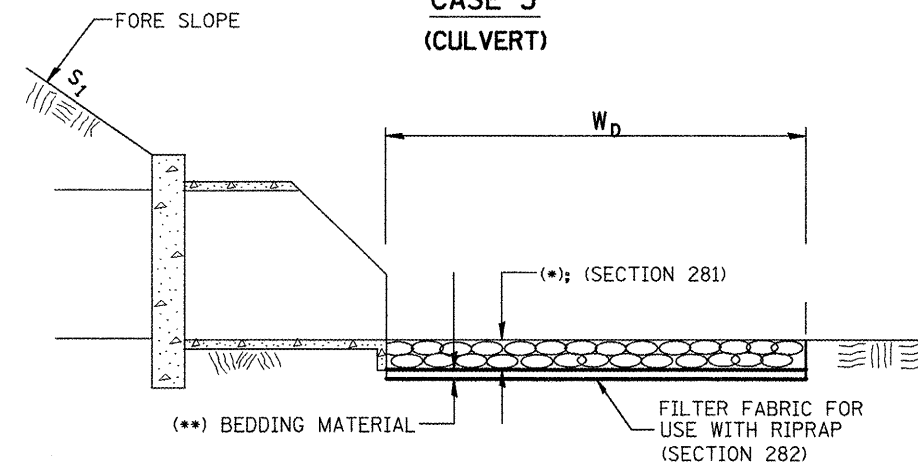
CASE 2
(CULVERT & SLOPE)



(*)				
LOCATION	WIDTH (1)	LENGTH	RIPRAP	FABRIC
STA TO STA	lin ft (m)	lin ft (m)	tons (m tons)	sq yds (m ²)
TOTAL				

(1) WIDTH = $W_2 + W_D$

CASE 3
(CULVERT)



(*)				
LOCATION	WIDTH (1)	LENGTH	RIPRAP	FABRIC
STA TO STA	lin ft (m)	lin ft (m)	tons (m tons)	sq yds (m ²)
TOTAL				

(1) WIDTH = W_D

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches (millimeters) unless otherwise noted.

1-1-97	RENUM. A-12.02. NEW REVISION BOX	T.P.			
12-1-97	CORRECT FILTER FABRIC LEADER ARROW	J.A.			
10-16-06	REVISED TO 2007 SPEC.	M.A.			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

RIPRAP DITCH FOR EROSION PROTECTION

CADD STD. 281001-D4

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	131
CONTRACT NO. 88703				



SPECIAL NOTE NUMBER	ELEMENT	MAINLINE INTERSTATES & 4-LANE EXPRESSWAYS	ALL OTHERS
①	LENGTH OF BUTT JOINT	60'(18.0 m)	30'(9.0 m)
②	PERMANENT TAPER RATE	1:480	1:240
③	TEMPORARY RAMP TAPER RATE	1:80	1:40
④	TEMPORARY RAMP LENGTH	10'(3.0 m)	5'(1.5 m)
⑤	LENGTH OF BUTT JOINT	10'(3.0 m)	10'(3.0 m)

1. The work shall be done in accordance with Article 406.08 and the Special Provision for Butt Joints.
2. The pavement surface to be removed may be either bituminous or P.C. concrete. The work shall be performed in accordance with Article 440.04 and the Special Provisions for Butt Joints.
3. The saw cut joints shall be primed just prior to the placing of bituminous material. The work will be in accordance with the applicable portions of Article 406.05.



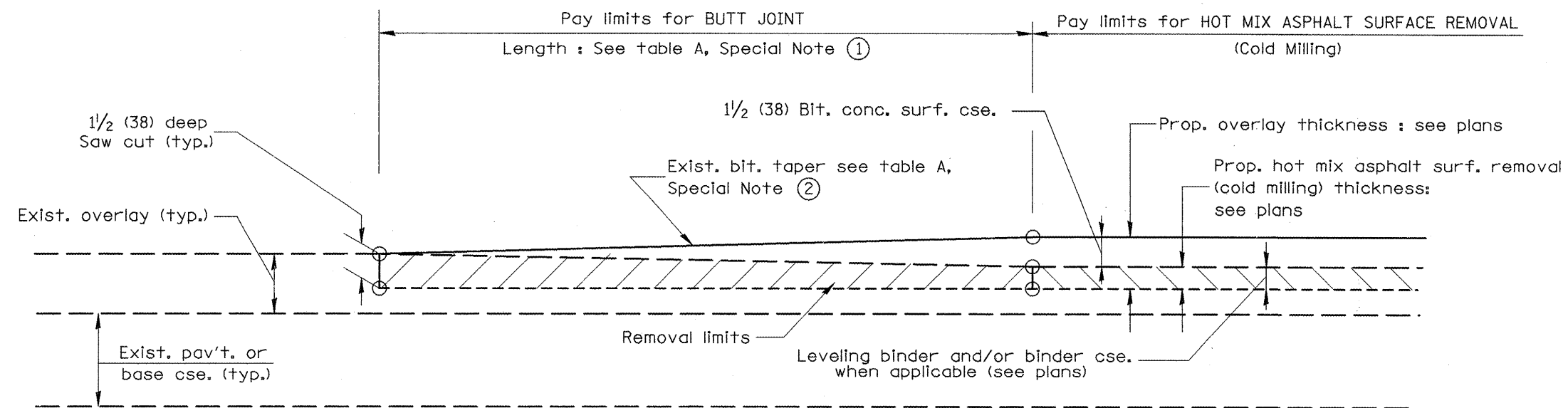
01-01-97	RENUM. C-23.01, NEW REVISION BOX	T.P.
04-01-97	CORRECTION TO DEPTH	J.A.
09-15-05	REVISED DESIGNER NOTE	M.M.A.
10-16-06	REVISED TO 2007 SPEC.	M.A.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

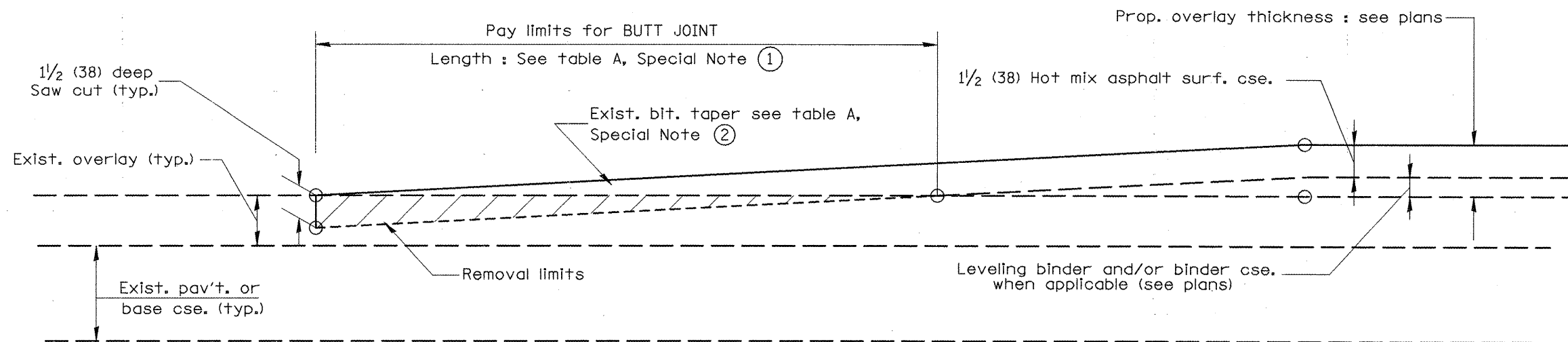
NOT TO SCALE

BUTT JOINTS

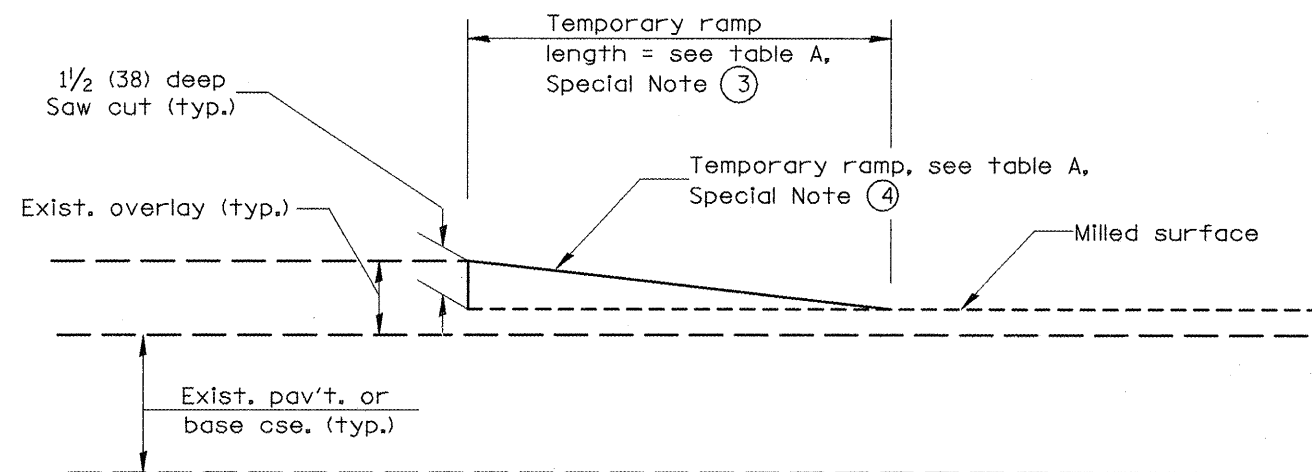
SHT. 1 OF 3
CADD STD. 406101-D4
CONTRACT No. 88703
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



CASE 3 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER



CASE 4 : NO HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER



DETAIL TEMPORARY RAMP

All dimensions are in inches (millimeters)
 unless otherwise noted.

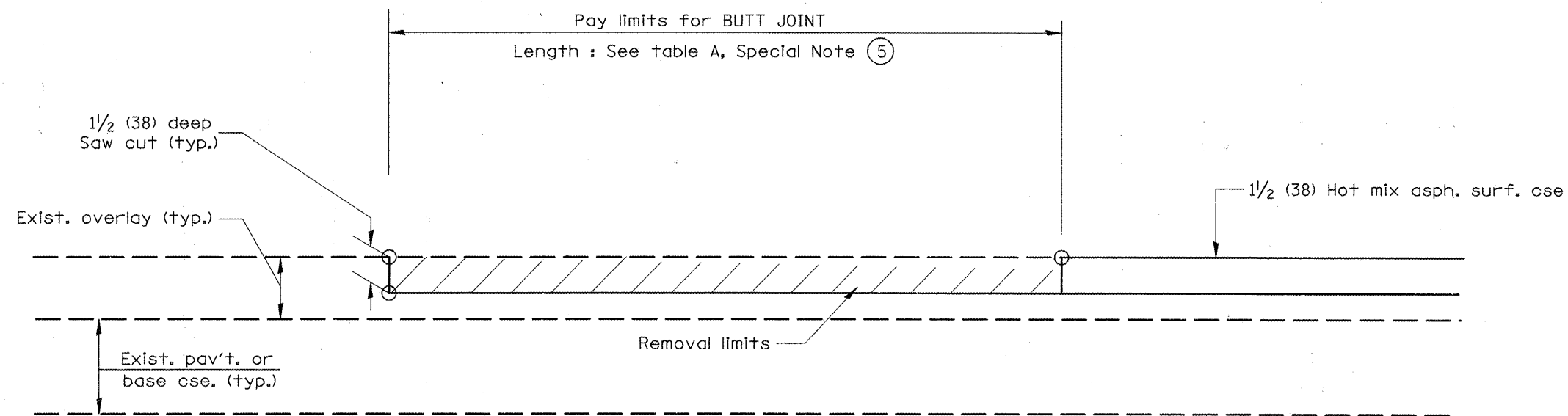
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINTS

NOT TO SCALE

SHT. 2 OF 3
 CADD STD. 406101-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	133
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

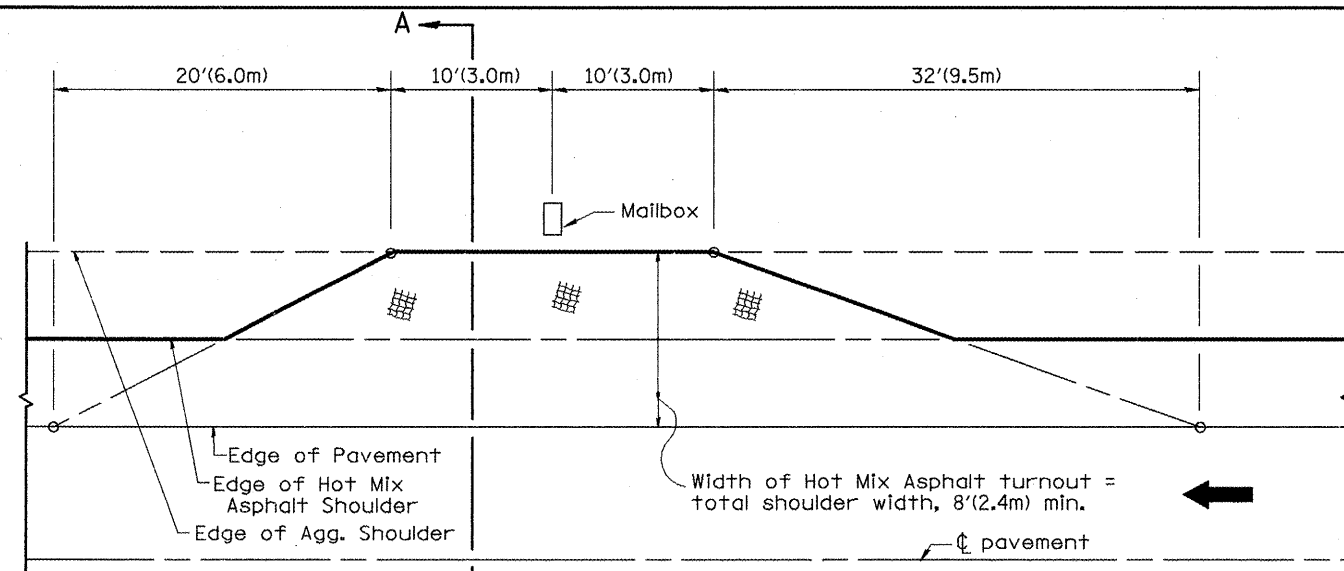


CASE 5 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER

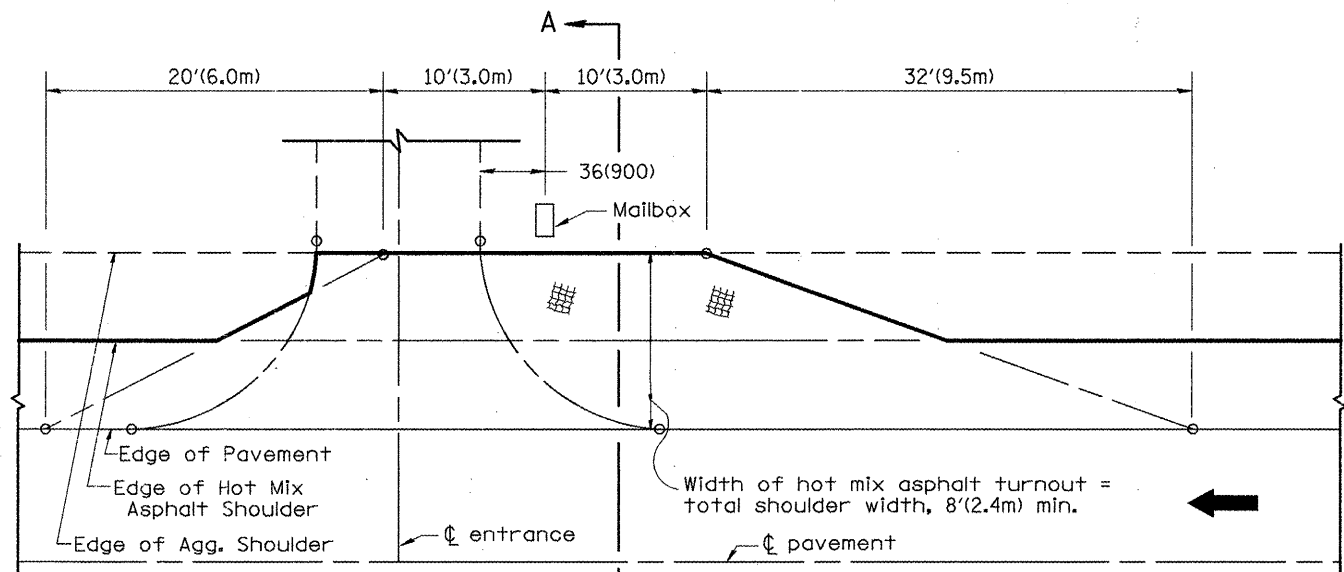
All dimensions are in inches (millimeters) unless otherwise noted.

										STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION										BUTT JOINTS										SHT. 3 OF 3 CADD STD. 406101-D4										NOT TO SCALE										F.A.P. RTE.										SECTION										COUNTY										TOTAL SHEETS										SHEET NO.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

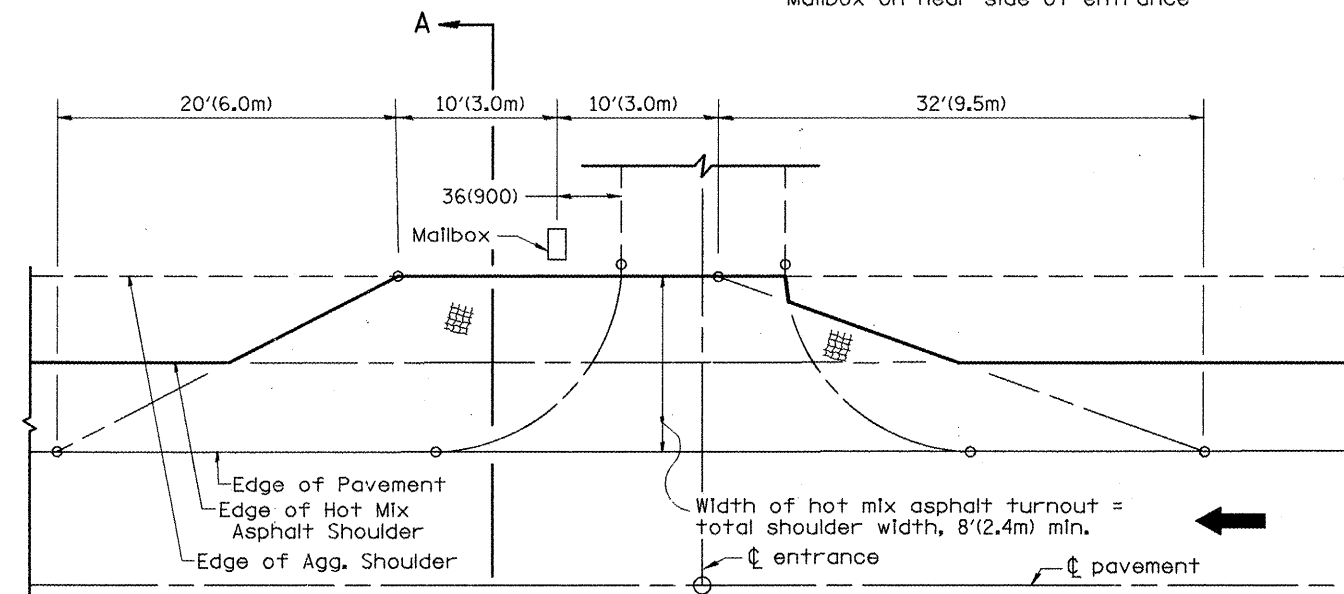
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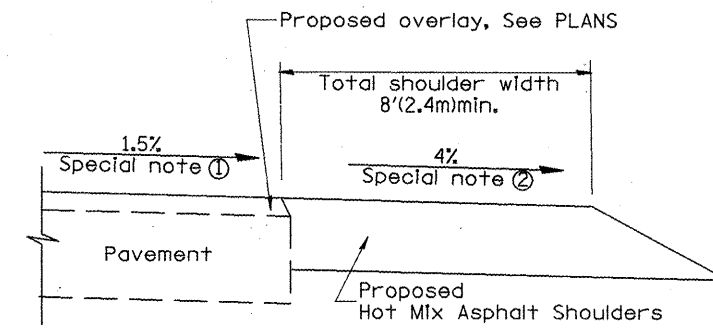
METHOD "T"
Typical Application



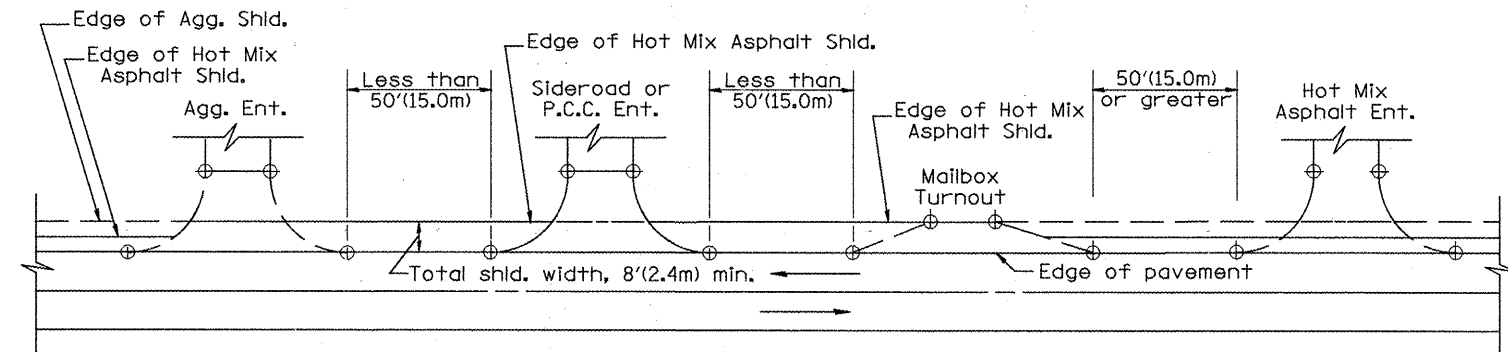
METHOD "N"
Mailbox on near side of entrance



METHOD "F"
Mailbox on far side of entrance



SECTION A-A



DETAIL A

SHOULDER TREATMENT FOR CLOSELY SPACED SIDEROADS, ENTRANCES, AND/OR MAILBOX TURNOUTS

GENERAL NOTES

- Mailbox turnouts shall slope away from the pavement edge at a rate equal to the shoulder slope. See SECTION A-A.
- The total shoulder width, 8'(2.4m) minimum, shall be paved between sideroads entrances and/or mailbox turnouts at locations where the distance between radius or taper control points is less than 50'(15.0m). See DETAIL A.
- Mailboxes shall be mounted such that the face of the mailbox is 6(150) to 12(300) and the post a minimum of 24(600) from the edge of the turnout surfacing.

SPECIAL NOTES

- The mainline pavement cross-slope is 1.5% for tangent alignment. See PLANS for cross-slope on superelevated horizontal curves.
- The shoulder slope shall control the turnout slope. The standard cross-slope is 4% for tangent alignment. Through superelevated curves, the maximum pavement-shoulder breakover should not be greater than 10% for shoulders 6'(1.8m) and wider and 12% for shoulders 4'(1.2m) and less. Where 12(300) paved shoulders are provided, the breakover should be at the edge of the paved shoulder rather than at the pavement edge.

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-90.01, NEW REVISION BOX	T.P.	
07-01-97	REVISE DESIGNER NOTES	J.A.	
09-15-05	REVISED DESIGNER NOTE	M.M.A.	
10-16-06	REVISED TO 2007 SPEC.	M.A.	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

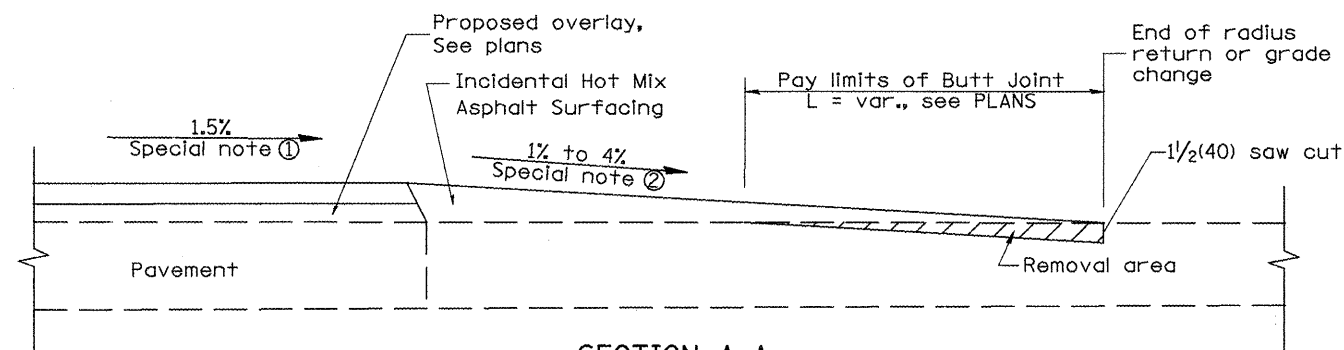
MAILBOX TURNOUTS FOR "3R" PROJECTS

NOT TO SCALE

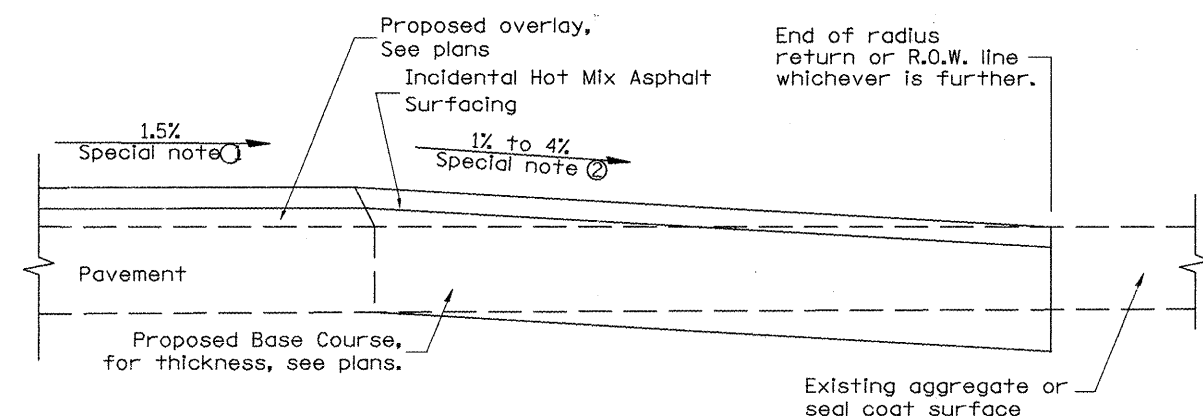
CADD STD. 406201-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	135
CONTRACT NO. 88703				

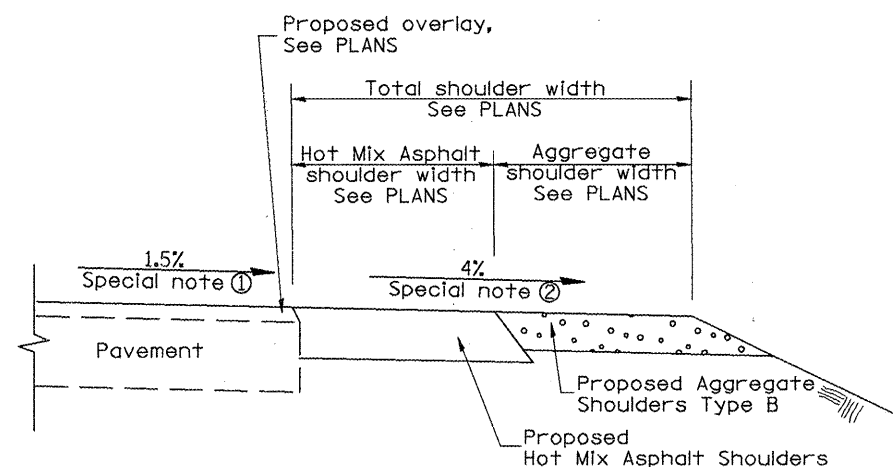
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



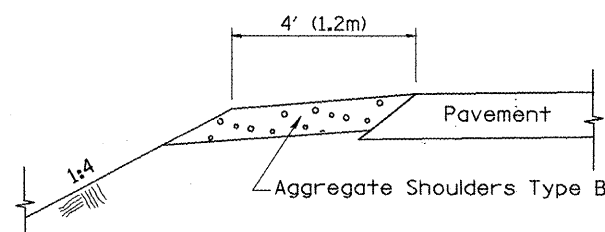
SECTION A-A
EXISTING PCC OR HOT MIX ASPHALT SIDEROAD



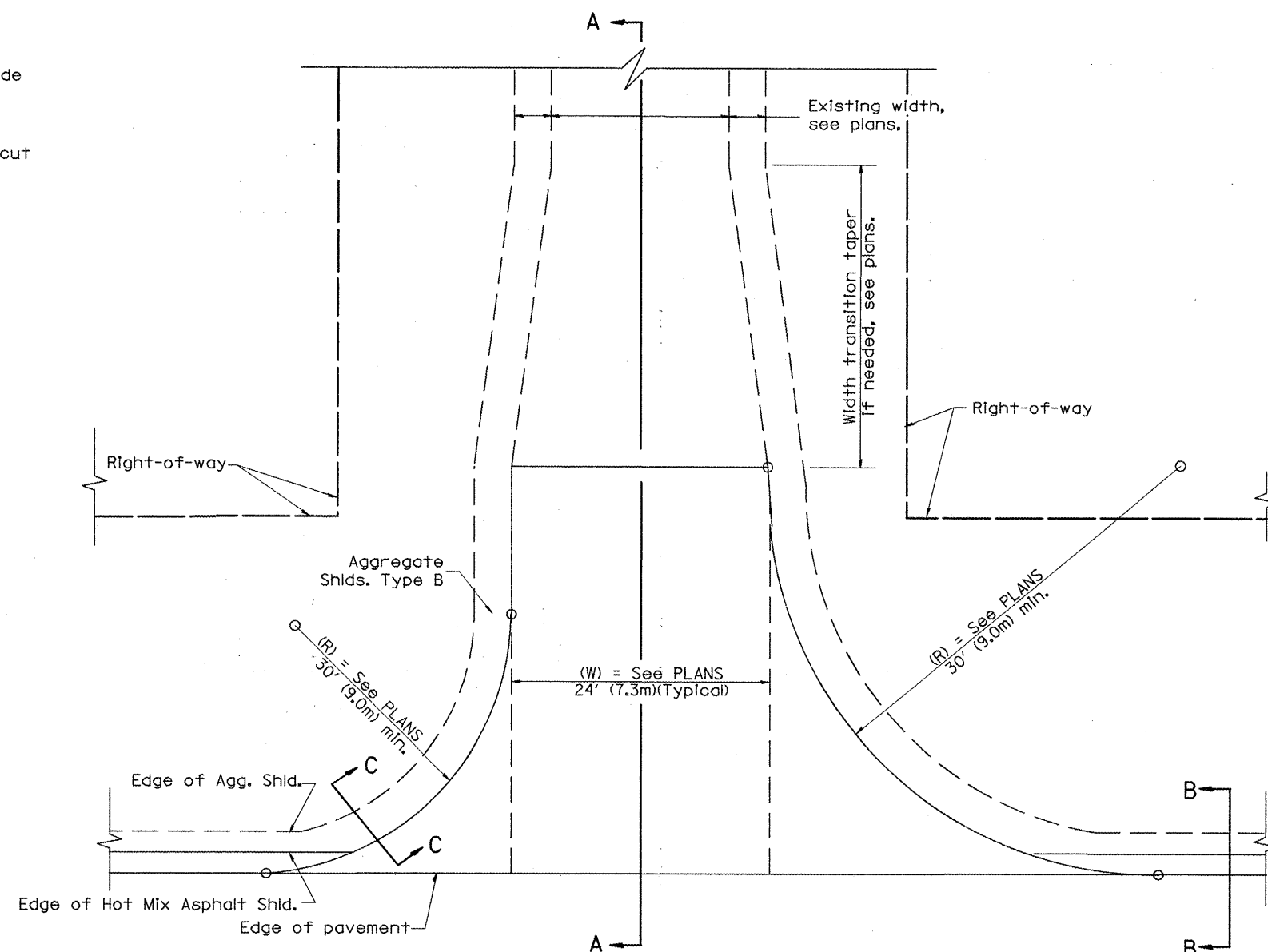
SECTION A-A
EXISTING AGGREGATE OR SEAL COAT SIDEROAD



SECTION B-B
MAINLINE SHOULDER TREATMENT



SECTION C-C
SIDEROAD SHOULDER TREATMENT



PLAN

SPECIAL NOTES

- ① The mainline pavement cross-slope is 1.5% for tangent alignment. See Plans for cross-slope on superelevated horizontal curves.
- ② The sideroad profile should drain away from the mainline at 1% to 4% for 50' (15.0m) to 100' (30.0m), or as a minimum to the end of the radius return. When the sideroad is on the high side of a mainline superelevated curve, - 2% maximum should be provided in order to minimize breakover at the pavement edge. See plans for sideroad profiles.

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-105.02, NEW REVISION BOX	T.P.		
07-01-97	REVISE DESIGNER NOTES	J.A.		
09-15-05	REVISED DESIGNER NOTE	M.M.A.		
10-16-06	REVISED TO 2007 SPEC.	M.A.		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RURAL SIDEROADS FOR "3R" PROJECTS

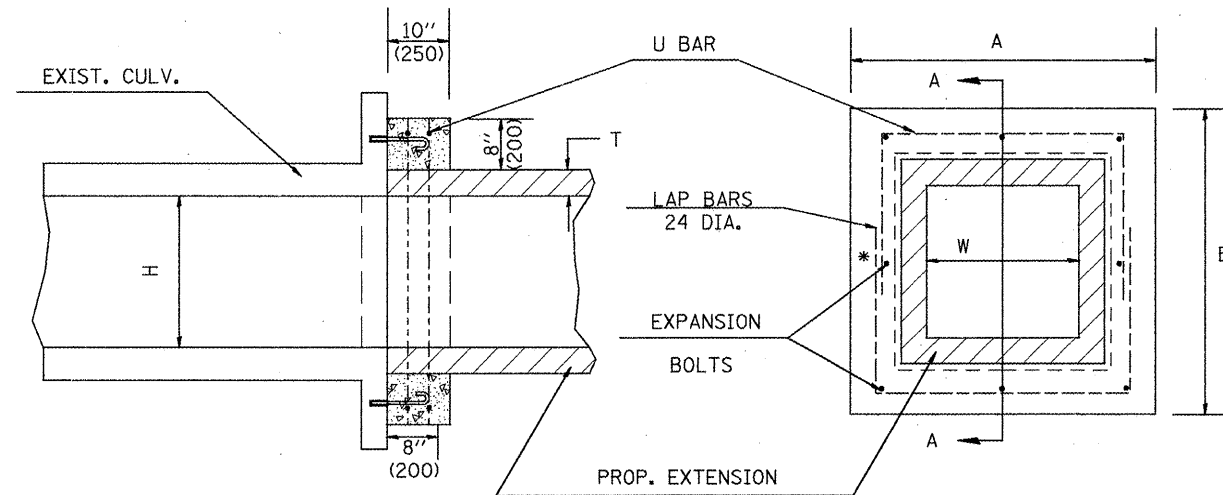
NOT TO SCALE

CADD STD. 406401-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	136
CONTRACT NO. 88703				

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

* MINIMUM 1' LAP ON U BARS



SECTION A - A

END VIEW

DIMENSIONS

EXISTING BOX		A	B	T *	EACH COLLAR				
W ft (mm)	H ft (mm)				CL SI	REINFORCEMENT BARS		EXPANSION BOLTS	
					CU YD (m ³)	X	Y	POUNDS (kg)	NO.
2 (600)	2 (600)	4'-0" (1.22m)	4'-0" (1.22m)	4(100)	0.27(0.21)	3'-4" (1.02m)	26(660)	20 (9)	8
3 (900)	2 (600)	5'-0" (1.52m)	4'-0" (1.22m)	4(100)	0.32(0.24)	4'-4" (1.32m)	26(660)	23 (10.5)	8
3 (900)	2.5 (750)	5'-0" (1.52m)	4'-6" (1.37m)	4(100)	0.34(0.26)	4'-4" (1.32m)	29(737)	24.5 (11)	8
3 (900)	3 (900)	5'-0" (1.52m)	5'-0" (1.52m)	4(100)	0.36(0.28)	4'-4" (1.32m)	32(813)	26 (12)	8
3 (900)	4 (1200)	5'-2" (1.57m)	6'-2" (1.88m)	5(125)	0.41(0.31)	4'-6" (1.37m)	39(991)	29 (13)	10
4 (1200)	3 (900)	6'-2" (1.88m)	5'-2" (1.57m)	5(125)	0.41(0.31)	5'-6" (1.68m)	33(838)	29 (13)	10
4 (1200)	4 (1200)	6'-2" (1.88m)	6'-2" (1.88m)	5(125)	0.45(0.34)	5'-6" (1.68m)	39(991)	32 (14.5)	12
4 (1200)	5 (1500)	6'-4" (1.93m)	7'-4" (2.24m)	6(150)	0.51(0.39)	5'-8" (1.73m)	3'-10" (1.17m)	36 (16)	14
5 (1500)	4 (1200)	7'-4" (2.24m)	6'-4" (1.93m)	6(150)	0.51(0.39)	6'-8" (2.03m)	3'-4" (1.02m)	35 (16)	14
5 (1500)	5 (1500)	7'-4" (2.24m)	7'-4" (2.24m)	6(150)	0.55(0.42)	6'-8" (2.03m)	3'-10" (1.17m)	38 (17)	16
5 (1500)	6 (1800)	7'-6" (2.29m)	8'-6" (2.59m)	7(175)	0.60(0.46)	6'-10" (2.08m)	4'-5" (1.35m)	42 (19)	16
6 (1800)	4 (1200)	8'-6" (2.59m)	6'-6" (1.98m)	7(175)	0.56(0.43)	7'-10" (2.39m)	3'-5" (1.04m)	39 (18)	14
6 (1800)	5 (1500)	8'-6" (2.59m)	7'-6" (2.29m)	7(175)	0.60(0.46)	7'-10" (2.39m)	3'-11" (1.19m)	42 (19)	16
6 (1800)	6 (1800)	8'-6" (2.59m)	8'-6" (2.59m)	7(175)	0.64(0.49)	7'-10" (2.39m)	4'-5" (1.35m)	44.5 (20)	16
6 (1800)	8 (2400)	8'-8" (2.64m)	10'-8" (3.25m)	8(200)	0.74(0.57)	8'-0" (2.44m)	5'-6" (1.68m)	51 (23)	18
8 (2400)	8 (2400)	10'-8" (3.25m)	10'-8" (3.25m)	8(200)	0.82(0.63)	10'-0" (3.05m)	5'-6" (1.68m)	56 (25.5)	20

GENERAL NOTES

1. The collar shall be constructed entirely of CLASS SI CONCRETE and in accordance with the applicable portions of section 503 of the Standard Specifications. REINFORCEMENT BARS shall conform to section 508.
2. Expansion bolts shall consist of approved expansions anchors, and 3/4" (M20) hook bolts which conform to Section 1006.09. These bolts shall extend at least 8"(200) into the new concrete.

* Dimensions for ASTM C789.

*4 U BAR
FOUR REQUIRED
PER COLLAR

QUANTITIES

CALC. BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

QUANTITY CALCULATIONS ARE ON
FILE AT THE DISTRICT 4 OFFICE;
BUREAU OF PROJECT IMPLEMENTATION;
DOCUMENTATION SECTION

All dimensions are in inches (millimeters)
unless otherwise noted.

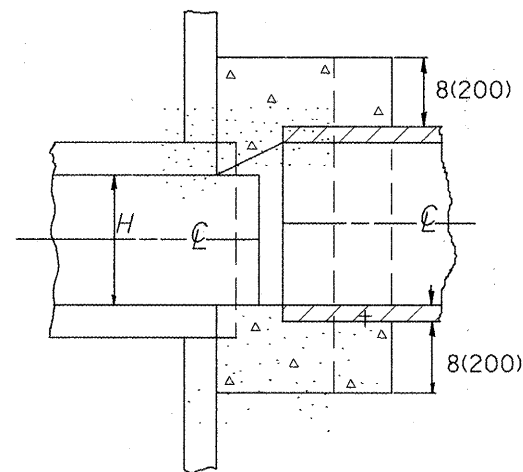
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COLLAR FOR BOX CULVERT EXTENSIONS

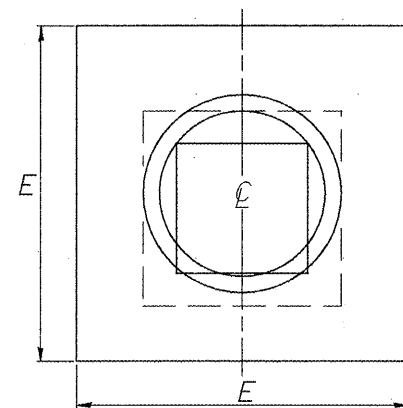
NOT TO SCALE

CADD STD. 540001-D4

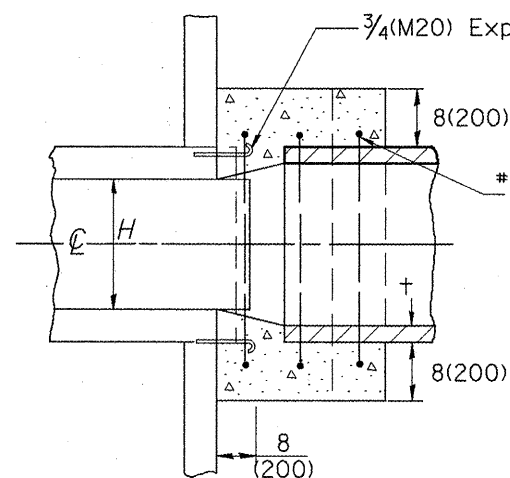
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	138
CONTRACT NO. 88703				



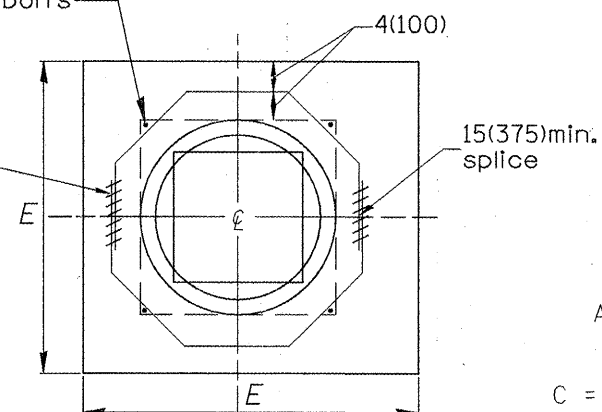
SECTION A-A



END VIEW



SECTION A-A



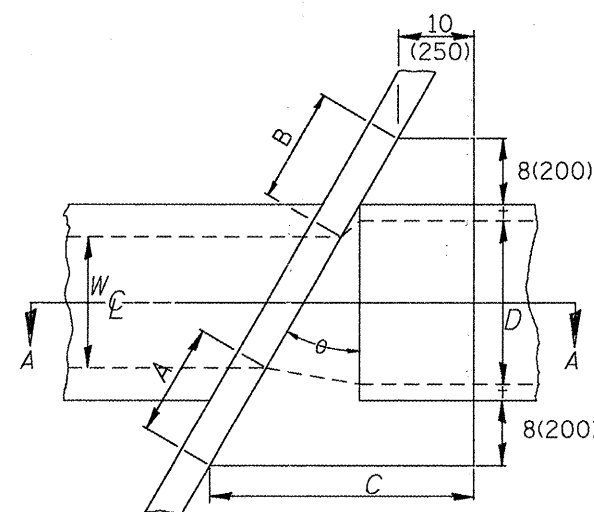
END VIEW

$$A = B = \frac{D - W}{2} + t + 8(200) \cos \theta$$

$$C = \tan \theta [D + 2t + 16(410)] + 10(250)$$

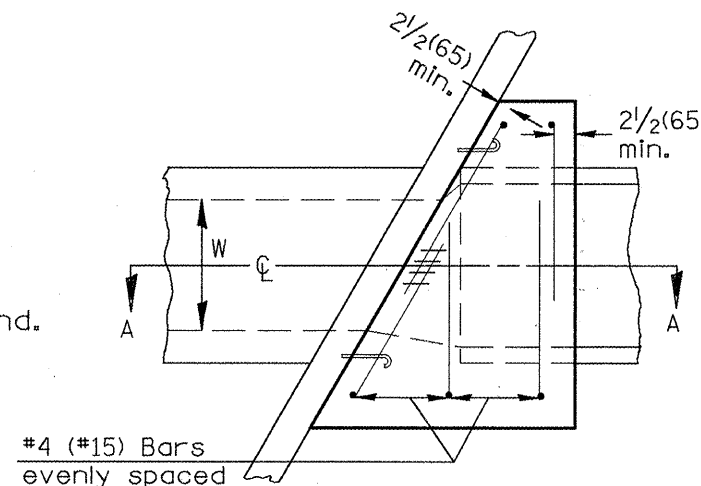
$$G = \frac{D + 2t + 8(200)}{2.4142 [\cos \theta]}$$

(Note: 'G' is based upon maximum skewed length)

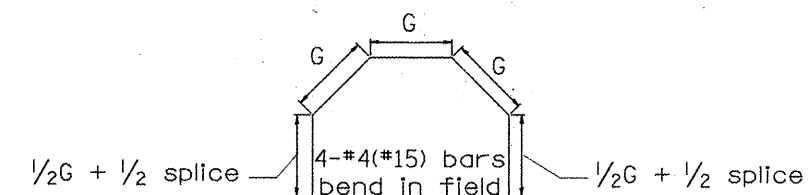


PLAN VIEW UP STREAM

NOTE:
Dimensions are shown in Plan View of Up Stream End while Reinforcement is shown in plan view of Down Stream End.



PLAN VIEW DOWN STREAM



GENERAL NOTES

- The collar shall be constructed entirely of CLASS SI CONCRETE and in accordance with the applicable portions of section 503 of the Standard Specifications. Reinforcement bars shall conform to section 508.
- Expansion bolts shall consist of approved expansion anchors, and 3/4 (M20) hook bolts which conform to section 1006.09. These bolts shall extend at least 8(200) into the new concrete.

									EACH COLLAR				
EXISTING BOX		θ	A	B	C	D	E	t	CONCRETE	REINFORCEMENT BARS		EXPAN. BOLTS	
									CU. YD. (m ³)	G	L	KG(LBS.)	EACH
W	H												
42" PIPE		44°	18"	18"	76"	42"	68"	5"	2.3	35"	16 @ 12'-11"	138	10
42" PIPE		14°	14"	14"	27"	42"	68"	5"	1.0	26"	6 @ 9'-11"	40	10

All dimensions are in inches (millimeters) unless otherwise noted.

QUANTITIES
CALC. BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE, BUREAU OF PROJECT IMPLEMENTATION, DOCUMENTATION SECTION

01-01-97	RENUM. J-11.03, NEW REVISION BOX, REVISED	T.P.
	TITLE BOX, ADDED QUANTITY CALCULATION BOX	
10-16-06	REVISED TO 2007 SPEC.	M.A.

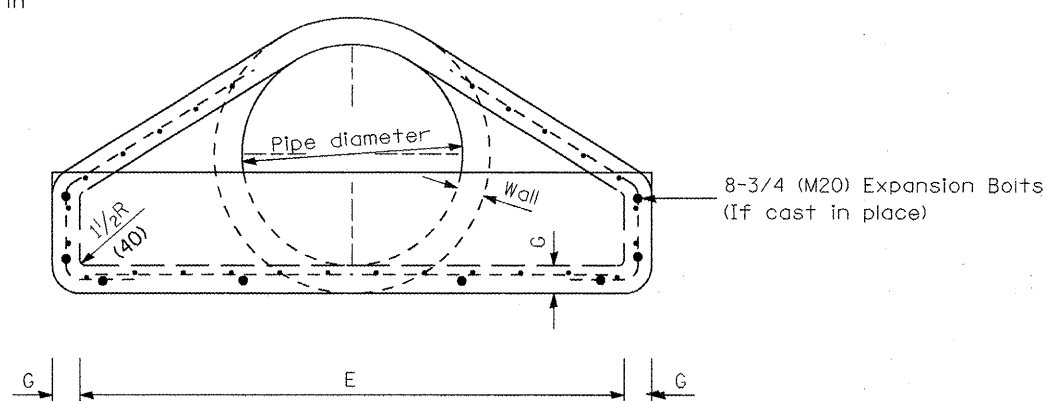
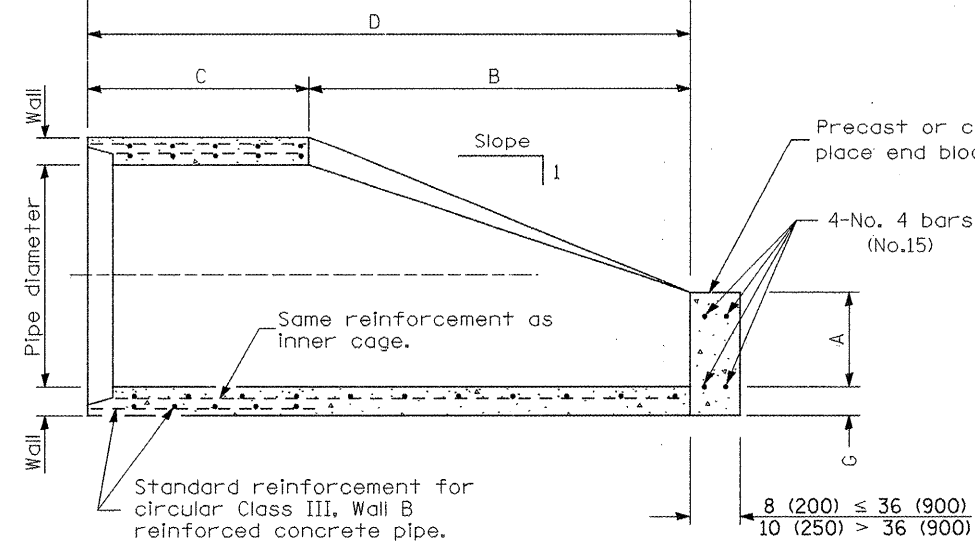
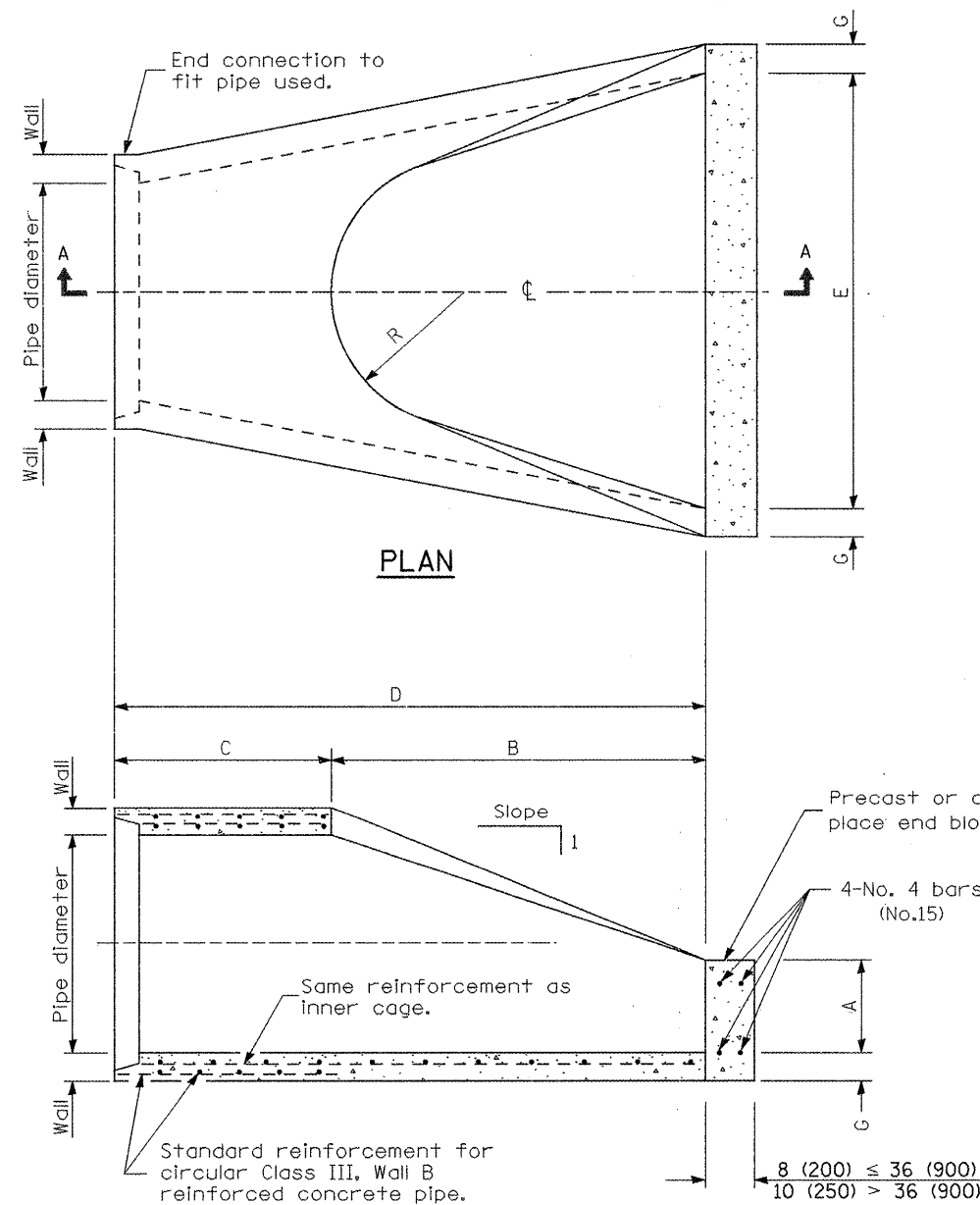
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SKewed PIPE CULVERT EXTENSION COLLAR (WITH END SECTION)

NOT TO SCALE

CADD STD. 542011-D4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	140
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



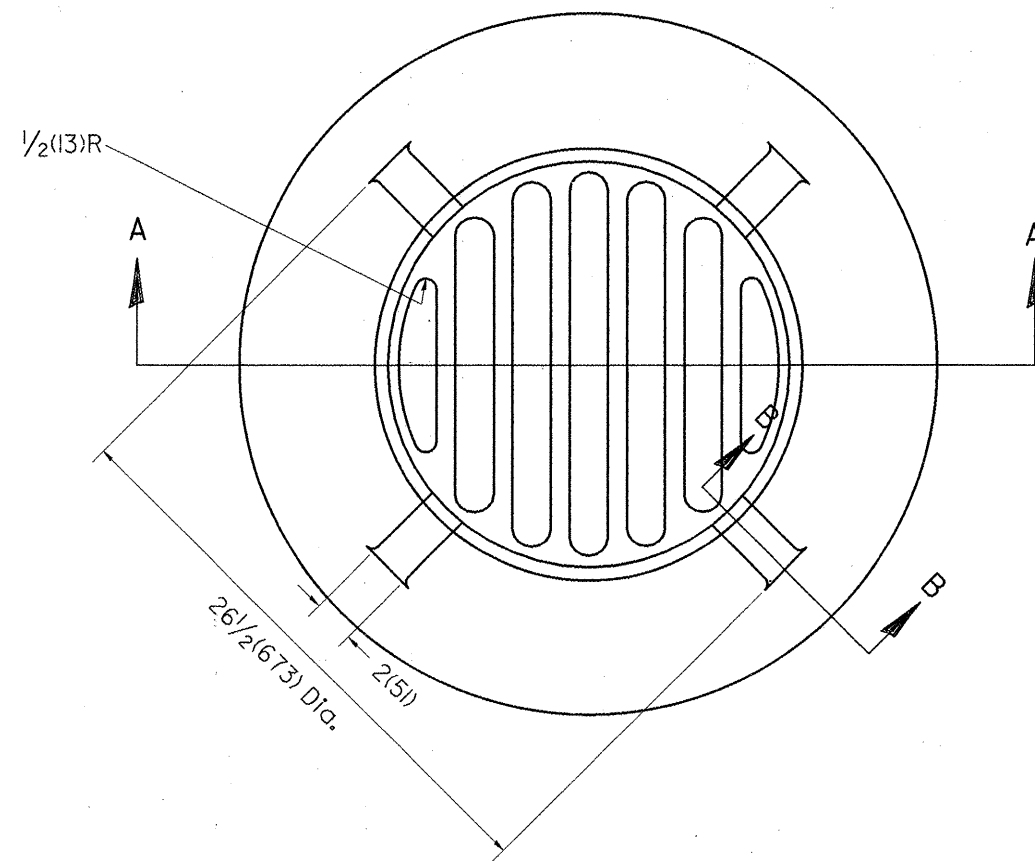
PIPE DIA.	APPROX. QTY. lbs (kg)	WALL	A	B	C	D	E	G	R	APPROX. SLOPE
12 (300)	530 (240)	2 (51)	4 (102)	24 (610)	4'-0 7/8" (1.241 m)	6'-0 7/8" (1.851 m)	24 (610)	2 (51)	9 (229)	1:2.4
15 (375)	740 (335)	2 1/4 (57)	6 (152)	27 (686)	3'-10" (1.168 m)	6'-1" (1.854 m)	30 (762)	2 1/4 (57)	11 (280)	1:2.4
18 (450)	990 (450)	2 1/2 (64)	9 (229)	27 (686)	3'-10" (1.168 m)	6'-1" (1.854 m)	36 (914)	2 1/2 (64)	12 (305)	1:2.4
21 (525)	1280 (580)	2 3/4 (70)	9 (229)	35 (889)	38 (965)	6'-1" (1.854 m)	3'-6" (1.067 m)	2 3/4 (70)	13 (330)	1:2.4
24 (600)	1520 (690)	3 (76)	9 1/2 (241)	3'-7 1/2" (1.105 m)	30 (762)	6'-1 1/2" (1.867 m)	4'-0" (1.219 m)	3 (76)	14 (356)	1:2.5
27 (675)	1930 (875)	3 1/4 (83)	10 1/2 (267)	4'-0" (1.219 m)	25 1/2 (648)	6'-1 1/2" (1.867 m)	4'-6" (1.372 m)	3 1/4 (83)	14 1/2 (368)	1:2.4
30 (750)	2190 (995)	3 1/2 (89)	12 (305)	4'-6" (1.375 m)	19 3/4 (502)	6'-1 3/4" (1.874 m)	5'-0" (1.524 m)	3 1/2 (89)	15 (381)	1:2.5
33 (825)	3200 (1450)	3 3/4 (95)	13 1/2 (343)	4'-10 1/2" (1.486 m)	39 1/4 (997)	8'-1 3/4" (2.483 m)	5'-6" (1.676 m)	3 3/4 (95)	17 1/2 (445)	1:2.5
36 (900)	4100 (1860)	4 (102)	15 (381)	5'-3" (1.6 m)	34 3/4 (883)	8'-1 3/4" (2.483 m)	6'-0" (1.829 m)	4 (102)	20 (508)	1:2.5
42 (1050)	5380 (2440)	4 1/2 (114)	21 (533)	5'-3" (1.6 m)	35 (889)	8'-2" (2.489 m)	6'-6" (1.981 m)	4 1/2 (114)	22 (559)	1:2.5
48 (1200)	6550 (2970)	5 (127)	24 (610)	6'-0" (1.829 m)	26 (660)	8'-2" (2.489 m)	7'-0" (2.134 m)	5 (127)	22 (559)	1:2.5
54 (1350)	8240 (3740)	5 1/2 (140)	27 (686)	5'-5" (1.651 m)	35 (889)	8'-4" (2.54 m)	7'-6" (2.286 m)	5 1/2 (140)	24 (610)	1:2.0
60 (1500)	8730 (3960)	6 (152)	35 (889)	5'-0" (1.524 m)	39 (991)	8'-3" (2.515 m)	8'-0" (2.438 m)	5 (127)	*	1:1.9
66 (1650)	10710 (4860)	6 1/2 (165)	30 (762)	6'-0" (1.829 m)	27 (686)	8'-3" (2.515 m)	8'-6" (2.591 m)	5 1/2 (140)	*	1:1.7
72 (1800)	12520 (5680)	7 (178)	36 (914)	6'-6" (1.981 m)	21 (533)	8'-3" (2.514 m)	9'-0" (2.743 m)	6 (152)	*	1:1.8
78 (1950)	14770 (6700)	7 1/2 (191)	36 (914)	7'-6" (2.286 m)	21 (533)	9'-3" (2.819 m)	9'-6" (2.896 m)	6 1/2 (165)	*	1:1.8
84 (2100)	18160 (8240)	8 (203)	36 (914)	7'-6 1/2" (2.299 m)	21 (533)	9'-3 1/2" (2.832 m)	10'-0" (3.048 m)	6 1/2 (165)	*	1:1.6

* Radius as furnished by manufacturer

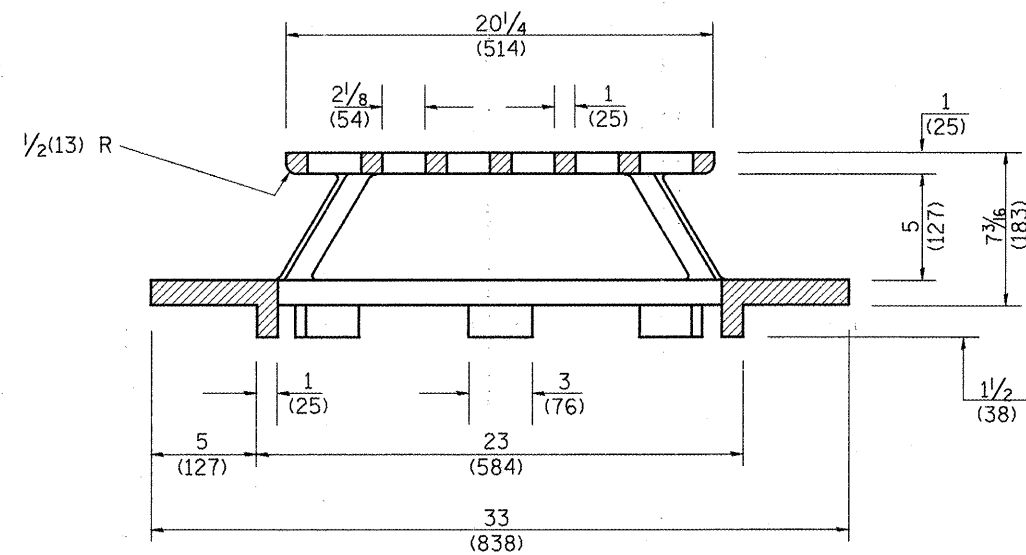
GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

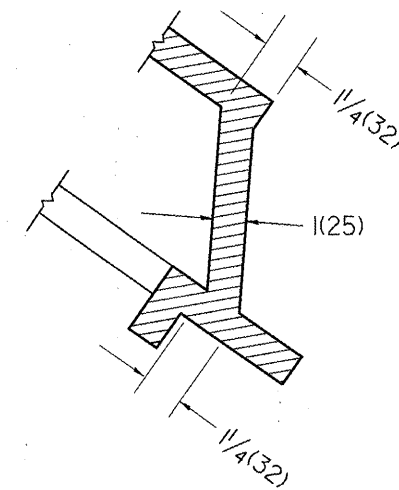
All dimensions are in inches (millimeters) unless otherwise noted.



PLAN



SECTION A - A



SECTION B - B

GENERAL NOTES

1. MATERIAL - Cast Gray Iron
Weight 209 lbs (95 kg)

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. B-10.02, NEW REVISION BOX	T.P.			
10-16-06	REVISED TO 2007 SPEC.	M.A.			

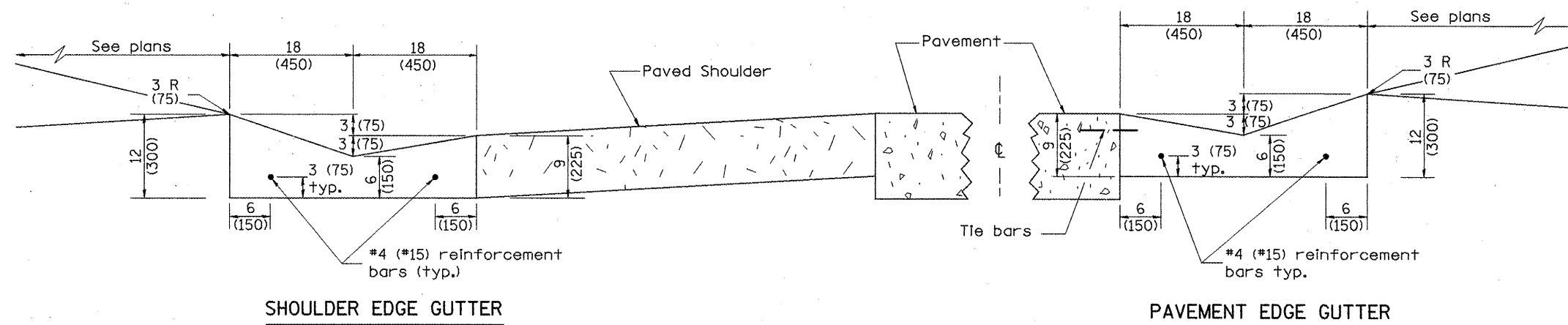
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

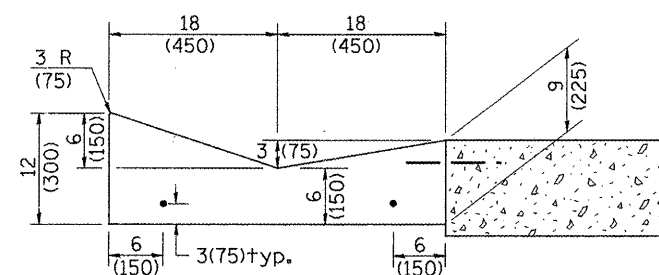
TYPE 37 GRATE

CADD STD. 604301-D4

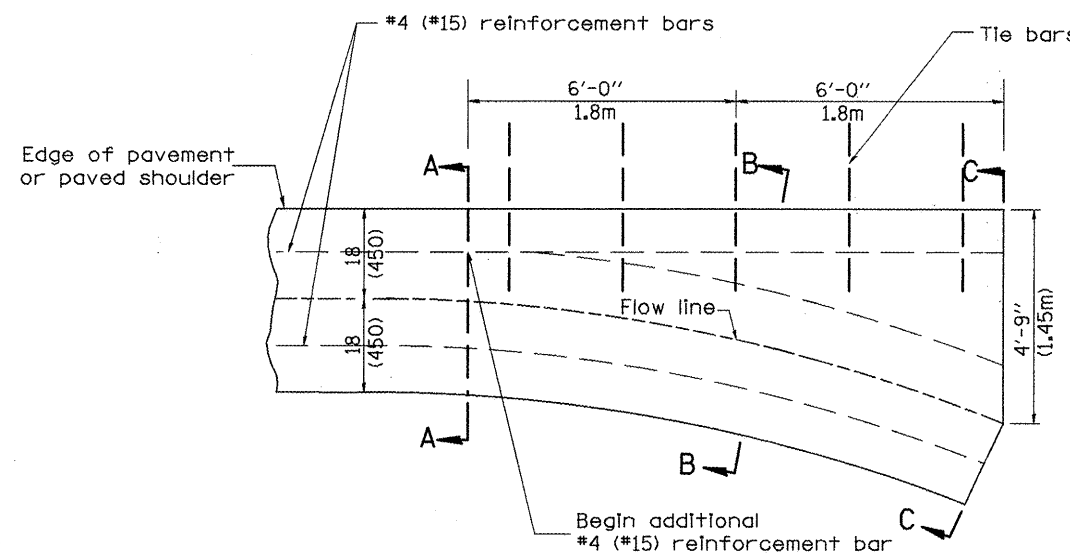
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	142
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



TYPE A GUTTER (MODIFIED)



SECTION A-A

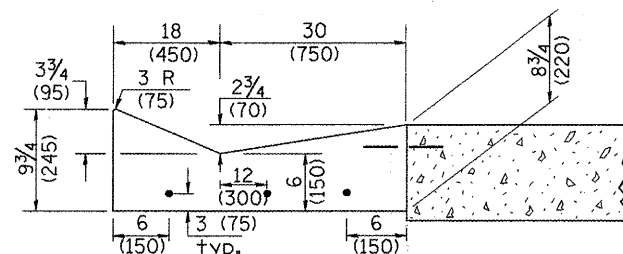


PLAN

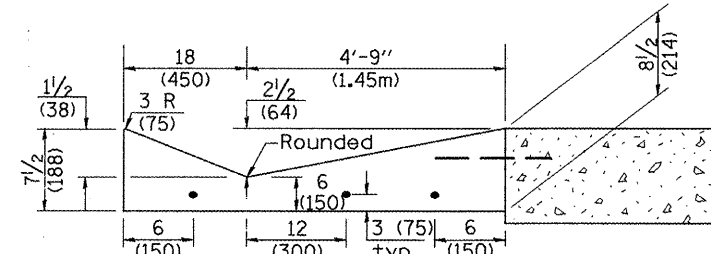
QUANTITY
Section C-C to A-A= 1.2 cu. yd.
(0.92 m³) concrete.

GENERAL NOTES:

1. TYPE A GUTTER (MODIFIED) shall conform to the applicable portions of Section 606.
2. Tie bars shall be No. 6 (No. 20) at 24" (600mm) centers unless otherwise shown.
3. Gutter, gutter inlets, gutter outlets, and gutter entrances shall be tied to rigid pavement in accordance with details shown on Standard 420001.
4. Joints shall be constructed in accordance with Article 606.06.
5. Welded wire fabric shall conform to Article 1006.10(c)(1), and shall not be less than 58 lbs/100 sq.ft. (2.83 kg/m²).



SECTION B-B



SECTION C-C

INLET

QUANTITIES

CALC. BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE, BUREAU OF PROJECT IMPLEMENTATION, DOCUMENTATION SECTION

01-01-97	RENUM. A-1.02, NEW REVISION BOX, ELIMINATED	T.P.	01-10-07	REVISED QUANTITY	M.A.
	EXPANSION ANCHOR TIES		11-16-07	REVISED QUANTITY	M.A.
02-28-02	ENTRANCE TYPICALS REVISED	M.A.			
10-16-06	REVISED TO 2007 SPEC.	M.A.			

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

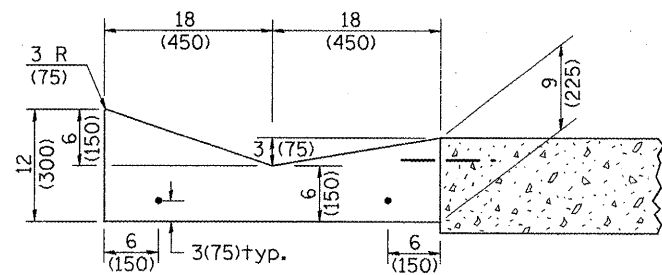
NOT TO SCALE

**TYPE A GUTTER, (MODIFIED)
(INLET, OUTLET & ENTRANCE)**

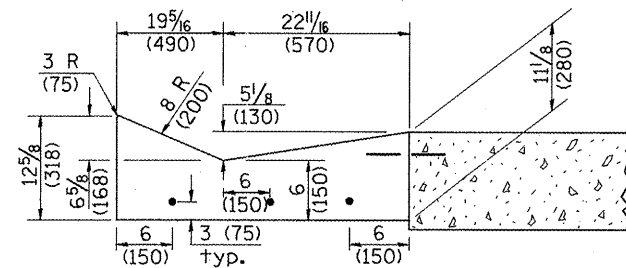
SHT. 1 OF 3
CADD STD. 606101-D4

All dimensions are in Inches (millimeters) unless otherwise noted.

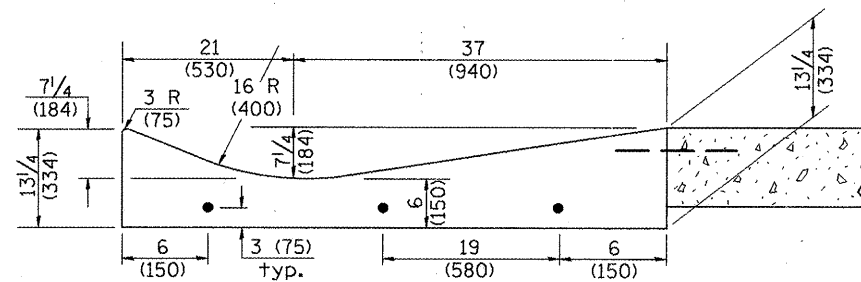
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	143
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



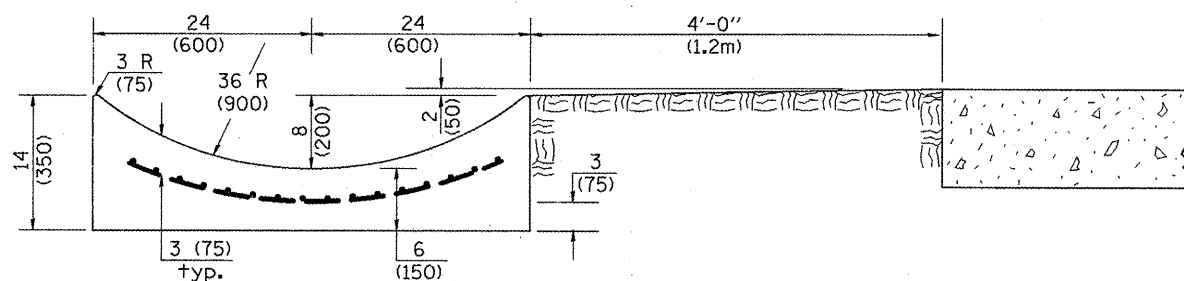
SECTION A-A



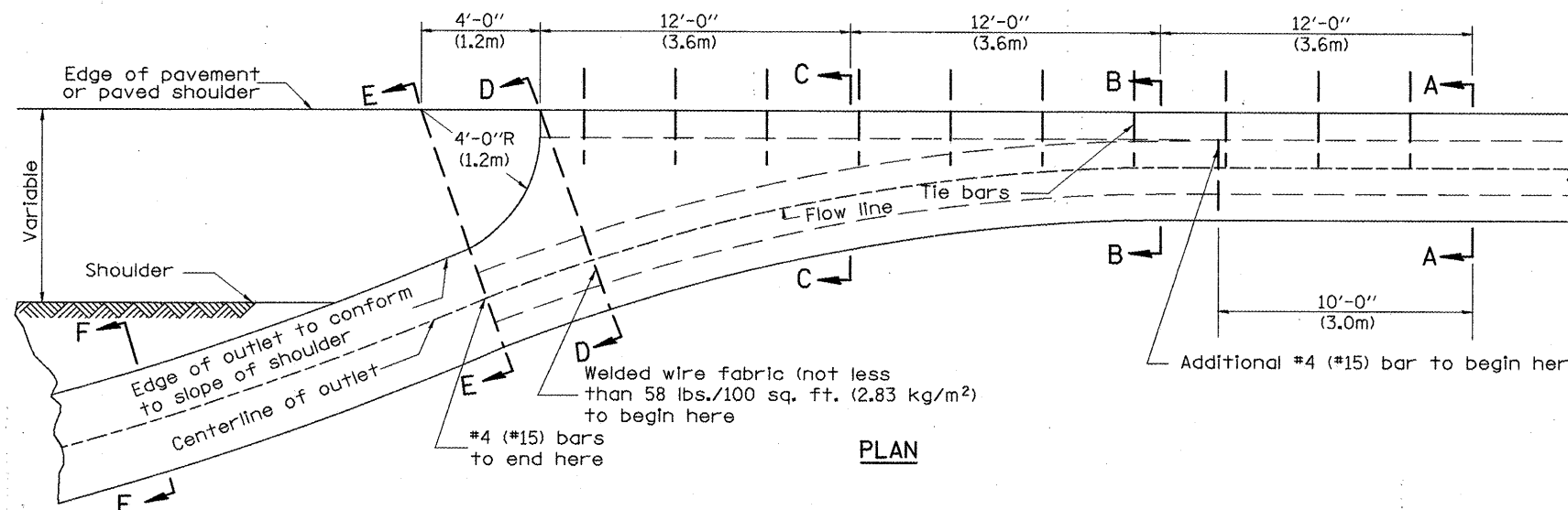
SECTION B-B



SECTION C-C



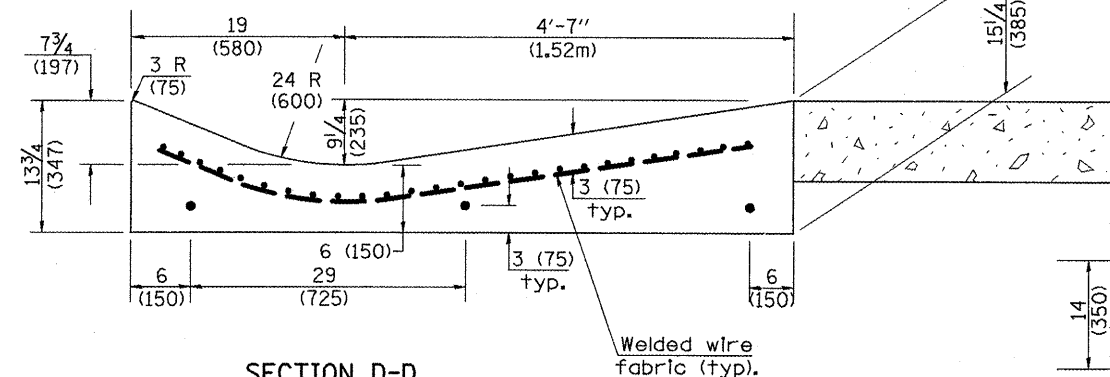
SECTION E-E



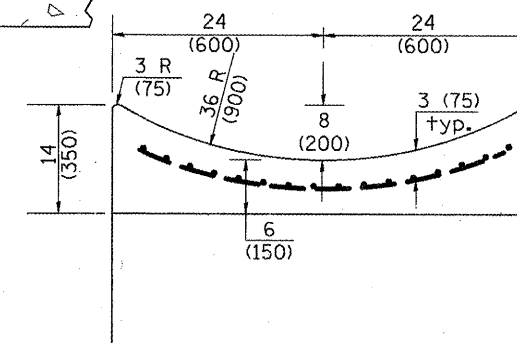
PLAN

QUANTITY
Section A-A to E-E= 4.5 cu. yd. (3.36 m³) concrete.
Section E-E to F-F= 0.10 cu. yd./ft. (0.26 m³/m) concrete.

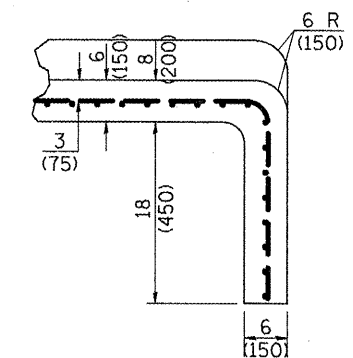
If the average grade of pavement for the distance from section A-A to section D-D exceeds 2%, this distance shall be increased 6 ft. (1.8 m) for each 1% increase in grade. A quantity adjustment is required.



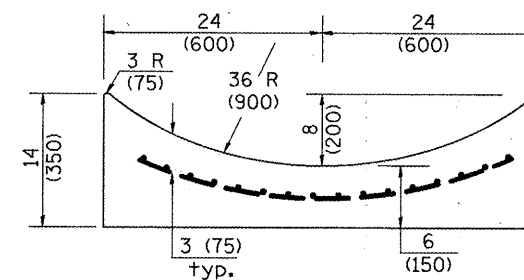
SECTION D-D



SECTIONS AT END OF OUTLET
(CURTAIN WALL)



QUANTITY
Curtain Wall = 0.1 cu. yd. (0.08 m³) concrete.



SECTION F-F

OUTLET

QUANTITIES
CALC. BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

QUANTITY CALCULATIONS ARE ON
FILE AT THE DISTRICT 4 OFFICE;
BUREAU OF PROJECT IMPLEMENTATION;
DOCUMENTATION SECTION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

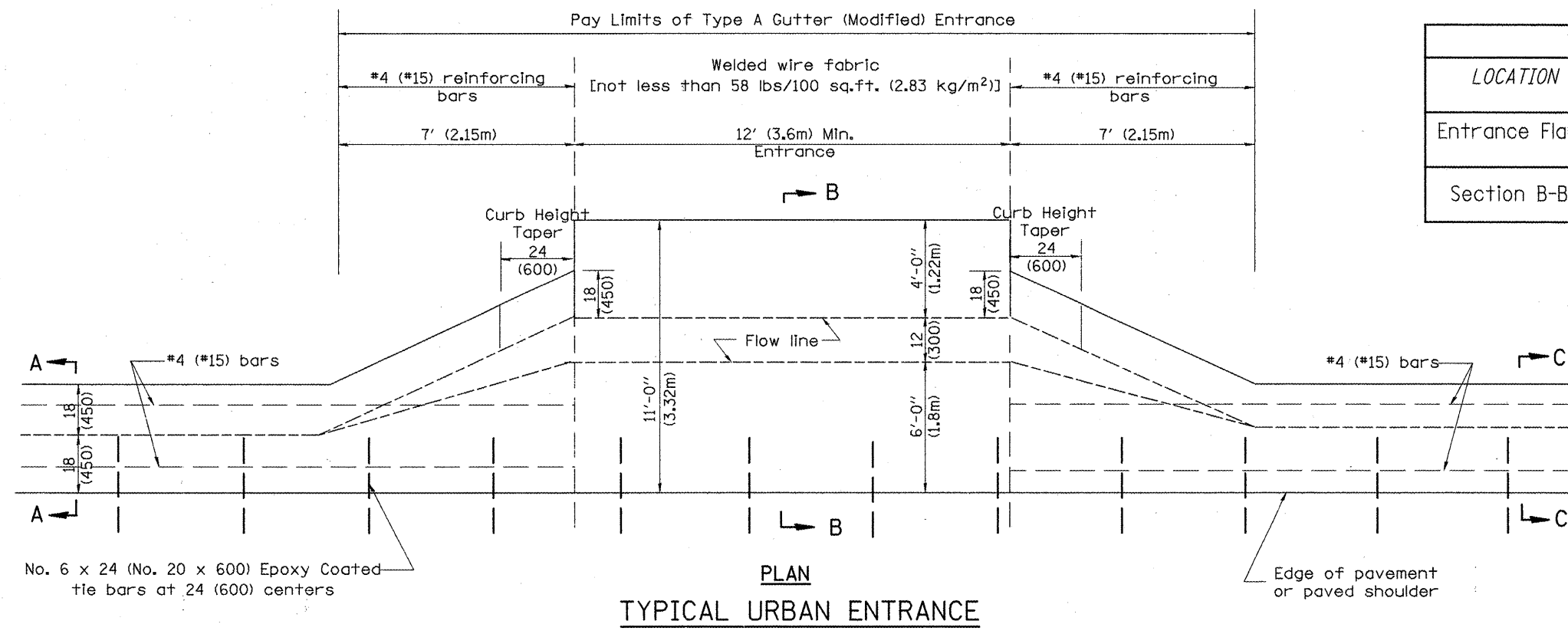
TYPE A GUTTER, (MODIFIED)
(INLET, OUTLET & ENTRANCE)

NOT TO SCALE

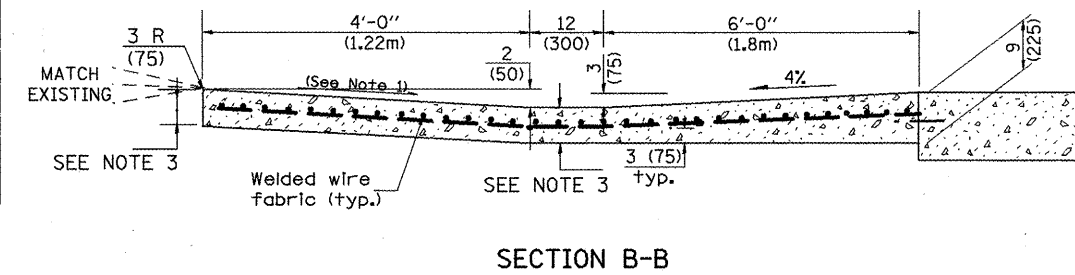
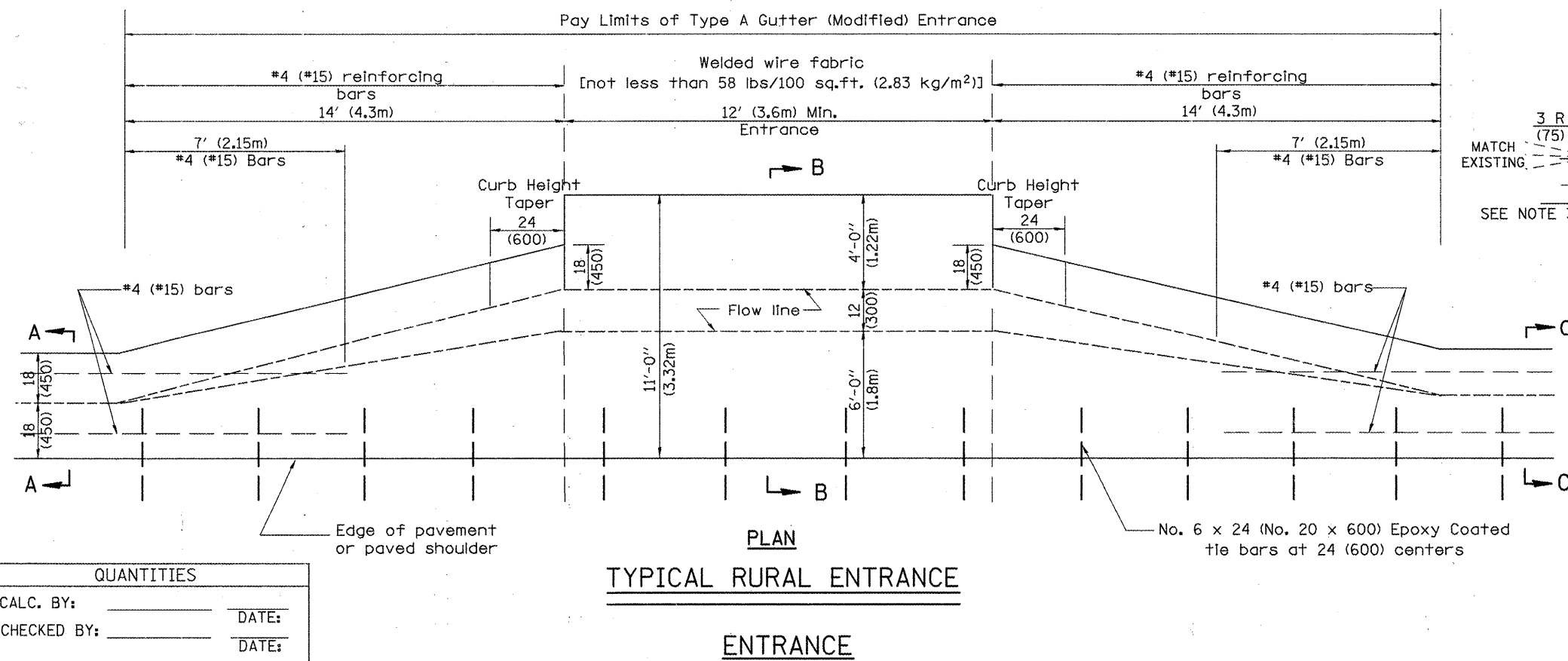
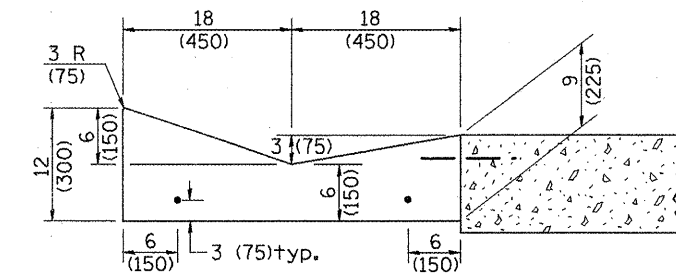
SHT. 2 OF 3
CADD STD. 606101-D4

All dimensions are in inches (millimeters)
unless otherwise noted.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4,17W-1,RS-3	FULTON	240	144
				CONTRACT NO. 88703



QUANTITY CALCULATION			
LOCATION	LENGTH	NON-COMMERCIAL 6 (150)	COMMERCIAL ENTRANCE 8 (200)
Entrance Flare	7 Ft (2.15 m) Urban 14 Ft (4.30 m) Rural	0.15 Cu Yd / Ft (0.37 Cu M / M)	0.18 Cu Yd / Ft (0.45 Cu M / M)
Section B-B	See Plans	0.23 Cu Yd / Ft (0.57 Cu M / M)	0.28 Cu Yd / Ft (0.70 Cu M / M)



QUANTITIES	
CALC. BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE; BUREAU OF PROJECT IMPLEMENTATION DOCUMENTATION SECTION	

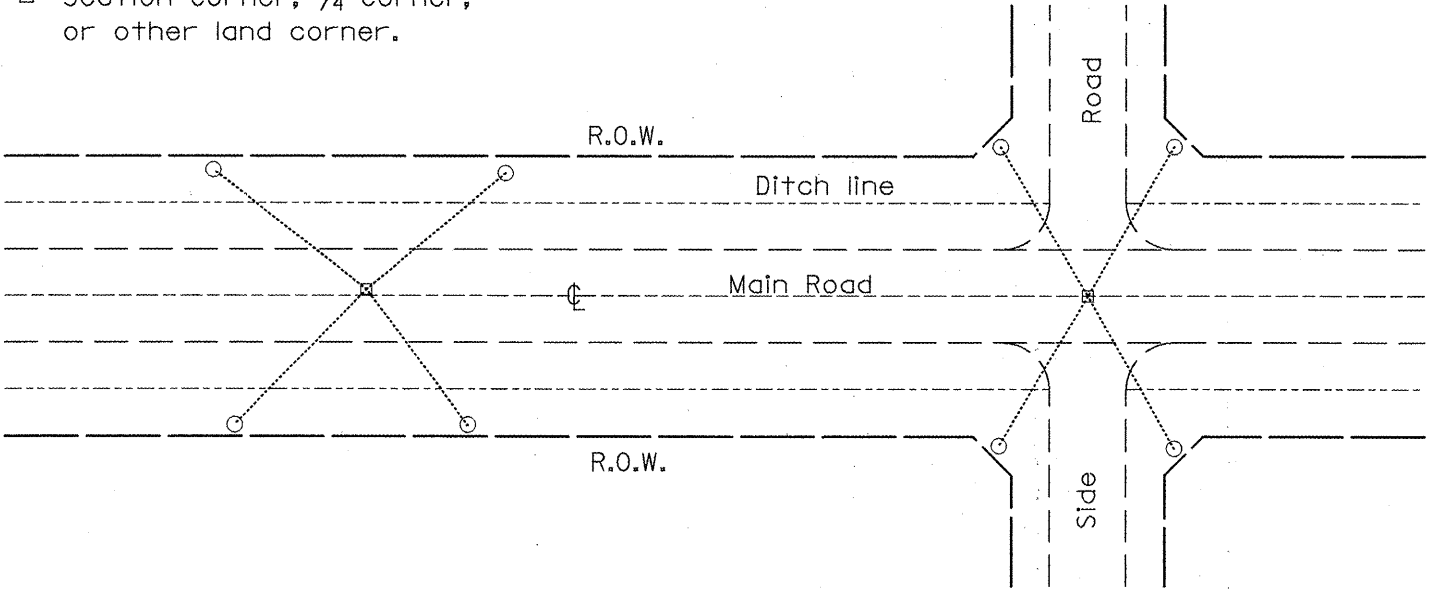
GENERAL NOTES

- 1.) Slope may be Increased from 4% (min.) to 6% (max.) in order to match the existing.
- 2.) The cross-slope is to be constructed as given in the plans from back turnout to where driveway matches existing.
- 3.) For Non-Commercial Entrances the driveway thickness shall be 6 (150). For Commercial Entrances the driveway thickness shall be 8 (200).

All dimensions are in inches (millimeters)
unless otherwise noted.

PERMANENT SURVEY TIES

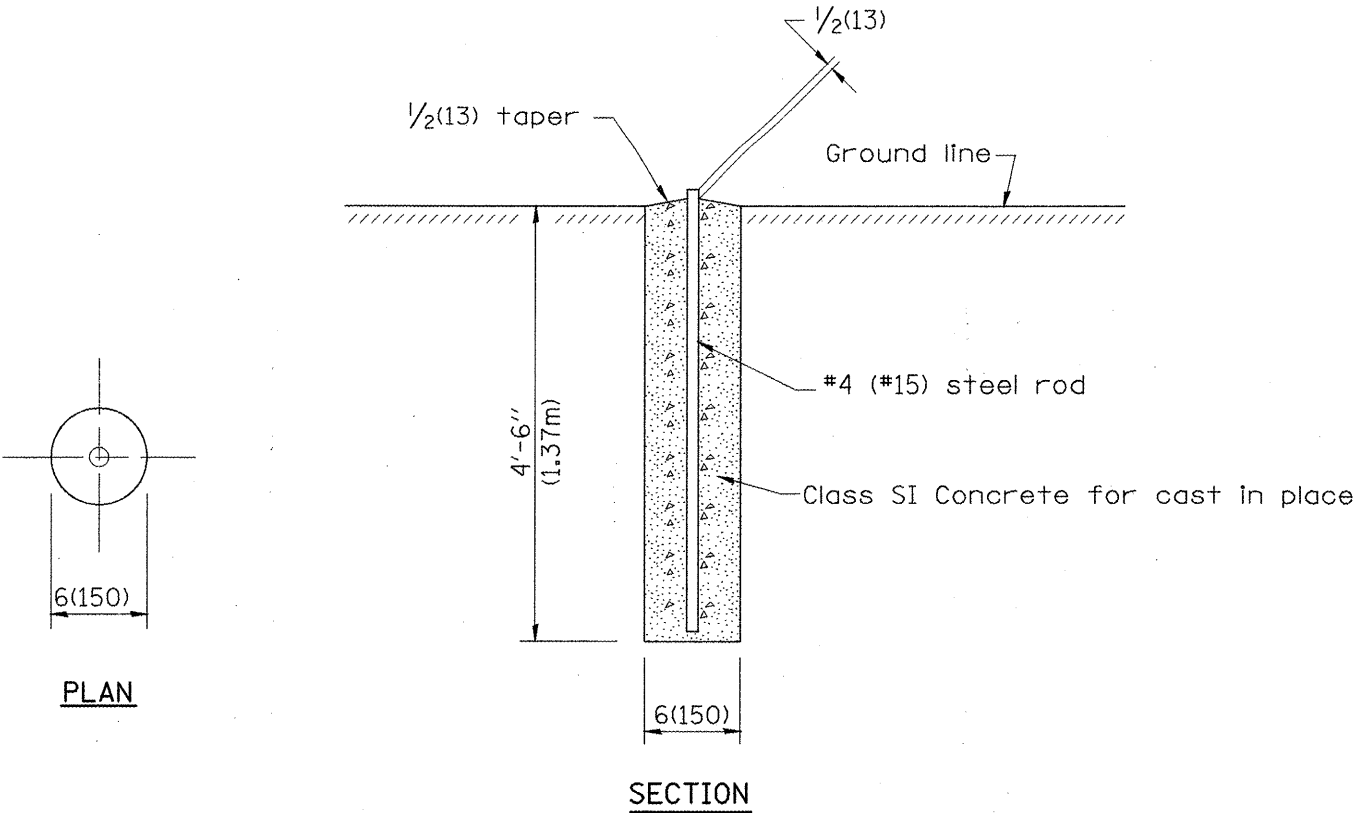
- Permanent Survey Tie
- Section Corner, 1/4 Corner, or other land corner.



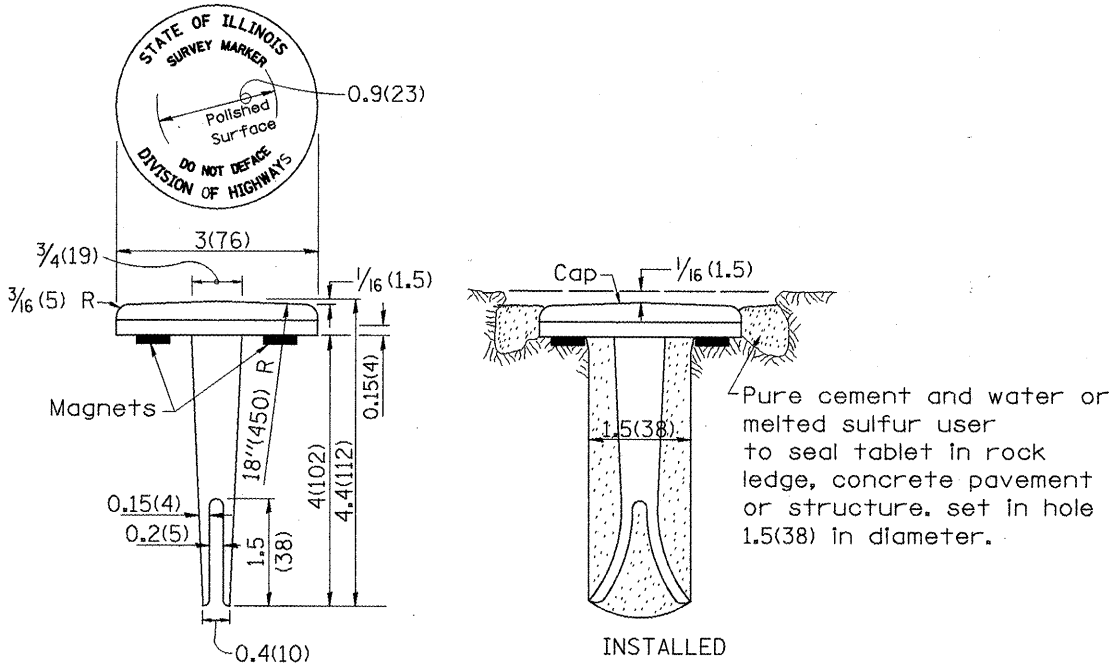
TYPICAL APPLICATION

GENERAL NOTES

1. The marker shall be cast in place of Class SI Concrete.
2. Tie marker shall be installed after the final seeding has been completed unless otherwise specified by the Engineer.
3. The tie distances to the section corner shall be measured and recorded by the IDOT Chief of Surveys.



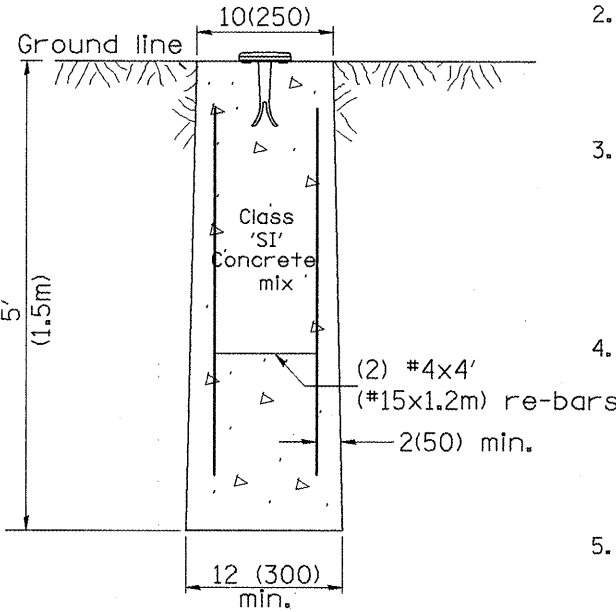
PERMANENT SURVEY MARKERS



BRONZE TABLET - No Scale
TYPE I

GENERAL NOTES

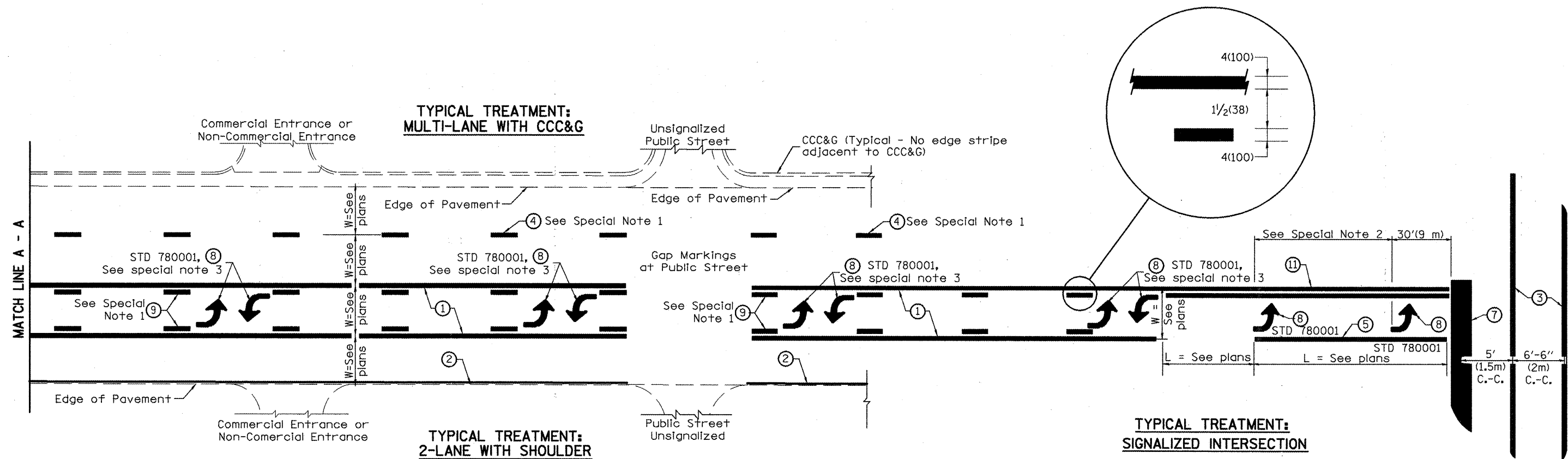
1. All type II markers shall be cast in place, and precast markers will not be allowed.
2. Two permanent magnets, each having a diameter of 3/4 (19) and a thickness of 1/4 (6), or equivalent, shall be attached to the underside of the tablet with an approved epoxy bonding agent.
3. The location of the markers shall be in accordance with the plans in general, the markers will be placed at the P.T.'s and P.C.'s of horizontal curves and spaces along the tangents in a way that a minimum of two markers are always inter-visible, and not to exceed 1000' (300m).
4. The markers shall be placed under the direction of the Engineer and shall be installed in a workmanlike manner in order that there will be no further settlement or horizontal shifting. The monuments shall be placed in a way that the survey point will fall within the portion of the plaque provided for that purpose.
5. The project designation, the centerline station, the survey point, and the elevation shall be permanently marked by the use of metal dies after marker has been installed.



MARKER CAST IN PLACE
TYPE II

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. D-3.01, NEW REVISION BOX, REVISED	T.P.	10-16-06	REVISED TO 2007 SPEC.	M.A.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PERMANENT SURVEY TIE & PERMANENT SURVEY MARKERS TY.I - TY.II	NOT TO SCALE	CADD STD. 667101-D4	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
07-07-98	TITLE BOX, ADD DESIGNER NOTE	J.A.								317	16W-2,RS-4+17W-1,RS-3	FULTON	240	146
05-24-06	ADD DESIGNER NOTE	J.A.												
	REMOVED GEN. NOTE UNDER TIES	M.A.												



FLUSH PAVED MEDIAN: TWO-WAY LEFT TURN LANE WITH ONE-WAY LEFT TURN LANE AT SIGNALIZED INTERSECTION

TYPICAL PAVEMENT MARKING LEGEND

(Note: This is a District Standard Legend. Some elements may not apply to specific project.)

- ① 4(100) Solid (Yellow)
- ② 4(100) Solid (White)
- ③ 2-6(150) Crosswalk @ 6'-6" (2m)min C.-C. (White)
2-8(200) Crosswalk @ 6'-6" (2m)min C.-C. (White) (When traffic signals are present.)
- ④ 6(150) Skip-Dash (White) (See Special Note 1)
- ⑤ 8(200) Solid (White)
- ⑥ 12(300) Diagonal (White) (Item ⑥ is shown on Std. 780001)
- ⑦ 24(600) Stop Bar (White)
- ⑧ Letters & Arrows (See Std. 780001 and Special Notes 2 & 3)
- ⑨ 4(100) Skip-Dash (Yellow) (See Special Note 1)
- ⑩ 12(300) Diagonal (Yellow) (See Table A) (See Table A)
- ⑪ 4(100) Double Solid (Yellow) (See Table A)

SPECIAL NOTES

1. Skip-Dash markings will be centered between both ends of city blocks and shall be placed in alignment transversely across the pavement.
2. The following shall apply to arrows located in one-way left turn lanes:
 - A. A minimum of two (2) arrows is required.
 - B. The maximum spacing between arrows is 80' (24 m).
 - C. Arrows shall be evenly spaced if three (3) or more are required.
3. The following shall apply to arrow pairs located in two-way left turn lanes:
 - A. A minimum of two (2) arrow pairs is required.
 - B. The maximum spacing between arrow pairs is 200' (61 m).
 - C. Arrow pairs shall be evenly spaced if three (3) or more are required.
 - D. The spacing between Bi Directional Left Turn Arrows is 33' (10 m).

GENERAL NOTES

1. Refer to State Standard 780001 for additional Pavement Markings including letters & arrows.
2. See Plans for Pavement Markings adjacent to curbed Islands and medians, and through lane reductions.

01-01-97	RENUM. F-8.03, NEW REVISION BOX	T.P.	10-16-06	REVISED TO 2007 SPEC.
02-07-97	ADD BI DIRECTIONAL DIMENSION	J.A.		
10-97	CORRECT BI DIRECTIONAL DIMENSION	J.A.		
08-02	ADD CROSSWALK DMNS. WITH T.S.	M.A.		

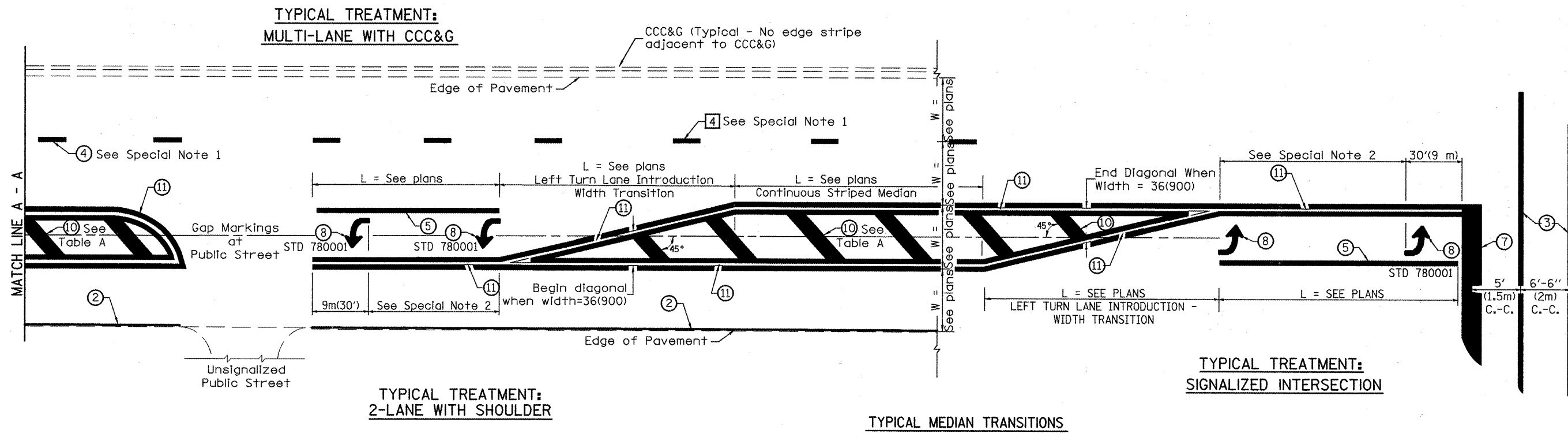
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOT TO SCALE

TYPICAL PAVEMENT MARKINGS

SHT. 1 OF 2
CADD STD. 780001-D4

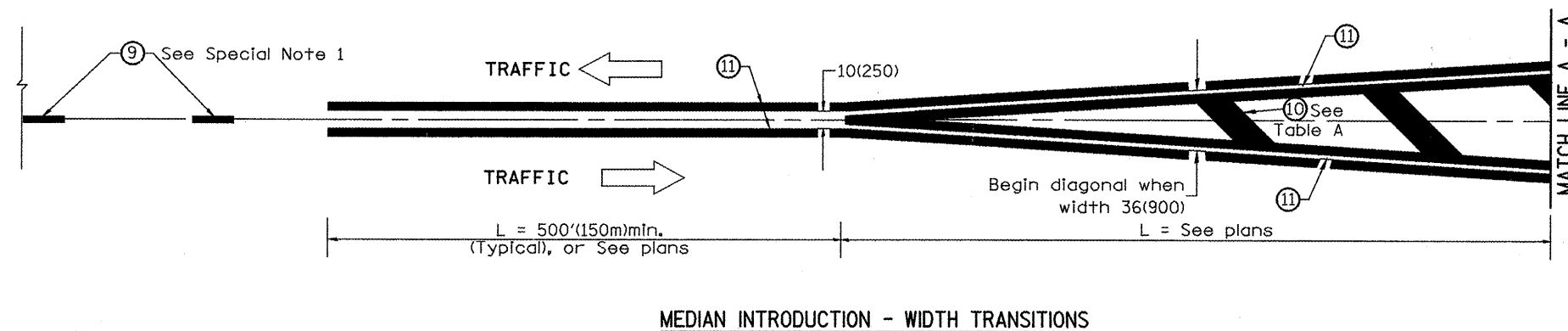
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	147
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



FLUSH PAVED MEDIAN: RESTRICTED LEFT TURN LANE

TABLE A
RECOMMENDED SPACING BETWEEN DIAGONAL LINES

SPEED LIMIT RANGE	CONTINUOUS	INTERSECTION CHANNELIZATION (Includes Width Transitions for Median and Left Turn Lane Introductions)
Less Than 30 mph (50 km/h)	50' (15m)	15' (5m)
30 - 45 mph (50 - 70 km/h)	75' (23m)	20' (6m)
Over 45 mph (70 km/h)	150' (46m)	30' (9m)



All dimensions are in inches (millimeters) unless otherwise noted.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

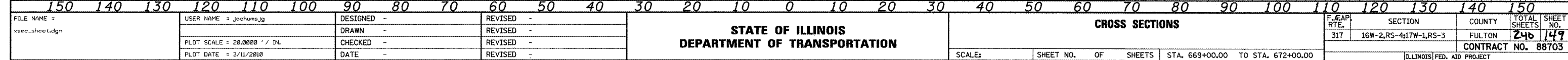
TYPICAL PAVEMENT MARKINGS

NOT TO SCALE

SHT. 2 OF 2
CADD STD. 780001-D4

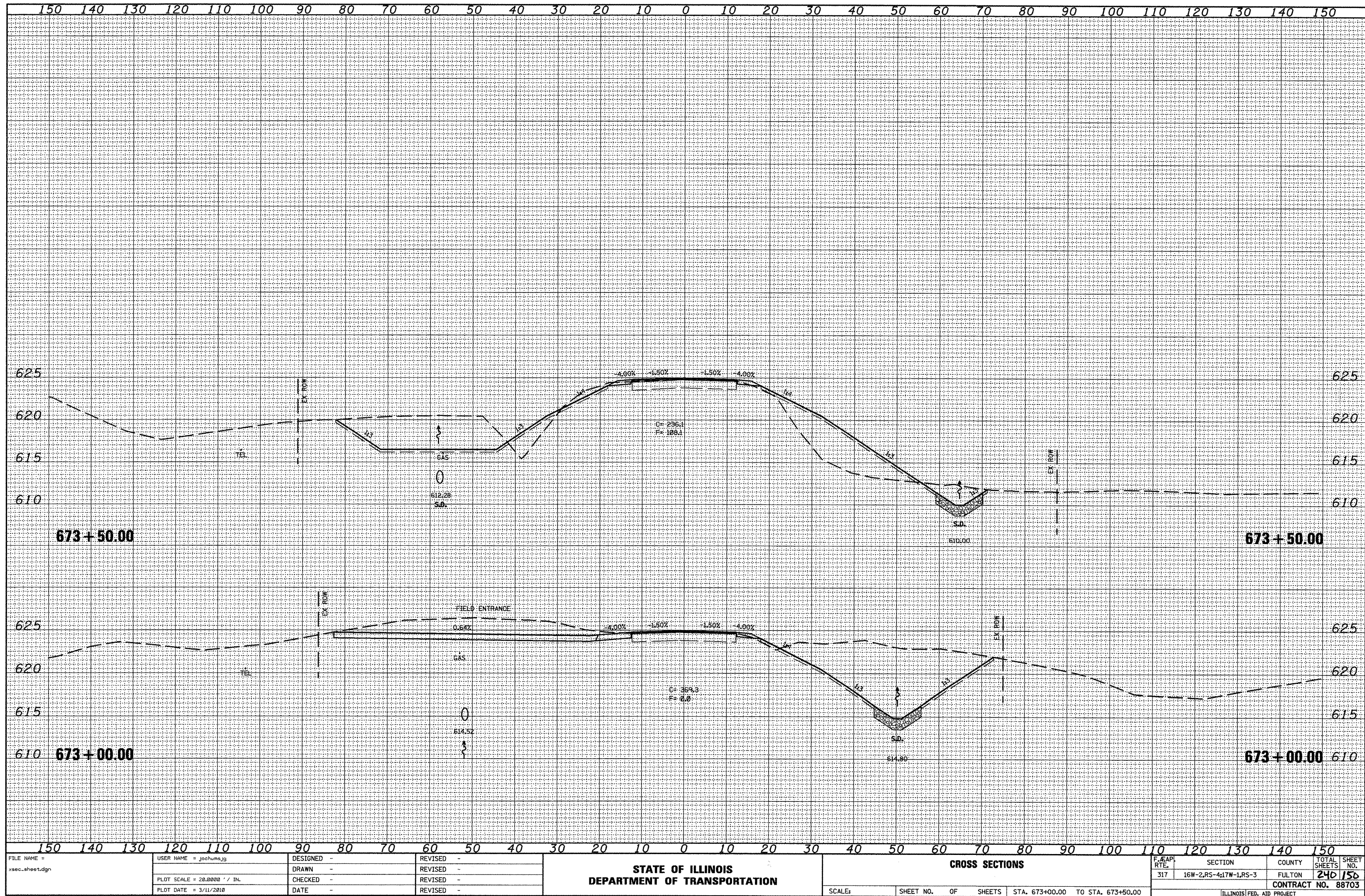
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	16W-2,RS-4;17W-1,RS-3	FULTON	240	148
CONTRACT NO. 88703				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

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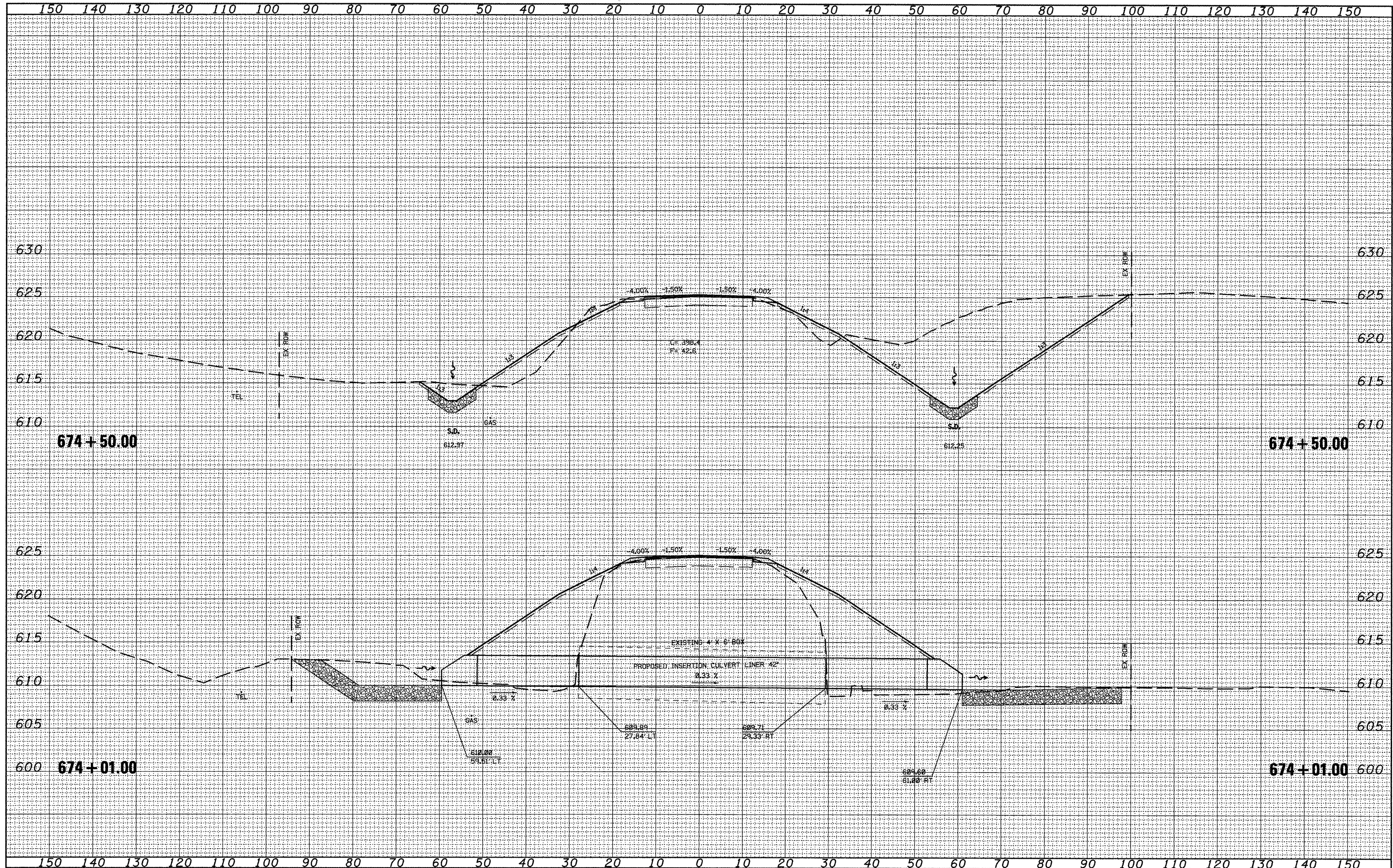
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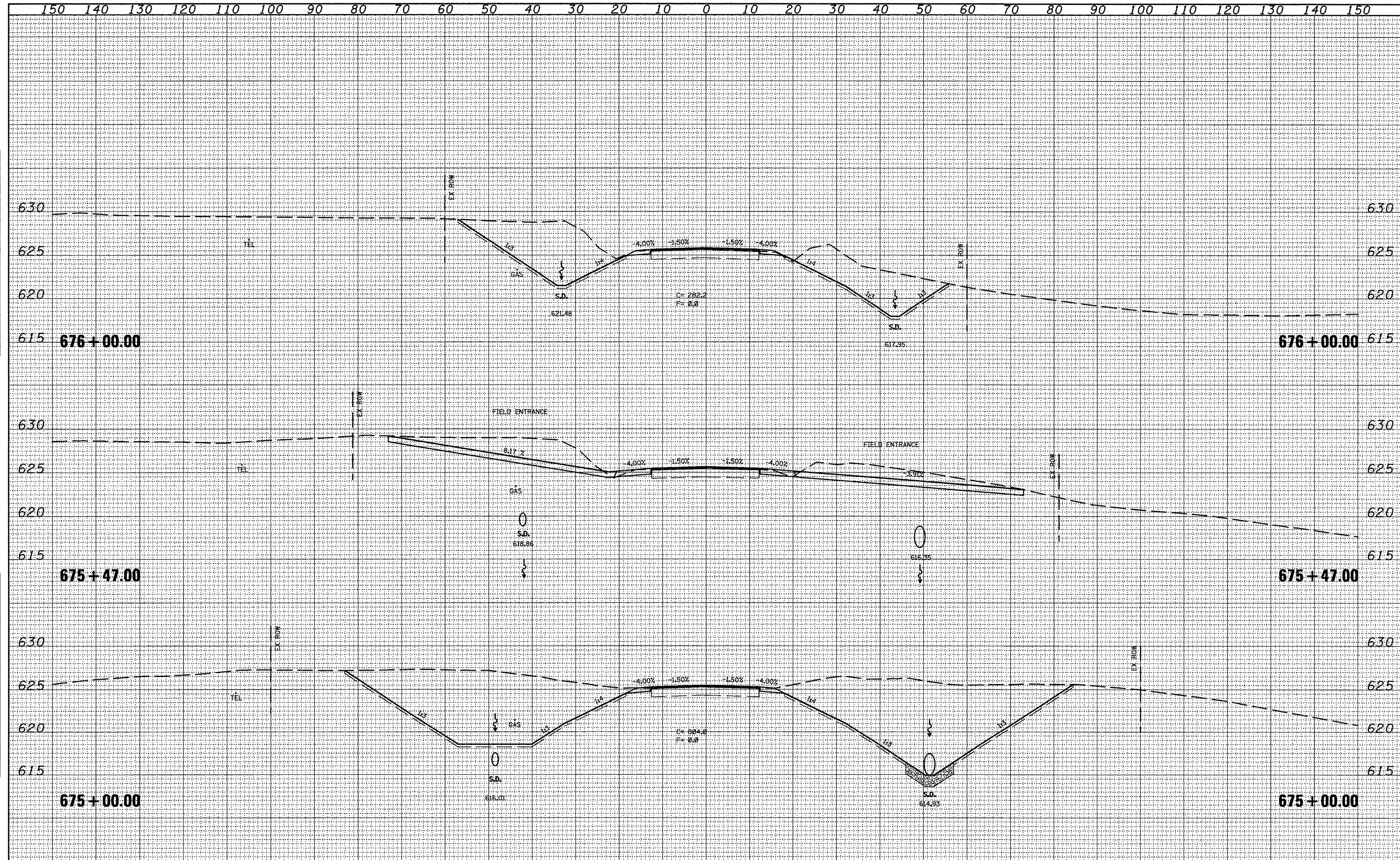
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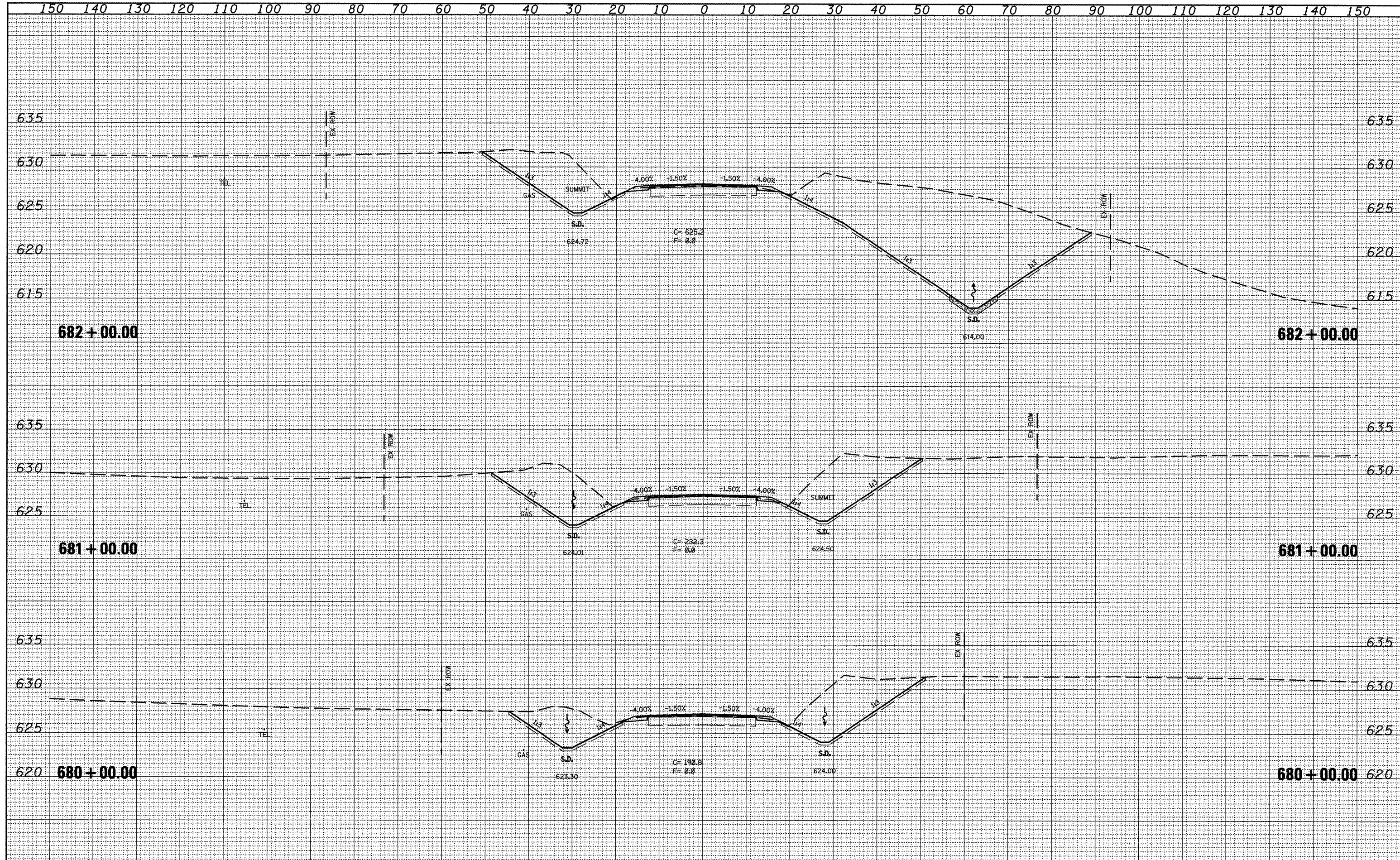
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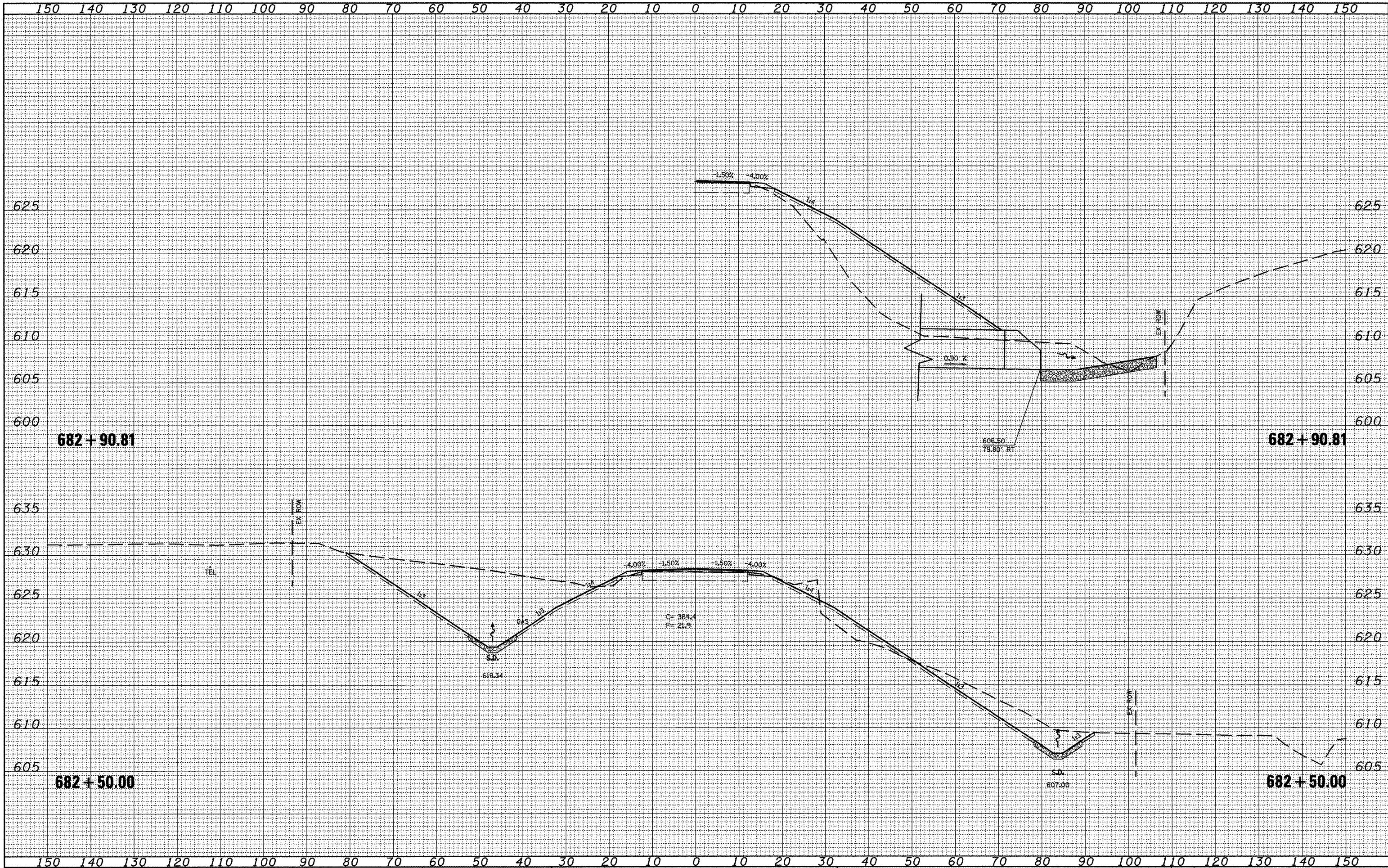
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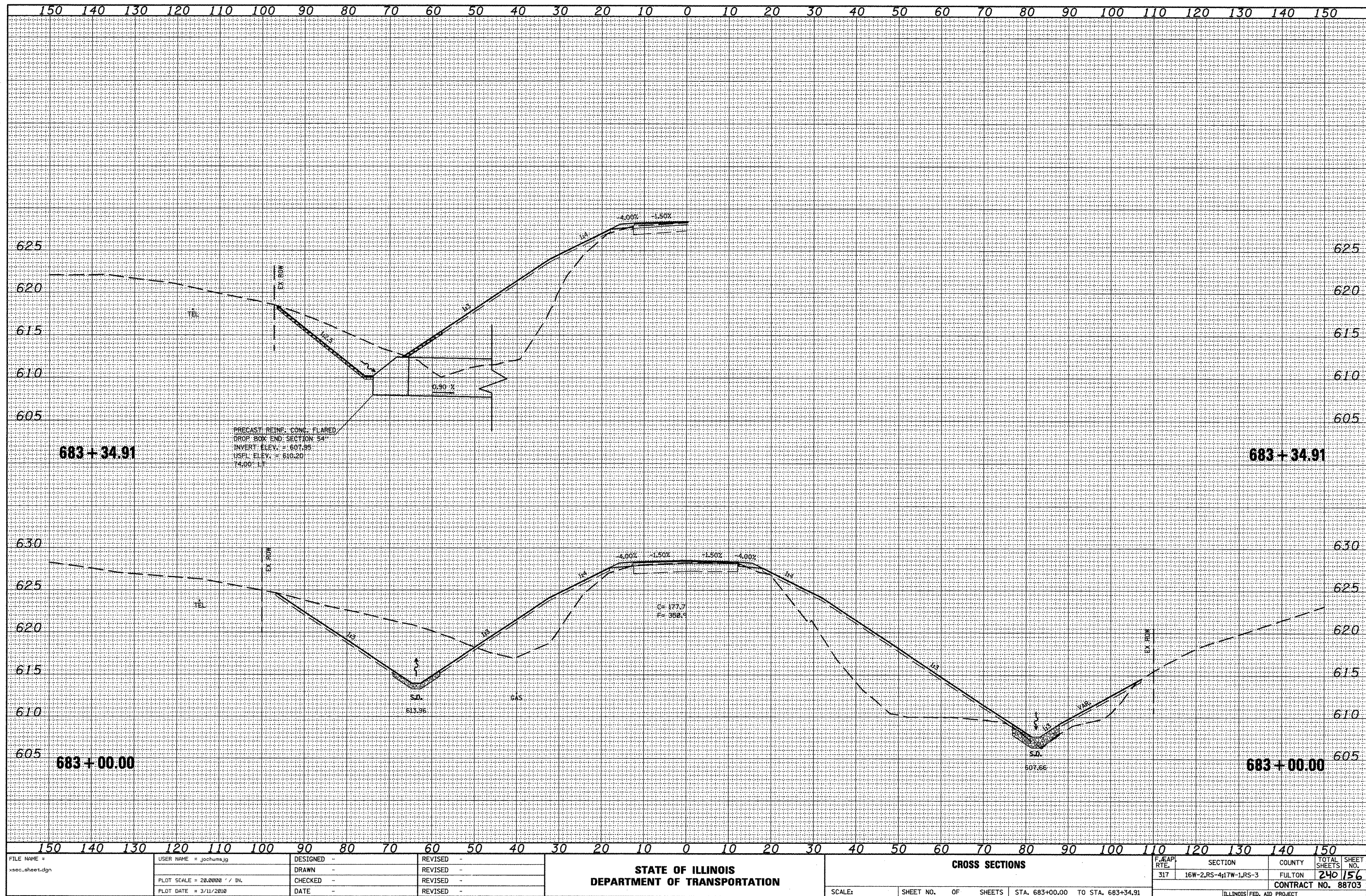


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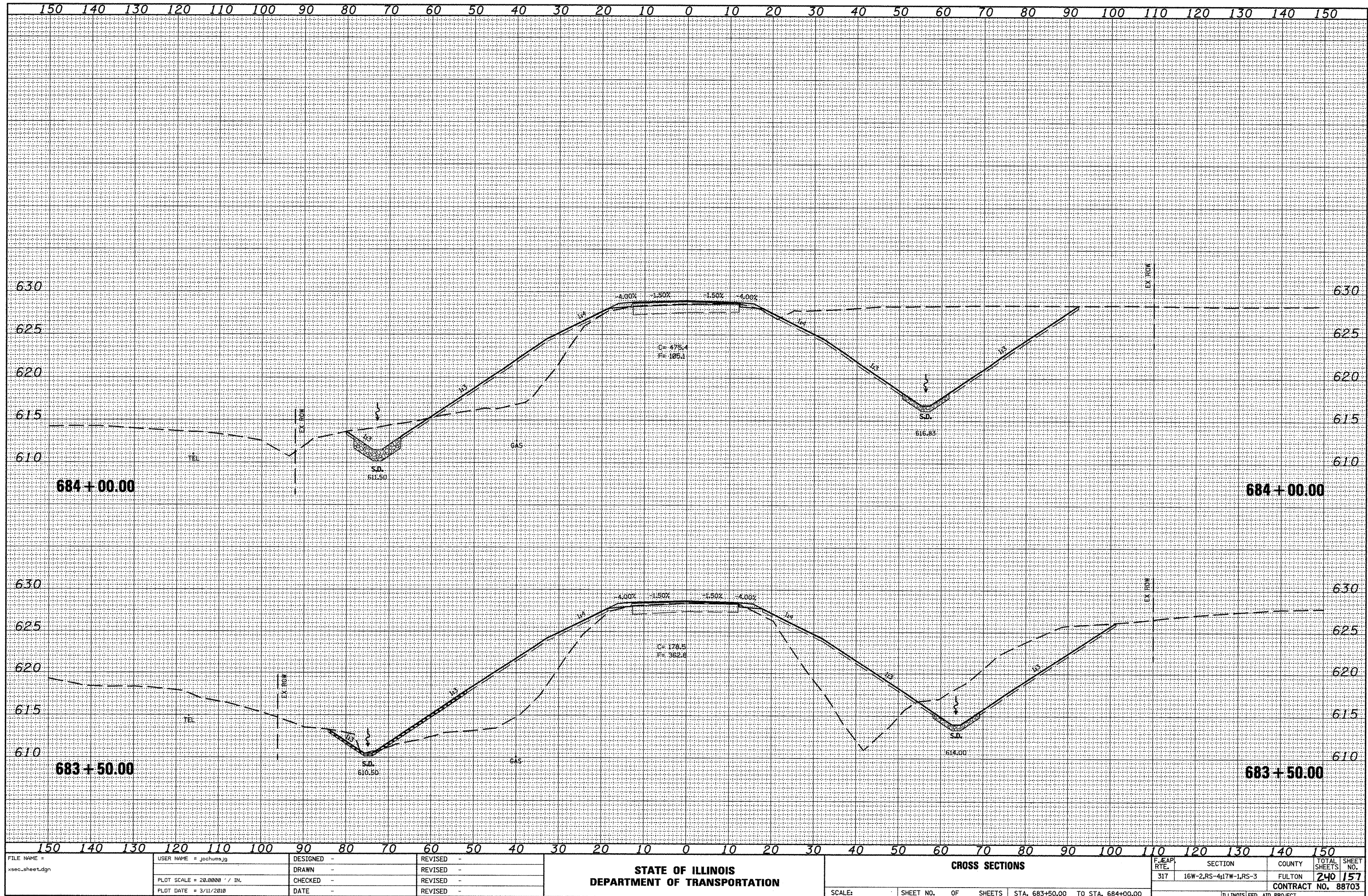
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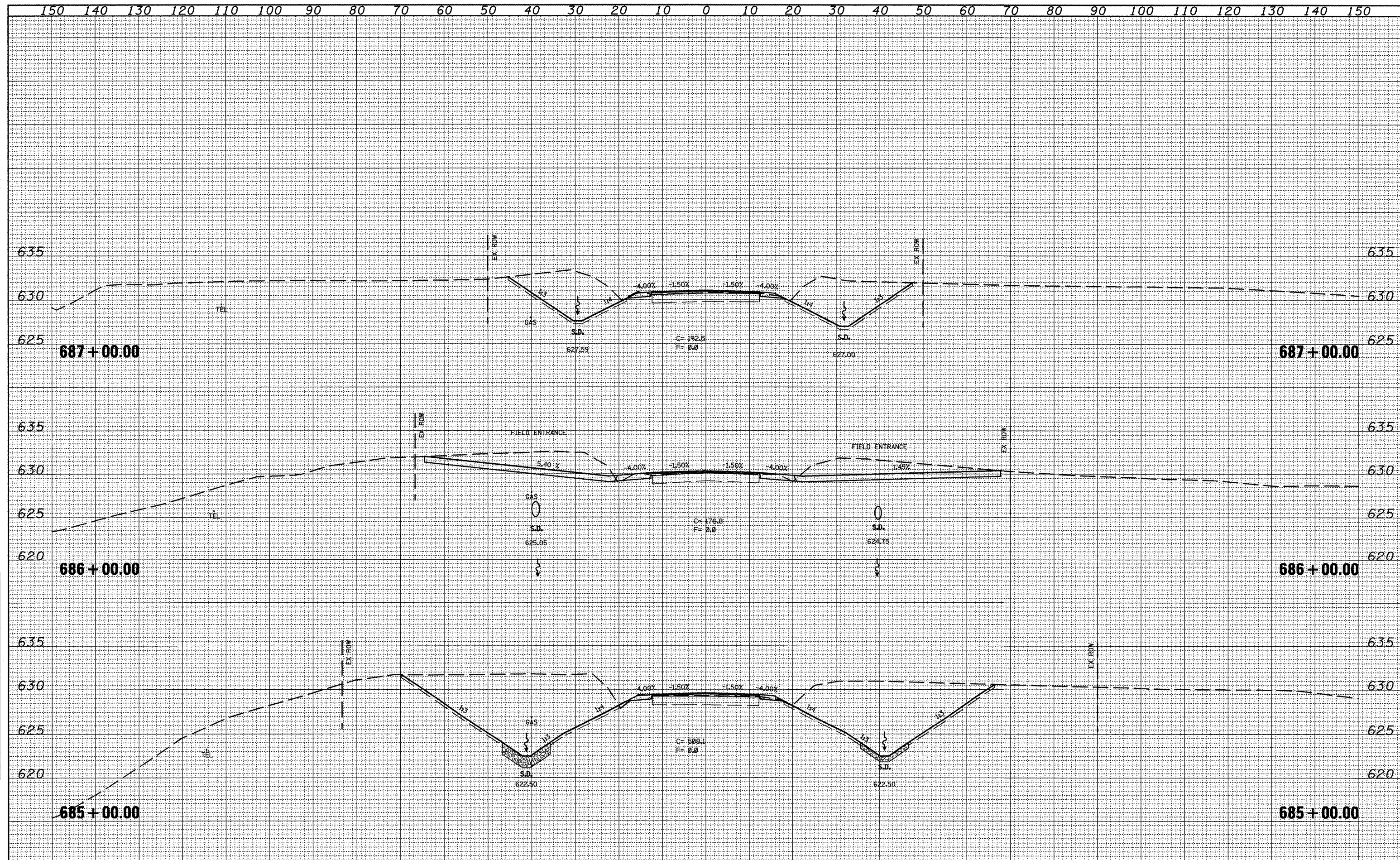
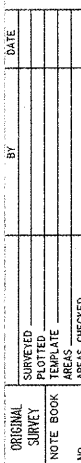


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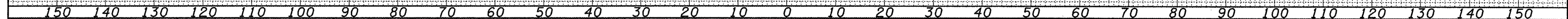
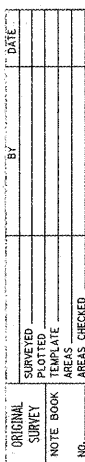
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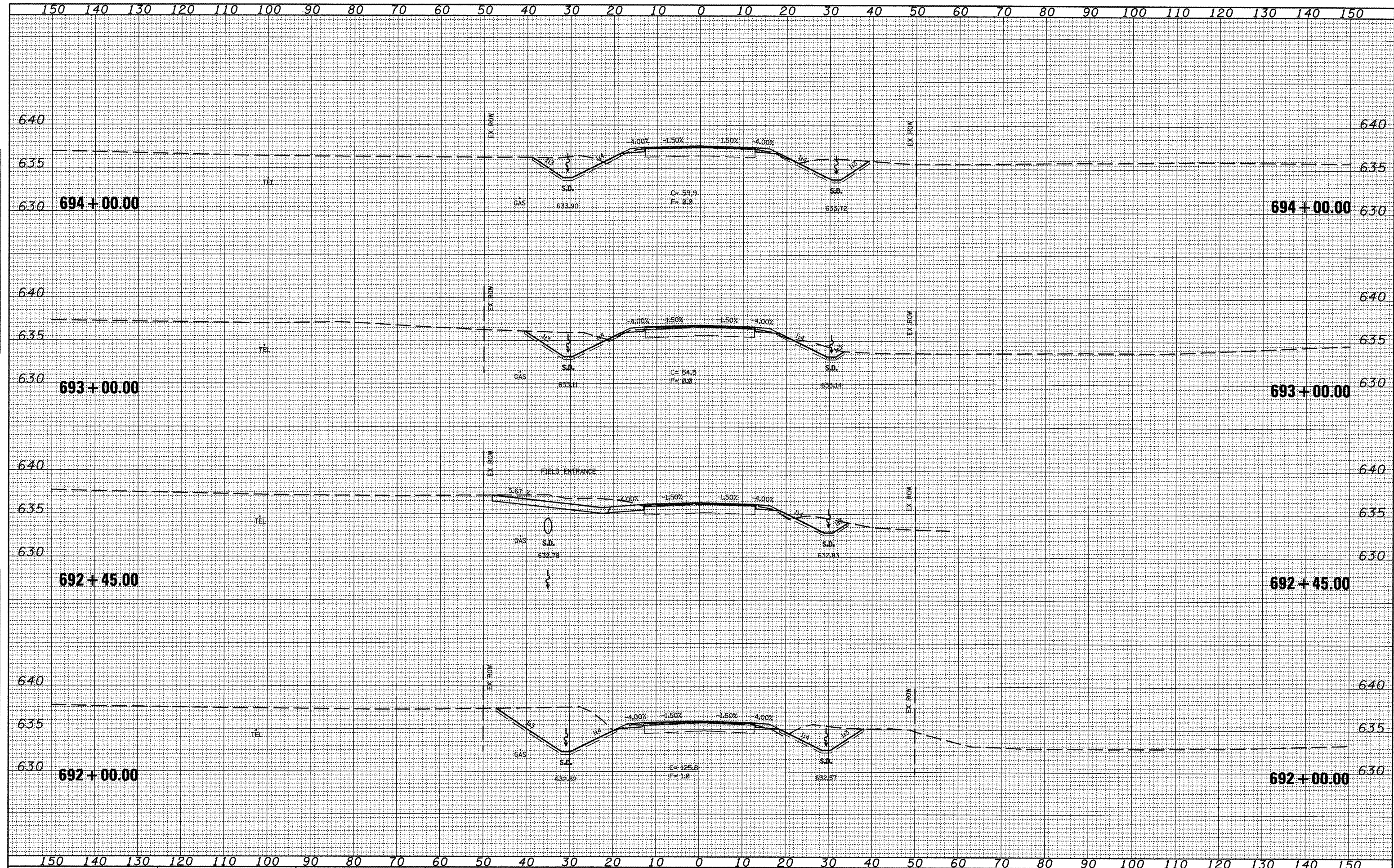
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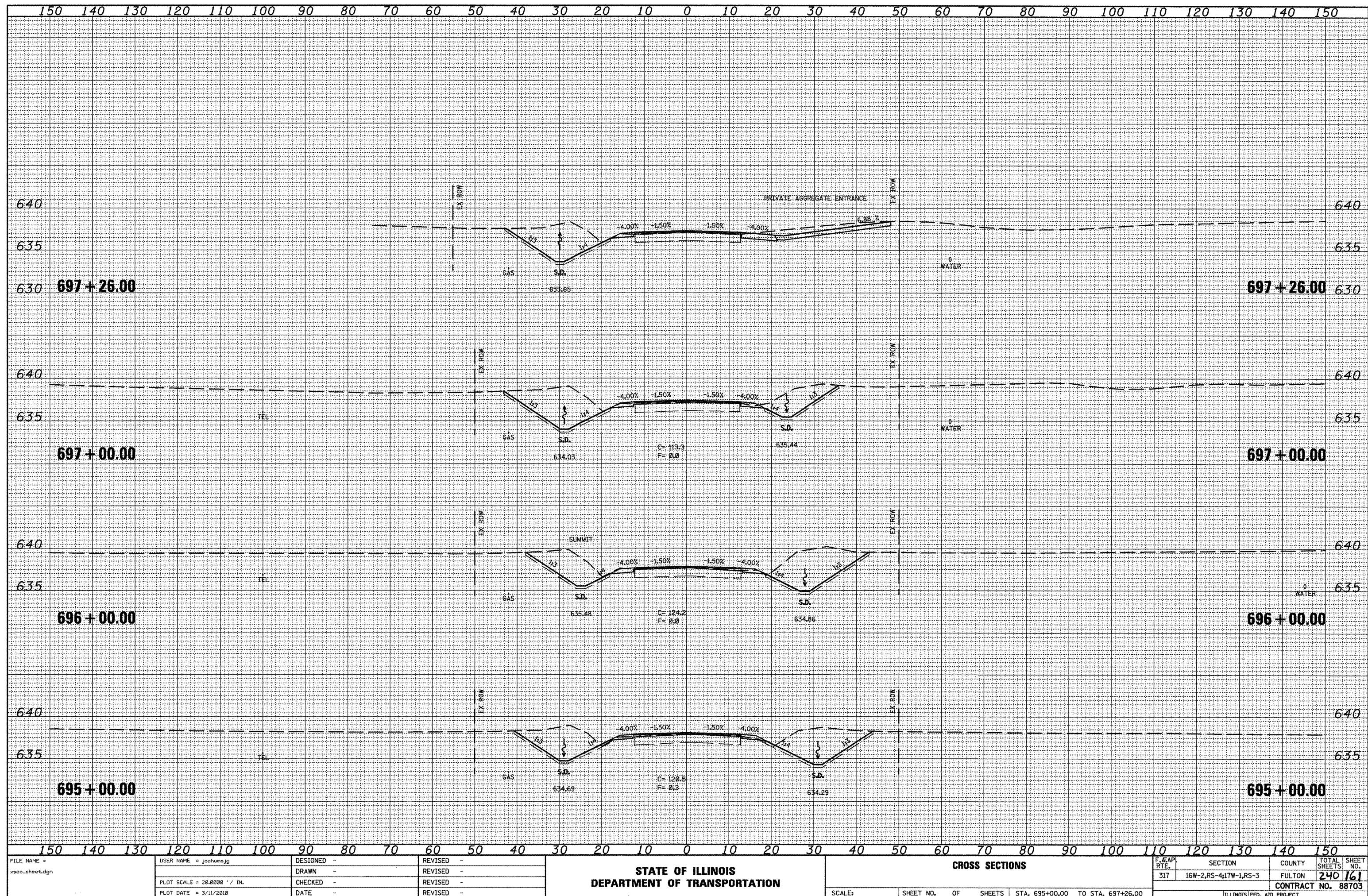
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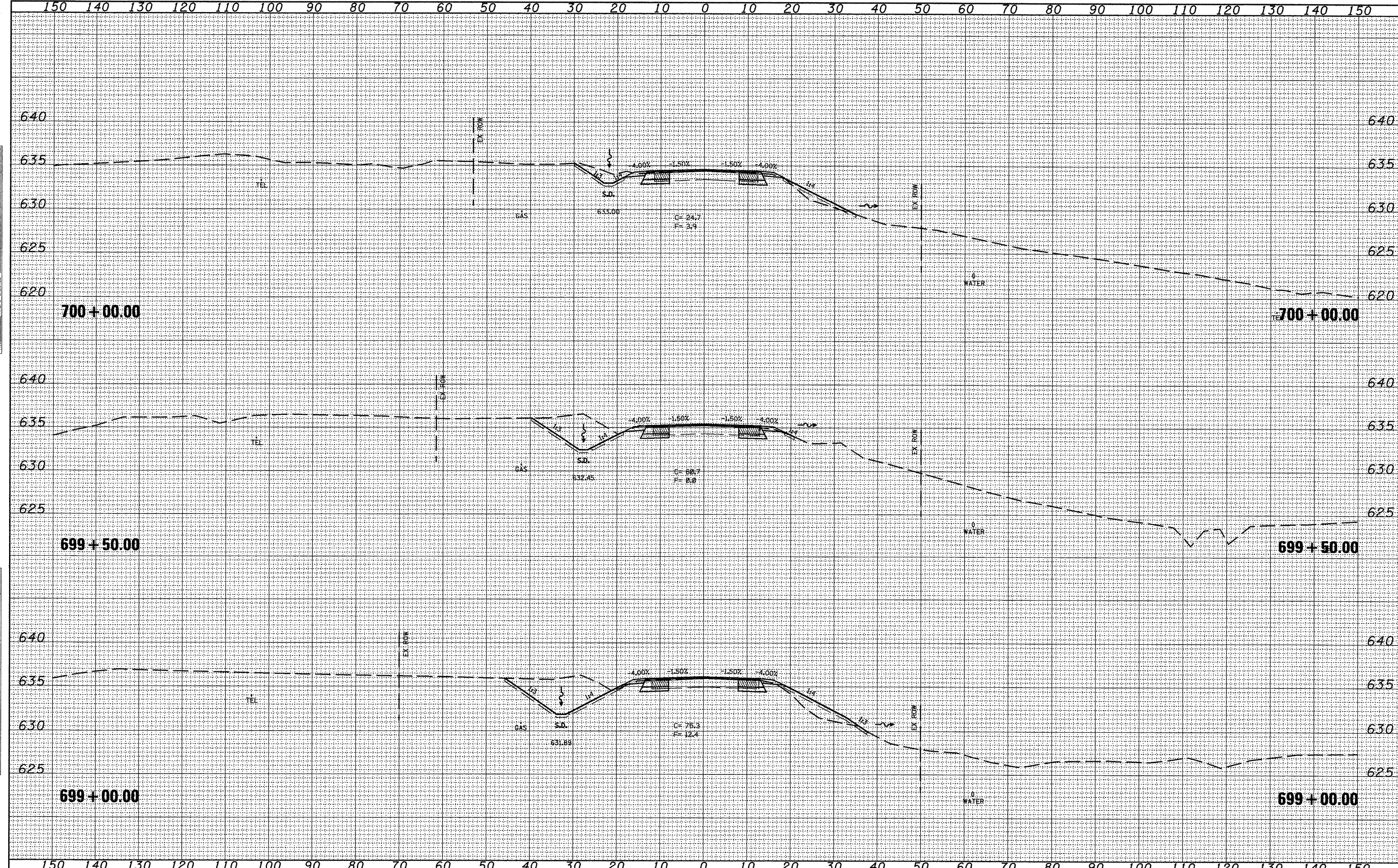
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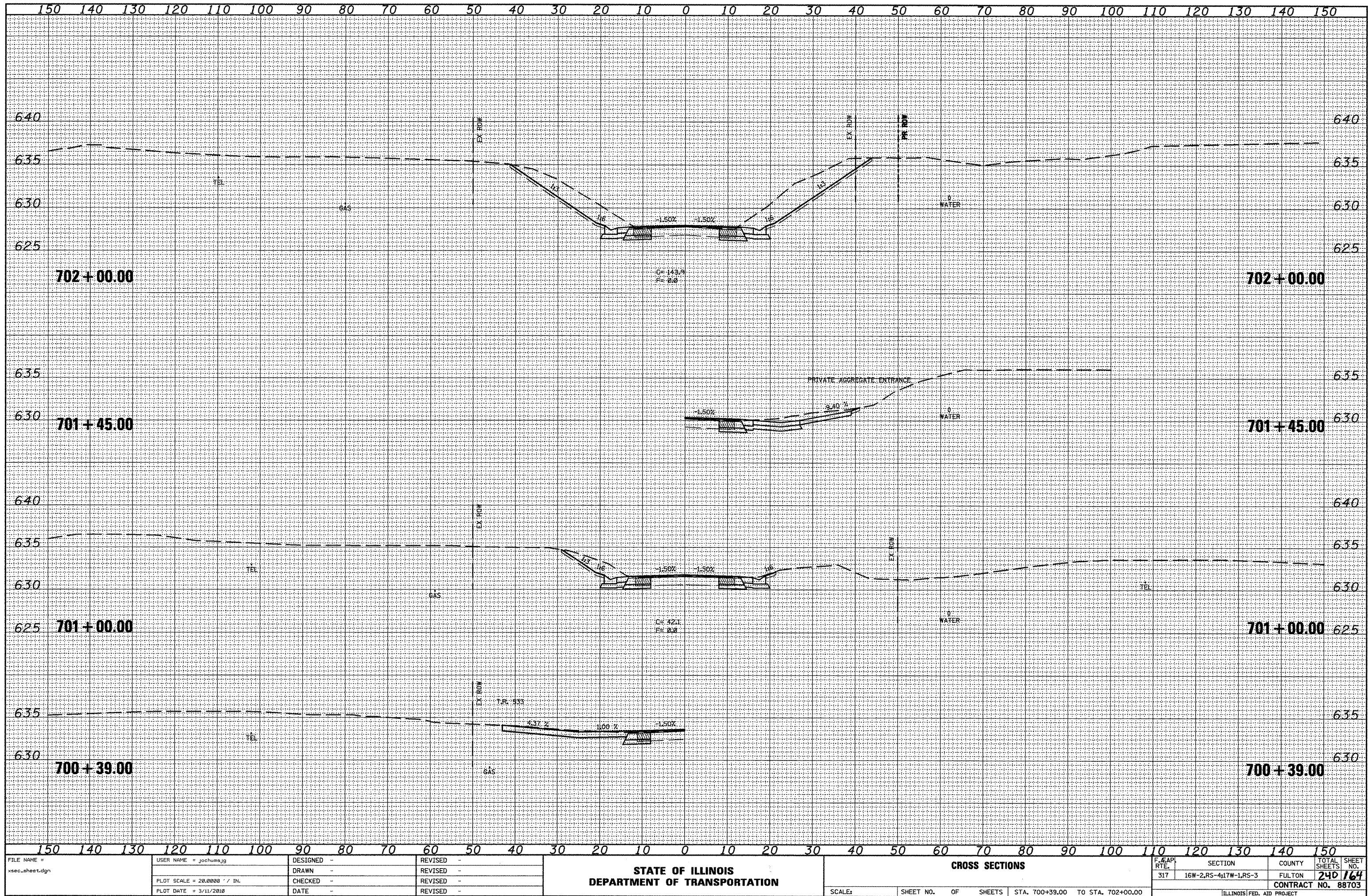
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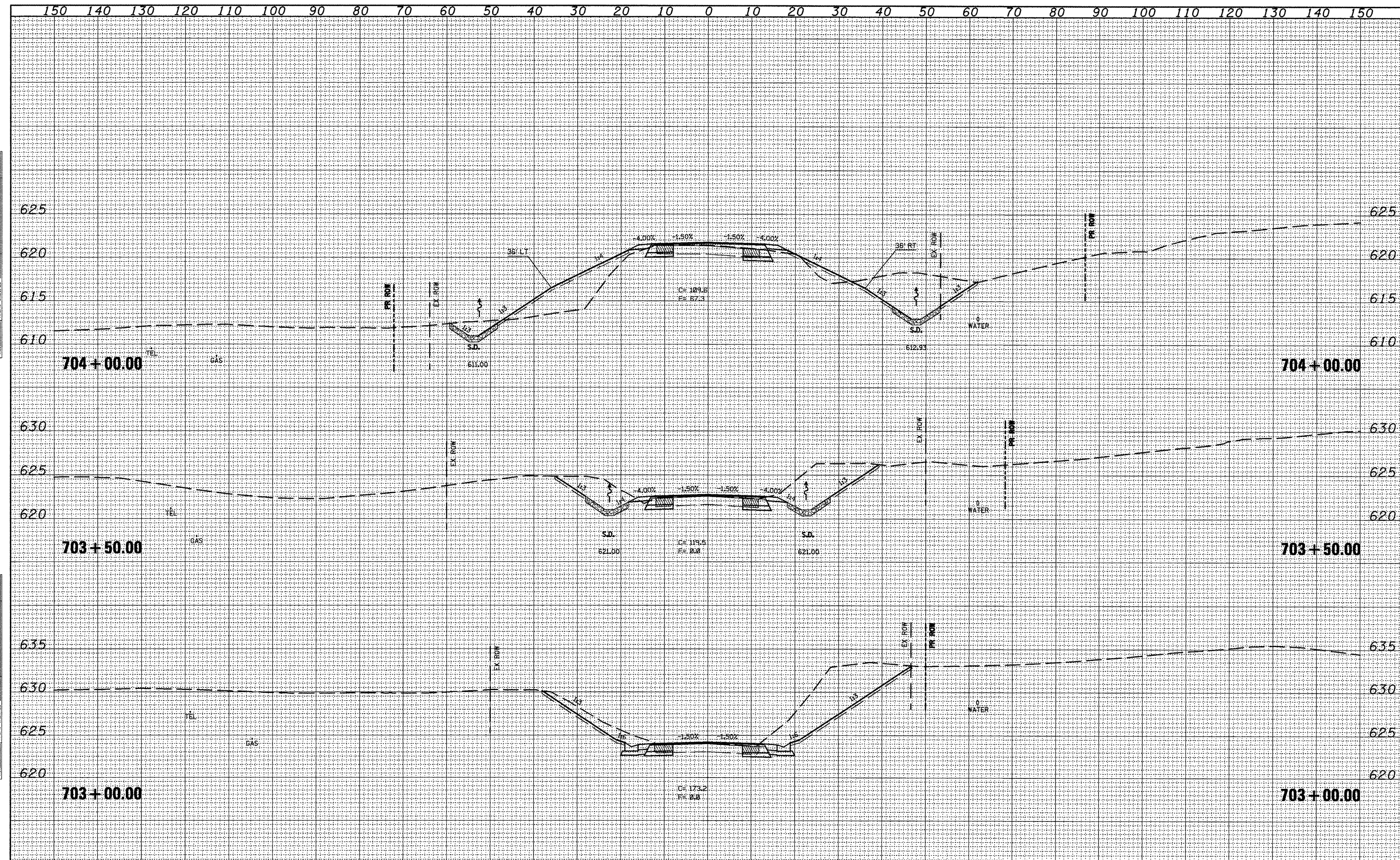
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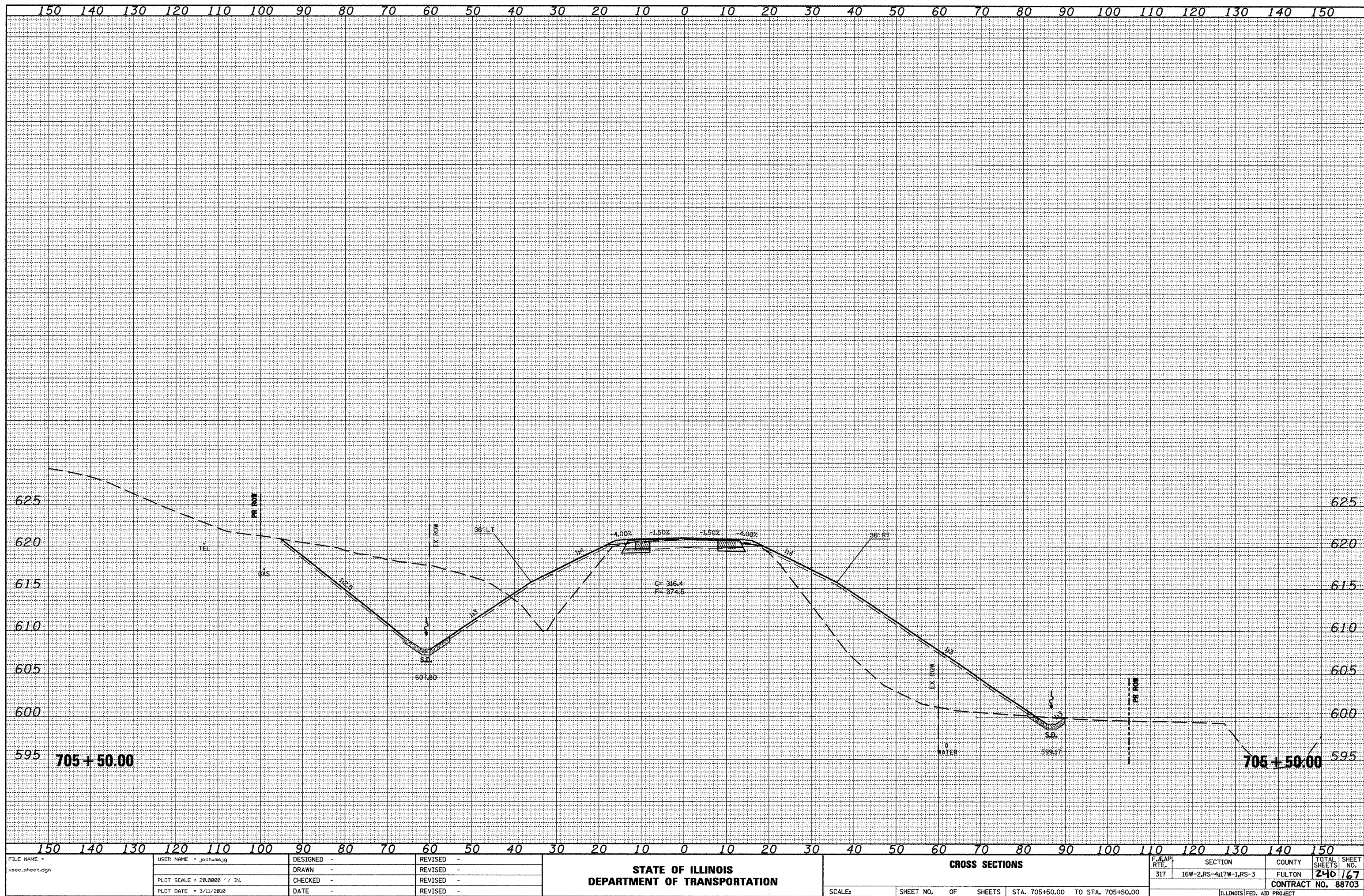


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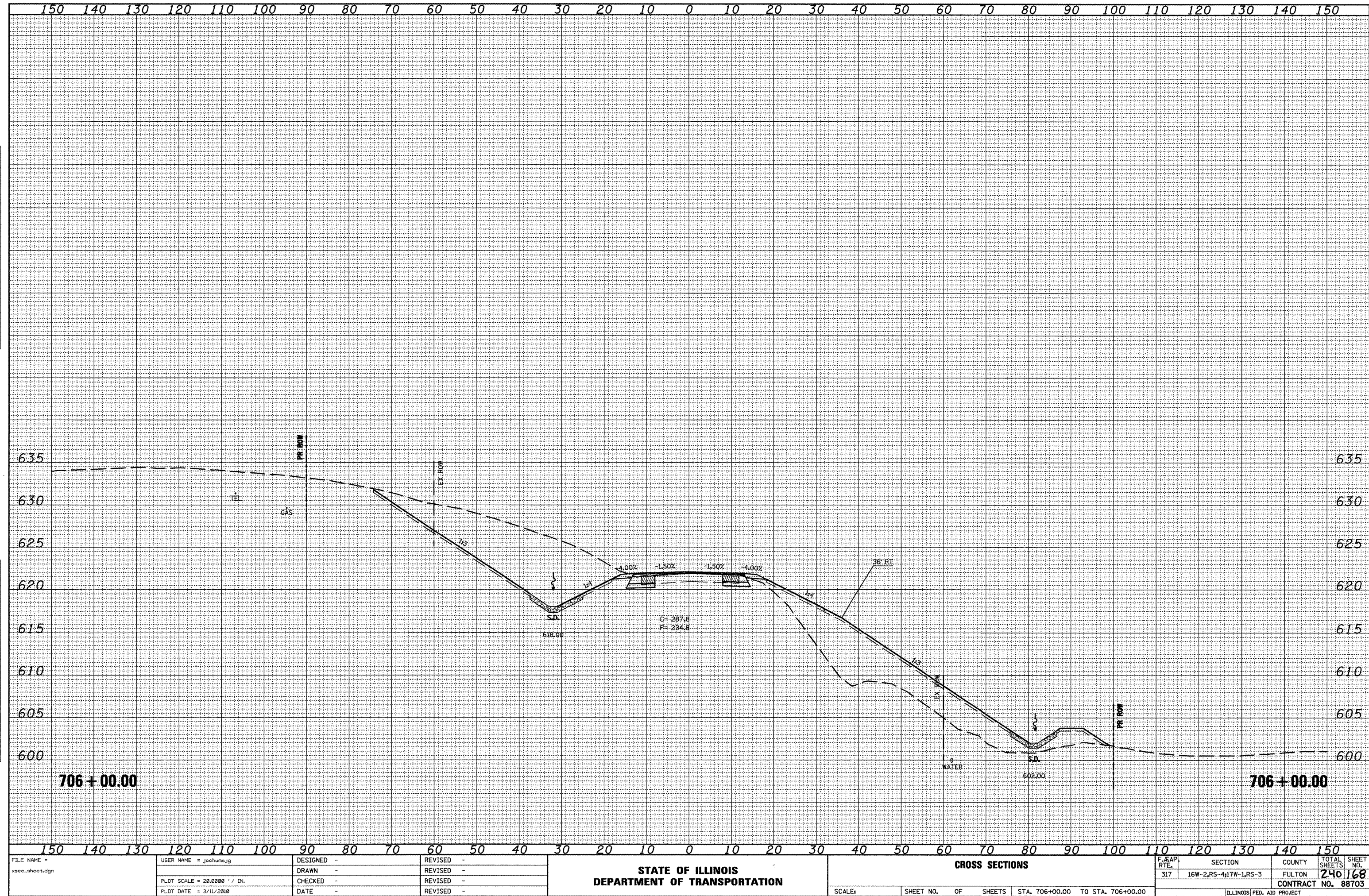
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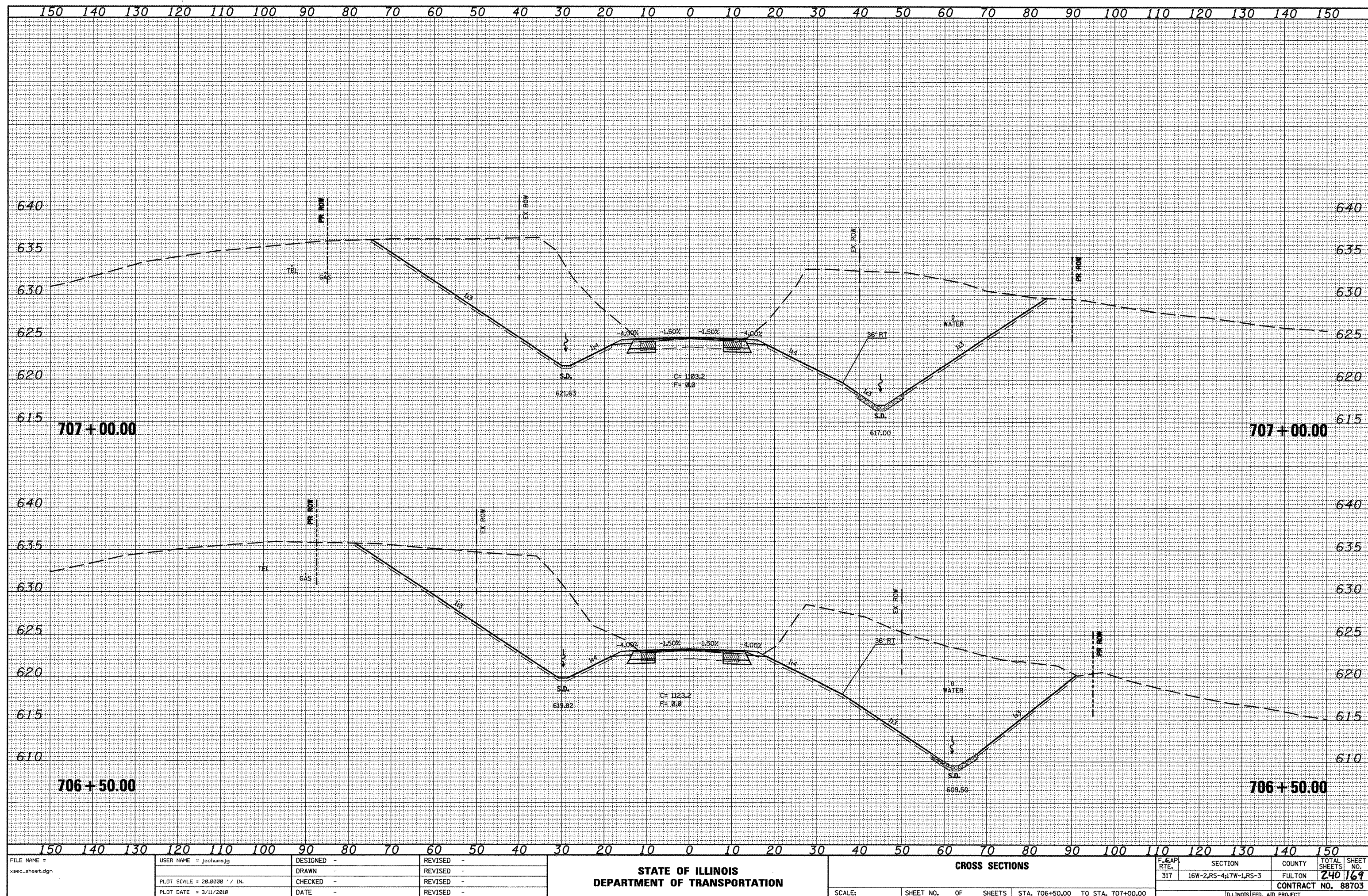


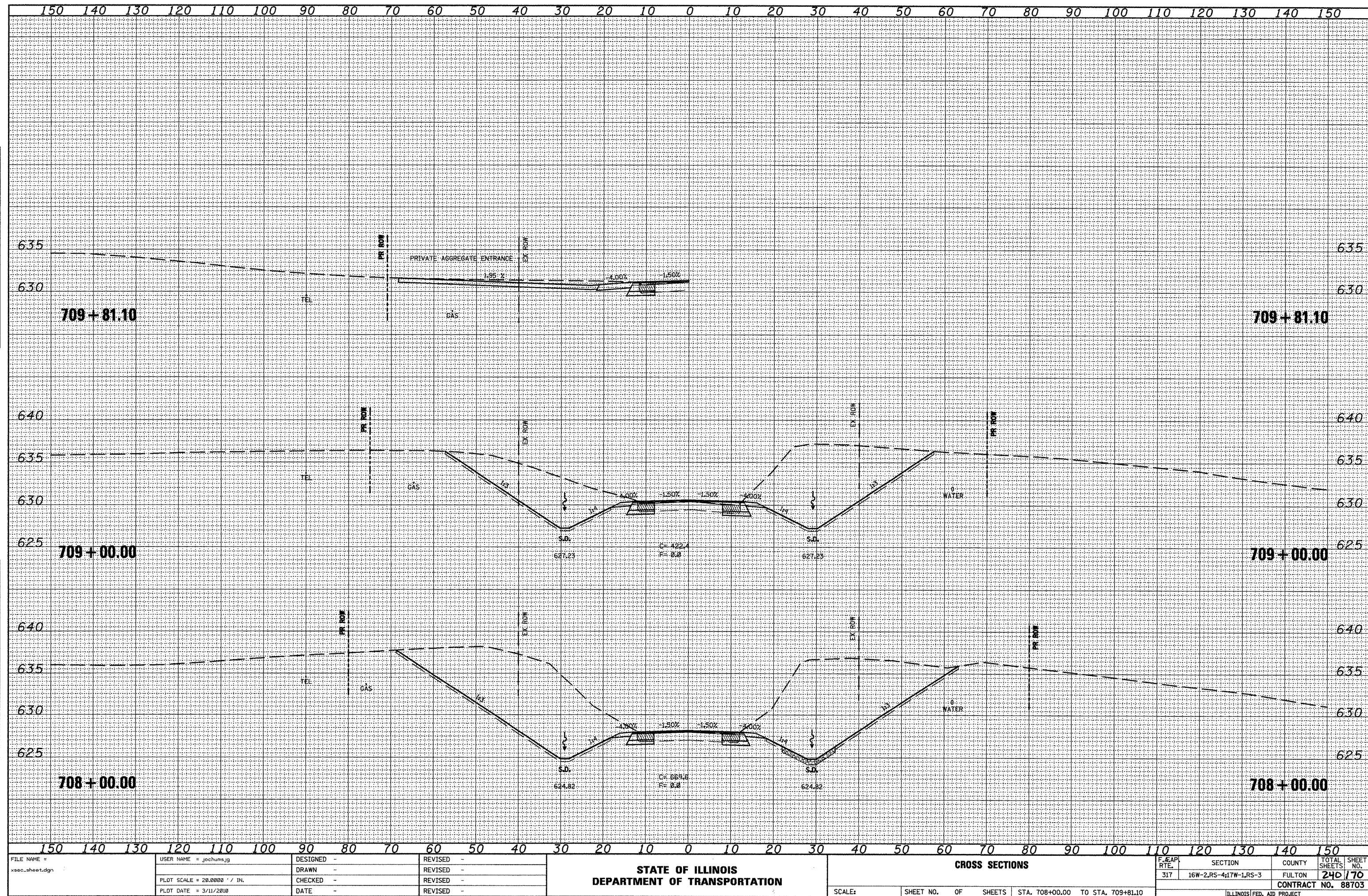
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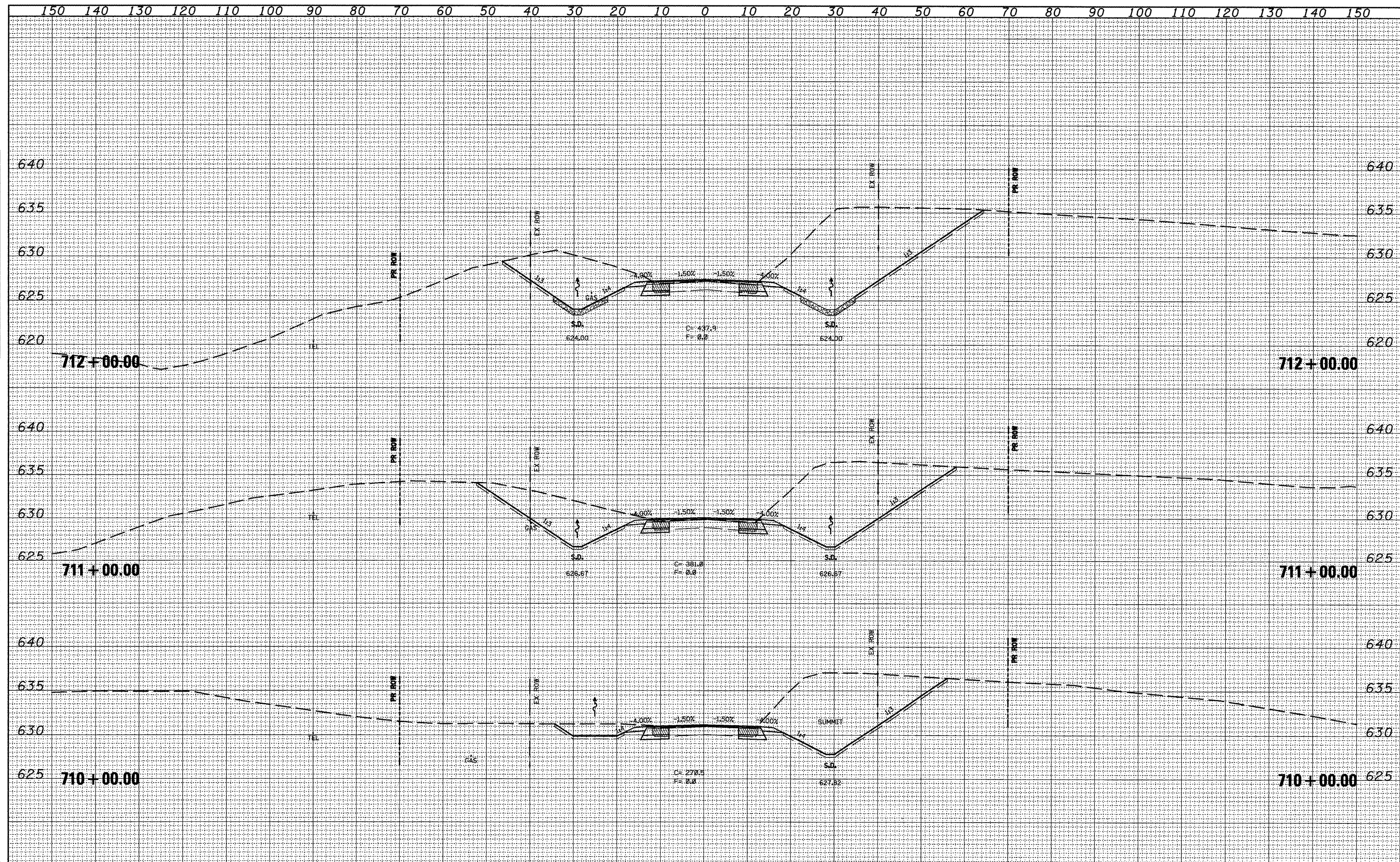
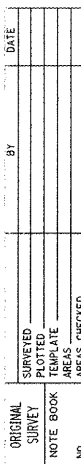


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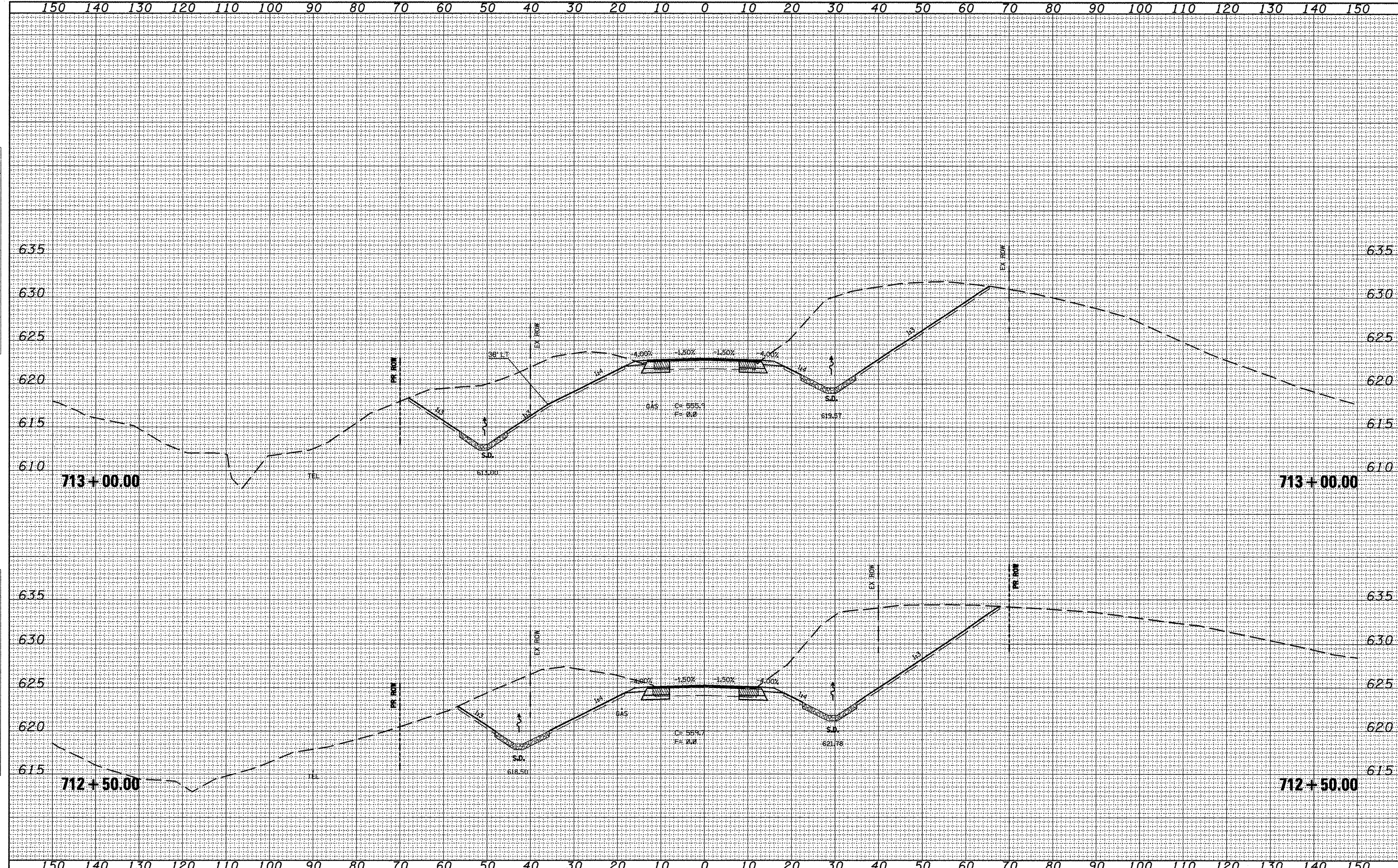






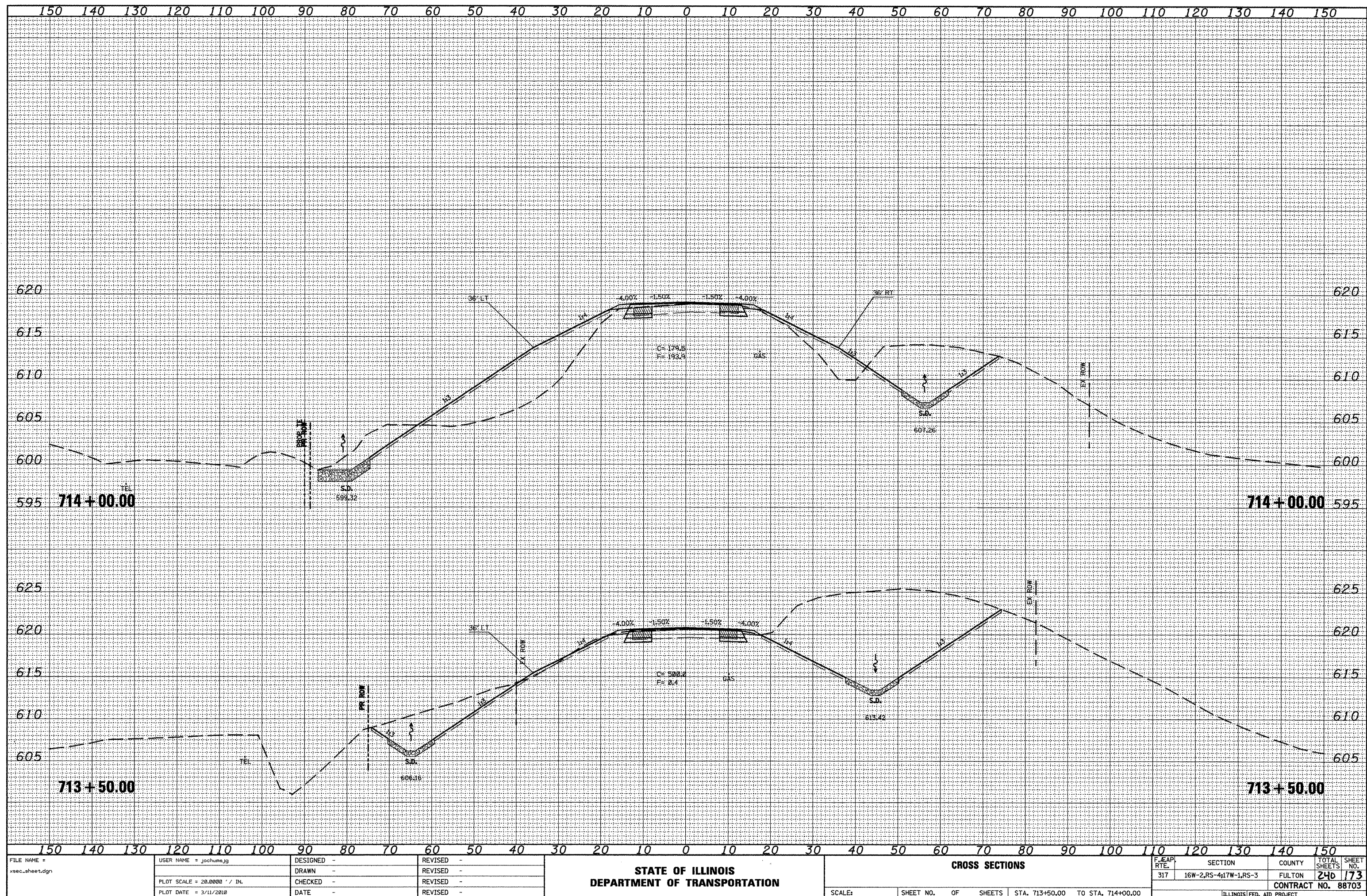
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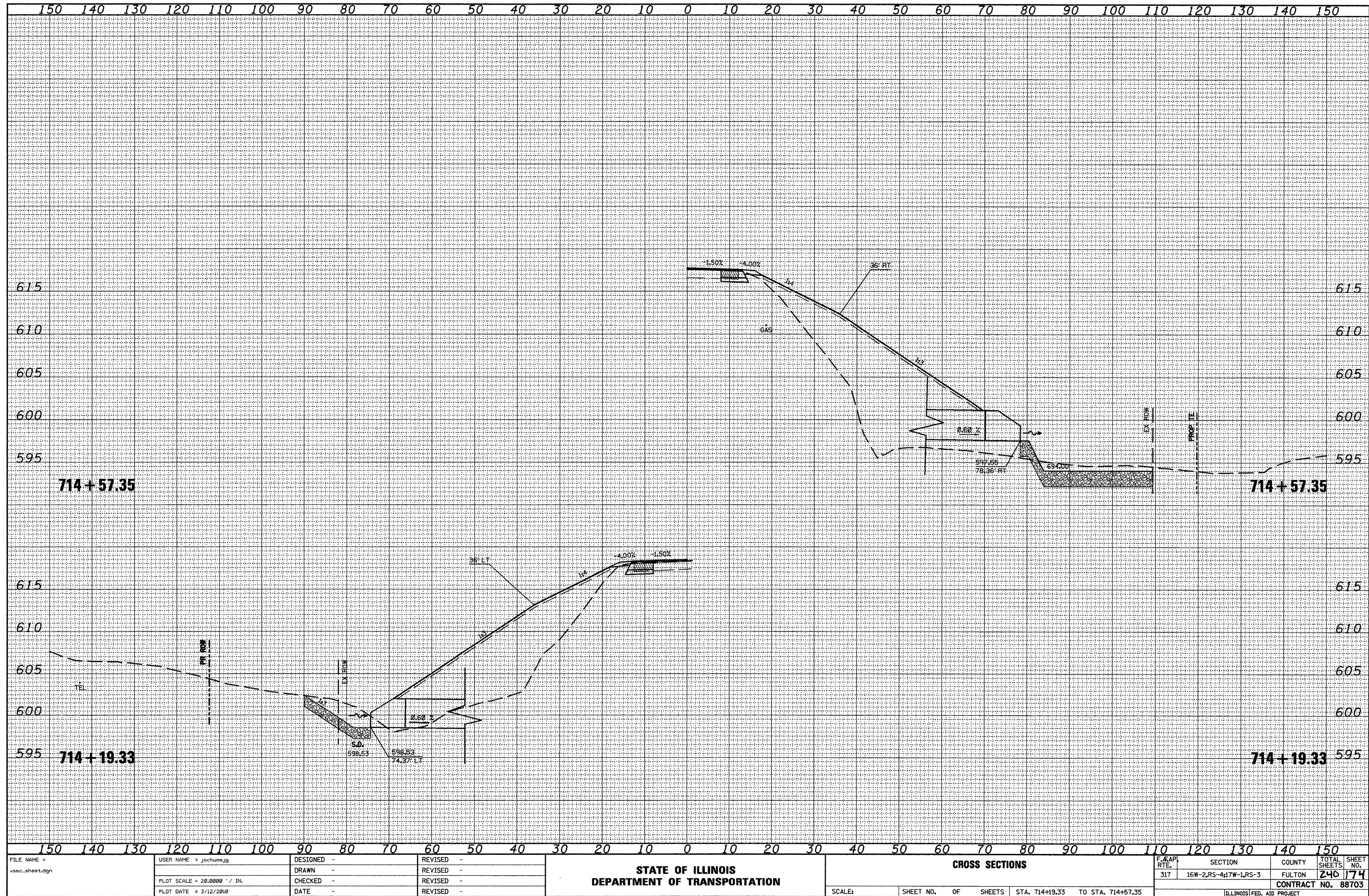
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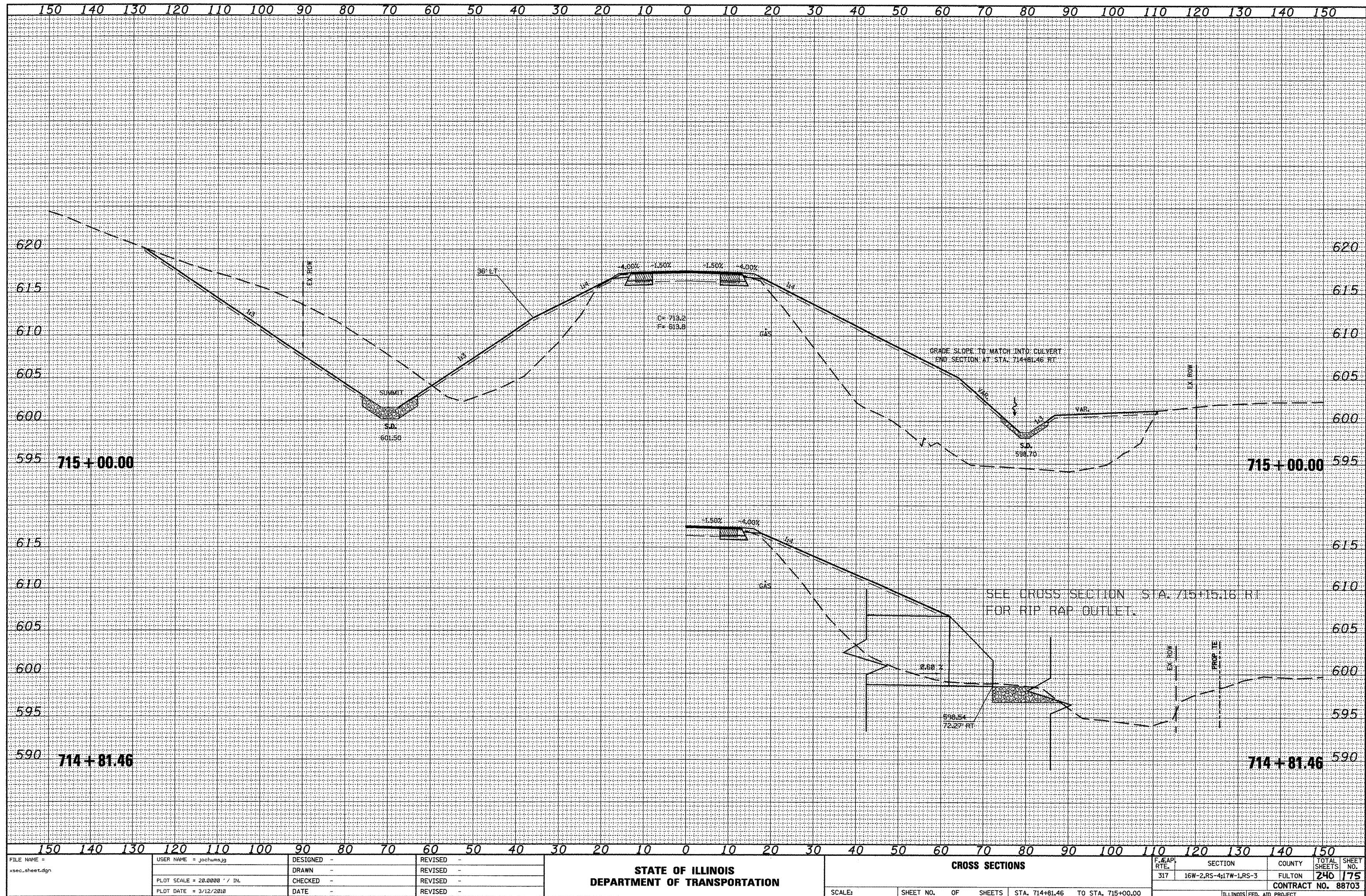
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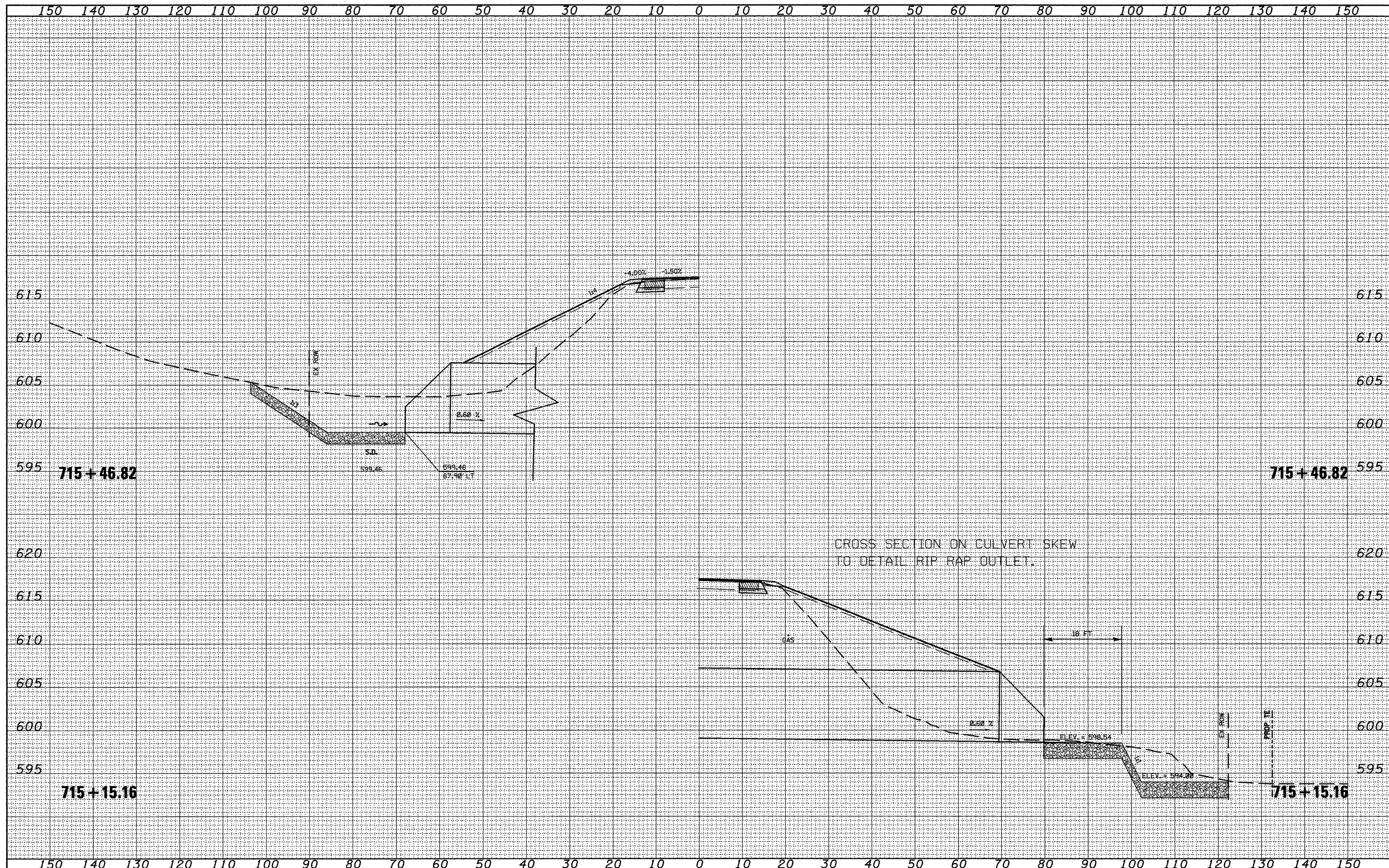
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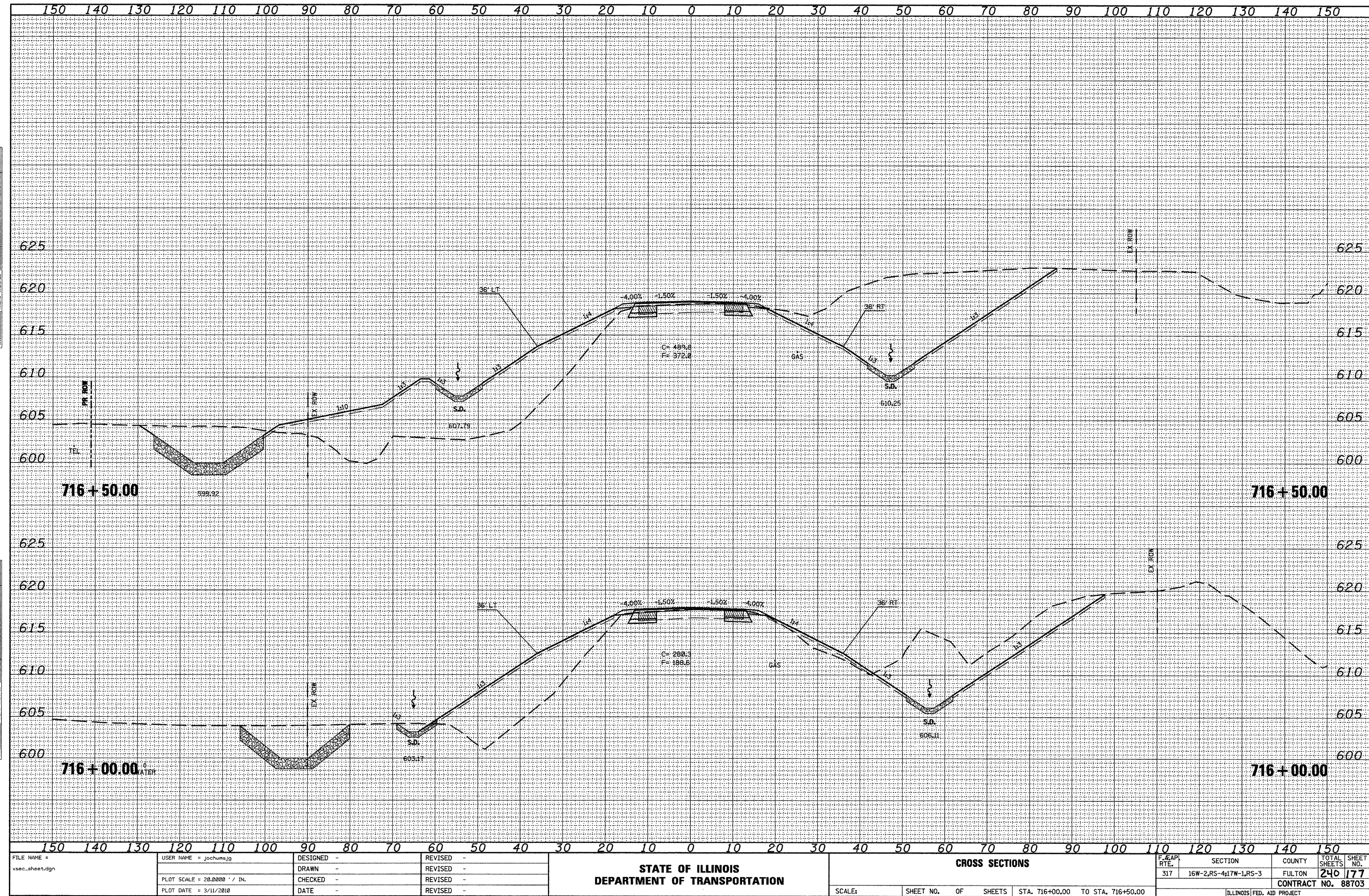


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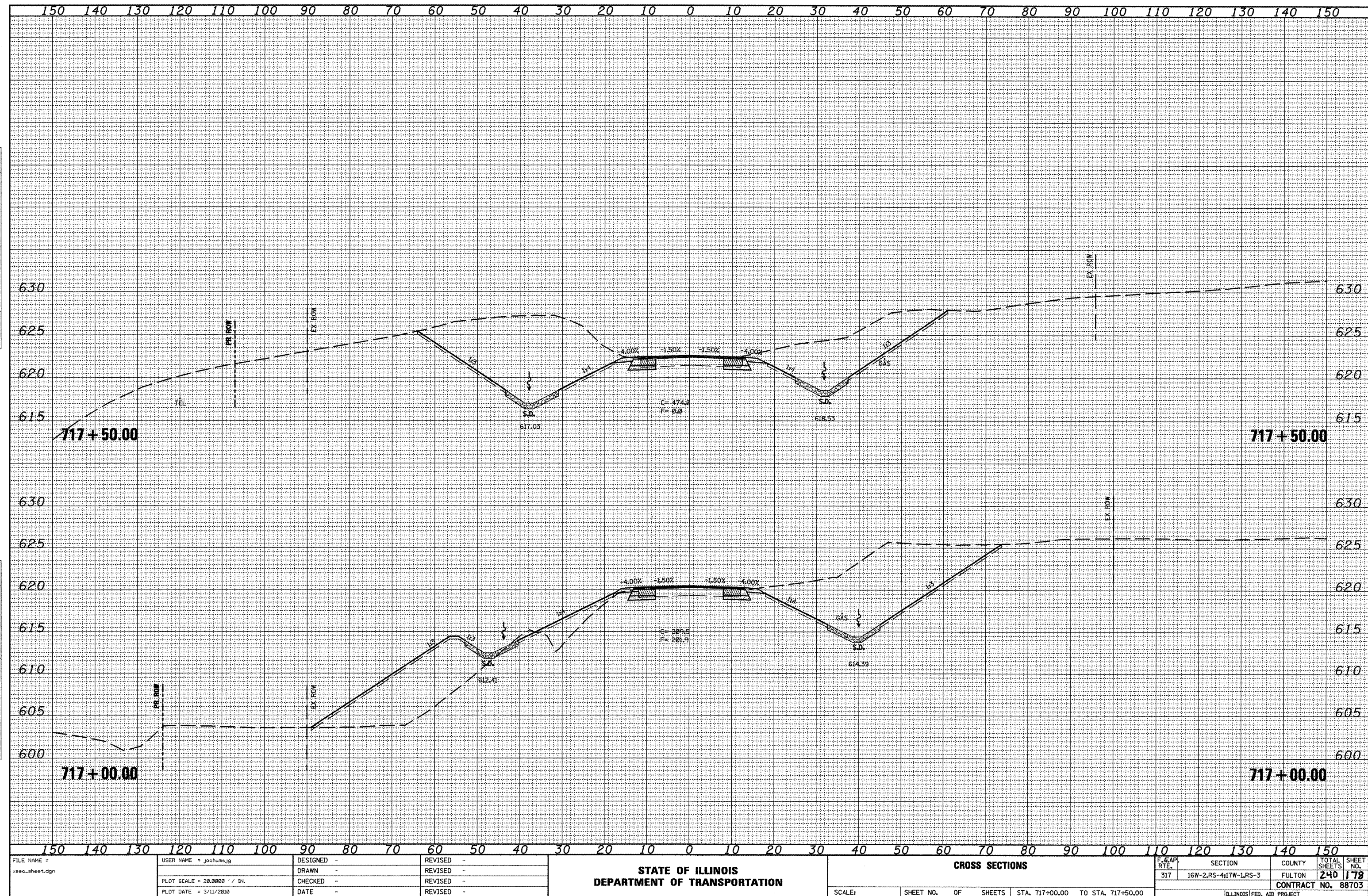
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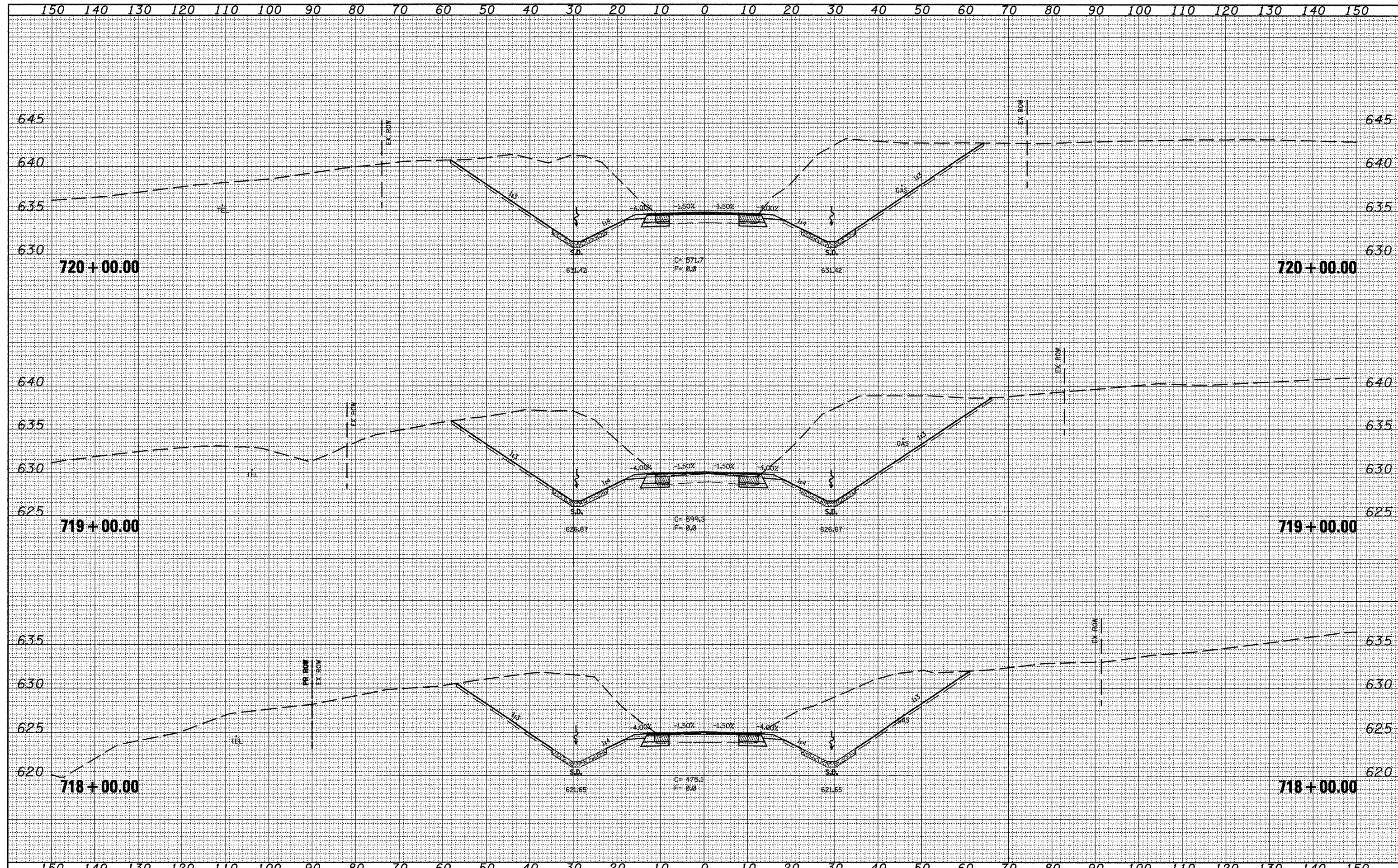


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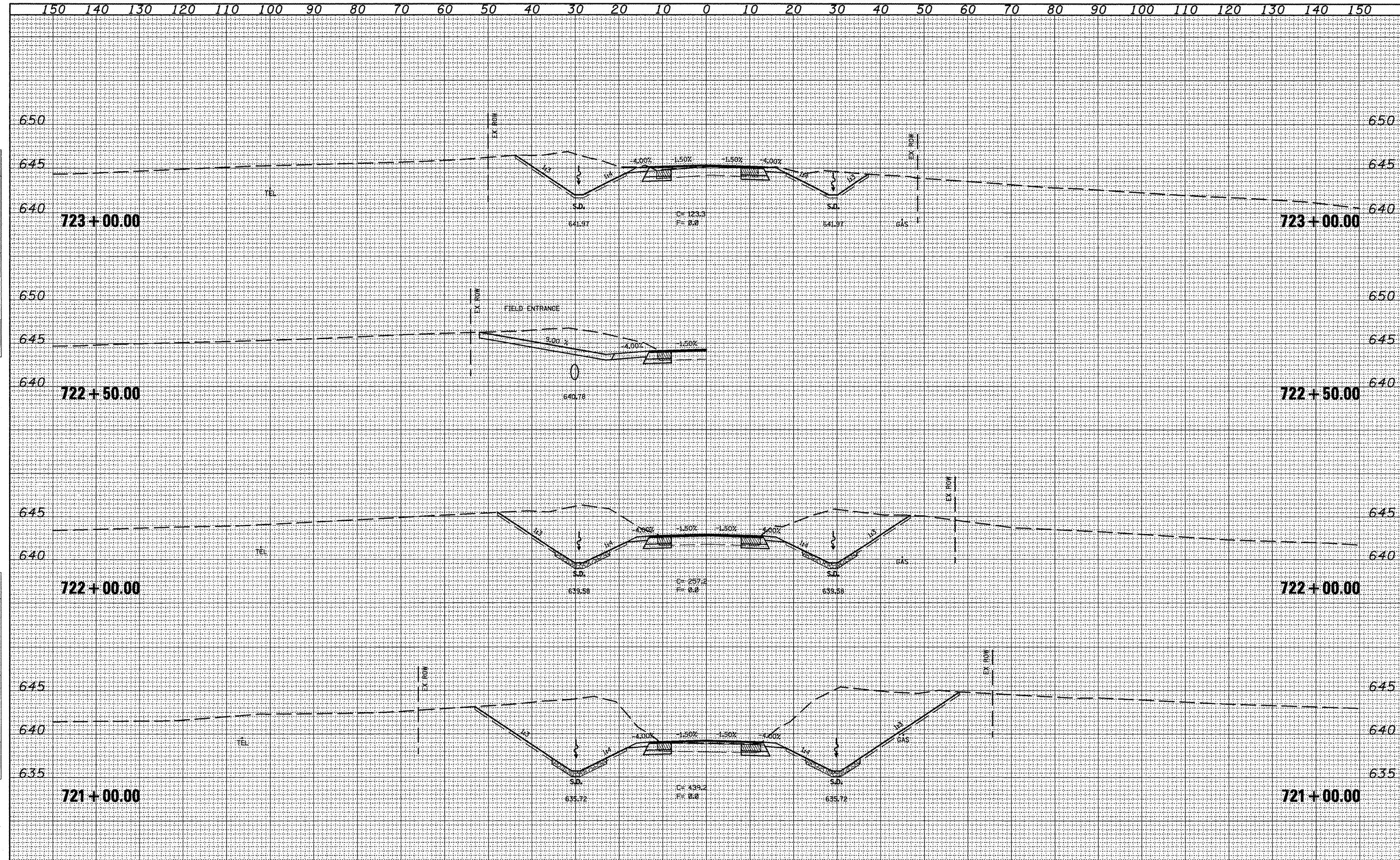
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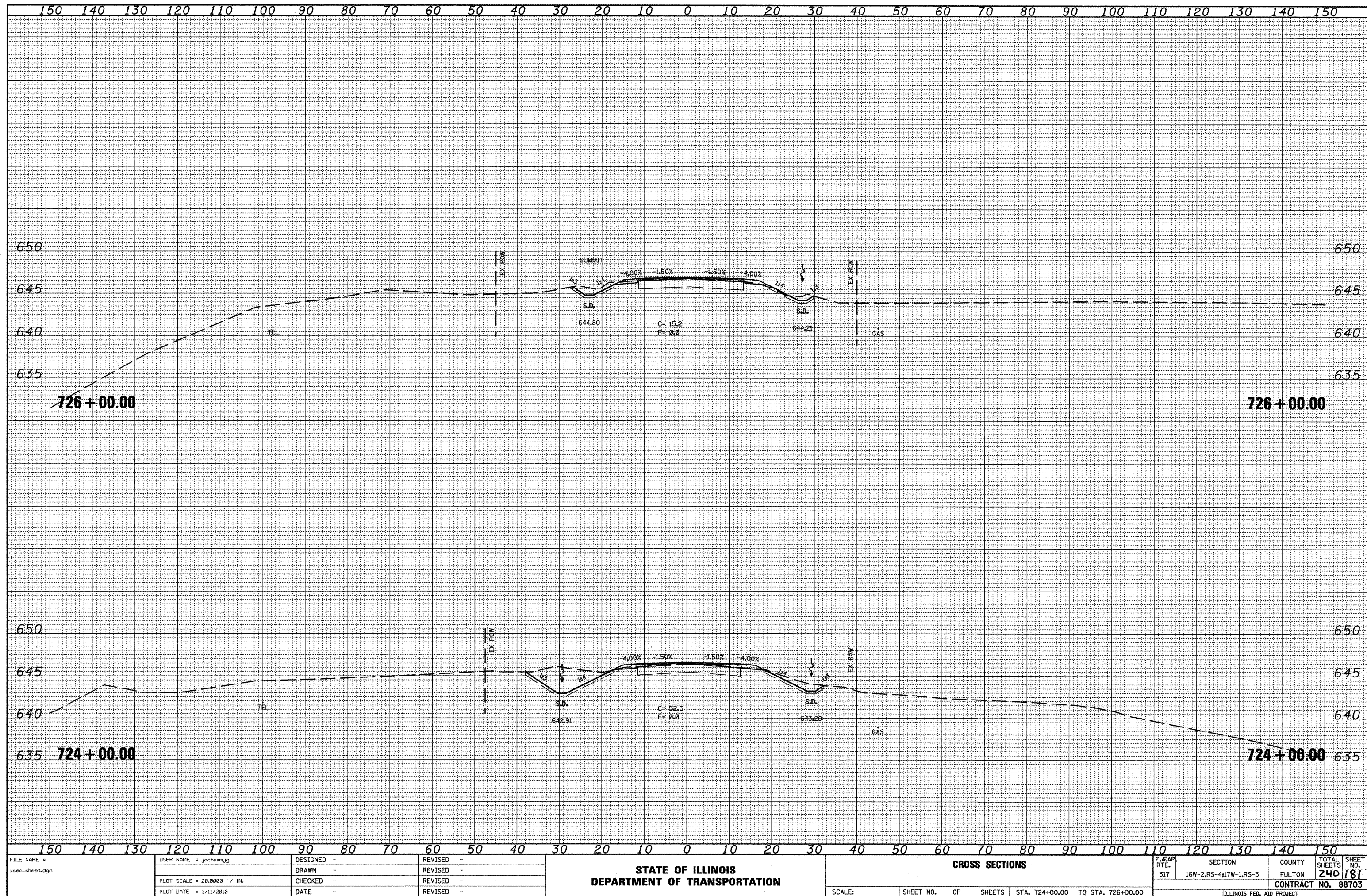
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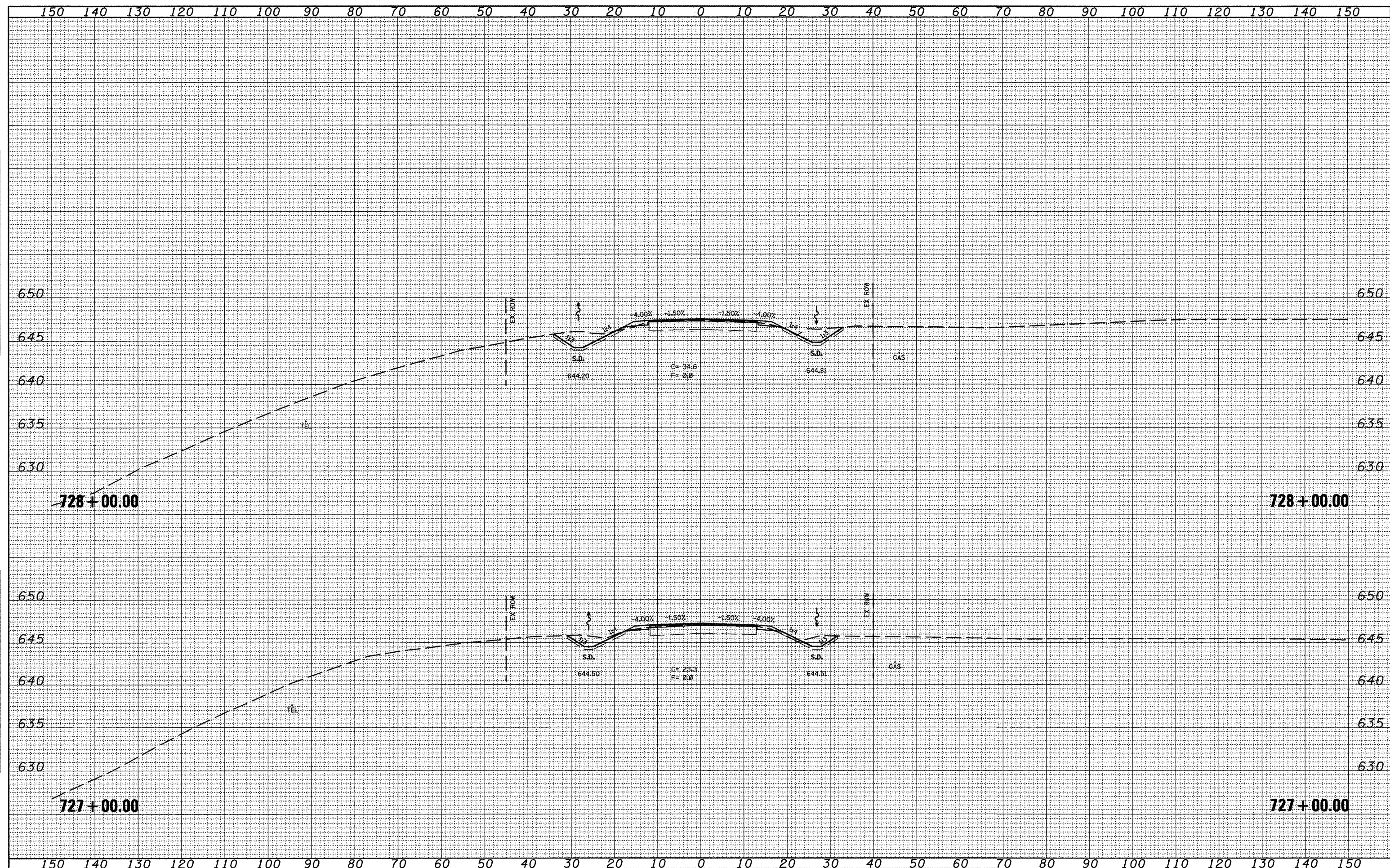


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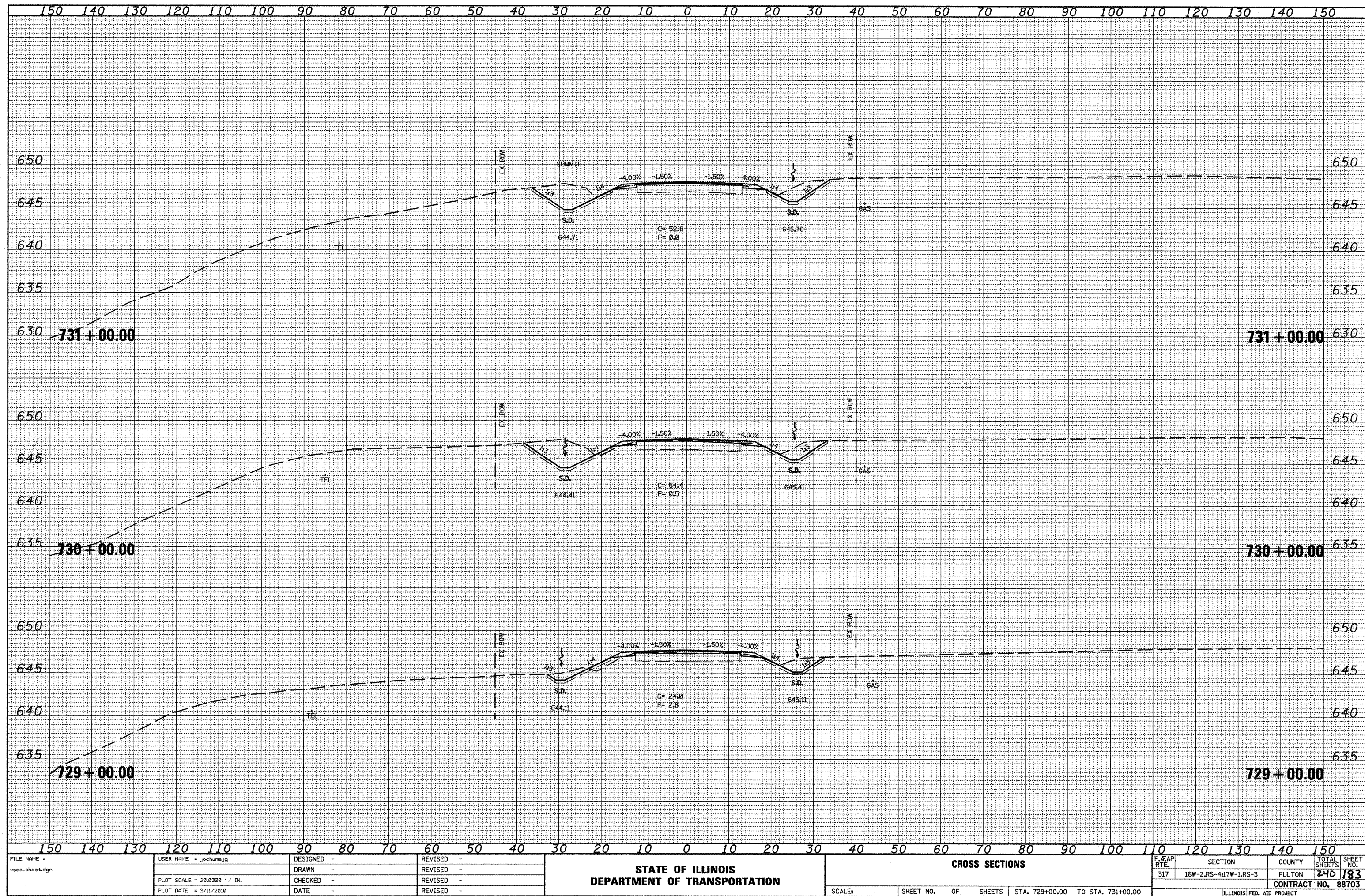
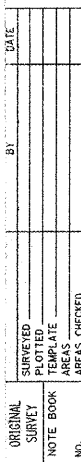
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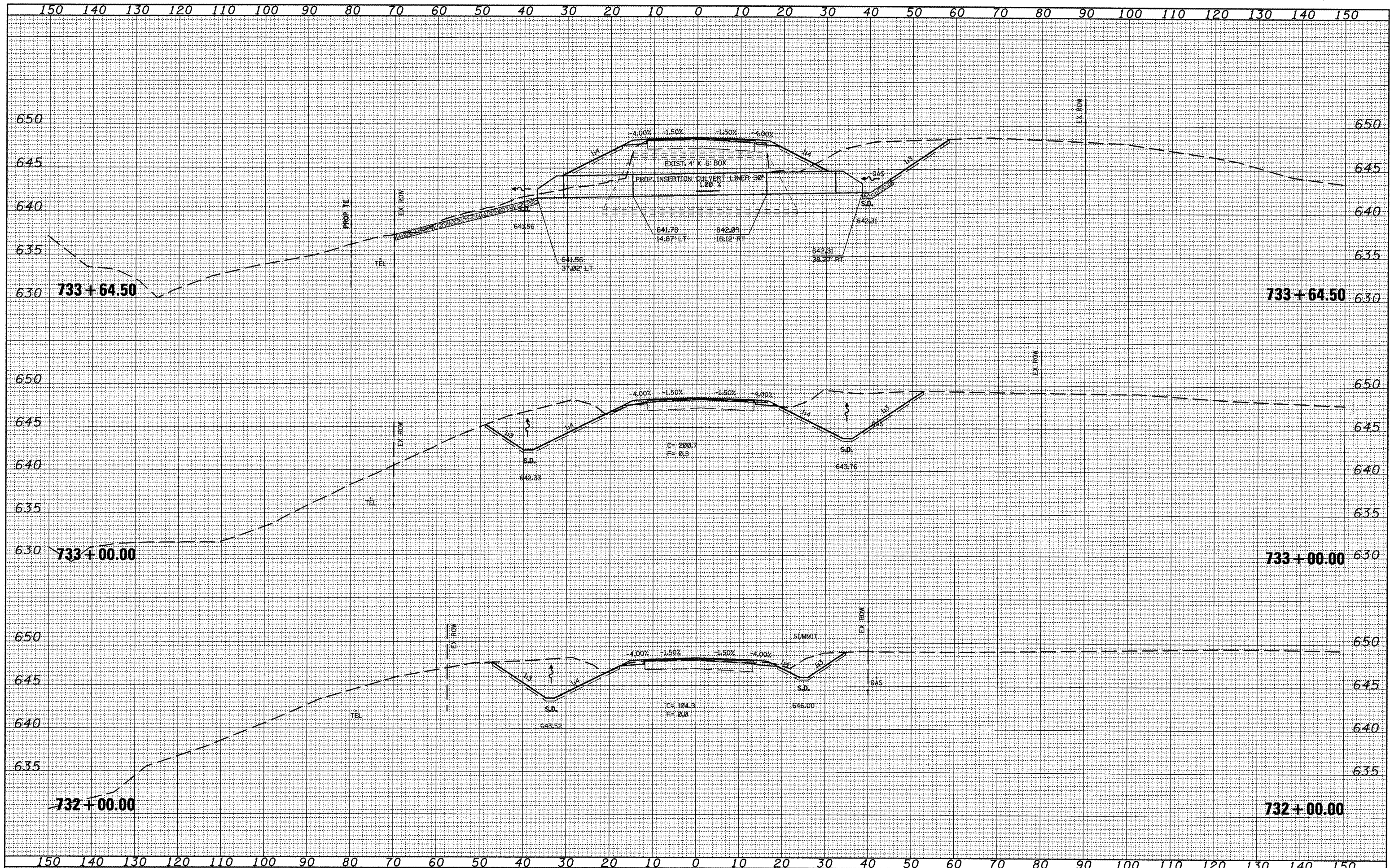


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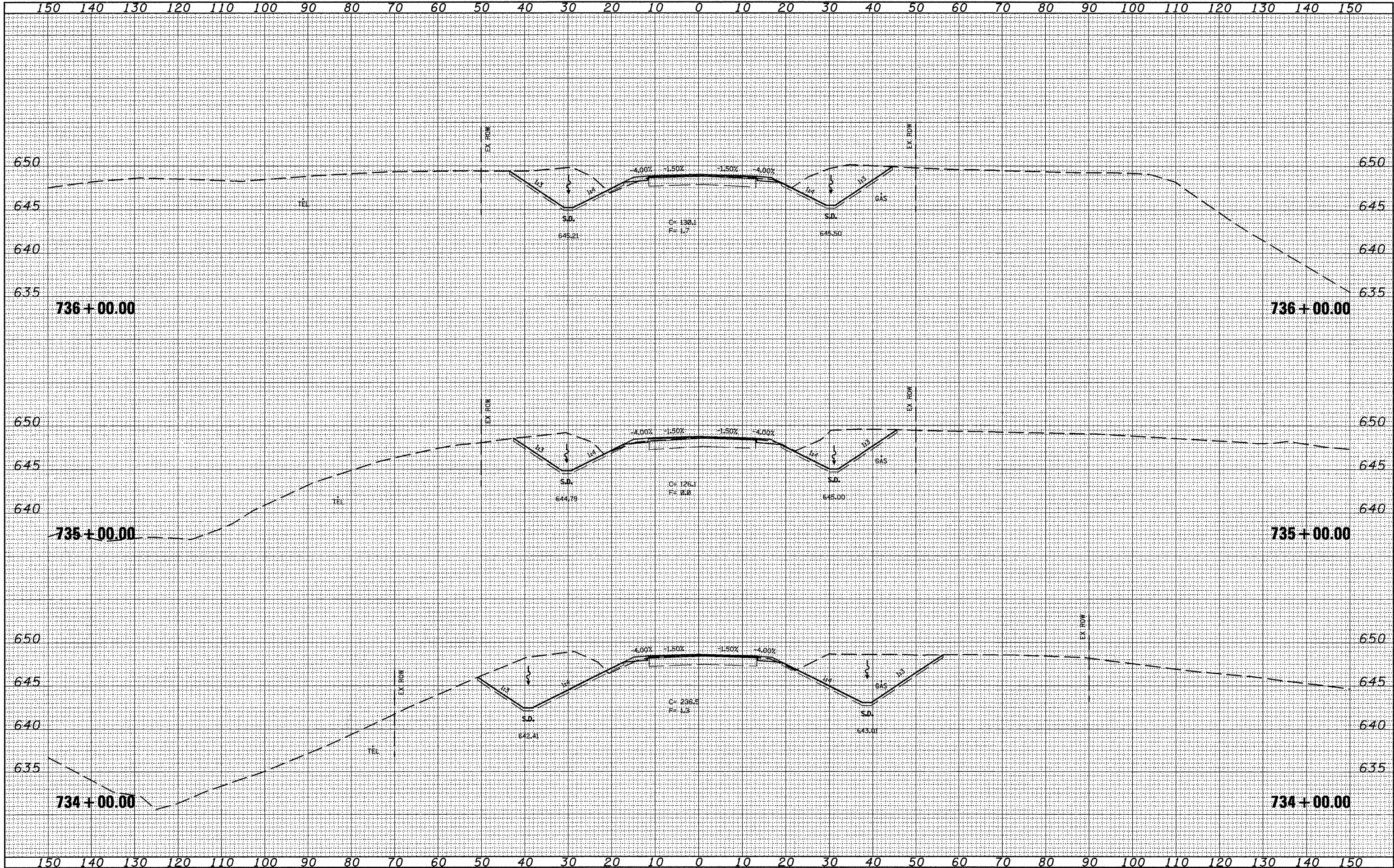
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										ILLINOIS FED. AID PROJECT		

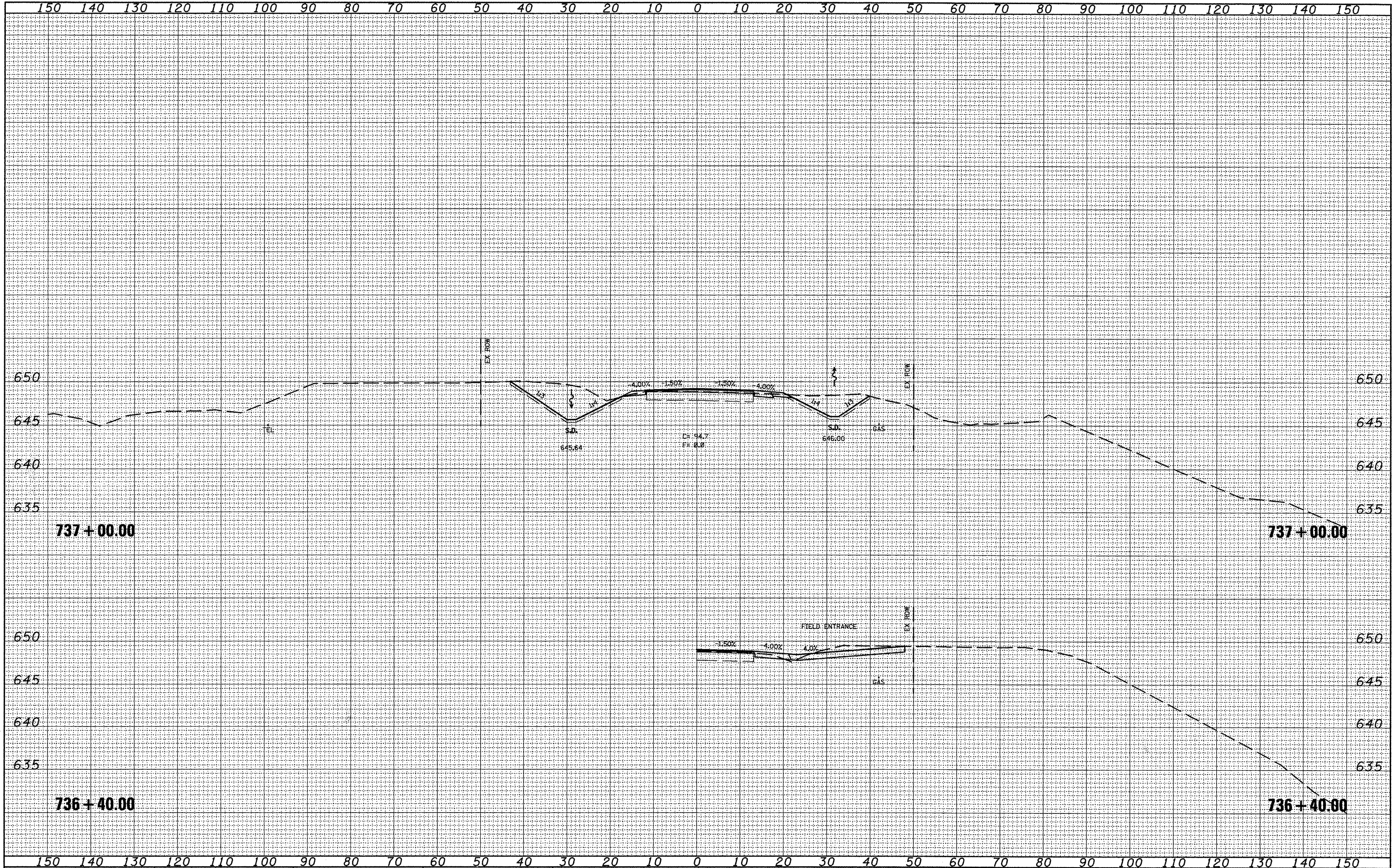
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DATE	BY	SURVEYED	PLOTTED	TEMPERATURE	NO.



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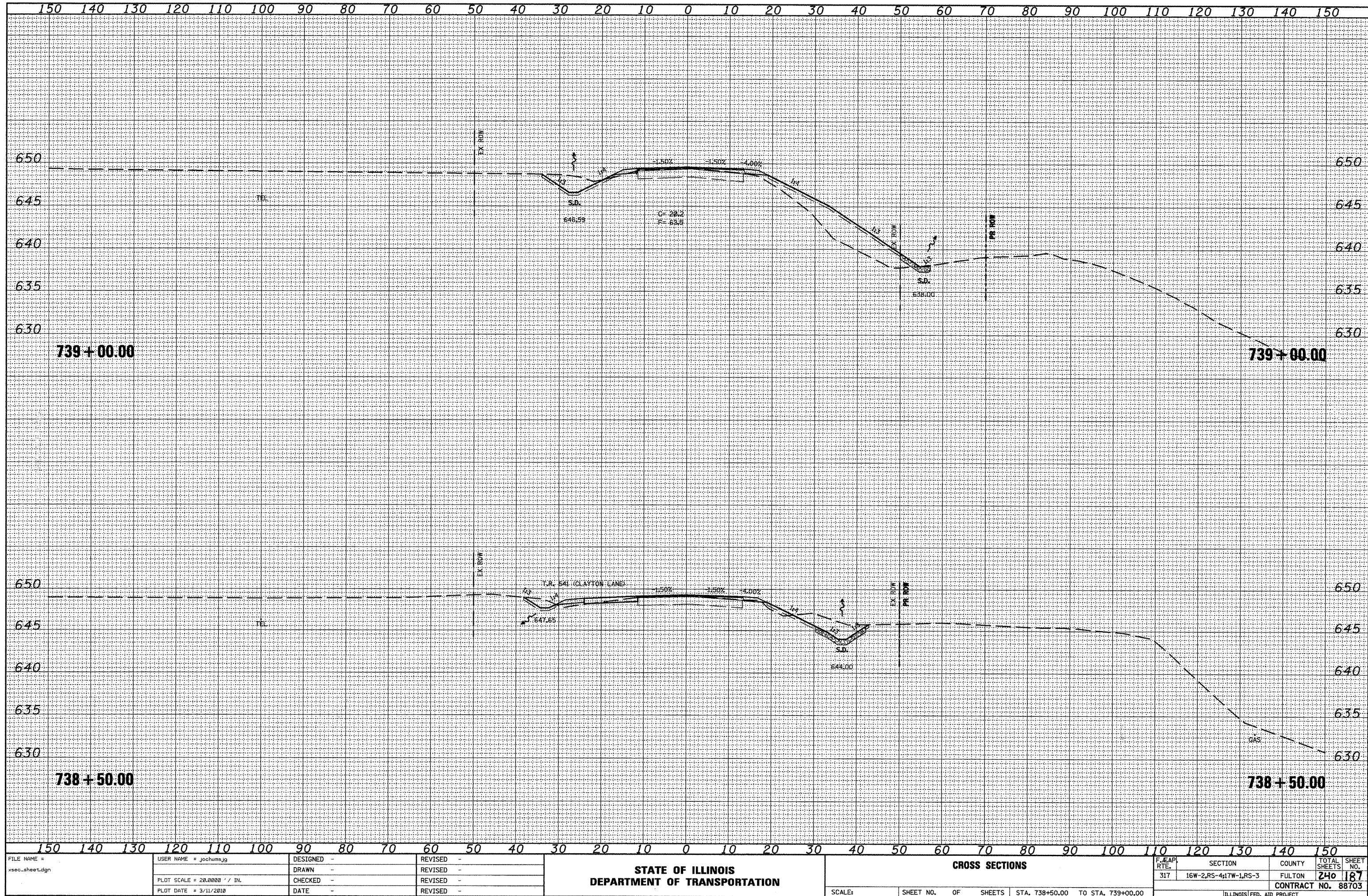
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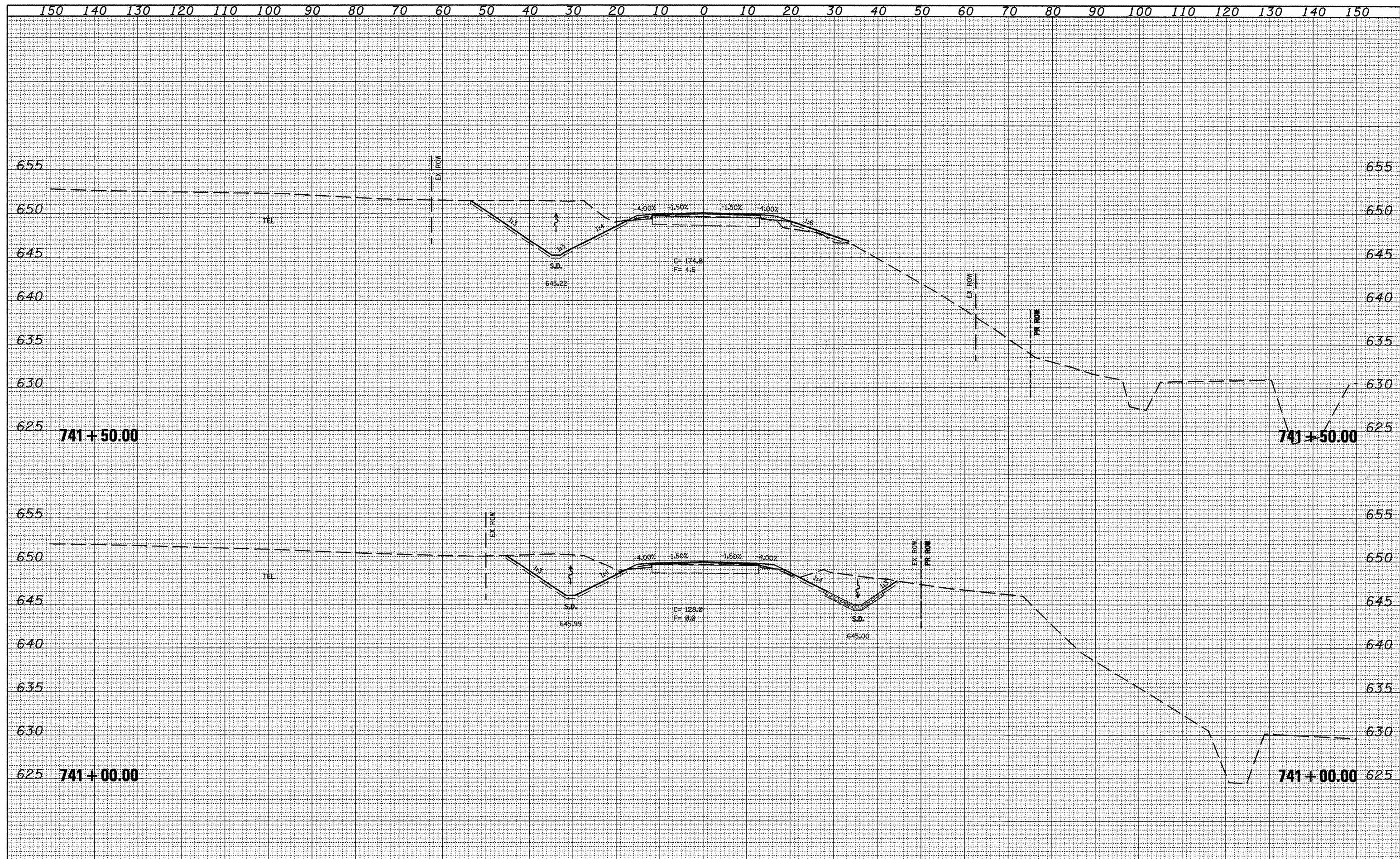
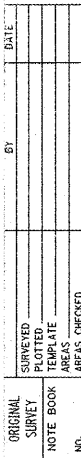
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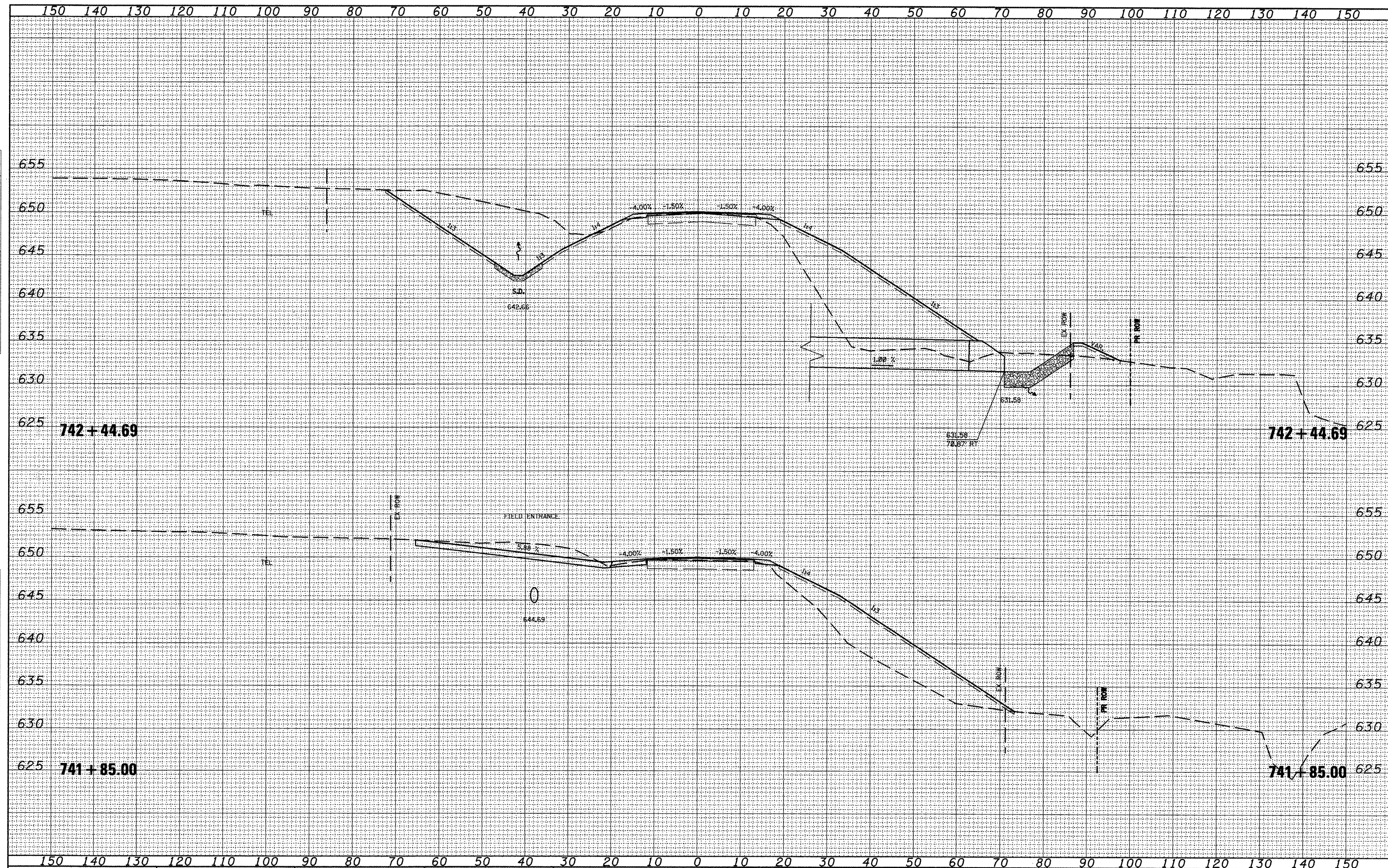
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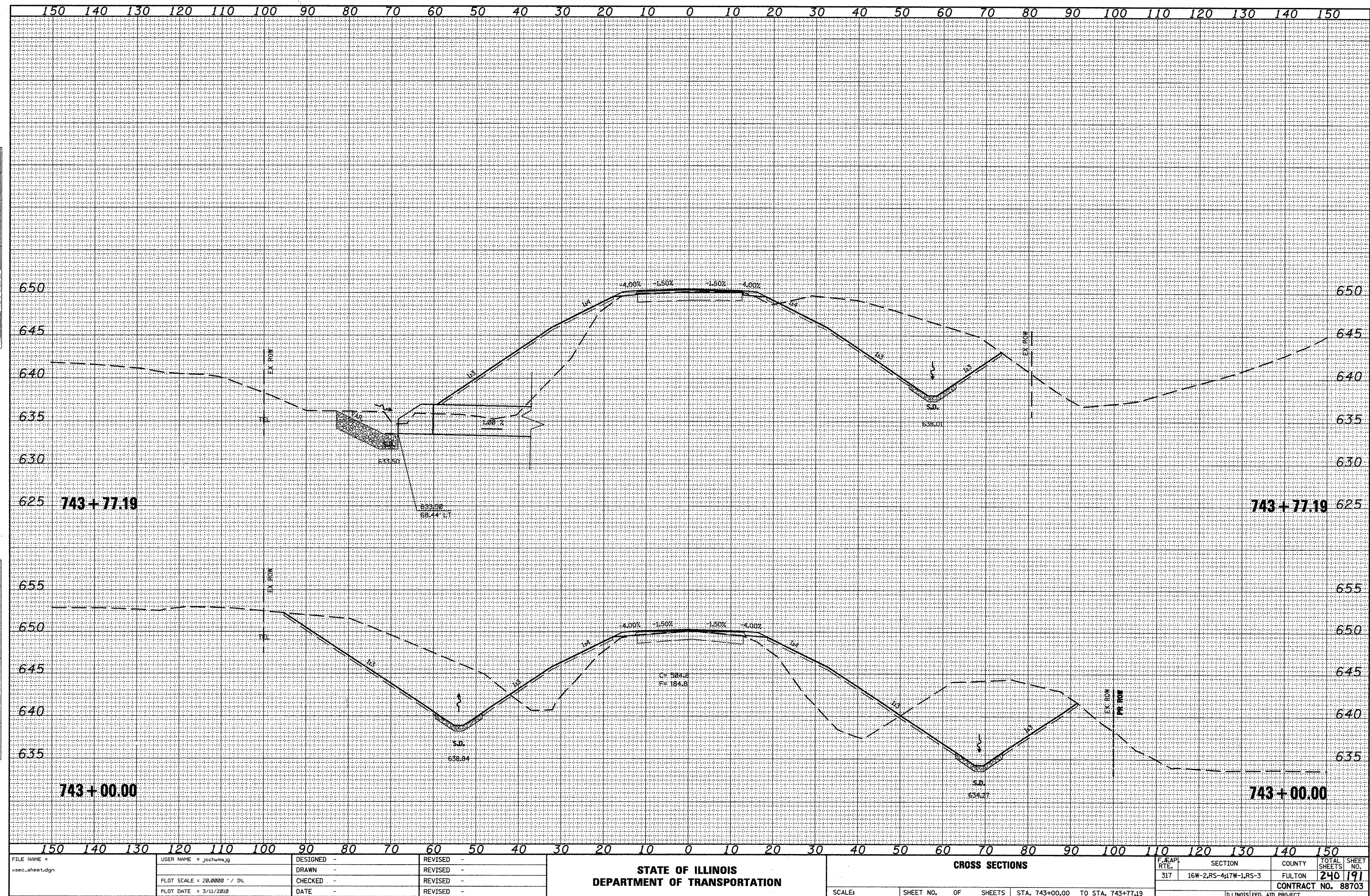


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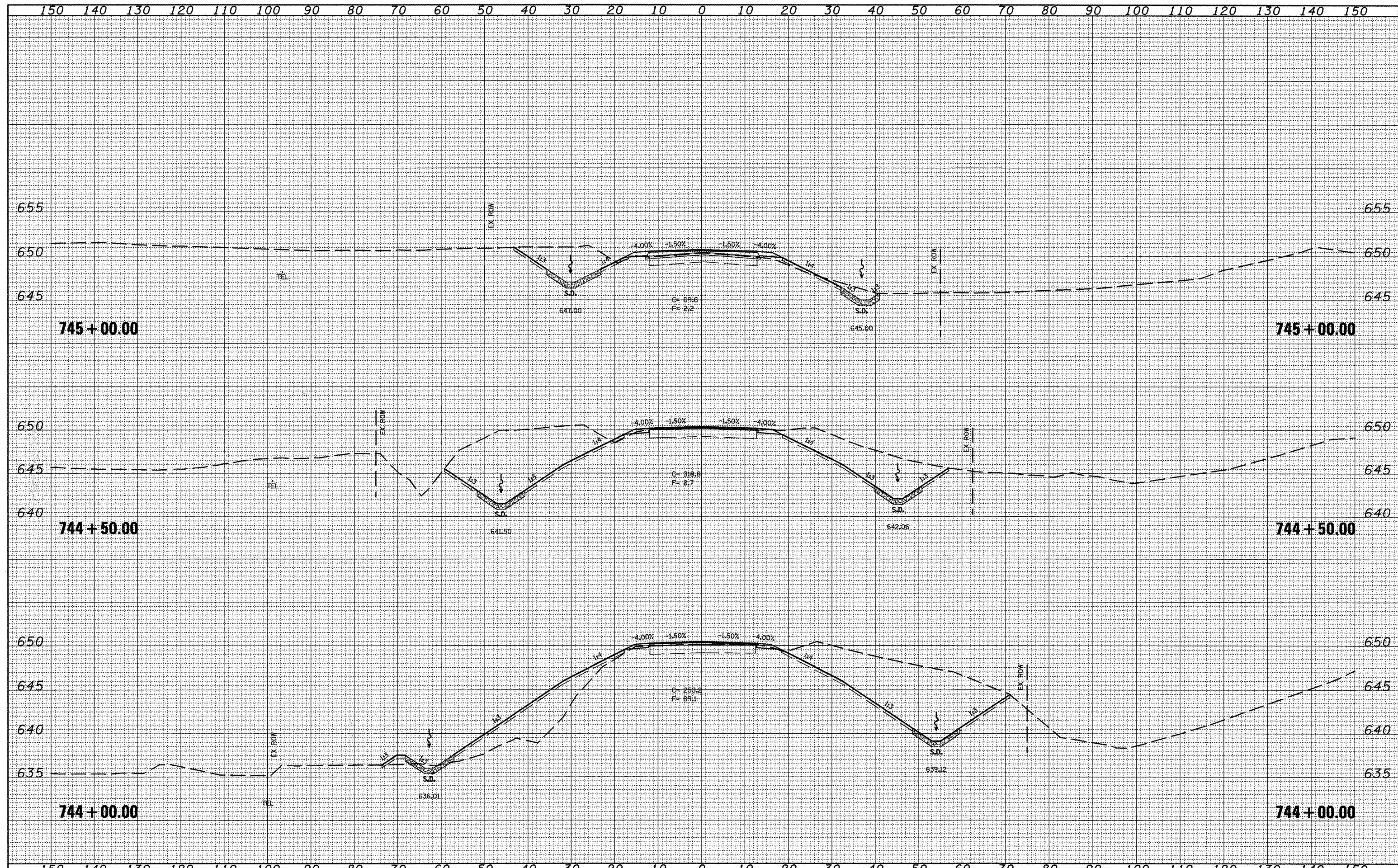
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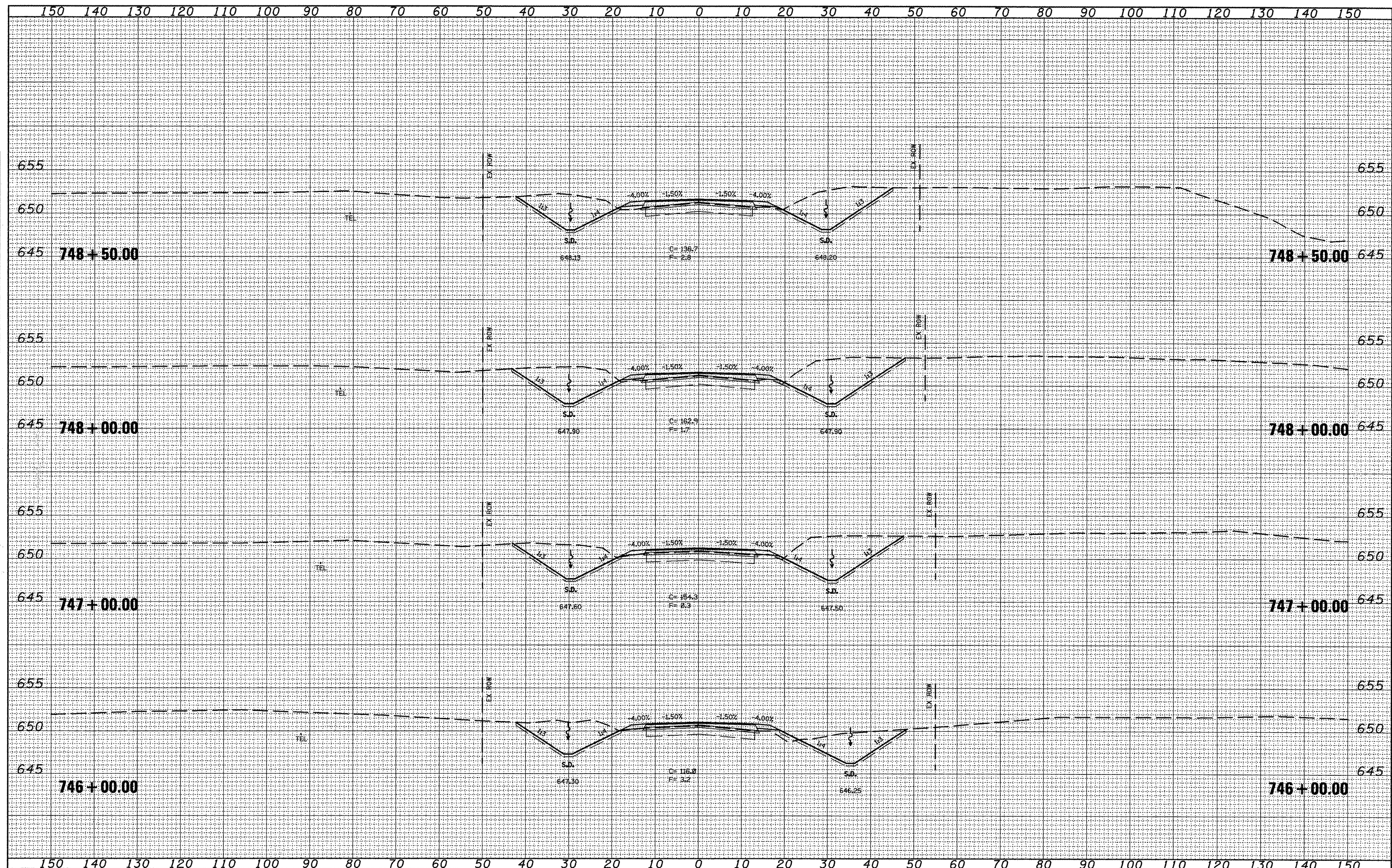
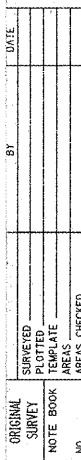




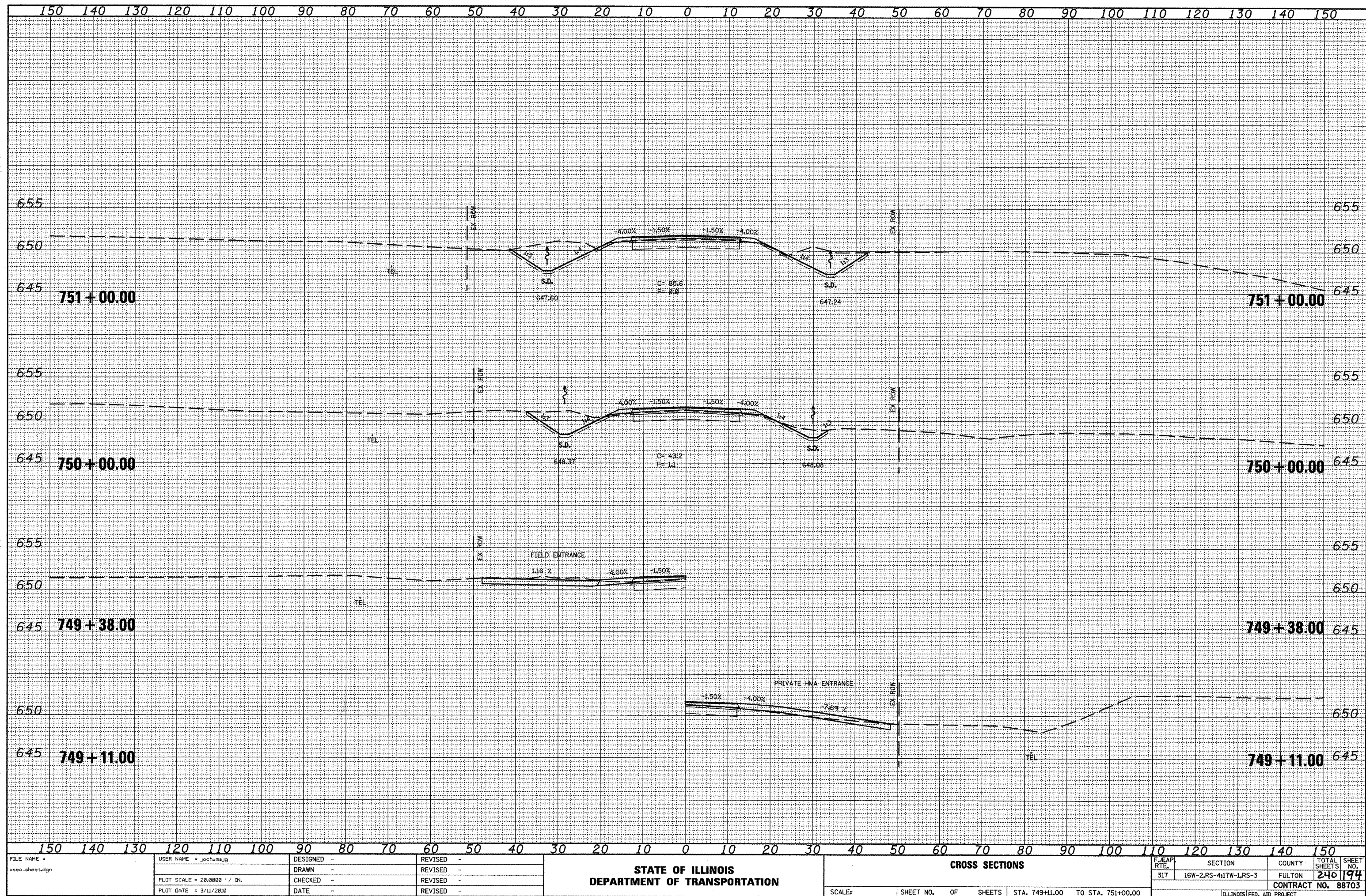
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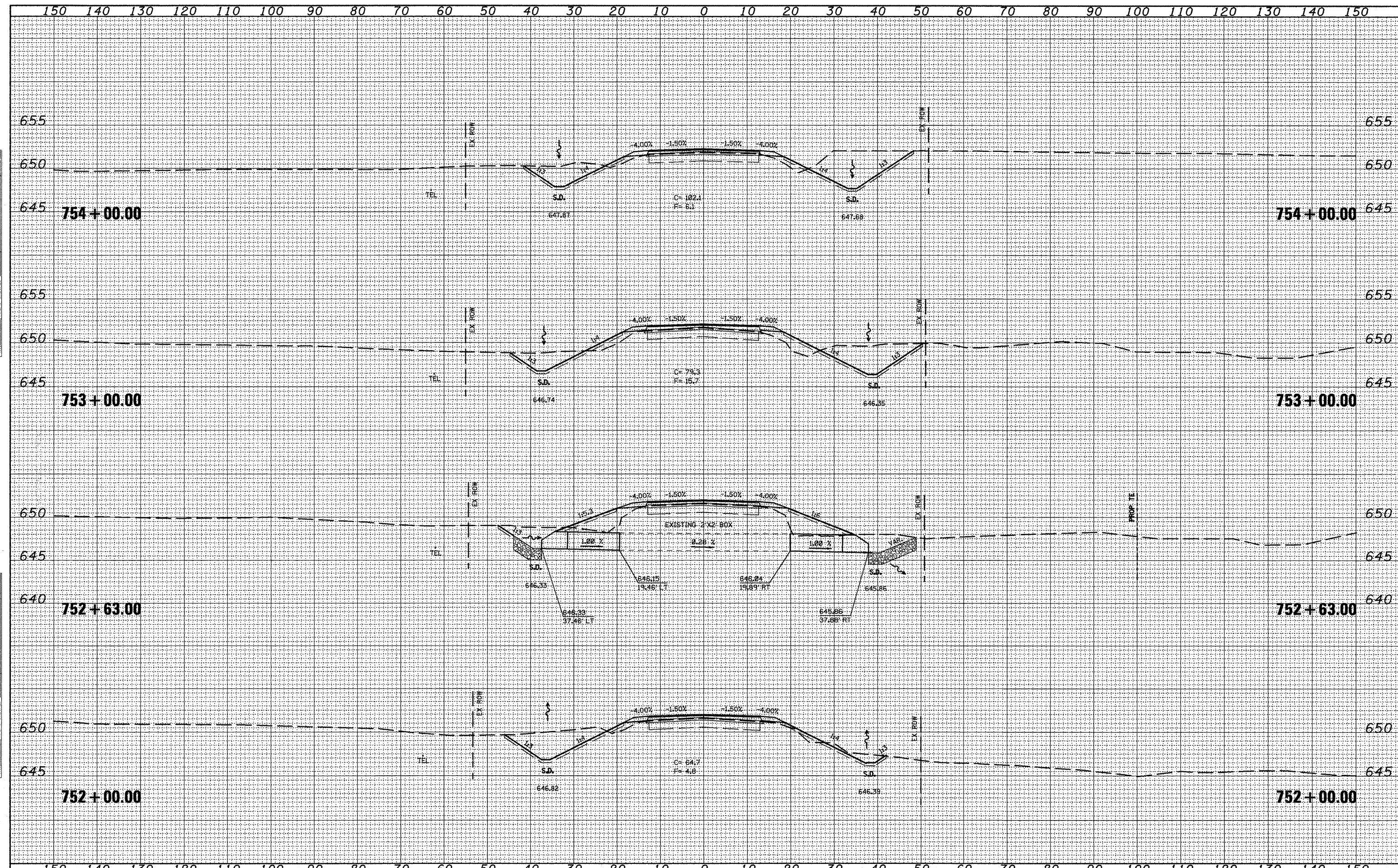


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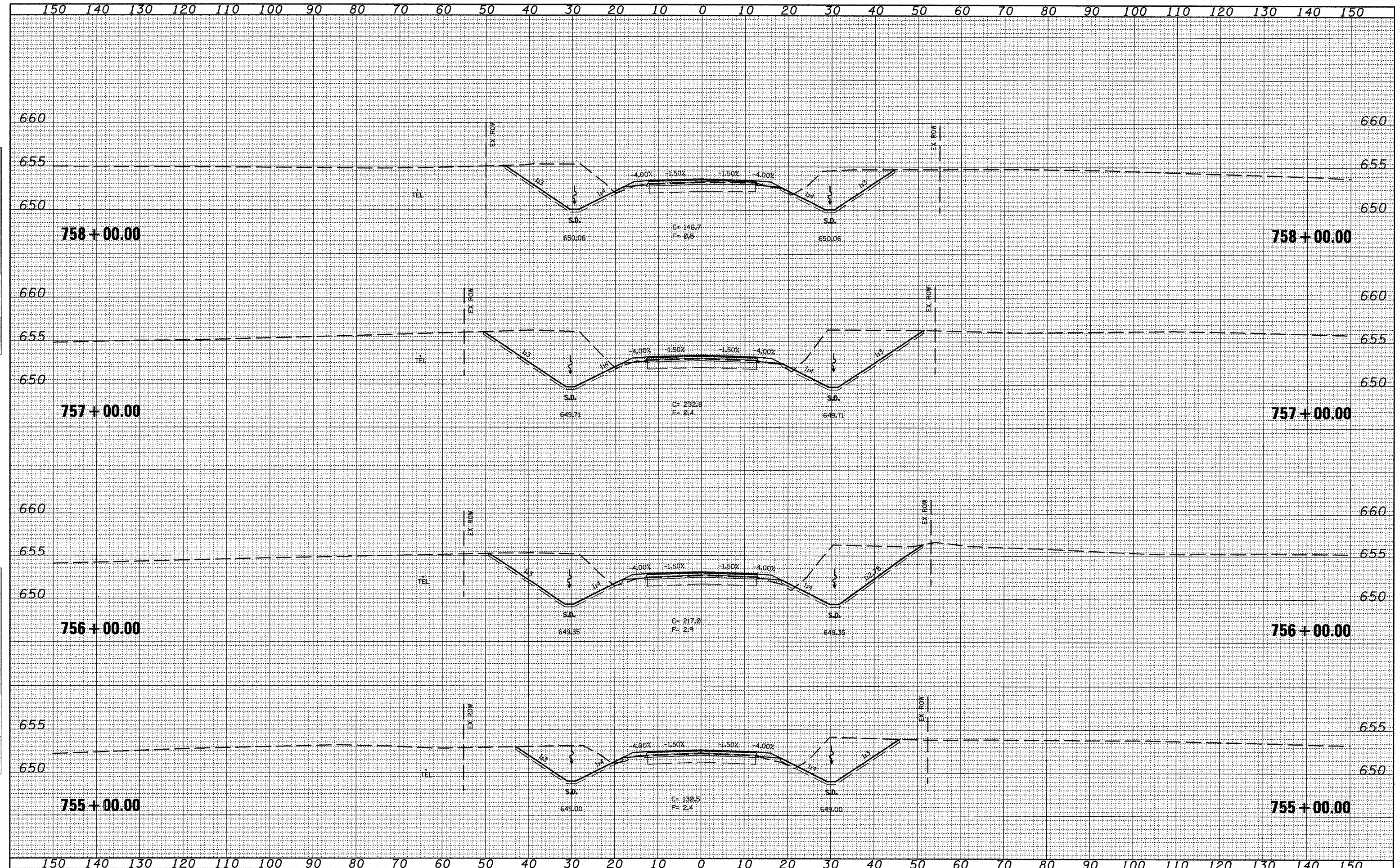
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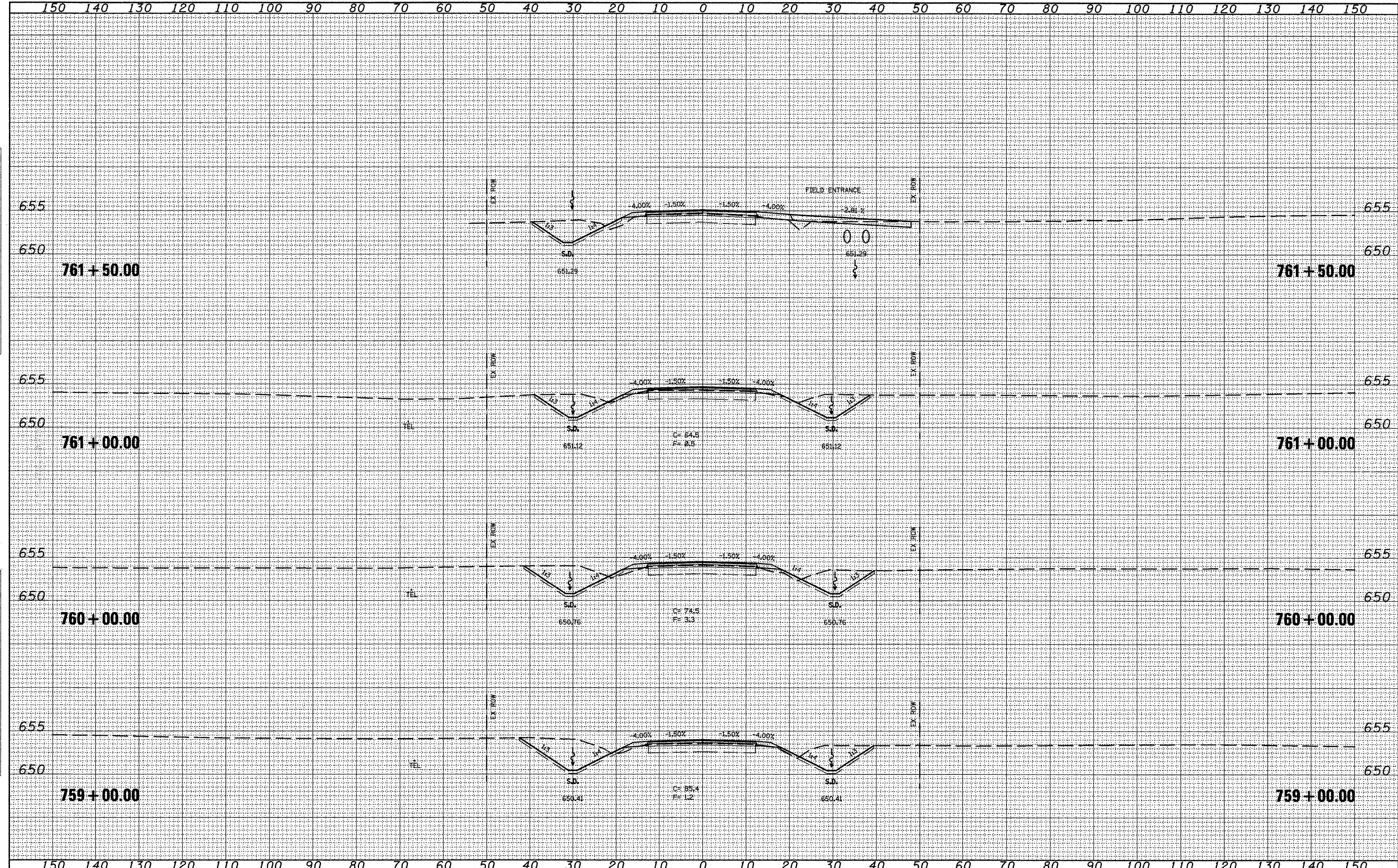
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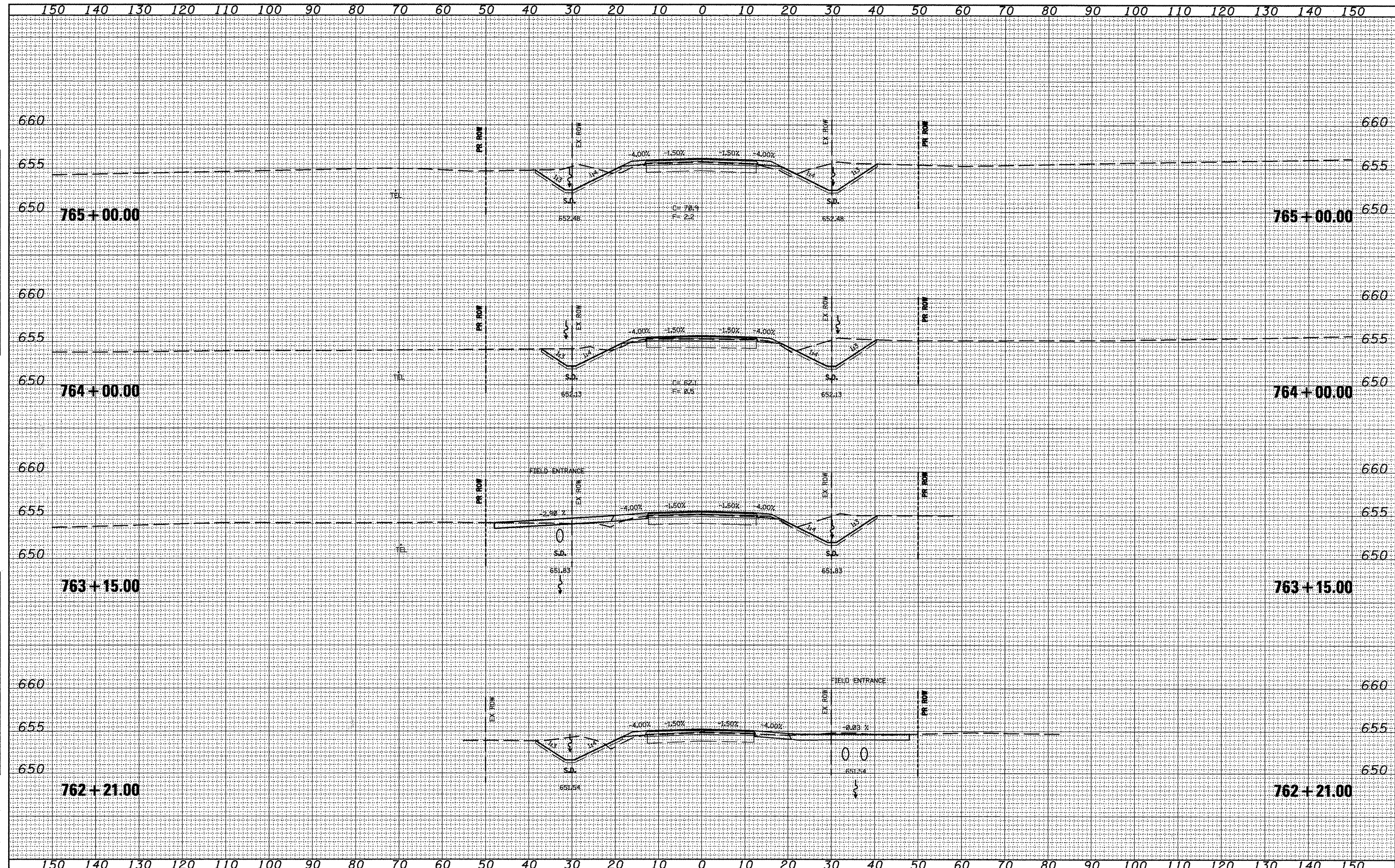


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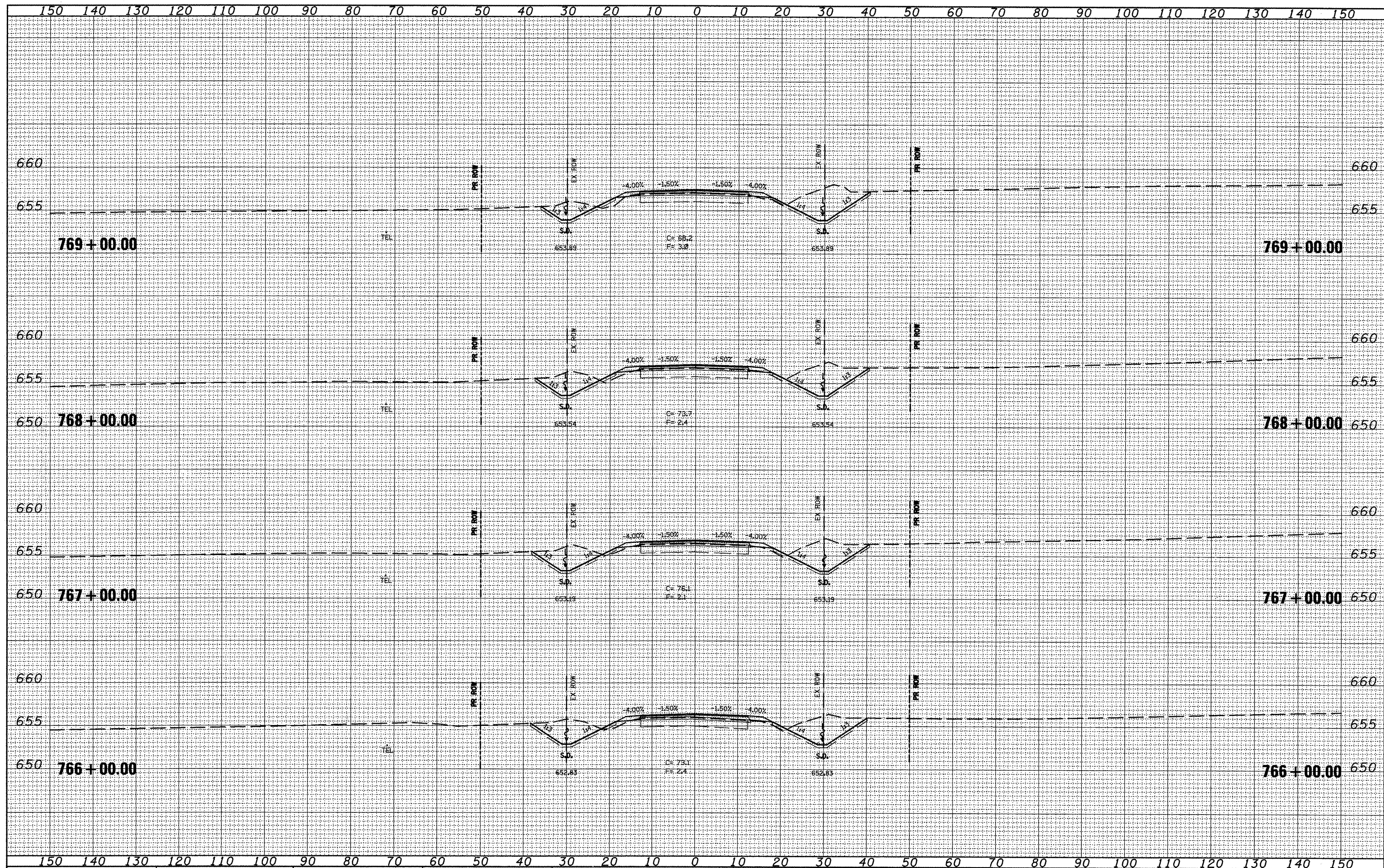
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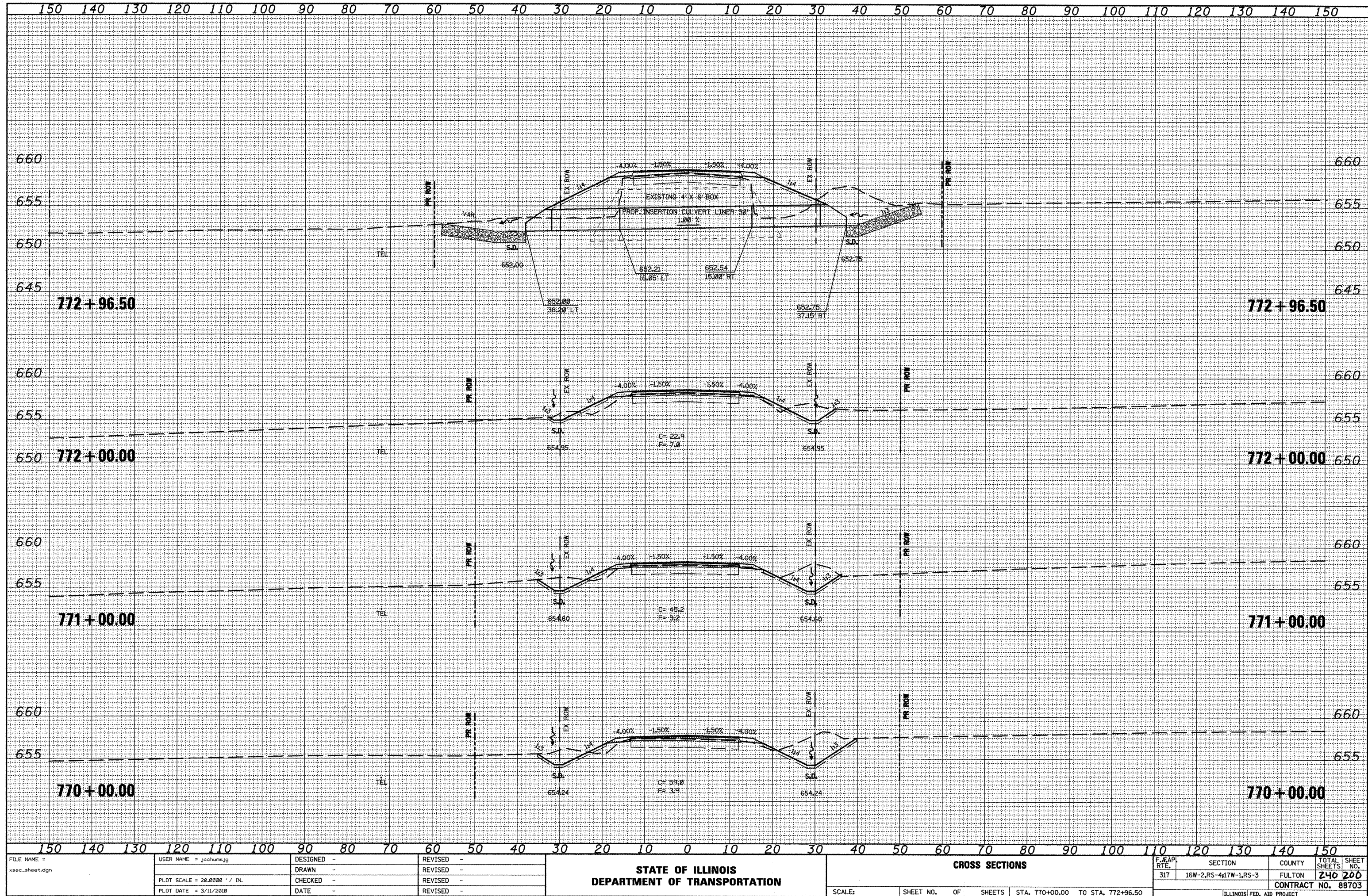
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DATE	
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FINAL SURVEY	
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NOTE BOOK	
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