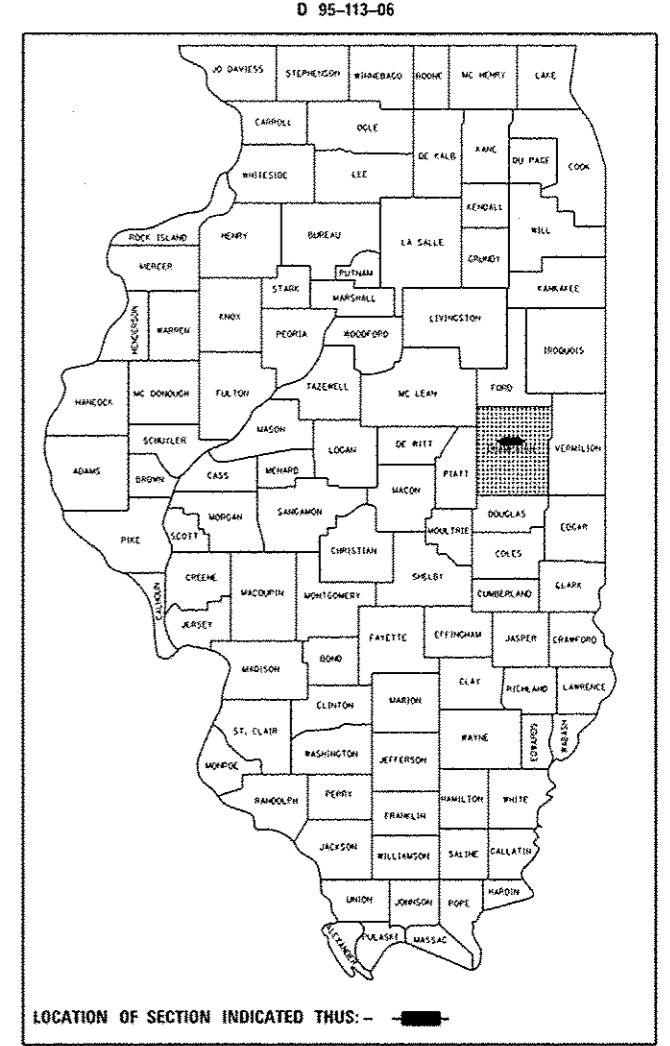


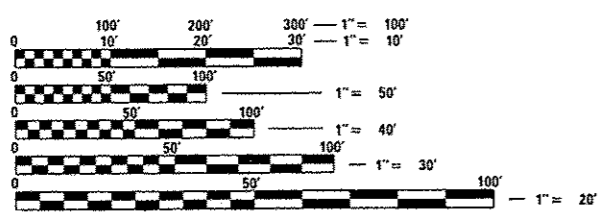
FOR INDEX OF SHEETS, SEE SHEET NO. 2

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PROPOSED**  
**HIGHWAY PLANS**  
**F.A.S. ROUTE 502 (LEVERETT ROAD)**  
**SECTION 106BR-1(2)**  
**PROJECT ACRS-0502 (111)**  
**BRIDGE REPLACEMENT**  
**CHAMPAIGN COUNTY**  
 C-95-013-06  
 DITCH WEST OF LEVERETT

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	1
		ILLINOIS	CONTRACT NO. 70599	



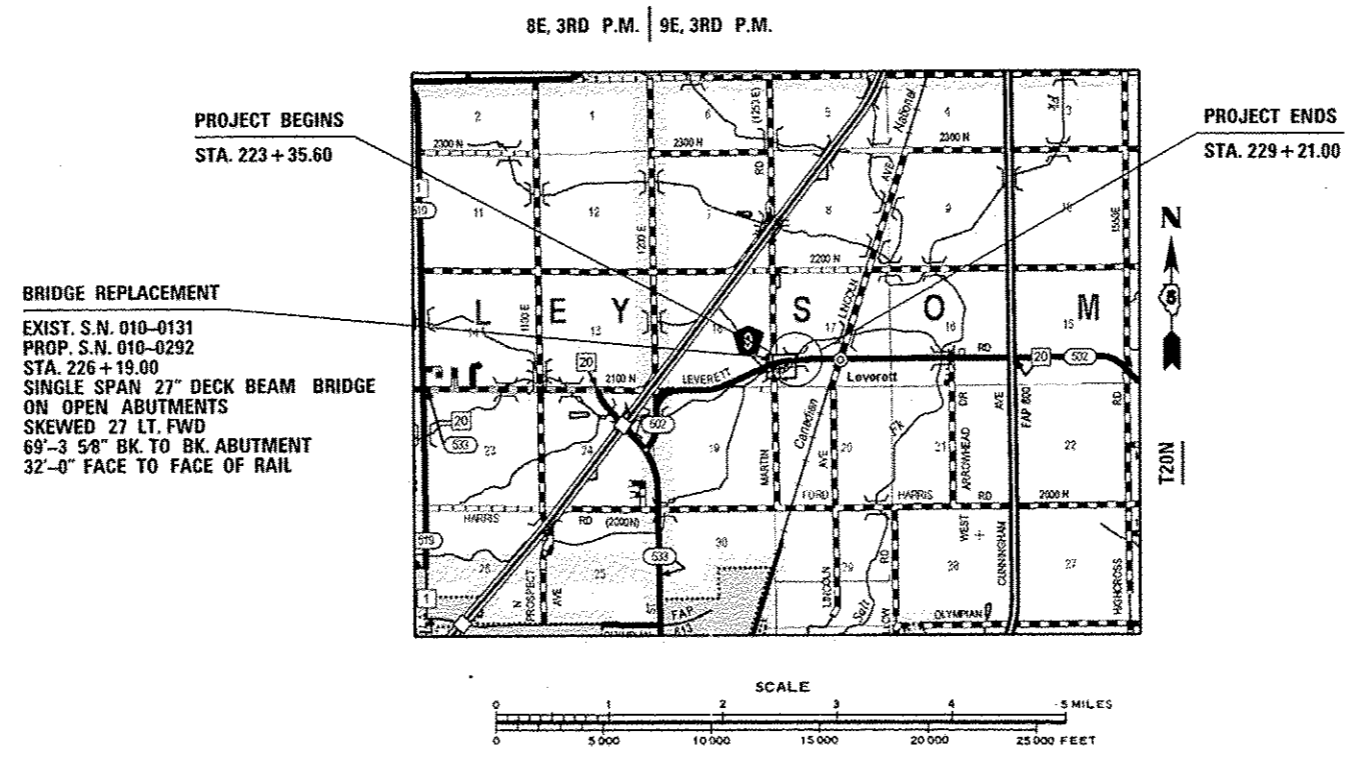
TRAFFIC DATA	
FAS 502 LEVERETT ROAD	
2014 ADT =	2,350
PU & PC% =	92.9
SU% =	4.8
MU% =	2.3
FC =	MAJ. COL.



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
 1-800-892-0123  
 OR 811  
 SOMER TOWNSHIP

**PROJECT ENGINEER: JASON STULTS**  
**PROJECT MANAGER: RUSTIN KEYS**  
**DESIGNER: JOSEPH GRAZIANO**  
**PHONE: (217)465-4181**  
**CONTRACT NO. 70599**



GROSS LENGTH = 569.68 FT = 0.108 MILE  
 NET LENGTH = 569.68 FT = 0.108 MILE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED 8-14 2015  
*Kenneth G. Ganeth*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER  
Oct 2 2015  
*John D. Baranzelli* P.E.  
 ENGINEER OF DESIGN AND ENVIRONMENT  
Oct 2 2015  
*Omer Osman* P.E.  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
 OF THE STATE OF ILLINOIS**

## INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS & HIGHWAY STANDARDS
3	GENERAL NOTES
4-6	SUMMARY OF QUANTITIES
7-10	EXISTING & PROPOSED TYPICAL CROSS SECTIONS
11-13	SCHEDULE OF QUANTITIES
14	ALIGNMENT, TIE POINTS, AND BENCHMARKS
15	PLAN & PROFILE
16-29	PROPOSED S.N. 010-0292 PLANS
30	ROAD CLOSURE DETAIL
31-36	DETAILS
37-45	CROSS SECTIONS

## HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-06	Standard Symbols, Abbreviations and Patterns
001001-02	Areas of Reinforcement Bars
001006	Decimal of an Inch and of a Foot
280001-07	Temporary Erosion Control Systems
420401-11	Bridge Approach Pavement Connector
515001-03	Name Plate for Bridges
542406-01	Metal End Section for Pipe Arches
630001-10	Steel Plate Beam Guardrail
630301-06	Shoulder Widening for Type 1 (Special) Guardrail Terminals
631032-08	Traffic Barrier Terminal, Type 6A
635006-03	Reflector and Terminal Marker Placement
635011-02	Reflector Marker and Mounting Details
667101-02	Permanent Survey Markers
701006-05	Off-Road Operations: 2L, 2W, 15 ft. (4.5 m) to 24 in (600 mm) From Pavement Edge
701311-03	Lane Closure, 2L, 2W, Moving Operations - Day Only
701901-04	Traffic Control Devices
720001-01	Sign Panel Mounting Details
780001-05	Typical Pavement Markings

FILE NAME =	USER NAME = grazianoja	DESIGNED - JAG	REVISED - -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, HIGHWAY STANDARDS</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pawork\pawork\grazianoja\02120189\02120189-70599-sht-gennots.dgn	DRAWN - JAG	CHECKED -	REVISED - -			502	1068R-1(2)	CHAMPAIGN	45	2	
PLOT SCALE = 48,000' / in.	DATE -	REVISED - -	REVISED - -			CONTRACT NO. 70599					
PLOT DATE = 4/27/2015	DATE -	REVISED - -	REVISED - -			ILLINOIS FED. AID PROJECT					

## GENERAL NOTES

G.N.-100  
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-100A  
ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD FILES WILL NOT BE AVAILABLE TO THE CONTRACTOR.

G.N.-105.09A  
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N.-107.37  
UTILITY LINES WERE PLOTTED FROM INFORMATION FURNISHED BY THE VARIOUS UTILITY COMPANIES INVOLVED (QUALITY LEVEL C &/OR QUALITY LEVEL D) AND THE ACCURACY SHOULD BE CONSIDERED APPROXIMATE ONLY. UTILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THESE ADJUSTMENTS ARE BEING PERFORMED. J.U.L.I.E. - JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS SYSTEM (800) 892-0123 OR 811.

G.N.-280  
TEMPORARY EROSION CONTROL SEEDING IS INCLUDED IN THIS CONTRACT TO SEED DISTURBED EARTH DURING TIME PERIODS WHEN PERMANENT SEEDING IS NOT ALLOWED. SOME OR ALL OF THE TEMPORARY EROSION CONTROL SEEDING WILL BE DELETED IF IT IS POSSIBLE TO PLACE PERMANENT SEEDING ON EARTH AT THE TIME OF THEIR COMPLETION.

G.N.-406  
THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

G.N.-406(SPL)  
THE HMA SURFACE COURSE SHALL BE PLACED AND COMPACTED IN LIFTS NOT EXCEEDING A MAXIMUM DEPTH OF 2 INCHES.

G.N.-406H  
**MIXTURE REQUIREMENTS**

The following mixture requirements are applicable for this project:

Location	Leverett Road	Leverett Road
Mixture Use	Binder & Flexible Connector	Surface
AC/PG	PG 64-22	PG 64-22
Design Air Voids	4.0% @ Ndes=50	4.0% @ Ndes=50
Mix Comp(Gradation)	IL 19.0	IL 9.5
Friction Aggregate	N.A.	Mix C
Mixture Weight	112	112
Quality Management Program	QC/QA	QC/QA
Sublot Size	N.A.	N.A.

G.N.-542  
BEFORE ORDERING PIPE CULVERTS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR THE EXACT LENGTHS.

G.N.-1004.01  
COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

G.N.-Z0038  
AN ALUMINUM TABLET OF THE TYPE SHOWN ON STANDARD 667101 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE DEPARTMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR PERMANENT BENCH MARKS.

THERE ARE NO COMMITMENTS ASSOCIATED WITH THIS PROJECT.

FILE NAME =	USER NAME = grexianoje	DESIGNED - JAG	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
or:\pwork\p\dot\graxianoje\0812010610	70599-ht-gannote.dgn	DRAWN - JAG	REVISED -			502	106BR-1(2)	CHAMPAIGN	45	3	
	PLOT SCALE = 40.0000' / 1"	CHECKED -	REVISED -			CONTRACT NO. 70599					
	PLOT DATE = 4/27/2015	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: _____		SHEET NO. 1 OF 1 SHEETS		STA. _____ TO STA. _____		

## SUMMARY OF QUANTITIES

LOCATION OF WORK: FAS 502 (LEVERETT RD)  
 CHAMPAIGN COUNTY  
 STA. 223+35.60 TO  
 STA. 229+21.00  
 S. N. 010-0292  
 FUNDING BREAKOUT: 80% FEDERAL  
 20% STATE  
 CONSTRUCTION TYPE CODE: RURAL 2 LANE  
 0011

LOCATION OF WORK: FAS 502 (LEVERETT RD)  
 CHAMPAIGN COUNTY  
 STA. 223+35.60 TO  
 STA. 229+21.00  
 S. N. 010-0292  
 FUNDING BREAKOUT: 80% FEDERAL  
 20% STATE  
 CONSTRUCTION TYPE CODE: RURAL 2 LANE  
 0011

CODE NO	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	75.0
20300100	CHANNEL EXCAVATION	CU YD	160.0
20400800	FURNISHED EXCAVATION	CU YD	310.0
25000210	SEEDING, CLASS 2A	ACRE	0.5
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	45.0
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	45.0
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	45.0
25100630	EROSION CONTROL BLANKET	SO YD	2,404.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	100.0
28000305	TEMPORARY DITCH CHECKS	FOOT	70.0
28000400	PERIMETER EROSION BARRIER	FOOT	972.0
28000500	INLET AND PIPE PROTECTION	EACH	1.0
28100111	STONE RIPRAP, CLASS A6	SO YD	744.0
28200200	FILTER FABRIC	SO YD	744.0

CODE NO	ITEM	UNIT	TOTAL QUANTITY
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	1,558.0
40603080	HOT-MIX ASPHALT BINDER COURSE, 1L-19.0, N50	TON	406.0
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	206.0
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SO YD	43.0
44000100	PAVEMENT REMOVAL	SO YD	134.0
44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SO YD	1,245.0
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SO YD	264.0
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.0
50105220	PIPE CULVERT REMOVAL	FOOT	77.0
50200100	STRUCTURE EXCAVATION	CU YD	239.0
50300225	CONCRETE STRUCTURES	CU YD	65.9
50300255	CONCRETE SUPERSTRUCTURE	CU YD	92.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SO FT	2,145.0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	30,520.0

\* SPECIALTY ITEM

## SUMMARY OF QUANTITIES

LOCATION OF WORK: FAS 502 (LEVERETT RD)  
 CHAMPAIGN COUNTY  
 STA. 223+35.60 TO  
 STA. 229+21.00  
 S. N. 010-0292  
 FUNDING BREAKOUT: 80% FEDERAL  
 20% STATE  
 CONSTRUCTION TYPE CODE: RURAL 2 LANE  
 0011

LOCATION OF WORK: FAS 502 (LEVERETT RD)  
 CHAMPAIGN COUNTY  
 STA. 223+35.60 TO  
 STA. 229+21.00  
 S. N. 010-0292  
 FUNDING BREAKOUT: 80% FEDERAL  
 20% STATE  
 CONSTRUCTION TYPE CODE: RURAL 2 LANE  
 0011

CODE NO	ITEM	UNIT	TOTAL QUANTITY
50901050	STEEL RAILING, TYPE SM	FOOT	194.0
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	540.0
51202305	DRIVING PILES	FOOT	540.0
51203200	TEST PILE METAL SHELLS	EACH	2.0
51204650	PILE SHOES	EACH	12.0
51500100	NAME PLATES	EACH	1.0
54215766	METAL END SECTIONS, EQUIVALENT ROUND-SIZE 21"	EACH	2.0
54205476	PIPE CULVERTS, CLASS D, TYPE 1 EQUIVALENT ROUND-SIZE 21	FOOT	52.0
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	238.0
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	469.0
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	61.0
60500050	REMOVING CATCH BASINS	EACH	1.0
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	125.0
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4.0

CODE NO	ITEM	UNIT	TOTAL QUANTITY
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1.0
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	3.0
63200310	GUARDRAIL REMOVAL	FOOT	373.0
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5.0
67100100	MOBILIZATION	L SUM	1.0
70300100	SHORT TERM PAVEMENT MARKING	FOOT	57.0
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	19.0
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,282.0
78200410	GUARDRAIL MARKERS, TYPE A	EACH	9.0
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4.0
X4020500	AGGREGATE SURFACE COURSE, TYPE B 6"	SO YD	167.0
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	109.0
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1.0
Z0004552	APPROACH SLAB REMOVAL	SO YD	174.0

• SPECIALTY ITEM

## SUMMARY OF QUANTITIES

LOCATION OF WORK:	FAS 502 (LEVERETT RD) CHAMPAIGN COUNTY STA. 223+35.60 TO STA. 229+21.00 S. N. 010-0292
FUNDING BREAKOUT:	80% FEDERAL 20% STATE
CONSTRUCTION TYPE CODE:	RURAL 2 LANE 0011

CODE NO	ITEM	UNIT	TOTAL QUANTITY
Z0038700	PERMANENT BENCH MARKS	EACH	1.0
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	155.0

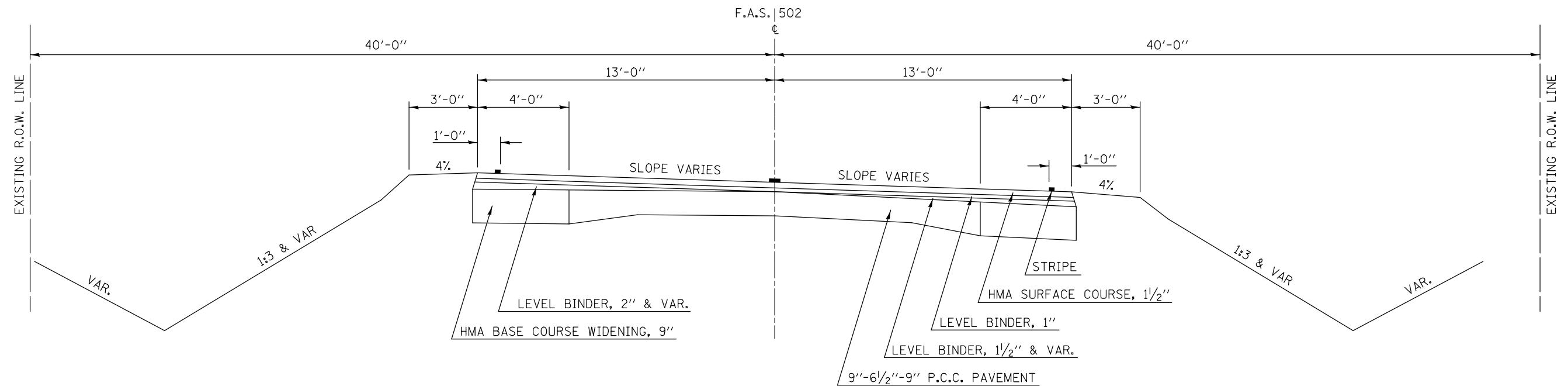
\* SPECIALTY ITEM

2

## EXISTING TYPICAL CROSS SECTION

STATION TO STATION  
223+35.60 225+11.66

STATION EQUATION:  
224+83.57 BK = 224+99.29 AH



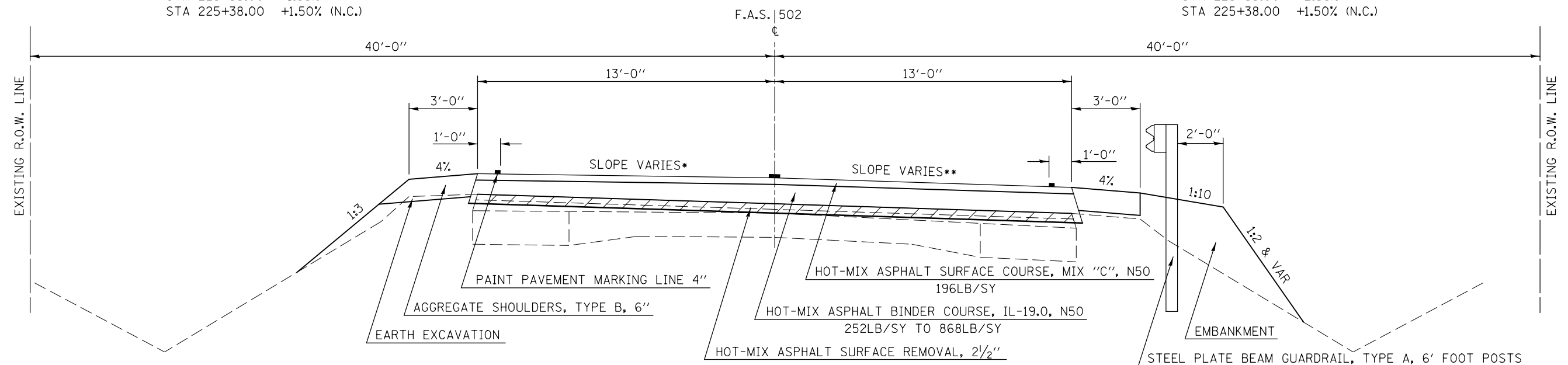
## PROPOSED TYPICAL CROSS SECTION

STATION TO STATION  
223+35.60 225+11.66

STATION EQUATION:  
224+83.57 BK = 224+99.29 AH

\* LT CROSS SLOPE TRANSITION  
STA 223+35.60 -1.33%  
STA 225+38.00 +1.50% (N.C.)

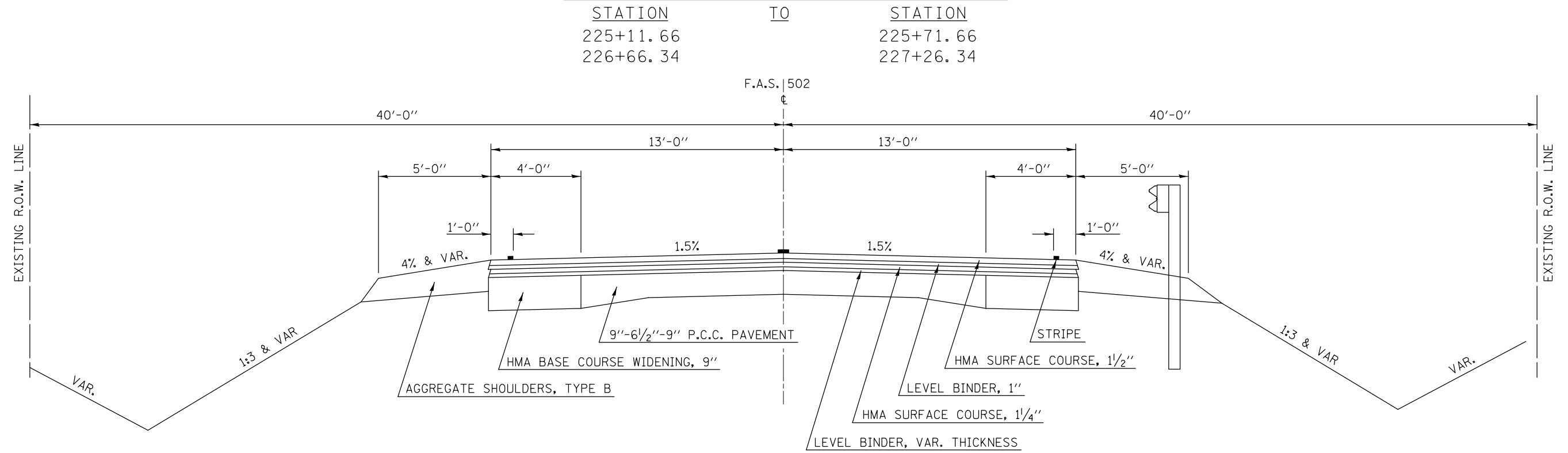
\*\* RT CROSS SLOPE TRANSITION  
STA 223+35.60 +2.58%  
STA 225+38.00 +1.50% (N.C.)



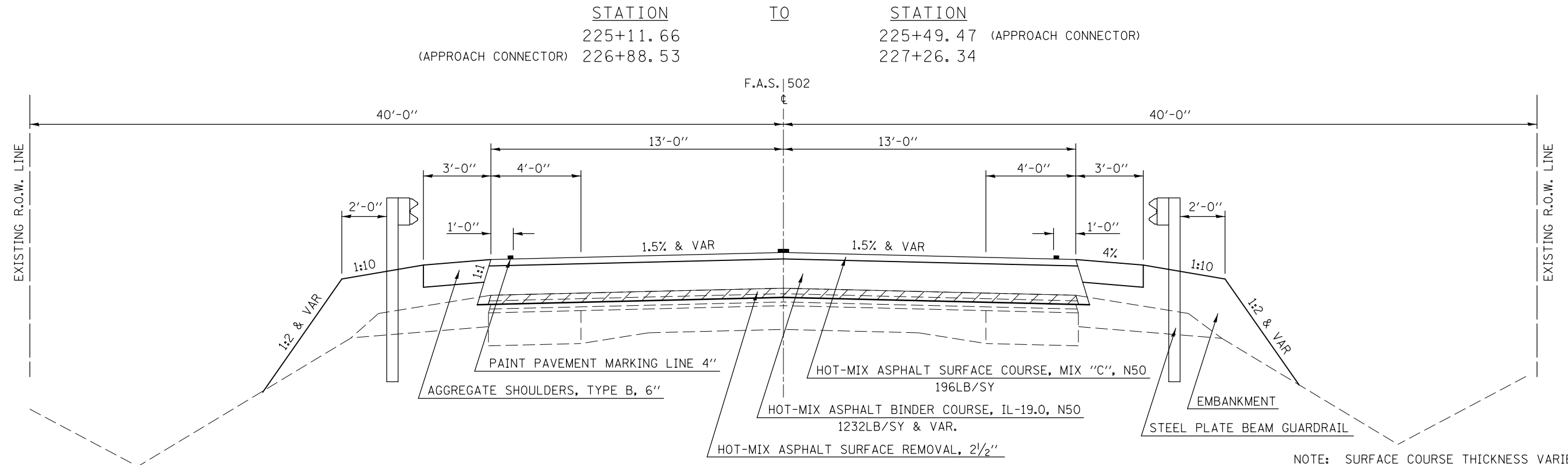
NOTE: SURFACE COURSE THICKNESS VARIES FROM APPROX. 223+35.60 (2 1/2") TO 223+66.80 (4")

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL SECTIONS</b>			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -		SCALE:	SHEET 1 OF 4 SHEETS	STA.	TO STA.	502	106BR-1(2)	CHAMPAIGN	45	7
		CHECKED -	REVISED -		CONTRACT NO. 70599								
#MODELNAME#	PLOT DATE = 4/27/2015	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								

## EXISTING TYPICAL CROSS SECTION



## PROPOSED TYPICAL CROSS SECTION



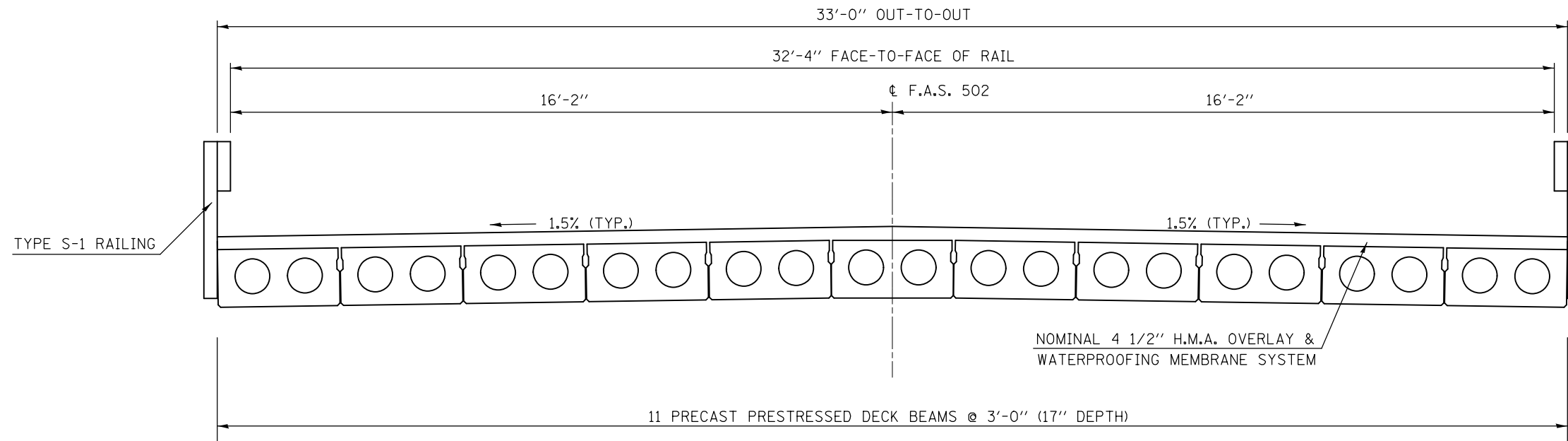
NOTE: SURFACE COURSE THICKNESS VARIES FROM APPROX. 225+49.47 TO 226+88.53

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL SECTIONS</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			502	106BR-1(2)	CHAMPAIGN	45	8	
		CHECKED -	REVISED -			CONTRACT NO. 70599					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
PLOT SCALE = 40.0000' / in.		PLOT DATE = 4/27/2015		SCALE:		SHEET 2 OF 4 SHEETS		STA.		TO STA.	



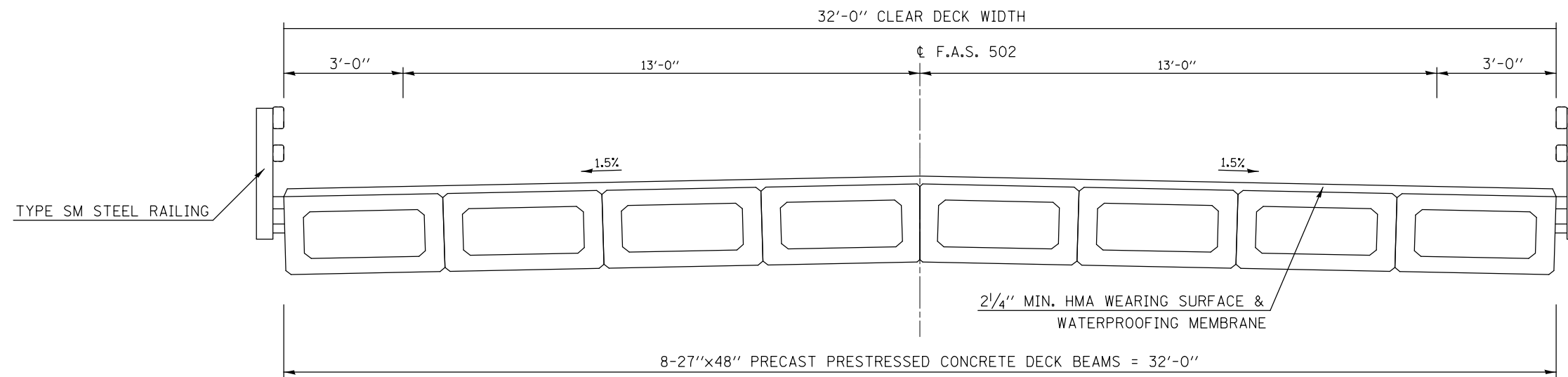
## EXISTING DECK CROSS SECTION

STATION                      TO                      STATION  
225+98.28                      226+39.72



## PROPOSED DECK CROSS SECTION

STATION                      TO                      STATION  
225+85.47                      226+52.53



FILE NAME =	USER NAME = graziano.ja	DESIGNED -	REVISED -
ci:\pwork\pwork\grazio.ja\d0120188\0570599-sht-typical.dgn		DRAWN -	REVISED -
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
#MODELNAME#	PLOT DATE = 4/27/2015	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

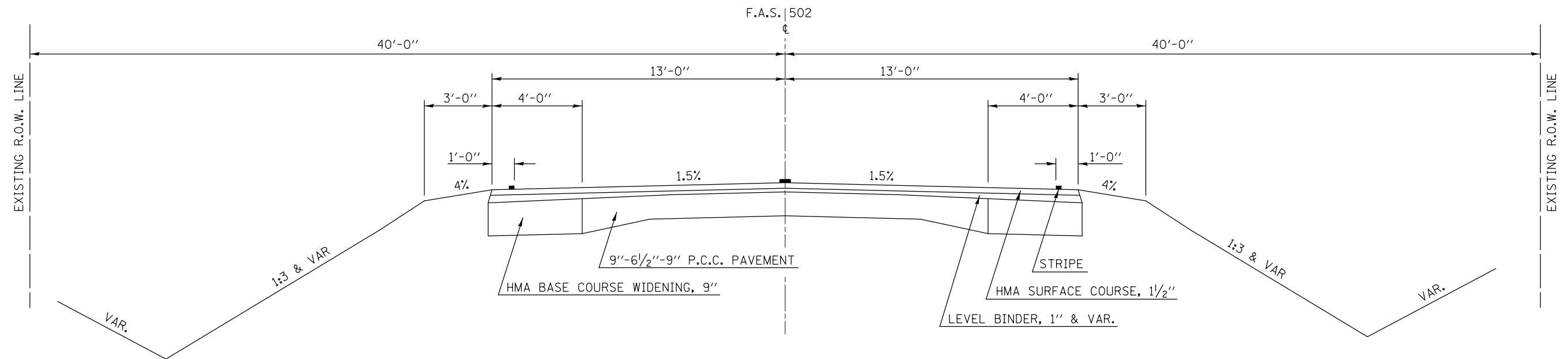
**TYPICAL SECTIONS**

SCALE:                      SHEET 3 OF 4 SHEETS                      STA.                      TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	9
CONTRACT NO. 70599				
ILLINOIS FED. AID PROJECT				

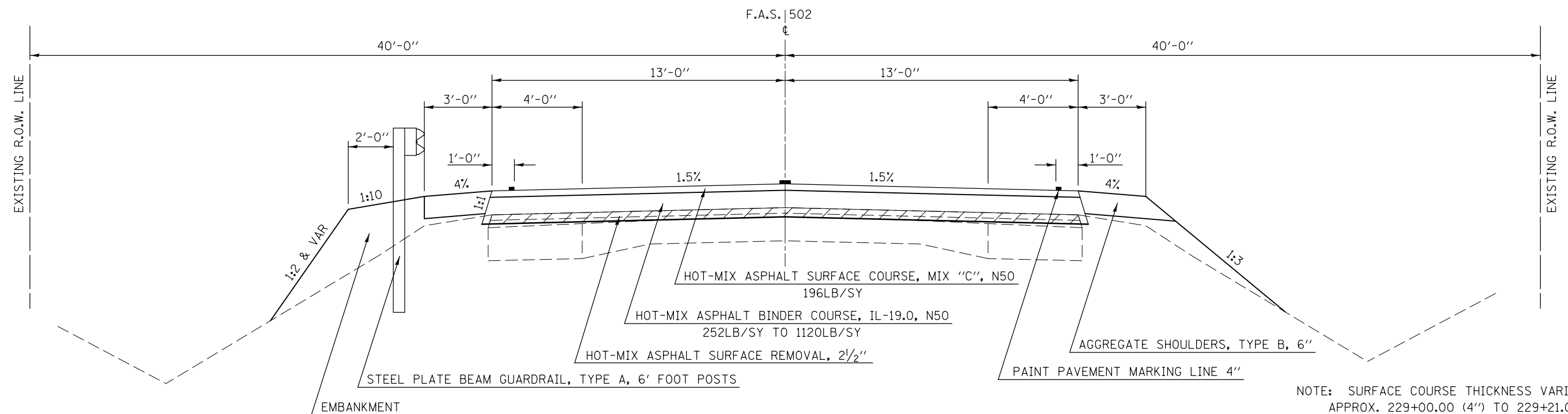
## EXISTING TYPICAL CROSS SECTION

STATION TO STATION  
227+26.34 229+21.00



## PROPOSED TYPICAL CROSS SECTION

STATION TO STATION  
227+26.34 229+21.00



NOTE: SURFACE COURSE THICKNESS VARIES FROM APPROX. 229+00.00 (4") TO 229+21.00 (2 1/2")

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL SECTIONS</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -		SCALE:	SHEET 4 OF 4 SHEETS	STA.	TO STA.	502	106BR-1(2)	CHAMPAIGN	45 10
		CHECKED -	REVISED -		CONTRACT NO. 70599							
#MODELNAME#	PLOT DATE = 4/27/2015	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

# SCHEDULE OF QUANTITIES

## EARTHWORK

LOCATION				20200100		20400800	
				EARTH EXCAVATION		FURNISHED EXCAVATION	
STATION	TO	STATION	CU YD	EARTH EXCAVATION ADJUSTED FOR 25% SHRINKAGE FACTOR	EMBANKMENT	EARTHWORK BALANCE WASTE (+) SHORTAGE (-)	
RT	223+35.60	229+21.00	5	4	148	-144	
LT	223+35.60	229+21.00	70	53	217	-164	
TOTAL			75	57	365	-308	
USE			75			310	

## SEEDING

LOCATION				25000210	25000400	25000500	25000600	25100630	28000250
				SEEDING, CLASS 2A	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	EROSION CONTROL BLANKET	TEMPORARY EROSION CONTROL SEEDING
STATION	TO	STATION	ACRE	POUND	POUND	POUND	POUND	SQ YD	POUND
RT	223+35.60	224+83.57	0.082	7.34	7.34	7.34	7.34	394.59	16.31
RT	224+99.29	225+56.21	0.031	2.82	2.82	2.82	2.82	151.79	6.27
RT	226+55.51	229+21.00	0.146	13.16	13.16	13.16	13.16	707.97	29.26
LT	223+35.60	223+85.10	0.025	2.21	3.90	3.90	3.90	118.91	4.91
LT	224+14.90	224+83.57	0.035	3.17	1.46	1.46	1.46	170.67	7.05
LT	224+99.29	225+82.49	0.046	4.13	4.13	4.13	4.13	221.87	9.17
LT	226+81.79	229+21.00	0.132	11.86	11.86	11.86	11.86	637.89	26.36
TOTAL			0.50	44.70	44.67	44.67	44.67	2403.69	99.33
USE			0.5	45.0	45.0	45.0	45.0	2404.0	100.0

## CHANNEL EXCAVATION

LOCATION			20300100
STATION	TO	STATION	CU YD
225+89.49		225+98.36	77.93
226+39.86		226+48.51	78.14
TOTAL			156.08
USE			160.0

## HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50

LOCATION				LENGTH	WIDTH	40603080
STATION	TO	STATION	FT	FT	TON	
RT	223+66.80	224+00.00	33.20	13.0	7.06	
RT	224+00.00	224+50.00	50.00	13.0	14.43	
RT	224+50.00	225+00.00	34.28	13.0	15.45	
RT	225+00.00	225+11.66	11.66	13.0	7.07	
RT	225+11.66	225+42.88	31.22	13.0	23.06	
RT	225+42.88	225+49.47	6.59	13.0	2.81	
RT	226+81.89	226+88.53	6.64	13.0	3.30	
RT	226+88.53	227+00.00	11.47	13.0	11.21	
RT	227+00.00	227+38.02	38.02	13.0	34.45	
RT	227+38.02	228+00.00	61.98	13.0	46.23	
RT	228+00.00	228+29.41	29.41	13.0	16.70	
RT	228+29.41	229+00.00	70.59	13.0	24.25	
SUBTOTAL						206.02
LT	223+66.80	224+00.00	33.20	13.0	7.26	
LT	224+00.00	224+50.00	50.00	13.0	13.61	
LT	224+50.00	225+00.00	34.28	13.0	15.05	
LT	225+00.00	225+11.66	11.66	13.0	7.05	
LT	225+11.66	225+49.47	37.81	13.0	26.39	
LT	225+49.47	225+56.11	6.64	13.0	2.60	
LT	226+88.53	226+95.12	6.59	13.0	3.06	
LT	226+95.12	227+00.00	4.88	13.0	4.49	
LT	227+00.00	227+38.02	38.02	13.0	33.14	
LT	227+38.02	228+00.00	61.98	13.0	45.68	
LT	228+00.00	228+29.41	29.41	13.0	16.86	
LT	228+29.41	229+00.00	70.59	13.0	24.35	
SUBTOTAL						199.54
TOTAL						405.56
USE						406.0

## HMA BINDER COURSE DEPTHS

STATION	ELEVATION	13' LT EOP	CENTERLINE	13' RT EOP	STATION	ELEVATION	13' LT EOP	CENTERLINE	13' RT EOP
223+35.60	PROPOSED EL.	729.80	729.63	729.29	226+81.89	PROPOSED EL.	730.44	730.63	730.44
	EXISTING EL.	729.75	729.63	729.29		EXISTING EL.	729.58	729.76	729.48
	BINDER DEPTH (FT)	N/A	N/A	N/A		BINDER DEPTH (FT)	N/A	N/A	1.02
223+66.80	PROPOSED EL.	729.89	729.78	729.47	226+88.53	PROPOSED EL.	730.41	730.60	730.41
	EXISTING EL.	729.73	729.77	729.33		EXISTING EL.	729.55	729.74	729.47
	BINDER DEPTH (FT)	0.23	0.19	0.20		BINDER DEPTH (FT)	N/A	0.93	1.01
224+00.00	PROPOSED EL.	729.99	729.94	729.66	226+95.12	PROPOSED EL.	730.39	730.58	730.39
	EXISTING EL.	729.73	729.90	729.37		EXISTING EL.	729.53	729.72	729.45
	BINDER DEPTH (FT)	0.33	0.19	0.35		BINDER DEPTH (FT)	0.92	0.92	1.00
224+50.00	PROPOSED EL.	730.12	730.19	729.94	227+00.00	PROPOSED EL.	730.36	730.55	730.36
	EXISTING EL.	729.77	730.07	729.24		EXISTING EL.	729.52	729.71	729.44
	BINDER DEPTH (FT)	0.42	0.18	0.55		BINDER DEPTH (FT)	0.90	0.90	0.98
225+00.00	PROPOSED EL.	730.23	730.35	730.13	227+38.02	PROPOSED EL.	730.14	730.33	730.14
	EXISTING EL.	729.69	729.83	729.65		EXISTING EL.	729.35	729.59	729.32
	BINDER DEPTH (FT)	0.61	0.59	0.55		BINDER DEPTH (FT)	0.85	0.81	0.88
225+11.66	PROPOSED EL.	730.27	730.41	730.20	228+00.00	PROPOSED EL.	729.71	729.90	729.71
	EXISTING EL.	729.71	729.83	729.66		EXISTING EL.	729.10	729.37	729.10
	BINDER DEPTH (FT)	0.60	0.64	0.63		BINDER DEPTH (FT)	0.67	0.60	0.66
225+38.00	PROPOSED EL.	730.35	730.54	730.35	228+29.41	PROPOSED EL.	729.50	729.69	729.50
	EXISTING EL.	729.72	729.83	729.61		EXISTING EL.	729.03	729.29	729.03
	BINDER DEPTH (FT)	0.69	0.77	0.80		BINDER DEPTH (FT)	0.53	0.46	0.53
225+42.88	PROPOSED EL.	730.37	730.56	730.37	229+00.00	PROPOSED EL.	729.01	729.20	729.01
	EXISTING EL.	729.72	729.83	729.60		EXISTING EL.	728.86	729.10	728.86
	BINDER DEPTH (FT)	0.71	0.79	0.83		BINDER DEPTH (FT)	0.21	0.19	0.21
225+49.47	PROPOSED EL.	730.40	730.59	730.40	229+21.00	PROPOSED EL.	728.81	729.05	728.81
	EXISTING EL.	729.73	729.84	729.60		EXISTING EL.	728.81	729.05	728.81
	BINDER DEPTH (FT)	0.74	0.82	N/A		BINDER DEPTH (FT)	N/A	N/A	N/A
225+56.11	PROPOSED EL.	730.43	730.62	730.43					
	EXISTING EL.	729.73	729.84	729.59					
	BINDER DEPTH (FT)	0.70	N/A	N/A					

## TEMPORARY DITCH CHECKS

LOCATION			28000305
STATION	OFFSET (FT)	FT	TEMPORARY DITCH CHECKS
RT	224+15.00	33.0	10.0
RT	225+15.00	33.8	10.0
RT	228+00.00	29.8	10.0
LT	224+59.00	32.2	10.0
LT	225+70.00	33.6	10.0
LT	227+16.00	33.0	10.0
LT	228+15.00	33.0	10.0
TOTAL			70.0

## PERIMETER EROSION BARRIER

LOCATION				28000400
STATION	TO	STATION	ACRE	PERIMETER EROSION BARRIER
RT	223+35.60	224+83.57	147.97	
RT	224+99.29	225+56.21	56.92	
RT	226+55.51	229+21.00	265.49	
LT	223+35.60	223+80.30	44.70	
LT	223+80.30	224+19.70	70.24	
LT	224+19.70	224+83.57	63.87	
LT	224+99.29	225+82.49	83.20	
LT	226+81.79	229+21.00	239.21	
TOTAL			971.60	
USE			972.0	

# SCHEDULE OF QUANTITIES

## INLET AND PIPE PROTECTION

LOCATION			28000500 INLET AND PIPE PROTECTION
STATION	OFFSET	EACH	
LT 223+72.00	30.91	1.0	
TOTAL			1.0

## HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50

LOCATION			LENGTH	WIDTH	40603310 HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
STATION	to	STATION	FT	FT	TON
RT	223+35.60	223+66.80	31.2	13.0	8.25
RT	223+66.80	224+83.57	116.77	13.0	16.53
RT	224+99.29	225+42.88	43.59	13.0	6.17
RT	225+42.88	225+49.47	6.59	13.0	0.47
RT	225+49.47	225+55.47	6.00	16.0	1.41
RT	225+55.47	226+82.53	127.06	16.0	32.50
RT	226+82.53	226+88.53	6.00	16.0	1.41
RT	226+81.89	226+88.53	6.64	13.0	0.47
RT	226+88.53	229+00.00	211.47	13.0	29.93
RT	229+00.00	229+21.00	21.00	13.0	5.60
LT	223+35.60	223+66.80	31.20	13.0	8.31
LT	223+66.80	224+83.57	116.77	13.0	16.53
LT	224+99.29	225+49.47	50.18	13.0	7.11
LT	225+49.47	225+56.11	6.64	13.0	0.47
LT	225+49.47	225+55.47	6.00	16.0	1.41
LT	225+55.47	226+82.53	127.06	16.0	32.50
LT	226+82.53	226+88.53	6.00	16.0	1.41
LT	226+88.53	226+95.12	6.59	13.0	0.47
LT	226+95.12	229+00.00	204.88	13.0	29.00
LT	229+00.00	229+21.00	21.00	13.0	5.58
TOTAL					205.53
USE					206.0

## BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)

LOCATION			LENGTH	WIDTH	42001430 BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
STATION	to	STATION	FT	FT	SQ YD
225+49.47		225+55.47	6.0	32.0	21.33
226+82.53		226+88.53	6.0	32.0	21.33
TOTAL					42.66
USE					43.0

## BITUMINOUS MATERIALS (PRIME COAT)

LOCATION			LENGTH	WIDTH	AREA	APPLICATION RATE	NUMBER OF APPLICATIONS	40600275 BITUMINOUS MATERIALS (PRIME COAT)
STATION	to	STATION	FT	FT	SQ FT	LB/SQ FT	#	POUND
RT	223+35.60	224+83.57	147.97	13.00	1923.61	0.05	1	96.18
RT	224+99.29	225+42.88	43.59	13.00	566.67	0.05	1	28.33
RT	225+42.88	225+49.47	6.59	13.00	43.02	0.05	1	2.15
RT	225+49.47	225+85.47	36.00	16.00	575.68	0.05	1	28.78
RT	226+52.53	226+88.53	36.00	16.00	575.68	0.05	1	28.78
RT	226+81.89	226+88.53	6.64	13.00	43.02	0.05	1	2.15
RT	226+88.53	229+21.00	232.47	13.00	3022.37	0.05	1	151.12
LT	223+35.60	224+83.57	147.97	13.00	1923.61	0.05	1	96.18
LT	224+99.29	225+49.47	50.18	13.00	652.60	0.05	1	32.63
LT	225+49.47	225+56.11	6.64	13.00	43.02	0.05	1	2.15
LT	225+49.47	225+85.47	36.00	16.00	575.68	0.05	1	28.78
LT	226+52.53	226+88.53	36.00	16.00	575.68	0.05	1	28.78
LT	226+88.53	226+95.12	6.59	13.00	43.02	0.05	1	2.15
LT	226+95.12	229+21.00	225.88	13.00	2936.44	0.05	1	146.82
SUBTOTAL								675.01
TOTAL								1557.17
USE								1558.0

## PAVEMENT REMOVAL

LOCATION			LENGTH	WIDTH	44000100 PAVEMENT REMOVAL
STATION	to	STATION	FT	FT	SQ YD
RT	225+42.80	225+72.00	29.20	13.0	37.63
LT	225+49.49	225+72.00	22.51	13.0	27.06
LT	225+70.88	225+94.32	23.44	1.3	2.95
RT	226+66.09	226+88.51	22.42	13.0	27.93
LT	226+66.09	226+95.18	29.09	13.0	38.10
TOTAL					133.67
USE					134.0

## HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"

LOCATION			LENGTH	WIDTH	42001430 HMA SURFACE REMOVAL, 2 1/2"
STATION	to	STATION	FT	FT	SQ YD
RT	223+35.60	224+83.57	147.97	13.0	213.73
RT	224+99.29	225+42.88	43.59	13.0	62.96
RT	225+42.88	225+49.49	6.61	13.0	4.78
RT	226+81.89	226+88.51	6.62	13.0	4.78
RT	226+88.51	229+21.00	232.49	13.0	335.82
LT	223+35.60	224+83.57	147.97	13.0	213.73
LT	224+99.29	225+49.49	50.20	13.0	72.51
LT	225+49.49	225+56.11	6.62	13.0	4.78
LT	226+88.51	226+95.12	6.61	13.0	4.78
LT	226+95.12	229+21.00	225.88	13.0	326.27
TOTAL					1244.15
USE					1245.0

## AGGREGATE SHOULDERS, TYPE B 6"

LOCATION			LENGTH	WIDTH	48101500 AGGREGATE SHOULDERS, TYPE B 6"
STATION	to	STATION	FT	FT	SQ YD
RT	223+35.60	224+83.57	147.97	3.0	49.32
RT	224+99.29	225+41.35	42.06	3.0	14.02
RT	225+41.35	225+42.88	1.53	3.0	0.26
RT	226+80.37	226+81.89	1.52	3.0	0.26
RT	226+81.89	229+21.00	239.11	3.0	79.70
LT	223+35.60	223+68.66	33.06	3.0	9.67
LT	224+31.33	224+83.57	52.24	3.0	16.10
LT	224+99.29	225+56.11	56.82	3.0	18.94
LT	225+56.11	225+57.63	1.52	3.0	0.26
LT	226+95.12	226+96.65	1.53	3.0	0.26
LT	226+96.65	229+21.00	224.35	3.0	74.78
TOTAL					263.58
USE					264.0

## PIPE CULVERT REMOVAL

LOCATION			50105220 PIPE CULVERT REMOVAL
STATION	to	STATION	FT
LT	225+58.62	226+29.25	70.97
RT	226+21.01	226+25.55	6.00
TOTAL			76.97
USE			77.0

# SCHEDULE OF QUANTITIES

## PIPE CULVERT

LOCATION			542D5476 PIPE CULVERTS, CLASS D, TYPE 1 EQUIVALENT ROUND-SIZE 21"	54215766 METAL END SECTIONS, EQUIVALENT ROUND-SIZE 21"
STATION	to	STATION	FT	EACH
LT 223+74.31		224+25.70	52.00	2.0
TOTAL			52.0	2.0

## REMOVING CATCH BASINS

LOCATION			60500050 REMOVING CATCH BASINS
STATION	OFFSET		EACH
LT 225+58.00	33.0' LT		1.0
TOTAL			1.0

## GUARDRAIL REMOVAL

LOCATION			63200310 GUARDRAIL REMOVAL
STATION	to	STATION	FT
RT 224+45.93		224+83.57	37.64
RT 224+99.29		225+89.49	90.20
RT 226+31.68		227+09.23	77.55
LT 226+02.90		226+06.45	26.95
LT 226+48.59		227+88.80	140.21
TOTAL			372.55
USE			373.0

## SHORT TERM PAVEMENT MARKING

YELLOW CL SKIP-DASH					70300100 SHORT TERM PAVEMENT MARKING
STATION	to	STATION	OFFSET	FT	
CL 223+35.60		224+83.57	0'	14.80	
CL 224+99.29		229+21.00	0'	42.17	
TOTAL				56.97	
USE				57.0	

## WORK ZONE PAVEMENT MARKING REMOVAL

YELLOW CL SKIP-DASH						70301000 WORK ZONE PAVEMENT MARKING REMOVAL
STATION	to	STATION	LENGTH (FT)	WIDTH (IN)		SQ FT
CL 223+35.60		224+83.57	14.80	4.0		4.93
CL 224+99.29		229+21.00	42.17	4.0		14.06
TOTAL						18.99
USE						19.0

## Guardrail

LOCATION				50901050 STEEL RAILING, TYPE SM	63000001 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	63100087 TRAFFIC BARRIER TERMINAL, TYPE 6A	63100167 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	63100169 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	78201000 TERMINAL MARKER - DIRECT APPLIED
STATION	to	STATION		FT	FT	EACH	EACH	EACH	EACH
RT 223+75.44		224+27.51						1	1
RT 224+27.51		225+18.60			75.00				
RT 225+18.60		225+65.04				1			
RT 225+62.34		226+59.38		97.00					
RT 226+56.68		227+03.13				1			
RT 227+03.13		227+54.86						1	1
LT 224+67.26		225+34.86					1		1
LT 225+34.86		225+81.31				1			
LT 225+78.61		226+75.66		97.00					
LT 226+72.96		227+19.41				1			
LT 227+19.41		227+69.41			50.00				
LT 227+69.41		228+21.18						1	1
TOTAL				194.0	125.0	4	1	3	4

## GUARDRAIL MARKERS

LOCATION		78200410 GUARDRAIL MARKERS, TYPE A
STATION		EACH
RT 224+27.00		1
RT 225+08.00		1
RT 225+73.00		1
RT 226+38.00		1
RT 227+03.00		1
LT 225+54.00		1
LT 226+19.00		1
LT 226+84.00		1
LT 227+49.00		1
TOTAL		9

## PAINT PAVEMENT MARKING LINE - 4"

WHITE EOP LINE						78001110 PAINT PAVEMENT MARKING LINE - 4"
STATION	to	STATION	OFFSET	FT		FT
RT 223+35.60		224+83.57	12' RT			147.97
RT 224+99.29		229+21.00	12' RT			421.71
LT 223+35.60		224+83.57	12' LT			147.97
LT 224+99.29		229+21.00	12' LT			421.71
SUBTOTAL						1139.36
YELLOW CL SKIP-DASH						
CL 223+35.60		224+83.57	0'			36.99
CL 224+99.29		229+21.00	0'			105.43
SUBTOTAL						142.42
TOTAL						1281.78
USE						1282.0

## AGGREGATE SURFACE COURSE, TYPE B 6"

LOCATION				X4020500 AGGREGATE SURFACE COURSE, TYPE B 6"
STATION	to	STATION		SQ YD
LT 223+55.22		224+44.78		166.46
TOTAL				167.0

## APPROACH SLAB REMOVAL

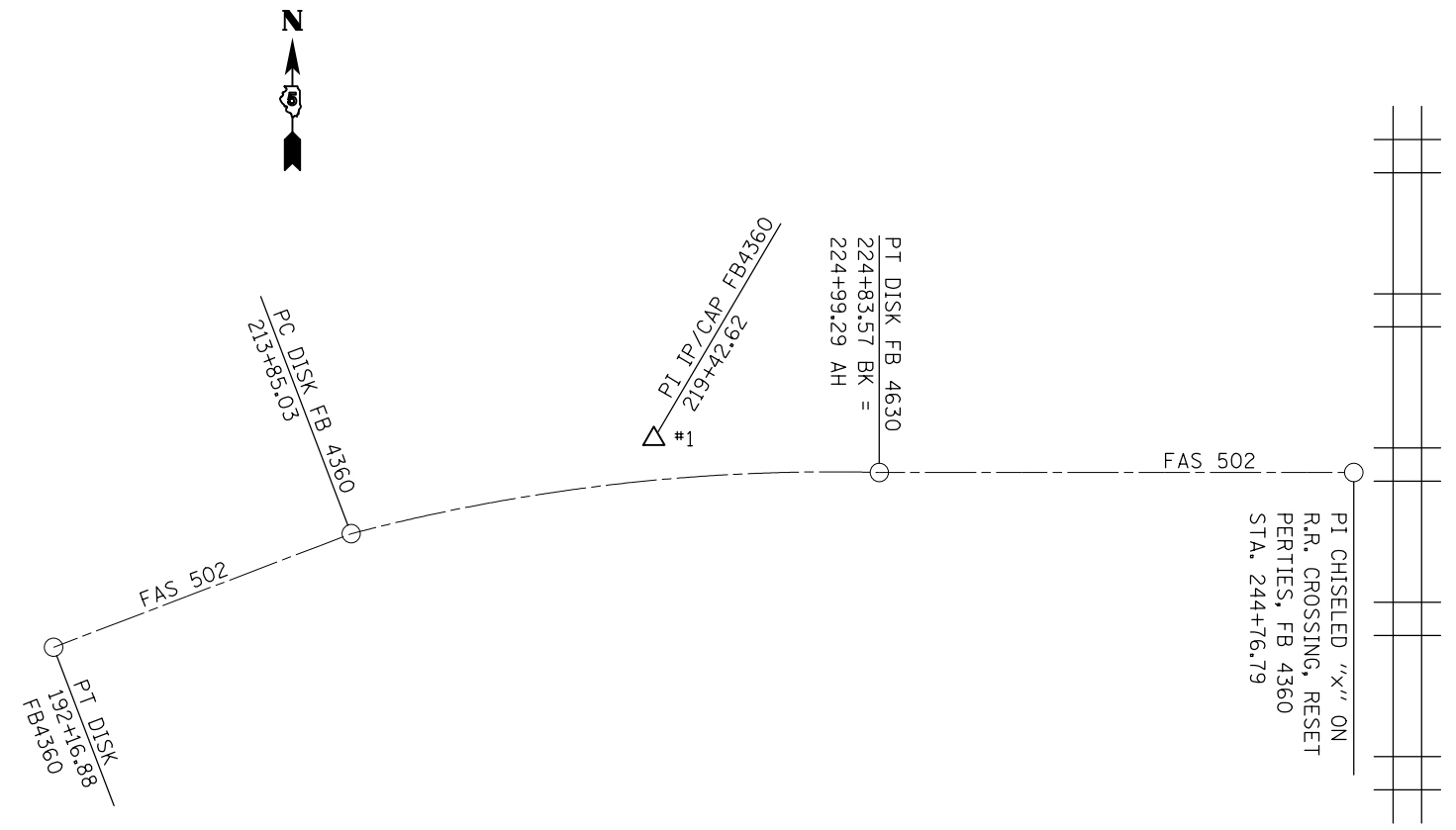
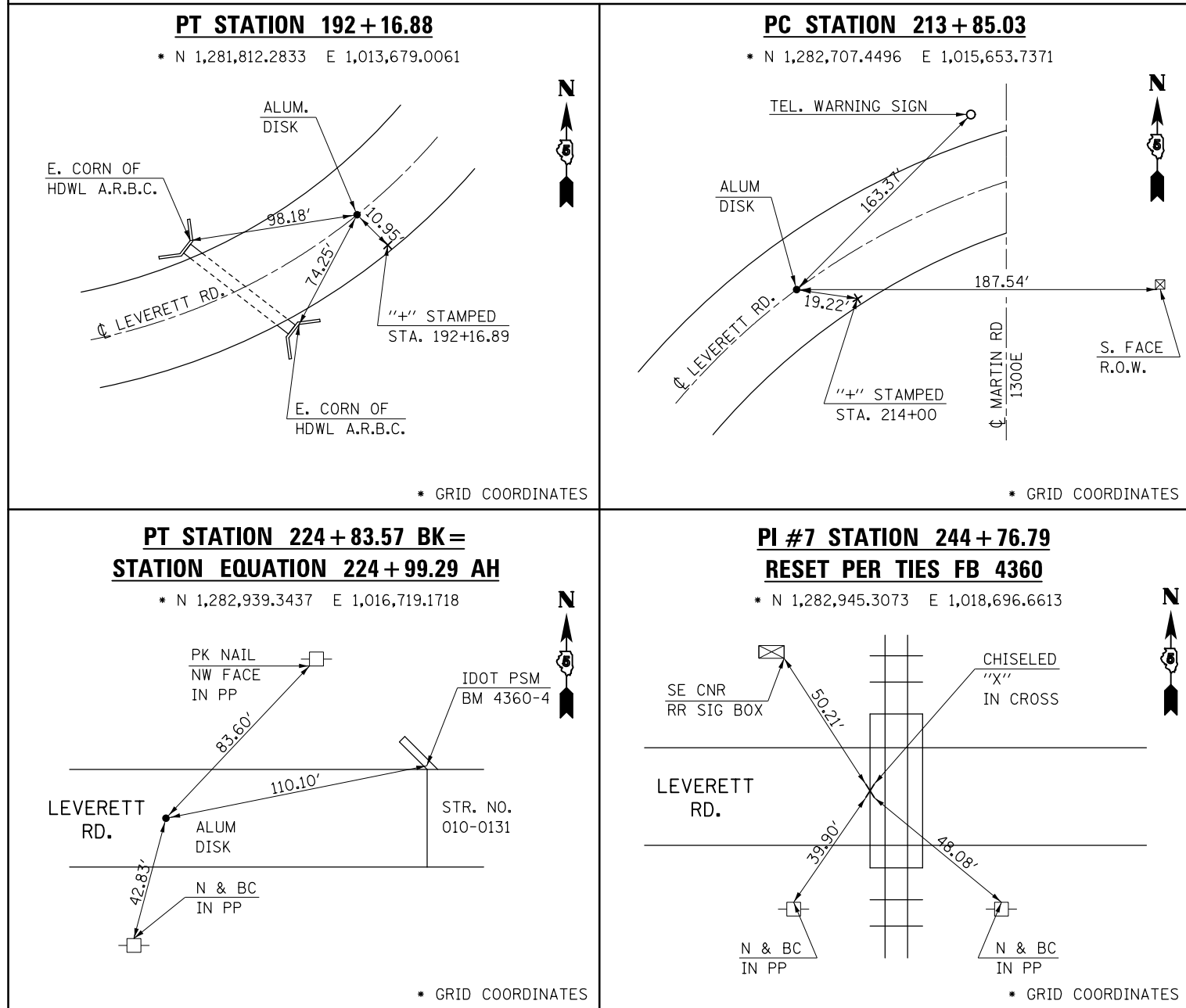
LOCATION			Z0004552 APPROACH SLAB REMOVAL
STATION	to	STATION	SQ YD
CL 225+72.00		225+98.36	86.95
CL 226+39.86		226+66.09	86.28
TOTAL			173.23
USE			174.0

## PERMANENT BENCH MARKS

LOCATION				Z0038700 PERMANENT BENCH MARKS
STATION	S.N.	LOCATION	EACH	
RT 225+76.00	010-0292	SW WINGWALL	1.0	
TOTAL			1.0	

## CENTERLINE TIES

## CENTERLINE SKETCH



## BENCHMARKS

BENCHMARK 4360-04  
 IDOT BRASS DISK IN THE TOP OF THE  
 NORTHWEST WINGWALL OF STRUCTURE  
 NO. 010-0131. FAS 502 STA. 226+08  
 OFFSET 18.0' LT. ELEVATION 730.09

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ALIGNMENTS, TIE POINTS AND BENCHMARKS</b>			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
ci:\pw\work\p\idot\grazioja\0120188\0570599-sht-ATB.dgn	PLOT SCALE = 40.0000' / in.	DRAWN -	REVISED -		SCALE: N/A	SHEET 1	OF 1	SHEETS	STA.	TO STA.	502	106BR-1(12)	CHAMPAIGN	45	14
\$MODELNAME\$	PLOT DATE = 4/27/2015	CHECKED -	REVISED -												
		DATE -	REVISED -												



Benchmarks: 4360-4 IDOT brass disk located in the top of the NW wingwall of S.N. 010-0131, Sta. 226+08, 18.0' Lt., Elev. 730.09.  
4360-13 (P-200) disk located in the top of the west end of the south headwall of a 12' concrete box culvert approximately 0.6 miles west of Illinois Central Railroad in Leverett; 18' south of centerline of the road; Elev. 727.86.

Existing Structure: S.N. 010-0131 built as County Highway 15D (S.A. Rte. 21 & 1A) - Sec. 106B-15D in 1940, was a single span steel beam and concrete slab bridge supported on closed concrete abutments with spread footings. Rehabilitation in 1988 consisted of a superstructure replacement with 17" P.P.C. deck beams and a bituminous wearing surface and waterproofing membrane system. Abutment modifications included new reinforced concrete beam seats. The structure is 42'-6 1/2" back to back of abutments, and 33'-0" out to out of deck.

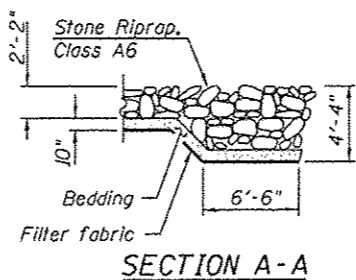
The structure is to be removed and replaced with a single span PPC deck beam bridge.

The roadway is to be closed and traffic detoured during construction.

Salvage existing Type S-1 Steel Bridge Railing.

STATION 226+19  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A.S. RT. 502 SEC. 106BR-1(2)  
LOADING HL-93  
STRUCTURE NO. 010-0292

NAME PLATE  
See Std. 515001



SECTION A-A

INDEX OF SHEETS

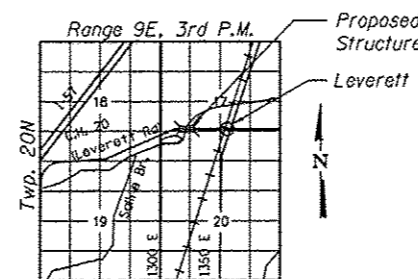
- 1 General Plan and Elevation
- 2 Top of West Approach Slab Elevations
- 3 Top of East Approach Slab Elevations
- 4 Superstructure
- 5 27"x48" PPC Deck Beam
- 6 27"x48" PPC Deck Beam Details
- 7 Bridge Approach Slab Details
- 8 Bridge Approach Slab Details
- 9 Steel Railing, Type SM with Hot-Mix Asphalt Wearing Surface
- 10 West Abutment
- 11 East Abutment
- 12 Metal Shell Pile Details
- 13 Soil Boring Logs
- 14 Soil Boring Logs

GENERAL NOTES

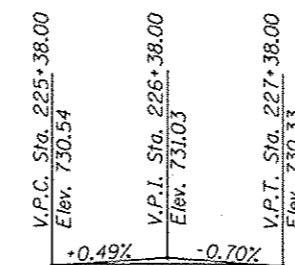
Reinforcement bars designated (E) shall be epoxy coated.  
Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.  
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
The Contractor is advised that the existing PPC Deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the structure.  
If the Contractor's procedures for existing deck beam removal involves placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Removal of Existing Structures.  
The concrete superstructure shall be class BS concrete, except as follows, when Steel Bridge Rail is used in conjunction with concrete superstructure, the 14-day mix design shall be replaced by a 28-day mix design with a compressive strength of 5,000 psi (34,500 kPa) and a design flexural strength of 800 psi (5,500 kPa) prior to opening to traffic.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A6	Sq Yd	--	--	744
Filter Fabric	Sq Yd	--	--	744
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	65	--	65
Removal of Existing Structures	Each	--	--	1
Structure Excavation	Cu Yd	--	239	239
Concrete Structures	Cu Yd	--	65.9	65.9
Concrete Superstructure	Cu Yd	92.8	--	92.8
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq Ft	2145	--	2145
Reinforcement Bars, Epoxy Coated	Pound	21,980	8,540	30,520
Steel Railing, Type SM	Foot	194	--	194
Furnishing Metal Shell Piles 12"x0.250"	Foot	--	540	540
Driving Piles	Foot	--	540	540
Test Pile Metal Shells	Each	--	2	2
Pile Shoes	Each	--	12	12
Name Plates	Each	1	--	1
Waterproofing Membrane System	Sq Yd	238	--	238
Portland Cement Mortar Fairing Course	Foot	469	--	469
Geocomposite Wall Drain	Sq Yd	--	61	61
Granular Backfill for Structures	Cu Yd	--	109	109
Pipe Underdrains for Structures 4"	Foot	--	155	155



LOCATION SKETCH



PROFILE GRADE  
@ FAS 502

DESIGN SCOUR ELEVATION TABLE

Event/Limit	Design Scour Elevations (ft.)	Item
State	W. Abut. E. Abut.	113
Q100	723.2 723.2	8
Q200	723.2 723.2	
Design	723.2 723.2	
Check	723.2 723.2	

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, 7th Edition

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (S<sub>01</sub>) = 0.13g  
Design Spectral Acceleration at 0.2 sec. (S<sub>05</sub>) = 0.23g  
Soil Site Class = D

DESIGN STRESSES

FIELD UNITS

f'<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (Reinforcement)  
f'<sub>c</sub> = 5,000 psi \*

\* Approach slab concrete shall have a 28-day mix design with a compressive strength of 5,000 psi.

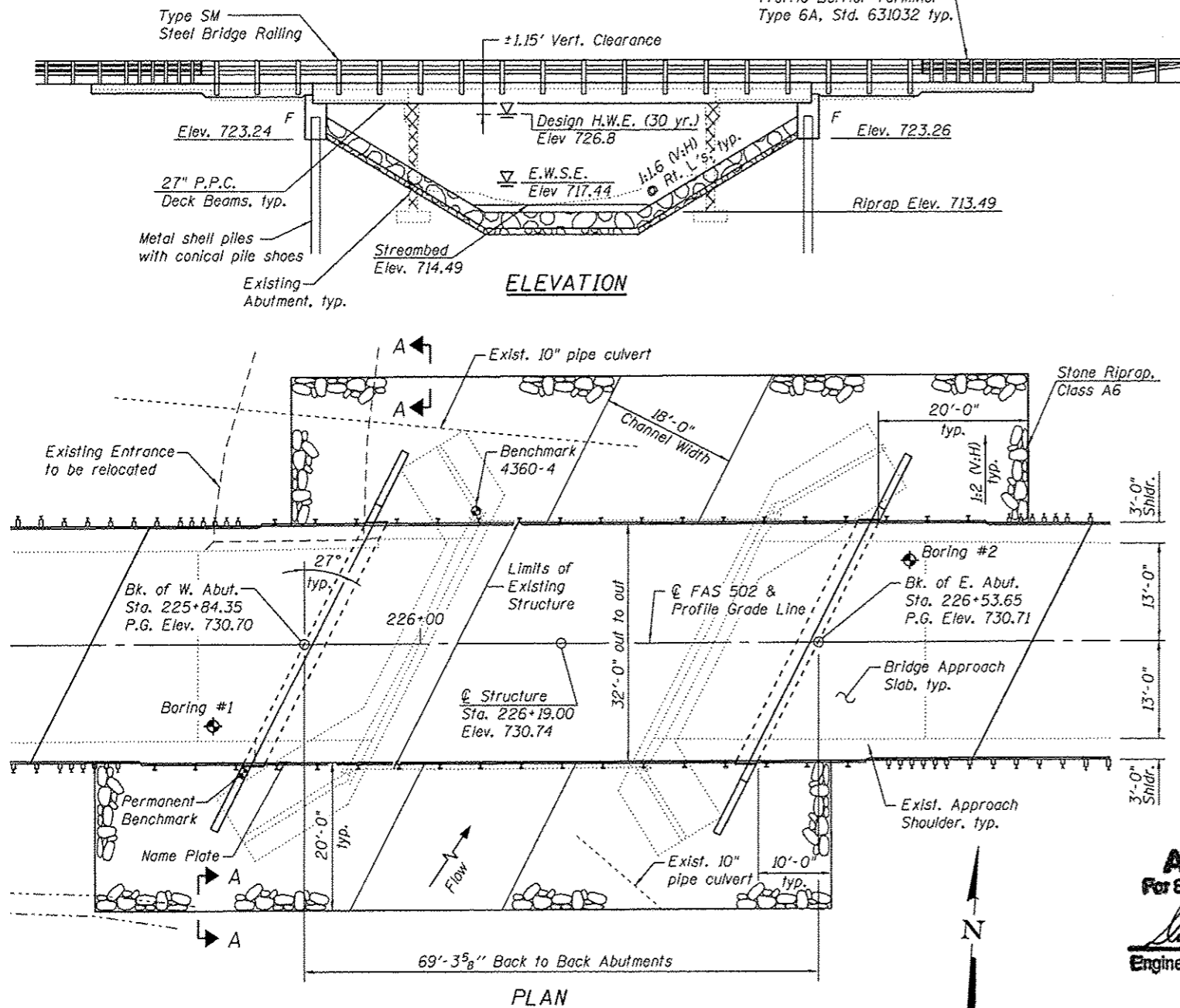
PRECAST PRESTRESSED UNITS

f'<sub>c</sub> = 6,000 psi  
f'<sub>ci</sub> = 5,000 psi  
f<sub>pu</sub> = 270,000 psi (1/2" φ low lax strands)  
f<sub>pbt</sub> = 201,960 psi (1/2" φ low lax strands)

WATERWAY INFORMATION

Drainage Area = 13.9 Sq. Mi. Low Grade Elev. 727.57 @ Sta. 235+00

Flood	Freq. Yr.	0. C.F.S.	Opening Sq. Ft.	Nat. Exist. Prop.	H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.		
Flood	10	1670	338	400	726.0	0.7	0.5	726.7	726.5
	30	2381	366	445	726.8	0.7	0.6	727.5	727.4
Design	100	3200	383	473	727.3	0.9	0.9	728.2	728.2
	Overtopping	35	2483	369	450	726.9	0.8	0.7	727.7



PLAN

APPROVED  
For Structural Adequacy Only

*Toni M. McDonough*  
Engineer of Bridges & Structures



*Toni M. McDonough* Date 5-28-15  
Toni M. McDonough  
Illinois Structural Engineer  
No. 81-5025  
Exp. Date 11/30/16

GENERAL PLAN AND ELEVATION  
F.A.S. 502 (C.H. 20 / LEVERETT RD.)

OVER SALINE BRANCH  
DRAINAGE DITCH  
SECTION 106BR-1(2)  
CHAMPAIGN COUNTY  
STA. 226+19.00  
S.N. 010-0292

McDonough-Whillow, P.C.  
Consulting Engineers & Land Surveyors  
PROFESSIONAL DESIGN No. 184-002754

USER NAME = jlm  
DESIGNED - CMF  
CHECKED - TMM  
DRAWN - JLM  
CHECKED - TMM  
PLOT SCALE = 0.12500 1" = 16'  
PLOT DATE = 5/27/2015

DESIGNED - CMF  
CHECKED - TMM  
DRAWN - JLM  
CHECKED - TMM  
REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 010-0292

SHEET NO. 1 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	16

CONTRACT NO. 70599  
ILLINOIS FED. AID PROJECT



**NORTH EDGE OF SHOULDER**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of W. Approach Slab	225+63.62	-16.00	730.19
A1	225+73.62	-16.00	730.18
B1	225+83.62	-16.00	730.18
E. End of W. Approach Slab	225+93.62	-16.00	730.17

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of W. Approach Slab	225+62.09	-13.00	730.22
A1	225+72.09	-13.00	730.22
B1	225+82.09	-13.00	730.22
E. End of W. Approach Slab	225+92.09	-13.00	730.22

**☐ ROADWAY & PROFILE GRADE**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of W. Approach Slab	225+55.47	0.00	730.41
A1	225+65.47	0.00	730.42
B1	225+75.47	0.00	730.43
E. End of W. Approach Slab	225+85.47	0.00	730.44

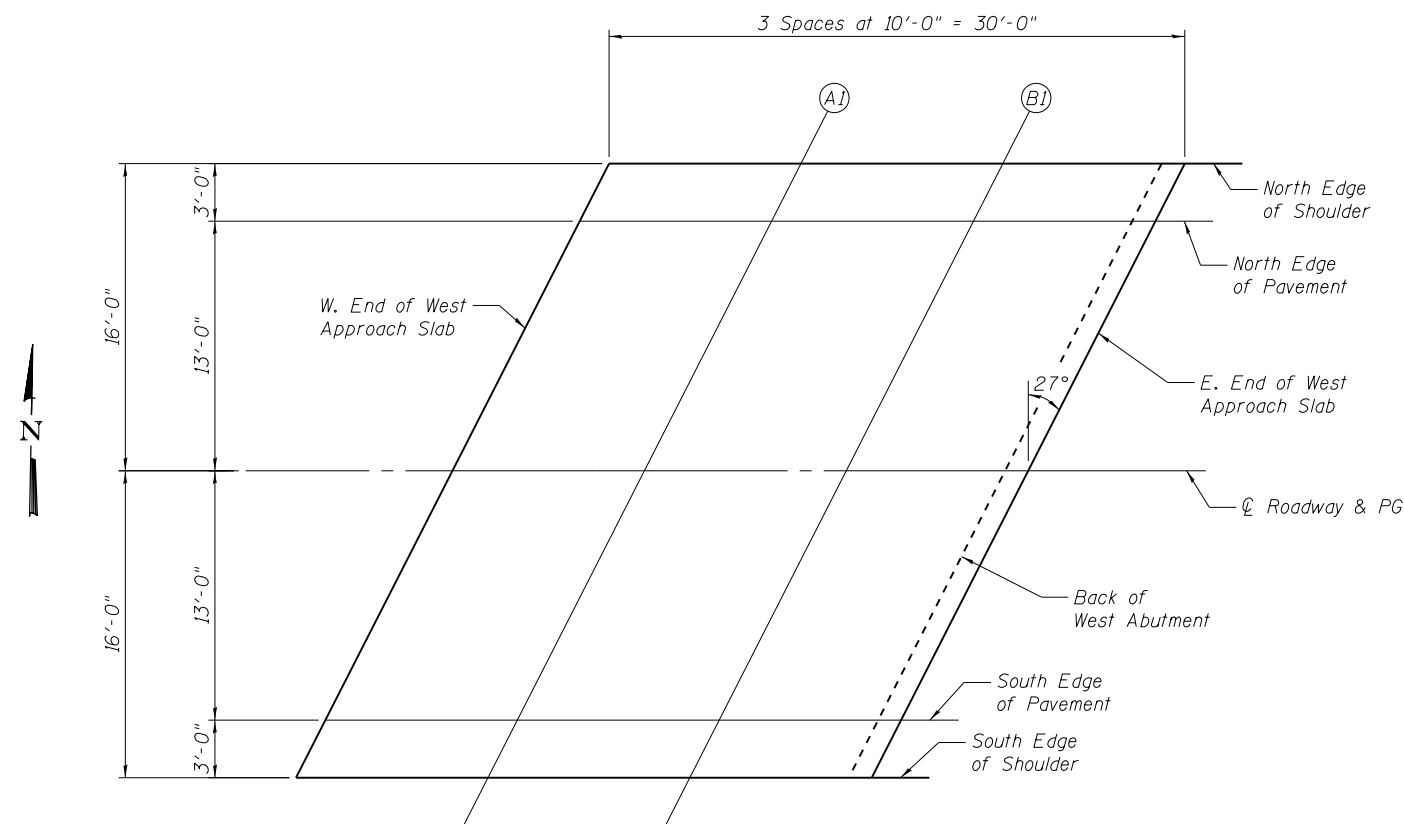
**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of W. Approach Slab	225+48.85	13.00	730.18
A1	225+58.85	13.00	730.19
B1	225+68.85	13.00	730.20
E. End of W. Approach Slab	225+78.85	13.00	730.21

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of W. Approach Slab	225+47.32	16.00	730.12
A1	225+57.32	16.00	730.13
B1	225+67.32	16.00	730.14
E. End of W. Approach Slab	225+77.32	16.00	730.15

\*Theoretical Grade Elevation = Top of concrete approach and PPC Deck Beam



**PLAN**  
(West Approach)

F:\Projects\10-006-7\dr\ings\CADD SHEETS\01002-32-70599-002-WestApproach\SubE1.dgn

E-AS

7-1-10

McDonough-Whitlow, P.C.  
Consulting Engineers & Land Surveyors  
PROFESSIONAL DESIGN No. 184-002754

USER NAME = Jlm	DESIGNED - CMF	REVISED -
PLOT SCALE = 0:2.0000 " = 1"	CHECKED - TMM	REVISED -
PLOT DATE = 5/27/2015	DRAWN - JLM	REVISED -
	CHECKED - TMM	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TOP OF WEST APPROACH SLAB ELEVATIONS**  
**STRUCTURE NO. 010-0292**

SHEET NO. 2 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	17
ILLINOIS FED. AID PROJECT			CONTRACT NO. 70599	

**NORTH EDGE OF SHOULDER**

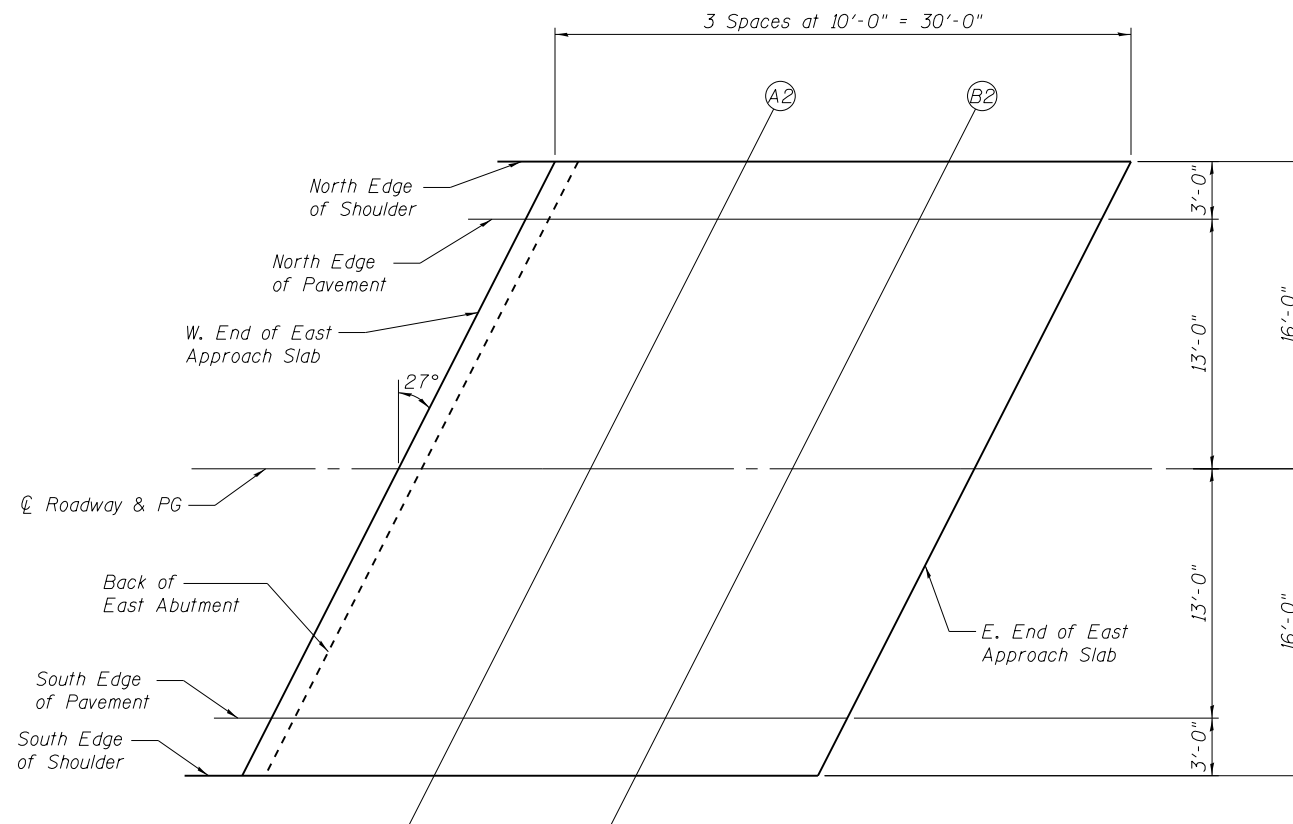
Location	Station	Offset	*Theoretical Grade Elevations
W. End of E. Approach Slab	226+60.68	-16.00	730.17
A2	226+70.68	-16.00	730.16
B2	226+80.68	-16.00	730.15
E. End of E. Approach Slab	226+90.68	-16.00	730.14

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of E. Approach Slab	226+59.15	-13.00	730.22
A2	226+69.15	-13.00	730.21
B2	226+79.15	-13.00	730.20
E. End of E. Approach Slab	226+89.15	-13.00	730.19

**☉ ROADWAY & PROFILE GRADE**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of E. Approach Slab	226+52.53	0.00	730.44
A2	226+62.53	0.00	730.44
B2	226+72.53	0.00	730.43
E. End of E. Approach Slab	226+82.53	0.00	730.42



**PLAN**  
(East Approach)

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of E. Approach Slab	226+45.91	13.00	730.24
A2	226+55.91	13.00	730.24
B2	226+65.91	13.00	730.24
E. End of E. Approach Slab	226+75.91	13.00	730.24

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	*Theoretical Grade Elevations
W. End of E. Approach Slab	226+44.38	16.00	730.19
A2	226+54.38	16.00	730.20
B2	226+64.38	16.00	730.20
E. End of E. Approach Slab	226+74.38	16.00	730.20

\*Theoretical Grade Elevation = Top of concrete approach and PPC Deck Beam

F:\Projects\10-006-7\Drawings\CADD SHEETS\01002-2-70599-003-EastApproachSlabE.dgn

E-AS

7-1-10



USER NAME = Jlm	DESIGNED - CMF	REVISED -
	CHECKED - TMM	REVISED -
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PLOT DATE = 5/27/2015	CHECKED - TMM	REVISED -

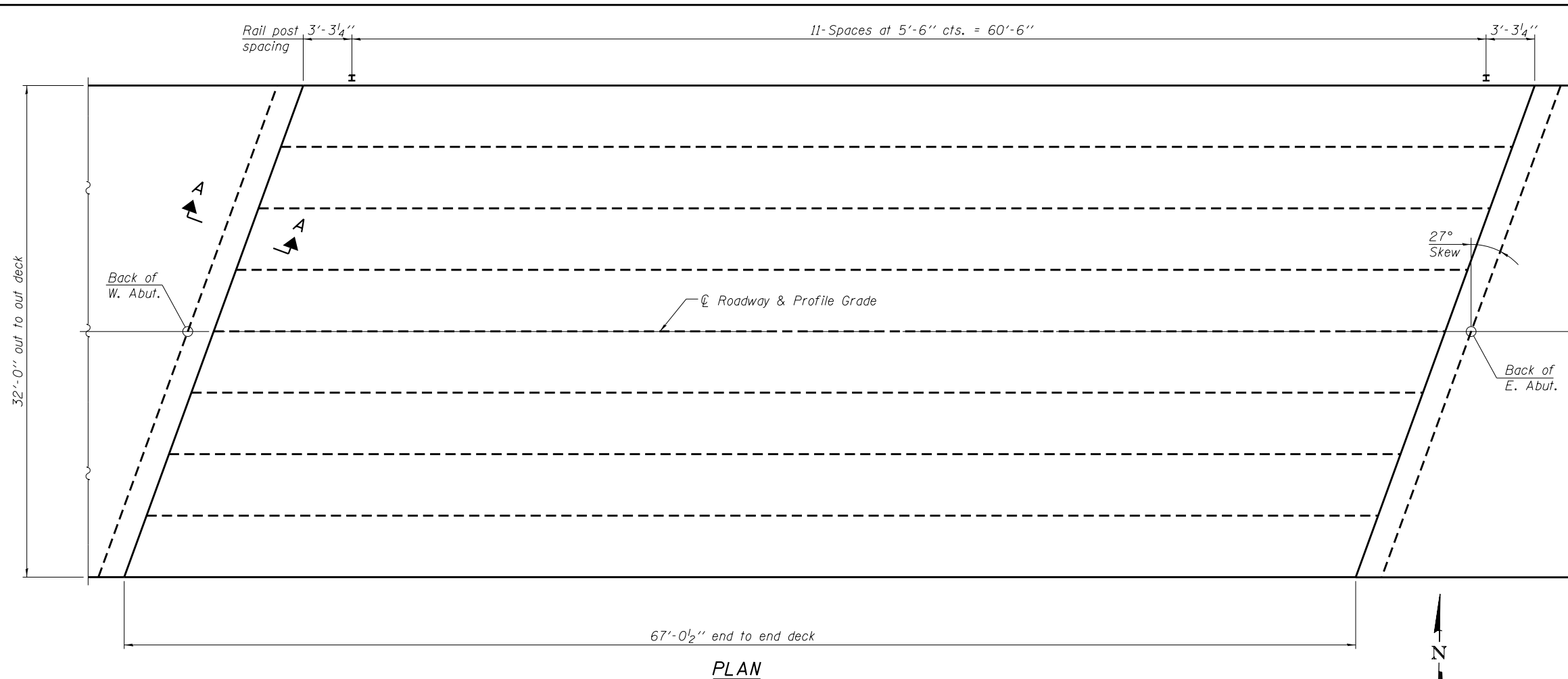
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF EAST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 010-0292**

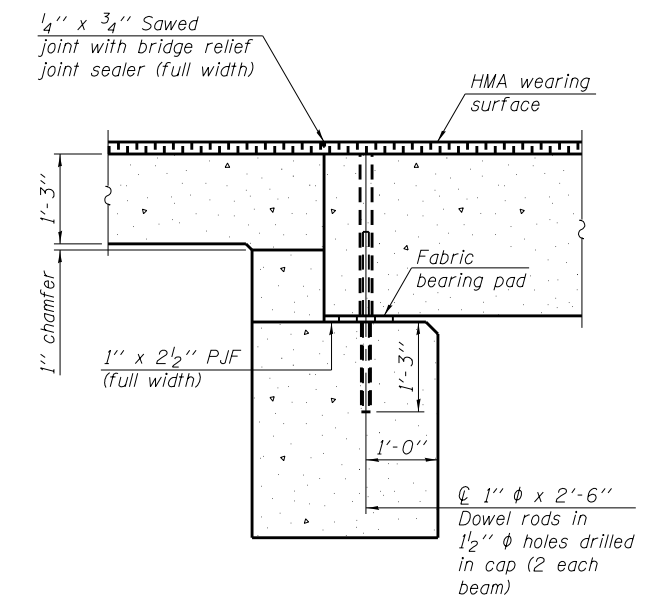
SHEET NO. 3 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	18
CONTRACT NO. 70599				

ILLINOIS FED. AID PROJECT



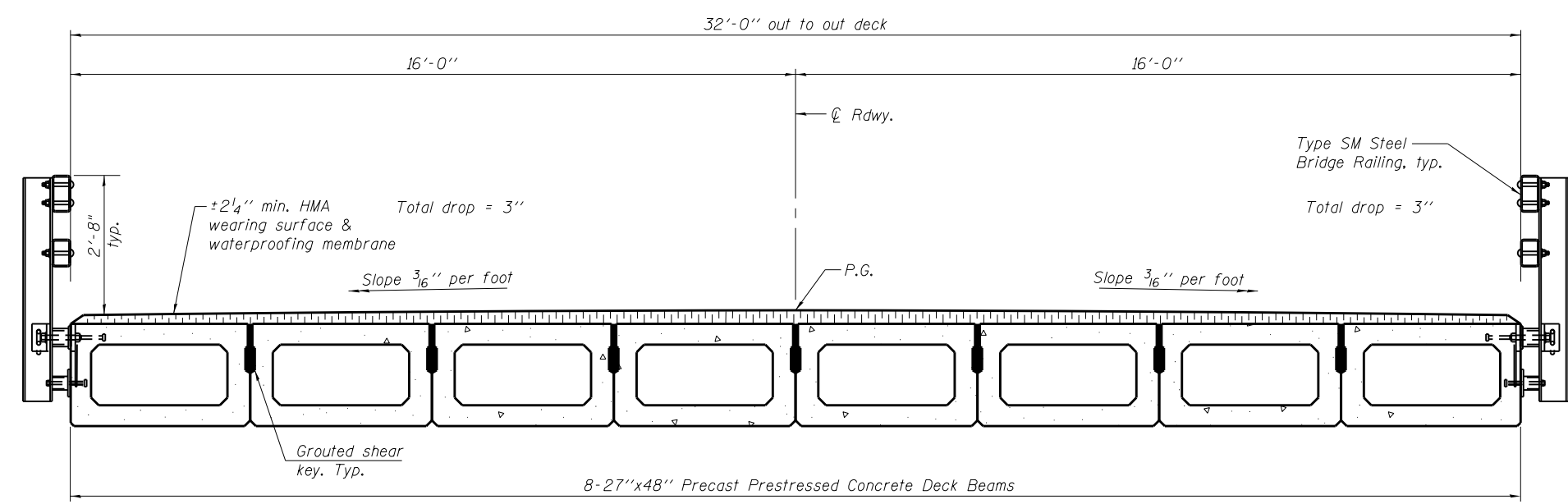
**PLAN**



**SECTION A-A**  
(Dimensions are at Rt. L's)  
See sheet 6 of 14 for fabric bearing pad details.

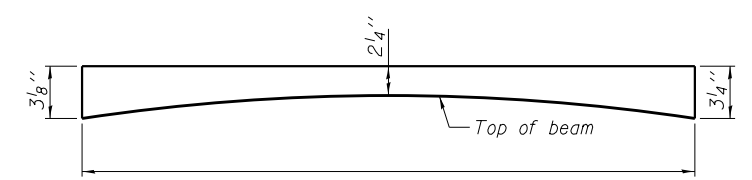
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	65
Waterproofing Membrane System	Sq. Yd.	238



**CROSS SECTION**  
(Looking East)

See sheet 6 of 14 for Deck Beam Details and Bill of Material.



**ANTICIPATED HMA WEARING SURFACE PROFILE**  
(For information only)  
See sheet 1 of 14 for Profile Grade.

F:\Projects\DOT PROJECTS\10-006-7\dr\ings\CADD SHEETS\100232-70599-004-Super.dgn

PDS-HMA-S-R34-L 7-1-10

McDonough-Whitlow, P.C.  
Consulting Engineers & Land Surveyors  
PROFESSIONAL DESIGN No. 184-002754

USER NAME = Jm	DESIGNED - CMF	REVISED -
PLOT SCALE = 0:2.0000 '1' / 1"	CHECKED - TMM	REVISED -
PLOT DATE = 5/27/2015	DRAWN - JLM	REVISED -
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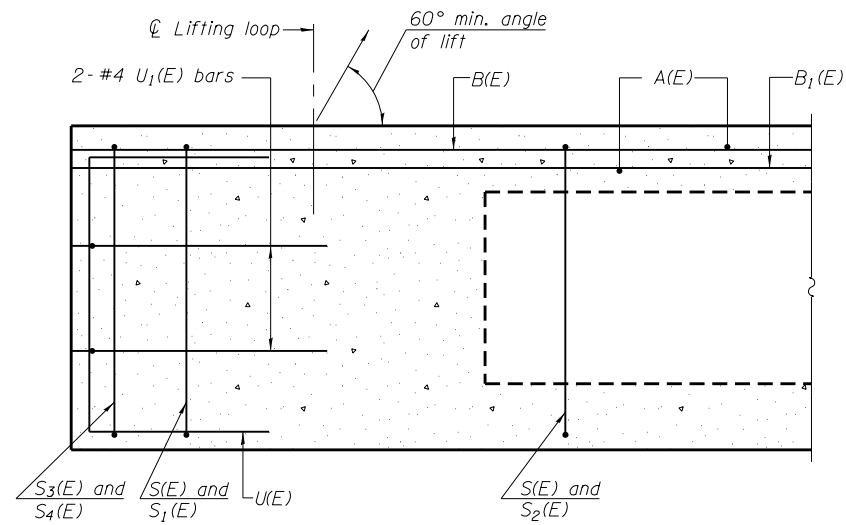
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE**  
**STRUCTURE NO. 010-0292**

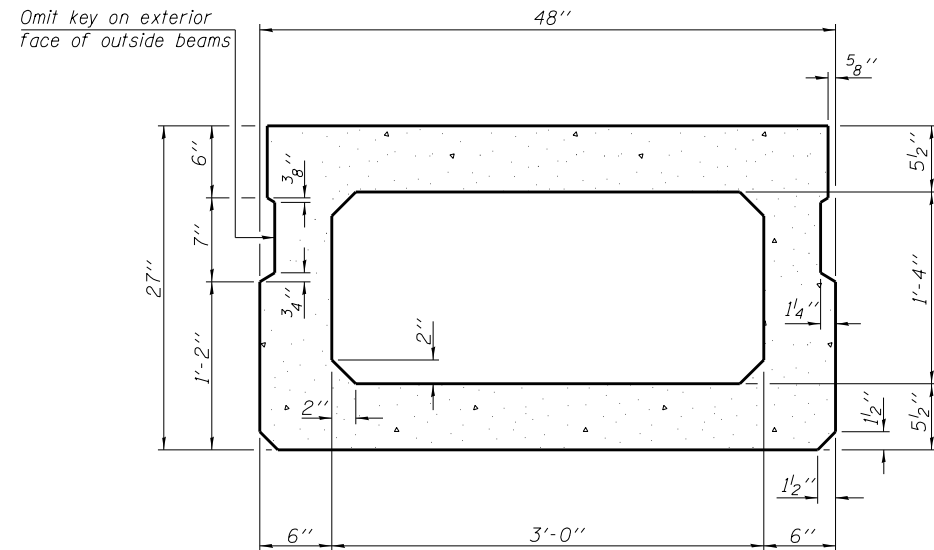
SHEET NO. 4 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	19
			CONTRACT NO. 70599	

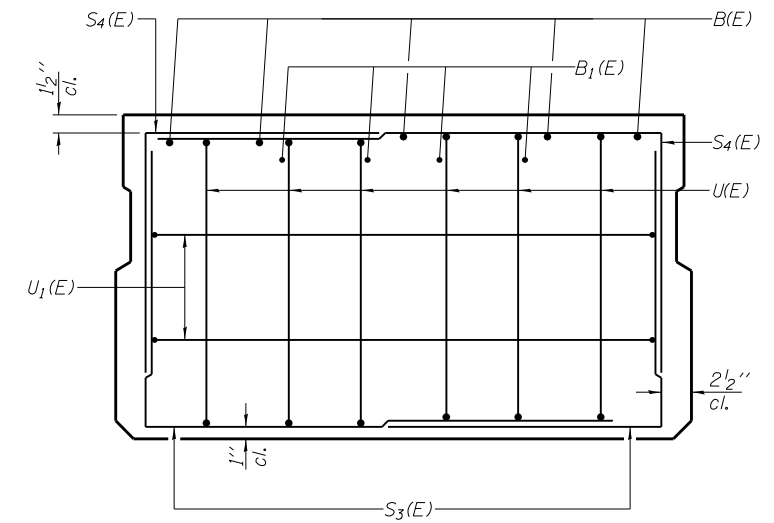
ILLINOIS FED. AID PROJECT



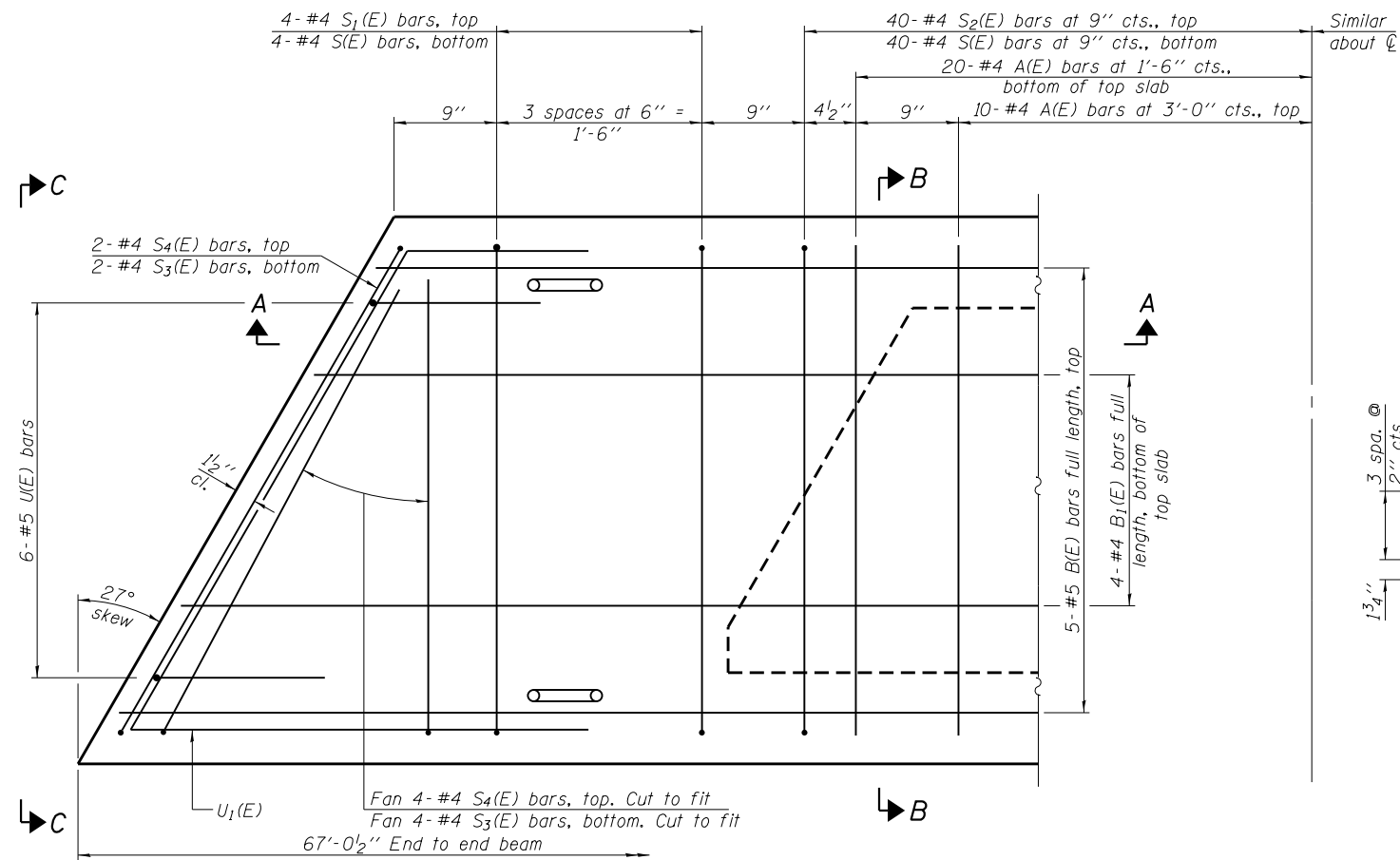
SECTION A-A



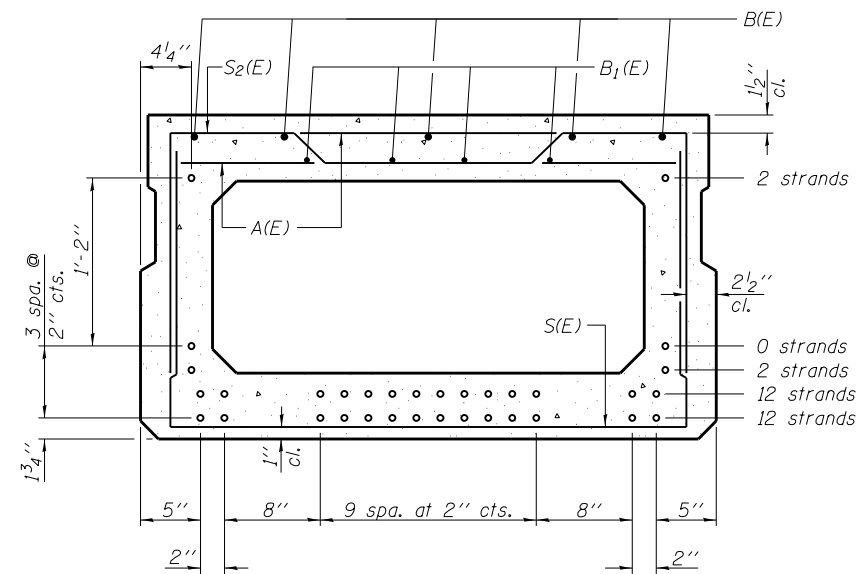
SECTION B-B  
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B

(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

**BAR LIST**  
**ONE BEAM ONLY**

(For information only)

Bar	No.	Size	Length	Shape
A(E)	60	#4	3'-7"	—
B(E)	10	#5	34'-8"	—
B1(E)	8	#4	34'-5"	—
S(E)	88	#4	7'-5"	U
S1(E)	8	#4	6'-11"	U
S2(E)	80	#4	7'-2"	U
S3(E)	12	#4	5'-11"	U
S4(E)	12	#4	5'-8"	U
U(E)	12	#5	4'-6"	C
U1(E)	4	#4	8'-3"	C

Note: See sheet 6 of 14 for additional details and Bill of Material.

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

**MINIMUM BAR LAP**

#4 bar = 2'-0"  
#5 bar = 2'-6"

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PD-2748-L

7-1-10

McDonough-Whitlow, P.C.  
Consulting Engineers & Land Surveyors  
PROFESSIONAL DESIGN No. 184-002754

USER NAME = Jlm	DESIGNED - CMF	REVISED -
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PLOT DATE = 5/27/2015	DRAWN - JLM	REVISED -
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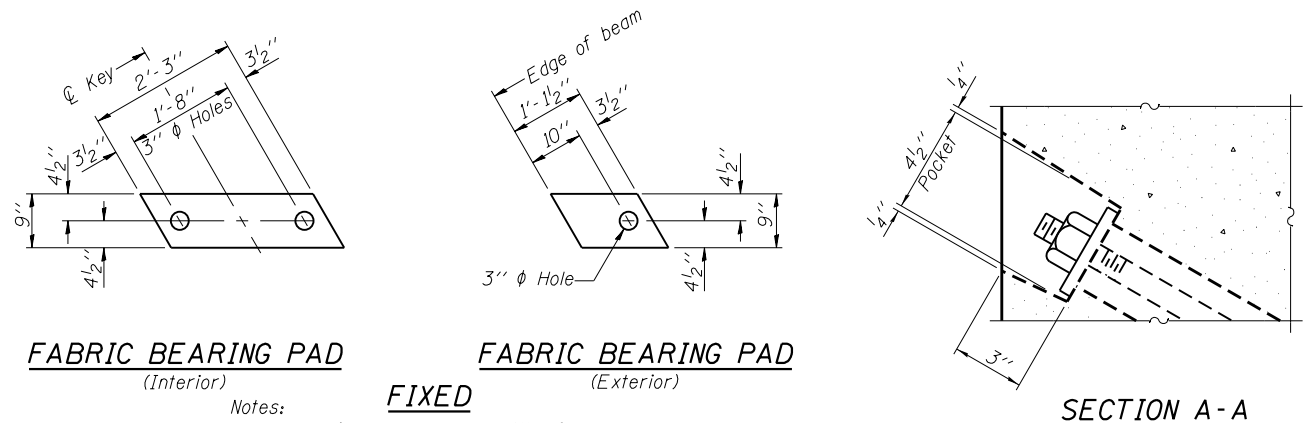
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

27" x 48" PPC DECK BEAM  
STRUCTURE NO. 010-0292

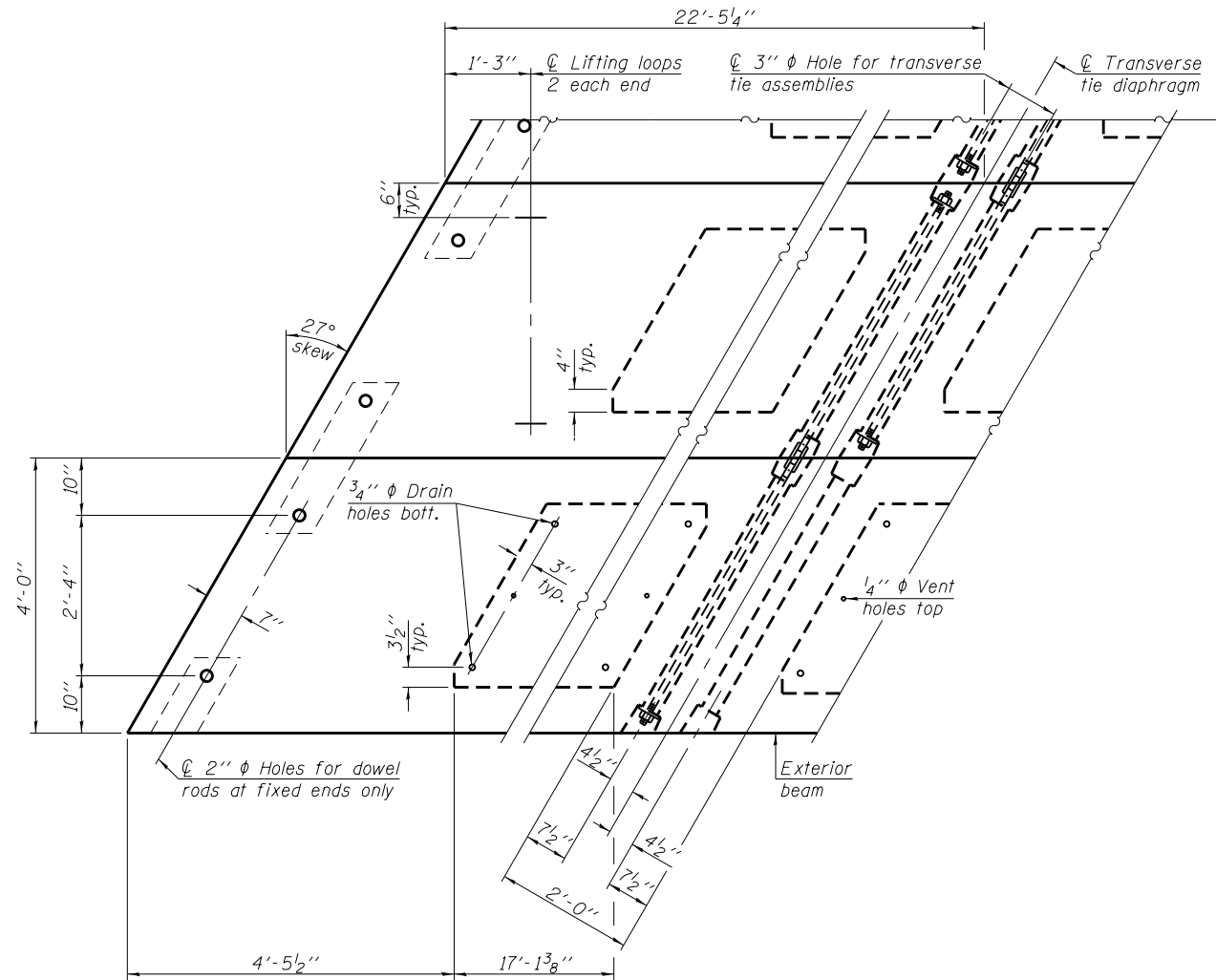
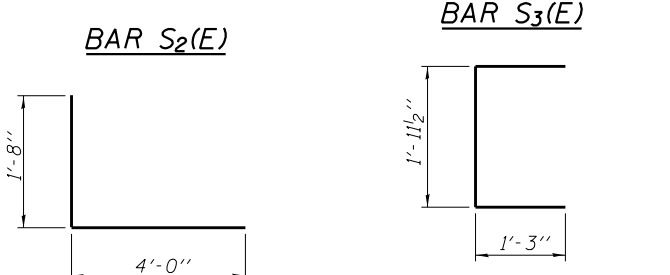
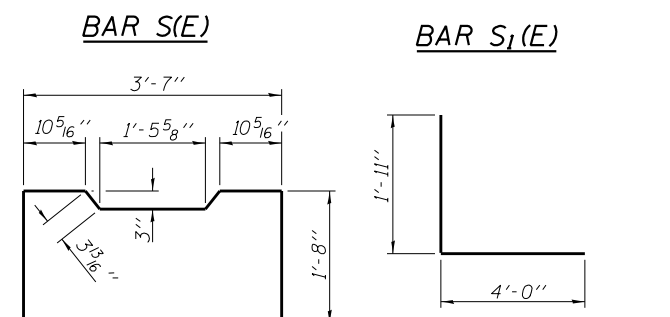
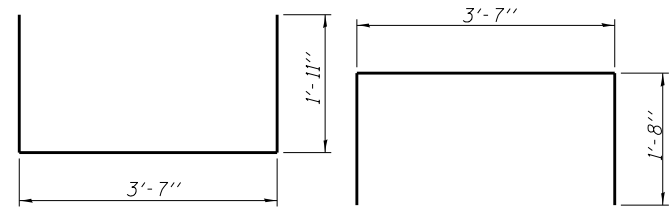
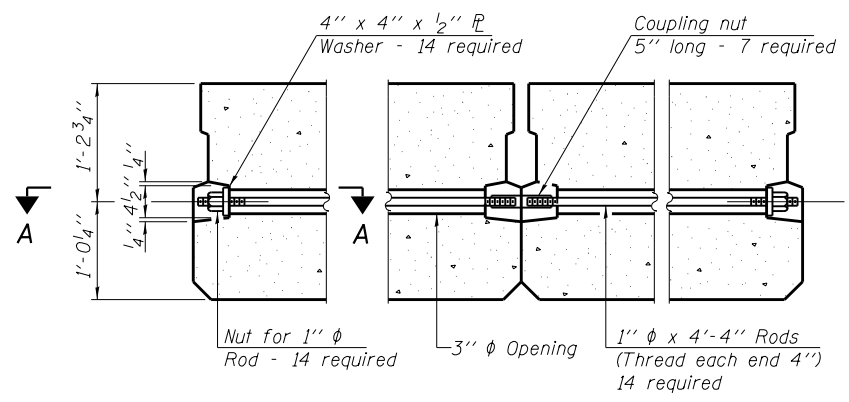
SHEET NO. 5 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-112)	CHAMPAIGN	45	20
CONTRACT NO. 70599				

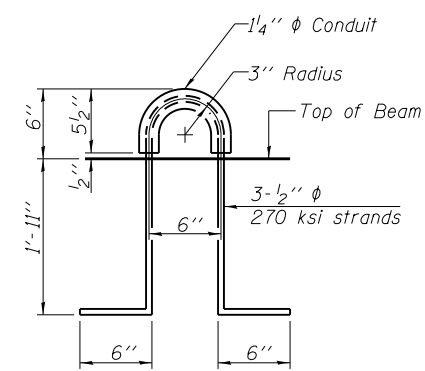
ILLINOIS FED. AID PROJECT



**Notes:**  
 All bearing pads shall be 1" thick.  
 Omit holes when using expansion bearings.  
 Expansion bearing pad shall be bonded to the substructure.



**NOTES**  
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
 Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
 A minimum 2 1/2" φ lifting pin shall be used to engage the lifting loops during handling.  
 Corrosion Inhibitor, per Article 1020.05(b)(10) of the Supplemental Specifications and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
 Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
 Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	2145
---	---------	------

F:\Projects\10-006-7\dr\ings\CADD SHEETS\0102232-70599-006-DeckBmDet.dgn

PD-2748-LD 7-1-10

McDonough-Whitlow, P.C.  
 Consulting Engineers & Land Surveyors  
 PROFESSIONAL DESIGN NO. 184-002754

USER NAME = Jlm	DESIGNED - CMF	REVISED -
PLOT SCALE = 0.25000' = 1"	CHECKED - TMM	REVISED -
PLOT DATE = 10/2/2015	DRAWN - JLM	REVISED -
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

27" x 48" PPC DECK BEAM DETAILS  
 STRUCTURE NO. 010-0292

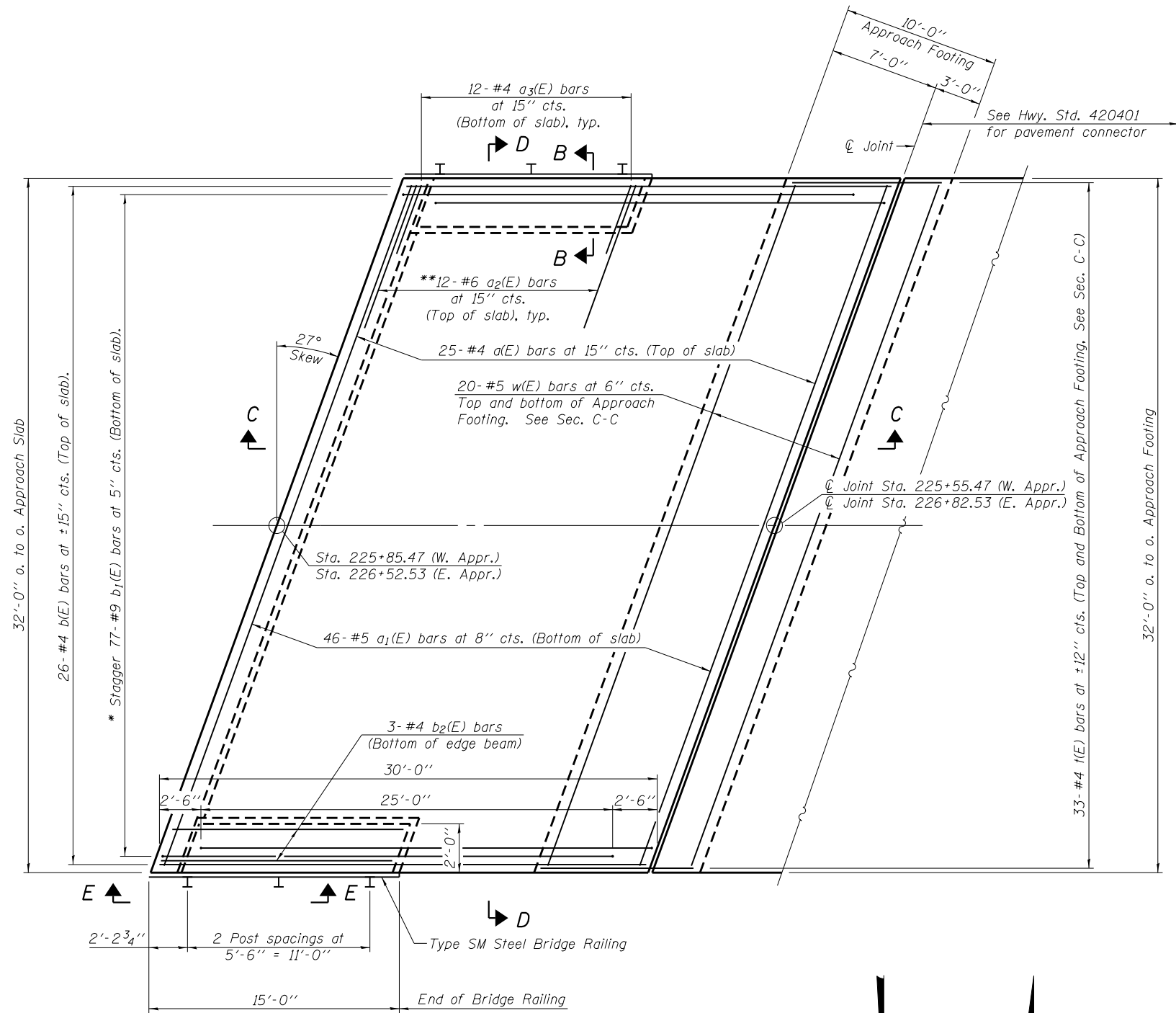
SHEET NO. 6 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-112)	CHAMPAIGN	45	21
CONTRACT NO. 70599				

ILLINOIS FED. AID PROJECT

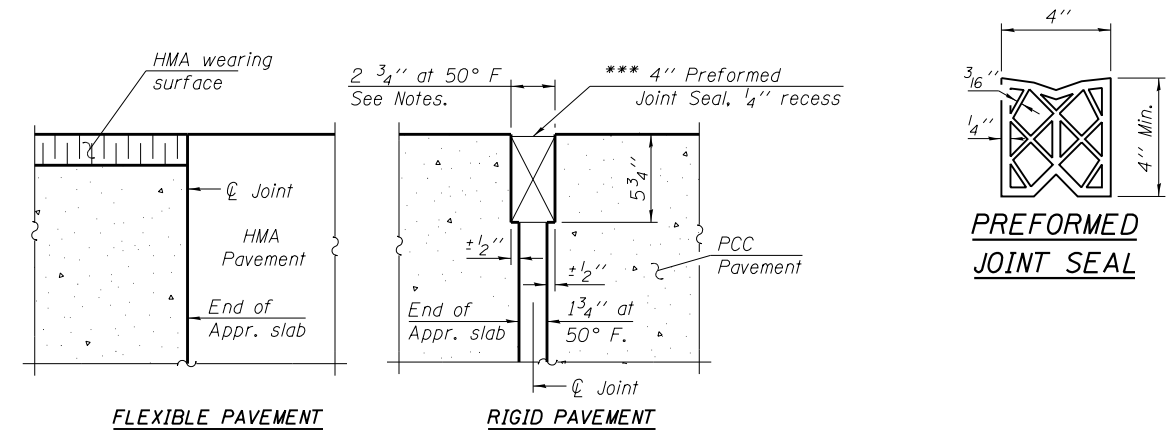
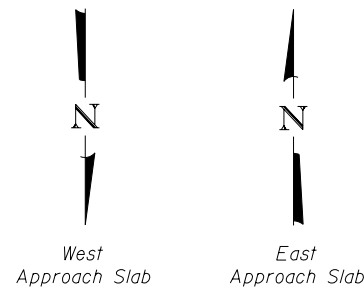
Notes:  
 See sheet 8 of 14 for Sections C-C, D-D, and View E-E.  
 a(E), a<sub>1</sub>(E), a<sub>2</sub>(E), and a<sub>3</sub>(E) bar spacings measured along  $\hat{C}$  Rdwy.  
 The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1 1/2' for installation purposes.  
 See sheet 9 of 14 for Type SM Steel Railing details.

\*\*\* Cost included with Concrete Superstructure.

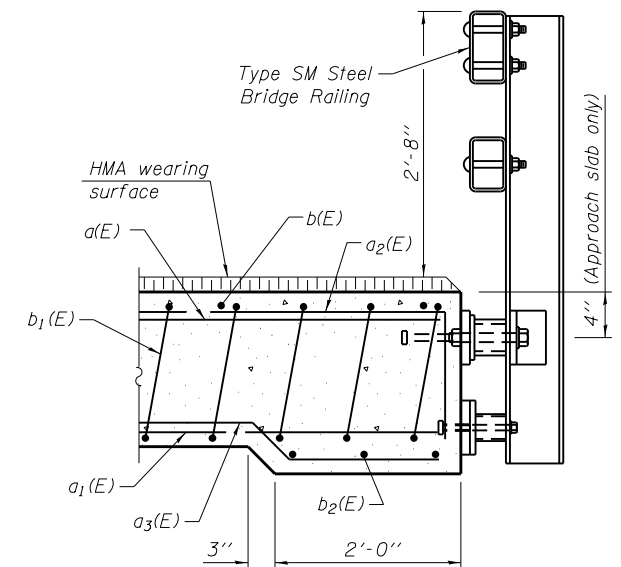


PLAN

\* Tilt #9 b<sub>1</sub>(E) bars as required to maintain clearance.  
 \*\* Space between a(E) bars, typ. at Bridge Railing.



DETAIL A

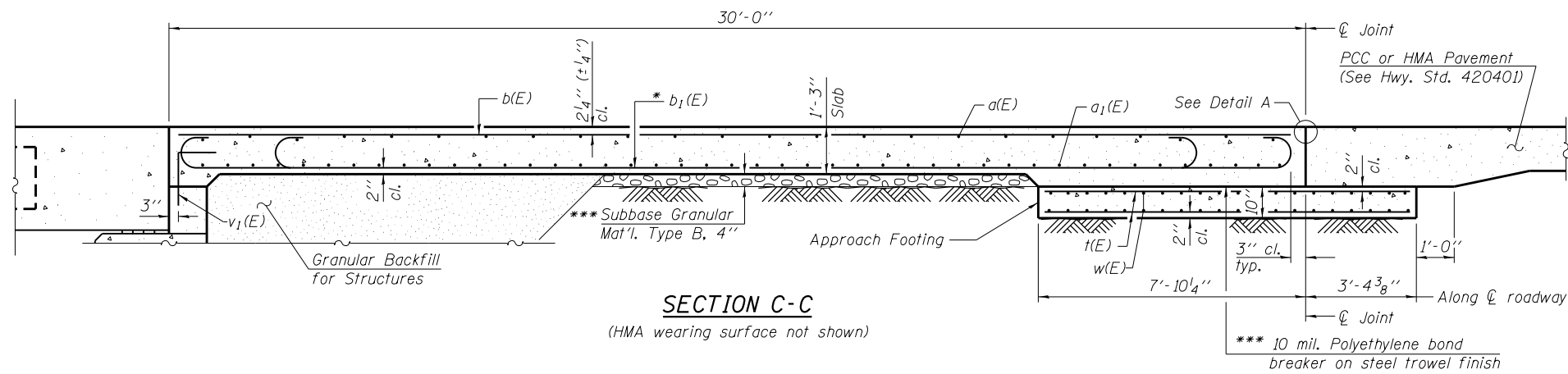


SECTION B-B

(Sheet 1 of 2)

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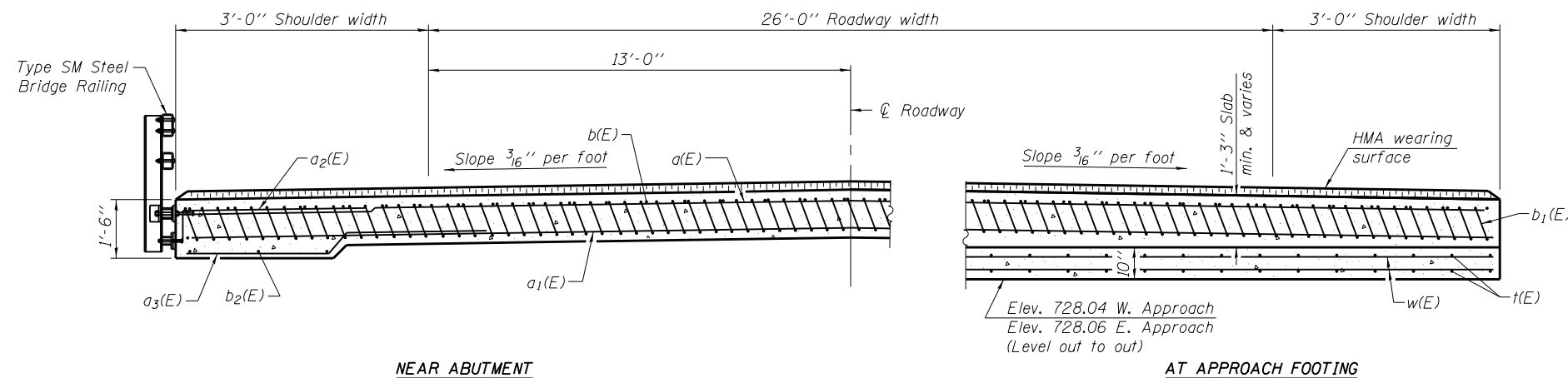
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	22
CONTRACT NO. 70599				



**SECTION C-C**  
(HMA wearing surface not shown)

**Notes:**

See sheet 7 of 14 for Detail A and Section B-B.  
 Approach slab concrete shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 For  $v_1(E)$  bar details, see sheet 10 of 14.  
 The approach footing maximum applied service bearing pressure ( $Q_{max}$ ) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 11 of 14.  
 See sheets 2 & 3 of 14 for locations of Theoretical Grade Elevations at the approach slabs as indicated in View E-E.



**NEAR ABUTMENT**

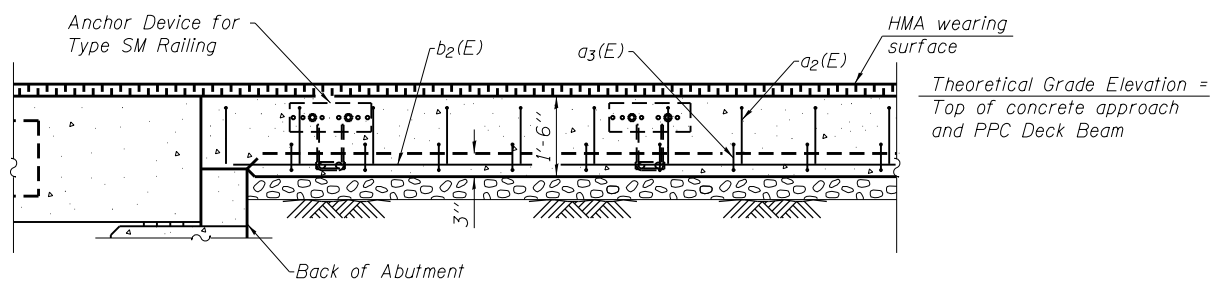
**SECTION D-D**

(See Plan for dimensions not shown)

**AT APPROACH FOOTING**

\* Tilt #9  $b_1(E)$  bars as required to maintain clearance.

\*\*\* Cost included with Concrete Superstructure.

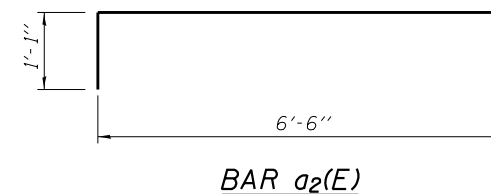


**VIEW E-E**

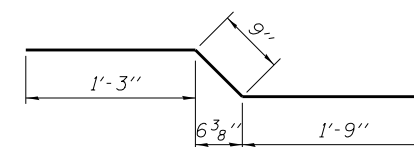
Not all reinforcement is shown in View E-E for clarity. See sheet 7 of 14 for additional details.

**TWO APPROACHES  
BILL OF MATERIAL**

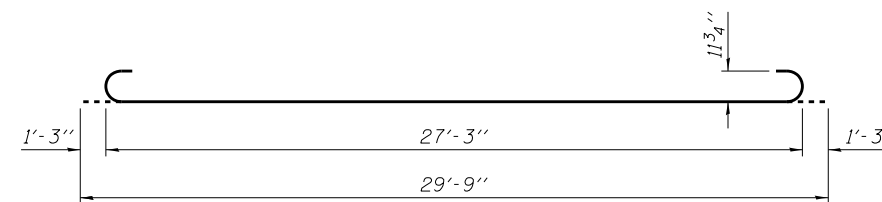
Bar	No.	Size	Length	Shape
$a(E)$	50	#4	35'-6"	—
$a_1(E)$	92	#5	35'-6"	—
$a_2(E)$	48	#6	7'-7"	┌
$a_3(E)$	48	#4	3'-9"	┌
$b(E)$	52	#4	29'-8"	—
$b_1(E)$	154	#9	29'-9"	┌
$b_2(E)$	12	#4	14'-6"	—
$t(E)$	132	#4	10'-10"	—
$w(E)$	80	#5	35'-6"	—
Concrete Superstructure		Cu. Yd.	92.8	
Concrete Structures		Cu. Yd.	22.1	
Reinforcement Bars, Epoxy Coated		Pound	25,900	



**BAR  $a_2(E)$**



**BAR  $a_3(E)$**

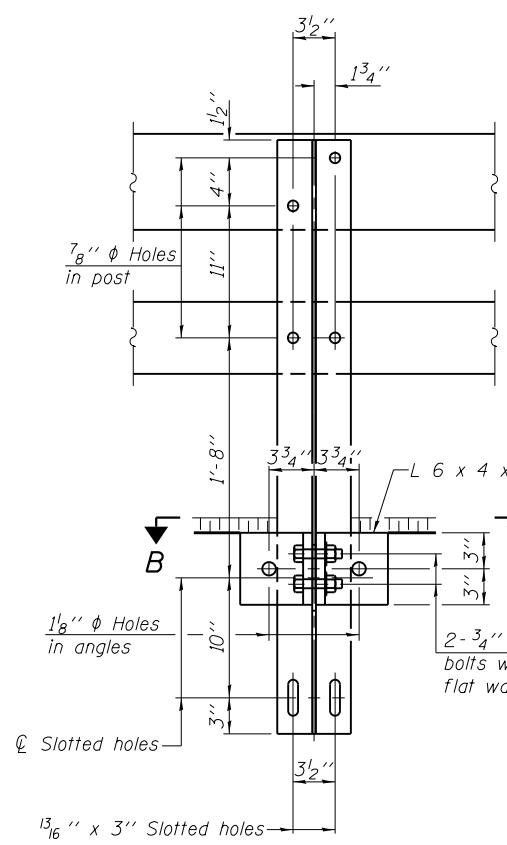


**BAR  $b_1(E)$**

(Sheet 2 of 2)

F:\Projects\100-006-7\Drawings\CADD SHEETS\1002232-70599-008-ApproachSlabSect.dgn

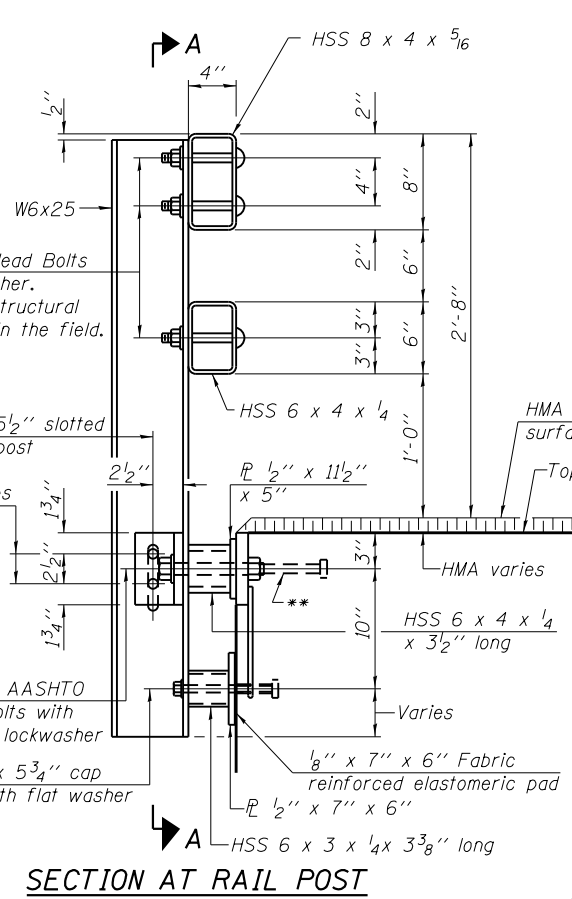
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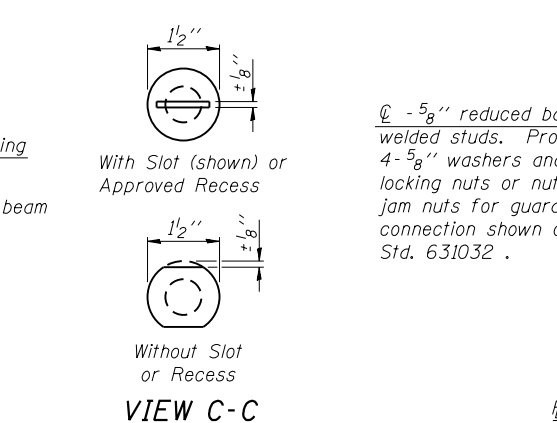
4-3/4" φ x 6" Round Head Bolts with locknut & flat washer.  
7/8" φ holes in hollow structural section may be drilled in the field.

2-3/4" φ x 3/4" H.S. bolts with hex nut & flat washers  
2-1" φ x 7 3/4" AASHTO M-164 anchor bolts with flat washer and lockwasher  
2-5/8" φ x 5 3/4" cap screws with flat washer

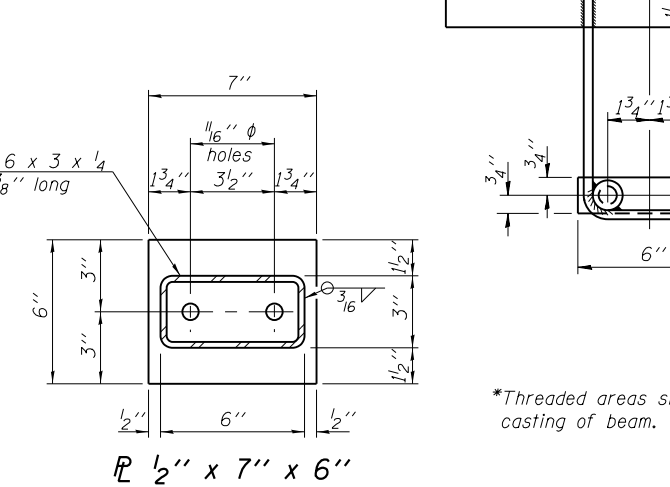
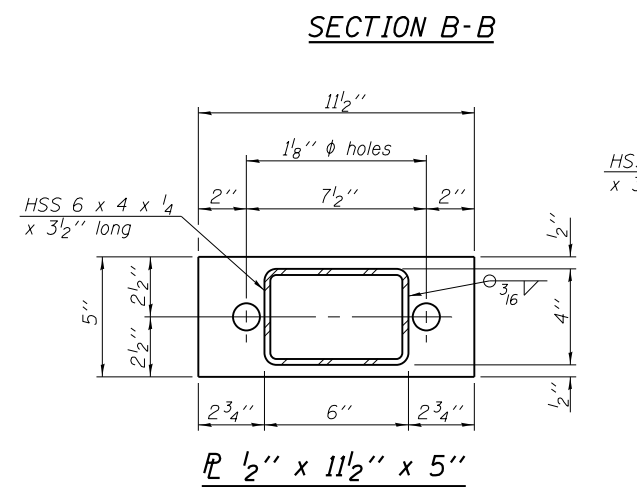
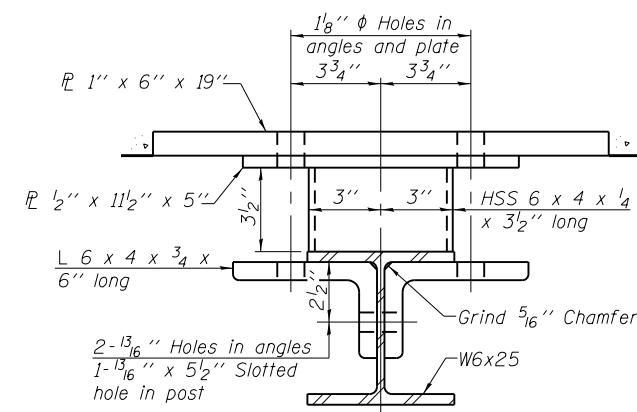
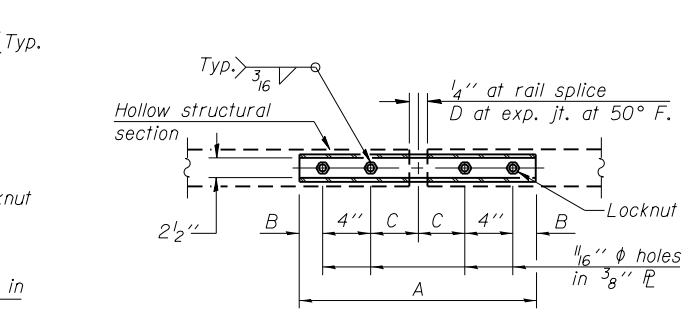
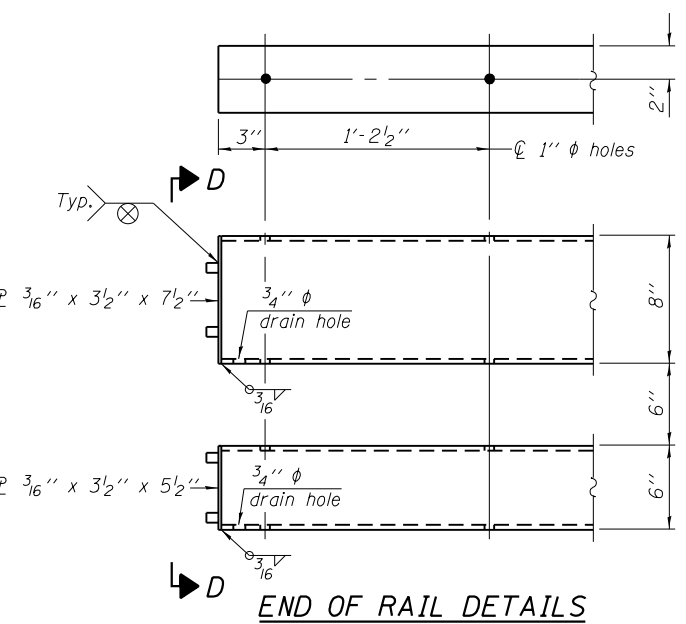
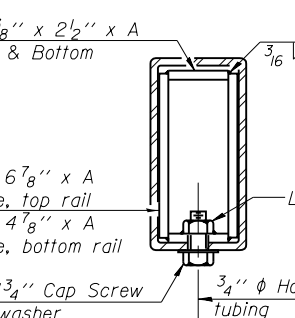
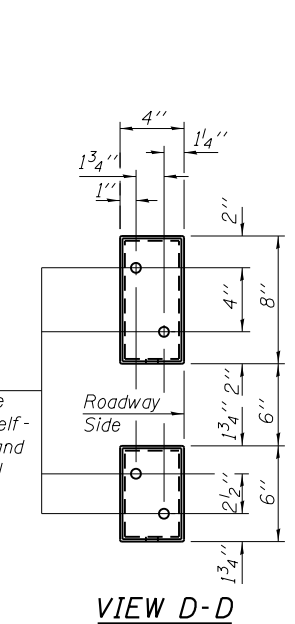
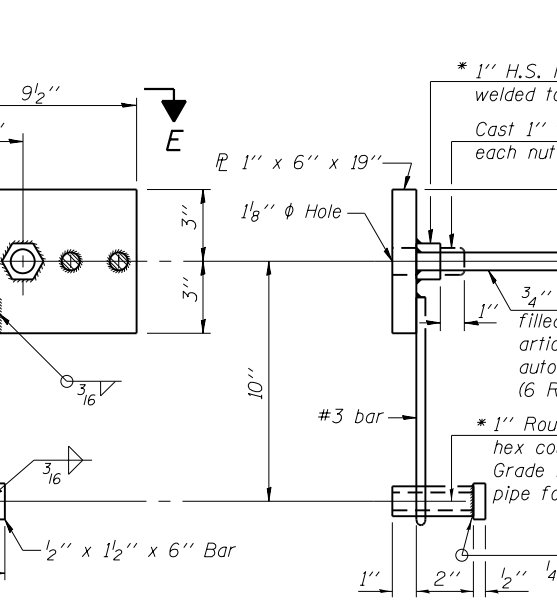
1/8" φ Holes in angles  
1 1/2" x 3" Slotted holes



**DETAIL OF 3/4" φ ROUND HEAD BOLT**



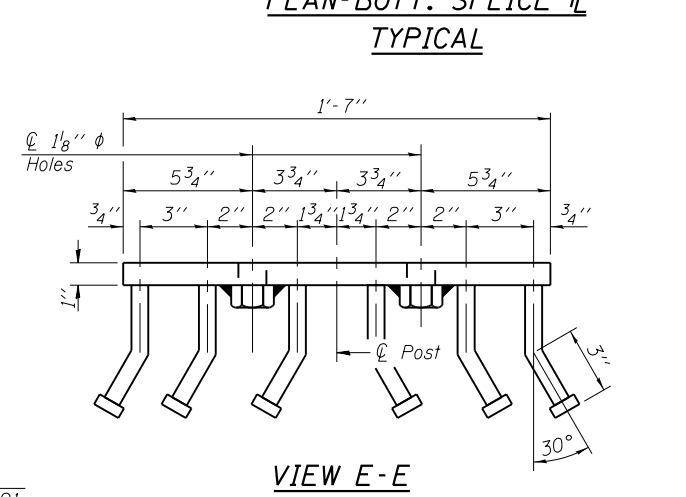
**RAIL SPLICE CONNECTION AT EXPANSION JT.**



**SPLICE DIMENSIONS**

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.



Notes:  
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.  
\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type SM	Foot	194

R-34HMAWS 1-12-15 (6'-3" Maximum Post Spacing) (1/4" minimum to 3/8" maximum HMA thickness)

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PLOT DATE = 5/27/2015	DRAWN - JLM	REVISED -
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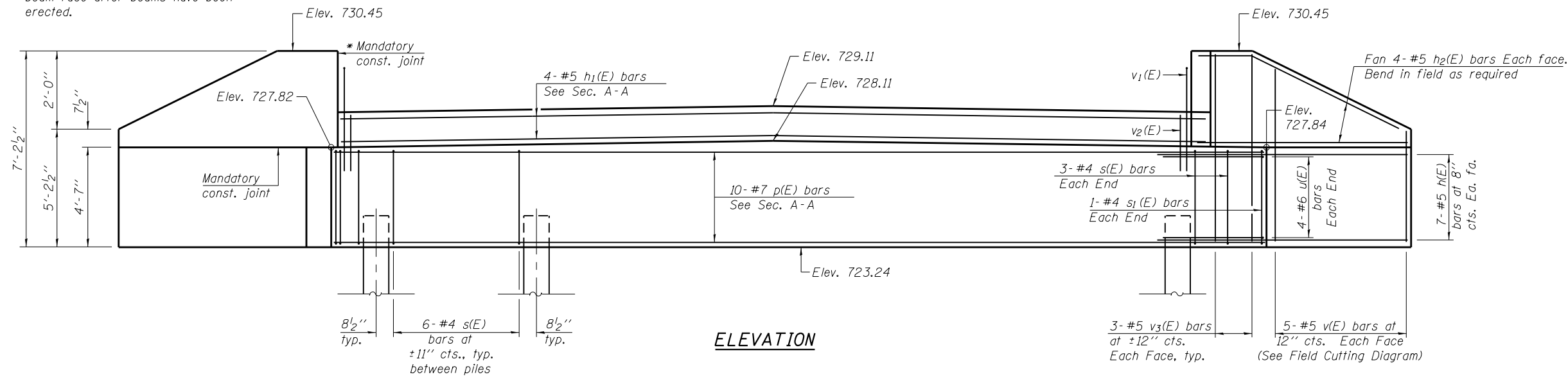
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE SM WITH HOT-MIX ASPHALT WEARING SURFACE  
STRUCTURE NO. 010-0292

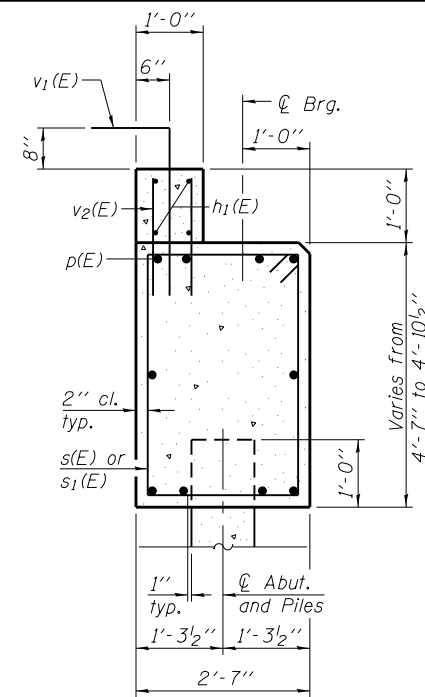
F.A.S. RTE. 502	SECTION 106BR-1(2)	COUNTY CHAMPAIGN	TOTAL SHEETS 45	SHEET NO. 24
CONTRACT NO. 70599				



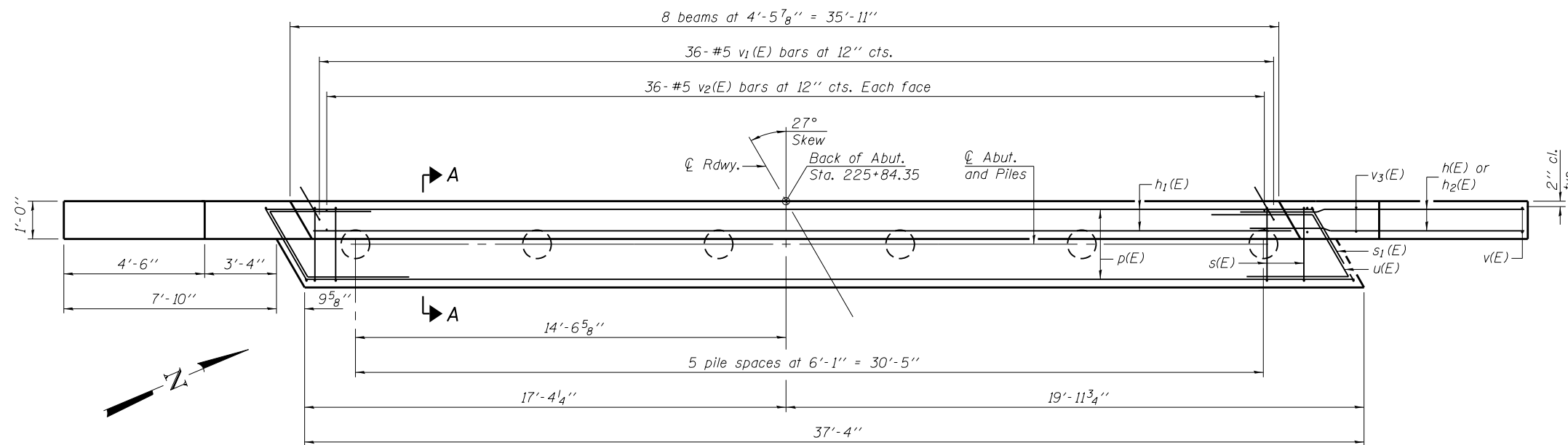
\* Cast end of wingwall flush with exterior beam face after beams have been erected.



**ELEVATION**



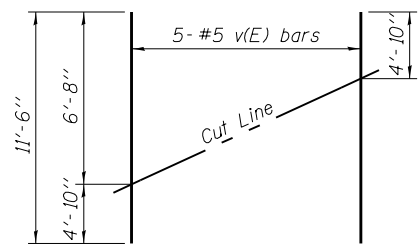
**SECTION A-A**  
(Dimensions are at Rt. L's)



**PLAN**

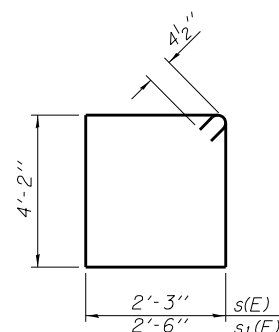
**PILE DATA**

Type: Metal Shell 12"φx0.25" walls with Pile Shoes  
 Nominal Required Bearing: 353 kips  
 Factored Resistance Available: 194 kips  
 Est. Length: 53 ft.  
 No. Production Piles: 5  
 No. Test Piles: 1

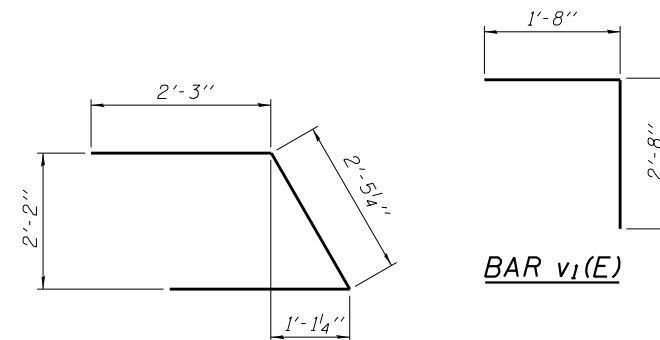


**FIELD CUTTING DIAGRAM**

Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



**BARS s(E) & s1(E)**



**BAR v1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	28	#5	10'-4"	—
h1(E)	4	#5	35'-7"	—
h2(E)	16	#5	8'-0"	—
p(E)	10	#7	36'-11"	—
s(E)	36	#4	13'-7"	□
s1(E)	2	#4	14'-1"	□
u(E)	8	#6	7'-0"	┘
v(E)	10	#5	11'-6"	—
v1(E)	36	#5	4'-4"	┘
v2(E)	72	#5	2'-4"	—
v3(E)	12	#5	6'-10"	—
Structure Excavation		Cu. Yd.	120	
Concrete Structures		Cu. Yd.	21.9	
Reinforcement Bars, Epoxy Coated		Pound	2,310	
Furnishing Metal Shell Piles 12"x0.250"		Foot	265	
Driving Piles		Foot	265	
Test Pile Metal Shells		Each	1	
Pile Shoes		Each	6	

Notes:  
 For details of piles, see sheet 12 of 14.  
 Cast backwall after beams and concrete wearing surface, if applicable, have been erected.  
 Location of the Test Pile shall be in a production location, and shall be selected based on coordination with the Engineer.

F:\Projects\DOT PROJECTS\10-006-7\Drawings\CADD SHEETS\010022-70599-010-WestAbut.dgn

AD-2742-L

7-1-10

McDonough-Whitlow, P.C.  
 Consulting Engineers & Land Surveyors  
 PROFESSIONAL DESIGN No. 184-002754

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 CHECKED = TMM  
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 PLOT DATE = 9/28/2015

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 CHECKED - TMM

REVISED -  
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 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

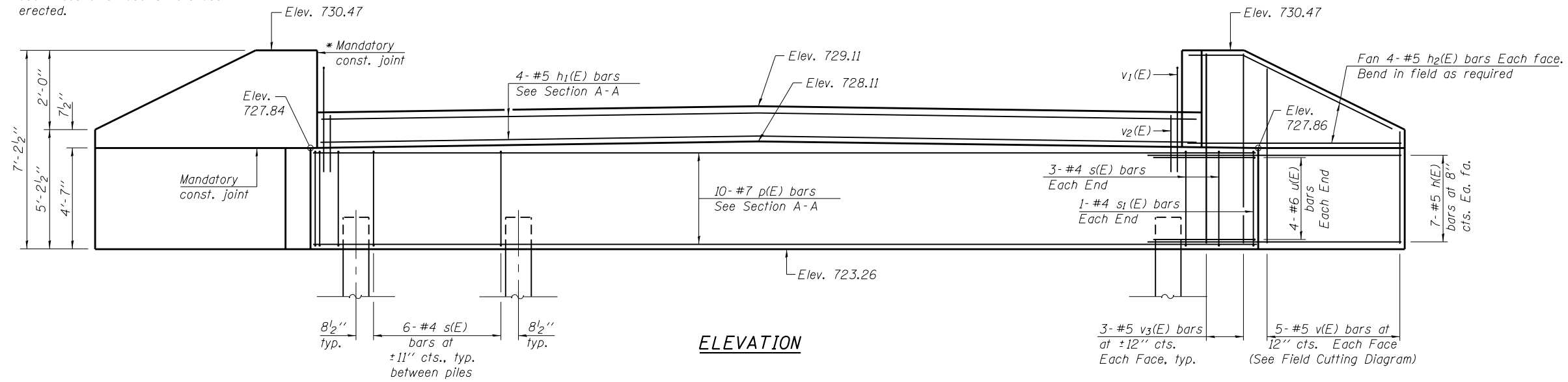
WEST ABUTMENT  
 STRUCTURE NO. 010-0292

SHEET NO. 10 OF 14 SHEETS

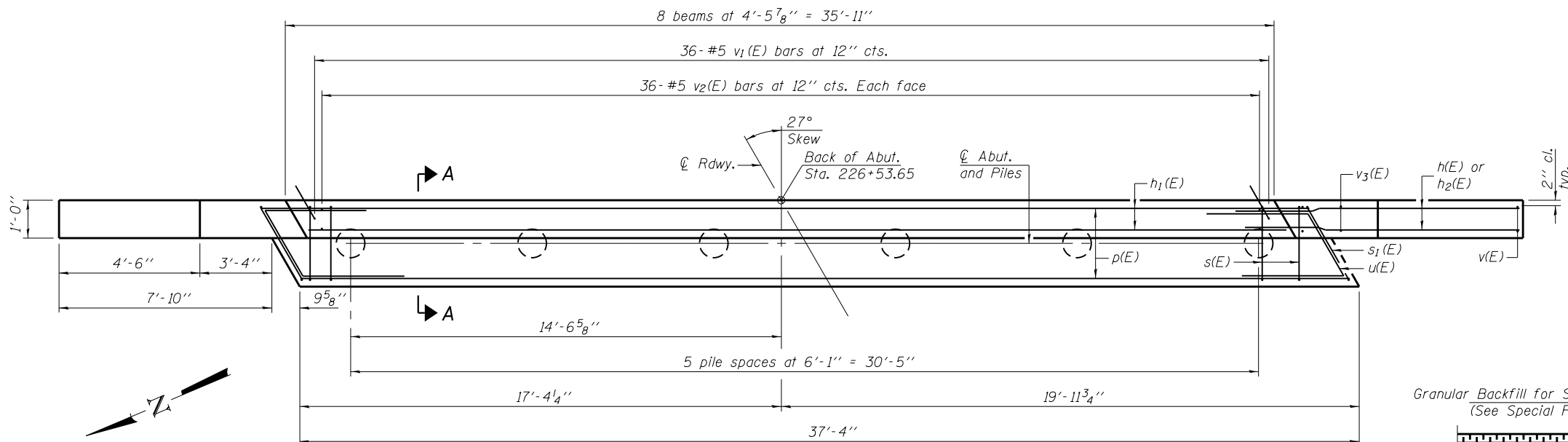
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-112)	CHAMPAIGN	45	25
CONTRACT NO. 70599				

ILLINOIS FED. AID PROJECT

\* Cast end of wingwall flush with exterior beam face after beams have been erected.



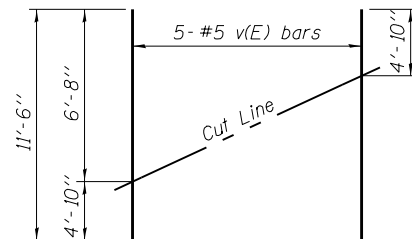
**ELEVATION**



**PLAN**

**PILE DATA**

Type: Metal Shell 12"φx0.25" walls with Pile Shoes  
 Nominal Required Bearing: 300 kips  
 Factored Resistance Available: 165 Kips  
 Est. Length: 55 ft.  
 No. Production Piles: 5  
 No. Test Piles: 1



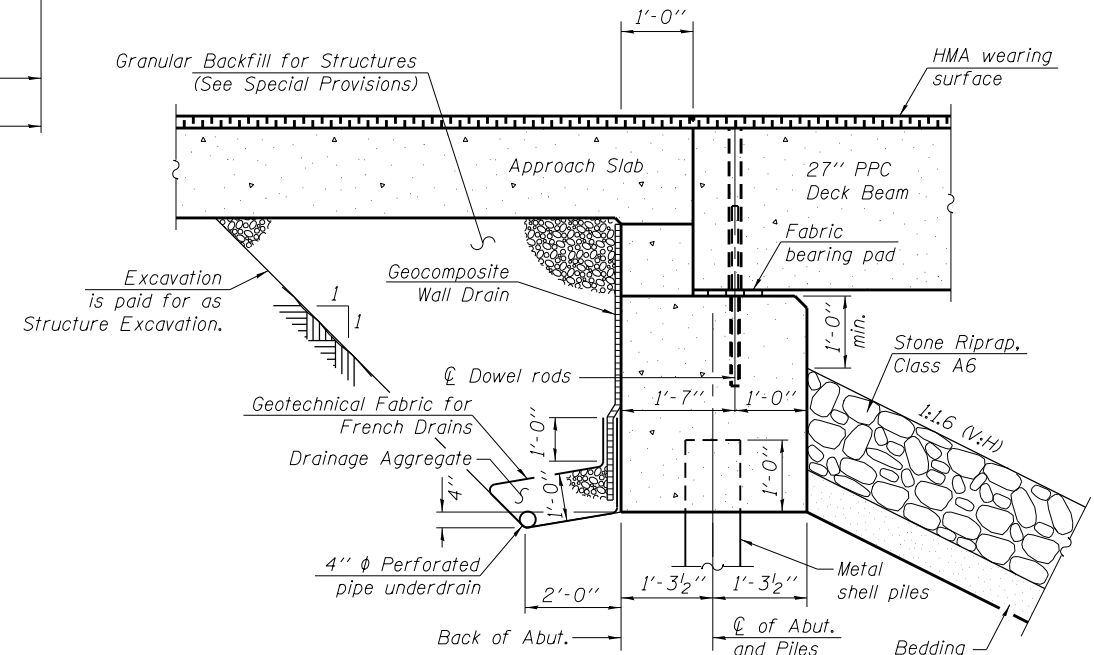
**FIELD CUTTING DIAGRAM**

Order v(E) full length. Cut as shown and use remainder of bars in opposite face.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	28	#5	10'-4"	—
h <sub>1</sub> (E)	4	#5	35'-7"	—
h <sub>2</sub> (E)	16	#5	8'-0"	—
p(E)	10	#7	36'-11"	—
s(E)	36	#4	13'-7"	□
s <sub>1</sub> (E)	2	#4	14'-1"	□
u(E)	8	#6	7'-0"	⌒
v(E)	10	#5	11'-6"	—
v <sub>1</sub> (E)	36	#5	4'-4"	⌒
v <sub>2</sub> (E)	72	#5	2'-4"	—
v <sub>3</sub> (E)	12	#5	6'-10"	—
Structure Excavation	Cu. Yd.		119	
Concrete Structures	Cu. Yd.		21.9	
Reinforcement Bars, Epoxy Coated	Pound		2,310	
Furnishing Metal Shell Piles 12"x0.250"	Foot		275	
Driving Piles	Foot		275	
Test Pile Metal Shells	Each		1	
Pile Shoes	Each		6	

Notes:  
 For details of piles, see sheet 12 of 14.  
 Cast backwall after beams and concrete wearing surface, if applicable, have been erected.  
 For details of bars s(E), s<sub>1</sub>(E), u(E), and v<sub>1</sub>(E) and Section A-A see sheet 10 of 14.  
 Location of the Test Pile shall be in a production location, and shall be selected based on coordination with the Engineer.



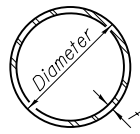
**SECTION THRU ABUTMENT**

(Dimensions are at Rt. L's)

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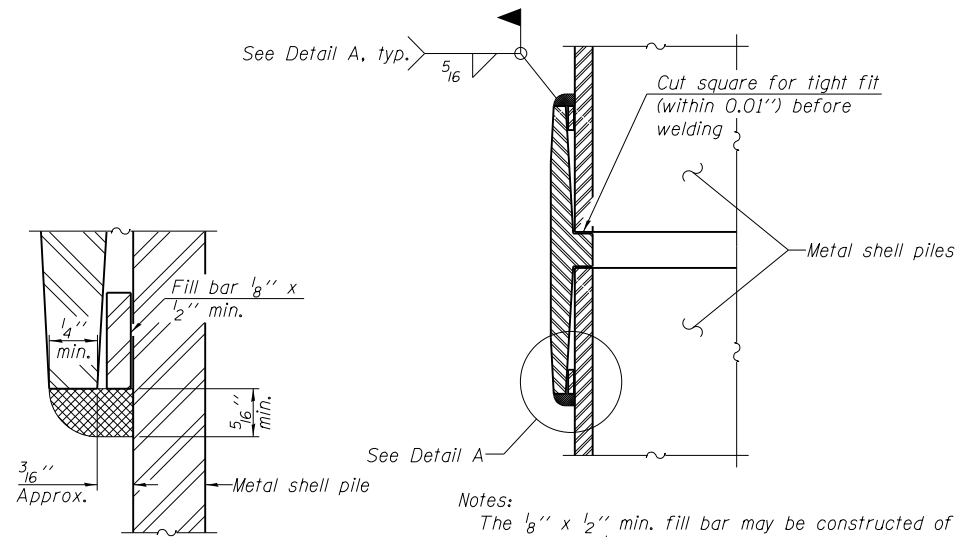
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F.A.S. RTE. 502	SECTION 106BR-1(2)	COUNTY CHAMPAIGN	TOTAL SHEETS 45	SHEET NO. 26
CONTRACT NO. 70599				ILLINOIS FED. AID PROJECT



**METAL SHELL PILE TABLE**

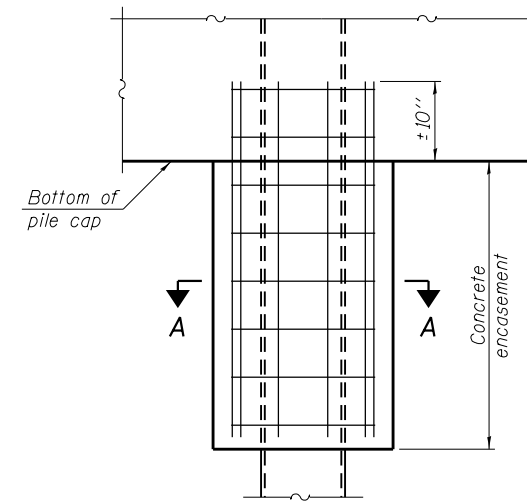
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



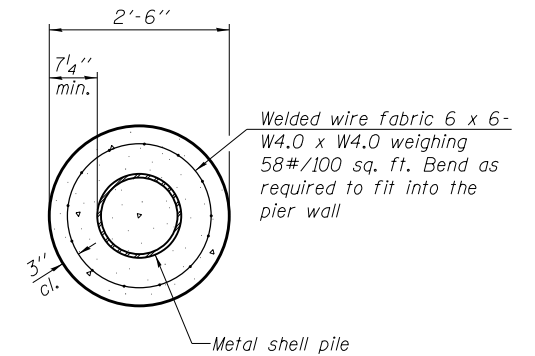
**DETAIL A**

Notes:  
 The  $\frac{1}{8}$ " x  $\frac{1}{2}$ " min. fill bar may be constructed of 2 bars with a  $\frac{1}{8}$ " max. gap between them.  
 Pile segments shall be driven to solid contact with splicer before welding.

**WELDED COMMERCIAL SPLICE**



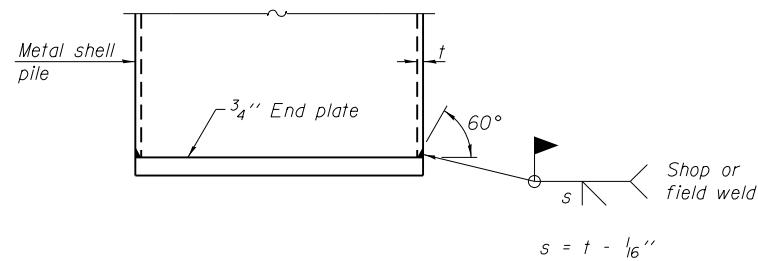
**ELEVATION**



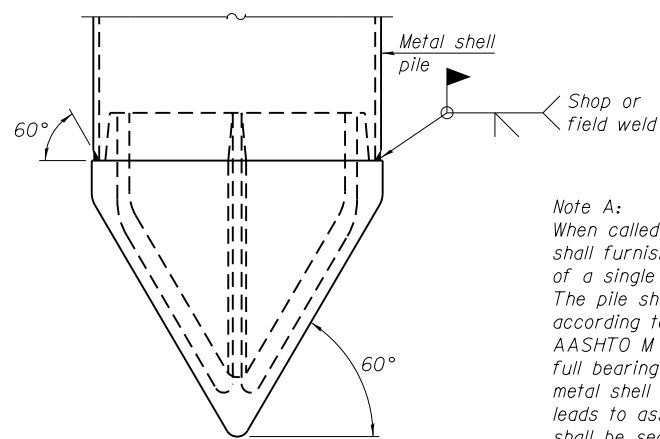
**SECTION A-A**

Note:  
 Forms for encasement may be omitted when soil conditions permit.

**CONCRETE ENCASEMENT AT PIERS**



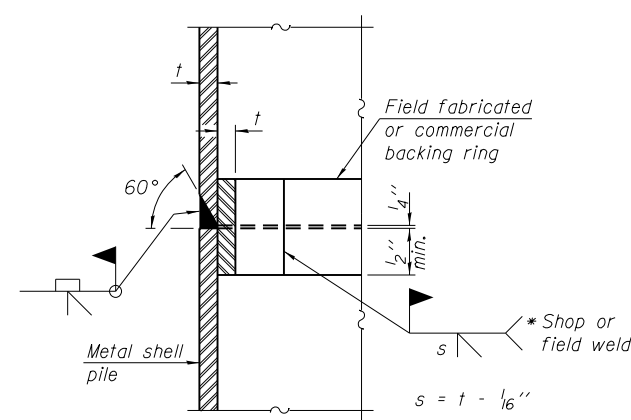
**END PLATE ATTACHMENT**



Note A:  
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

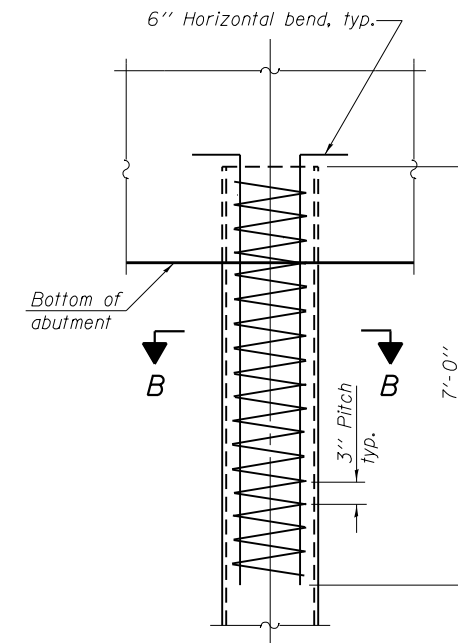
**METAL SHELL PILE SHOE ATTACHMENT**

(See Note A)

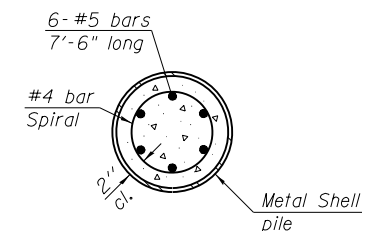


**COMPLETE PENETRATION WELD SPLICE**

\* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



**ELEVATION**



**SECTION B-B**

**METAL SHELL REINFORCEMENT AT ABUTMENTS**

Note:  
 The metal shell piles shall be according to ASTM A 252 Grade 3.

F:\Projects\DOT PROJECTS\08-006-7\dr-rings\CADD SHEETS\080232-70599-012-M15Shel1[P].dwg

F-MS 1-27-12



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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**METAL SHELL PILE DETAILS  
 STRUCTURE NO. 010-0292**

SHEET NO. 12 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	27
CONTRACT NO. 70599				

ILLINOIS FED. AID PROJECT





Illinois Department  
of Transportation  
Division of Highways  
State of Illinois

SOIL BORING LOG

Page 1 of 2

Date 5/8/14

ROUTE FAS 502 (CH 20) DESCRIPTION 1.3 Miles West of Leverett on CH 20 LOGGED BY CNA

SECTION 106BR-1(2) LOCATION SW, SEC. 17, TWP. 20N, RNG. 9E, 3rd PM, GPS: 40.189283, -88.216719

COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. Station	D E P T H	S P T	U C S	M O I S T	Surface Water Elev. Stream Bed Elev.	D E P T H	S P T	U C S	M O I S T	Groundwater Elev.: First Encounter Upon Completion After _____ Hrs.	D E P T H	S P T	U C S	M O I S T
010-0131 Exist. 226+19					715.4 714.4					697.0 697.0				
2 East Abut. 226+66														
11.00ft Lt. 730														
Asphalt Pavement														
729.00														
Brown to Gray/Brown Mixed Silty Clay Loam (Embankment)														
707.00														
Gray Clay Loam Till														
721.50														
Brown Mottled Silty Clay Loam														
719.00														
Gray Silt Loam to Silty Clay Loam Till (Soft)														
697.00														
Gray Poorly Sorted Coarse Sand with Gravel														
714.50														
Gray Clay Loam to Silty Clay Loam Till														
690.50														
Gray Silt														

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, from 137 (Rev. 8-99)



Illinois Department  
of Transportation  
Division of Highways  
State of Illinois

SOIL BORING LOG

Page 2 of 2

Date 5/8/14

ROUTE FAS 502 (CH 20) DESCRIPTION 1.3 Miles West of Leverett on CH 20 LOGGED BY CNA

SECTION 106BR-1(2) LOCATION SW, SEC. 17, TWP. 20N, RNG. 9E, 3rd PM, GPS: 40.189283, -88.216719

COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. Station	D E P T H	S P T	U C S	M O I S T	Surface Water Elev. Stream Bed Elev.	D E P T H	S P T	U C S	M O I S T	Groundwater Elev.: First Encounter Upon Completion After _____ Hrs.	D E P T H	S P T	U C S	M O I S T
010-0131 Exist. 226+19					715.4 714.4					697.0 697.0				
2 East Abut. 226+66														
11.00ft Lt. 730														
Gray Silt (continued)														
686.00														
Dark Gray Clay Loam Till with Large Gravel (continued)														
688.00														
Gray Mottled Silty Clay to Clay (Firm to Hard)														
681.50														
Gray Clay Loam Till														
655.00														
Dark Gray Clay Loam Till with Large Gravel														
671.50														
End of Boring														

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, from 137 (Rev. 8-99)

F:\Projects\DDT PROJECTS\10-006-7\Drawings\CAD SHEETS\010-0131\010-0131-014-SoilBoringLog.dgn



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

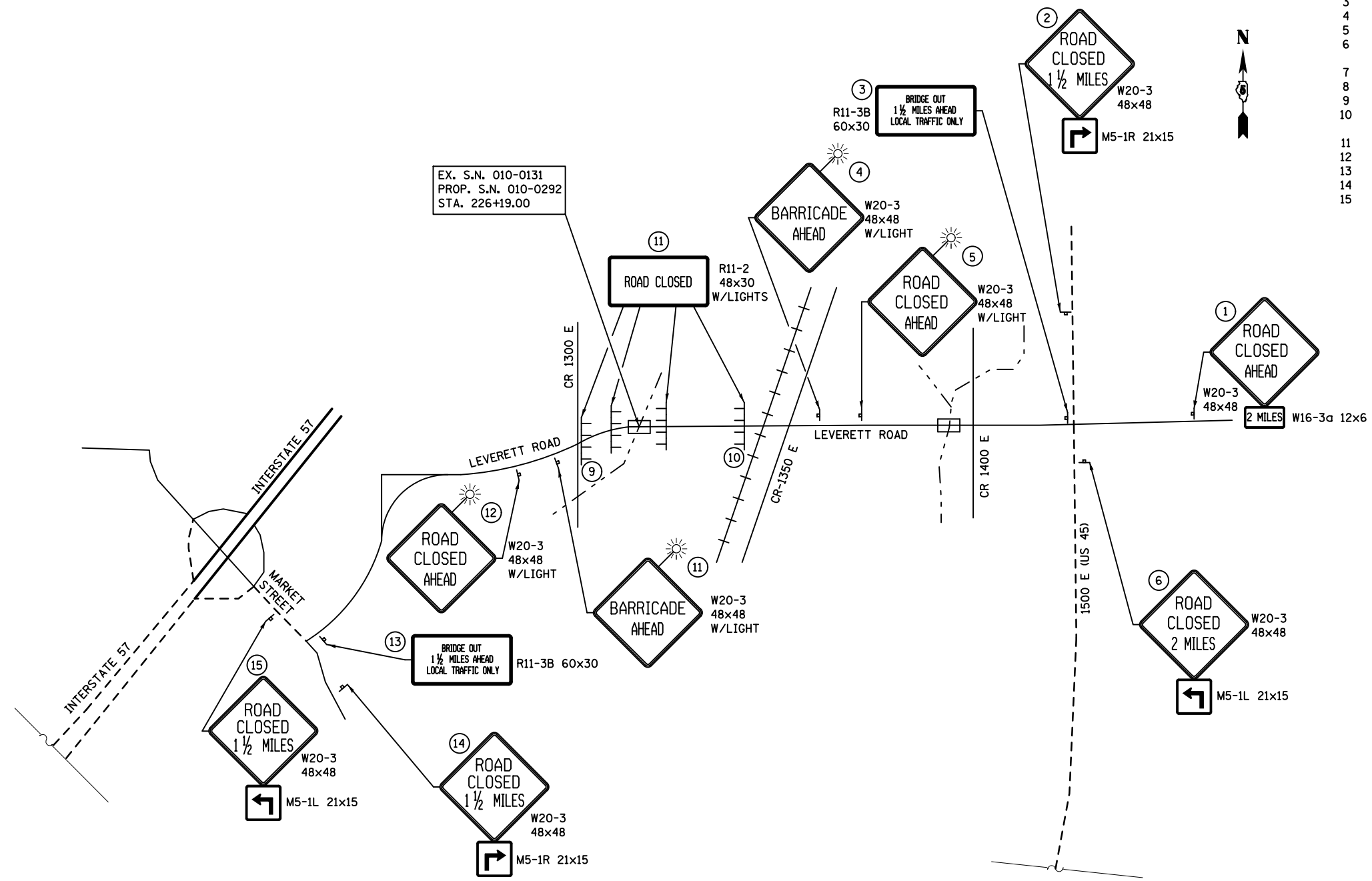
SOIL BORING LOGS  
STRUCTURE NO. 010-0292

SHEET NO. 14 OF 14 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	29
CONTRACT NO. 70599				

ILLINOIS FED. AID PROJECT

SIGN NO.	LOCATION
1	ERECT BESIDE STOP AHEAD SIGN
2	ERECT BESIDE CROSSROAD LEVERETT ROAD SIGN
3	ERECT 75' ± WEST OF US 45 SIGN
4	ERECT 500' ± EAST OF RAILROAD
5	ERECT 1000' ± EAST OF RAILROAD
6	ERECT IN CRT MEDIAN SHIELD AT START OF LEFT TURN LANE FOR LEVERETT ROAD
7	ERECT 75' ± EAST OF INTERSECTION
8	ERECT ON TYPE 3 BARRICADES
9	ERECT ON LEVERETT RD JUST EAST OF CR 1300 E
10	ERECT ON LEVERETTE RD JUST WEST OF LEVERETT GRAIN ELEVATOR ENTRANCE
11	ERECT 500' ± WEST OF CR 1300 E
12	ERECT 1000' ± WEST OF CR 1300 E
13	ERECT 200' ± NORTHEAST OF MARKET STREET
14	ERECT BY LEVERETT 2 SIGN
15	ERECT BETWEEN RAMP AND LEVERETT ROAD



EX. S.N. 010-0131  
PROP. S.N. 010-0292  
STA. 226+19.00

**LEGEND:**

	TYPE III BARRICADE
	POST MOUNTED SIGN

- NOTES:**
- EXISTING SIGNS WHICH CONFLICT WITH THE ROAD CLOSURE SHALL BE COVERED. COST OF COVERING EXISTING SIGNS SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION, (SPECIAL).
  - LEVERETT ROAD SHALL NOT BE CLOSED UNTIL ALL ROAD CLOSURE SIGNING IS ERECTED AND APPROVED BY THE ENGINEER.
  - AS A MINIMUM, ALL AMBER FLASHING LIGHTS THAT ARE REQUIRED FOR THE ROAD CLOSURE SIGNING SHALL MEET THE REQUIREMENTS FOR TYPE A - LOW INTENSITY FLASHING PER ARTICLE 116.02 OF THE STANDARD SPECIFICATIONS. ALL LIGHTS SHALL OPERATE DURING HOURS OF DARKNESS. ONLY LIGHTS THAT HAVE BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION SHALL BE USED.
  - ROAD CONSTRUCTION AHEAD SIGNS SHALL BE ERECTED AT APPLICABLE SIDE ROADS AS DIRECTED BY THE ENGINEER.

FILE NAME = c:\pwwork\pwwork\grazio\010688\0578599\shd-detour.dgn

**STRAND**  
ENGINEERS  
1170 SOUTH HOUBOLT ROAD  
JOLIET, ILLINOIS 60431  
(815) 744-4200

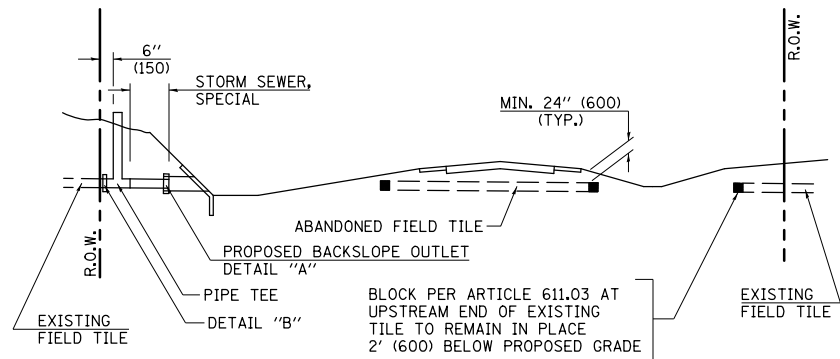
USER NAME = grazianoja	DESIGNED - RRD	REVISED -
	DRAWN - KAS	REVISED -
PLOT SCALE =	CHECKED - JAR	REVISED -
PLOT DATE = 4/27/2015	DATE - 3/14/08	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ROAD CLOSURE DETAIL**

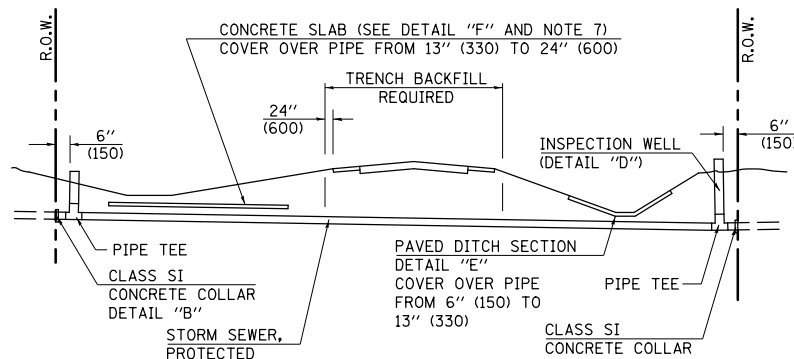
SCALE: NTS      SHEET NO. 1 OF 1 SHEETS      STA.      TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	30
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70599	



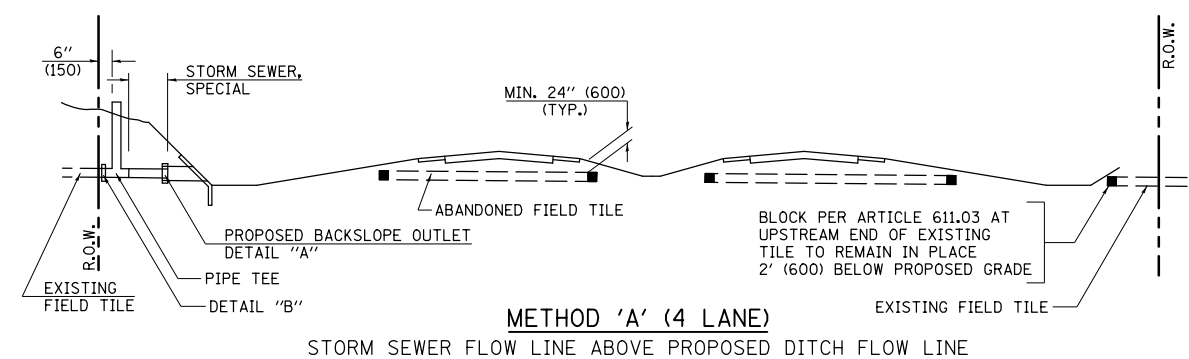
**METHOD 'A' (2 LANE)**

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE



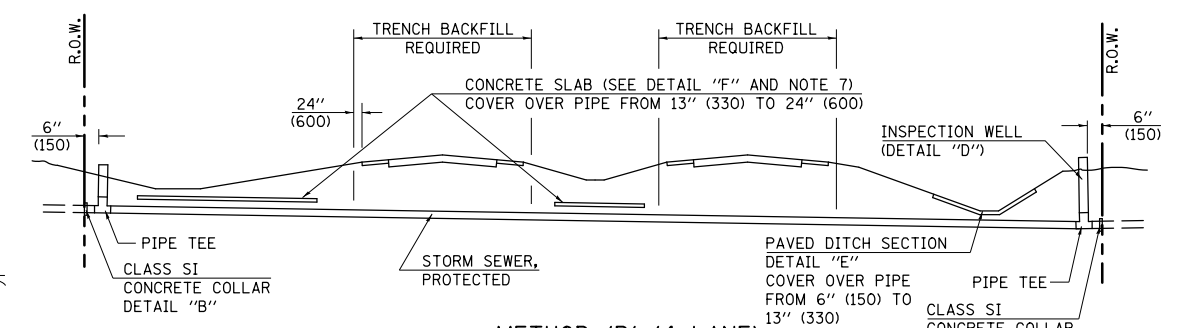
**METHOD 'B' (2 LANE)**

STORM SEWER LESS THAN 2' (600 mm) BELOW DITCH FLOW LINE AND STORM SEWERS CROSSING UNDER PAVEMENT AND PAVED DITCH



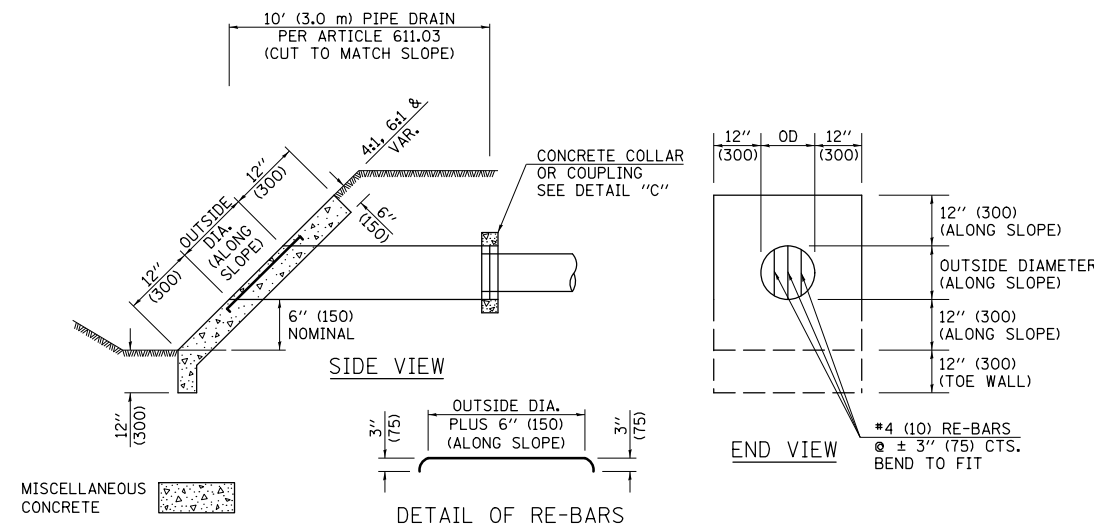
**METHOD 'A' (4 LANE)**

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE

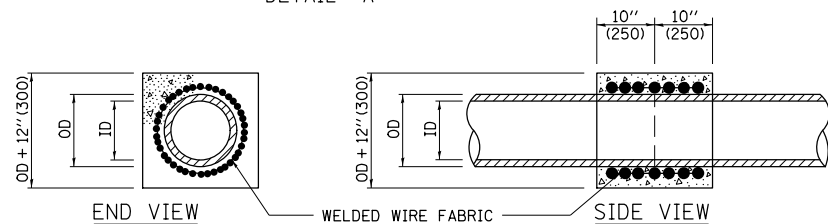


**METHOD 'B' (4 LANE)**

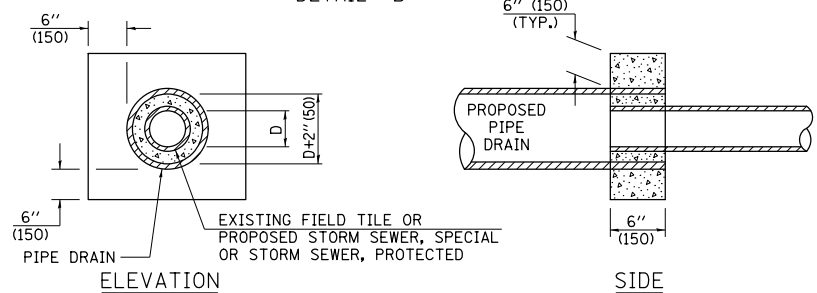
STORM SEWER LESS THAN 2' (600 mm) BELOW DITCH FLOW LINE AND STORM SEWERS CROSSING UNDER PAVEMENTS AND PAVED DITCHES



**HEADWALL FOR BACKSLOPE OUTLET**  
DETAIL "A"



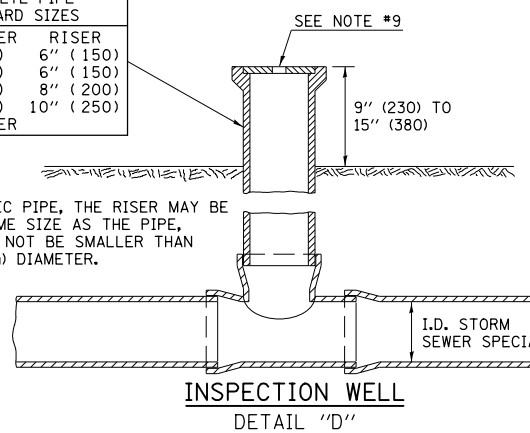
**CONCRETE COLLAR**  
DETAIL "B"



**CLASS SI COLLAR**  
DETAIL "C"

CONCRETE PIPE STANDARD SIZES	
STORM SEWER	RISER
6" (150)	6" (150)
8" (200)	6" (150)
10" (250)	8" (200)
12" (300)	8" (200)
OR GREATER	10" (250)

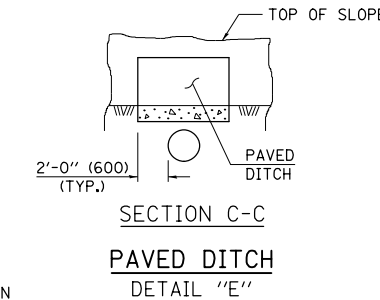
FOR PLASTIC PIPE, THE RISER MAY BE OF THE SAME SIZE AS THE PIPE, BUT SHALL NOT BE SMALLER THAN 4" (100 mm) DIAMETER.



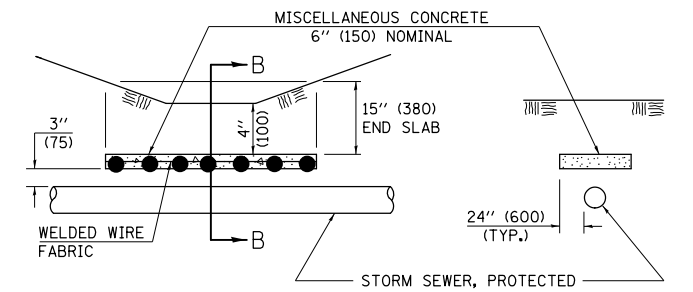
**INSPECTION WELL**  
DETAIL "D"

**GENERAL NOTES**

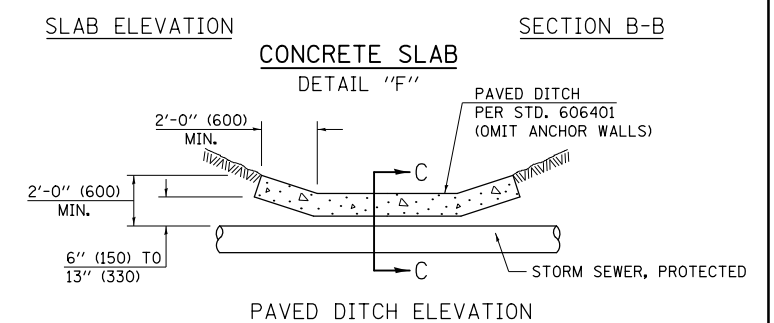
- EXISTING FIELD TILE ENCOUNTERED BY EXPLORATION TRENCH SHALL BE INSPECTED BY THE ENGINEER FOR UNOBSTRUCTED FLOW WITHIN THE LIMITS OF THE RIGHT-OF-WAY.
- ONLY FIELD TILE THAT DOES NOT HAVE SATISFACTORY FLOW AND OR HAS VISIBLE SIGNS OF DETERIORATION (SINK HOLES, ETC.) SHALL BE REPLACED WITHIN THE LIMITS OF THE RIGHT-OF-WAY IN ACCORDANCE WITH METHOD "B".
- INSPECTION WELLS SHALL BE CONSTRUCTED APPROXIMATELY 6" (150 mm) INSIDE OF BOTH RIGHT-OF-WAY LINES AT ALL FIELD TILE LOCATIONS.
- EXISTING FIELD TILE ABANDONED UNDER EXISTING PAVEMENTS OR PAVED SHOULDERS SHALL BE FILLED WITH FLOWABLE GROUT AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.
- NON-CIRCULAR FIELD TILE SHALL BE REPLACED WITH STORM SEWER, SPECIAL OF AT LEAST THE SAME CROSS SECTIONAL AREA. ALL EXISTING FIELD TILE SHALL BE REPLACED WITH STORM SEWER OF THE TYPE REQUIRED FOR THE MINIMUM DEPTH OF COVER.
- THE 6" (150 mm) CONCRETE SLAB OR DITCH LINING SHALL BE POURED THE LENGTH OF THE TRENCH AT ALL DITCH FLOW LINE LOCATIONS WITHIN THE RIGHT-OF-WAY WITH LESS THAN 2' (600 mm) OF EARTH COVER. MISCELLANEOUS CONCRETE SHALL BE USED ACCORDING TO SECTION 611.
- ALL MISCELLANEOUS SLABS, APRONS AND DITCH LININGS SHALL BE REINFORCED WITH WELDED WIRE FABRIC AS SHOWN FOR PAVED DITCH IN STANDARD 606401.
- HEADWALL FOR BACKSLOPE OUTLET MAY BE USED FOR PIPE DRAIN DIAMETERS UP TO 10" (250 mm). SPECIAL DESIGNS WILL BE REQUIRED FOR LARGER SIZES.
- THE INSPECTION WELL LID FOR P.C.C. PIPE SHALL BE CONSTRUCTED OF 3/8" (10 mm) CAST IRON AND PROVIDED WITH A 1" (25 mm) DIAMETER HOLE IN CENTER. THE LID FOR THE OTHER PIPE MATERIALS SHALL BE A GRATE ASSEMBLY PREFABRICATED FOR AND COMPATIBLE WITH THE PIPE SYSTEM.



**PAVED DITCH**  
DETAIL "E"



**CONCRETE SLAB**  
DETAIL "F"



**PAVED DITCH ELEVATION**

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED - 11/06
ei:\pw\work\p\idot\grazioja\0120188\0570599-Details.dgn		DRAWN -	REVISED -
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 4/27/2015	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**FIELD TILE SYSTEMS (TREATMENT OF EXISTING)**

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

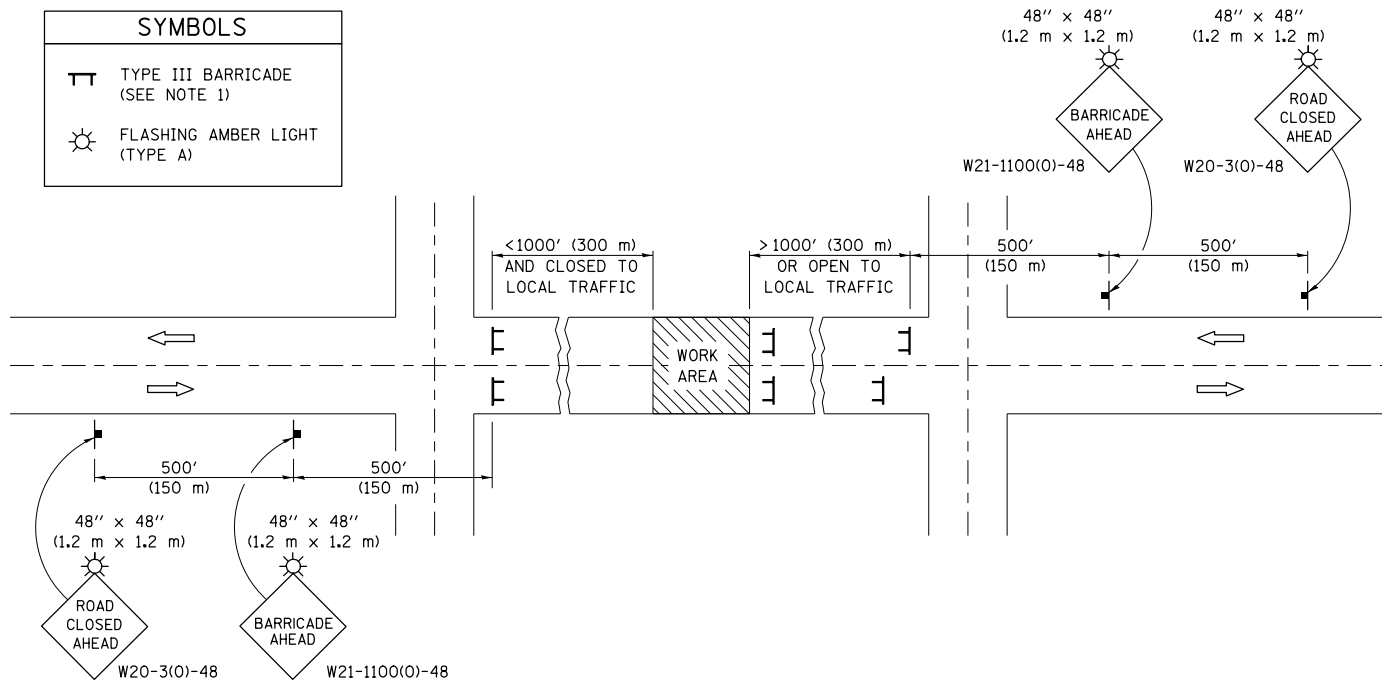
**DISTRICT 5 DETAIL NO. 61101011A**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	31
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70599	

# ROAD CLOSURE

# SIDEROAD / STREET CLOSURE

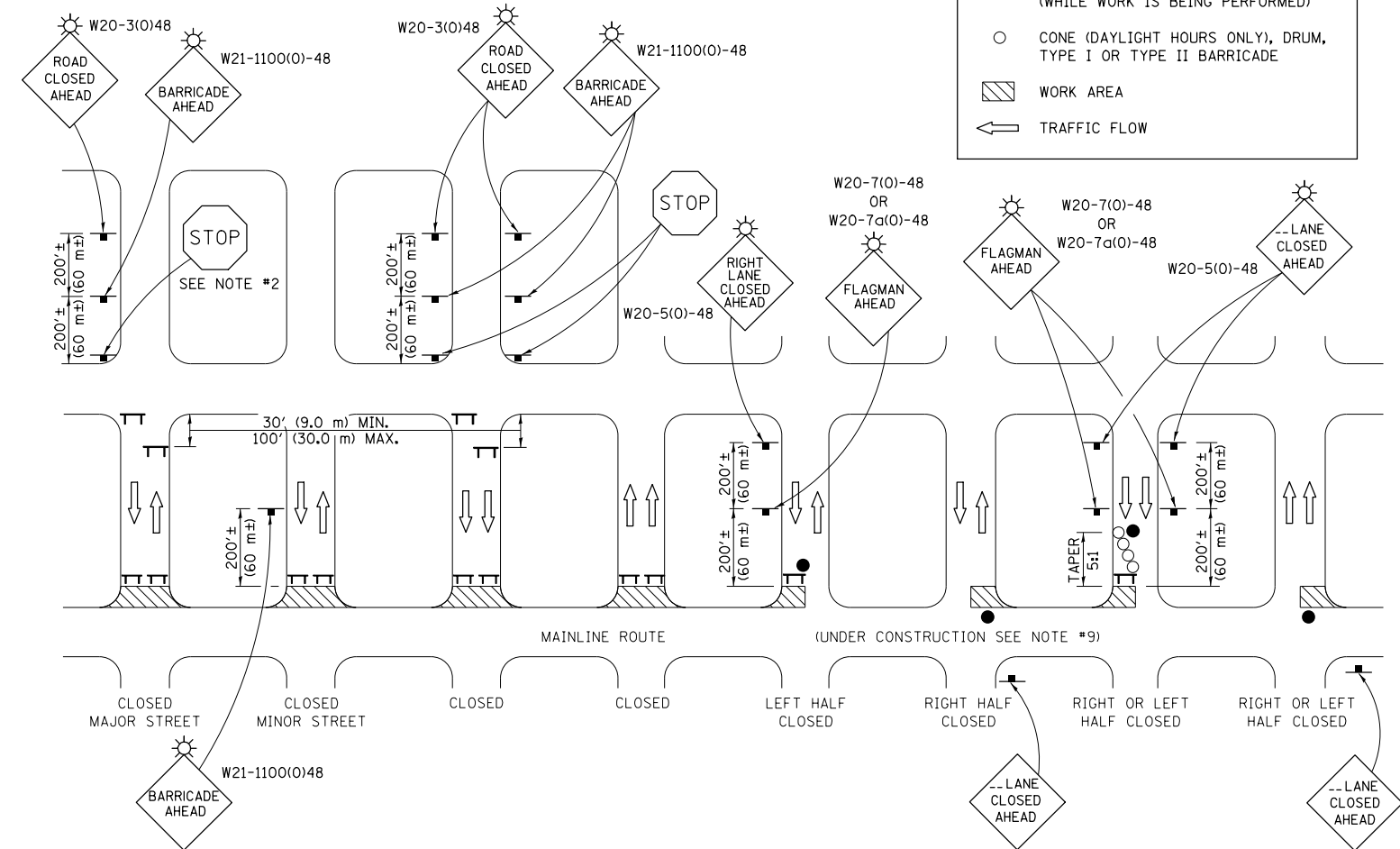
SYMBOLS	
	TYPE III BARRICADE (SEE NOTE 1)
	FLASHING AMBER LIGHT (TYPE A)



### GENERAL NOTES

- TYPE III BARRICADES SHALL BE AS SHOWN ON STANDARD 701901 "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
- IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR EXCEEDS 1000' (300 m), ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
- WHEN A STOP CONDITION EXISTS, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' (30 m) OF THE INTERSECTION.
- STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & DESIGN OF TYPE III BARRICADES.
- IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON AN NCHRP 350 TEMPORARY SIGN SUPPORT DIRECTLY IN FRONT OF THE BARRICADE.
- REFLECTORIZED STRIPING SHALL APPEAR ON BOTH SIDES OF THE TYPE III BARRICADES IF ROAD IS OPEN TO LOCAL TRAFFIC.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
- FORMS BT. 725 AND BT. 726 ARE REQUIRED.
- WHEN A SIDEROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.
- AN ADDITIONAL SIGN MAY BE REQUIRED AT A MAJOR INTERSECTING ROAD IN ADVANCE OF THE CLOSURE. THE ADDITIONAL SIGN SHALL GIVE THE DISTANCE TO THE BARRICADE IN MILES OR FRACTIONS OF A MILE.

SYMBOLS	
	TYPE III BARRICADE (SEE NOTE)
	FLASHING LIGHT
	FLAGGER WITH TRAFFIC CONTROL SIGN (WHILE WORK IS BEING PERFORMED)
	CONE (DAYLIGHT HOURS ONLY), DRUM, TYPE I OR TYPE II BARRICADE
	WORK AREA
	TRAFFIC FLOW



### GENERAL NOTES

- TYPE III BARRICADES SHALL BE AS SHOWN ON "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
- WHERE A STOP CONDITION EXISTS, AS SHOWN ABOVE, WARNING SIGNS MAY BE OMITTED IN ADVANCE OF THE "STOP" SIGN.
- STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & MANUFACTURE OF TYPE III BARRICADES.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ONE FLASHING LIGHT IS REQUIRED ABOVE EACH ADVANCE WARNING SIGN DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
- FORMS BT 725 AND BT 726 ARE REQUIRED.
- THE MAINLINE ROUTE TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
- ALL FLAGGERS REQUIRED AT SIDE ROADS AND ENTRANCES REMAINING OPEN TO TRAFFIC AND/OR ADDITIONAL BARRICADES REQUIRED BY THE ENGINEER TO CLOSE SIDE ROADS AND ENTRANCES WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED - 11/06
c:\pwwork\pwwork\grazioja\0120188\0570599-Details.dgn		DRAWN -	REVISED - 12/07
	PLOT SCALE = 48.0000' / in.	CHECKED -	REVISED - 09/09 - KJT
	PLOT DATE = 4/27/2015	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

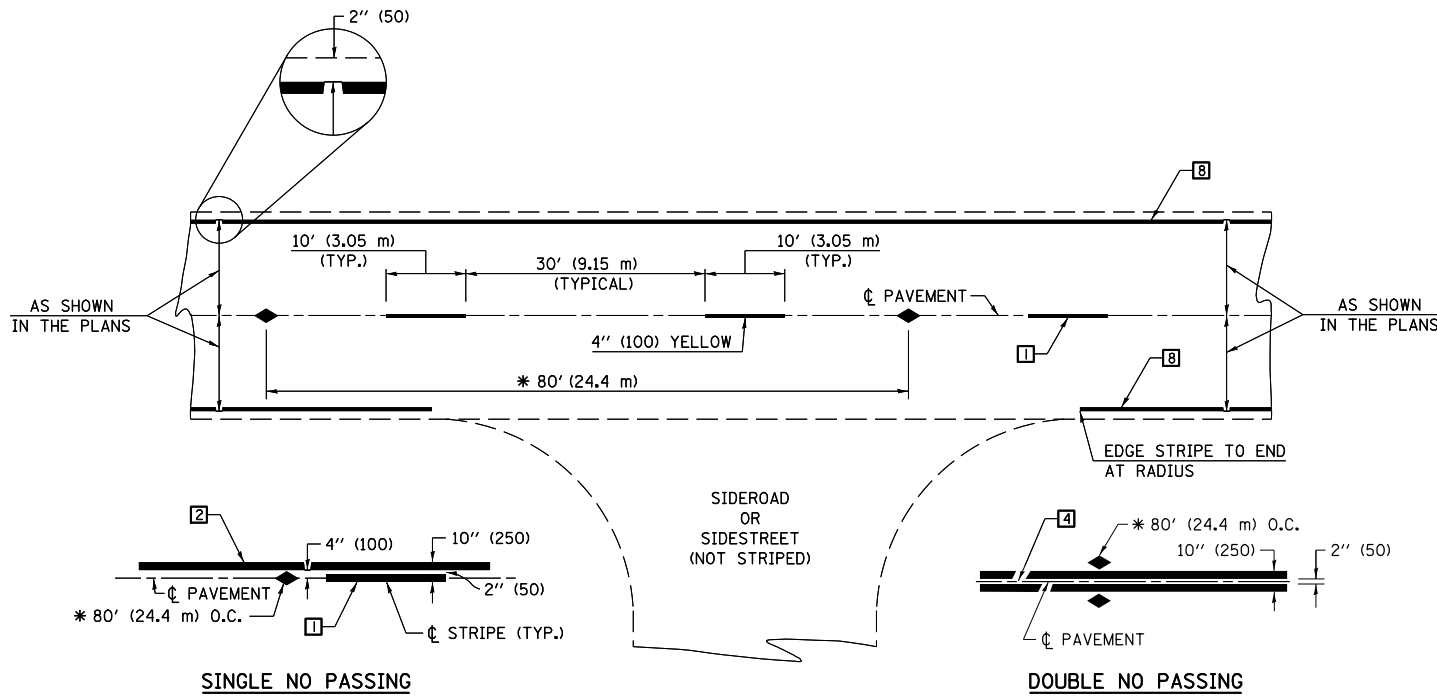
TRAFFIC CONTROL & PROTECTION DEVICES  
(ROAD & SIDEROAD/STREET CLOSURES)

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

DISTRICT 5 DETAIL NO. 7020000

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	32
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70599	





\* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

**TWO LANE/TWO WAY**

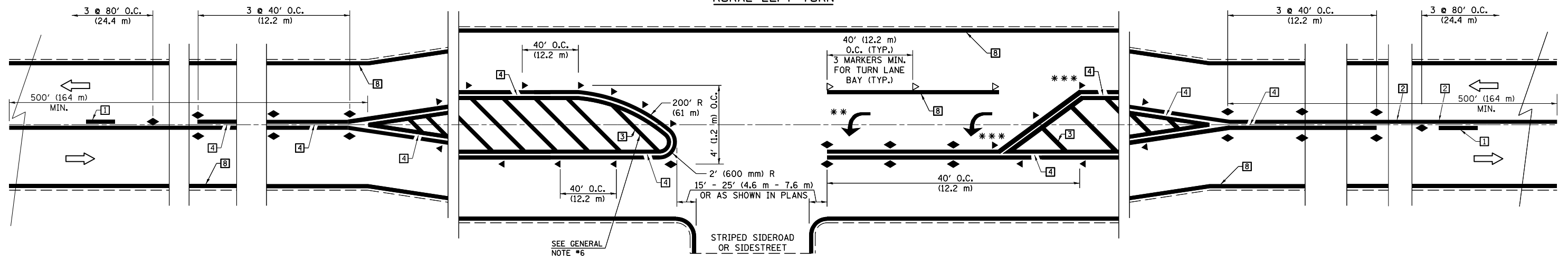
**TYPICAL PAVEMENT MARKING LEGEND**

- 1 4" (100) SKIP-DASH (YELLOW)
- 2 4" (100) SOLID (YELLOW)
- 3 12" (300) DIAGONAL (YELLOW)
- 4 4" (100) DOUBLE YELLOW (NARROW)
- 5 RESERVED
- 6 RESERVED
- 7 4" (100) SKIP-DASH (WHITE)
- 8 4" (100) SOLID (WHITE)
- 9 12" (300) DIAGONAL (WHITE)
- 10 6" (150) SOLID (WHITE)
- 11 24" (600) STOP BAR (WHITE)
- 12 8" (200) SOLID (WHITE)
- 13 4" (100) LANE LINE EXTENSIONS (WHITE)
- 14 4" (100) PARKING WHITE

**TYPICAL PAVEMENT MARKERS LEGEND**

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

**RURAL LEFT TURN**



\*\*\* REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

\*\* TURN ARROWS SHALL BE PLACED AS SHOWN ON SHEET #2.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED - 11/06
ei:\pwork\pwork\grazioja\0120188\0570599-Details.dgn		DRAWN -	REVISED - 09/2009 - KJT
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	PLOT DATE = 4/27/2015	DATE -	REVISED -

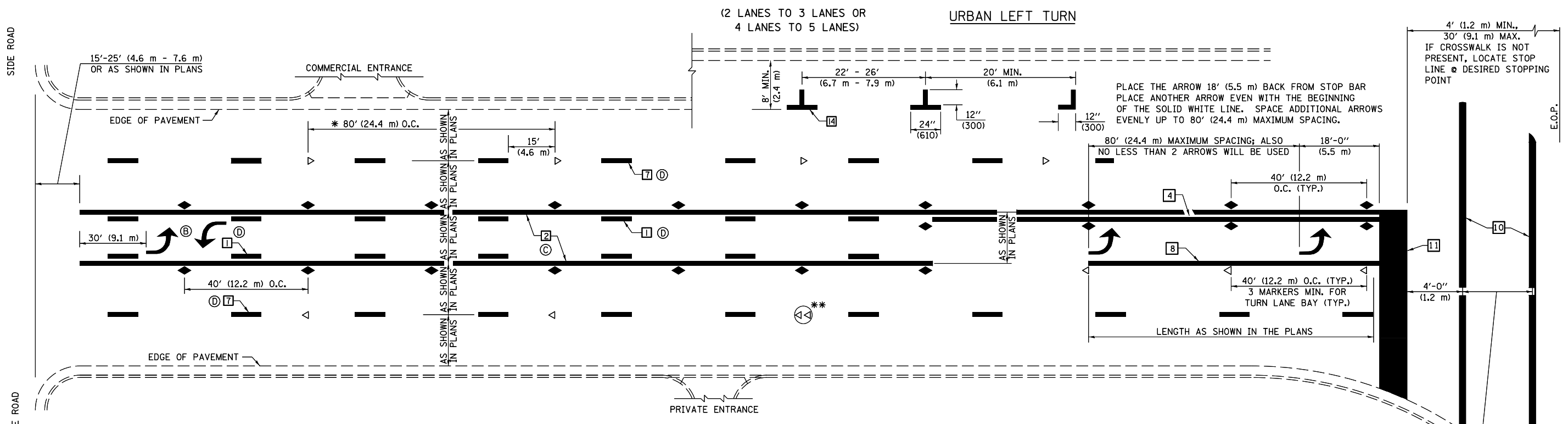
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND MARKERS  
(RURAL & URBAN APPLICATIONS)**

SCALE: SHEET NO. 1 OF 4 SHEETS STA. TO STA.

**DISTRICT 5 DETAIL NO. 7800AAA**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	33
CONTRACT NO. 70599				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

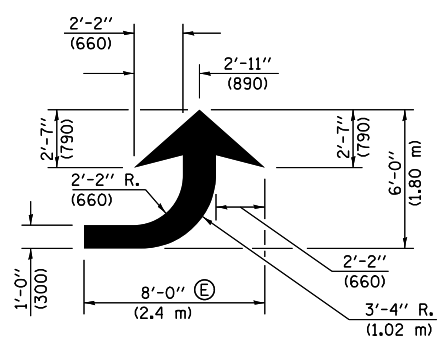


\* REDUCE TO 40 FEET (12.2 METERS) ON CENTER ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

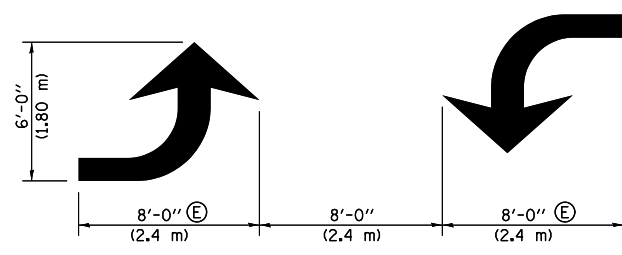
\*\* DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

**GENERAL NOTES:**

- ⓑ TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE.
- ⓒ THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.
- ⓓ THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER. SEE EXAMPLE ON SHEET 2 OF 3.
- ⓔ USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)

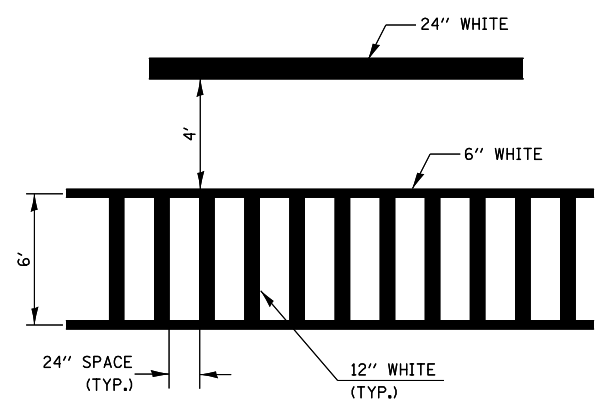


**LEFT ARROW**  
 REVERSE FOR RIGHT ARROW  
 AREA = 15.6 SQ. FT. (1.47 m<sup>2</sup>)  
 (WHITE)

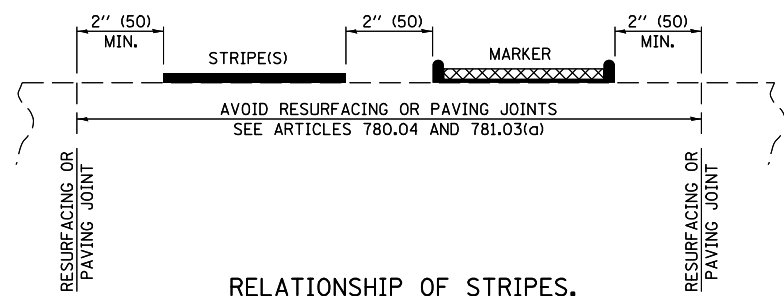


**TYPICAL DOUBLE TURN ARROWS (WHITE)**

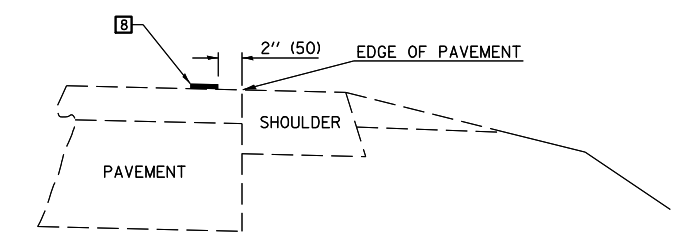
**BLOOMINGTON-NORMAL CITY LIMITS ONLY**



**TYPICAL SPACING FOR CROSSWALKS & STOP BARS**



**RELATIONSHIP OF STRIPES, MARKERS AND JOINTS**



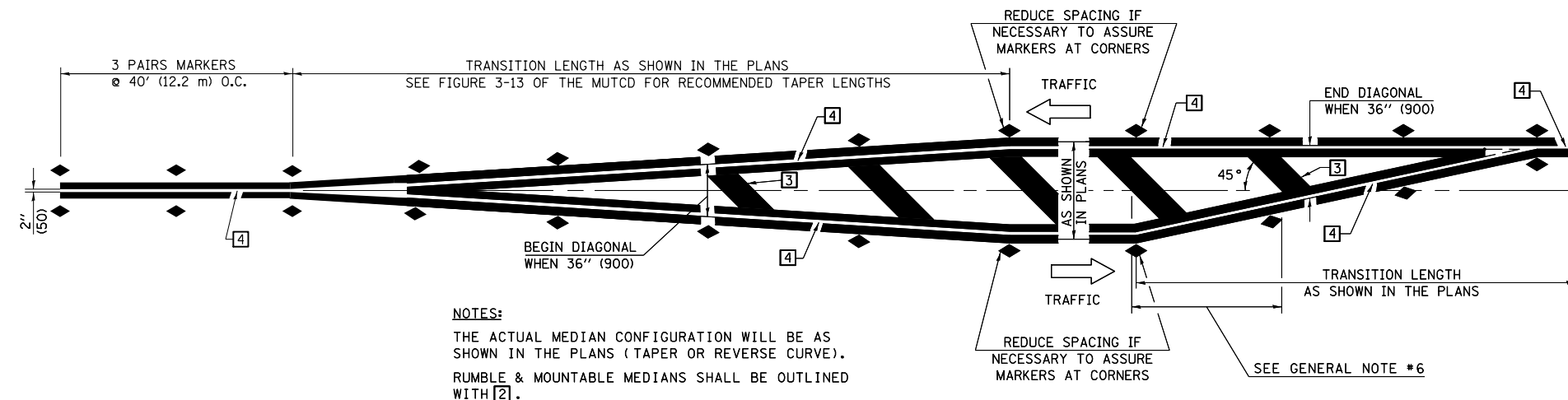
**RELATIONSHIP OF EDGE LINE TO EDGE OF PAVEMENT**  
 (SAFETY SHOULDER OR PAVED SURFACE)  
 SEE ARTICLE 780.04

CROSSWALK WIDTH 6'-0" (1.8 m) OR AS SHOWN IN THE PLANS

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

**DISTRICT 5 DETAIL NO. 7800AAA**

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED - 11/06	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT MARKING AND MARKERS (RURAL &amp; URBAN APPLICATIONS)</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ei:\pwork\pwork\grazioja\0120188\0570599-Detail.dgn	DRAWN -	REVISED - 09/2009 - KJT	502			106BR-1(2)	CHAMPAIGN	45	34	
PLOT SCALE = 48.0000' / in.	CHECKED -	REVISED - 04/14 - JLA	CONTRACT NO. 70599							
PLOT DATE = 4/27/2015	DATE -	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

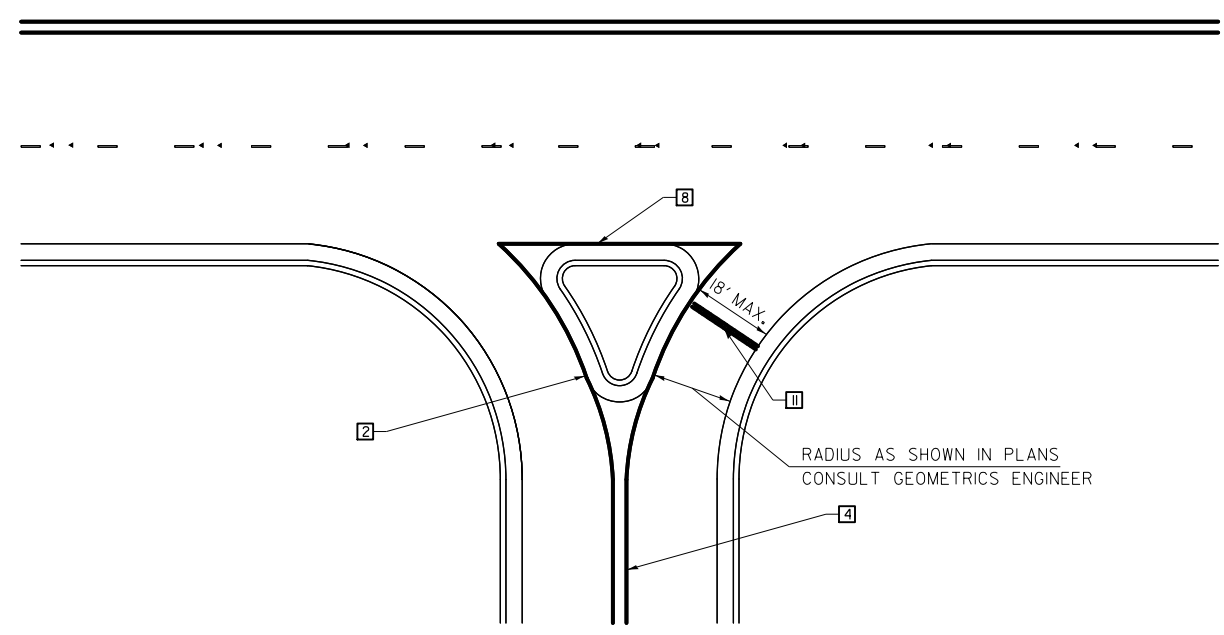


**NOTES:**  
 THE ACTUAL MEDIAN CONFIGURATION WILL BE AS SHOWN IN THE PLANS (TAPER OR REVERSE CURVE).  
 RUMBLE & MOUNTABLE MEDIANS SHALL BE OUTLINED WITH [2].

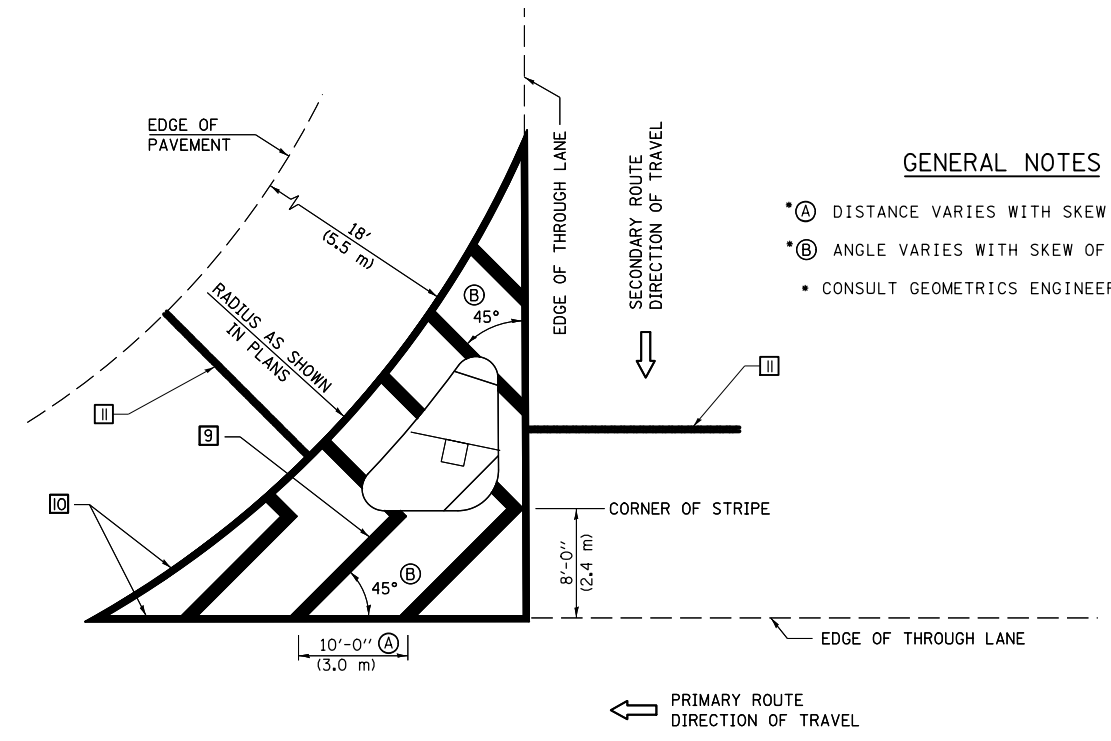
**TYPICAL MEDIAN TRANSITIONS**

**GENERAL NOTES**

1. WHEN MEDIANS ARE PRESENT, PAVEMENT MARKINGS ARE TO BE PLACED ADJACENT TO MEDIANS.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. A STRIPING KEY IS AVAILABLE ELSEWHERE AND SHALL BE SHOWN WHERE THE QUANTITIES ARE LISTED.
5. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
6. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING,  
 < 30 MPH USE 15' (< 50 km/h USE 4.5 m)  
 30-45 MPH USE 20' (50-75 km/h USE 6.0 m)  
 > 45 MPH USE 30' (> 75 km/h USE 9.0 m)



**RIGHT IN - RIGHT OUT ACCESS**



**ISLAND**

**GENERAL NOTES**

- [A] DISTANCE VARIES WITH SKEW OF INTERSECTION.
- [B] ANGLE VARIES WITH SKEW OF INTERSECTION.
- CONSULT GEOMETRICS ENGINEER

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED - 11/06
ei:\pwork\pwork\grazioja\0120188\0570599-Details.dgn		DRAWN -	REVISED - 09/2009 - KJT
	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED - 04/14 - JLA
	PLOT DATE = 4/27/2015	DATE -	REVISED -

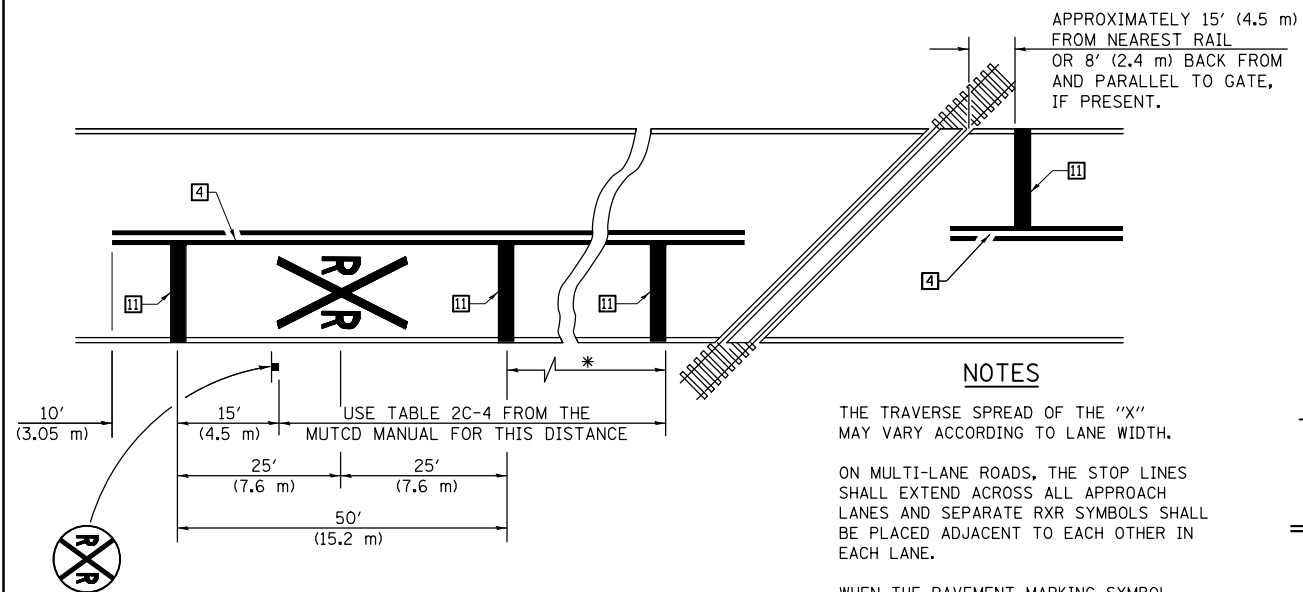
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND MARKERS  
 (RURAL & URBAN APPLICATIONS)**

SCALE: SHEET NO. 3 OF 4 SHEETS STA. TO STA.

**DISTRICT 5 DETAIL NO. 7800AAA**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	35
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70599	



PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

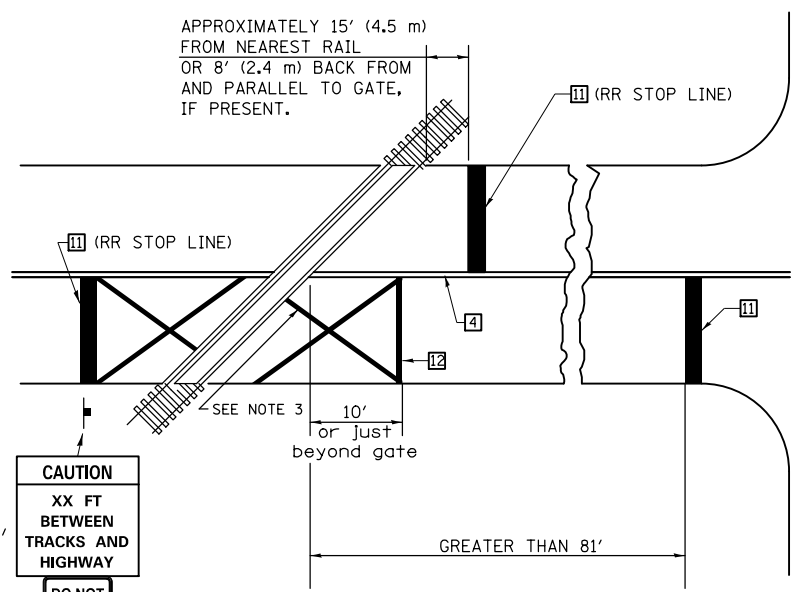
**NOTES**

THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.

RAILROAD CROSSING WITH INTERCONNECT ONLY



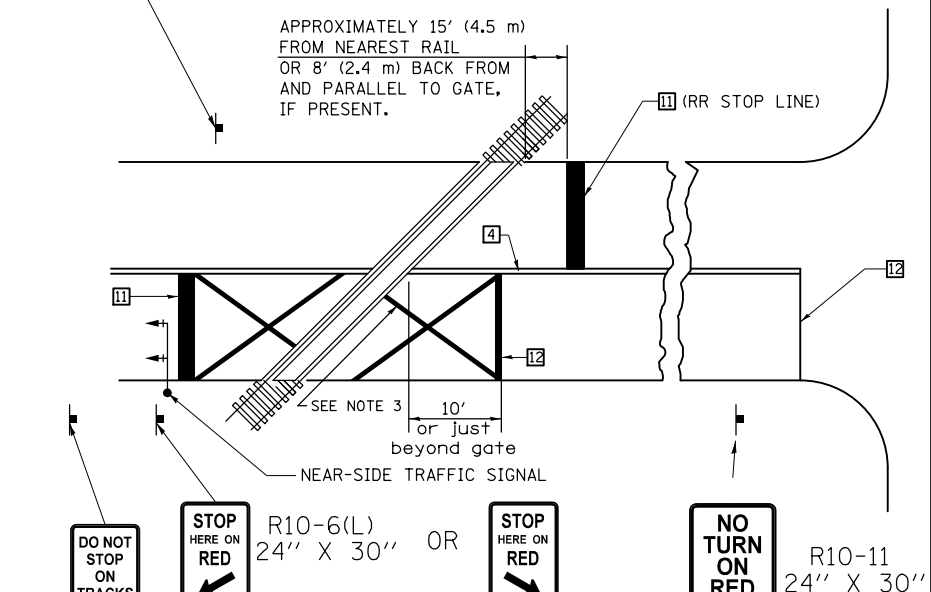
W10-I100  
30" X 36"

CAUTION  
XX FT BETWEEN TRACKS AND HIGHWAY

DO NOT STOP ON TRACKS

R8-8  
24" X 30"

RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



DO NOT STOP ON TRACKS (R8-8) 24" X 30"

ONLY IF SIGNAL HEAD CANNOT BE LOCATED IN MEDIAN

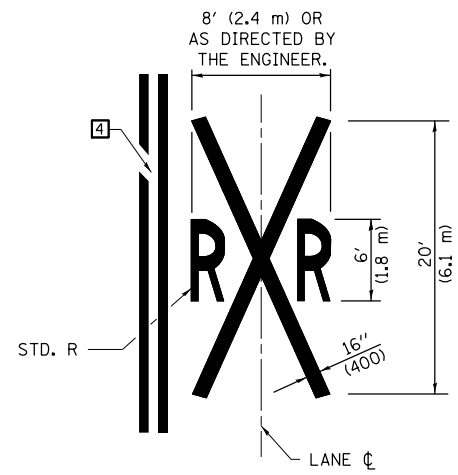
DO NOT STOP ON TRACKS

STOP HERE ON RED (R10-6(L)) 24" X 30" OR STOP HERE ON RED (R10-6(R)) 24" X 30" IF IN MEDIAN

NO TURN ON RED (R10-11) 24" X 30"

DO NOT STOP ON TRACKS (R8-8) 24" X 30"

SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING



**ALTERNATE SIGNS**

STOP HERE ON RED (R10-6a(L)) 24" X 30"

STOP HERE ON RED (R10-6a(R)) 24" X 30"

**GENERAL NOTES**

- SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
- EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.
- 6" WHITE PAVEMENT MARKINGS AT 45° TO PAVEMENT, 8' CENTER TO CENTER.
- XX DISTANCE TO BE SHOWN ON SIGN MEASURED FROM A POINT 6 FEET FROM THE RAIL CLOSEST TO THE INTERSECTION OR FROM THE CLOSEST POINT ALONG THE EXIT GATE IF PRESENT OVER THE ROADWAY WHEN IN THE LOWERED POSITION TO THE STOP BAR OR CROSSWALK, WHICH EVER IS CLOSEST, ROUNDED DOWN TO NEAREST 5 FEET. WHERE THERE IS NO STOP LINE, MEASURE TO POINT WHERE DRIVER HAS A VIEW OF APPROACHING TRAFFIC.
- THE CLEARANCE SIGN IS ALSO TO BE USED AS AN INTERIM MEASURE AT LOCATIONS WITH INTERCONNECTED INTERSECTION TRAFFIC SIGNALS WHERE IT IS PLANNED TO CHANGE THEM TO NEAR-SIDE SIGNALS AT A FUTURE TIME. IN THIS CASE, THE DISTANCE TO BE SHOWN ON THE SIGN IS MEASURED FROM THE EDGE OF THE STRIPED-OUT AREA INSTEAD OF 6 FEET FROM THE RAIL. THE SIGN IS TO BE REMOVED WHEN THE NEAR-SIDE SIGNALS ARE INSTALLED AND THE PAVEMENT MARKINGS EXTENDED TO THE INTERSECTION.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED - 11/06
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	PLOT DATE = 4/27/2015	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS  
(RURAL & URBAN APPLICATIONS)

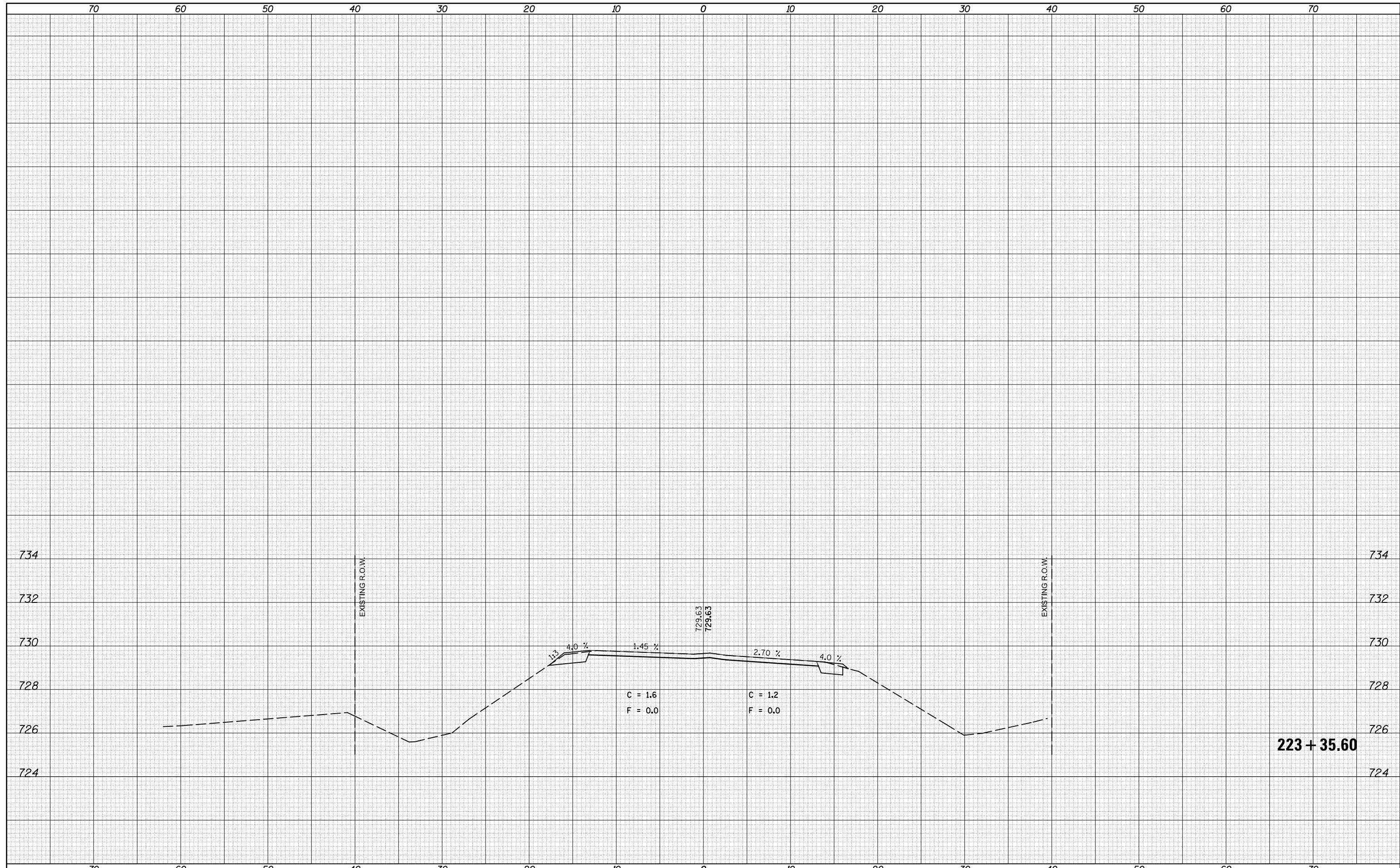
SCALE: SHEET NO. 4 OF 4 SHEETS STA. TO STA.

DISTRICT 5 DETAIL NO. 7800AAA

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	36
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70599	

DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED
	AREAS CHECKED

DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED
	AREAS CHECKED



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 USER NAME = grazianoja  
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 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 4/27/2015

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

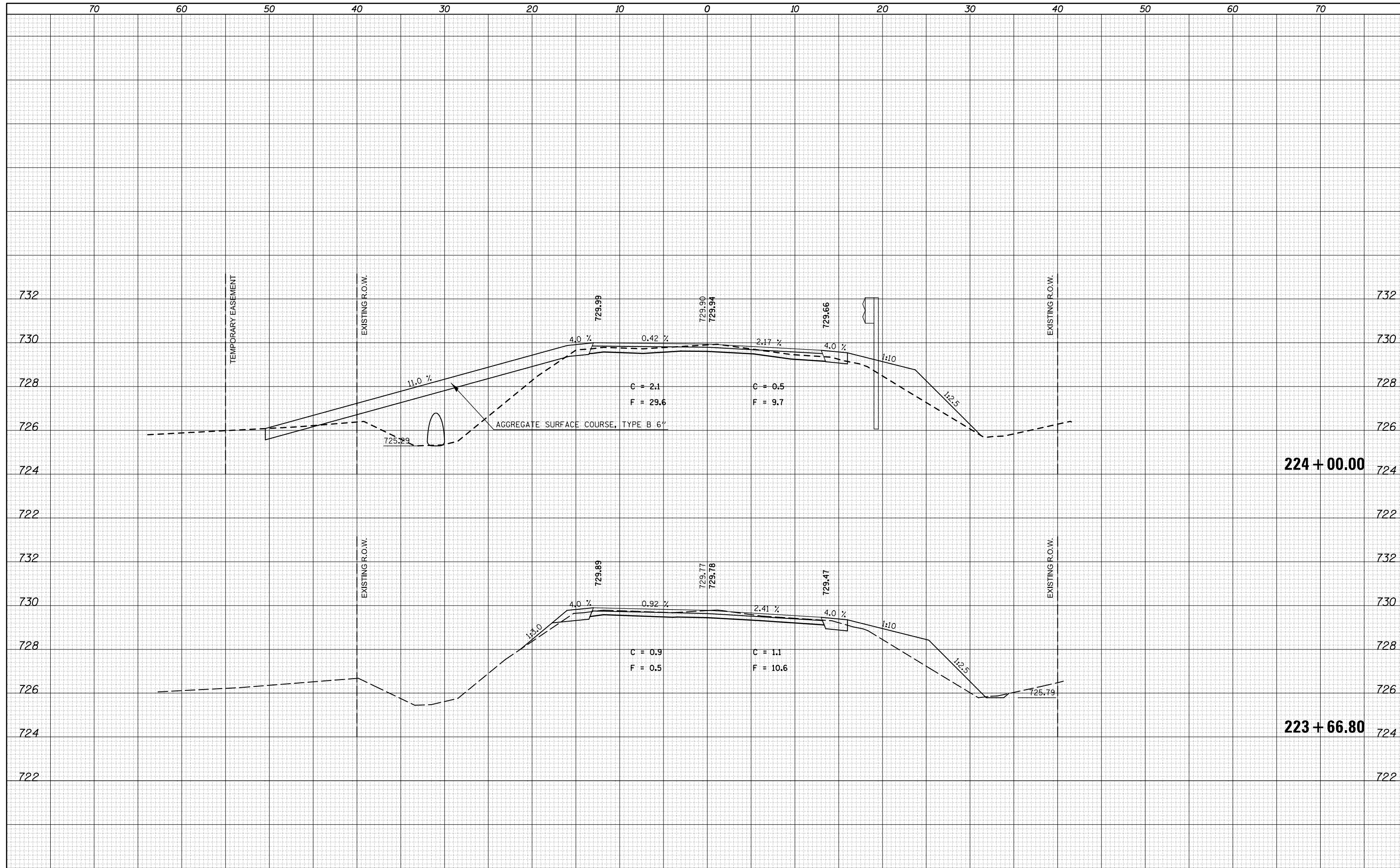
**CROSS SECTIONS**

SCALE: SHEET 1 OF 9 SHEETS STA. 223+35.60 TO STA. 223+35.60

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	37
			CONTRACT NO. 70599	
ILLINOIS FED. AID PROJECT				

DATE	
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SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
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PLOTTED	
TEMPLATE	
AREAS CHECKED	
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USER NAME = grazianoja

PLOT SCALE = 10.0000' / 1"

PLOT DATE = 4/27/2015

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

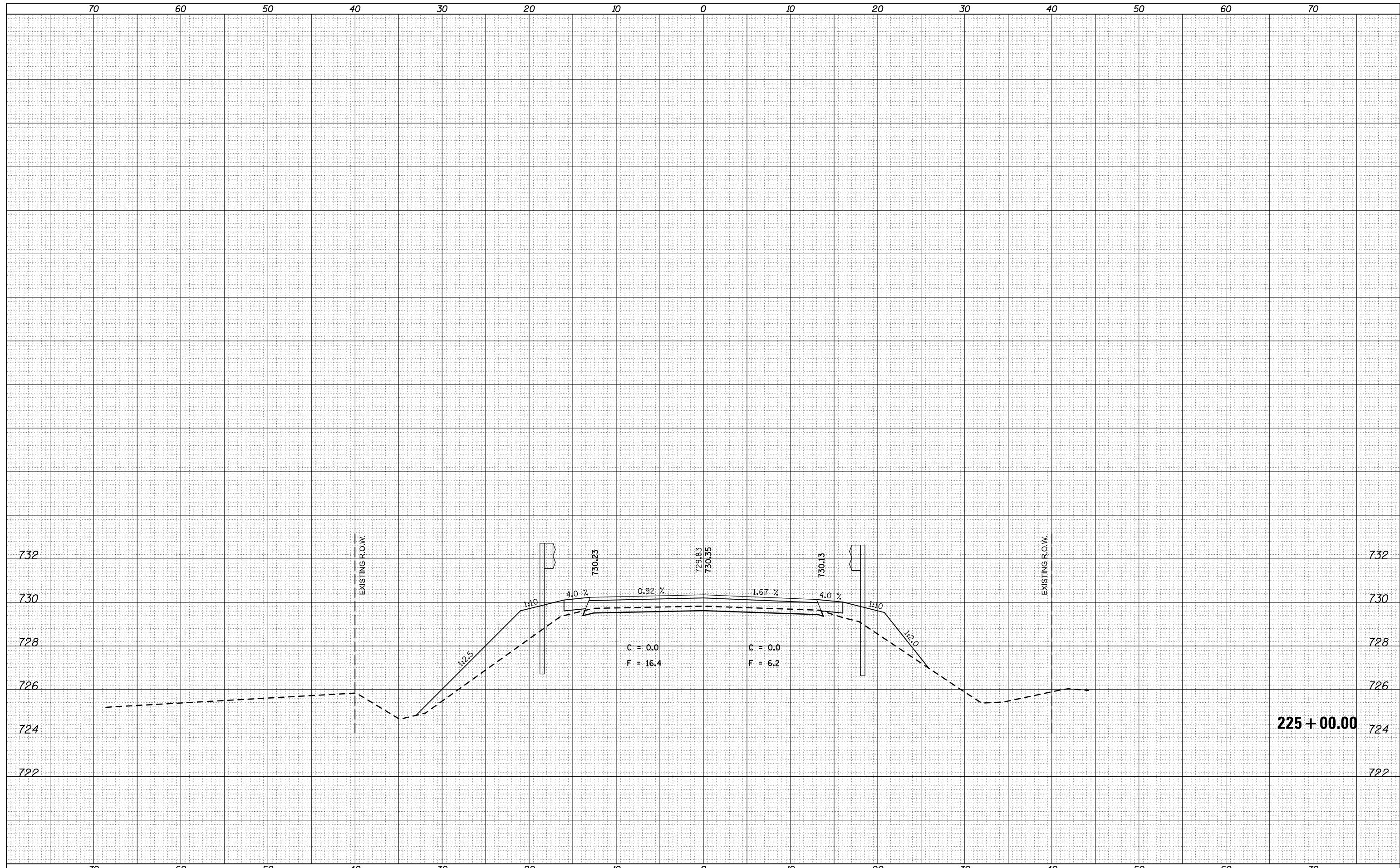
**CROSS SECTIONS**

SCALE: SHEET 2 OF 9 SHEETS STA. 223+66.80 TO STA. 224+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	38
CONTRACT NO. 70599			ILLINOIS FED. AID PROJECT	

DATE	
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SURVEYED	
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TEMPLATE	
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FINAL SURVEY	
NOTE BOOK	
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DATE	
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ORIGINAL SURVEY	
NOTE BOOK	
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 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 4/27/2015

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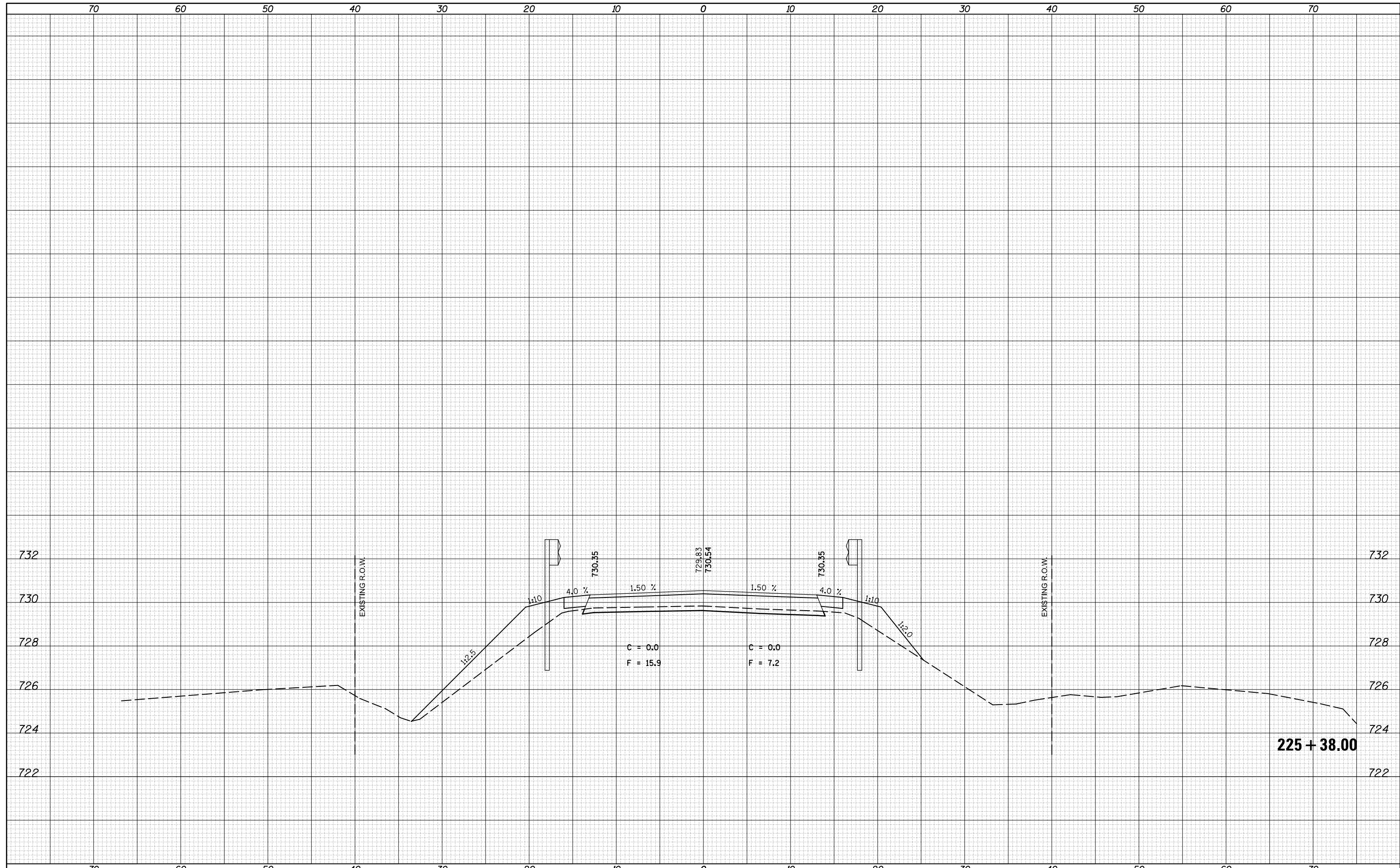
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS  
 SCALE: SHEET 3 OF 9 SHEETS STA. 225+00.00 TO STA. 225+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	39
CONTRACT NO. 70599			ILLINOIS FED. AID PROJECT	

DATE	
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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	AREAS
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
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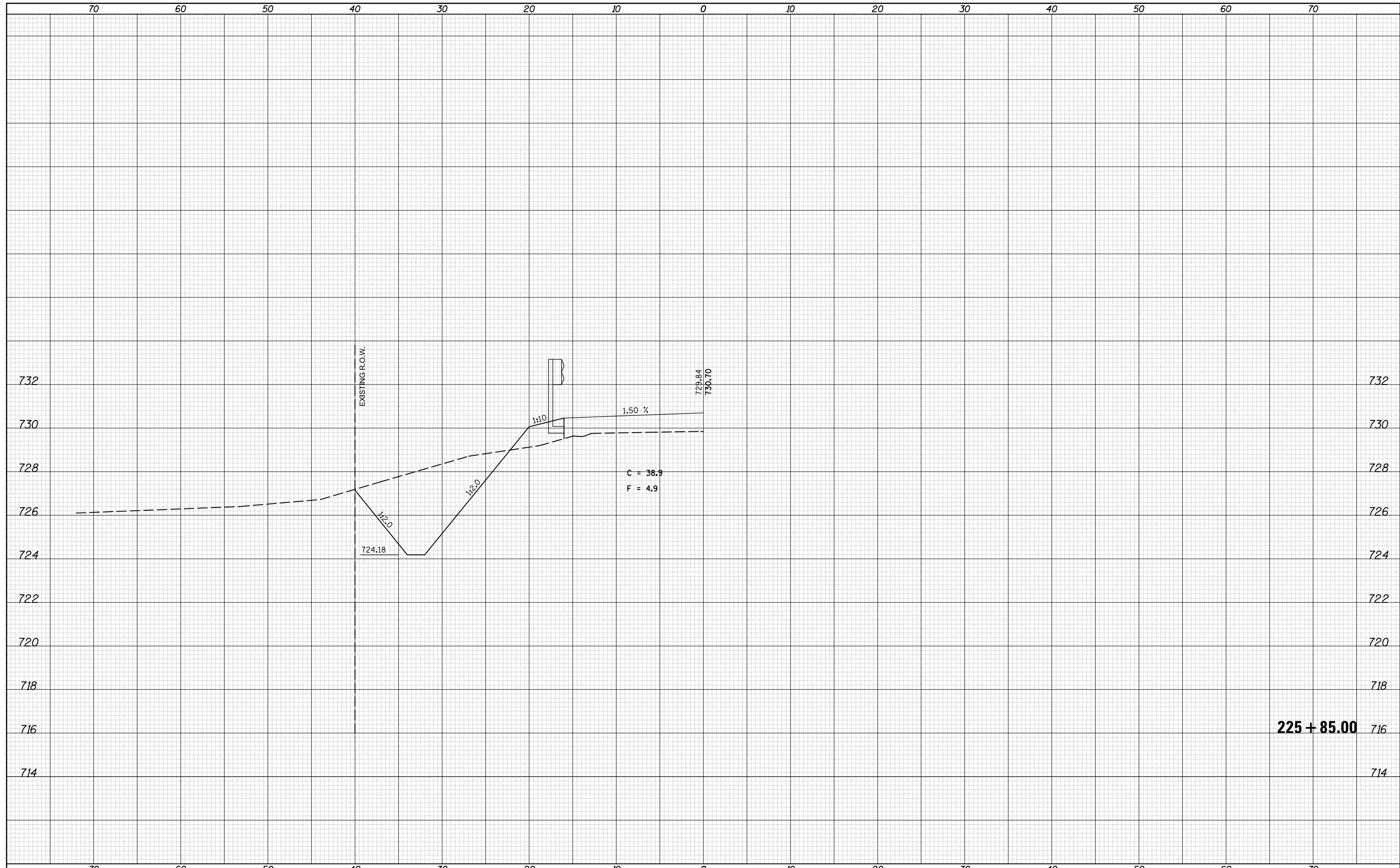


FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b> SCALE: SHEET 4 OF 9 SHEETS STA. 225+38.00 TO STA. 225+38.00	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pw_work\pwidot\grazioja\d0120188\0570599-ht-XS-CH-20.dgn	PLOT SCALE = 10.0000' / in.	DRAWN -	REVISED -			502	106BR-1(2)	CHAMPAIGN	45	40
\$MODELNAME\$	PLOT DATE = 4/27/2015	CHECKED -	REVISED -			CONTRACT NO. 70599		ILLINOIS FED. AID PROJECT		



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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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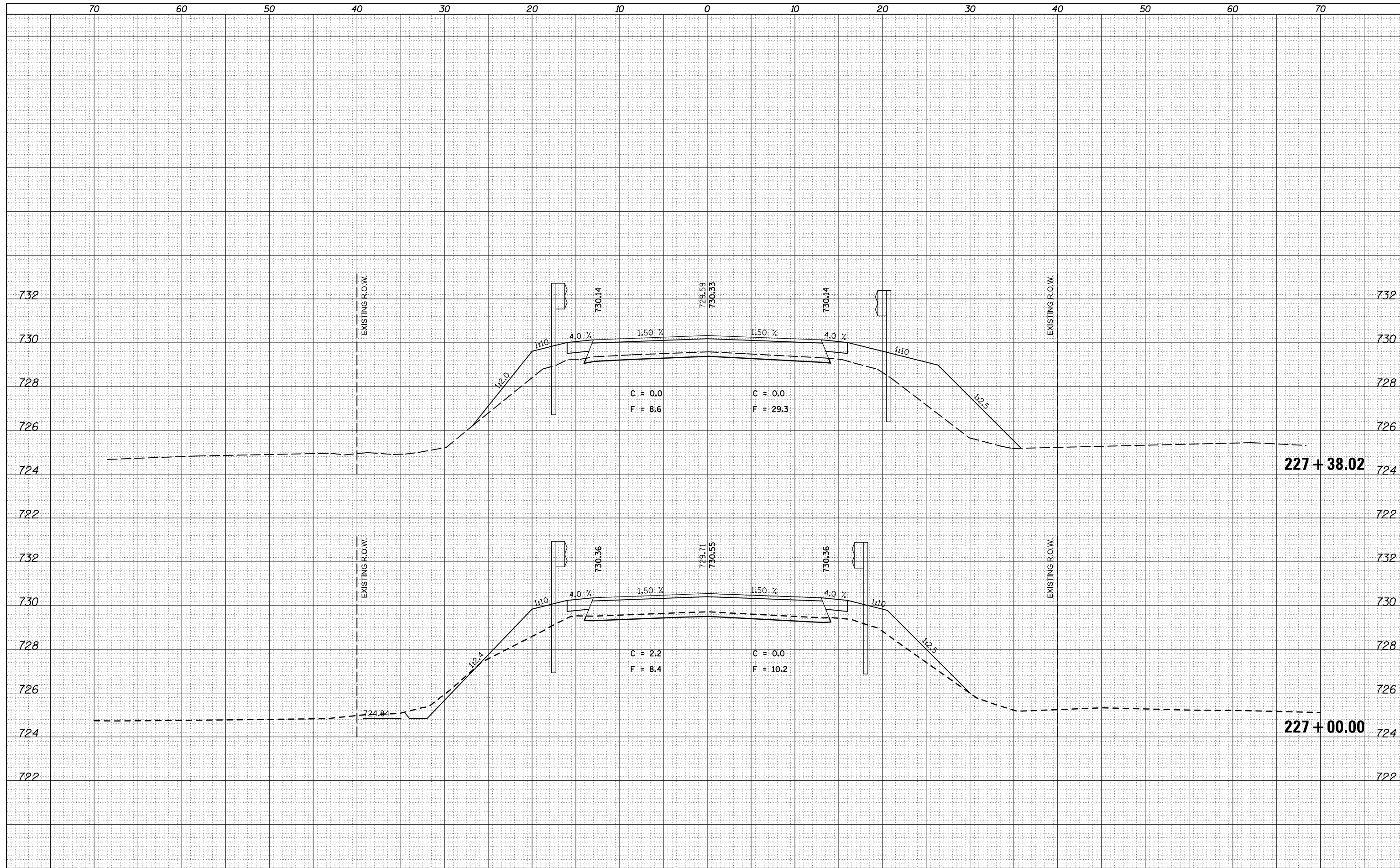


FILE NAME =	USER NAME = grazienoja	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pw_work\pwidot\grazienoja\d0120188\0570599-ht-XS-CH-20.dgn	DRAWN -	REVISED -	502			106BR-1(2)	CHAMPAIGN	45	41	
*MODELNAME*	PLLOT SCALE = 10.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 70599				
	PLLOT DATE = 4/27/2015	DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
SCALE:						SHEET 5 OF 9 SHEETS		STA. 225+85.00 TO STA. 225+85.00		

**225 + 85.00**

DATE	
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FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISED -
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		DATE -	REVISED -

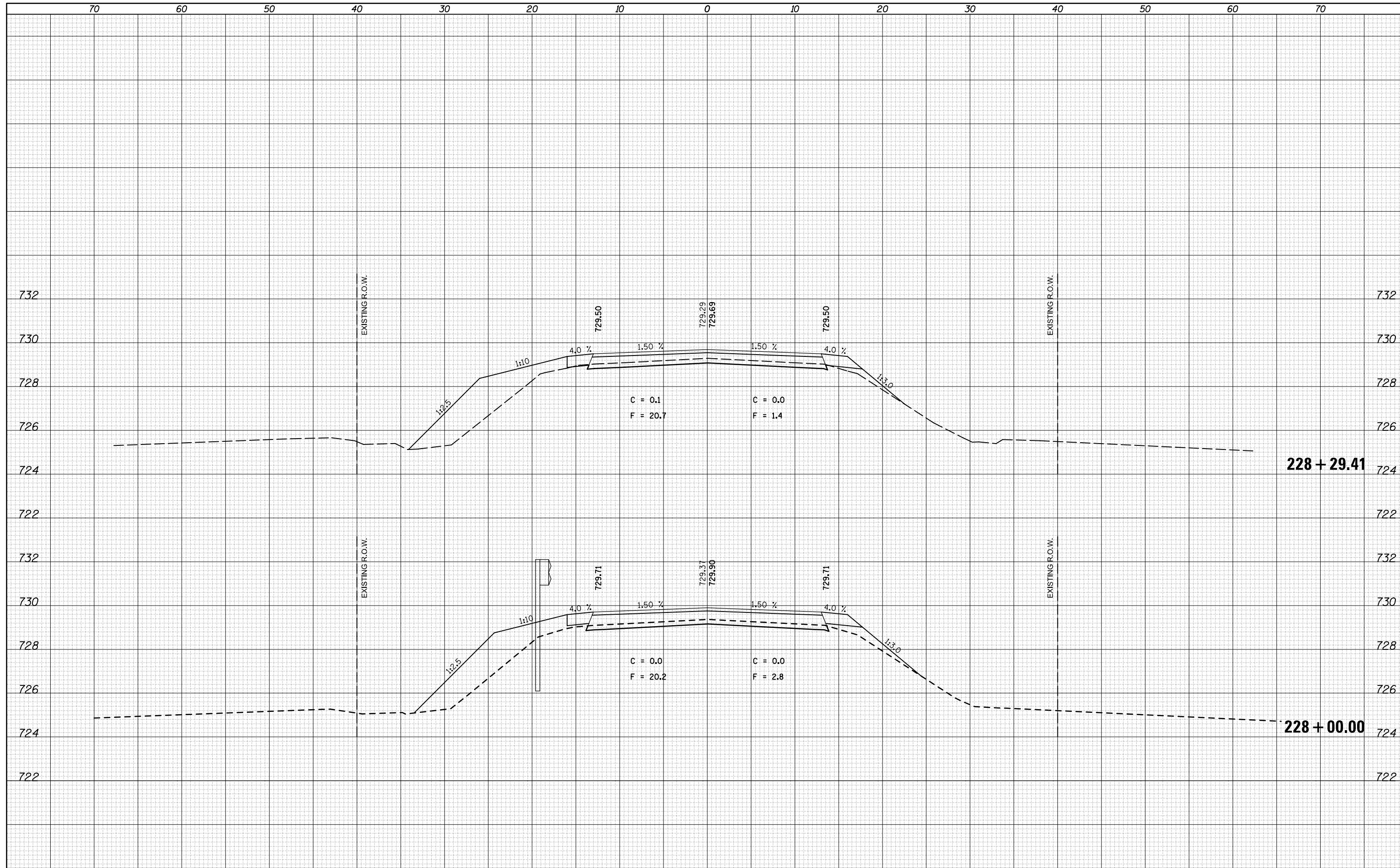
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SCALE:	SHEET 6 OF 9 SHEETS	STA. 227+00.00 TO STA. 227+38.02
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	42
CONTRACT NO. 70599			ILLINOIS FED. AID PROJECT	

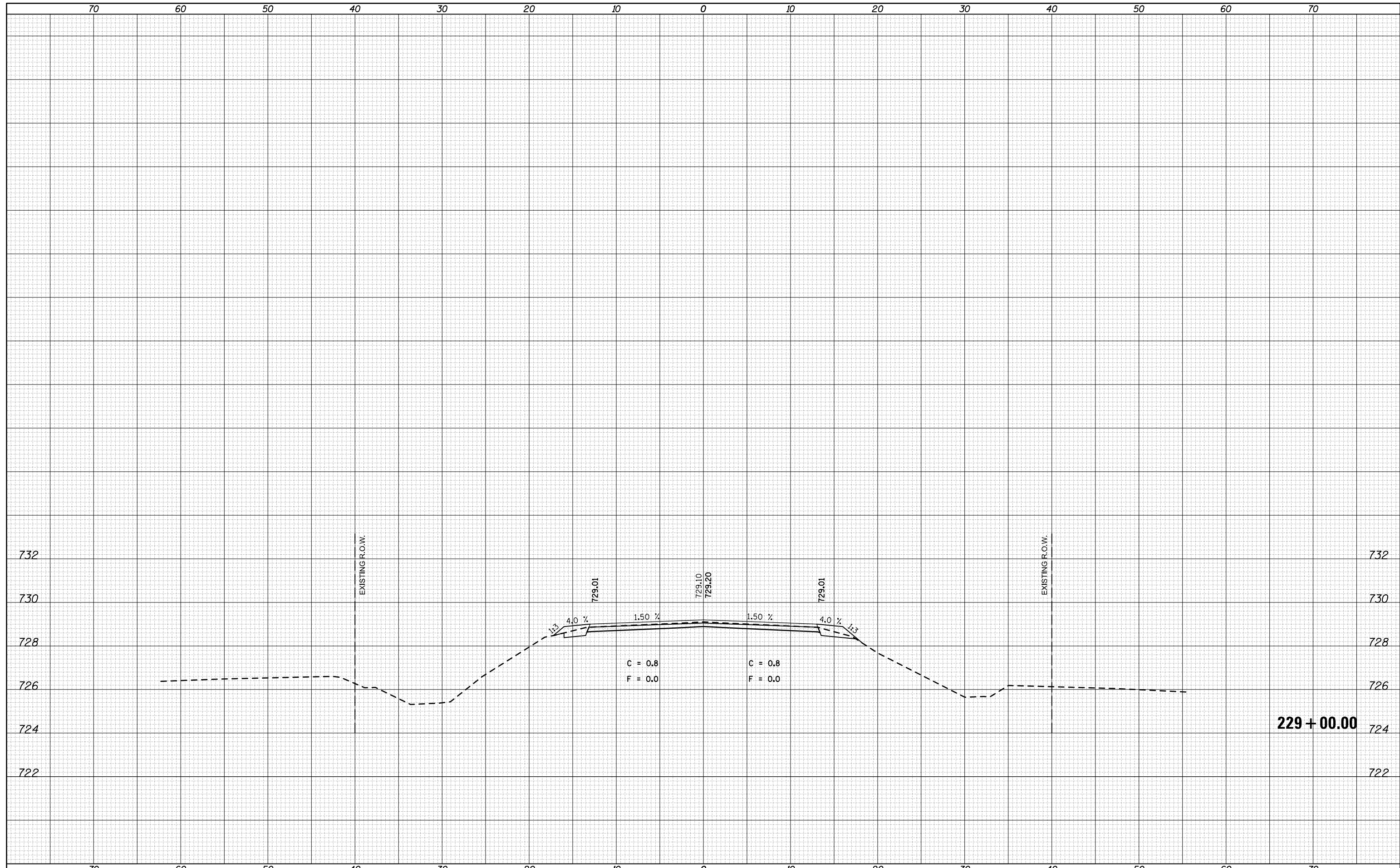
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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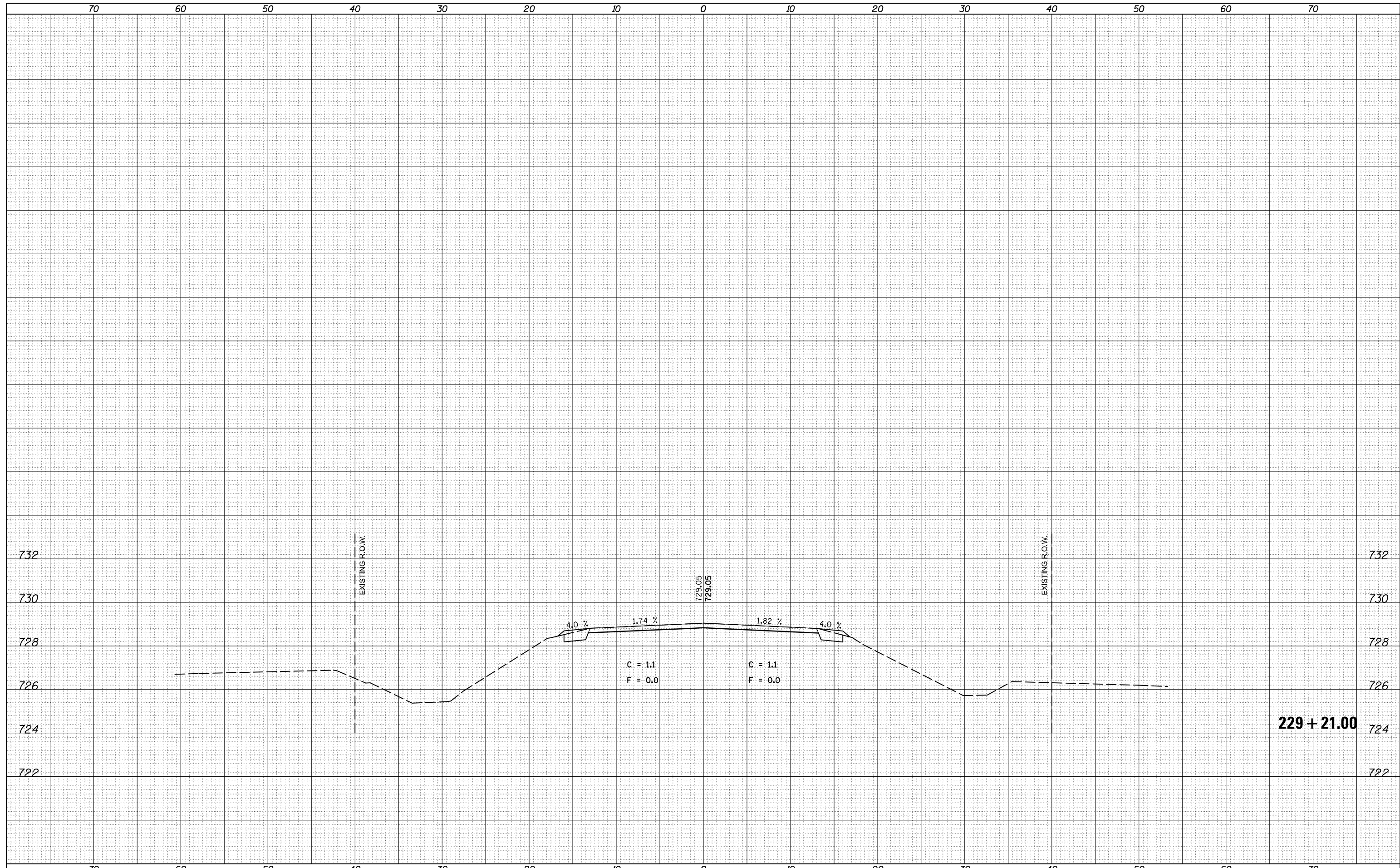
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ORIGINAL SURVEY	
NOTE BOOK	
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FILE NAME =	USER NAME = grazianoja	DESIGNED -	REVISIED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pw_work\pwidot\grazioja\d0120188\0570599-ht-XS-CH-20.dgn		DRAWN -	REVISIED -			502	106BR-1(2)	CHAMPAIGN	45	44
\$MODELNAME\$		CHECKED -	REVISIED -			CONTRACT NO. 70599				
		DATE -	REVISIED -			SCALE:	SHEET 8 OF 9 SHEETS	STA. 229+00.00 TO STA. 229+00.00		ILLINOIS FED. AID PROJECT

DATE	
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USER NAME = grazioenja  
 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 4/27/2015

DESIGNED -  
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 DATE -

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

SCALE: SHEET 9 OF 9 SHEETS STA. 229+21.00 TO STA. 229+21.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
502	106BR-1(2)	CHAMPAIGN	45	45
CONTRACT NO. 70599			ILLINOIS FED. AID PROJECT	