

11-04-2016 LETTING ITEM 023

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	1
ILLINOIS			CONTRACT NO. 74322	

RECEIVED

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 781 (IL 33)
SECTION (108BR)B
PROJECT : ACF-0781 (035)
BRIDGE REPLACEMENT
CRAWFORD COUNTY

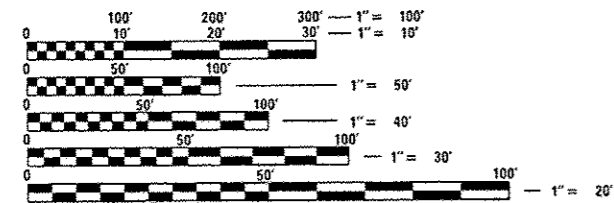
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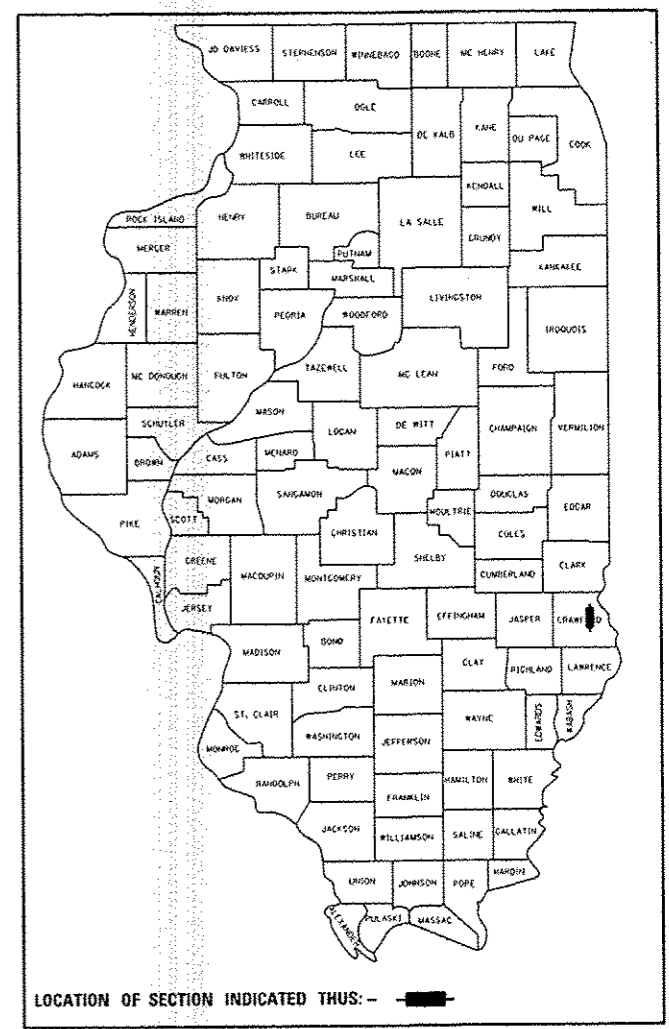
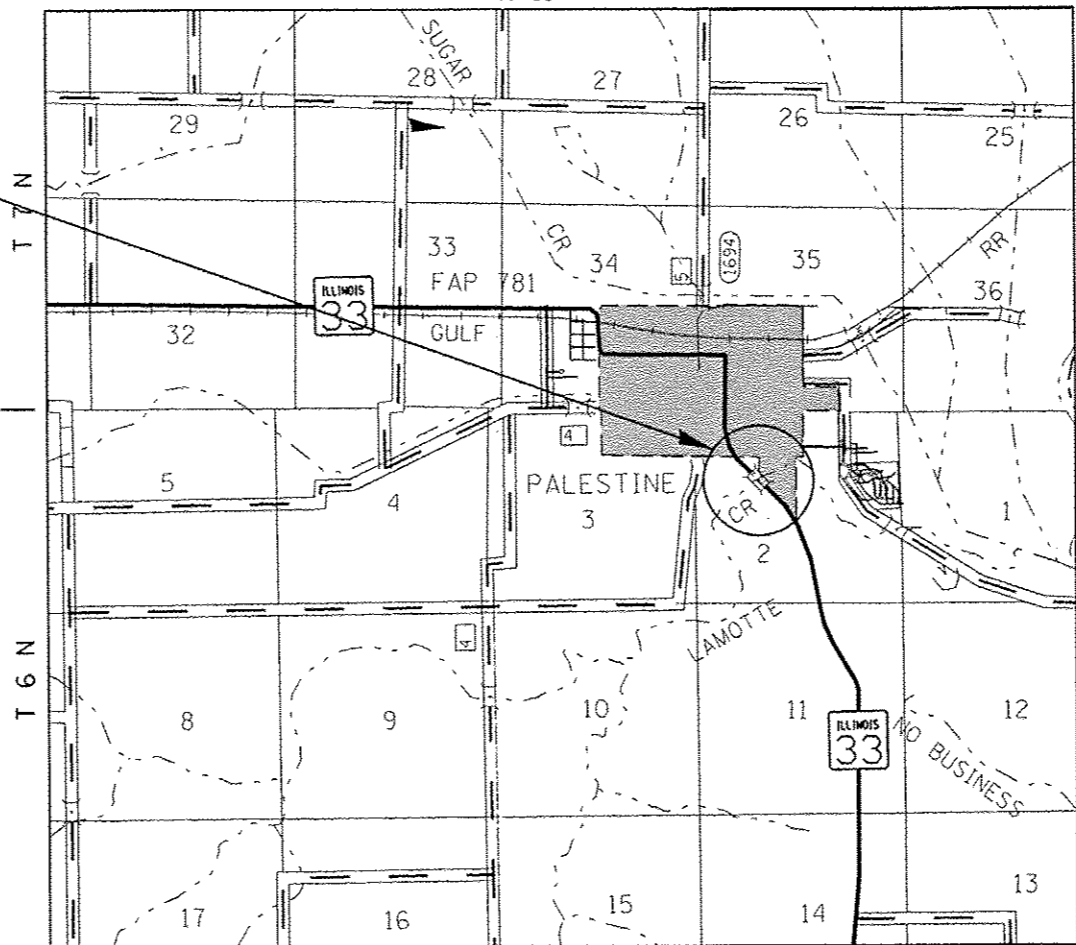
OLD STRUCTURE:
SN 017-0007
STA 35+00.00

NEW STRUCTURE:
SN 017-0035
STA 34+69.83



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



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 12 2016
Jeffrey M. Smith, P.E.
REGIONAL ENGINEER

Sept 30 2016
Maureen M. Addis, P.E., B.S.
ENGINEER OF DESIGN AND ENVIRONMENT

Sept 30 2016
Annelle [Signature]
DIRECTOR OF PROGRAM DEVELOPMENT

PROJECT ENGINEER: MARK DAUGHERTY
PROJECT MANAGER: BRIAN BIERMAN

GROSS LENGTH = 750 FT. = 0.142 MILE
NET LENGTH = 750 FT. = 0.142 MILE

CONTRACT NO. 74322

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

FIELD MARKINGS OF UNDERGROUND UTILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

ALL TREES SHALL BE APPROVED AND HAND PLANTED AT LOCATIONS AS DIRECTED BY THE ROADSIDE MAINTENANCE TECHNICIAN, PHIL NOSBISH, (217) 342-8270. THE CONTRACTOR SHALL BE REQUIRED TO GIVE TWO WEEKS NOTICE TO SCHEDULE A TIME FOR THE LOCATIONS TO BE STAKED AND ON THE SAME DAY THE TREES SHALL BE DELIVERED TO THE JOBSITE FOR ACCEPTANCE OF THE PLANTING MATERIAL BY THE ROADSIDE MAINTENANCE TECHNICIAN.

ALL SUBBASE GRANULAR MATERIAL, TYPE B AND 4" STABILIZED SUBBASE PLACED DIRECTLY UNDER THE NEW PCC PAVEMENT CONNECTORS SHALL BE INCLUDED IN THE COST OF THE PAVEMENT CONNECTORS. ALSO ALL REINFORCEMENT PLACED WITHIN THE PAVEMENT CONNECTOR SHALL BE INCLUDED IN THE COST OF THE PAVEMENT CONNECTOR.

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESS TO THE HOT-MIX ASPHALT PLANT QUALITY CONTROL LAB SO THAT HOT-MIX ASPHALT PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF HOT-MIX ASPHALT ITEMS.

THE RESIDENT ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE CURING TIME FOR THE VARIOUS HOT-MIX ASPHALT LIFTS.

THE MAXIMUM COMPACTED LIFT FOR ALL HOT-MIX ASPHALT ITEMS SHALL BE 4 INCHES.

THE TOTAL QUANTITY OF PAINT PAVEMENT MARKING - LINE 4" CONSISTS OF 443 FEET OF YELLOW AND 1,500 FEET OF WHITE.

THE TOTAL QUANTITY OF RAISED REFLECTIVE PAVEMENT MARKERS CONSISTS OF 10 TWO-WAY AMBER MARKERS.

THE MATERIAL USED FOR AGGREGATE WEDGE SHOULDER, TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE, OR RAP.

PRIOR TO FINAL PAVEMENT MARKING PLACEMENT, DISTRICT 7 OPERATIONS PERSONNEL SHALL BE NOTIFIED IN ORDER TO LAYOUT ALL NO PASSING ZONES WITHIN THE PROJECT LIMITS.

A TYPE II CAST IN PLACE PERMANENT SURVEY MARKER SHALL BE PLACED NEAR THE PROPOSED STRUCTURE. THE TABLET STYLE SHALL CONFORM TO STANDARD 667101-01 AND THE CAST IN PLACE BASE WILL CONFORM TO STANDARD 668001-01. THE LOCATION OF THE SURVEY MARKER SHALL BE DETERMINED BY THE ENGINEER AND THE CHIEF OF SURVEYS. THE SURVEY MARKER LOCATION WILL ALSO BE CROSS TIED AND ELEVATED BY IDOT PERSONNEL.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:

APPLICATION	AC/PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE
HMA SURFACE COURSE, MIX "C", N70 (1 1/2")	PG 64-22	4.0% @ N=70	IL - 9.5	MIXTURE C
HMA BINDER COURSE, IL 19.0, N70 (VAR. DEPTH)	PG 64-22	4.0% @ N=70	IL - 19.0	N/A
HMA SHOULDERS, 8" (1 1/2" TOP LIFT)	PG 64-22	4.0% @ N=70	IL - 9.5	MIXTURE C
HMA SHOULDERS, 8" (BOTTOM LIFT)	PG 64-22	4.0% @ N=70	IL - 19.0	N/A
INCIDENTAL HMA SURFACING	PG 64-22	4.0% @ N=70	IL - 9.5	MIXTURE C

INDEX OF SHEETS

SHEET NO	TITLE
1	COVER SHEET
2	GENERAL NOTES, INDEX OF SHEETS, LIST OF STANDARDS
3-5	SUMMARY OF QUANTITIES
6	TYPICAL SECTIONS
7	SCHEDULES
8-9	PLAN & PROFILE SHEETS
10-11	EROSION CONTROL PLAN
12	DETOUR SHEET
13-20	CROSS SECTIONS
21-45	BRIDGE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420401-12	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
515001-03	NAME PLATE FOR BRIDGES
630001-10	STEEL PLATE BEAM GUARDRAIL
630301-06	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-14	TRAFFIC BARRIER TERMINAL, TYPE 6
667101-02	PERMANENT SURVEY MARKERS
668001-01	U.S. GEOLOGICAL SURVEY AND NATIONAL GEODETIC SURVEY BENCHMARKS RESETTING METHOD
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM THE PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE 2L, 2W MOVING OPERATIONS - DAY ONLY
701901-05	TRAFFIC CONTROL DEVICES
780001-05	TYPICAL PAVEMENT MARKINGS
781001-04	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR21-9	TYPICAL APPLICATIONS OF TRAF CONT DEVICES FOR CONST ON RURAL LOCAL HIGHWAYS

725001 OBJECT AND TERMINAL MARKERS

FILE NAME =	USER NAME = steffanmk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS AND GENERAL NOTES	F.A.P. RTE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
p:\11.084EBID\INTEG\Illinois.gov\PWIDOT\do	ments\DOT Offices\District 7\Projects\74322\DRW\11\CD\Sheets\0774322-shr-index.d	CHECKED -	REVISED -			781	1108BR18	CRAWFORD	45	2	
Default	PLOT SCALE = 1/8" = 1' / in.	DATE -	REVISED -			SCALE: N/A	SHEET OF	SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 74322
	PLOT DATE = 8/12/2016										

Rev.

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0011		
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	117	117		
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	90	90		
20200100	EARTH EXCAVATION	CU YD	34	34		
20300100	CHANNEL EXCAVATION	CU YD	4731	4731		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	70	70		
28000400	PERIMETER EROSION BARRIER	FOOT	1479	1479		
28100107	STONE RIPRAP, CLASS A4	SQ YD	1316	1316		
28200200	FILTER FABRIC	SQ YD	1316	1316		
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	1358	1358		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	98	98		
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	386	386		
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	97	97		
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	10	10		
42000080	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SO YD	114	114		

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0011		
44000100	PAVEMENT REMOVAL	SQ YD	321	321		
44000151	HOT-MIX ASPHALT SURFACE REMOVAL, 1/2"	SQ YD	1056	1056		
44004250	PAVED SHOULDER REMOVAL	SQ YD	119	119		
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	12	12		
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	311	311		
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1		
50200100	STRUCTURE EXCAVATION	CU YD	147	147		
50200300	COFFERDAM EXCAVATION	CU YD	159	159		
50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1	1		
50201102	COFFERDAM (TYPE 1) (LOCATION - 2)	EACH	1	1		
50300100	FLOOR DRAINS	EACH	18	18		
50300225	CONCRETE STRUCTURES	CU YD	147.9	147.9		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	239.6	239.6		
50300260	BRIDGE DECK GROOVING	SQ YD	832	832		

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	QUANTITIES	0011		
50300300	PROTECTIVE COAT	SO YD	1076	1076		
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	99.1	99.1		
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	LSUM	1	1		
50500505	STUD SHEAR CONNECTORS	EACH	4050	4050		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	96900	96900		
51201400	FURNISHING STEEL PILES HP10X42	FOOT	255	255		
51201700	FURNISHING STEEL PILES HP12X74	FOOT	366	366		
51202305	DRIVING PILES	FOOT	255	255		
51203400	TEST PILE STEEL HP10X42	EACH	2	2		
51204650	PILE SHOES	EACH	12	12		
51500100	NAME PLATES	EACH	1	1		
52100520	ANCHOR BOLTS, 1"	EACH	48	48		
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	54	54		
X 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	175	175		

SUMMARY OF QUANTITIES			80% FED. 20% STATE TOTAL	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	QUANTITIES	0011		
X 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		
X 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4		
63200310	GUARDRAIL REMOVAL	FOOT	376	376		
66700305	PERMANENT SURVEY MARKERS, TYPE II	EACH	1	1		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6		
67100100	MOBILIZATION	LSUM	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1	1		
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	LSUM	1	1		
X 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1943	1943		
X 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	10	10		
X 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16	16		
X 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		

19

12

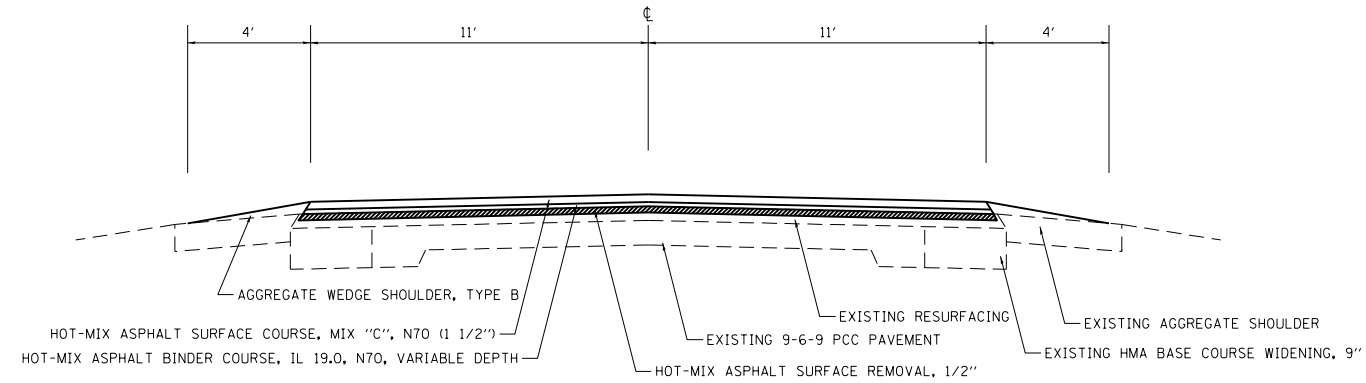
*Specialty Items

SUMMARY OF QUANTITIES			80% FED, 20% STATE TOTAL	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	QUANTITIES	0011		
*A2001016	TREE, ACER RUBRUM (RED MAPLE), 2" CALIPER, BALLED AND BURLAPPED	EACH	2	2		
*A2005816	TREE, PLATANUS OCCIDENTALIS (SYCAMORE), 2" CALIPER, BALLED AND BURLAPPED	EACH	3	3		
*A2006016	TREE, POPULUS DELTOIDES ROBUSTA (ROBUSTA COTTONLESS POPLAR), 2" CALIPER, BALLED AND BURLAPPED	EACH	3	3		
*A2006516	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	3	3		
*B2001116	TREE, CERCIS CANADENSIS (EASTERN REDBUD), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED	EACH	3	3		
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.7	0.7		
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	100	100		
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	40	40		
Z0004552	APPROACH SLAB REMOVAL	SQ YD	162	162		
Z0016702	DETOUR SIGNING	LSUM	1	1		

SUMMARY OF QUANTITIES			80% FED, 20% STATE TOTAL	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT	QUANTITIES	0011		
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	132	132		
*Z0065000	SETTING PILES IN ROCK	EACH	12	12		

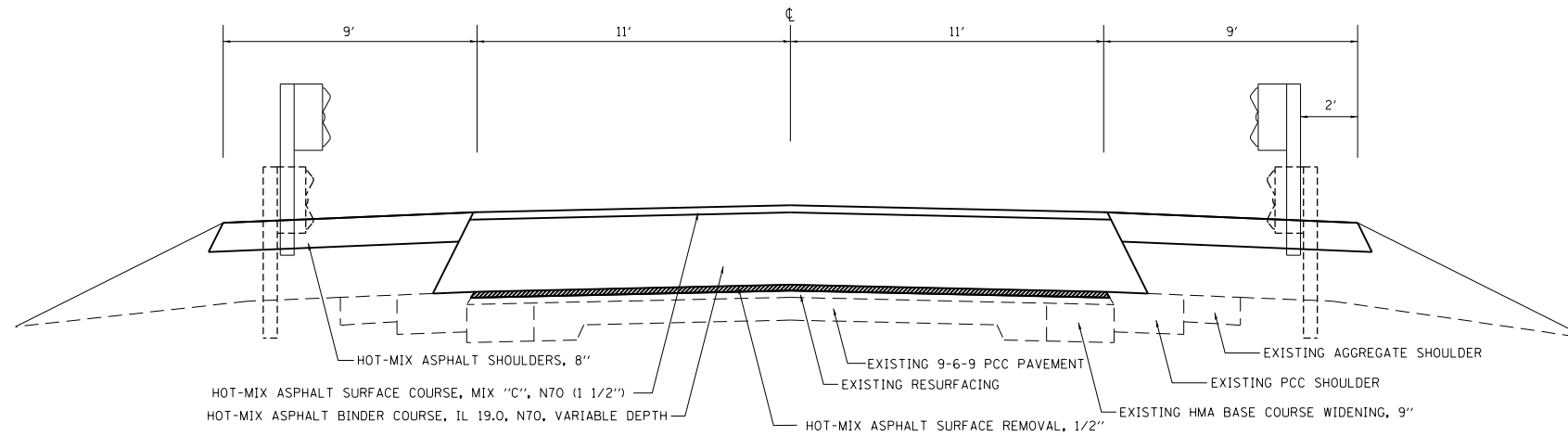
*Specialty Items

2



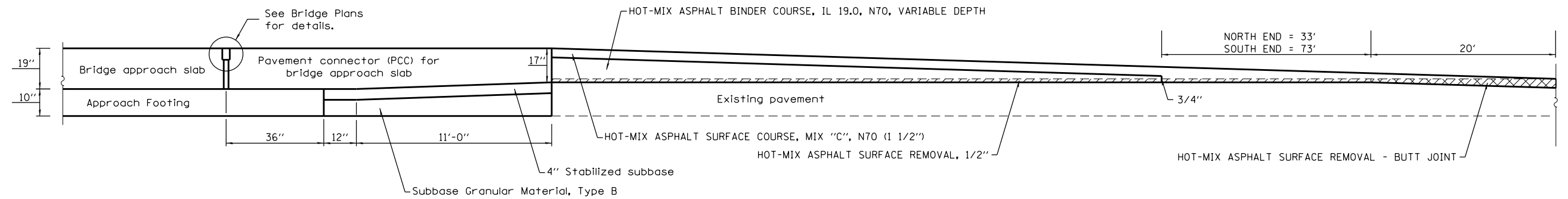
TYPICAL SECTION

RT STA 31+20 TO RT STA 31+40
 LT STA 31+20 TO LT STA 31+78
 RT STA 37+62 TO RT STA 38+70
 LT STA 38+00 TO LT STA 38+70



TYPICAL SECTION

RT STA 31+40 TO RT STA 33+61
 LT STA 31+78 TO LT STA 33+61
 RT STA 35+79 TO RT STA 37+62
 LT STA 35+79 TO LT STA 38+00



HOT-MIX ASPHALT PAVING DETAIL

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED -
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Default	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/12/2016	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	6
CONTRACT NO. 74322			ILLINOIS FED. AID PROJECT	

STATION TO STATION			LENGTH	POUND	TON	TON	TON	SO YD	SO YD	SO YD	TON	SO YD	SO YD	SO YD	
MAINLINE	SIDE		FOOT												
31+20	33+31	LT & RT	211	487.0	184.6	43.3							167.0	49.0	
33+31	33+46	LT & RT	15				57.0	36.7							
33+46	34+27	LT & RT	81					198.3							
34+27	34+48	LT & RT	21											79.3	
BRIDGE OMISSION															
35+52	35+74	LT & RT	22											83.1	
35+74	36+09	LT & RT	35				57.0	85.6							
36+09	38+70	LT & RT	261	565.1	201.8	53.6						589.0	49.0		
SHOULDERS															
31+20	31+40	RT	20							1.0					
31+40	31+94	RT	54	12.2						0.6	12.1				
31+94	33+61	RT	167	66.2					8.3		65.9				
33+61	31+27	RT	66						32.0						
31+20	31+78	LT	58							2.9					
31+78	32+32	LT	54	12.2						0.6	12.1				
32+32	33+61	LT	129	53.6					8.3		48.8				
33+61	34+27	LT	66						32.0						
35+79	37+82	RT	203	49.1		10.0			19.4		82.0				
37+82	38+38	RT	56	12.2							12.5				
37+62	38+38	RT	76	17.1						0.6					
38+38	38+70	RT	32							1.6					
35+79	37+46	LT	167	70.7					19.4		65.9				
37+86	38+00	LT	54	12.2						0.6	12.1				
38+00	38+70	LT	70												
TOTALS:				1358	386	97	10	114	321	119	12	311	1056	98	162

SIDE		STATION TO STATION	FOOT	EACH	EACH	FOOT	EACH	EACH
RT	32+04	34+27	62.5	1	1	113	4	1
LT	32+42	34+27	25	1	1	75	4	1
RT	35+73	36+98	25	1	1	75	4	1
LT	35+73	37+36	62.5	1	1	113	4	1
TOTALS			175	4	4	376	16	4

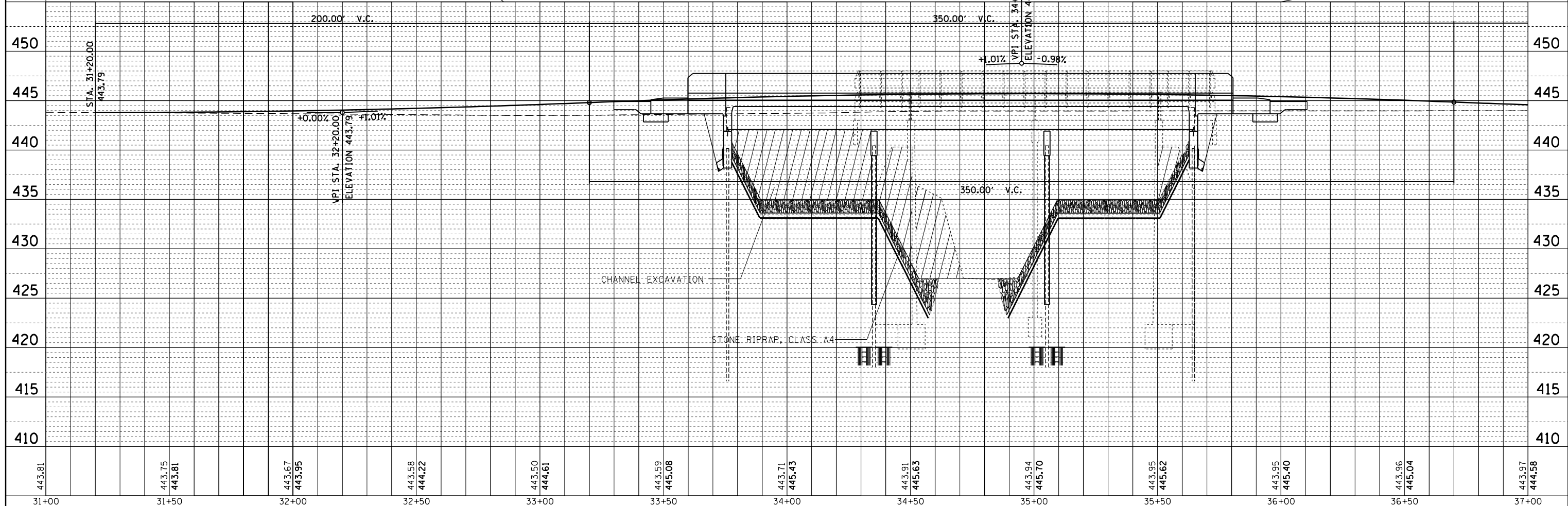
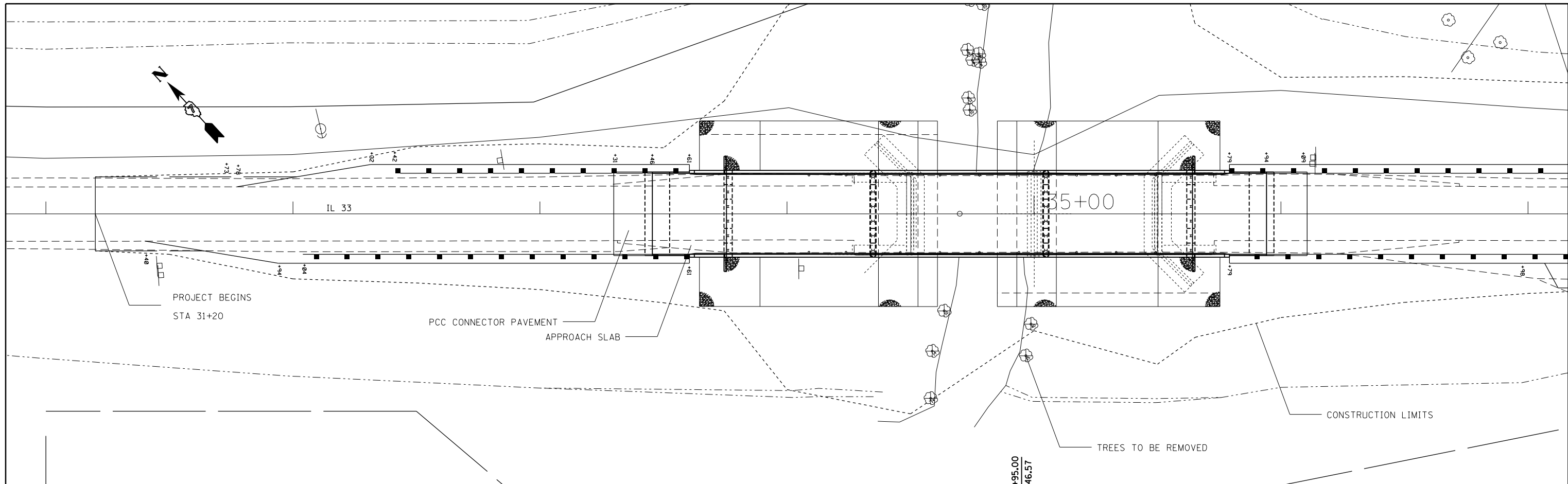
LOCATION		EARTH EXCAVATION (cu?)	CHANNEL EXCAVATION (cu?)	EARTH EXC ADJ. FOR SHRINKAGE (cu?)	EMBANKMENT (cu?)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
		CU YD	CU YD	CU YD	CU YD	CU YD
31+20	TO 31+50	0.61	0.0	0.5	0.08	0.4
31+50	TO 32+00	3.53	0.0	2.6	2.49	0.2
32+00	TO 32+50	2.56	0.0	1.9	9.65	-7.7
32+50	TO 33+00	0.05	0.0	0.0	25.02	-25.0
33+00	TO 33+50	11.20	0.0	8.4	40.04	-31.6
33+50	TO 33+78	12.55	0.0	9.4	24.99	-15.6
33+78	TO 34+00	0.00	385.10	288.8	0.00	288.8
34+00	TO 34+50	0.00	2201.22	1650.9	0.00	1650.9
34+50	TO 35+00	0.00	1459.70	1094.8	108.46	986.3
35+00	TO 35+50	0.00	441.27	331.0	108.46	222.5
35+50	TO 35+62	0.00	124.63	93.5	20.44	73.0
35+62	TO 36+00	0.00	118.57	88.9	129.43	-40.5
36+00	TO 36+50	0.00	0.0	0.0	187.31	-187.3
36+50	TO 37+00	0.00	0.0	0.0	175.54	-175.5
37+00	TO 37+50	1.60	0.0	1.2	146.72	-145.5
37+50	TO 38+00	1.60	0.0	1.2	65.42	-64.2
38+00	TO 38+50	0.00	0.0	0.0	0.88	-0.9
38+50	TO 38+70	0.00	0.0	0.0	0.06	-0.1
TOTALS:		34	4731	3573	1045	2528

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PLOT SCALE : 100.0000 / in.	CHECKED : -	REVISED : -	SCALE: SHEET OF SHEETS STA. TO STA.			CONTRACT NO. 74322				
PLOT DATE : 8/12/2016	DATE : -	REVISED : -	ILLINOIS FED. AID PROJECT							

Rev.

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	ALIGNMENT CHECKED		
	PAVING CHECKED		
	FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NO.		



443.81	443.75	443.67	443.58	443.50	443.59	443.71	443.91	443.94	443.95	443.95	443.96	443.97
	443.81	443.95	444.22	444.61	445.08	445.43	445.63	445.70	445.62	445.40	445.04	444.58
31+00	31+50	32+00	32+50	33+00	33+50	34+00	34+50	35+00	35+50	36+00	36+50	37+00

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USER NAME = steffennk
 DESIGNED -
 DRAWN -
 CHECKED -
 DATE - 8/12/2016

REVISED -
 REVISED -
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

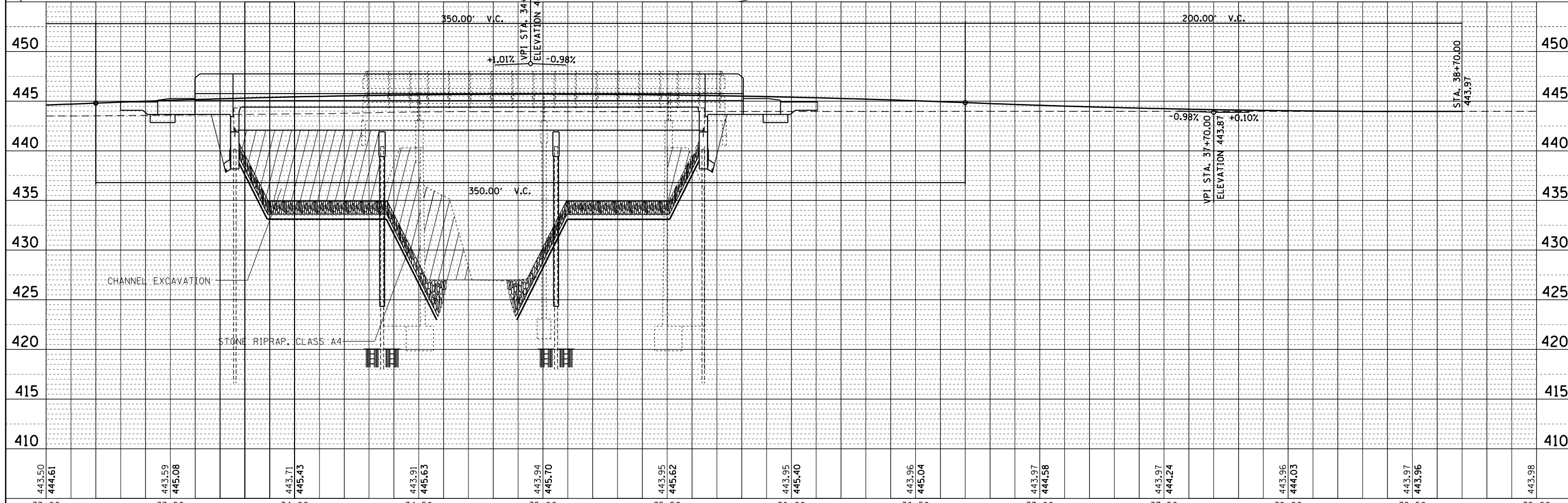
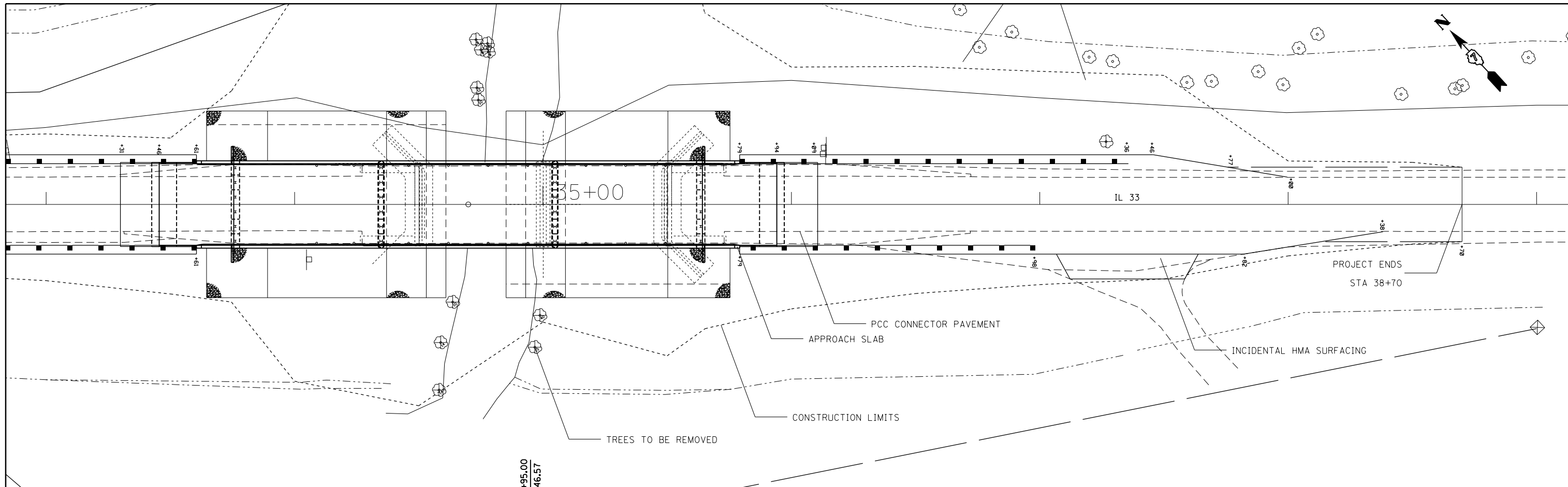
PLAN AND PROFILE

SCALE: SHEET OF SHEETS STA. TO STA.

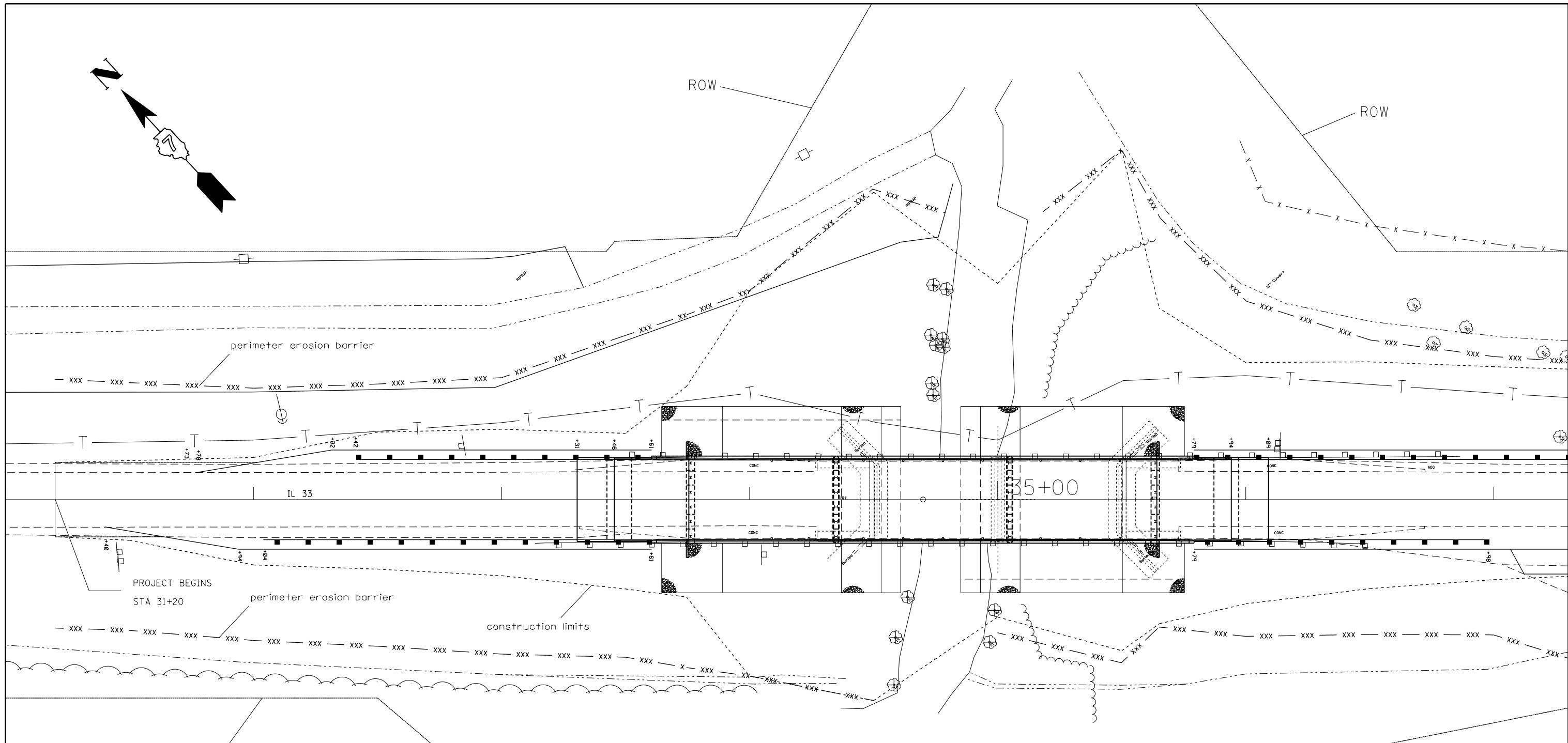
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	8
CONTRACT NO. 74322			ILLINOIS FED. AID PROJECT	

PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNED	
	CHECKED	
	FILED	
	CAD FILE NAME	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	



443.50	444.61	443.59	445.08	443.71	445.43	443.91	445.63	443.94	445.70	443.95	445.62	443.96	445.04	443.97	444.58	443.97	444.24	443.96	444.03	443.97	443.96	443.98
33+00	33+50	34+00	34+50	35+00	35+50	36+00	36+50	37+00	37+50	38+00	38+50	39+00										



EROSION CONTROL GENERAL NOTES

EROSION CONTROL MEASURES AT THE START OF CONSTRUCTION

1. THE AREAS OF EXCAVATION AND EMBANKMENT PLACEMENT SHALL BE MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE IMPROVEMENT AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION, MINIMIZING SILTATION AT THE RIGHT-OF-WAY LINE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION CONTROL BARRIER. WORK AT THE START OF CONSTRUCTION SHALL CONSIST OF THE FOLLOWING:
 - (a) AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM BRUSH CUTTING, TREE REMOVAL AND OTHER ACTIVITIES THAT WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.
 - (b) DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
 - (c) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE START OF CONSTRUCTION WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN CALENDAR DAYS.

EROSION CONTROL MEASURES DURING CONSTRUCTION

1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED FROM DAMAGING EFFECTS OF CONSTRUCTION. THE CONTRACTOR SHALL NOT USE THIS AREA FOR PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.
 - (a) WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE A HIGH FLOW OF WATER, AS DETERMINED BY THE ENGINEER, SHALL REMAIN UNDISTURBED UNTIL CONTINUOUS OPERATIONS CAN ENSURE TIMELY COMPLETION OF WORK IN THESE AREAS TO MINIMIZE SOIL EROSION.
 - (b) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN CALENDAR DAYS.

EROSION CONTROL MEASURES AFTER FINAL GRADING:

1. EXCAVATION AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADED.
 - (a) TEMPORARILY EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY WITH ALL PROPOSED TURF AREAS SEEDED AND A PROPER STAND ESTABLISHED.

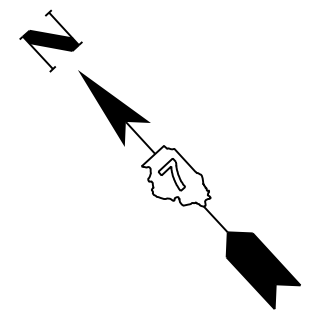
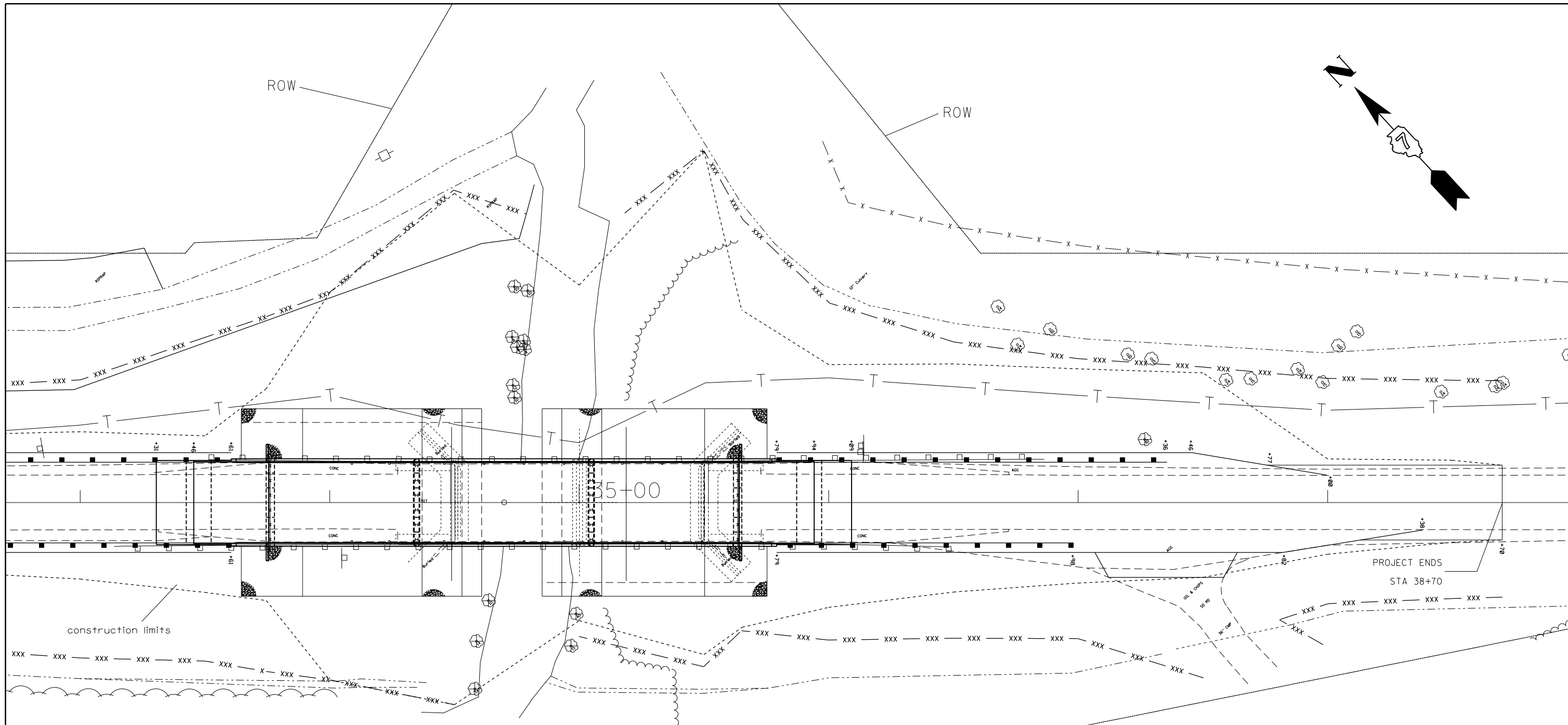
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Default	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/12/2016	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EROSION CONTROL PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	10
CONTRACT NO. 74322			ILLINOIS FED. AID PROJECT	



EROSION CONTROL GENERAL NOTES

EROSION CONTROL MEASURES AT THE START OF CONSTRUCTION

1. THE AREAS OF EXCAVATION AND EMBANKMENT PLACEMENT SHALL BE MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE IMPROVEMENT AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION, MINIMIZING SILTATION AT THE RIGHT-OF-WAY LINE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION CONTROL BARRIER. WORK AT THE START OF CONSTRUCTION SHALL CONSIST OF THE FOLLOWING:
 - (a) AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM BRUSH CUTTING, TREE REMOVAL AND OTHER ACTIVITIES THAT WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.
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 - (c) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE START OF CONSTRUCTION WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN CALENDAR DAYS.

EROSION CONTROL MEASURES DURING CONSTRUCTION

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 - (a) WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE A HIGH FLOW OF WATER, AS DETERMINED BY THE ENGINEER, SHALL REMAIN UNDISTURBED UNTIL CONTINUOUS OPERATIONS CAN ENSURE TIMELY COMPLETION OF WORK IN THESE AREAS TO MINIMIZE SOIL EROSION.
 - (b) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN CALENDAR DAYS.

EROSION CONTROL MEASURES AFTER FINAL GRADING:

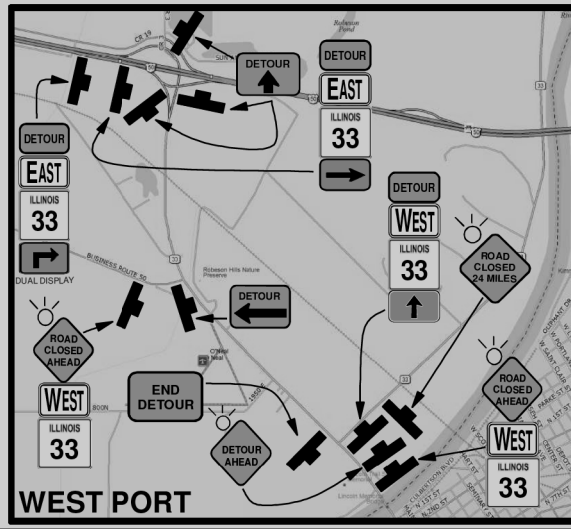
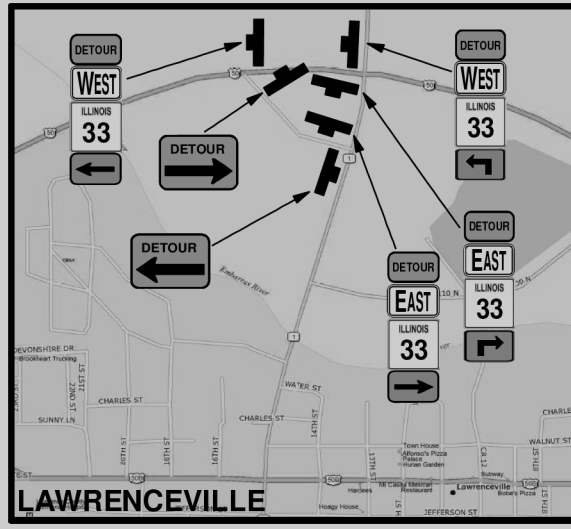
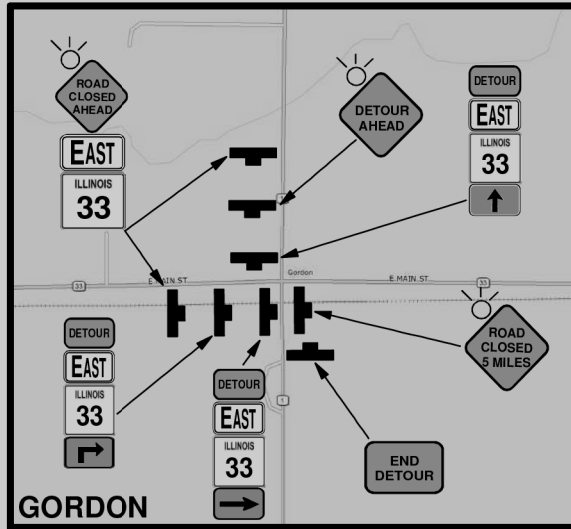
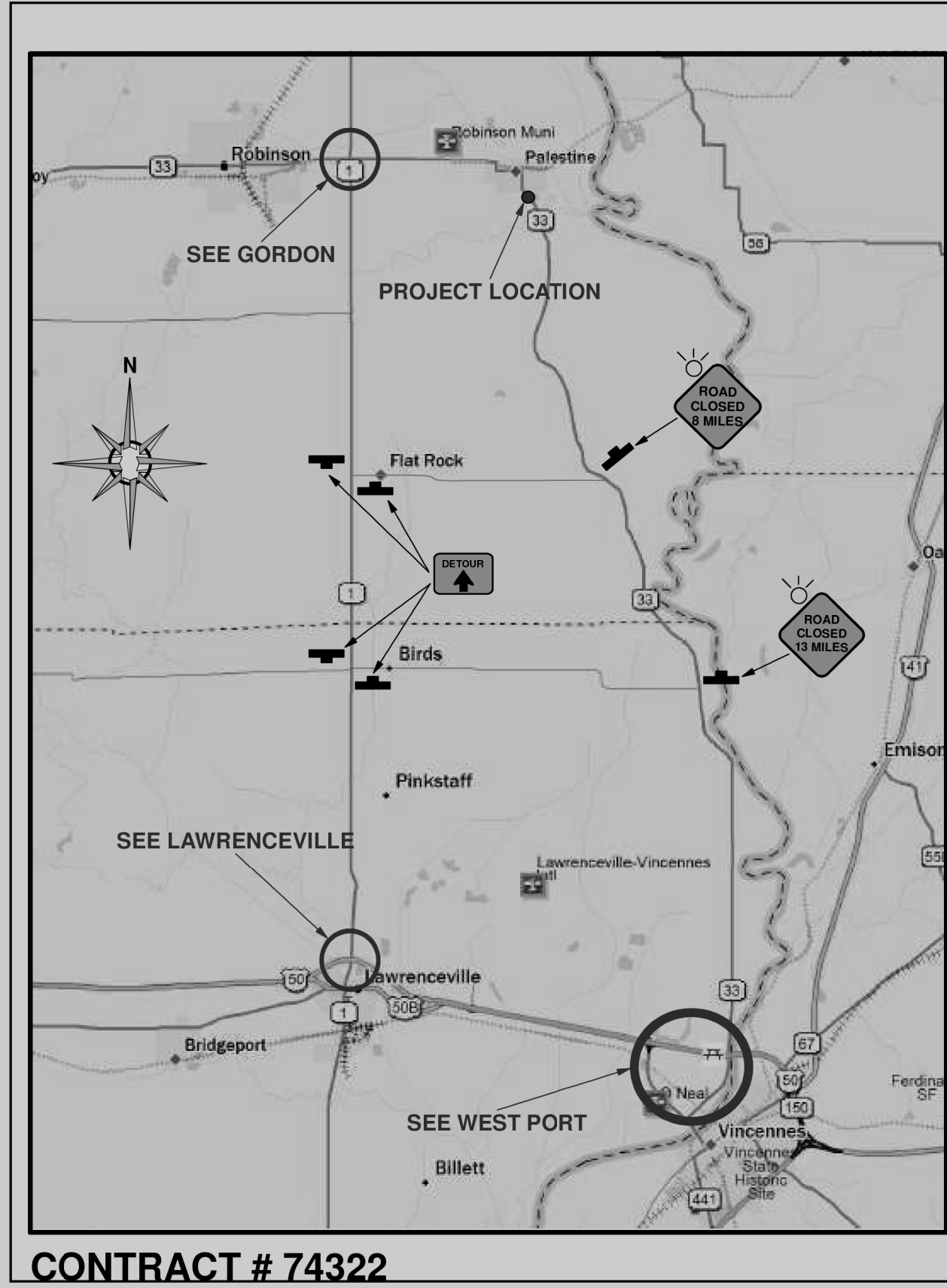
1. EXCAVATION AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADED.
 - (a) TEMPORARILY EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY WITH ALL PROPOSED TURF AREAS SEEDED AND A PROPER STAND ESTABLISHED.

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Default	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/12/2016	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EROSION CONTROL PLAN			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BRB)	CRAWFORD	45	11
CONTRACT NO. 74322			ILLINOIS FED. AID PROJECT	



www.invarion.com
SIGN LEGEND

	W20-3-48
	W20-3-48
	W20-3-48
	W20-3-48
	W20-3-48
	W20-2-48
	M4-9-3024
	M4-9L-3024
	M4-9R-3024
	M3-2-3015
	M3-4-3015
	M6-3(O)-3018
	M6-1R(O)-3018
	M6-1L(O)-3018
	M5-1R(O)-3018
	M5-1L(O)-3018
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	M4-8a(O)-3024
	M1-5-36

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

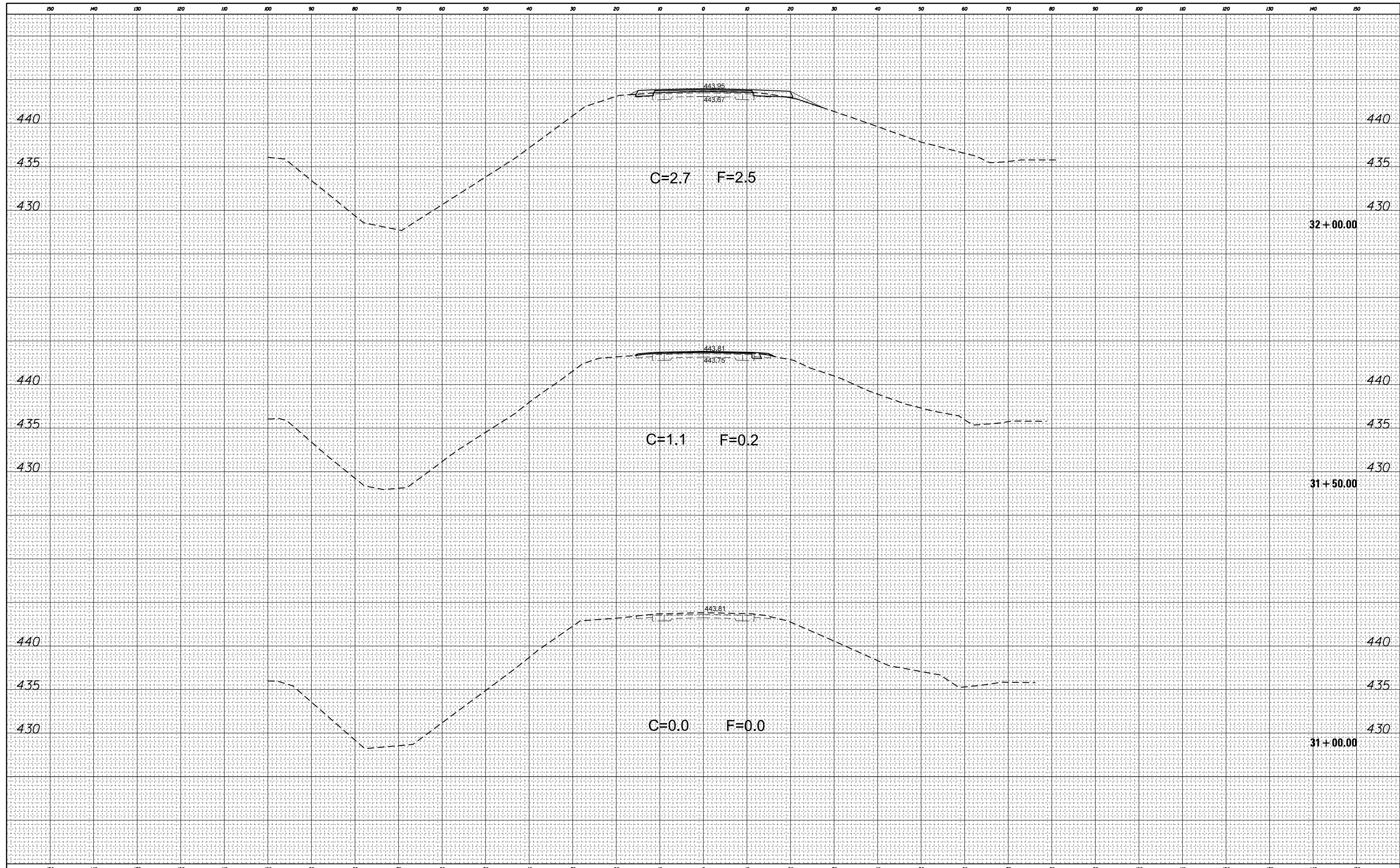
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74322			ILLINOIS FED. AID PROJECT	

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NOTE BOOK	
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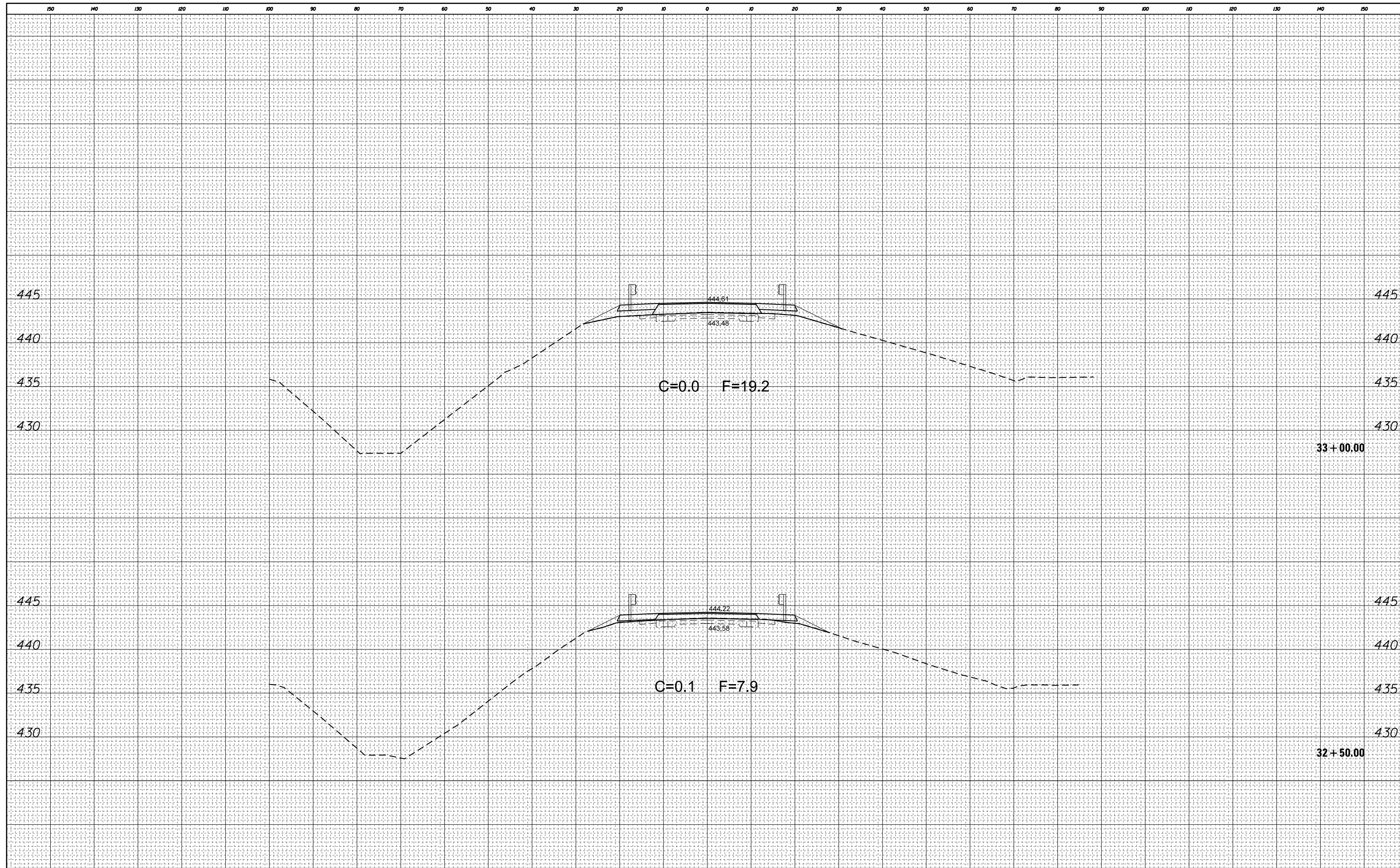
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	PLOT DATE = 8/12/2016	DATE -	REVISIED -		ILLINOIS FED. AID PROJECT							

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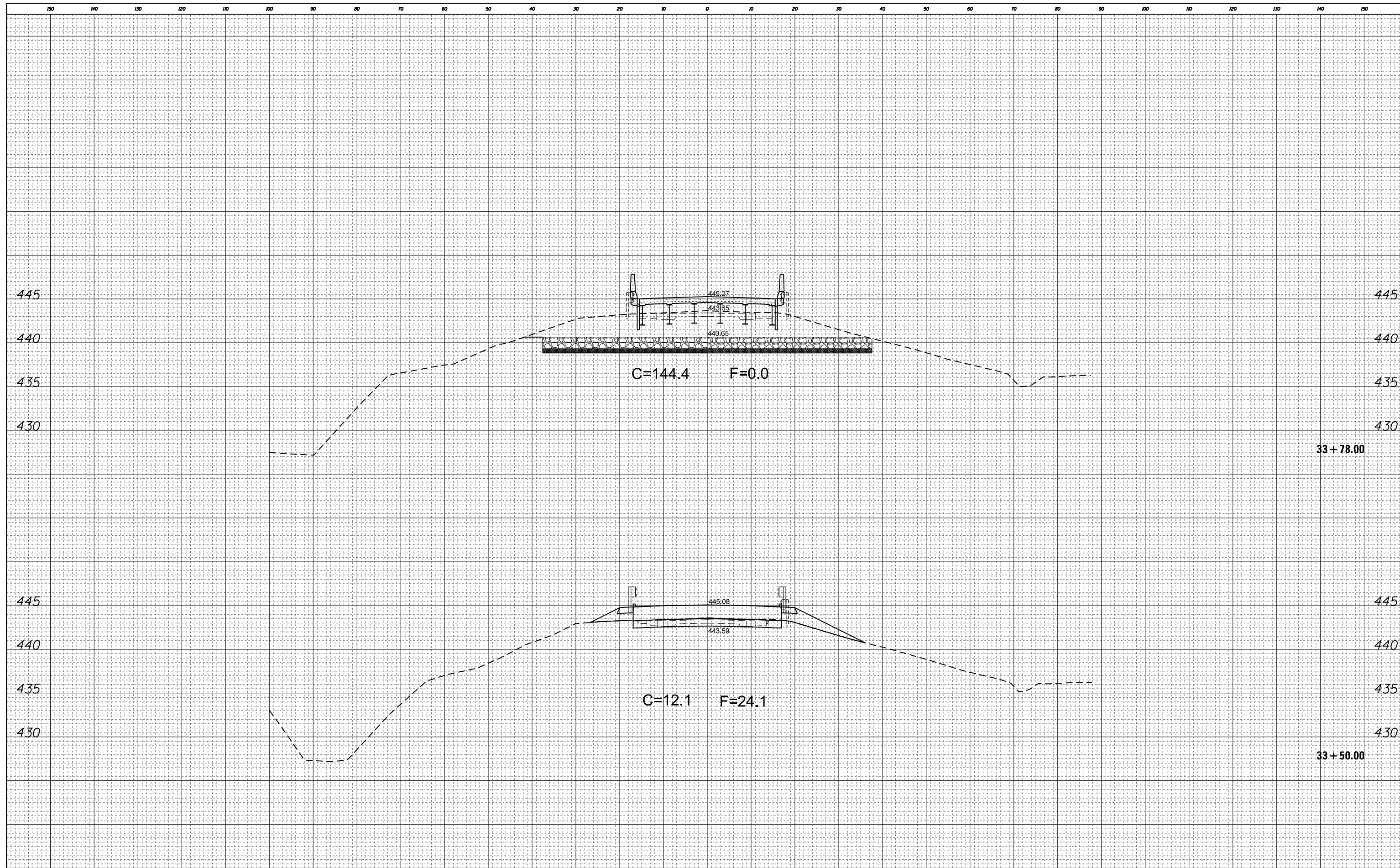
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Default	DATE = 8/12/2016	DATE -	REVISIED -			ILLINOIS FED. AID PROJECT				

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

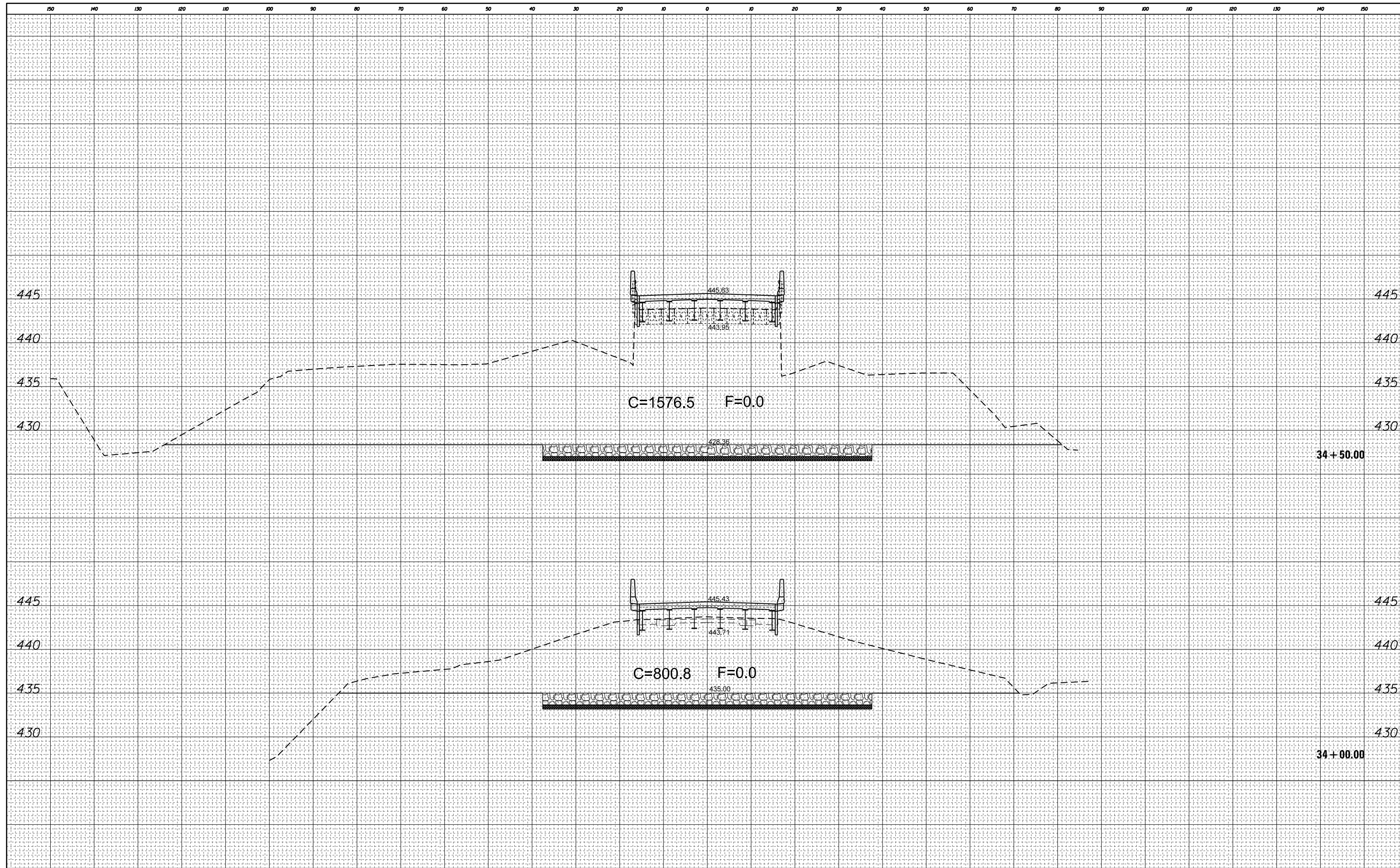
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ORIGINAL SURVEY	SURVEYED
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	AREAS
	CHECKED



FILE NAME =	USER NAME = steffennk	DESIGNED -	REVISIED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 8/12/2016					ILLINOIS FED. AID PROJECT				
SCALE:						SHEET	OF	SHEETS	STA. 33+50.00	TO STA. 33+74.50

DATE	
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NOTE BOOK	
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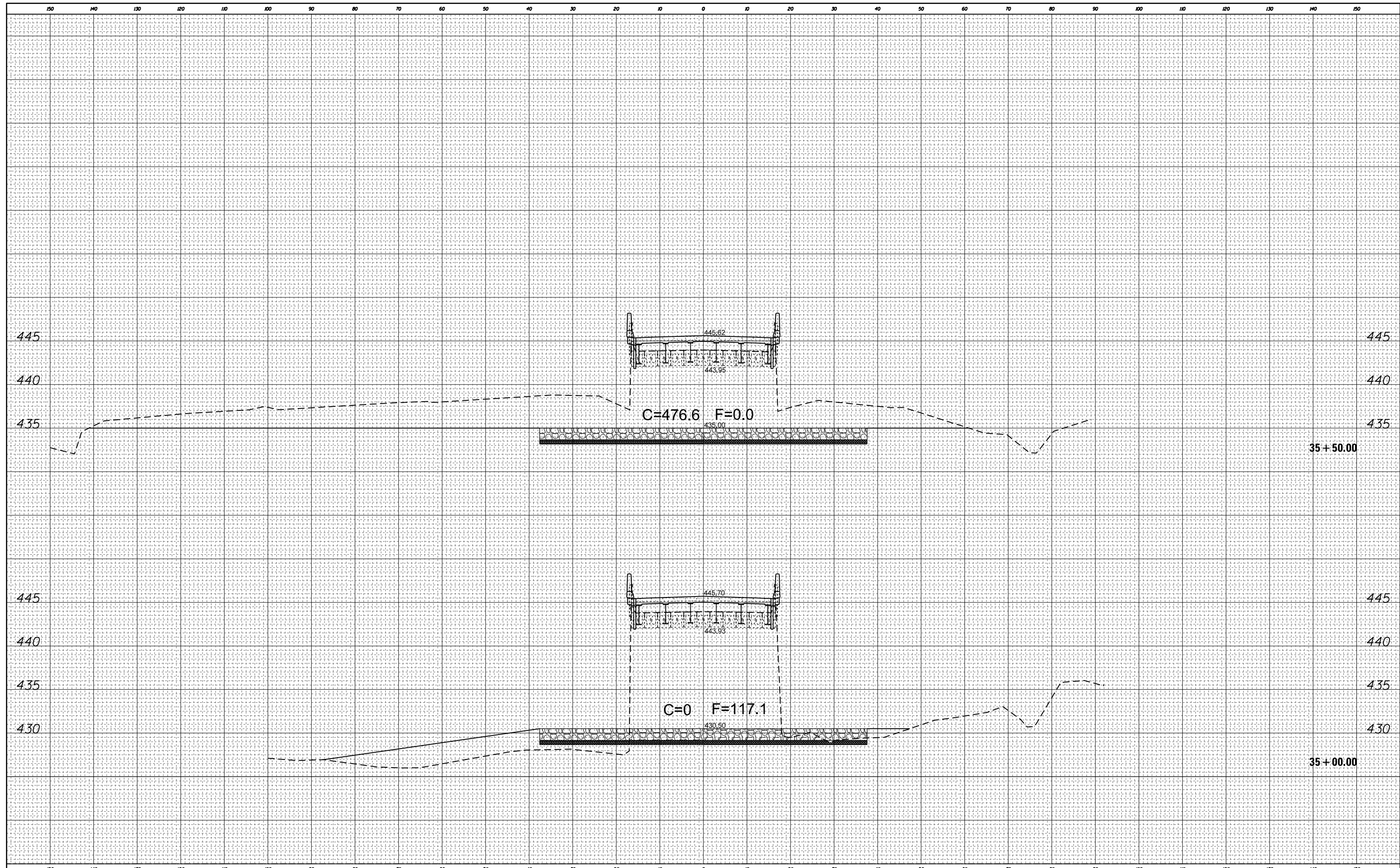
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	PLOT DATE = 8/12/2016									

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NOTE BOOK	
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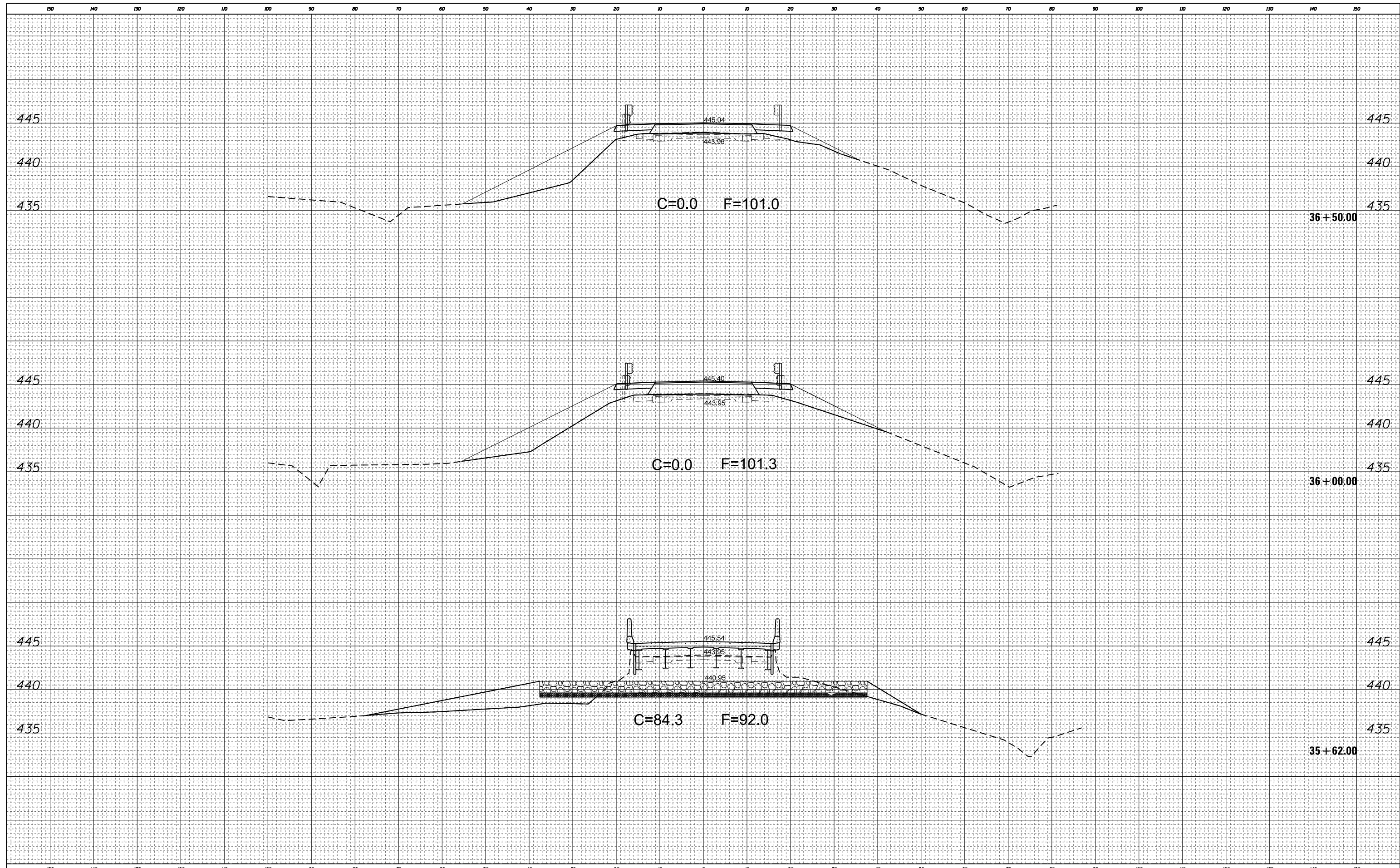
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						CONTRACT NO. 74322				
						ILLINOIS FED. AID PROJECT				

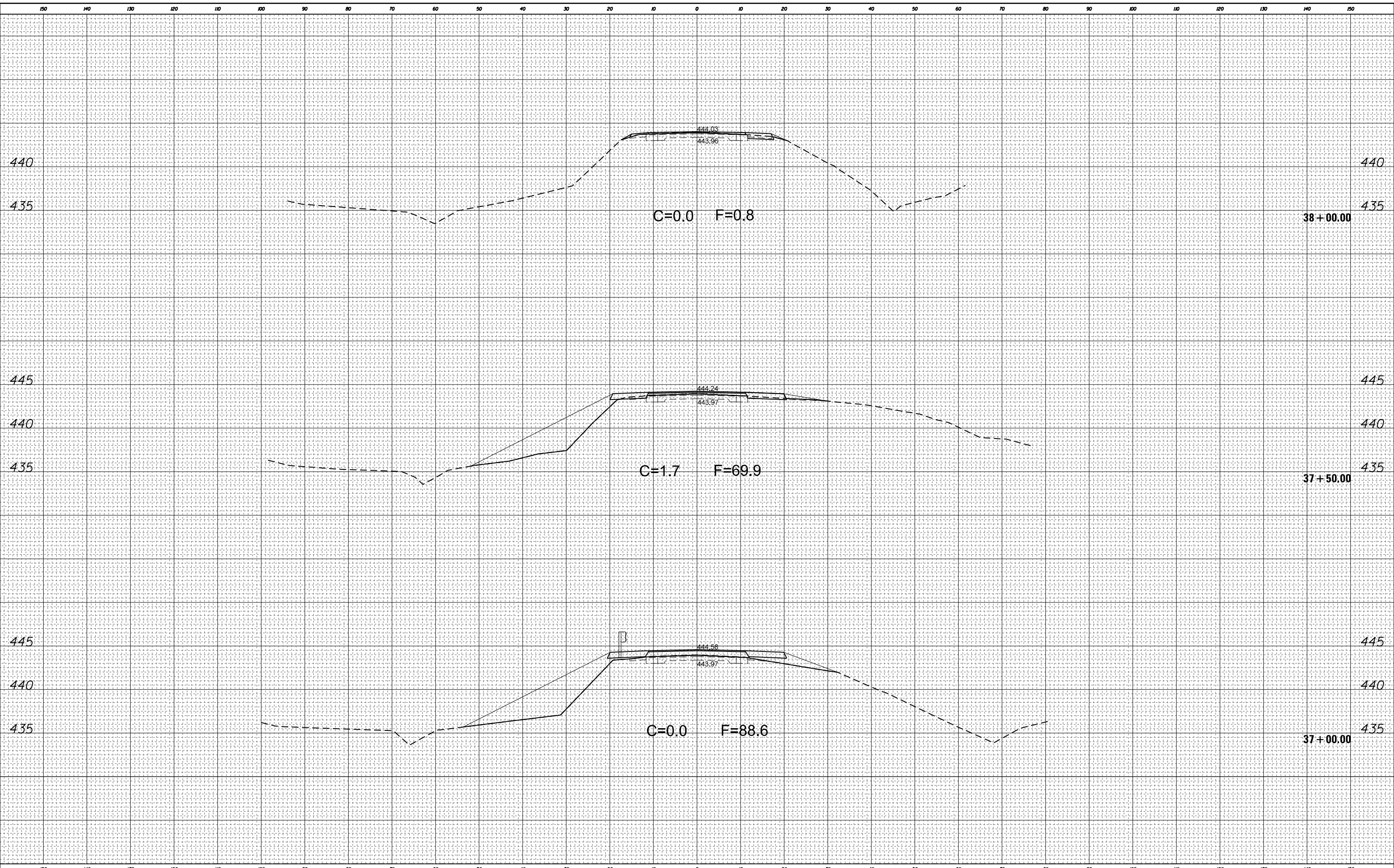
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	AREAS
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NOTE BOOK	PLOTTED
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	AREAS
	CHECKED



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	PLOT DATE = 8/12/2016				ILLINOIS FED. AID PROJECT							

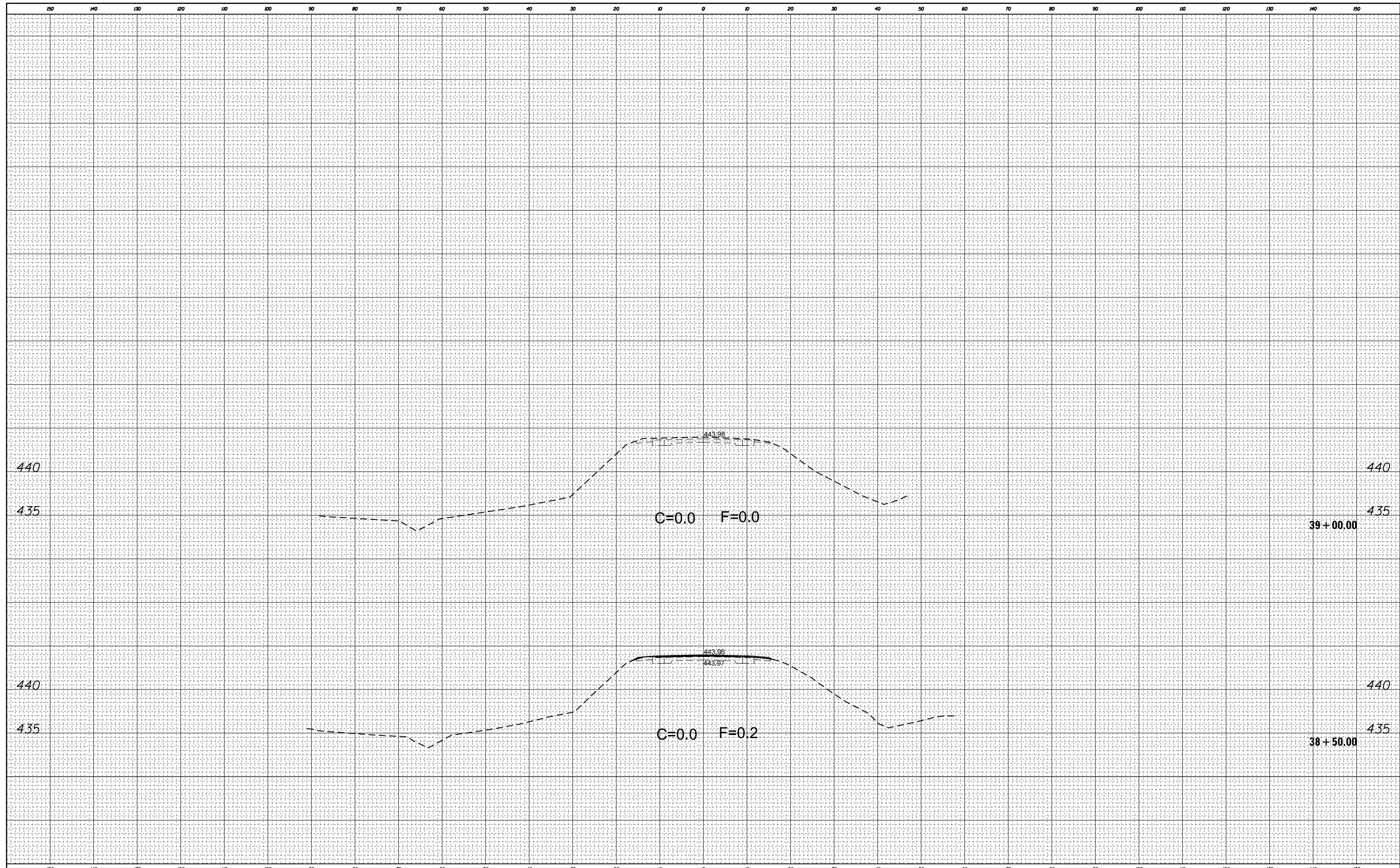
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	AREAS CHECKED
	AREAS CHECKED



BY	DATE
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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	AREAS CHECKED
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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ORIGINAL SURVEY	SURVEYED
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PLOT DATE = 8/12/2016	DATE -	REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS

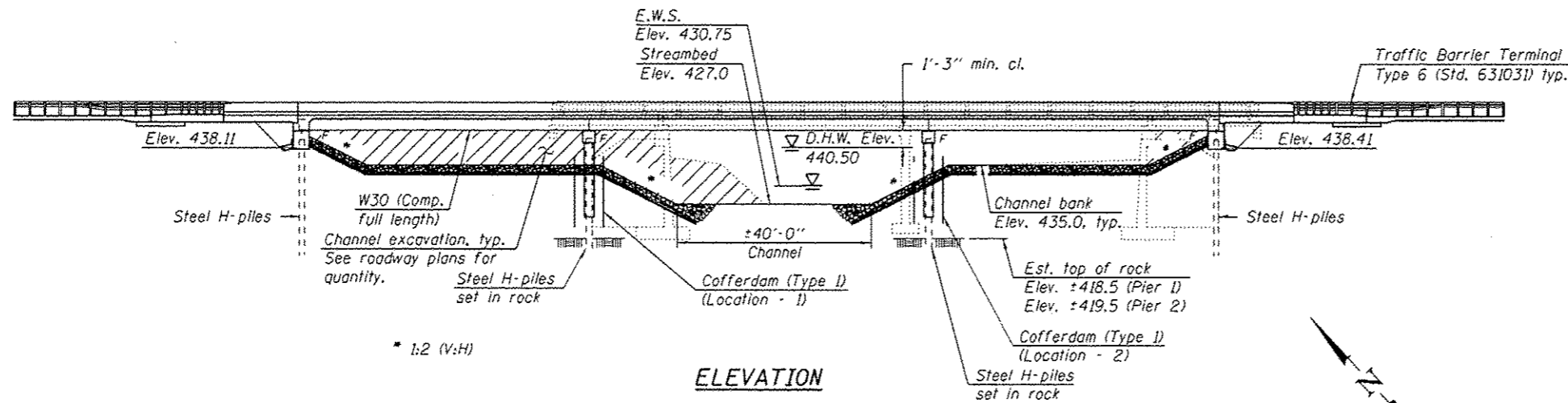
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	20
CONTRACT NO. 74322				
ILLINOIS FED. AID PROJECT				

Benchmarks: Chiseled square on northwest hub guard sta. 34+30; 16.1' Lt.; Elev. 444.44 &
 Chiseled square on southeast hub guard sta. 35+65; 16.1' Rt.; Elev. 444.57

Existing Structure: S.N. 017-0007 originally constructed in 1933 as SBI 181, Section B. It was originally a single span truss on reinforced concrete closed abutments. In 1980 the superstructure was replaced with two span 103'-4" (49'-10³/₄", 49'-10³/₄") Back-to-back abutments constructed of 21" PPC deck beams built on reconstructed abutment caps and the construction of a center pier as FA Route 781, Section 108BR. The Out-to-out width of the deck is 33'-0". In 2011, deck beam 6 (span 1) and deck beam 11 (span 2) were replaced as FAP 781, Section D7 BEAM REPAIR 2012-1. The existing structure shall be removed and replaced while traffic is detoured.

No Salvage



INDEX OF SHEETS

- 1 - General Plan & Elevation
- 2 - General Data
- 3-4 - Top of Slab Elevations
- 5-6 - Top of Approach Slab Elevations
- 7-8 - Superstructure Details
- 9 - Diaphragm Details
- 10-11 - Bridge Approach Slab Details
- 12-13 - Structural Steel Details
- 14-16 - Abutment Details
- 17-19 - Pier Details
- 20 - Steel H-Pile Details
- 21 - Concrete Parapet Slipforming Option
- 22-25 - Soil Boring Logs

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

DESIGN STRESSES

FIELD UNITS

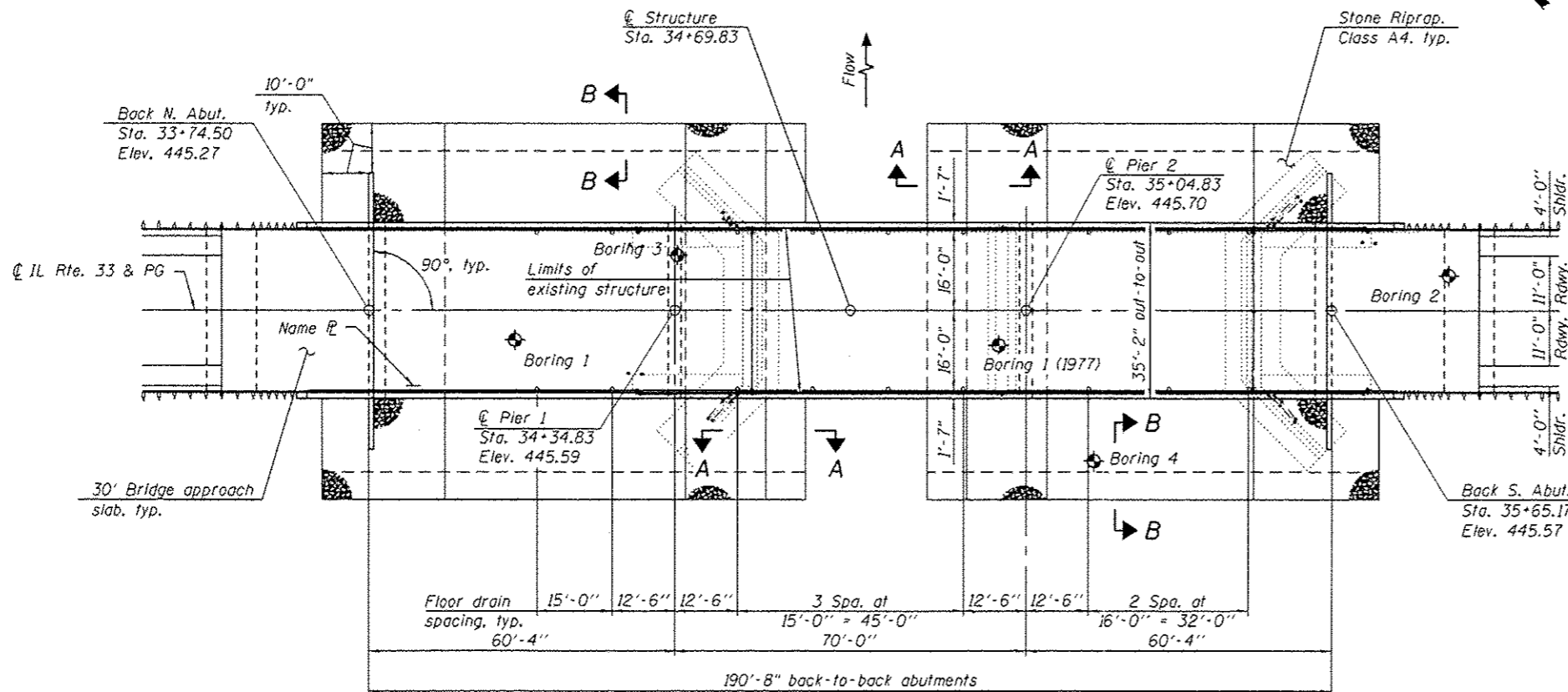
- $f'_c = 3,500$ psi
- $f'_c = 4,000$ psi (Superstructure)
- $f_y = 60,000$ psi (Reinforcement)
- $f_y = 50,000$ psi (M270 Grade 50)

LOADING HL-93

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

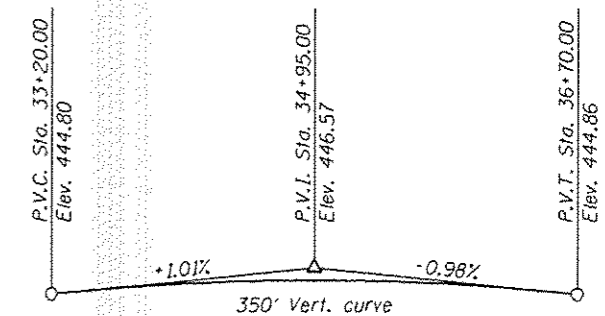
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.142 g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.344 g
 Soil Site Class = C

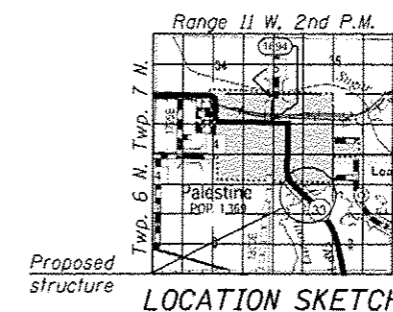


PLAN

Note: For Sections A-A and B-B, see sheet 2 of 25.



PROFILE GRADE
 (Along centerline of roadway)

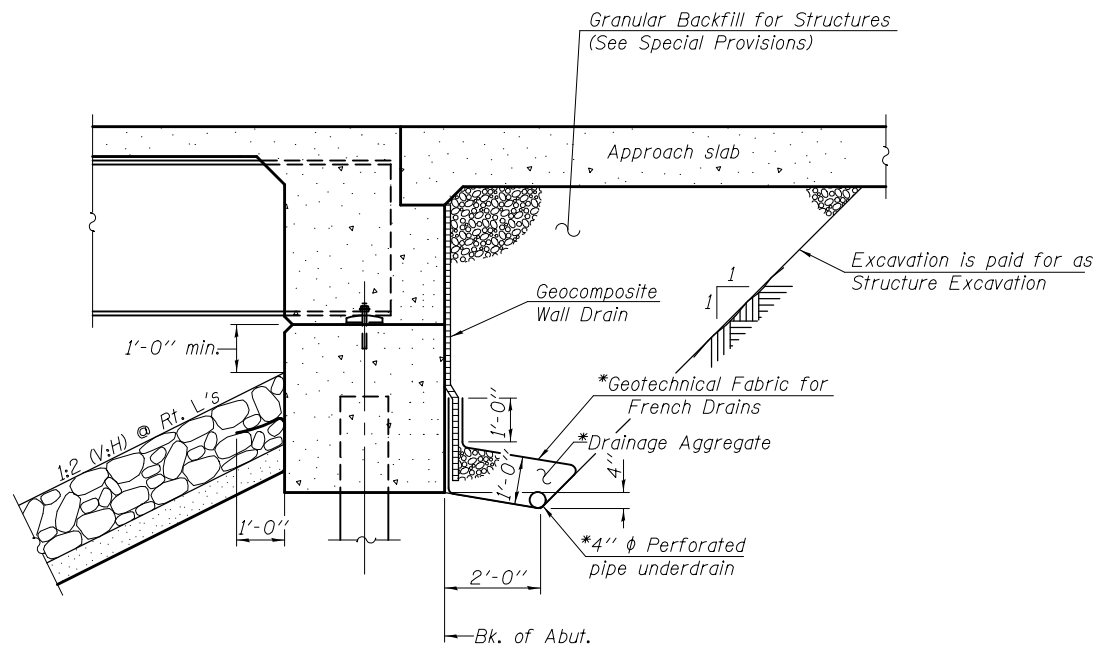


GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 33 OVER
LAMOTTE CREEK
F.A.P. ROUTE 781 - SEC. (108BR)B
CRAWFORD COUNTY
STA. 34+69.83
STRUCTURE NO. 017-0035



EXPIRES 11-30-2016

DESIGNED - <i>Joshua Antezing</i>	EXAMINED - <i>David Carl Puzey</i>	DATE - 9/12/2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	F.A.P. RTE. 781	SECTION 1108BR1B	COUNTY CRAWFORD	TOTAL SHEETS 45	SHEET NO. 21
CHECKED - <i>Michael B. Mossman</i>	PASSED - <i>David Carl Puzey</i>	REVISED		SHEET NO. 1 OF 25 SHEETS	CONTRACT NO. 74322		ILLINOIS FED. AID PROJECT	
DRAWN - <i>Michael B. Mossman</i>	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED						
CHECKED - <i>JMD/PG/TERA</i>								



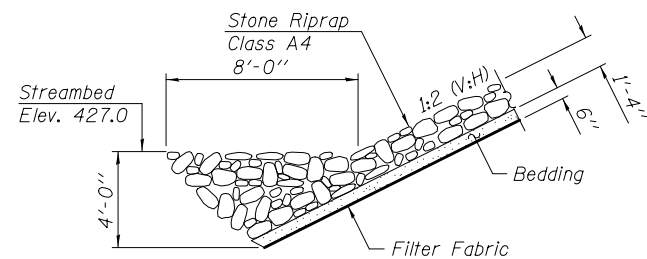
SECTION THRU INTEGRAL ABUTMENT

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

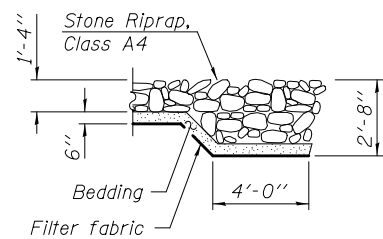
Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

STATION 34+69.83
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 781 - SEC. (108BR)B
LOADING HL-93
STRUCTURE NO. 017-0035

NAME PLATE
See Std. 515001



SECTION A-A



SECTION B-B

WATERWAY INFORMATION

Drainage Area = 26.7 Sq. Mi. Low Grade Elev. 443.48 @ Sta. 33+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	2690	682	1069	438.5	0.9	0.5	439.4	439.0	
Base	50	4740	877	1384	440.5	1.0	0.4	441.5	440.9	
Overtopping	100	5540	926	1465	441.0	1.6	0.5	442.6	441.5	
Max. Calc.	500	7500	994	1578	442.1	1.4	0.7	443.5	442.8	

DESIGN SCOUR ELEVATION TABLE

Event / Limit	Design Scour Elevations (ft.)				
	N. Abut.	Pier 1	Pier 2	S. Abut.	Item 113
State	438.15	418.0	418.1	438.45	5
Q100	438.15	417.3	418.1	438.45	
Q200	438.15	418.0	418.1	438.45	
Design	438.15	418.0	418.1	438.45	
Check	438.15	417.3	418.1	438.45	

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 7/8 in. ϕ , holes 15/16 in. ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 157,450 Lbs. (M270 Grade 50)
 Calculated weight of Structural Steel = 11,530 Lbs. (M270 Grade 36)
 No field welding is permitted except as specified in the contract documents.
 Reinforcement bars designated (E) shall be epoxy coated.
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
 The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be gray, Munsell No. 5B 7/1.
 Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		1,316	1,316
Filter Fabric	Sq. Yd.		1,316	1,316
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		147	147
Cofferdam Excavation	Cu. Yd.		159	159
Cofferdam (Type 1) (Location - 1)	Each		1	1
Cofferdam (Type 1) (Location - 2)	Each		1	1
Floor Drains	Each	18		18
Concrete Structures	Cu. Yd.		147.9	147.9
Concrete Superstructure	Cu. Yd.	239.6		239.6
Bridge Deck Grooving	Sq. Yd.	832		832
Protective Coat	Sq. Yd.	1,076		1,076
Concrete Superstructure (Approach Slab)	Cu. Yd.	99.1		99.1
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4,050		4,050
Reinforcement Bars, Epoxy Coated	Pound	83,750	13,150	96,900
Furnishing Steel Piles HP 10x42	Foot		255	255
Furnishing Steel Piles HP 12x74	Foot		366	366
Driving Piles	Foot		255	255
Test Pile Steel HP 10x42	Each		2	2
Pile Shoes	Each		12	12
Name Plates	Each	1		1
Anchor Bolts, 1"	Each		48	48
Geocomposite Wall Drain	Sq. Yd.		54	54
Asbestos Bearing Pad Removal	Each		40	40
Pipe Underdrains for Structures 4"	Foot		132	132
Setting Piles in Rock	Each		12	12
Granular Backfill for Structures	Cu. Yd.		100	100

SDATES \$TIMES

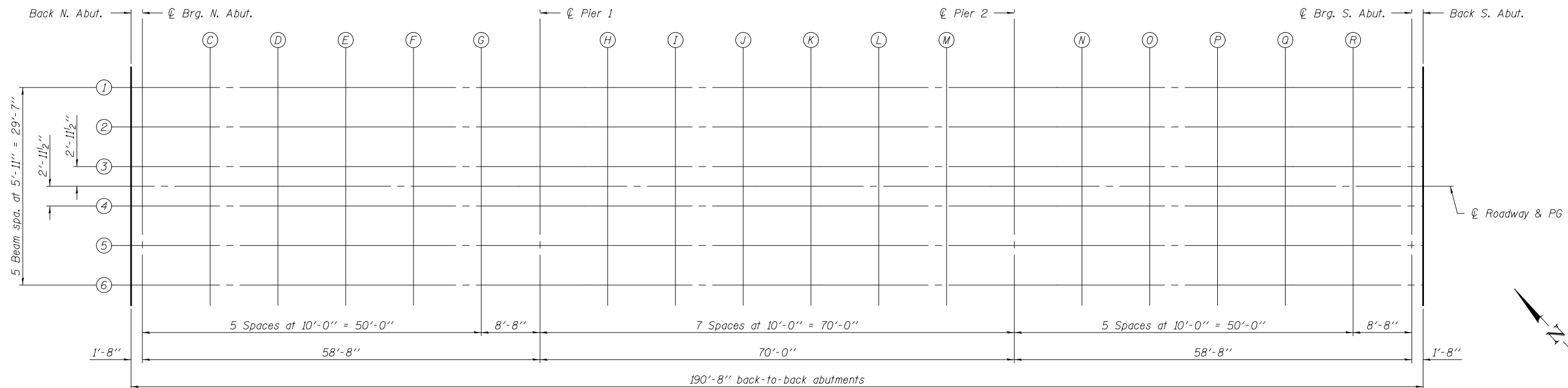
DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Joanne F. J. [Signature]</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl [Signature]</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 017 - 0035

SHEET NO. 2 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	22
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74322	



PLAN

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back N. Abut.	33+74.50	-14.79	445.02	445.02
☉ Brg. N. Abut.	33+76.17	-14.79	445.03	445.03
C	33+86.17	-14.79	445.10	445.12
D	33+96.17	-14.79	445.16	445.19
E	34+06.17	-14.79	445.22	445.25
F	34+16.17	-14.79	445.27	445.29
G	34+26.17	-14.79	445.31	445.32
☉ Brg. Pier 1	34+34.83	-14.79	445.34	445.34
H	34+44.83	-14.79	445.37	445.38
I	34+54.83	-14.79	445.40	445.42
J	34+64.83	-14.79	445.42	445.45
K	34+74.83	-14.79	445.44	445.47
L	34+84.83	-14.79	445.45	445.47
M	34+94.83	-14.79	445.45	445.46
☉ Brg. Pier 2	35+04.83	-14.79	445.45	445.45
N	35+14.83	-14.79	445.45	445.46
O	35+24.83	-14.79	445.43	445.46
P	35+34.83	-14.79	445.41	445.45
Q	35+44.83	-14.79	445.39	445.42
R	35+54.83	-14.79	445.36	445.38
☉ Brg. S. Abut.	35+63.50	-14.79	445.33	445.33
Back S. Abut.	35+65.17	-14.79	445.32	445.32

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back N. Abut.	33+74.50	-8.88	445.13	445.13
☉ Brg. N. Abut.	33+76.17	-8.88	445.14	445.14
C	33+86.17	-8.88	445.21	445.23
D	33+96.17	-8.88	445.27	445.30
E	34+06.17	-8.88	445.32	445.36
F	34+16.17	-8.88	445.37	445.39
G	34+26.17	-8.88	445.42	445.43
☉ Brg. Pier 1	34+34.83	-8.88	445.45	445.45
H	34+44.83	-8.88	445.48	445.49
I	34+54.83	-8.88	445.51	445.53
J	34+64.83	-8.88	445.53	445.56
K	34+74.83	-8.88	445.55	445.57
L	34+84.83	-8.88	445.56	445.58
M	34+94.83	-8.88	445.56	445.57
☉ Brg. Pier 2	35+04.83	-8.88	445.56	445.56
N	35+14.83	-8.88	445.55	445.56
O	35+24.83	-8.88	445.54	445.56
P	35+34.83	-8.88	445.52	445.56
Q	35+44.83	-8.88	445.50	445.53
R	35+54.83	-8.88	445.47	445.49
☉ Brg. S. Abut.	35+63.50	-8.88	445.44	445.44
Back S. Abut.	35+65.17	-8.88	445.43	445.43

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back N. Abut.	33+74.50	-2.96	445.22	445.22
☉ Brg. N. Abut.	33+76.17	-2.96	445.23	445.23
C	33+86.17	-2.96	445.30	445.32
D	33+96.17	-2.96	445.36	445.39
E	34+06.17	-2.96	445.42	445.45
F	34+16.17	-2.96	445.46	445.49
G	34+26.17	-2.96	445.51	445.52
☉ Brg. Pier 1	34+34.83	-2.96	445.54	445.54
H	34+44.83	-2.96	445.57	445.58
I	34+54.83	-2.96	445.60	445.62
J	34+64.83	-2.96	445.62	445.65
K	34+74.83	-2.96	445.64	445.67
L	34+84.83	-2.96	445.65	445.67
M	34+94.83	-2.96	445.65	445.66
☉ Brg. Pier 2	35+04.83	-2.96	445.65	445.65
N	35+14.83	-2.96	445.64	445.66
O	35+24.83	-2.96	445.63	445.66
P	35+34.83	-2.96	445.61	445.65
Q	35+44.83	-2.96	445.59	445.62
R	35+54.83	-2.96	445.56	445.58
☉ Brg. S. Abut.	35+63.50	-2.96	445.53	445.53
Back S. Abut.	35+65.17	-2.96	445.52	445.52

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI
 CHECKED - PAUL GURKLYS
 DRAWN - MICHAEL B. MOSSMAN
 CHECKED - J.M.O. / P.G. / G.R.A.

EXAMINED *Joanne F. J...*
 PASSED *Carl...*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 12, 2016
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
 STRUCTURE NO. 017 - 0035

SHEET NO. 3 OF 25 SHEETS

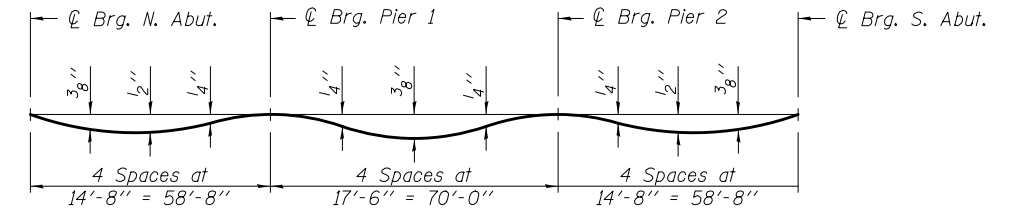
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	23
CONTRACT NO. 74322				
ILLINOIS FED. AID PROJECT				

CL ROADWAY & PG

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back N. Abut.	33+74.50	0.00	445.27	445.27
CL Brg. N. Abut.	33+76.17	0.00	445.28	445.28
C	33+86.17	0.00	445.35	445.37
D	33+96.17	0.00	445.41	445.44
E	34+06.17	0.00	445.46	445.50
F	34+16.17	0.00	445.51	445.53
G	34+26.17	0.00	445.55	445.56
CL Brg. Pier 1	34+34.83	0.00	445.59	445.59
H	34+44.83	0.00	445.62	445.63
I	34+54.83	0.00	445.65	445.67
J	34+64.83	0.00	445.67	445.70
K	34+74.83	0.00	445.68	445.71
L	34+84.83	0.00	445.69	445.71
M	34+94.83	0.00	445.70	445.71
CL Brg. Pier 2	35+04.83	0.00	445.70	445.70
N	35+14.83	0.00	445.69	445.70
O	35+24.83	0.00	445.68	445.70
P	35+34.83	0.00	445.66	445.70
Q	35+44.83	0.00	445.64	445.67
R	35+54.83	0.00	445.61	445.62
CL Brg. S. Abut.	35+63.50	0.00	445.58	445.58
Back S. Abut.	35+65.17	0.00	445.57	445.57

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back N. Abut.	33+74.50	2.96	445.22	445.22
CL Brg. N. Abut.	33+76.17	2.96	445.23	445.23
C	33+86.17	2.96	445.30	445.32
D	33+96.17	2.96	445.36	445.39
E	34+06.17	2.96	445.42	445.45
F	34+16.17	2.96	445.46	445.49
G	34+26.17	2.96	445.51	445.52
CL Brg. Pier 1	34+34.83	2.96	445.54	445.54
H	34+44.83	2.96	445.57	445.58
I	34+54.83	2.96	445.60	445.62
J	34+64.83	2.96	445.62	445.65
K	34+74.83	2.96	445.64	445.67
L	34+84.83	2.96	445.65	445.67
M	34+94.83	2.96	445.65	445.66
CL Brg. Pier 2	35+04.83	2.96	445.65	445.65
N	35+14.83	2.96	445.64	445.66
O	35+24.83	2.96	445.63	445.66
P	35+34.83	2.96	445.61	445.65
Q	35+44.83	2.96	445.59	445.62
R	35+54.83	2.96	445.56	445.58
CL Brg. S. Abut.	35+63.50	2.96	445.53	445.53
Back S. Abut.	35+65.17	2.96	445.52	445.52



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

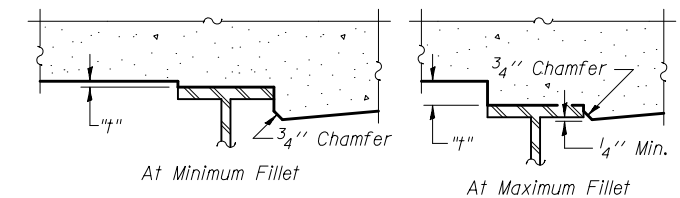
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown to the left and on sheet 3 of 25.

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back N. Abut.	33+74.50	8.88	445.13	445.13
CL Brg. N. Abut.	33+76.17	8.88	445.14	445.14
C	33+86.17	8.88	445.21	445.23
D	33+96.17	8.88	445.27	445.30
E	34+06.17	8.88	445.32	445.36
F	34+16.17	8.88	445.37	445.39
G	34+26.17	8.88	445.42	445.43
CL Brg. Pier 1	34+34.83	8.88	445.45	445.45
H	34+44.83	8.88	445.48	445.49
I	34+54.83	8.88	445.51	445.53
J	34+64.83	8.88	445.53	445.56
K	34+74.83	8.88	445.55	445.57
L	34+84.83	8.88	445.56	445.58
M	34+94.83	8.88	445.56	445.57
CL Brg. Pier 2	35+04.83	8.88	445.56	445.56
N	35+14.83	8.88	445.55	445.56
O	35+24.83	8.88	445.54	445.56
P	35+34.83	8.88	445.52	445.56
Q	35+44.83	8.88	445.50	445.53
R	35+54.83	8.88	445.47	445.49
CL Brg. S. Abut.	35+63.50	8.88	445.44	445.44
Back S. Abut.	35+65.17	8.88	445.43	445.43

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back N. Abut.	33+74.50	14.79	445.02	445.02
CL Brg. N. Abut.	33+76.17	14.79	445.03	445.03
C	33+86.17	14.79	445.10	445.12
D	33+96.17	14.79	445.16	445.19
E	34+06.17	14.79	445.22	445.25
F	34+16.17	14.79	445.27	445.29
G	34+26.17	14.79	445.31	445.32
CL Brg. Pier 1	34+34.83	14.79	445.34	445.34
H	34+44.83	14.79	445.37	445.38
I	34+54.83	14.79	445.40	445.42
J	34+64.83	14.79	445.42	445.45
K	34+74.83	14.79	445.44	445.47
L	34+84.83	14.79	445.45	445.47
M	34+94.83	14.79	445.45	445.46
CL Brg. Pier 2	35+04.83	14.79	445.45	445.45
N	35+14.83	14.79	445.45	445.46
O	35+24.83	14.79	445.43	445.46
P	35+34.83	14.79	445.41	445.45
Q	35+44.83	14.79	445.39	445.42
R	35+54.83	14.79	445.36	445.38
CL Brg. S. Abut.	35+63.50	14.79	445.33	445.33
Back S. Abut.	35+65.17	14.79	445.32	445.32



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown to the left and on sheet 3 of 25. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown at left and on sheet 3 of 25, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI
 CHECKED - PAUL GURKLYS
 DRAWN - MICHAEL B. MOSSMAN
 CHECKED - J.M.O. / P.G. / G.R.A.

EXAMINED
 PASSED
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 12, 2016
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
 STRUCTURE NO. 017 - 0035

SHEET NO. 4 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	24

CONTRACT NO. 74322
 ILLINOIS FED. AID PROJECT

EAST EDGE OF SHOULDER

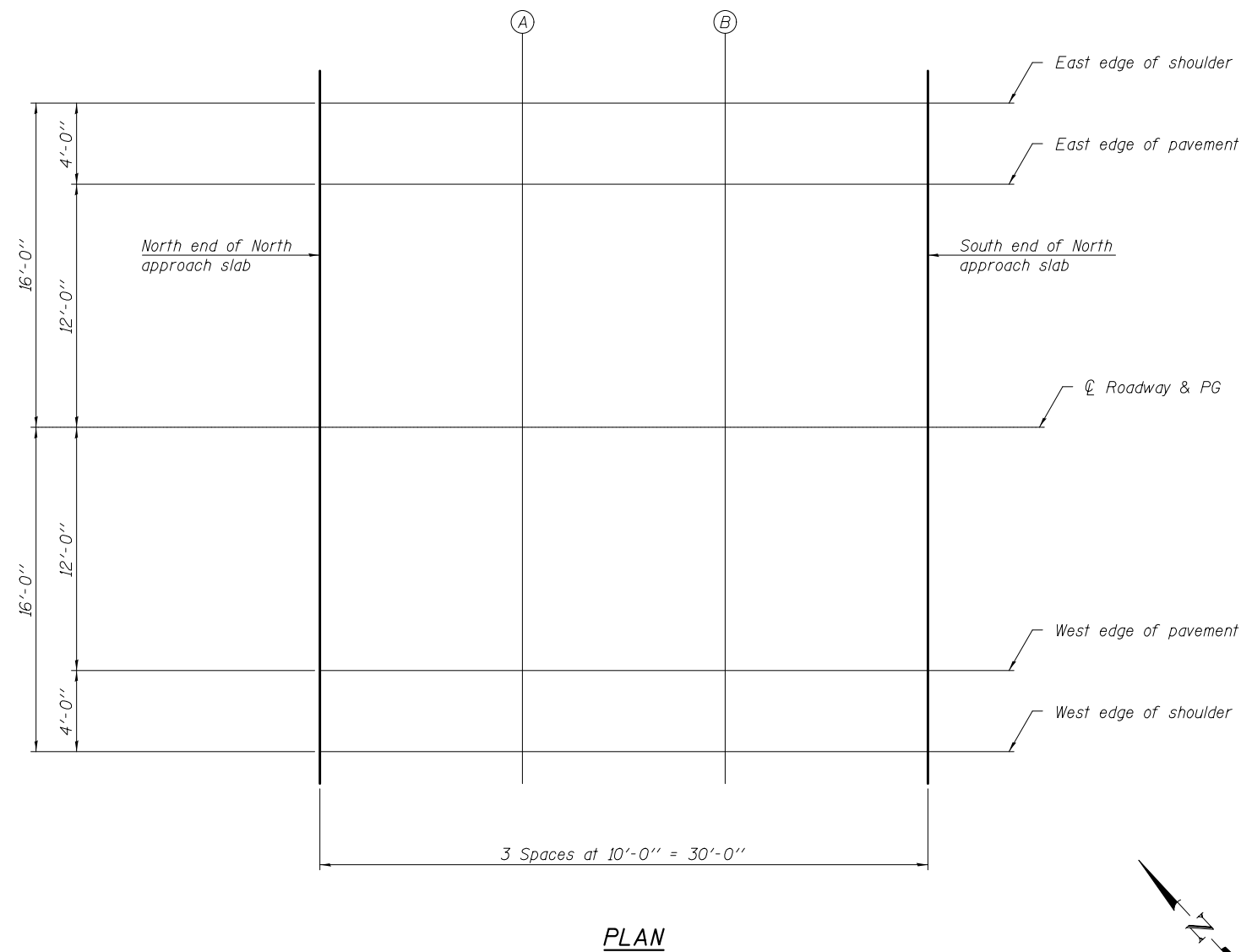
Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	33+45.50	-16.00	444.77
A	33+55.50	-16.00	444.85
B	33+65.50	-16.00	444.93
S. End of N. Appr. Slab	33+75.50	-16.00	445.00

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	33+45.50	-12.00	444.85
A	33+55.50	-12.00	444.94
B	33+65.50	-12.00	445.02
S. End of N. Appr. Slab	33+75.50	-12.00	445.09

☐ ROADWAY & PG

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	33+45.50	0.00	445.04
A	33+55.50	0.00	445.13
B	33+65.50	0.00	445.20
S. End of N. Appr. Slab	33+75.50	0.00	445.28



WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	33+45.50	12.00	444.85
A	33+55.50	12.00	444.94
B	33+65.50	12.00	445.02
S. End of N. Appr. Slab	33+75.50	12.00	445.09

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	33+45.50	16.00	444.77
A	33+55.50	16.00	444.85
B	33+65.50	16.00	444.93
S. End of N. Appr. Slab	33+75.50	16.00	445.00

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Joanne F. J. [Signature]</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl [Signature]</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 017 - 0035**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	25
CONTRACT NO. 74322				
ILLINOIS FED. AID PROJECT				

SHEET NO. 5 OF 25 SHEETS

EAST EDGE OF SHOULDER

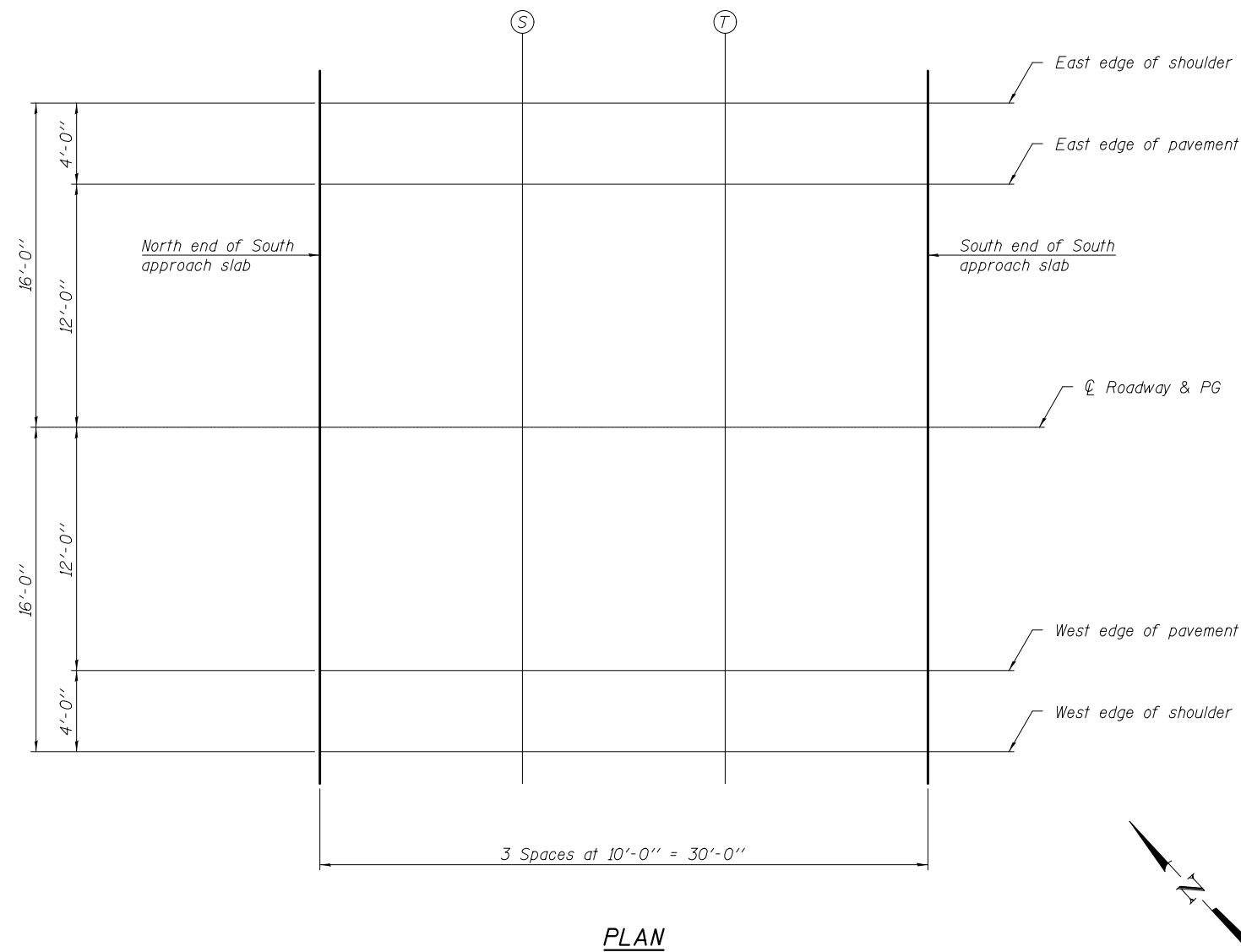
Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	35+64.16	-16.00	445.30
S	35+74.16	-16.00	445.26
T	35+84.16	-16.00	445.22
S. End of S. Appr. Slab	35+94.16	-16.00	445.16

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	35+64.16	-12.00	445.39
S	35+74.16	-12.00	445.35
T	35+84.16	-12.00	445.30
S. End of S. Appr. Slab	35+94.16	-12.00	445.25

☉ ROADWAY & PG

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	35+64.16	0.00	445.57
S	35+74.16	0.00	445.53
T	35+84.16	0.00	445.49
S. End of S. Appr. Slab	35+94.16	0.00	445.43



WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	35+64.16	12.00	445.39
S	35+74.16	12.00	445.35
T	35+84.16	12.00	445.30
S. End of S. Appr. Slab	35+94.16	12.00	445.25

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	35+64.16	16.00	445.30
S	35+74.16	16.00	445.26
T	35+84.16	16.00	445.22
S. End of S. Appr. Slab	35+94.16	16.00	445.16

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Jaime F. J. [Signature]</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl [Signature]</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

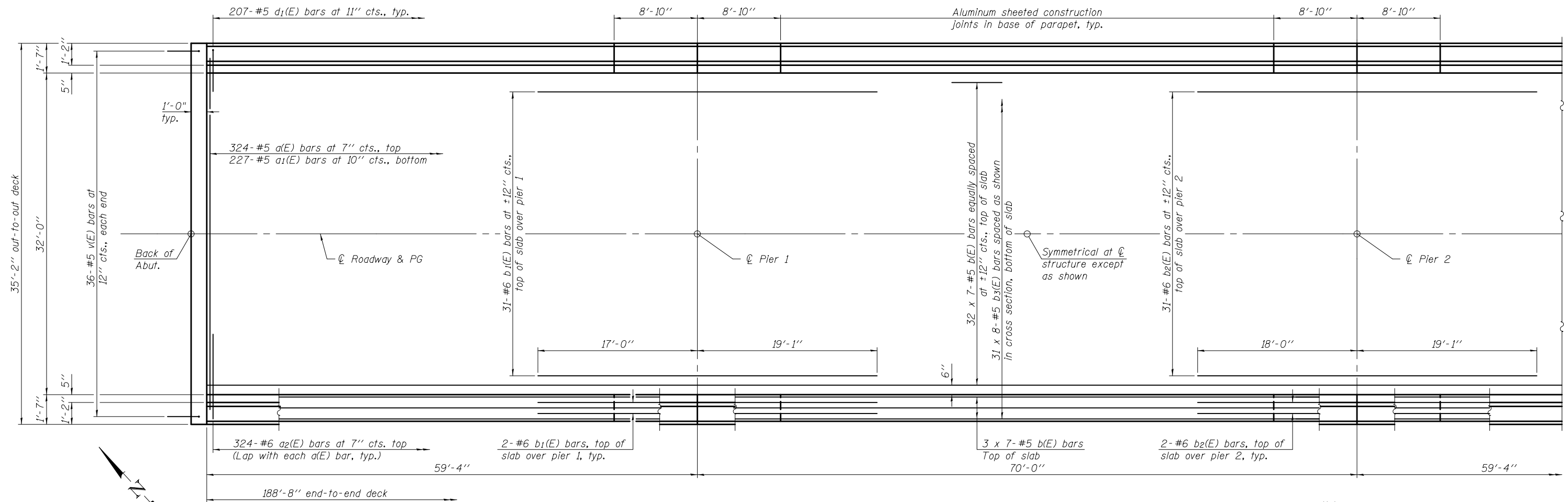
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 017 - 0035**

SHEET NO. 6 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	26
CONTRACT NO. 74322				

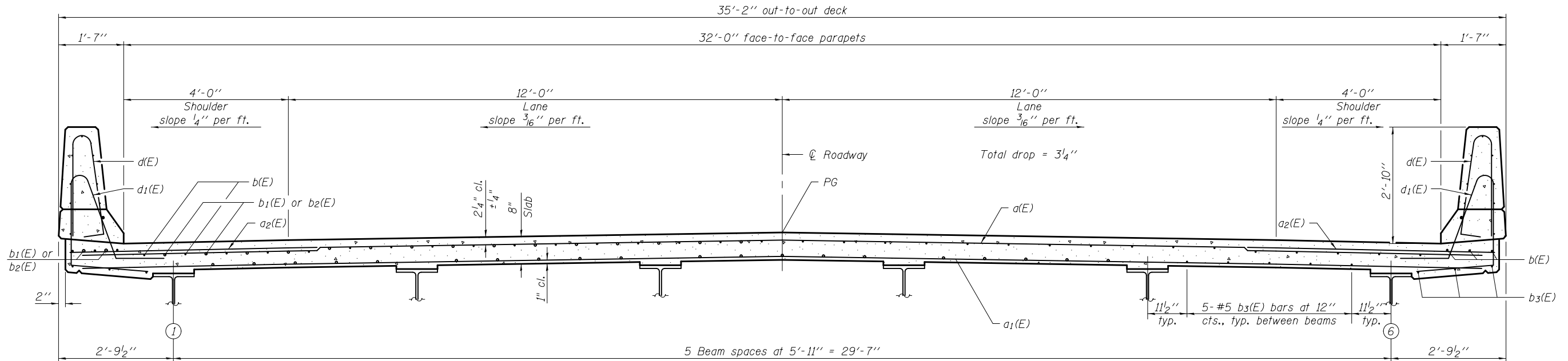
ILLINOIS FED. AID PROJECT



PARTIAL PLAN

MINIMUM BAR LAP
#5 bar = 3'-6"

Notes:
See Sheet 8 of 25 for superstructure details and Bill of Material.
Bars indicated thus 32 x 7-#5 etc. indicates 32 lines of bars with 7 lengths per line.
See Sheet 8 of 25 for parapet reinforcement.



NEAR PIER

CROSS SECTION
(Looking South)

NEAR MIDSPAN

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI
CHECKED - PAUL GURKLYS
DRAWN - MICHAEL B. MOSSMAN
CHECKED - J.M.O. / P.G. / G.R.A.

EXAMINED
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 12, 2016
REVISED
REVISED

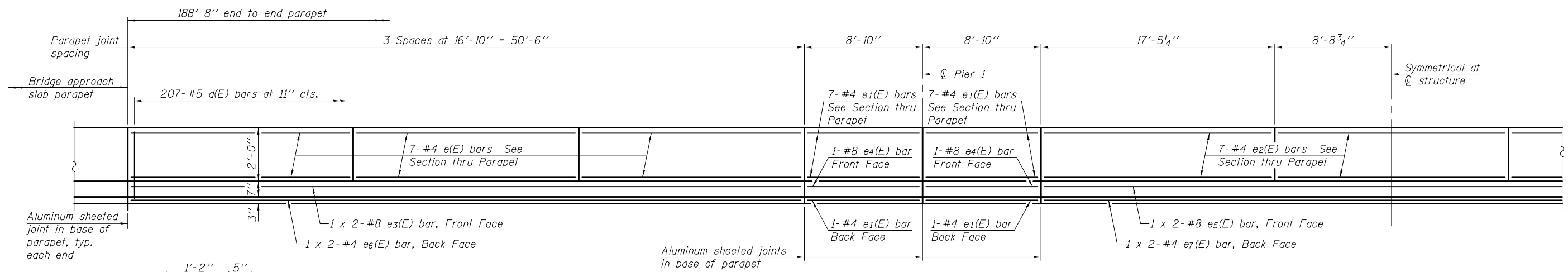
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 017 - 0035

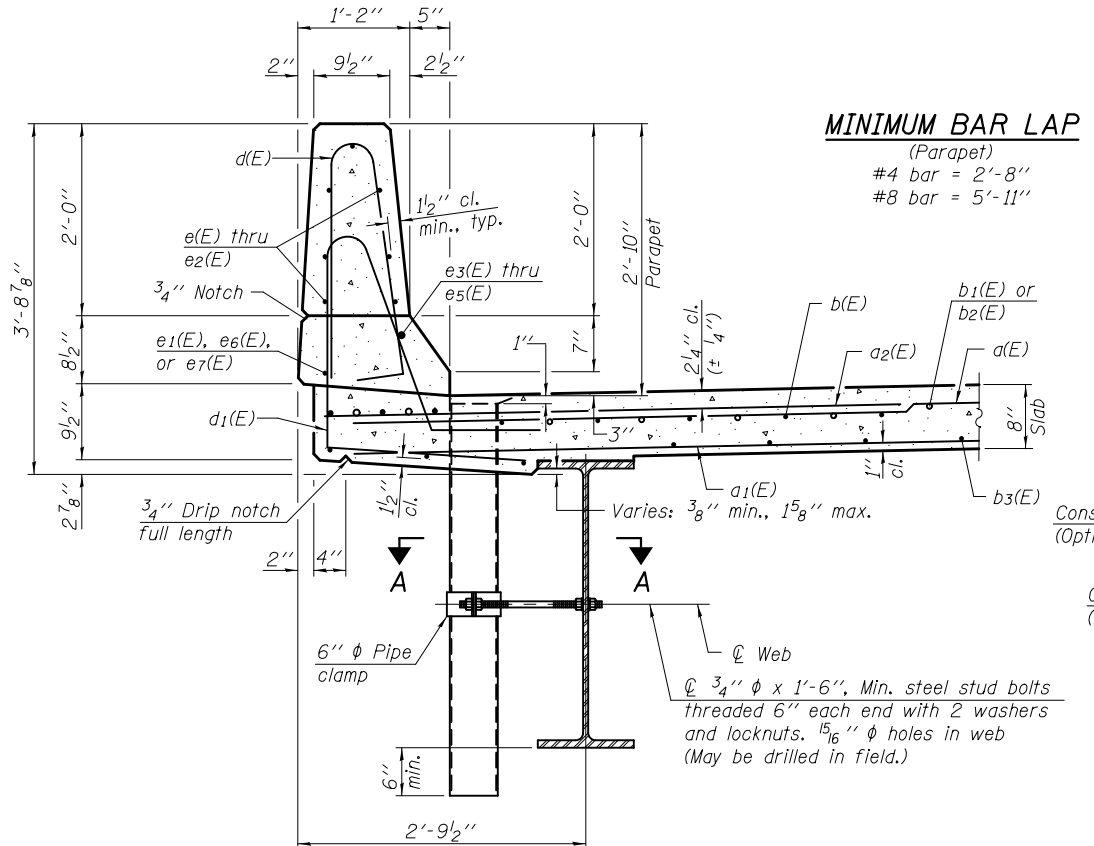
SHEET NO. 7 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	27
CONTRACT NO. 74322				

ILLINOIS FED. AID PROJECT

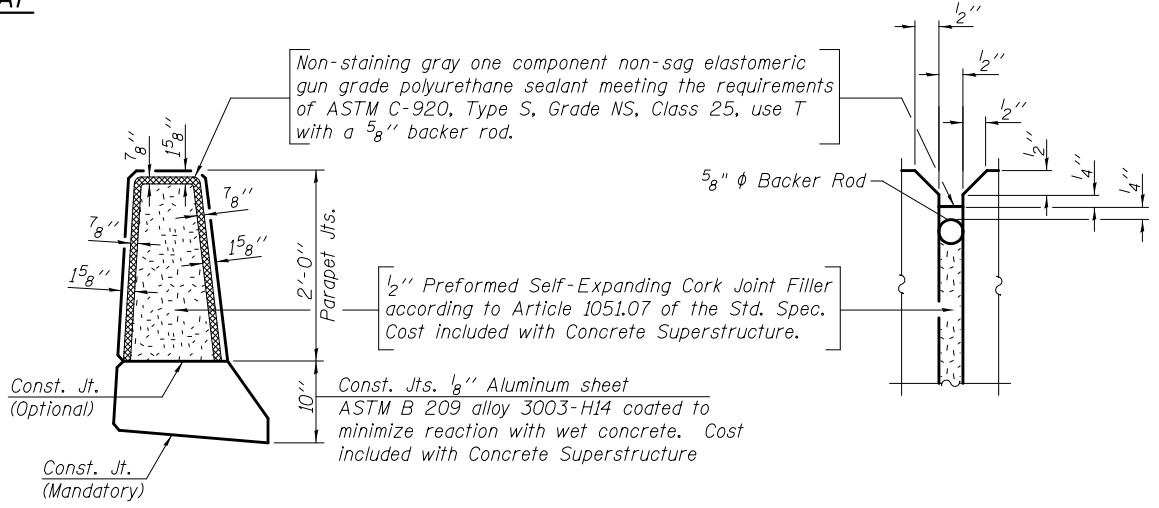


INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"

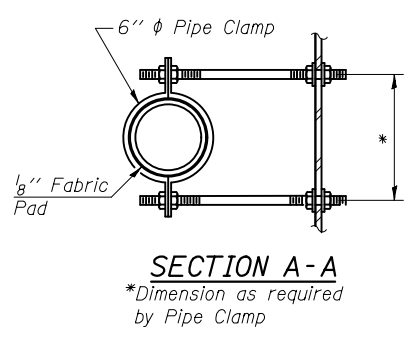


PARAPET JOINT DETAILS

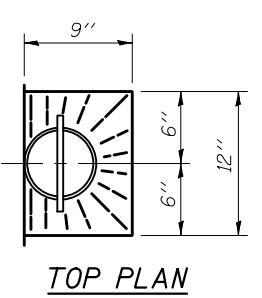
Notes:
Drains shall be located clear of all diaphragms.
The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coatings Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

SUPERSTRUCTURE BILL OF MATERIAL

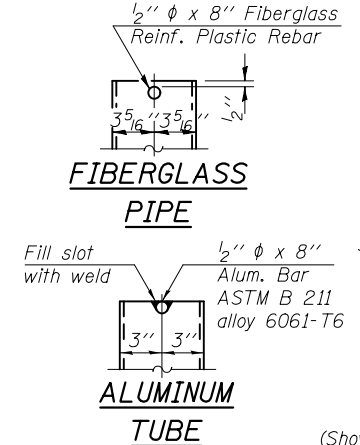
Bar	No.	Size	Length	Shape
a(E)	324	#5	34'-6"	—
a1(E)	227	#5	32'-10"	—
a2(E)	648	#6	6'-6"	—
b(E)	266	#5	29'-11"	—
b1(E)	35	#6	36'-1"	—
b2(E)	35	#6	37'-1"	—
b3(E)	248	#5	26'-8"	—
d(E)	414	#5	5'-7"	⊏
d1(E)	414	#5	7'-7"	⊏
e(E)	84	#4	16'-7"	—
e1(E)	64	#4	8'-7"	—
e2(E)	42	#4	17'-2"	—
e3(E)	8	#8	28'-1"	—
e4(E)	8	#8	8'-7"	—
e5(E)	4	#8	29'-0"	—
e6(E)	8	#4	26'-6"	—
e7(E)	4	#4	27'-5"	—
m(E)	8	#6	34'-10"	—
m1(E)	30	#6	5'-6"	—
m2(E)	12	#6	2'-5"	—
m3(E)	36	#5	4'-0"	—
s(E)	62	#5	7'-4"	⊏
s1(E)	62	#5	9'-2"	⊏
v(E)	72	#5	3'-1"	⊏
Reinforcement Bars, Epoxy Coated		Pound	55,730	
Concrete Superstructure		Cu. Yds.	232.9	



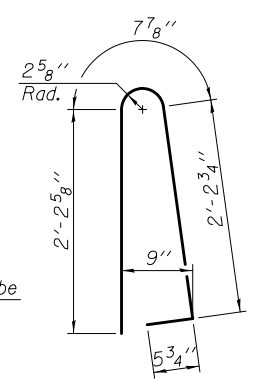
SECTION A-A
*Dimension as required by Pipe Clamp



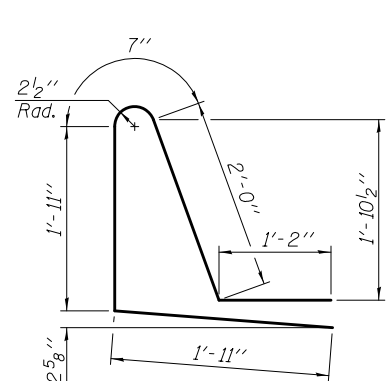
TOP PLAN



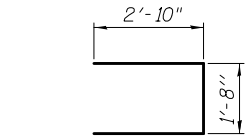
TOP PLAN
(Showing Aluminum Tube)



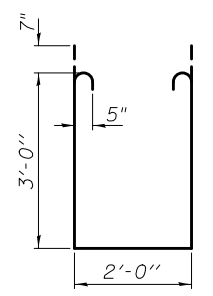
BAR d(E)



BAR d1(E)



BAR v(E)



BAR s1(E)

SDATES \$TIMES

SI-D2-0

6-8-15

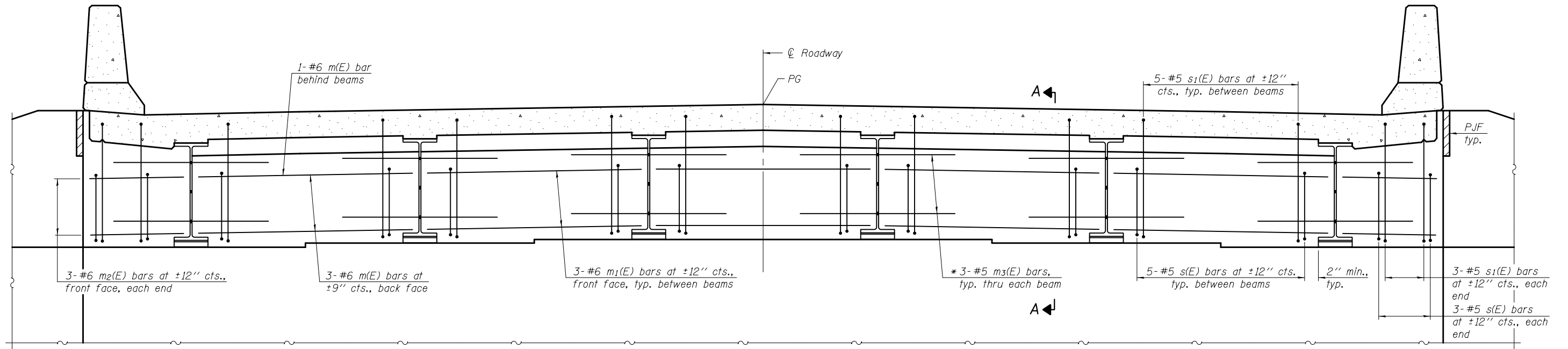
DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Jaime F. J. [Signature]</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl [Signature]</i>	REVISIONS
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISIONS
CHECKED - J.M.O. / P.G. / G.R.A.		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 017 - 0035

SHEET NO. 8 OF 25 SHEETS

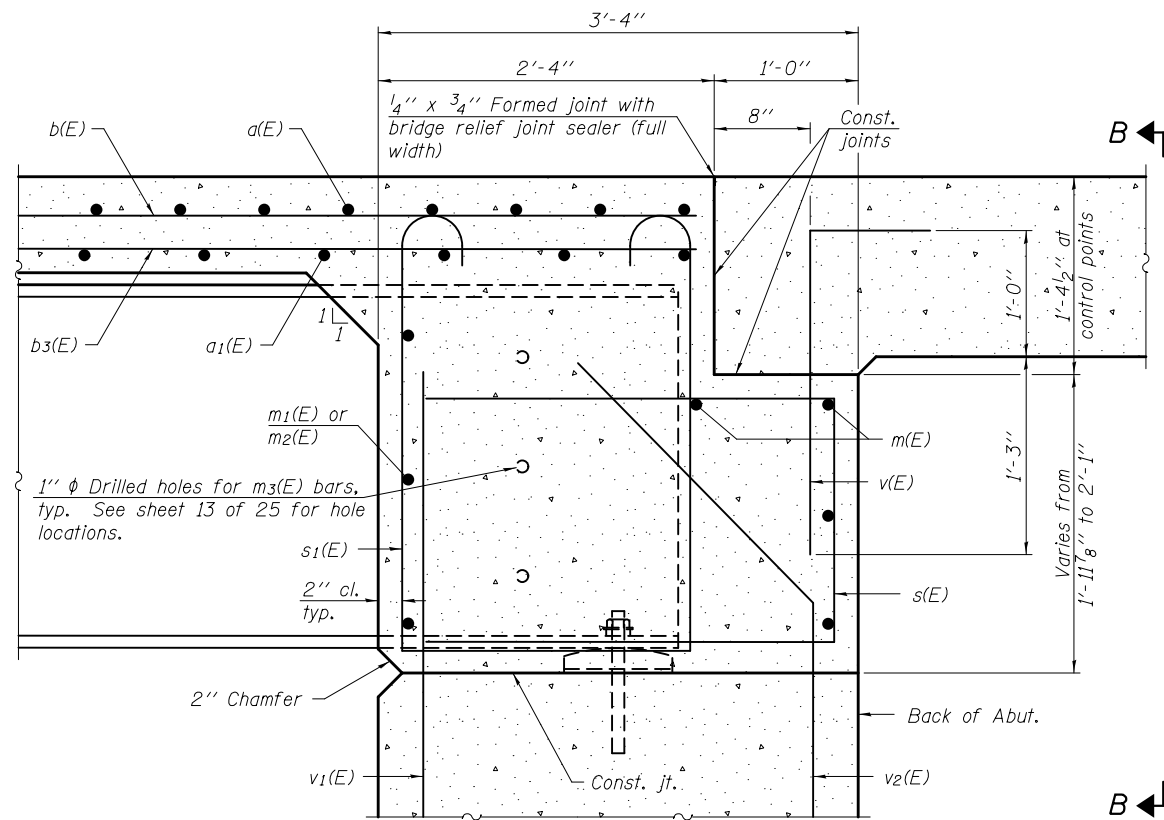
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	28
CONTRACT NO. 74322			ILLINOIS FED. AID PROJECT	



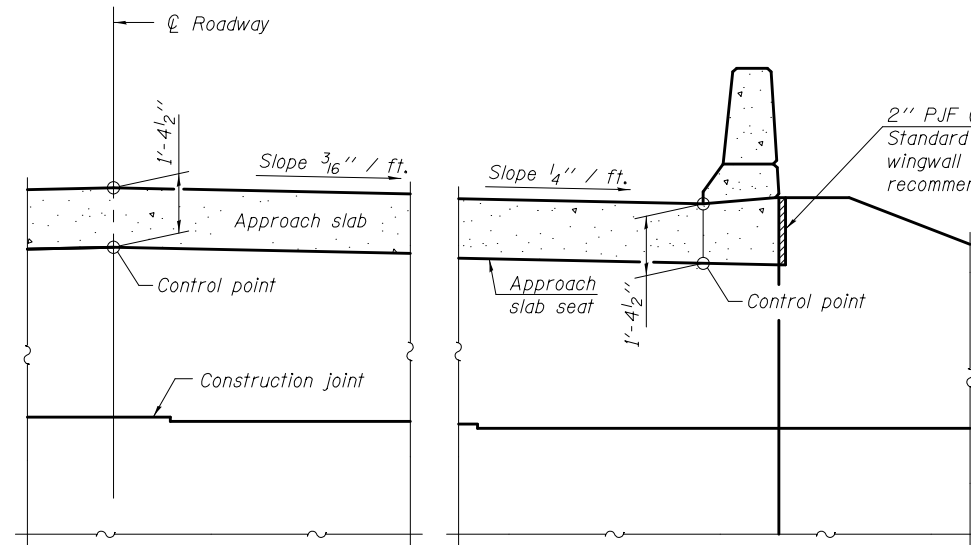
* Secure bars such that they remain centered and level during pouring of the concrete.

DIAPHRAGM ELEVATION AT ABUTMENT

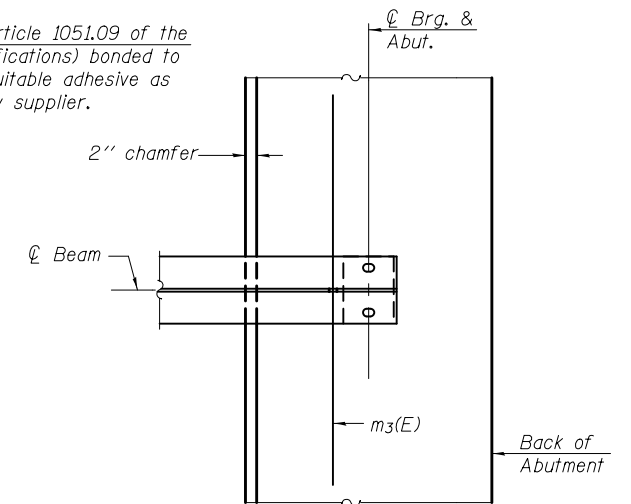
Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 25.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 25.
 For details of bars s(E), s1(E) and v(E) see sheet 8 of 25.
 The approach slab seat shall have a constant slope determined from the control points shown.
 For bearing details see sheet 13 of 25.



SECTION A-A



VIEW B-B



PARTIAL PLAN AT ABUTMENT
 (Showing bottom flange of beam)

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>James F. J...</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Paul Gurklys</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM DETAILS
 STRUCTURE NO. 017 - 0035**

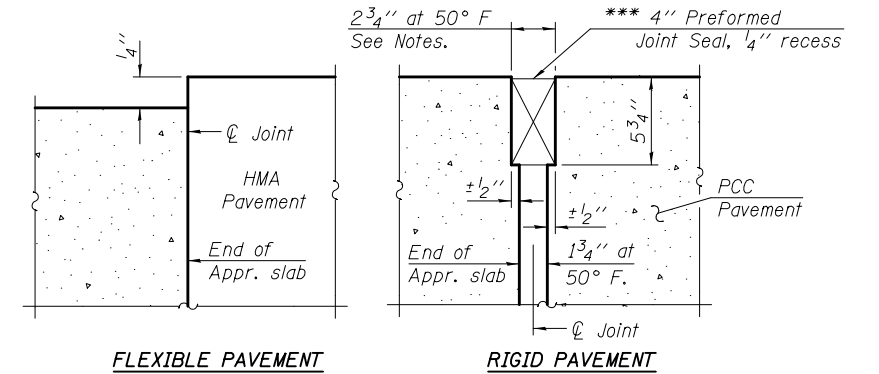
SHEET NO. 9 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	29
CONTRACT NO. 74322				

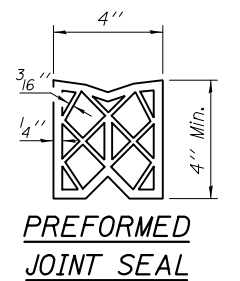
ILLINOIS FED. AID PROJECT

Notes:
 See sheet 11 of 25 for Sections C-C & D-D and View E-E.
 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.

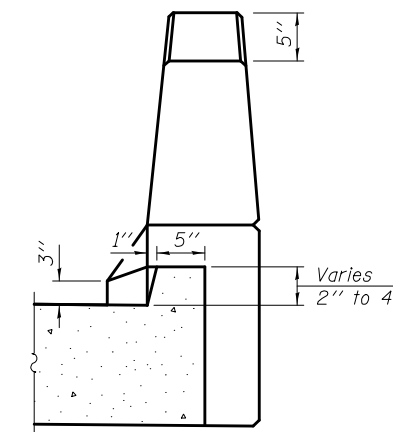
*** Cost included with Concrete Superstructure (Approach Slab).



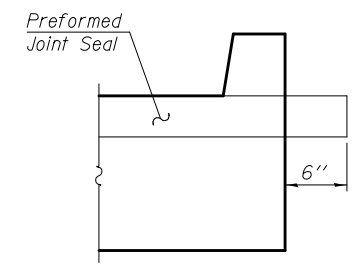
DETAIL A



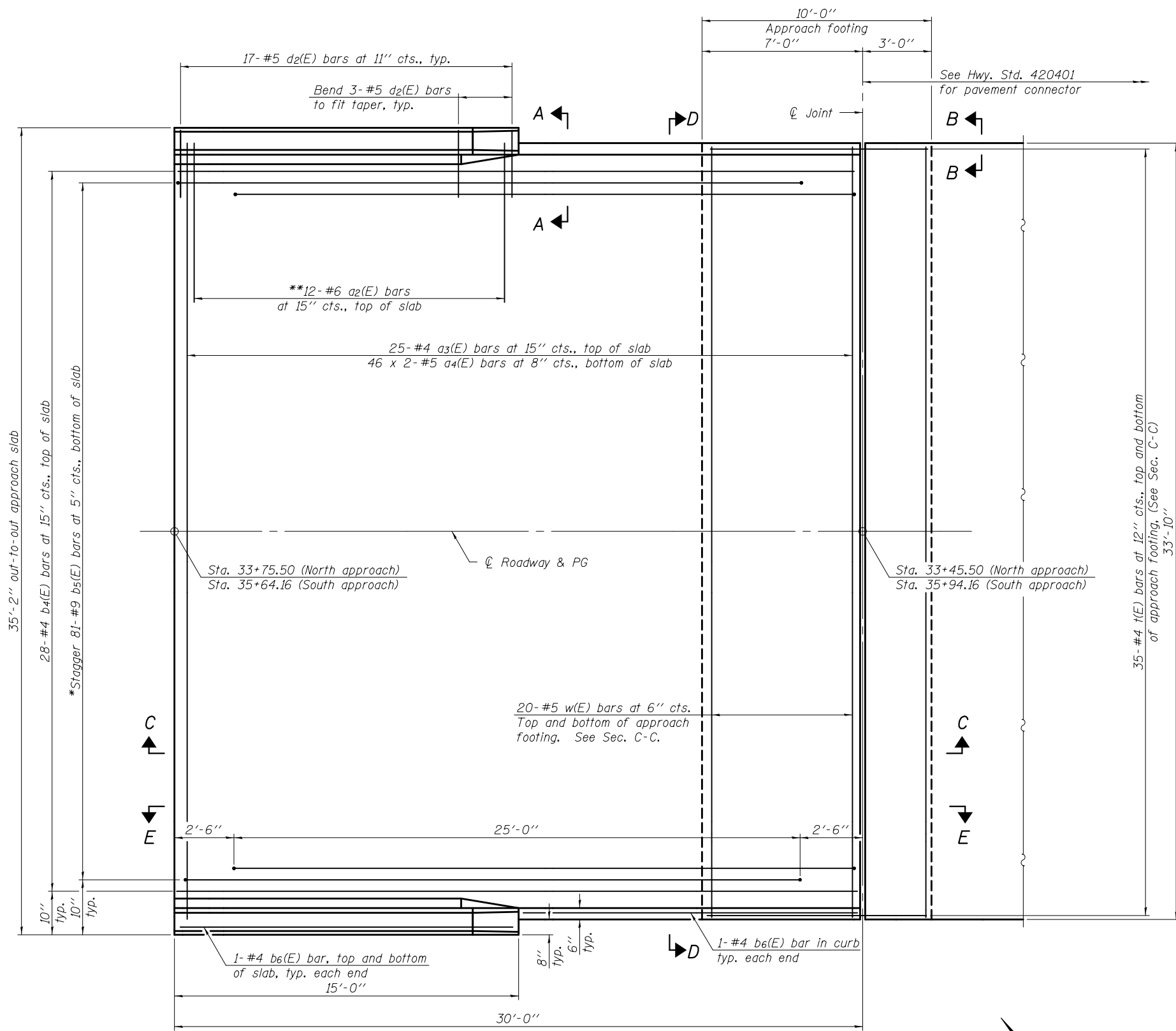
PREFORMED JOINT SEAL



VIEW A-A



VIEW B-B



PLAN

(South approach shown; North approach similar by 180° rotation)

MINIMUM BAR LAP

#5 bar = 3'-6"

* Tilt #9 b5(E) bars as required to maintain clearance.
 ** Space between a3(E) bars, typ. each parapet.

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Jaime F. J...</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl...</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

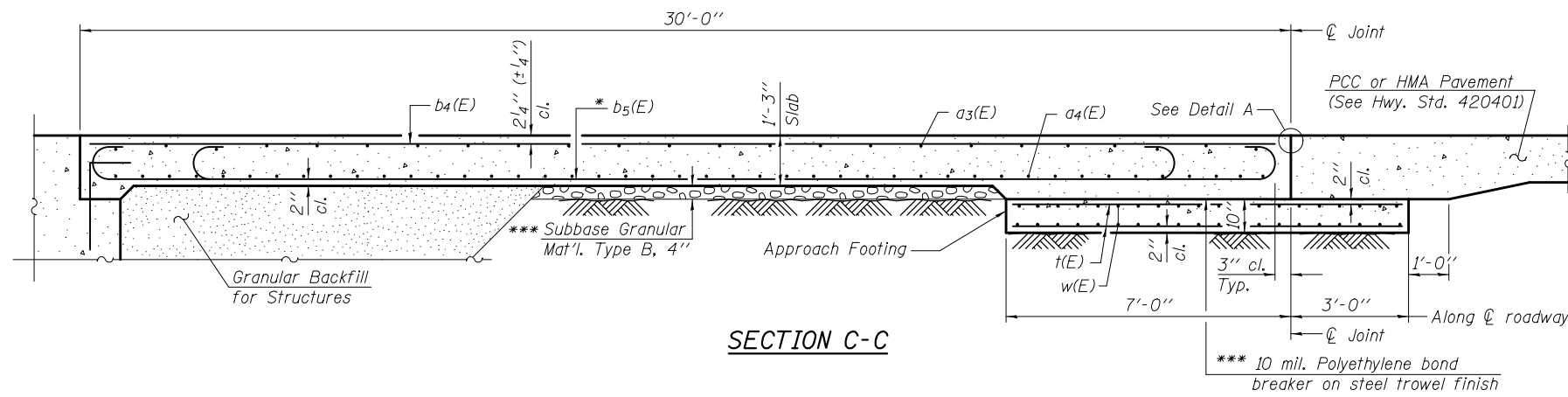
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 017 - 0035

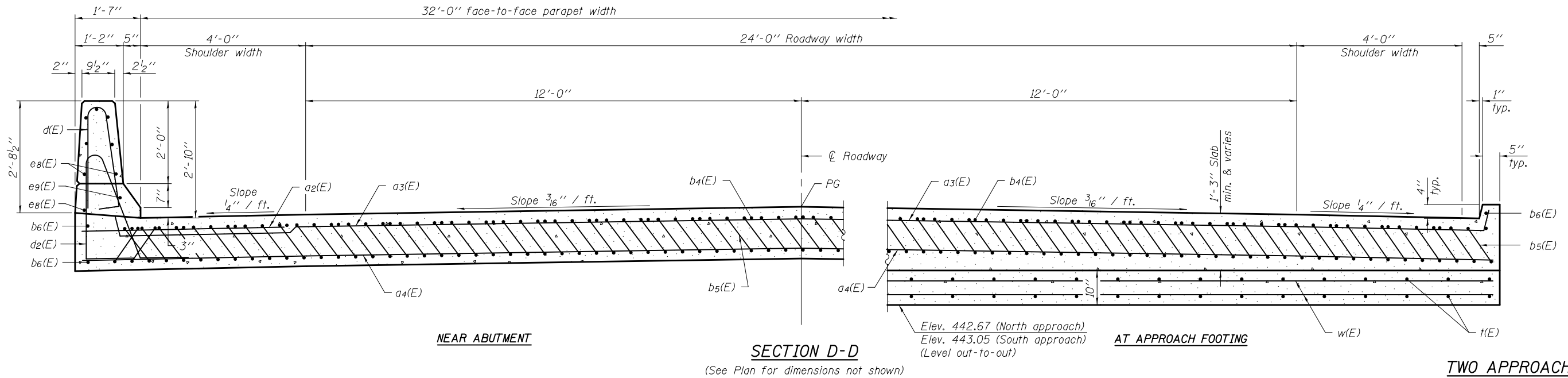
SHEET NO. 10 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	30
CONTRACT NO. 74322			ILLINOIS FED. AID PROJECT	

(Sheet 1 of 2)



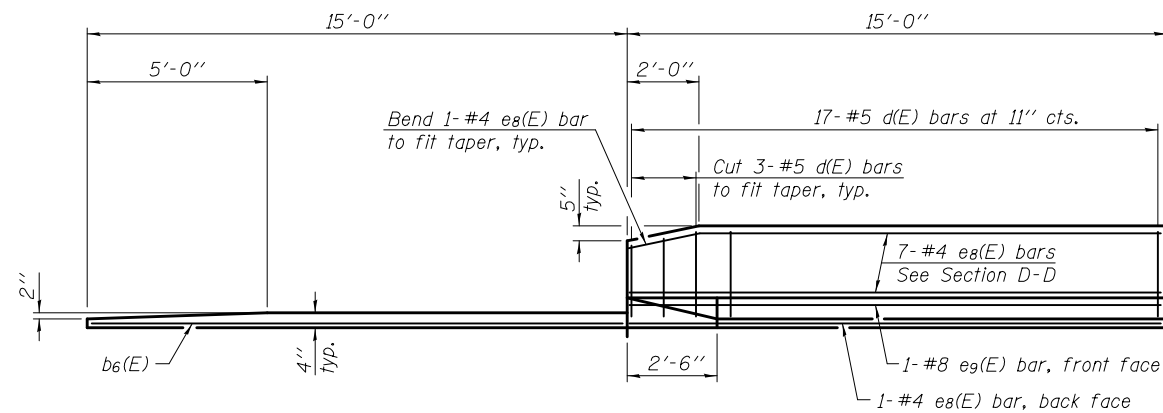
Notes:
 See sheet 10 of 25 for Detail A.
 Parapet concrete shall be paid for as Concrete Superstructure (Approach Slab).
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 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 2 of 25.
 For additional parapet details, see sheet 8 of 25.



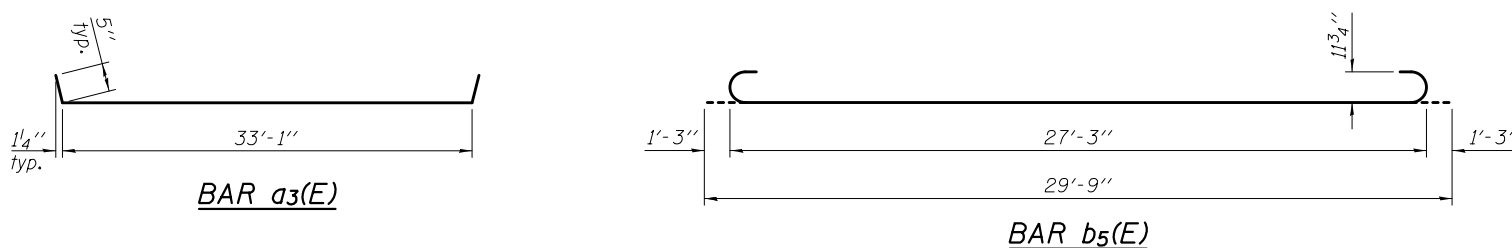
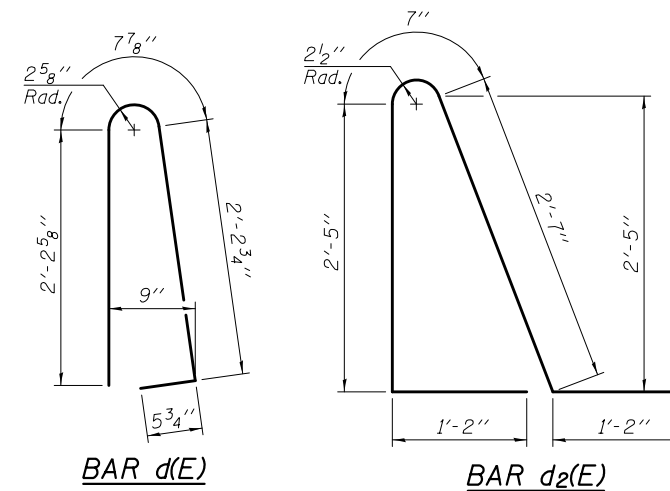
**TWO APPROACHES
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a2(E)	48	#6	6'-6"	—
a3(E)	50	#4	33'-11"	—
a4(E)	184	#5	19'-2"	—
b4(E)	56	#4	29'-8"	—
b5(E)	162	#9	29'-9"	—
b6(E)	12	#4	14'-8"	—
d(E)	68	#5	5'-7"	—
d2(E)	68	#5	7'-11"	—
e8(E)	32	#4	14'-8"	—
e9(E)	4	#8	14'-8"	—
t(E)	140	#4	9'-8"	—
w(E)	80	#5	33'-6"	—
Concrete Superstructure			Cu. Yd.	6.7
Concrete Superstructure (Approach Slab)			Cu. Yd.	99.1
Concrete Structures			Cu. Yd.	20.9
Reinforcement Bars, Epoxy Coated			Pound	28,020

Bars indicated thus 46 x 2-#5 etc. indicates 46 line of bars with 2 lengths per line.



* Tilt #9 b5(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure (Approach Slab).



SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Joanne F. J...</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl...</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

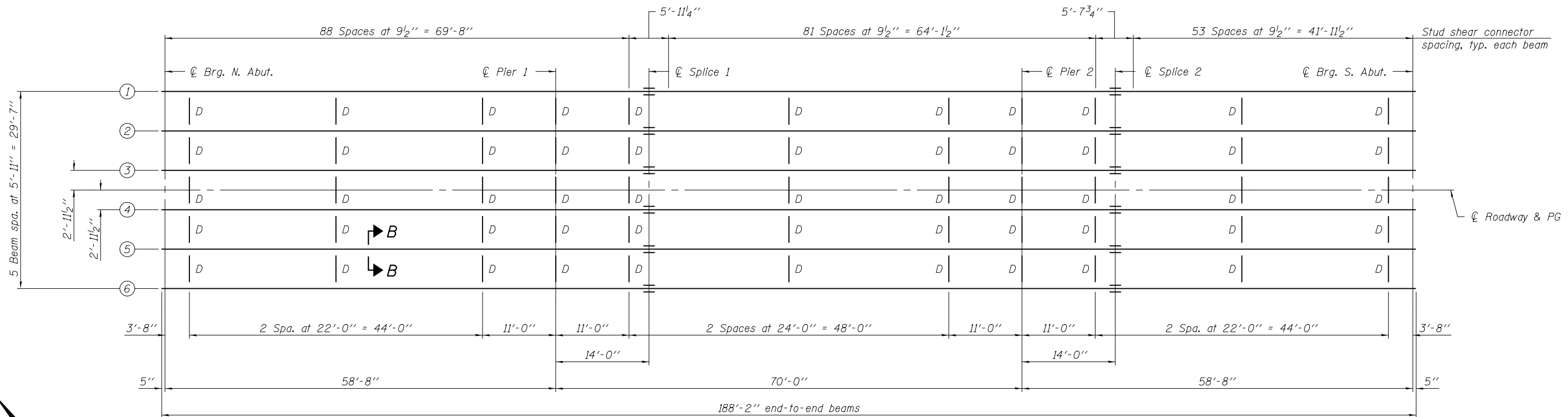
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 017 - 0035**

SHEET NO. 11 OF 25 SHEETS

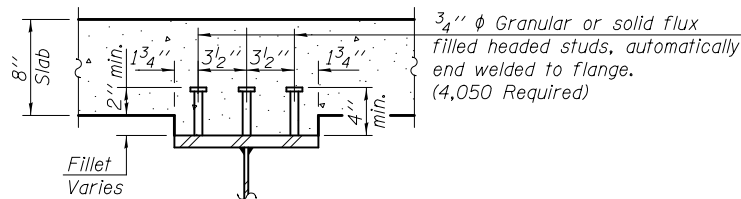
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	31
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74322	

(Sheet 2 of 2)

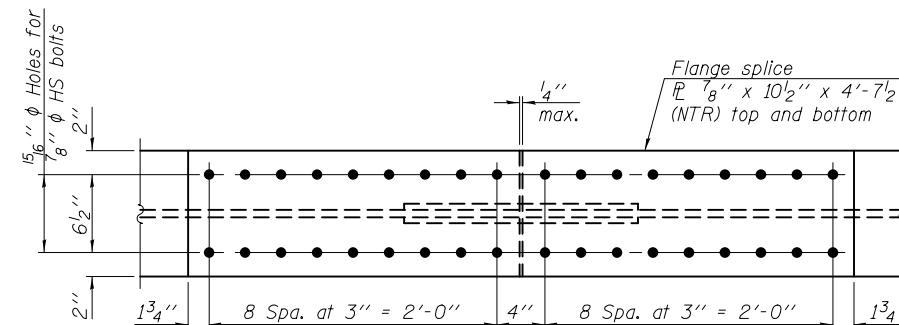


PLAN

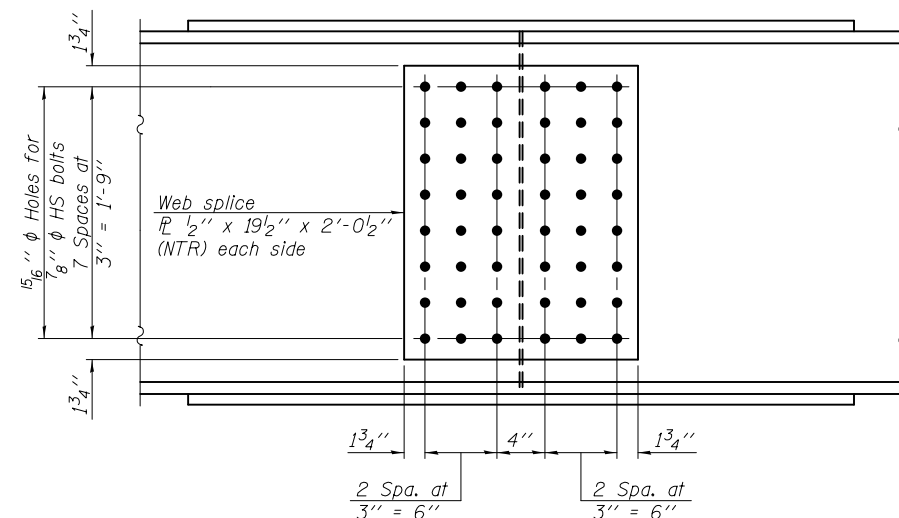
(All beams are W30x132, AASHTO M270, Grade 50, NTR)



SECTION B-B
(Typical at each beam)

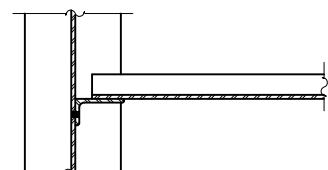


PLAN

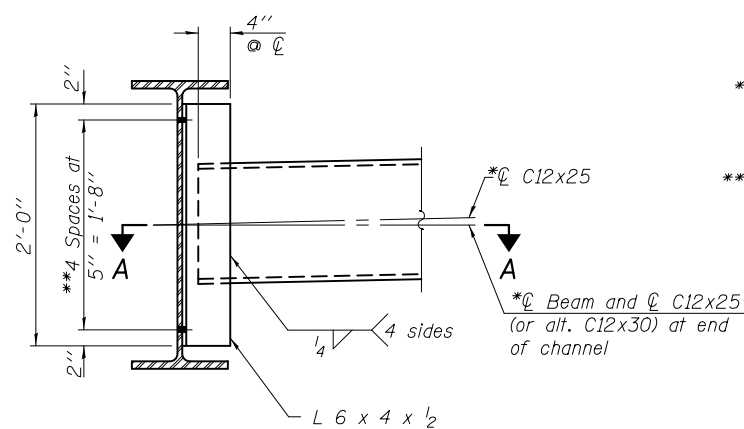


ELEVATION

SPLICE DETAIL
(12 Required)



SECTION A-A



DIAPHRAGM D
(55 Required)

* Alternate C12x30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.

** 3/4" φ HS bolts, 15/16" φ holes

Notes:

Two hardened washers required for each set of oversized holes. The alternate, if utilized, shall be provided at no additional cost to the Department.
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
All splice plates shall be AASHTO M 270, Grade 50.

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Jaime F. J. [Signature]</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl [Signature]</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

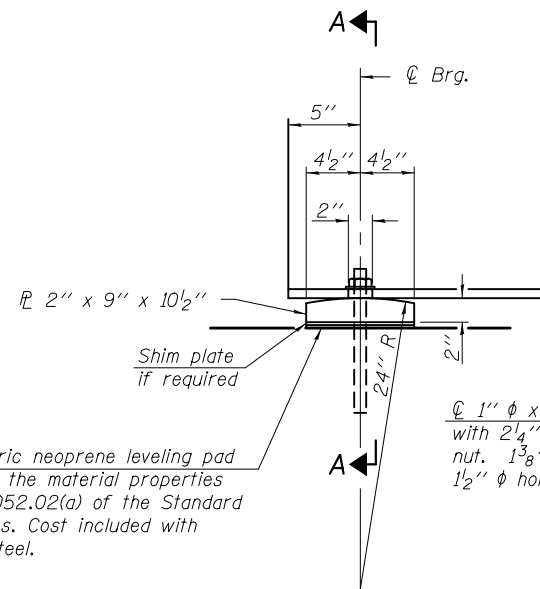
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
STRUCTURE NO. 017 - 0035

SHEET NO. 12 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	32
CONTRACT NO. 74322				

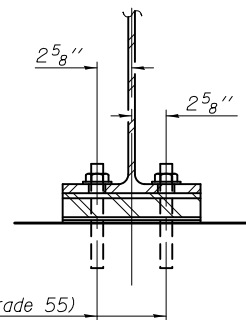
ILLINOIS FED. AID PROJECT



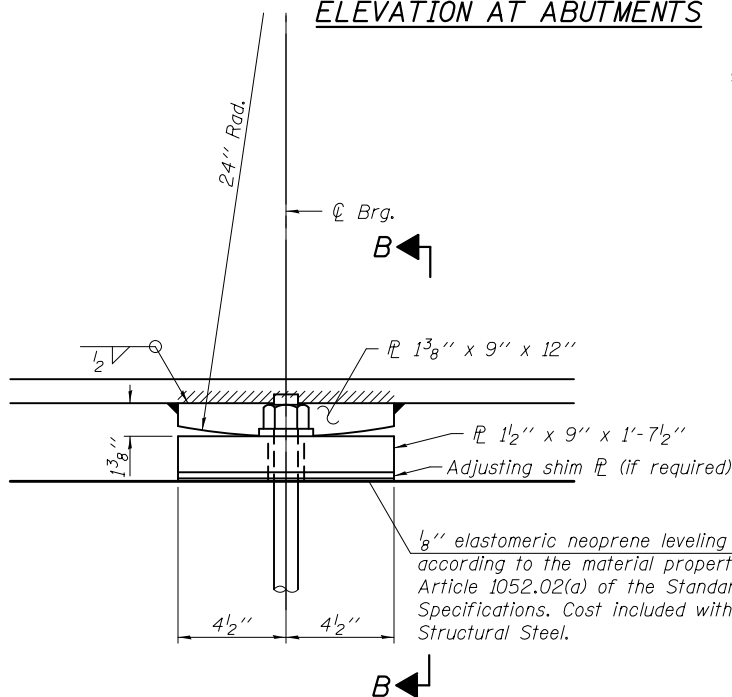
$\frac{1}{8}$ " elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

ELEVATION AT ABUTMENTS

FIXED BEARING
(12 Required)

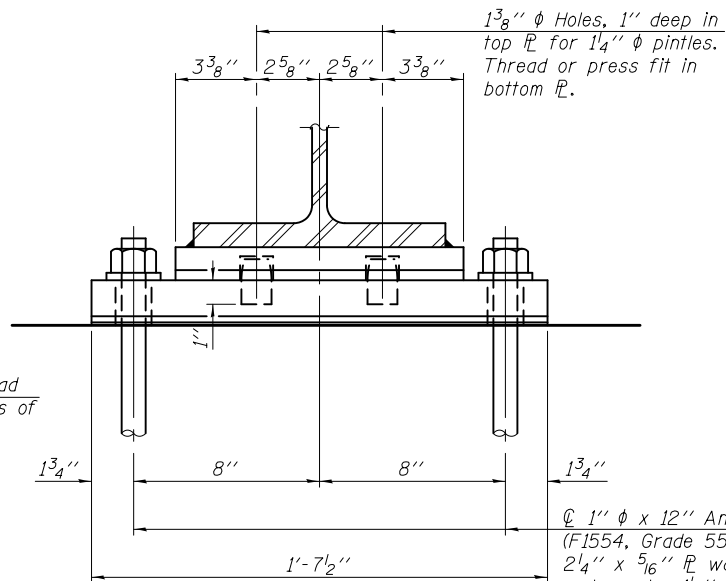


SECTION A-A



ELEVATION AT PIERS

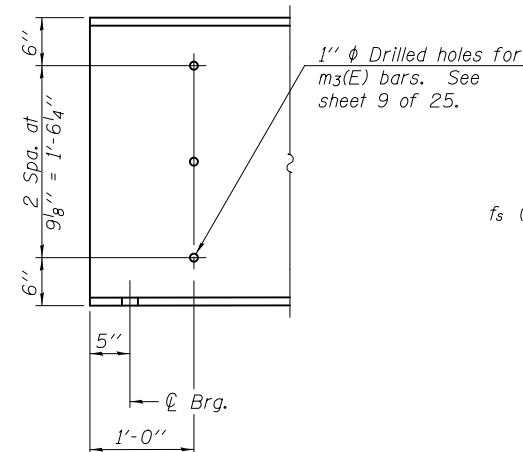
FIXED BEARING
(12 Required)



SECTION B-B

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Span 2
I_s	(in ⁴)	5,770	5,770
$I_c(n)$	(in ⁴)	15,852	15,852
$I_c(3n)$	(in ⁴)	11,578	11,578
$I_c(cr)$	(in ⁴)	-	-
S_s	(in ³)	380	380
$S_c(n)$	(in ³)	569	569
$S_c(3n)$	(in ³)	513	513
$S_c(cr)$	(in ³)	-	-
DC1	(k/')	0.755	0.755
MDC1	(k)	186.1	314.2
DC2	(k/')	0.150	0.150
MDC2	(k)	37.0	62.4
DW	(k/')	0.296	0.296
MDW	(k)	73.0	123.2
LLDF		0.515	0.493
$M\psi + IM$	(k)	546.0	511.7
M_u (Strength I)	(k)	1,344	1,205
$\phi_r M_n$	(k)	2,910	2,281
f_s DC1	(ksi)	5.88	4.68
f_s DC2	(ksi)	0.87	0.69
f_s DW	(ksi)	1.71	1.36
f_s ($\psi + IM$)	(ksi)	11.51	10.79
f_s (Service II)	(ksi)	23.42	20.76
$0.95R_h F_y f$	(ksi)	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	-
$\phi_r F_n$	(ksi)	-	-
V_f	(k)	23.30	25.00

	Abut.		Pier	
	Interior	Exterior	Interior	Exterior
LLDF	0.664	0.575	0.664	0.575
OCF	-	-	-	-
RDC1 (k)	16.8	16.1	53.9	51.6
RDC2 (k)	3.3	3.3	10.7	10.7
R _{DW} (k)	6.6	6.2	21.1	19.9
R _{ψ} (k)	49.9	43.2	78.5	68.0
R _{IM} (k)	12.7	11.0	15.2	13.2
R _{Total} (k)	89.3	79.8	179.4	163.4



END OF BEAM ELEVATION
(Typical at each end of each beam)

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M\psi + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\psi + IM}$

$\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
 M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
 $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
 $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s ($\psi + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
 $M_{\psi + IM} / S_c(n)$ or $M_{\psi + IM} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (\psi + IM)$

$0.95R_h F_y f$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

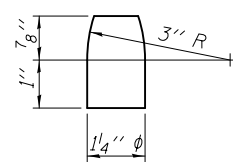
f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (\psi + IM)$

$\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f : Maximum factored shear range in span computed according to Article 6.10.10.

LLDF: Live load distribution factor for moment and shear

OCF: Obtuse correction factor



PINTLE

BILL OF MATERIAL

Item	Unit	Quantity
Anchor Bolts, 1"	Each	48

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
All bearing plates and pintles shall be AASHTO M270 Grade 50.
Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on the bearing details.

***TOP OF BEAM ELEVATIONS**

Location	☉ Brg. N. Abut.	☉ Brg. Pier 1	☉ Splice 1	☉ Brg. Pier 2	☉ Splice 2	☉ Brg. S. Abut.
Beam 1	444.31	444.55	444.60	444.65	444.64	444.61
Beam 2	444.41	444.65	444.70	444.75	444.74	444.71
Beam 3	444.51	444.75	444.80	444.85	444.84	444.81
Beam 4	444.51	444.75	444.80	444.85	444.84	444.81
Beam 5	444.41	444.65	444.70	444.75	444.74	444.71
Beam 6	444.31	444.55	444.60	444.65	444.64	444.61

* For fabrication use only.

DESIGNED - JOSHUA M. ODORIZZI
CHECKED - PAUL GURKLYS
DRAWN - MICHAEL B. MOSSMAN
CHECKED - J.M.O. / P.G. / G.R.A.

EXAMINED
PASSED

DATE - SEPTEMBER 12, 2016
REVISOR
REVISOR

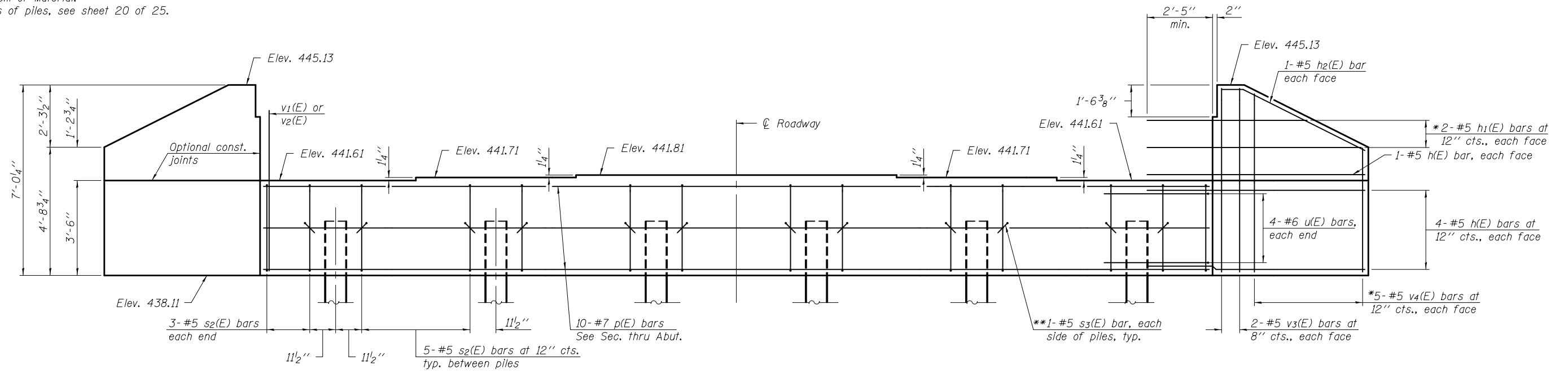
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 017 - 0035

SHEET NO. 13 OF 25 SHEETS

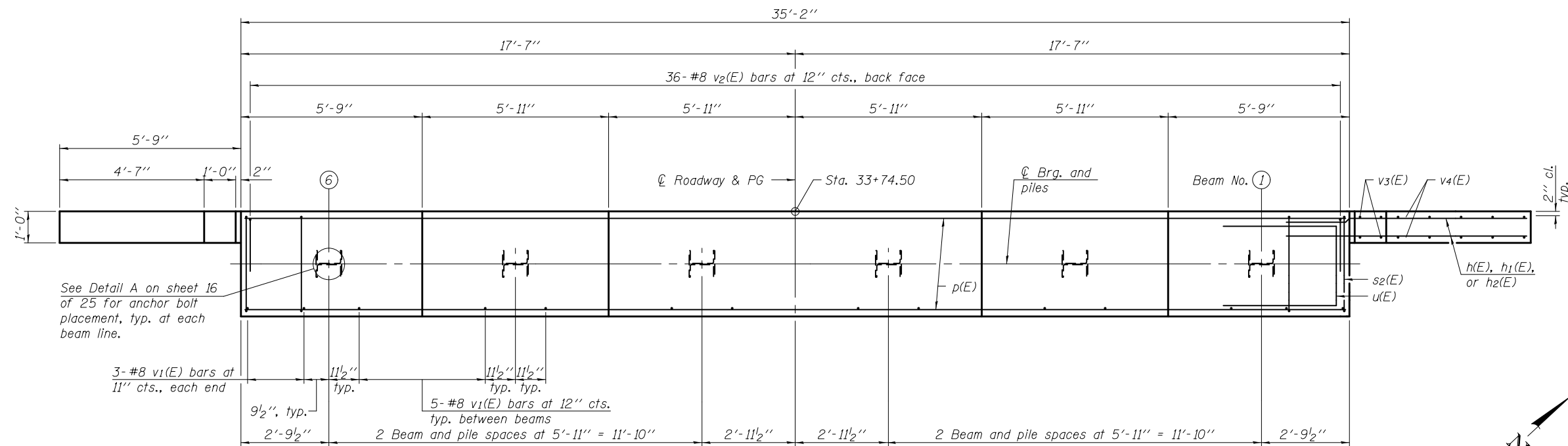
F.A.P. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
781 (108BR)B CRAWFORD 45 33
CONTRACT NO. 74322
ILLINOIS FED. AID PROJECT

Notes:
 Pour steps monolithically with cap.
 See sheet 16 of 25 for additional abutment details and Bill of Material.
 For details of piles, see sheet 20 of 25.



ELEVATION

* See field cutting diagram on sheet 16 of 25.
 ** Hook s3(E) bar around p(E) and s2(E) bars. Clear cover for the s3(E) bar will be 1³/₈".



PLAN

PILE DATA

Type: Steel piles HP 10x42
 Nominal Required Bearing: 335 kips
 Factored Resistance Available: 184 kips
 Est. Length: 24'
 No. Production Piles: 5
 No. Test Piles: 1
 Pile Shoes: 6

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED
CHECKED - PAUL GURKLYS	PASSED
DRAWN - MICHAEL B. MOSSMAN	
CHECKED - J.M.O. / P.G. / G.R.A.	

ENGINEER OF BRIDGE DESIGN

 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 12, 2016
REVISED
REVISED

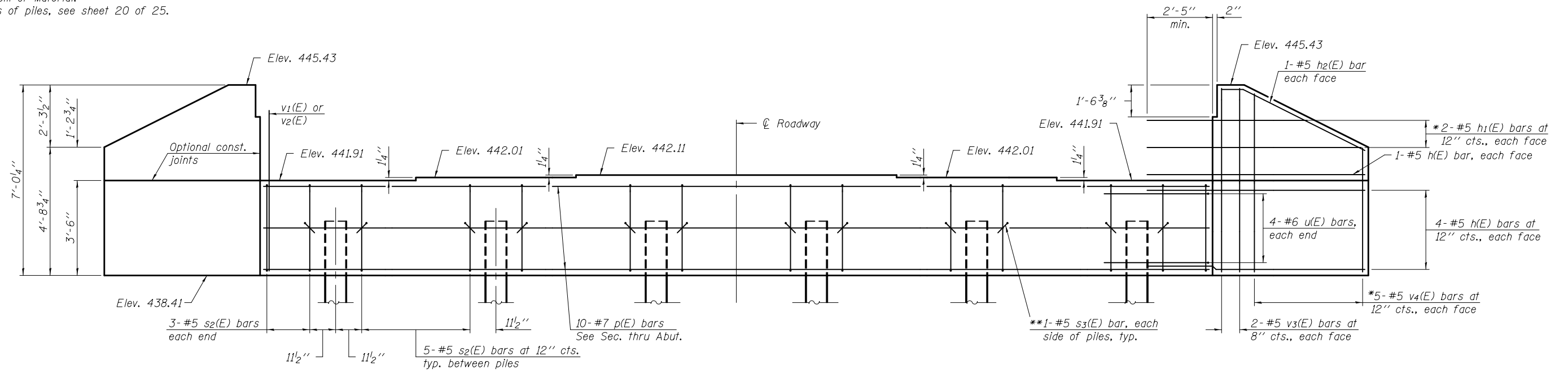
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT
 STRUCTURE NO. 017 - 0035**

SHEET NO. 14 OF 25 SHEETS

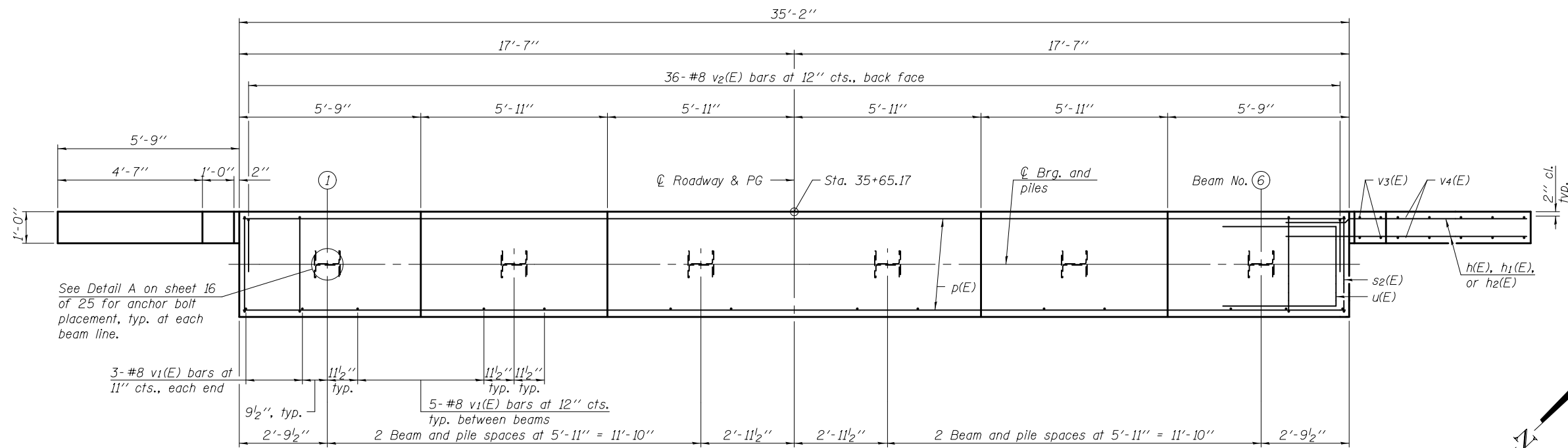
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	34
CONTRACT NO. 74322				
ILLINOIS FED. AID PROJECT				

Notes:
 Pour steps monolithically with cap.
 See sheet 16 of 25 for additional abutment details and Bill of Material.
 For details of piles, see sheet 20 of 25.



ELEVATION

* See field cutting diagram on sheet 16 of 25.
 ** Hook s3(E) bar around p(E) and s2(E) bars. Clear cover for the s3(E) bar will be 1³/₈".



PLAN

PILE DATA

Type: Steel piles HP 10x42
 Nominal Required Bearing: 335 kips
 Factored Resistance Available: 184 kips
 Est. Length: 27'
 No. Production Piles: 5
 No. Test Piles: 1
 Pile Shoes: 6

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Joanne F. J...</i>
CHECKED - PAUL GURKLYS	PASSED - <i>Paul Gurklys</i>
DRAWN - MICHAEL B. MOSSMAN	
CHECKED - J.M.O. / P.G. / G.R.A.	

DATE - SEPTEMBER 12, 2016
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

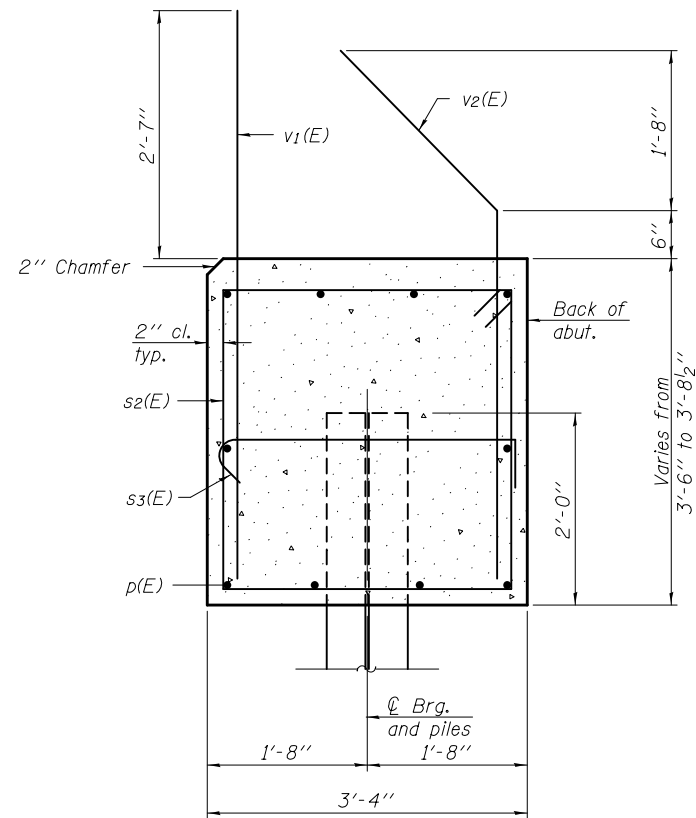
REVIS	REVIS
REVIS	REVIS

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

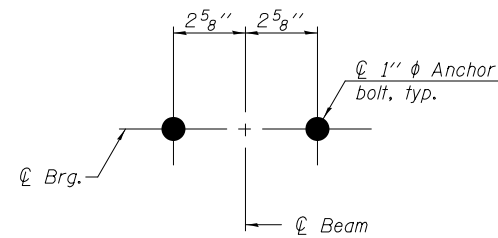
**SOUTH ABUTMENT
 STRUCTURE NO. 017 - 0035**

SHEET NO. 15 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	35
CONTRACT NO. 74322				
ILLINOIS FED. AID PROJECT				



**SECTION THRU
ABUTMENT**



DETAIL A

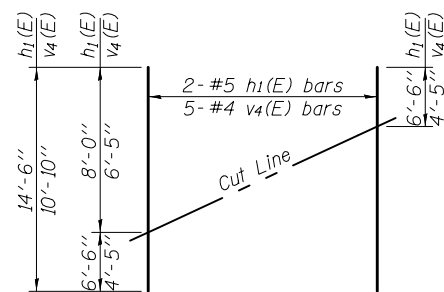
**NORTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	20	#5	8'-0"	—
h1(E)	4	#5	14'-6"	—
h2(E)	4	#5	5'-10"	—
p(E)	10	#7	34'-10"	—
s2(E)	31	#5	13'-3"	□
s3(E)	12	#5	4'-1"	└
u(E)	8	#6	10'-6"	□
v1(E)	31	#8	5'-11"	—
v2(E)	36	#8	6'-2"	—
v3(E)	8	#5	6'-8"	—
v4(E)	10	#5	10'-10"	—
Structure Excavation		Cu. Yd.	73.4	
Concrete Structures		Cu. Yd.	18.3	
Reinforcement Bars, Epoxy Coated		Pound	2,820	
Furnishing Steel Piles, HP 10x42		Foot	120	
Driving Piles		Foot	120	
Test Pile Steel HP 10x42		Each	1	
Pile Shoes		Each	6	

**SOUTH ABUTMENT
BILL OF MATERIAL**

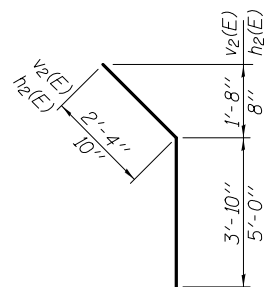
Bar	No.	Size	Length	Shape
h(E)	20	#5	8'-0"	—
h1(E)	4	#5	14'-6"	—
h2(E)	4	#5	5'-10"	—
p(E)	10	#7	34'-10"	—
s2(E)	31	#5	13'-3"	□
s3(E)	12	#5	4'-1"	└
u(E)	8	#6	10'-6"	□
v1(E)	31	#8	5'-11"	—
v2(E)	36	#8	6'-2"	—
v3(E)	8	#5	6'-8"	—
v4(E)	10	#5	10'-10"	—
Structure Excavation		Cu. Yd.	73.4	
Concrete Structures		Cu. Yd.	18.3	
Reinforcement Bars, Epoxy Coated		Pound	2,820	
Furnishing Steel Piles, HP 10x42		Foot	135	
Driving Piles		Foot	135	
Test Pile Steel HP 10x42		Each	1	
Pile Shoes		Each	6	

For details of piles see sheet 20 of 25.

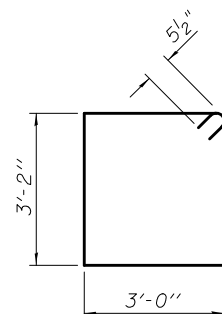


FIELD CUTTING DIAGRAM

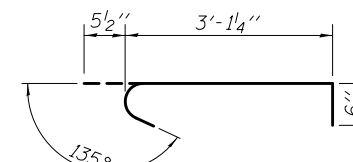
Order h1(E) and v4(E) full length. Cut as shown and use remainder of bars in opposite face.



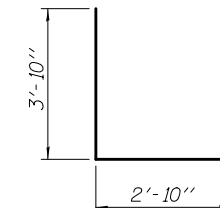
BAR v2(E) & h2(E)



BAR s2(E)



BAR s3(E)



BAR u(E)

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI
CHECKED - PAUL GURKLYS
DRAWN - MICHAEL B. MOSSMAN
CHECKED - J.M.O. / P.G. / G.R.A.

EXAMINED
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 12, 2016
REVISED
REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

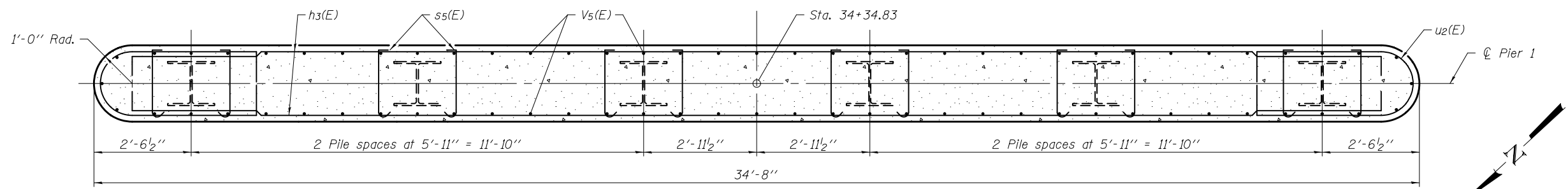
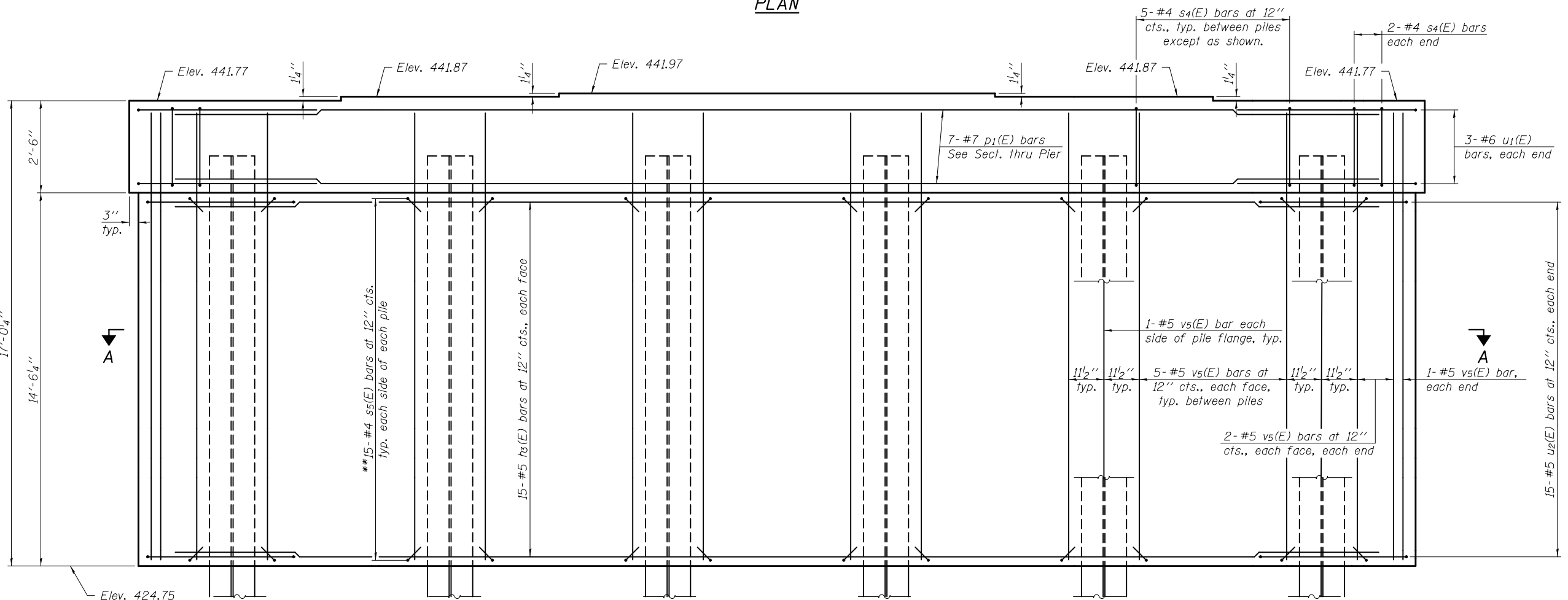
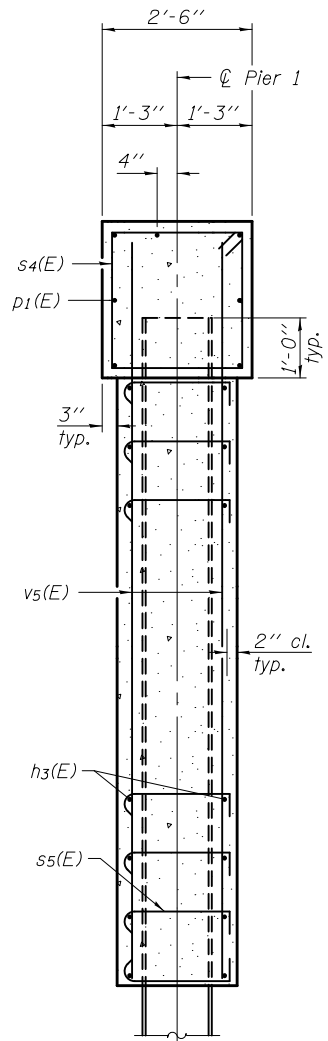
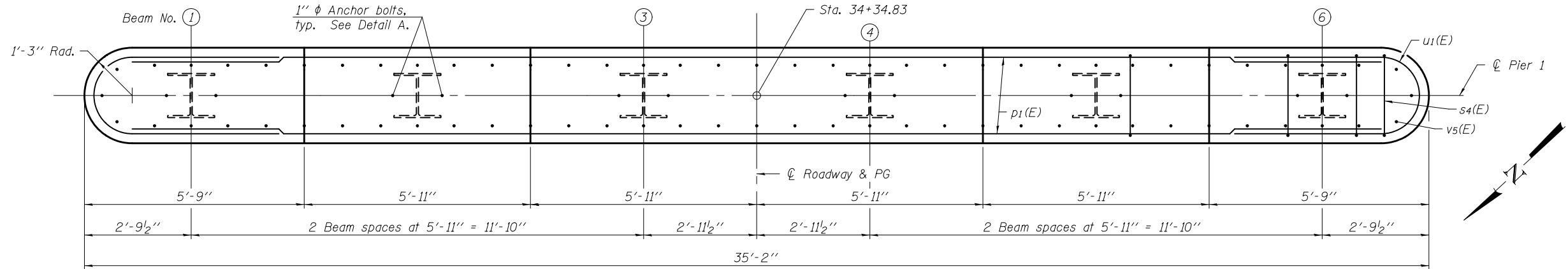
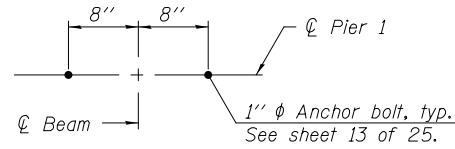
**ABUTMENT DETAILS
STRUCTURE NO. 017 - 0035**

SHEET NO. 16 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	36
CONTRACT NO. 74322				

ILLINOIS FED. AID PROJECT

Notes:
 Pour steps monolithically with cap.
 See sheet 19 of 25 for additional pier details and Bill of Material.
 Space reinforcement in cap to miss anchor bolts.
 For details of piles, see sheet 20 of 25.

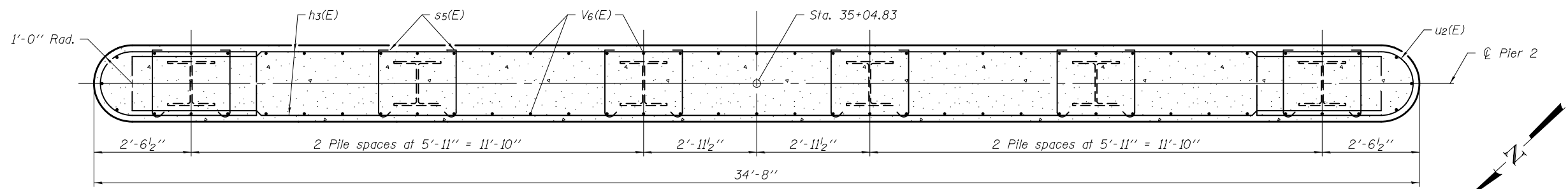
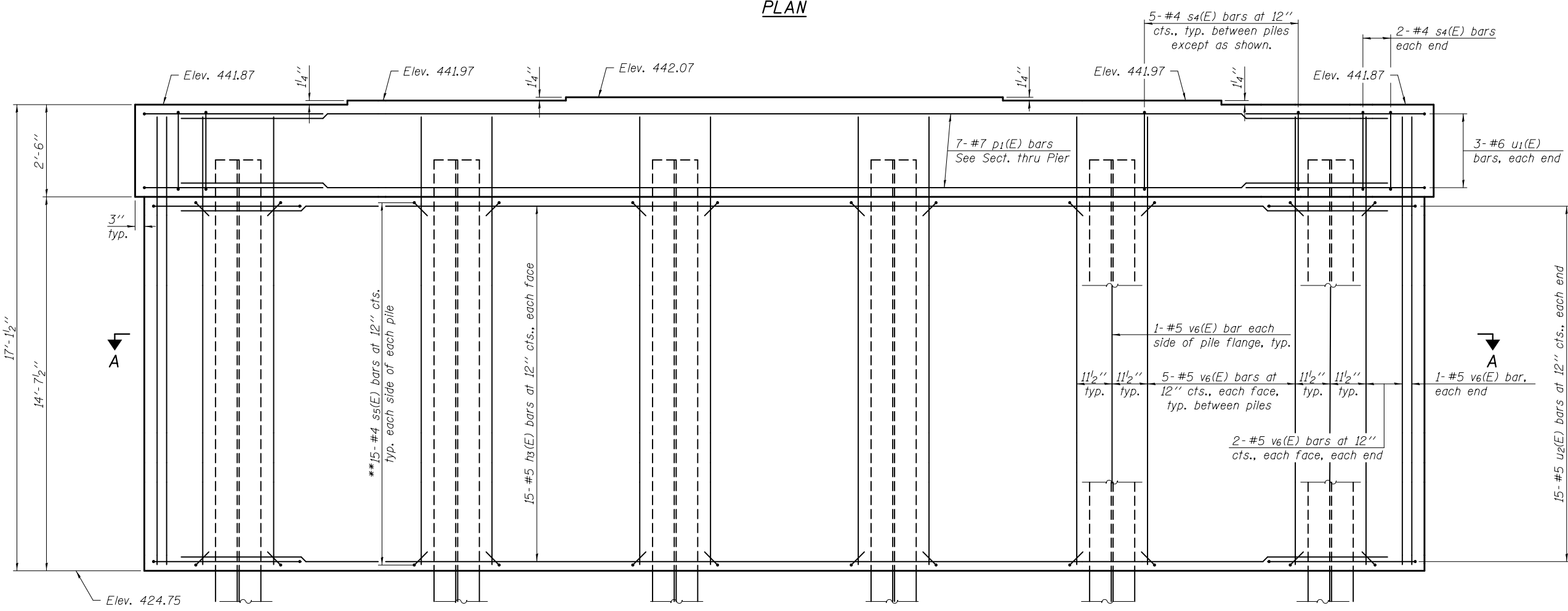
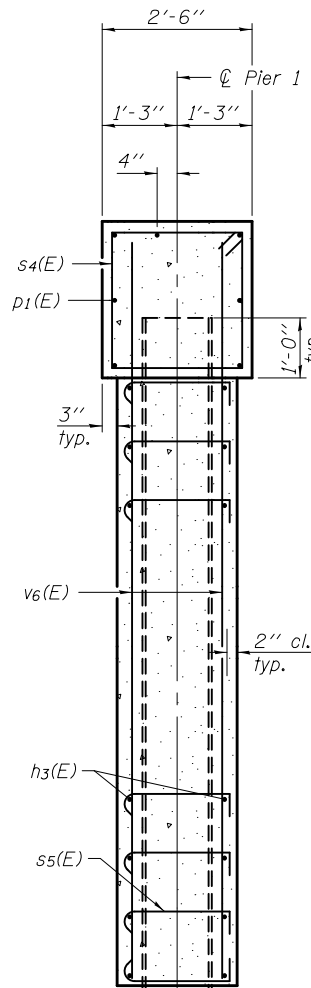
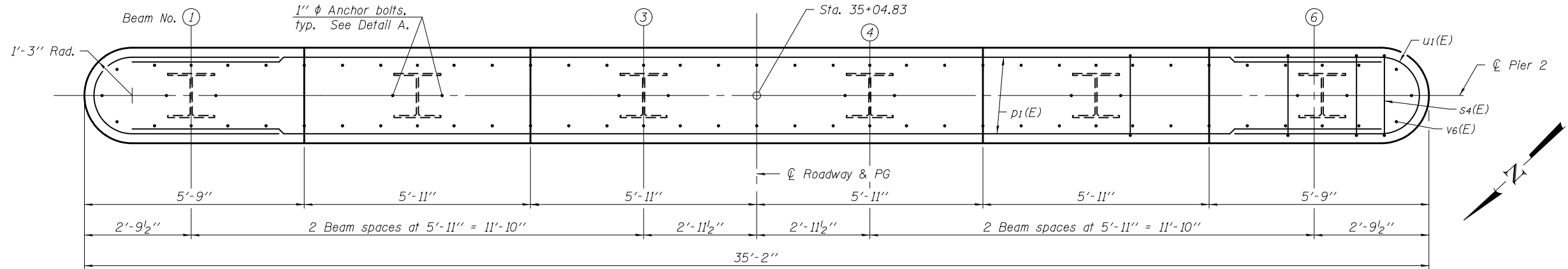
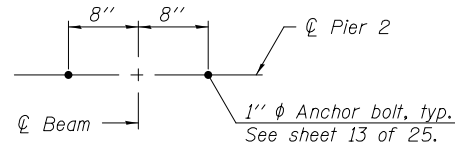


* For Rock Socket Detail and Pile Data, see sheet 19 of 25.
 ** Hook ss(E) bar around h3(E) and v5(E) bars. Clear cover for the ss(E) bar will be 1 3/8".

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Jaime F. J...</i>	DATE - SEPTEMBER 12, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 1 STRUCTURE NO. 017 - 0035	F.A.P. R.T.E. - 781	SECTION - (108BR)B	COUNTY - CRAWFORD	TOTAL SHEETS - 45	SHEET NO. - 37	
CHECKED - PAUL GURKLYS	PASSED - <i>Carl...</i>	REVIS			CONTRACT NO. 74322					
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVIS			SHEET NO. 17 OF 25 SHEETS					
CHECKED - J.M.O. / P.G. / G.R.A.					ILLINOIS FED. AID PROJECT					

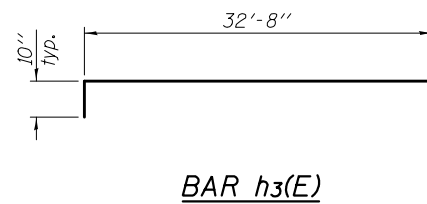
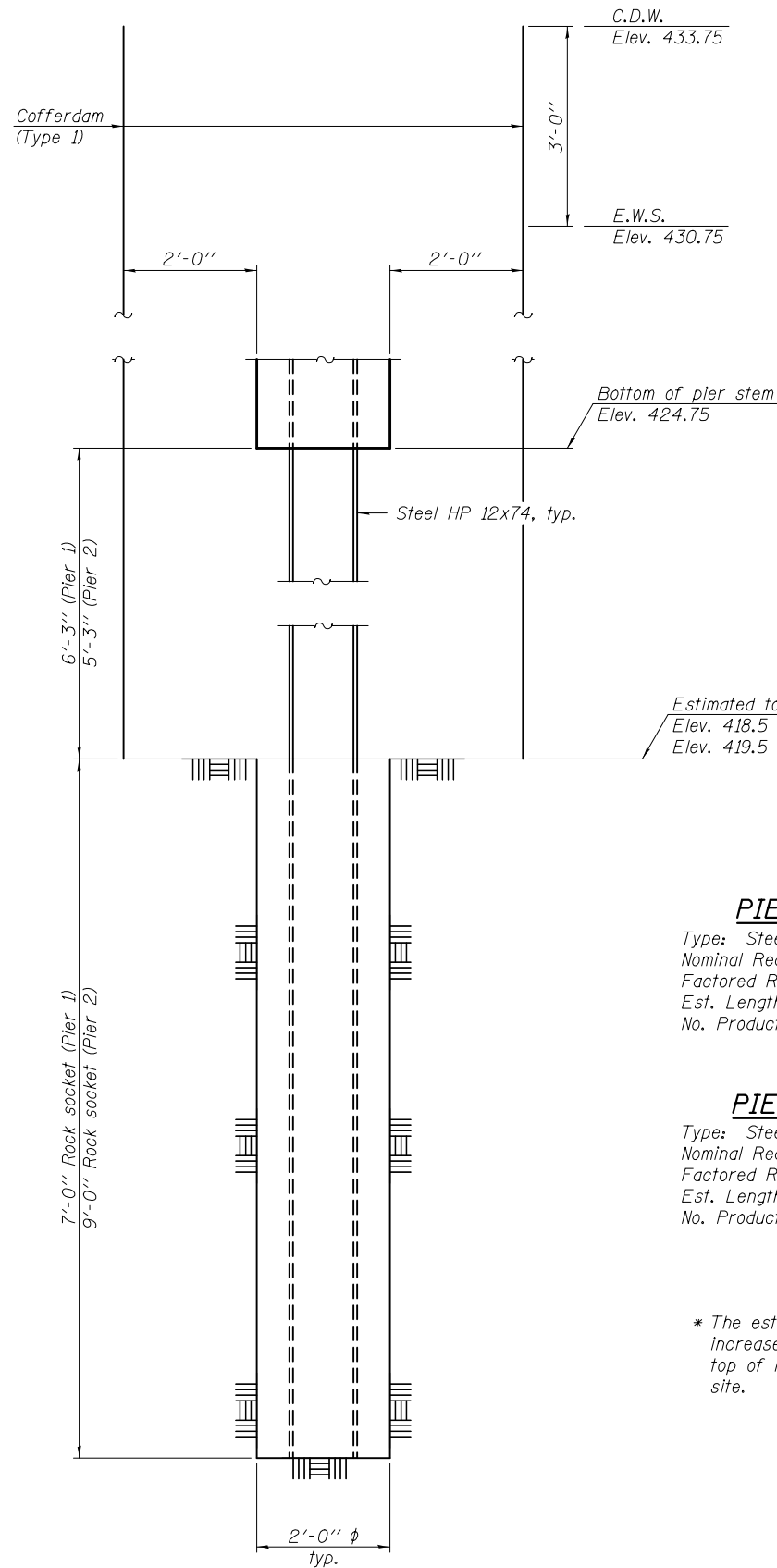
Notes:
 Pour steps monolithically with cap.
 See sheet 19 of 25 for additional pier details and Bill of Material.
 Space reinforcement in cap to miss anchor bolts.
 For details of piles, see sheet 20 of 25.



* For Rock Socket Detail and Pile Data, see sheet 19 of 25.
 ** Hook ss(E) bar around h3(E) and v6(E) bars. Clear cover for the ss(E) bar will be 1 3/8".

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Jaime F. J...</i>	DATE - SEPTEMBER 12, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		PIER 2 STRUCTURE NO. 017 - 0035		F.A.P. RTE. 781	SECTION (108BR)B	COUNTY CRAWFORD	TOTAL SHEETS 45	SHEET NO. 38
CHECKED - PAUL GURKLYS	PASSED - <i>Carl...</i>	REVISOR			SHEET NO. 18 OF 25 SHEETS		CONTRACT NO. 74322		ILLINOIS FED. AID PROJECT		



PIER 1 PILE DATA

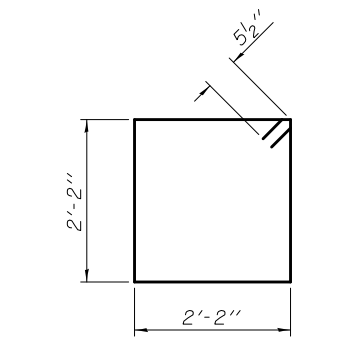
Type: Steel piles HP 12x74
 Nominal Required Bearing: Set in rock
 Factored Resistance Available: 324 kips
 Est. Length: *30'
 No. Production Piles: 6

PIER 2 PILE DATA

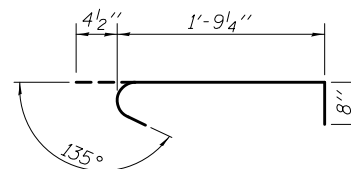
Type: Steel piles HP 12x74
 Nominal Required Bearing: Set in rock
 Factored Resistance Available: 324 kips
 Est. Length: *31'
 No. Production Piles: 6

* The estimated pile length has been increased to account for the variable top of rock elevation throughout the site.

ROCK SOCKET DETAIL



BAR s4(E)



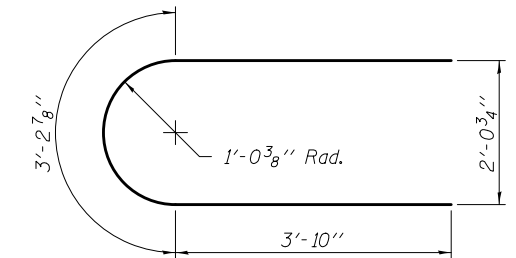
BAR s5(E)

**PIER 1
BILL OF MATERIAL**

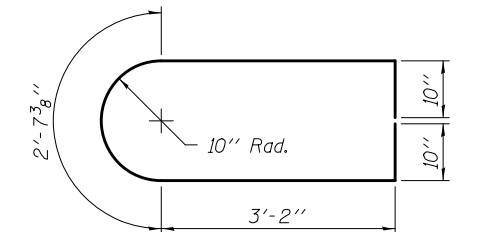
Bar	No.	Size	Length	Shape
h3(E)	30	#5	34'-4"	□
p1(E)	7	#7	32'-8"	—
s4(E)	29	#4	9'-7"	□
s5(E)	180	#4	2'-10"	□
u1(E)	6	#6	10'-11"	⊂
u2(E)	30	#5	10'-8"	⊂
v5(E)	72	#5	16'-8"	—
Concrete Structures		Cu. Yd.	45.1	
Reinforcement Bars, Epoxy Coated		Pound	3,750	
Furnishing Steel Piles, HP 12x74		Foot	180	
Cofferdam Excavation		Cu. Yd.	88	
Cofferdam (Type 1) (Location - 1)		Each	1	
Setting Piles in Rock		Each	6	

**PIER 2
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h3(E)	30	#5	34'-4"	□
p1(E)	7	#7	32'-8"	—
s4(E)	29	#4	9'-7"	□
s5(E)	180	#4	2'-10"	□
u1(E)	6	#6	10'-11"	⊂
u2(E)	30	#5	10'-8"	⊂
v6(E)	72	#5	16'-9"	—
Concrete Structures		Cu. Yd.	45.3	
Reinforcement Bars, Epoxy Coated		Pound	3,760	
Furnishing Steel Piles, HP 12x74		Foot	186	
Cofferdam Excavation		Cu. Yd.	71	
Cofferdam (Type 1) (Location - 2)		Each	1	
Setting Piles in Rock		Each	6	



BAR u1(E)



BAR u2(E)

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI
 CHECKED - PAUL GURKLYS
 DRAWN - MICHAEL B. MOSSMAN
 CHECKED - J.M.O. / P.G. / G.R.A.

EXAMINED *Jaime F. J...*
 PASSED *Carl...*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

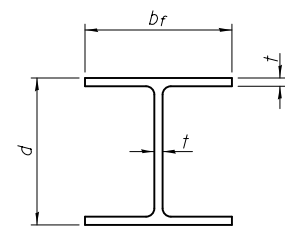
DATE - SEPTEMBER 12, 2016
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER DETAILS
 STRUCTURE NO. 017 - 0035

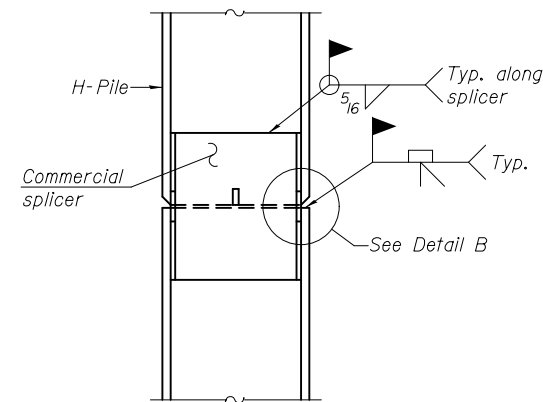
SHEET NO. 19 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	39
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74322	

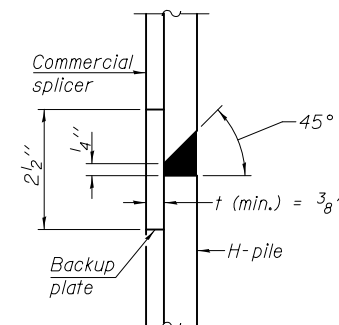


STEEL PILE TABLE

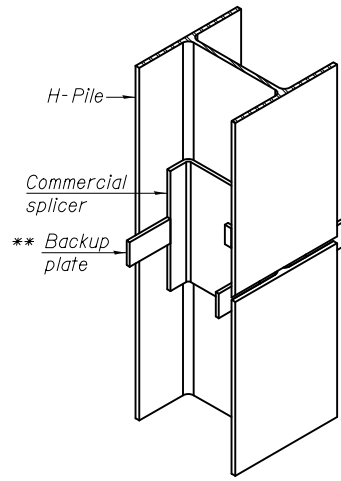
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

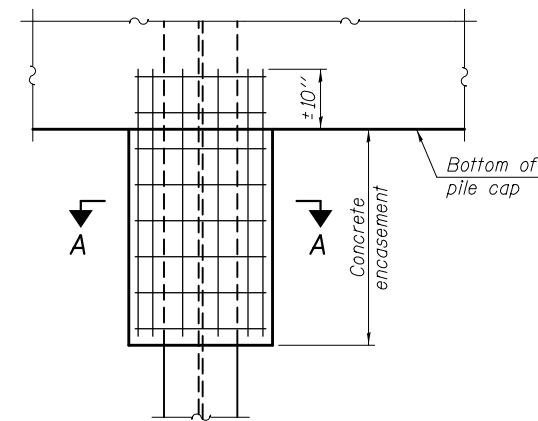


DETAIL "B"



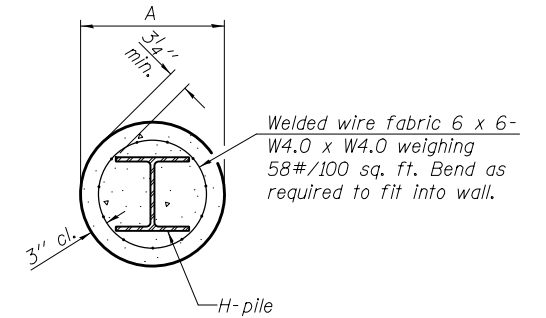
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



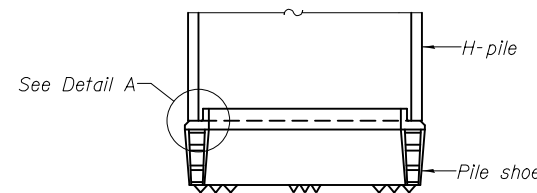
ELEVATION

PILE ENCASEMENT

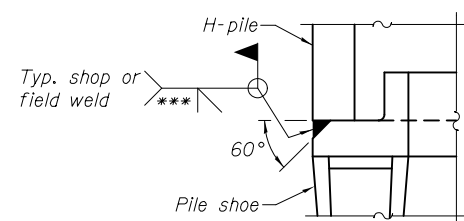


SECTION A-A

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

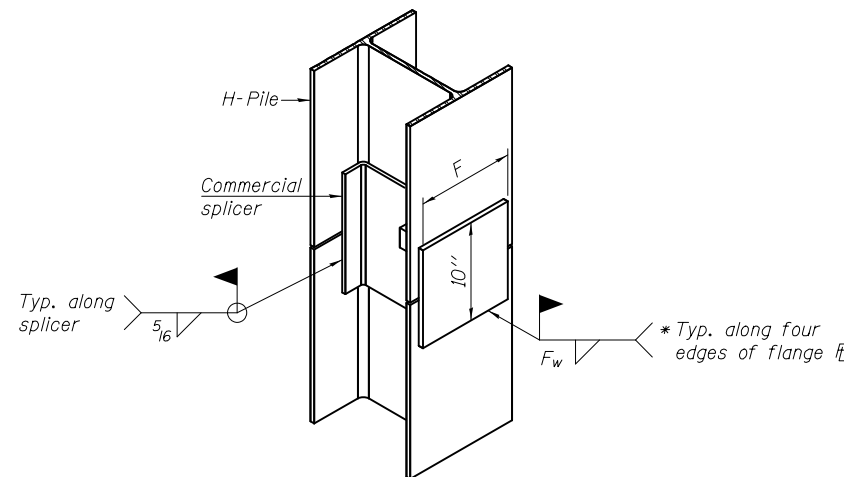


ELEVATION



DETAIL A

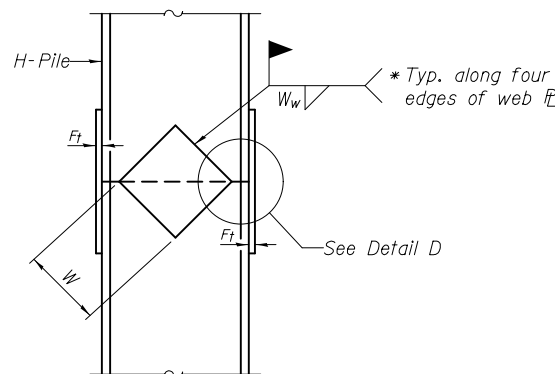
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

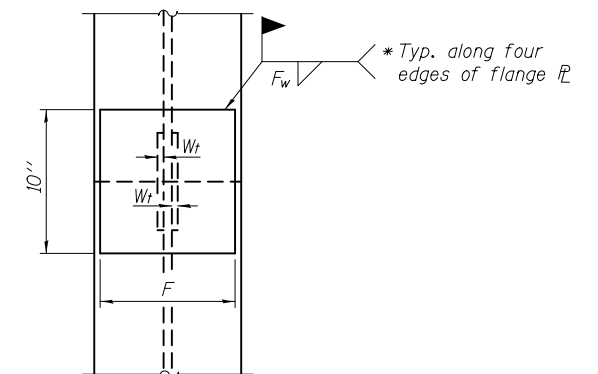
- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



ELEVATION

DETAIL D

WELDED PLATE FIELD SPLICE



END VIEW

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

SDATES STIMES

F-HP 1-27-12

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED
CHECKED - PAUL GURKLYS	PASSED
DRAWN - MICHAEL B. MOSSMAN	
CHECKED - J.M.O. / P.G. / G.R.A.	

DATE - SEPTEMBER 12, 2016

Revised: _____

Revised: _____

Revised: _____

Jaime F. Joffe
ENGINEER OF BRIDGE DESIGN
ACTING ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

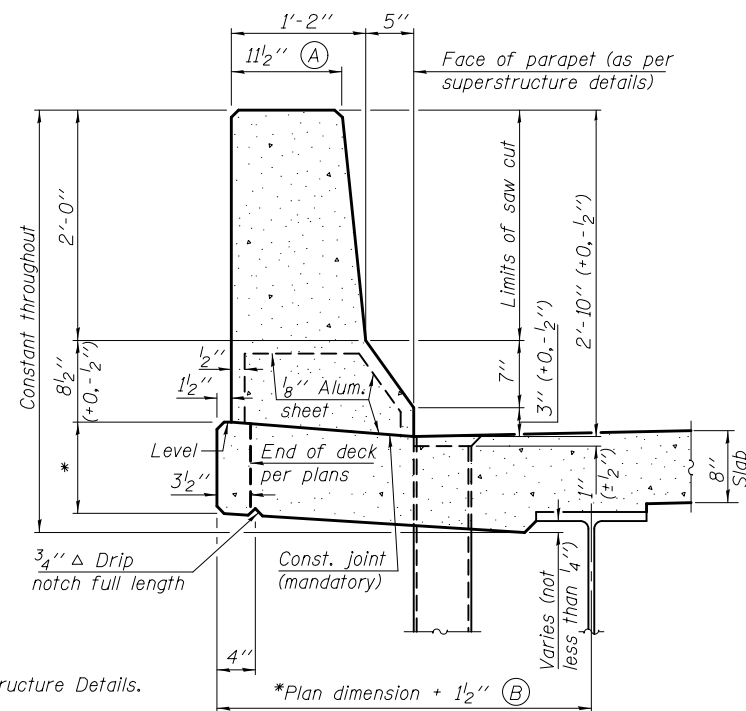
HP PILE DETAILS
STRUCTURE NO. 017 - 0035

SHEET NO. 20 OF 25 SHEETS

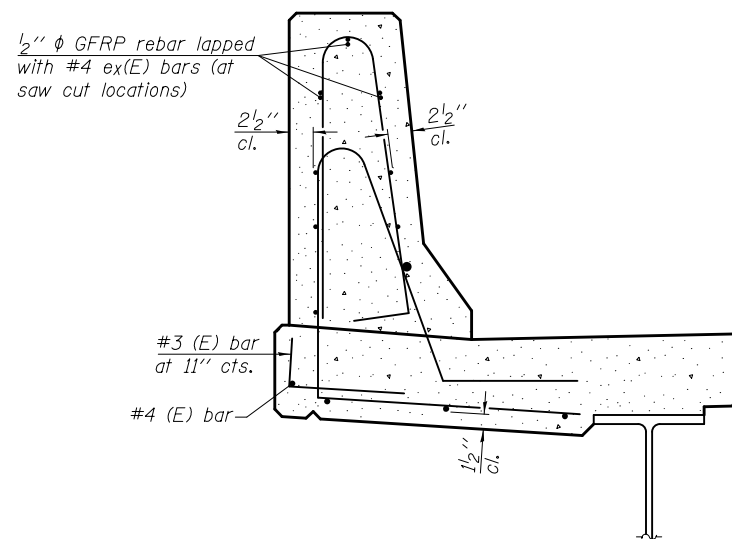
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	40
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74322	

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

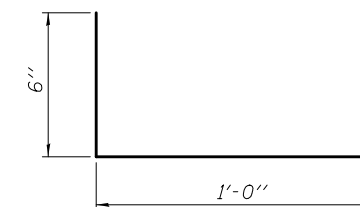


34" F SHAPE PARAPET SECTION
(Showing dimensions)

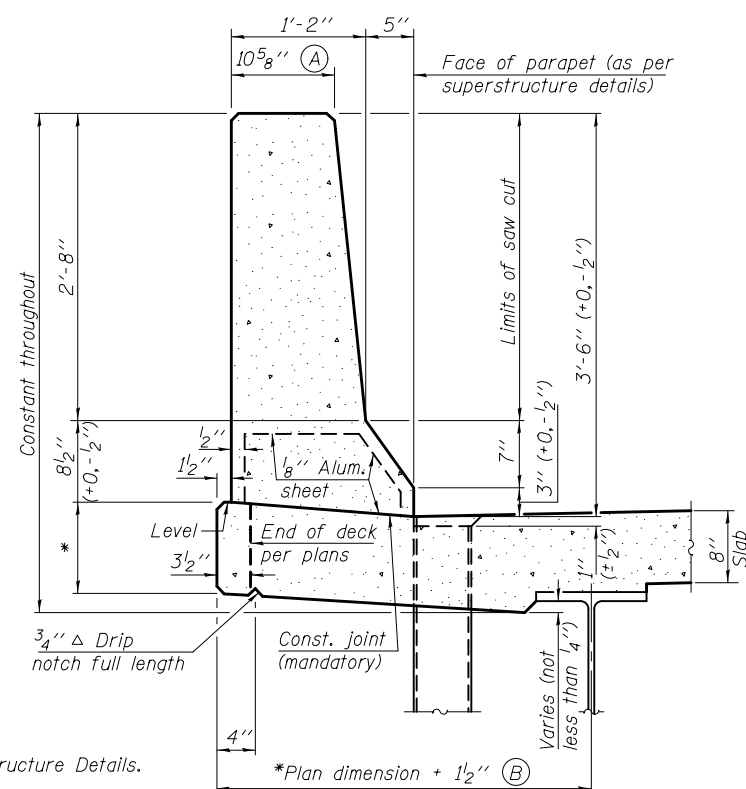


SECTION

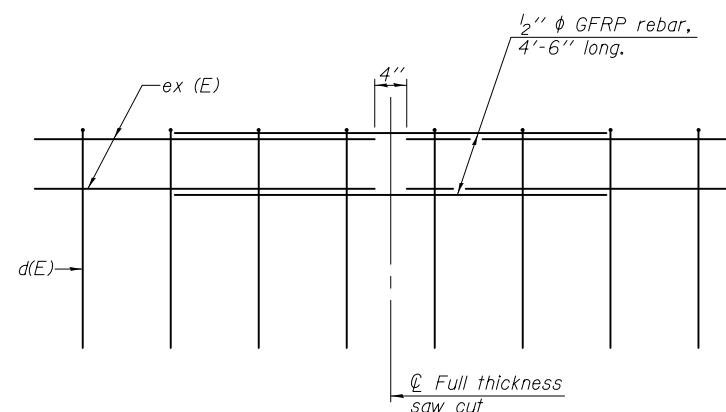
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



#3 (E) BAR

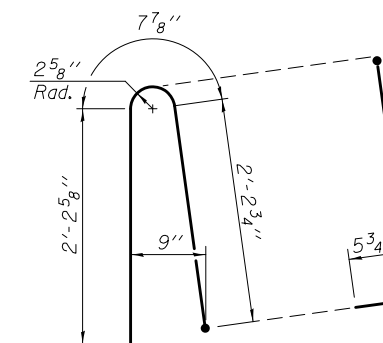


42" F SHAPE PARAPET SECTION
(Showing dimensions)

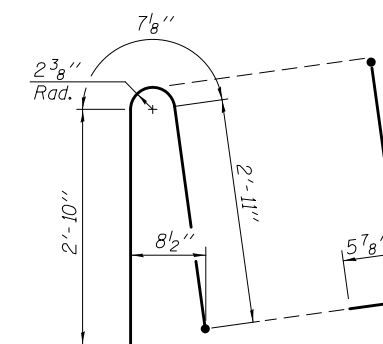


GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)



ALTERNATE BAR d(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)
(For 42" parapet when conduit is present)

SFP 34-42

8-16-12

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED
CHECKED - PAUL GURKLYS	PASSED
DRAWN - MICHAEL B. MOSSMAN	
CHECKED - J.M.O. / P.G. / G.R.A.	

DATE - SEPTEMBER 12, 2016
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

REVIS	
REVIS	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 017 - 0035

SHEET NO. 21 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	41
CONTRACT NO. 74322				

ILLINOIS FED. AID PROJECT

Page 1 of 2

Date 7/7/11

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

ROUTE FAP 781 (IL 33) DESCRIPTION Lamotte Creek LOGGED BY E. Sandschafer

SECTION (108BR)B LOCATION NW 1/4, SEC. 2, TWP. 6 N, RNG. 11 W, 3 PM

COUNTY Crawford DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. <u>017-0007</u>	DEPTH	BLOW	UNCS	MOIST	Surface Water Elev. <u>Dry</u> ft				
Station <u>35+00</u>	(ft)	/6"	(tsf)	(%)	Stream Bed Elev. <u>427.41</u> ft				
BORING NO. <u>4 S Pier</u>					Groundwater Elev.:				
Station <u>35+19</u>					<input checked="" type="checkbox"/> First Encounter <u>N/A</u> ft				
Offset <u>30.0ft Rt</u>					<input checked="" type="checkbox"/> Upon Completion <u>N/A</u> ft				
Ground Surface Elev. <u>435.53</u> ft					<input checked="" type="checkbox"/> After <u>24</u> Hrs. <u>435.5</u> ft				

Augered through to locate top of rock.

-5

-10

-15

419.53

Top of rock at 16' depth. Drilled down to 20' depth to seat auger for rock coring.

Borehole continued with rock coring.

415.53 -20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating
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)

Page 2 of 2

Date 7/7/11

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

ROUTE FAP 781 (IL 33) DESCRIPTION Lamotte Creek LOGGED BY E. Sandschafer

SECTION (108BR)B LOCATION NW 1/4, SEC. 2, TWP. 6 N, RNG. 11 W, 3 PM

COUNTY Crawford CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. <u>017-0007</u>	CORING BARREL TYPE & SIZE <u>NW, conv dbl bbl, split inner</u>	DEPTH	CORE	RECOVERY	R.Q.D.	CORE	STRENGTH
Station <u>35+00</u>	Core Diameter <u>2.06</u> in	(ft)	(#)	(%)	(%)	(min/ft)	(tsf)
BORING NO. <u>4 S Pier</u>	Top of Rock Elev. <u>419.53</u> ft						
Station <u>35+19</u>	Begin Core Elev. <u>415.53</u> ft						
Offset <u>30.0ft Rt</u>							
Ground Surface Elev. <u>435.53</u> ft							

Gray, SANDSTONE, slightly to moderately weathered. 415.53 B4C1 98 85 0.8
Rock Core B4C1 from 20.5' to 21.0' depth, Qu = 445 tsf.

-25

Rock Core B4C2 from 26.5' to 27.0' depth, Qu = 96.0 tsf.

Benchmark: BM 555 chiseled square on top of coping on SW corner of existing bridge, Sta 35+65, 16.1' Lt = 444.44'

405.53 -30

Gray, SANDY CLAY SHALE, slightly weathered. B4C3 99 82 1.1
Rock Core B4C3 from 34.0' to 34.6' depth, Qu = 81.4 tsf.

-35

Gray, CLAY SHALE. B4C4 90 59 1.5
Rock Core B4C4 from 37.0' to 37.5' depth, Qu = 5.6 tsf.

399.53

Extent of exploration. 395.53 -40

Color pictures of the cores Available upon request
Cores will be stored for examination until 07/07/11
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
RQD is the ratio of the total length of sound core specimens >4" to total length of core run BBS, form 138 (Rev. 8-99)

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED - <i>Jaime F. J. [Signature]</i>	DATE - SEPTEMBER 12, 2016
CHECKED - PAUL GURKLYS	PASSED - <i>Carl [Signature]</i>	REVISED
DRAWN - MICHAEL B. MOSSMAN	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.M.O. / P.G. / G.R.A.		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOIL BORING LOGS
STRUCTURE NO. 017 - 0035**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
781	(108BR)B	CRAWFORD	45	44
CONTRACT NO. 74322				

SHEET NO. 24 OF 25 SHEETS

ILLINOIS FED. AID PROJECT



Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 7/20/77

ROUTE FAP 781 (IL 33) DESCRIPTION Lamotte Creek LOGGED BY R. D. Metheny

SECTION (108BR)B LOCATION NW 1/4, SEC. 2, TWP. 6 N, RNG. 11 W, 3 PM

COUNTY Crawford DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 017-0007 Station 35+00
BORING NO. 1 Pier 1 Station 35+00 Offset 7.0 ft RL Ground Surface Elev. 428.4 ft
D E P T H S (ft) (Bulge) (Shear) (Penetrometer) (Estimated) (W.O.H) (W.O.P) (B.S) (SPT)

Soil Description	Depth (ft)	Bulge (ft)	Shear (ft)	Penetrometer (ft)	Estimated (ft)	W.O.H (ft)	W.O.P (ft)	B.S (ft)	SPT (ft)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter (ft)	Upon Completion (ft)	After (ft)
Very soft, wet, brown mottled grey, Sandy Clay Loam to Sandy Clay with lenses of wet, coarse grained, Sand	2	0.2	30												
	2	0.2	28												
	-5														
Dense, weathered, soft Clay Shale laminated with 1" thick coal lenses	422.4		16												
Very dense, very moist, grey, weathered, Clay Shale	421.4	35													
	418.9	200	13												
Very dense, moist to dry, grey, Sandstone laminated with very dense Clay Shale	-10														
	*		6												
Very dense, moist to dry, grey, Clay Shale laminated with very thin lenses of Sandstone	416.4														
	414.4	**	5												
* 5/8" Penetration for 100 blows.	-15														
**3/4" Penetration for 100 blows.															
	-20														

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated) Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating 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)

SDATES \$TIMES

DESIGNED - JOSHUA M. ODORIZZI	EXAMINED	DATE - SEPTEMBER 12, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOGS STRUCTURE NO. 017 - 0035	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - PAUL GURKLYS	PASSED	REVISOR			781	(108BR)B	CRAWFORD	45	45
DRAWN - MICHAEL B. MOSSMAN		REVISOR			CONTRACT NO. 74322				
CHECKED - J.M.O. / P.G. / G.R.A.		REVISOR			ILLINOIS FED. AID PROJECT				
 ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 25 OF 25 SHEETS						