F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	IROQUOIS	48	1
FED. ROAD DIST. NO. 7	ILLINOIS	CONTRACT NO. 66916		

INDEX OF SHEETS

1-21-11 LETTING ITEM 064

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

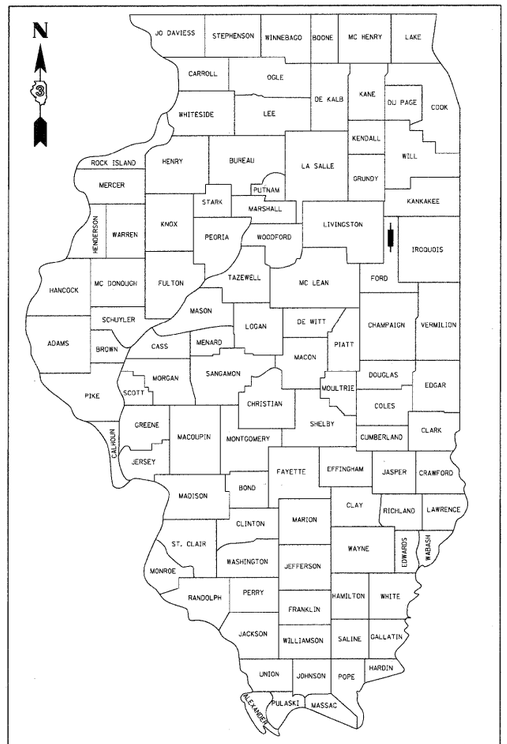
PROPOSED
HIGHWAY PLANS

F.A.P. ROUTE 796 (IL 115)
SECTION (106) BR-3
PROJECT BRF-0796(016)
FORD COUNTY

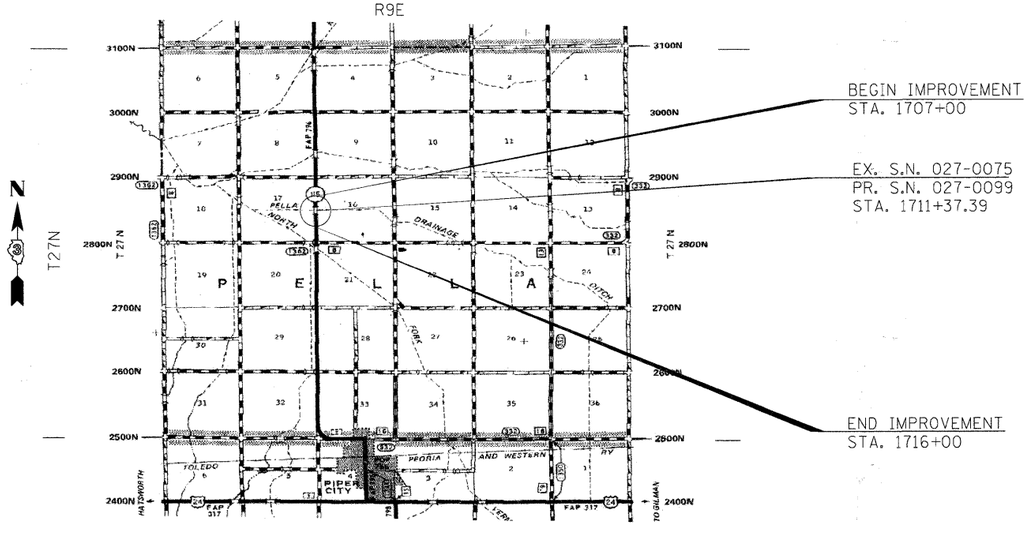
C - 93 - 090 - 10

REPLACEMENT OF EXISTING BRIDGE

P-93-045-07
D-93-041-10



LOCATION OF SECTION INDICATED THUS: -



LOCATION MAP
NOT TO SCALE

HIGHWAY CLASSIFICATION

ROUTE: FAP ROUTE 796 (IL 115)
FUNCTIONAL CLASS: MINOR ARTERIAL (NON-URBAN)
ADT: 550 (2009)
PV = 83.7% SU = 3.6% MU = 12.7%

DESIGN SPEED: 55 MPH
POSTED SPEED: 55 MPH

0 50 100 150 200
SCALE IN FEET

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

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE
ON THE FOLLOWING SHEETS _____

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

DISTRICT 3 NO. (815) 434-6131

PROJECT ENGINEER: JOE KANNEL, P.E.
UNIT CHIEF: PATRICK BRABOY

CONTRACT NO. 66916

GROSS LENGTH = 900 FT. = 0.17 MI.
NET LENGTH = 900 FT. = 0.17 MI.

STATE OF ILLINOIS
ROBERT A. CRISTY
062-044545
LICENSED PROFESSIONAL ENGINEER

Robert Cristy 10/08/10
Signature Date
November 30, 2011
Expires

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 18 20 10
George F. Bryan
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
December 10 20 10
Scott E. Stitt, P.E. /sc
acting ENGINEER OF DESIGN AND ENVIRONMENT
December 10 20 10
Christine M. Reed /sc
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

DATE *TIME*
DGN: SPEC

STANDARD DRAWINGS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
482011-03	HMA SHOULDER STRIPS/SHOULDERS WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
515001-03	NAME PLATE FOR BRIDGES
630001-09	STEEL PLATE BEAM GUARDRAIL
630201-06	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-09	TRAFFIC BARRIER TERMINAL, TYPE 6
635001-01	DELINEATORS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 4.5 M (15') TO 600 MM (24 9/32) FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701306-03	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS > 45 MPH
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-11	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS > 45 MPH
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
720001-01	SIGN PANEL MOUNTING DETAILS
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

THE THICKNESS OF HMA SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA IS PLACED.

THE HMA SURFACE OF ALL MAILBOX TURNOUTS, PRIVATE ENTRANCES, COMMERCIAL ENTRANCES, AND SIDE ROADS SHALL BE MADE NEATLY, IN A WORKMANLIKE MANNER, AND SHALL ACCURATELY CONFORM TO THE SHAPES AND DIMENSIONS SHOWN ON THE PLAN DETAILS. IF REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO SAW CUT THE HMA SURFACE TO CONFORM TO THE SHAPES AND DIMENSIONS SHOWN ON THE PLAN DETAILS. THIS WORK SHALL BE INCLUDED IN THE COST OF THE HMA SURFACE.

THE BASE COURSE WIDENING SHALL BE CARRIED THROUGH ALL ENTRANCES, SIDE ROADS, AND MAILBOX TURNOUTS. EXCEPTIONS WILL BE SHOWN ON THE PLANS.

EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.

BEFORE ORDERING PIPE CULVERTS OR PIPE DRAINS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR EXACT LENGTHS.

THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

SEEDING SHALL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDED WILL BE DETERMINED BY THE ENGINEER.

ONLY THOSE TREES DESIGNATED BY THE ENGINEER OR LISTED IN THE TREE REMOVAL SCHEDULE SHALL BE REMOVED. THE CONTRACTOR SHALL PROTECT ALL REMAINING TREES FROM DAMAGE DUE TO HIS OPERATIONS.

THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES IN AREAS TO BE SEEDED OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF SEEDING, CLASS 2.

ON EXISTING PAVEMENT WHICH MAY BE SUPERELEVATED, THE NEW HMA PAVEMENT SHALL BE BUILT WITH THE SAME SUPERELEVATION UNLESS NEW SUPERELEVATION RATES ARE GIVEN ON THE PLANS.

ALL ELEVATIONS REFERRING TO U.S.G.S. MEAN SEA LEVEL DATUM.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS	2.05	TONS / CU YD
BIT MATERIALS (PRIME COAT)	0.375	GAL / SQ YD
ON AGGREGATE BASES		
BITUMINOUS MATERIALS	0.08	GAL / SQ YD
(PRIME COAT)		
FOR ADDITIONAL HMA LIFTS		
"FOG COAT"	0.05	GAL / SQ YD
AGGREGATE PRIME COAT	0.002	TONS / SQ YD
HMA RESURFACING	112	LBS / SQ YD / IN
SHORT TERM PAVEMENT MARKING	10	FT /100 FT OF APPLICATION
MIX FOR CRACKS, JTS & FLGWYS	0.0003	TONS / SQ YD
LEVEL BINDER (HAND METHOD)	0.0005	TONS / SQ YD
SUPPLEMENTAL WATERING	3	GAL / SQ YD / APPLICATION
CALCIUM CHLORIDE	2	LB / SQ YD / APPLICATION
TEMPORARY DITCH CHECKS	5	TONS AGGREGATE

THE WORK REQUIRED TO CONNECT ANY SEWER TO AN EXISTING DRAINAGE STRUCTURE OR PIPE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE SEWER ITEMS.

MEMBERS OF JULIE KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE: EASTERN ILLLINOIS ELECTRIC COOPERATIVE AND FRONTIER COMMUNICATIONS.

THE CONTRACTOR SHALL CONTACT JULIE AT LEAST 48 HOURS PRIOR TO EXCAVATION TO DETERMINE WHICH UTILITIES ARE IN THE AREA.

COMMITMENTS:

1. ENVIRONMENTAL COORDINATION
2. 404 PERMIT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

PREPARED BY: _____
DISTRICT STUDIES & PLANS ENGINEER

DATE: 10/14/10

EXAMINED BY: _____
DISTRICT CONSTRUCTION ENGINEER

_____
DISTRICT MATERIALS ENGINEER

_____
DISTRICT OPERATIONS ENGINEER

FILE NAME = ...\0366916-SHT-Hwy Stnds and Plan Notes.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering	Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	HIGHWAY STANDARDS AND PLAN NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RAC	REVISED -					796	(106) BR-3	FORD	48	2
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -		SCALE: 1" = 50'	SHEET NO. 2 OF 48 SHEETS	STA. 1707+00 TO STA. 1716+00			CONTRACT NO. 66916		
	PLOT DATE = 10/6/2010	DATE - 10/08/10	REVISED -							ILLINOIS	FED. AID PROJECT	

SUMMARY OF QUANTITIES

CODE NO.	CONSTRUCTION CODE TYPE: ITEM	UNIT	TOTAL QUANTITY	0011 SN 027-0075 (EX) SN 027-0099 (PR)
-	-	-	-	-
20200100	EARTH EXCAVATION	CU YD	385	385
20400800	FURNISHED EXCAVATION	CU YD	1592	1592
* 25000200	SEEDING, CLASS 2	ACRE	0.8	0.8
* 25000400	NITROGEN FERTILIZER NUTRIENT	POUND	73	73
* 25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	73	73
* 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	73	73
* 25100115	MULCH, METHOD 2	ACRE	0.5	0.5
* 25100630	EROSION CONTROL BLANKET	SQ YD	1496	1496
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	82	82
28000400	PERIMETER EROSION BARRIER	FOOT	1520	1520
28100107	STONE RIPRAP, CLASS A4	SQ YD	910	910
28200200	FILTER FABRIC	SQ YD	910	910
35501316	HOT-MIX ASPHALT BASE COURSE, 8"	SQ YD	571	571
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	136	136
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	438	438
40600300	AGGREGATE (PRIME COAT)	TON	7	7
40600525	LEVELING BINDER (HAND METHOD), IL-9.5FG N50	TON	1	1
40600625	LEVELING BINDER (MACHINE METHOD), IL-9.5FG N50	TON	21	21
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	320	320
40600990	TEMPORARY RAMP	SQ YD	600	600
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	1236	1236
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	163	163
48101200	AGGREGATE SHOULDERS, TYPE B	TON	95	95
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	438	438
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
50200100	STRUCTURE EXCAVATION	CU YD	141	141
50300100	FLOOR DRAINS	EACH	8	8
50300225	CONCRETE STRUCTURES	CU YD	53.3	53.3
50300255	CONCRETE SUPERSTRUCTURE	CU YD	214.1	214.1
50300260	BRIDGE DECK GROOVING	SQ YD	436	436
50300280	CONCRETE ENCASEMENT	CU YD	4.0	4.0
50300300	PROTECTIVE COAT	SQ YD	541	541
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1
50500505	STUD SHEAR CONNECTORS	EACH	990	990
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	57,680	57,680
50800515	BAR SPLICERS	EACH	579	579
51201600	FURNISHING STEEL PILES HP12x53	FOOT	236	236
51202305	DRIVING PILES	FOOT	236	236
51203600	TEST PILE STEEL HP12x53	EACH	1	1
51500100	NAME PLATES	EACH	1	1
52100520	ANCHOR BOLTS, 1"	EACH	24	24
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	84	84

SUMMARY OF QUANTITIES

CODE NO.	CONSTRUCTION CODE TYPE: ITEM	UNIT	TOTAL QUANTITY	0011 SN 027-0075 (EX) SN 027-0099 (PR)
-	-	-	-	-
54200235	PIPE CULVERTS, CLASS D, TYPE 1 30"	FOOT	206	206
54213450	END SECTIONS 15"	EACH	4	4
54213465	END SECTIONS 30"	EACH	8	8
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	46	46
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	54	54
* 60801030	FLAP GATE 30"	EACH	3	3
* 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	75	75
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	4	4
63200310	GUARDRAIL REMOVAL	FOOT	529	529
63300575	REMOVE AND REERECT RAIL ELEMENT OF EXISTING GUARD RAIL	FOOT	275	275
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	8	8
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	4
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	45	45
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70300100	SHORT TERM PAVEMENT MARKING	FOOT	335	335
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	3345	3345
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	24	24
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1163	1163
70400100	TEMPORARY CONCRETE BARRIER	FOOT	750	750
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	687.5	687.5
* 78005110	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	1720	1720
* 78005130	EPOXY PAVEMENT MARKING - LINE 6"	FOOT	215	215
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	7	7
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	12	12
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	8	8
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1080	1080
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	7	7
X0656300	PAVEMENT REMOVAL AND REPLACEMENT	SQ YD	16	16
Z0073002	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	197	197
X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	119	119
50105220	PIPE CULVERT REMOVAL	FOOT	173	173
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	16	16
Z0030150	IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	118	118

*SPECIALTY ITEMS

FILE NAME = ...\D366916-SHT-Quantities.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - RAC	REVISED -
	PLOT SCALE = 1.00000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/8/2010	DATE - 10/08/10	REVISED -

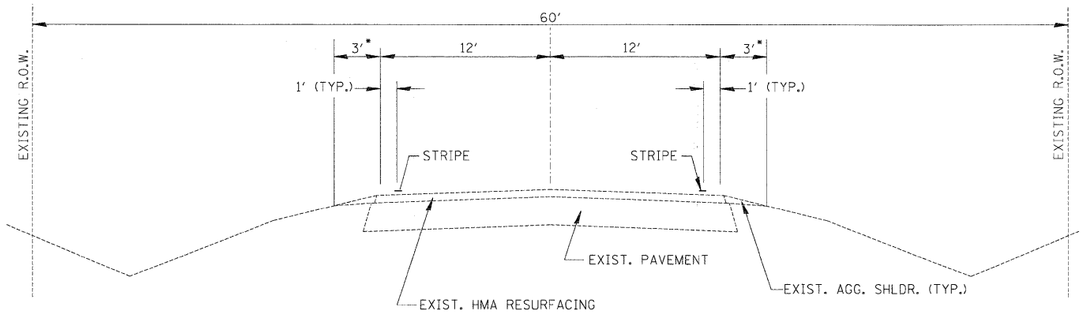
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: N/A | SHEET NO. 3 OF 48 SHEETS | STA. 1707+00 TO STA. 1716+00

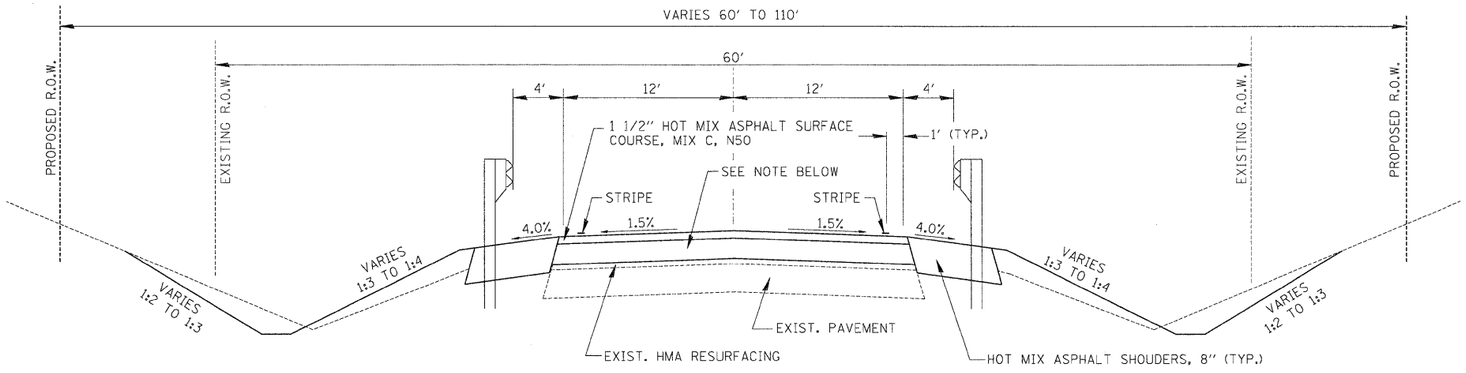
SUMMARY OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	3
		CONTRACT NO. 66916		
	ILLINOIS	FED. AID PROJECT		



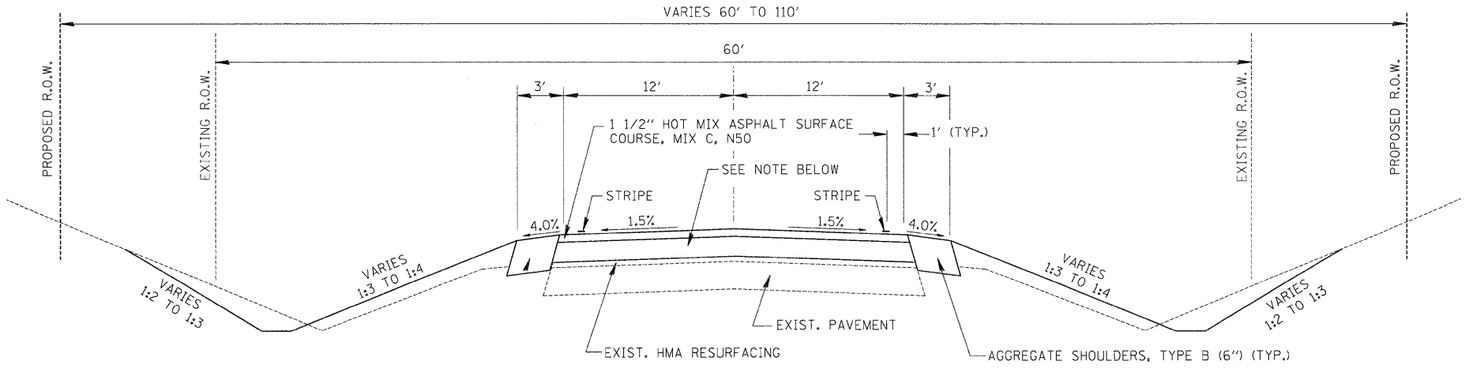
EXISTING TYPICAL SECTION

*SHOULDER WIDTH VARIES AT GUARDRAIL LOCATIONS



PROPOSED TYPICAL SECTION

STA. 1709+57 TO STA. 1710+72
STA. 1712+02 TO STA. 1713+18



PROPOSED TYPICAL SECTION

STA. 1707+00 TO STA. 1709+57
STA. 1713+18 TO STA. 1716+00

	HMA BINDER COURSE	HMA LEVEL BINDER	HMA SURFACE	HMA SHOULDERS
PG GRADE**	PG64-22	PG64-22	PG64-22	PG58-22
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50	4.0% @ N50	2.0% @ N30
MIXTURE COMPOSITION	IL 19.0	IL 9.5	IL 9.5	IL 19.0
FRICTION AGGREGATE			MIXTURE C	
DENSITY TEST METHOD	CORES*	SATISFACTION OF ENGINEER	CORES	CORES*

* MATERIAL SHALL BE COMPACTED TO 93.0-97.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY, EXCEPT THAT WHEN PLACED AS FIRST LIFT ON AN UNIMPROVED SUB-GRADE THE MINIMUM PERCENT COMPACTION SHALL BE 92.0 PERCENT. THE MAXIMUM THEORETICAL DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE AS SPECIFIED IN THE QC/QA SPECIFICATION.

** WHEN RAP EXCEEDS 20%, THE VIRGIN ASPHALT BINDER SHALL BE REDUCED BY ONE GRADE (I.E. 25% RAP WOULD REQUIRE A VIRGIN ASPHALT BINDER GRADE OF PG64-22 TO BE REDUCED TO PG58-22).

NOTE:

USE LEVELING BINDER (MACHINE METHOD), N50 WHEN THICKNESS IS 3/4" TO 2 1/4"
USE HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50 WHEN THICKNESS IS GREATER THAN OR EQUAL TO 2 1/4"

FILE NAME = ...\D366916-SHT-Typical Sections.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - RAC	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE - 10/08/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 4 OF 48 SHEETS | STA. 1707+00 TO STA. 1716+00

TYPICAL SECTIONS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	4
		CONTRACT NO. 66916		
		ILLINOIS	FED. AID PROJECT	

HOT MIX ASPHALT SCHEDULE

LOCATION	HMA SURF COURSE	HMA LEVEL BINDER MACHINE	HMA LEVEL BINDER HAND	HMA BINDER COURSE	HMA SHLDR 8"	HMA SUR REM BUTT JT	BIT MAT (PR CT)	AGG (PR CT)
	TON	TON		TON	SQ YD	SQ YD	GAL	TON
STA. 1707+40 TO STA. 1708+00						160		
STA. 1707+40 TO STA. 1710+72	74						71	1.8
STA. 1708+00 TO STA. 1708+20		5	0.0				4	0.1
STA. 1708+20 TO STA. 1710+72			0.4	588			126	1.4
STA. 1709+70 TO STA. 1710+87					90			
STA. 1709+34 TO STA. 1710+87 LT					118			
STA. 1712+02 TO STA. 1716+00 RT	89						85	2.1
STA. 1712+02 TO STA. 1714+80			0.4	648			139	1.5
STA. 1714+80 TO STA. 1715+40		16	0.1				13	0.3
STA. 1711+87 TO STA. 1713+56					124			
STA. 1711+87 TO STA. 1713+57 LT					106			
STA. 1715+40 STA. 1716+00 RT						160		
TOTALS	163	21	0.8	1236	438	320	438	7.2

GUARDRAIL SCHEDULE

LOCATION	GUARDRAIL REMOVAL	SPBGR	TR BAR TRM TRM T1 SPL FLR	TR BAR TRM TRM T6	GUARDRAIL MARK	TERM MARK DIR APPLIED	R&R RAIL ELEM EX GDRL
	FOOT	FOOT	EACH	EACH	EACH	EACH	FOOT
STA. 1709+83 TO STA. 1711+08 LT	125				4		125
STA. 1709+94 TO STA. 1710+44 LT			1			1	
STA. 1710+44 TO STA. 1710+87 LT				1		1	
STA. 1709+58 TO STA. 1711+08 RT	150						150
STA. 1709+57 TO STA. 1710+07 RT			1			1	
STA. 1710+07 TO STA. 1710+44 RT		37.5			2		
STA. 1710+44 TO STA. 1710+87 RT				1		1	
STA. 1711+74 TO STA. 1713+03 LT	129						
STA. 1711+87 TO STA. 1712+30 LT				1		1	
STA. 1712+30 TO STA. 1712+68 LT		37.5			2		
STA. 1712+68 TO STA. 1713+18 LT			1			1	
STA. 1711+66 TO STA. 1712+91 RT	125				4		
STA. 1711+87 TO STA. 1712+31 RT				1		1	
STA. 1712+31 TO STA. 1712+81 RT			1			1	
TOTALS =	529	75.0	4	4	12	8	275

PAVEMENT MARKING

LOCATION	PVMT MARK WHITE, 4"	PVMT MARK YELLOW, 6"	RAISED REF PVMT MARK REMOVAL	RAISED REFLECT PVMT MARK	PAVEMENT MARKING REMOVAL
	FOOT	FOOT	EACH	EACH	FOOT
STA. 1707+40 TO STA. 1716+00 LT	860				540
STA. 1707+40 TO STA. 1716+00 RT	860				540
STA. 1707+40 TO STA. 1716+00		215	7	7	
TOTALS =	1720	215	7	7	1080

MISCELLANEOUS PAVEMENT SCHEDULE

LOCATION	TEMPORARY RAMP	HMA BASE COURSE, 8"	PAVEMENT REMOVAL AND REPLACEMENT
	SY	SY	SY
STAGE I			
STA. 1708+90 TO STA. 1710+72 LT	303		
STA. 1712+02 TO STA. 1713+80 LT	297		
STA. 1707+61 TO STA. 1711+08 RT		161	
STA. 1711+66 TO STA. 1715+09 RT		159	
STAGE II			
STA. 1707+94 TO STA. 1710+72 LT		124	
STA. 1712+02 TO STA. 1714+88 LT		127	
STA. 1713+38 TO STA. 1713+44			16
TOTAL =	600	571	16

SEEDING

LOCATION	SEEDING CL 2	MULCH METHOD 2	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT
	ACRE	ACRE	POUND	POUND	POUND
STA. 1707+40 TO STA. 1710+85 LT	0.19	0.14	17	17	17
STA. 1707+40 TO STA. 1710+85 RT	0.23	0.11	20	20	20
STA. 1711+85 TO STA. 1716+00 LT	0.22	0.12	20	20	20
STA. 1711+85 TO STA. 1716+00 RT	0.18	0.14	16	16	16
TOTALS =	0.82	0.51	73	73	73

TEMPORARY PAVEMENT MARKING

LOCATION	TEMP PVMT MARK WHITE, 4"	TEMP PVMT MARK WHITE, 24"	SHORT TERM PVMT MARK	WORK ZONE PAVT MARK REMOVAL
	FOOT	FOOT	FOOT	SQ FT
STAGE I				
STA. 1706+40 RT		12		24
STA. 1706+86 LT TO STA. 1716+63 LT	977		98	326
STA. 1707+61 RT TO STA. 1715+09 RT	748		75	249
STA. 1716+63 LT		12		24
STAGE II				
STA. 1707+94 LT TO STA. 1714+88 LT	694		69	231
STA. 1706+50 RT TO STA. 1715+76 RT	926		93	309
TOTALS =	3345	24	335	1163

DRAINAGE SCHEDULE

LOCATION	REMOVE EXISTING CULVERTS	PIPE CULVERT CLASS D TYPE 1, 30	PIPE CULVERT CLASS D TYPE 1, 15	END SECTIONS 30"	END SECTIONS 15"	AUTOMATIC FLAP GATES 30"	CONTROLLED LOW STRENGTH MATERIAL
	EACH	FOOT	FOOT	EACH	EACH	EACH	CY
STA. 1710+81 28.0' RT TO STA. 1711+22 26.2' RT	1						
STA. 1710+75 26.6' LT TO STA. 1711+21 25.2' LT	1						
STA. 1711+53 25.3' LT TO STA. 1711+93 26.1' LT	1						
STA. 1713+12 23.4' RT TO STA. 1713+32 23.7' RT	1						
STA. 1713+34 23.8' RT TO STA. 1713+39 28.6' LT							54
STA. 1713+10 27.9' LT TO STA. 1713+36 28.4' LT	1						
STA. 1710+80 37.6' RT TO STA. 1711+20 38.8' RT		41		2		1	
STA. 1710+75 46.4' LT TO STA. 1711+19 45.1' LT		47		2		1	
STA. 1711+53 39.7' LT TO STA. 1711+93 38.5' LT		44		2		1	
STA. 1713+41 32.0' RT TO STA. 1713+41 42.0' LT		74		2			
STA. 1713+60 42.0' LT TO STA. 1714+00 42.0' LT			42		2		
STA. 1713+58 32.0' RT TO STA. 1714+00 32.0' RT			42		2		
TOTALS =	5	206	84	8	4	3	54

EARTHWORK

LOCATION	EARTH EXCAVATION	FURNISHED EXCAVATION
	CU YD	CU YD
STA. 1707+00 TO STA. 1710+75 LT	87	337
STA. 1707+00 TO STA. 1710+75 RT	142	340
STA. 1712+00 TO STA. 1716+00 LT	139	532
STA. 1712+00 TO STA. 1716+00 RT	16	383
TOTALS =	385	1592

TEMPORARY EROSION CONTROL

LOCATION	TEMP EROSION SEEDING	PERIM EROSION BARRIER
	POUND	FOOT
STA. 1707+40 TO STA. 1710+85 LT	19	345
STA. 1707+40 TO STA. 1710+85 RT	23	345
STA. 1711+85 TO STA. 1716+00 LT	22	415
STA. 1711+85 TO STA. 1716+00 RT	18	415
TOTALS =	82	1520

STAGE CONSTRUCTION SCHEDULE

LOCATION	TEMPORARY CONCRETE BARRIER FOOT	RELOCATE TEMP. CONC BARRIER FOOT	IMPACT ATTENUATORS EACH	RELOCATE IMPACT ATTENUATORS EACH
STAGE I				
STA. 1707+63 TO STA. 1715+07	750.0		2	
STAGE II				
STA. 1707+96 TO STA. 1714+74		687.5		2
TOTALS =	750.0	687.5	2	2

AGGREGATE SCHEDULE

LOCATION	AGGREGATE SURFACE COURSE, TY B	AGGREGATE SHOULDERS TYPE B
	TON	TON
STA. 1707+32 LT	14	
STA. 1713+80 LT	67	
STA. 1713+80 RT	55	
STA. 1707+40 TO 1709+76 LT		25
STA. 1707+00 TO 1709+40 RT		25
STA. 1714+04 TO 1716+00 LT		22
STA. 1714+04 TO 1716+00 RT		22
TOTAL =	136	95

EROSION CONTROL BLANKET

LOCATION	EROSION CONTROL BLANKET
	SQ YD
STA. 1707+13 TO STA. 1707+63 RT	33
STA. 1707+63 TO STA. 1708+50 LT	44
STA. 1707+63 TO STA. 1708+50 RT	73
STA. 1708+50 TO STA. 1709+25 LT	46
STA. 1708+50 TO STA. 1709+25 RT	54
STA. 1709+25 TO STA. 1709+75 LT	33
STA. 1709+25 TO STA. 1709+75 RT	32
STA. 1709+75 TO STA. 1710+25 RT	143
STA. 1710+25 TO STA. 1710+63 LT	140
STA. 1710+25 TO STA. 1710+63 RT	145
STA. 1710+63 TO STA. 1711+02 RT	157
STA. 1711+88 TO STA. 1712+25 LT	148
STA. 1712+25 TO STA. 1712+75 LT	182
STA. 1712+25 TO STA. 1712+75 RT	24
STA. 1712+75 TO STA. 1713+40 LT	213
STA. 1712+75 TO STA. 1713+40 RT	29
TOTAL =	1496

ROW MARKERS

LOCATION	FUR ERECT ROW MARKERS
	EACH
STA. 1707+00 30' LT	1
STA. 1707+00 30' RT	1
STA. 1709+00 55' LT	1
STA. 1709+00 55' RT	1
STA. 1714+00 55' LT	1
STA. 1714+00 55' RT	1
STA. 1716+00 30' LT	1
STA. 1716+00 30' RT	1
TOTAL =	8

FILE NAME = ...\D366916-SHT-Schedules.dgn

USER NAME = SAW | PLOT SCALE = 50.00000 ' / IN. | PLOT DATE = 10/8/2010

DESIGNED - RAC | DRAWN - RAC | CHECKED - DAZ | DATE - 10/08/10

REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

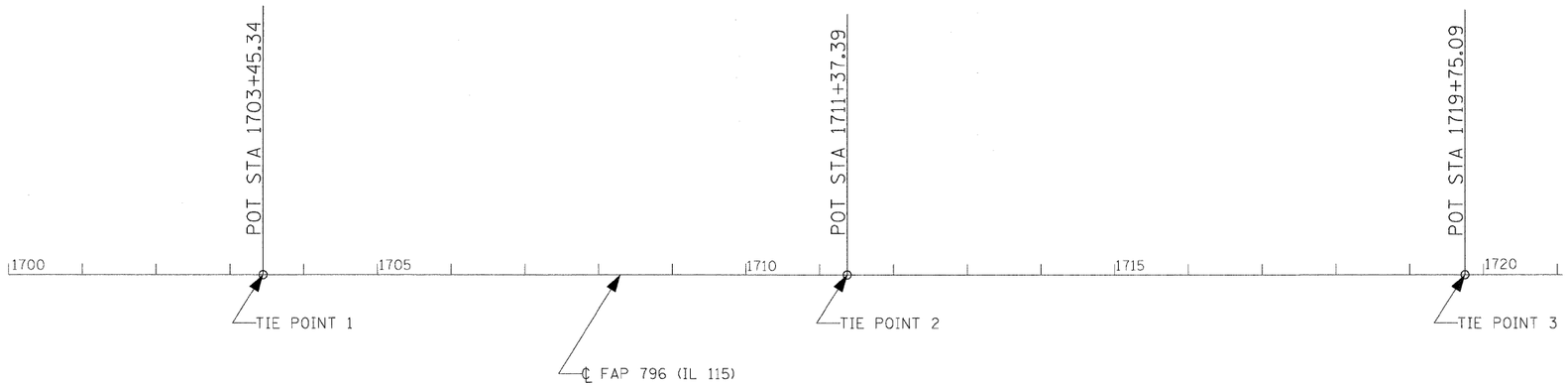
ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 5 OF 48 SHEETS

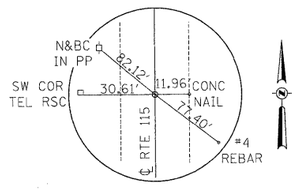
SCHEDULE OF QUANTITIES

STA. 1707+00 TO STA. 1716+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	5
		CONTRACT NO. 66916		
	ILLINOIS FED. AID PROJECT			

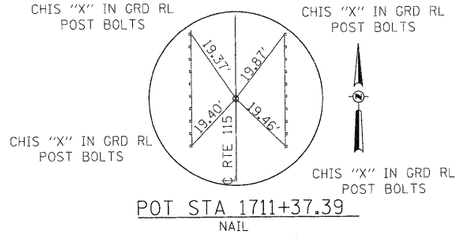


TIE POINTS



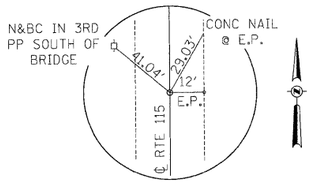
POT STA 1703+45.34
MAG NAIL

TIE POINT 1



POT STA 1711+37.39
NAIL

TIE POINT 2



POT STA 1719+75.09
MAG NAIL

TIE POINT 3

FILE NAME = ...\D366916-SHT-Align Survey Ties and Benchmarks.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - RAC	REVISED -
	PLOT SCALE = 50.00000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE - 10/08/10	REVISED -

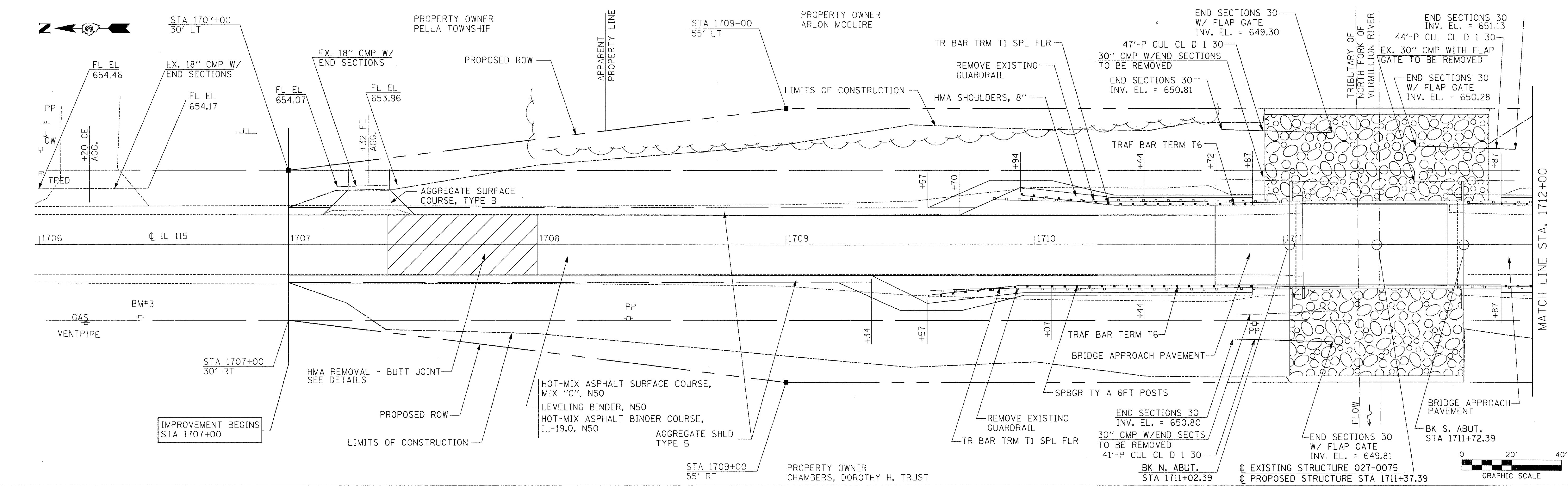
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

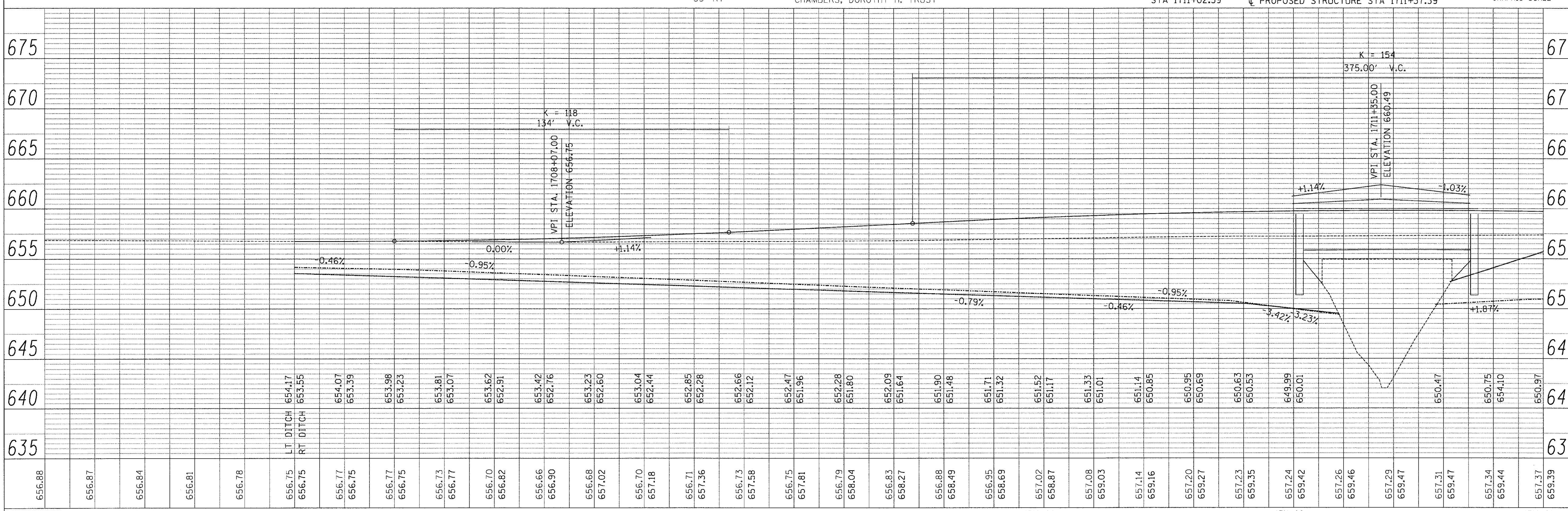
ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 6 OF 48 SHEETS | STA. 1707+00 TO STA. 1716+00

ALIGNMENT AND SURVEY TIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	6
		CONTRACT NO. 66916		
	ILLINOIS FED. AID PROJECT			





FILE NAME = ...\Civil\D366916-SHT-P&P.dgn	USER NAME = SAW	DESIGNED RAC	REVISED -
		DRAWN RAC	REVISED -
	PLOT SCALE = 20.0000 '/ IN.	CHECKED DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE 10-08-10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering — Zroka Engineering, P.C., 4216 North Hermitage, Chicago, IL 60613

PLAN AND PROFILE

SCALE: 1"=20' | SHEET NO. 7 OF 48 SHEETS | STA. 1707+00 TO STA. 1716+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	7

CONTRACT NO. 66916

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

PLAN	
NOTE BOOK NO.	SURVEYED / PLOTTED / ALIGNMENT CHECKED / RT. OF WAY CHECKED / CADD FILE NAME

PROFILE	
NOTE BOOK NO.	SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTATIONS CHKD

PROPERTY OWNER
CHEEK PROPERTIES LLC.

REMOVE EXISTING GUARDRAIL
TRAF BAR TERM T6
SPBGR TY A 6FT POSTS
EX FIELD ENTRANCE TO BE REMOVED
EX. 3.5'X2.5' CMP W/ END SECT. TO BE REMOVED
TR BAR TRM T1 SPL FLR
END SECTIONS 15 INV. EL. = 651.99
END SECTIONS 30 INV. EL. = 651.90
74'-P CUL CL D 1 30
STA 1713+60 65' LT PROP TE
PROPOSED FIELD ENTRANCE AGGREGATE SURFACE COURSE, TYPE B
STA 1714+00 65' LT PROP TE
STA 1714+00 55' LT
42'-P CUL CL D 1 15
END SECTIONS 15 INV. EL. = 652.26
LIMITS OF CONSTRUCTION
PROPOSED ROW
HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
LEVELING BINDER, N50
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50
HMA REMOVAL - BUTT JOINT SEE DETAILS
STA 1716+00 30' LT
EXISTING ROW
AGGREGATE SHLD TYPE B
PAVEMENT REMOVAL AND REPLACEMENT
MATCH LINE STA. 1712+00
1712 | 1713 | 1714 | ℄ IL 115 | 1715 | 1716 | 1717
PP
TRAF BAR TERM T6
HMA SHOULDERS, 8"
TR BAR TRM T1 SPL FLR
EX FIELD ENTRANCE TO BE REMOVED
REMOVE EXISTING GUARDRAIL
EX. CMP W/END SECT TO BE REMOVED
EX. 15" CMP W/END SECT TO BE FILLED
END SECTIONS 30 INV. EL. = 653.87
42'-P CUL CL D 1 15
END SECTIONS 15 INV. EL = 653.87
END SECTIONS 15 INV. EL. = 653.91
STA 1714+00 55' RT
PROPOSED FIELD ENTRANCE AGGREGATE SURFACE COURSE, TYPE B
PROPOSED ROW
LIMITS OF CONSTRUCTION
STA 1716+00 30' RT
IMPROVEMENT ENDS STA 1716+00
PROPERTY OWNER
JOHN F. BAILLIE

0 20' 40'
GRAPHIC SCALE

PLAN
SURVEYED / DRAWN / ALIGNMENT CHECKED / GRADES CHECKED / FINAL NOTE / ENGINEER NOTATNS CHKD / NOTE BOOK / NO. / CADD FILE NAME / REVISED / SHOWN / DATE / BY

PROFILE
SURVEYED / DRAWN / GRADES CHECKED / FINAL NOTE / ENGINEER NOTATNS CHKD / NOTE BOOK / NO. / DATE / BY

K = 93
200.00' V.C.
VPI STA. 1715+00.00
ELEVATION 656.73
-3.48%
+0.09%
+0.45%
+0.64%
-1.03%
+0.00%
LT DITCH
RT DITCH

1712+00	1713+00	1714+00	1715+00	1716+00	1717+00
655.71	651.10 / 654.93	651.23 / 654.16	651.36 / 653.78	651.49 / 653.80	651.61 / 653.82
651.74 / 653.84	651.87 / 653.85	652.00 / 653.87	652.12 / 653.89	652.25 / 653.91	652.38 / 653.93
652.51 / 653.95	652.63 / 653.97	652.76 / 653.99	652.89 / 654.01	653.02 / 654.02	653.15 / 654.04
653.27 / 654.06	653.40 / 654.08	653.53 / 654.10			
657.26 / 659.31	657.16 / 659.21	657.08 / 659.09	657.02 / 658.94	656.96 / 658.78	656.89 / 658.58
656.86 / 658.38	656.85 / 658.17	656.83 / 657.97	656.82 / 657.76	656.81 / 657.56	656.80 / 657.39
656.79 / 657.24	656.78 / 657.10	656.76 / 656.99	656.76 / 656.90	656.75 / 656.83	656.74 / 656.77
656.74 / 656.74	656.73 / 656.74	656.73	656.73	656.73	656.72
656.72	656.71	656.70	656.69	656.68	656.67

FILE NAME = ...\Civil\D366916-SHT-P&P.dgn	USER NAME = SAW	DESIGNED RAC	REVISED -
		DRAWN RAC	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE 10-08-10	REVISED -

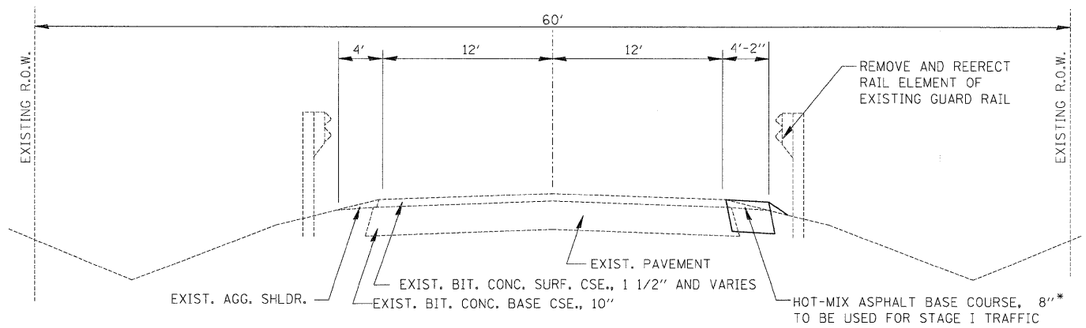
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

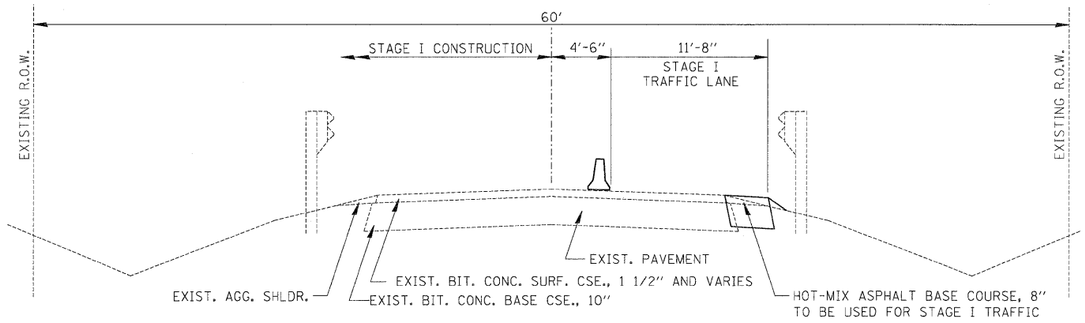
SCALE: 1"=20' | SHEET NO. 7 OF 48 SHEETS | STA. 1707+00 TO STA. 1716+00

PLAN AND PROFILE

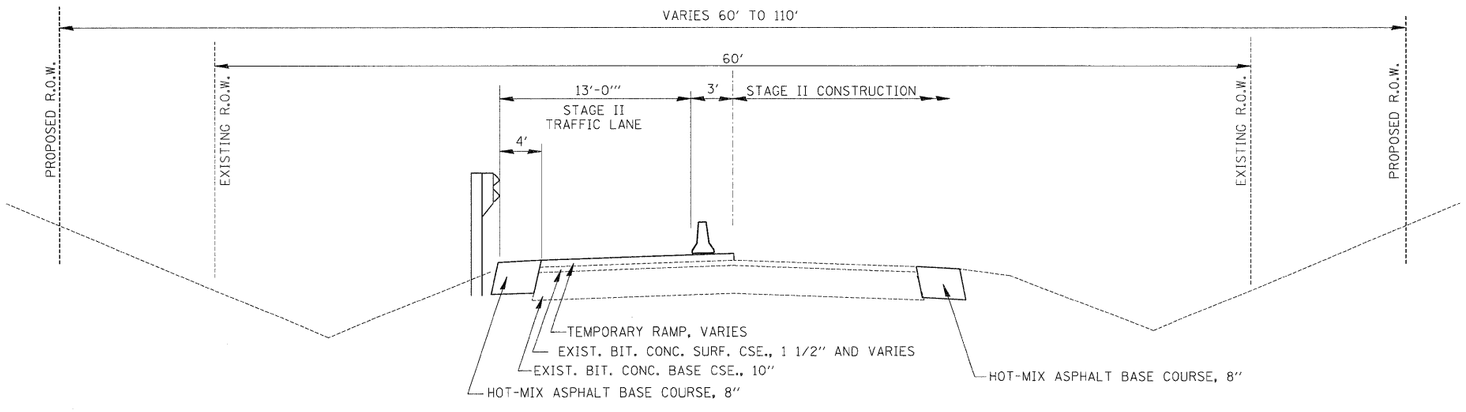
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	8
		CONTRACT NO. 66916		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



*REMOVAL OF EXISTING SHOULDER AND SUBGRADE TO BE INCLUDED IN COST OF HOT-MIX ASPHALT BASE COURSE, 8"



STAGE I SECTION



STAGE II SECTION

PRE-STAGE I CONSTRUCTION NOTES

1. INSTALL TRAFFIC CONTROL PER STANDARD 701326.
2. REMOVE RAIL ELEMENT OF WEST EXISTING GUARDRAIL .
3. CONSTRUCT HMA BASE COURSE, 8" TO BE USED FOR STAGE I TRAFFIC
4. REINSTALL RAIL ELEMENT OF GUARDRAIL.

STAGE I CONSTRUCTION NOTES

1. INSTALL TRAFFIC SIGNALS, TEMPORARY CONCRETE BARRIER, SIGNS AND ETC. ACCORDING TO DETAILS AND TRAFFIC CONTROL STANDARD 701321 MAINTAINING ALL TRAFFIC ON THE SOUTHBOUND LANE.
2. REMOVE STAGE I PORTION OF THE EXISTING BRIDGE STRUCTURE, NORTHBOUND GUARDRAIL AND PAVEMENT AS SHOWN ON THE PLANS.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, APPROACH PAVEMENT, AND EASTERN PORTION OF CROSS CULVERT, INCLUDING PAVEMENT REMOVAL AND REPLACEMENT.
4. CONSTRUCT TEMPORARY RAMP TO TRANSITION FROM PROPOSED PAVEMENT (BRIDE AND BRIDGE APPROACH) CONSTRUCTED IN STAGE I TO EXISTING PAVEMENT,
5. CONSTRUCT HMA BASE COURSE FOR PORTION OF SHOULDERS UNDER STAGE II TRAFFIC AS SHOWN ON NEXT SHEET.
6. CONSTRUCT NORTHBOUND PROPOSED GUARDRAIL.

STAGE II CONSTRUCTION NOTES

1. RELOCATE THE TRAFFIC CONTROL PER STANDARD 701321 AND AS DETAILED IN THESE PLANS. REDIRECT TRAFFIC TO THE NORTHBOUND LANE.
2. REMOVE THE STAGE II PORTION OF THE EXISTING BRIDGE STRUCTURE, GUARDRAIL AND PAVEMENT AS SHOWN ON THE PLANS.
3. CONSTRUCT THE STAGE II PORTION OF THE PROPOSED STRUCTURE, APPROACH PAVEMENT, REMAINING CULVERTS AND GUARDRAIL.
4. REMOVE TRAFFIC SIGNALS AND ETC. CALLED FOR IN STANDARD 701321.

POST STAGE II CONSTRUCTION

1. PERFORM GRADE CHANGE USING LEVELING BINDER, BINDER, AND SURFACE COURSES.*
2. PLACE PAVEMENT MARKINGS AND ALL REMAINING WORK USING STANDARD 701201.

* NOTE: A MAXIMUM 2" DROP-OFF IS ALLOWED BETWEEN OPEN LANES AT THE END OF EACH DAY.

FILE NAME = ...\D366916-SHT-Stage Const Traffic Control X5.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	DRAWN - RAC	REVISED -
	PLOT DATE = 10/6/2010	CHECKED - DAZ	REVISED -
		DATE - 10/08/10	REVISED -

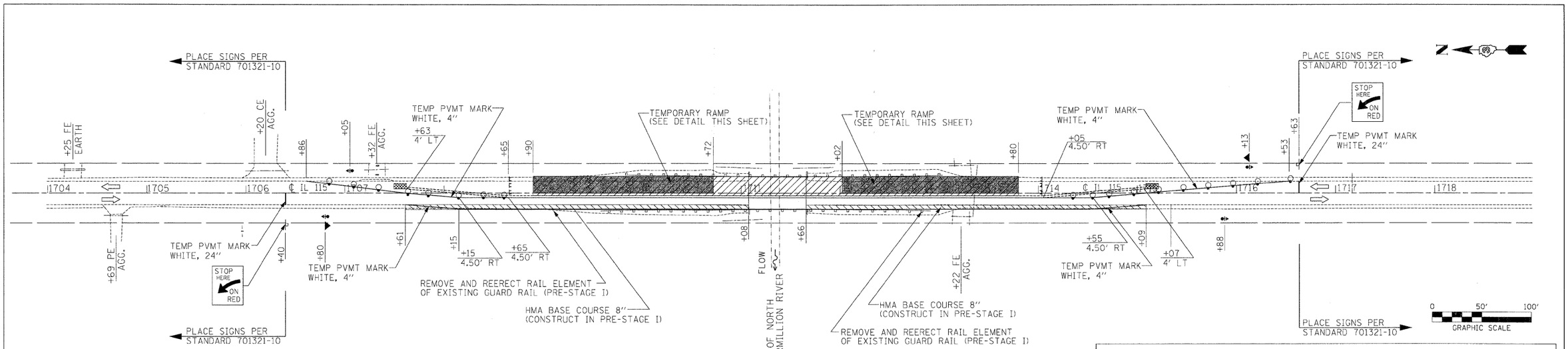
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

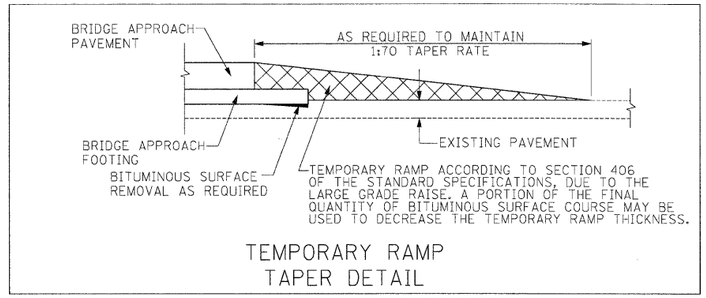
SCALE: 1" = 50' | SHEET NO. 9 OF 48 SHEETS | STA. 1707+00 TO STA. 1716+00

STAGE CONSTRUCTION TRAFFIC CONTROL

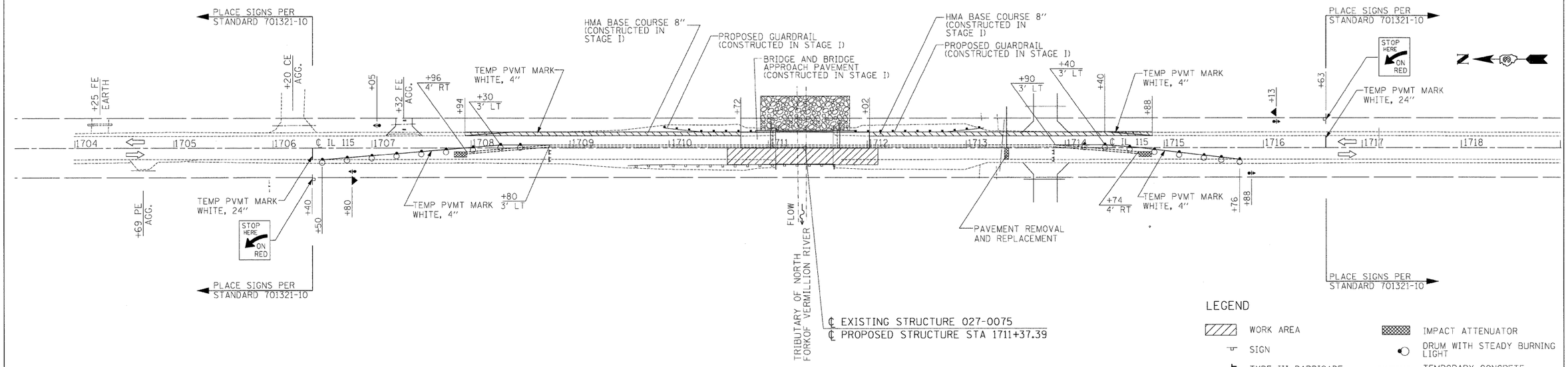
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	9
		CONTRACT NO. 66916		
		ILLINOIS	FED. AID PROJECT	



STAGE I CONSTRUCTION



TEMPORARY RAMP TAPER DETAIL



STAGE II CONSTRUCTION

LEGEND

- WORK AREA
- SIGN
- TYPE III BARRICADE
- TRAFFIC SIGNAL WITH BACKPLATE
- MICROWAVE DECTECTOR
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER
- DOUBLE VERTICAL PANEL

FILE NAME = ...\0366916-SHT-Stage Const Traffic Control.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - RAC	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/8/2010	DATE - 10/08/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 10 OF 48 SHEETS

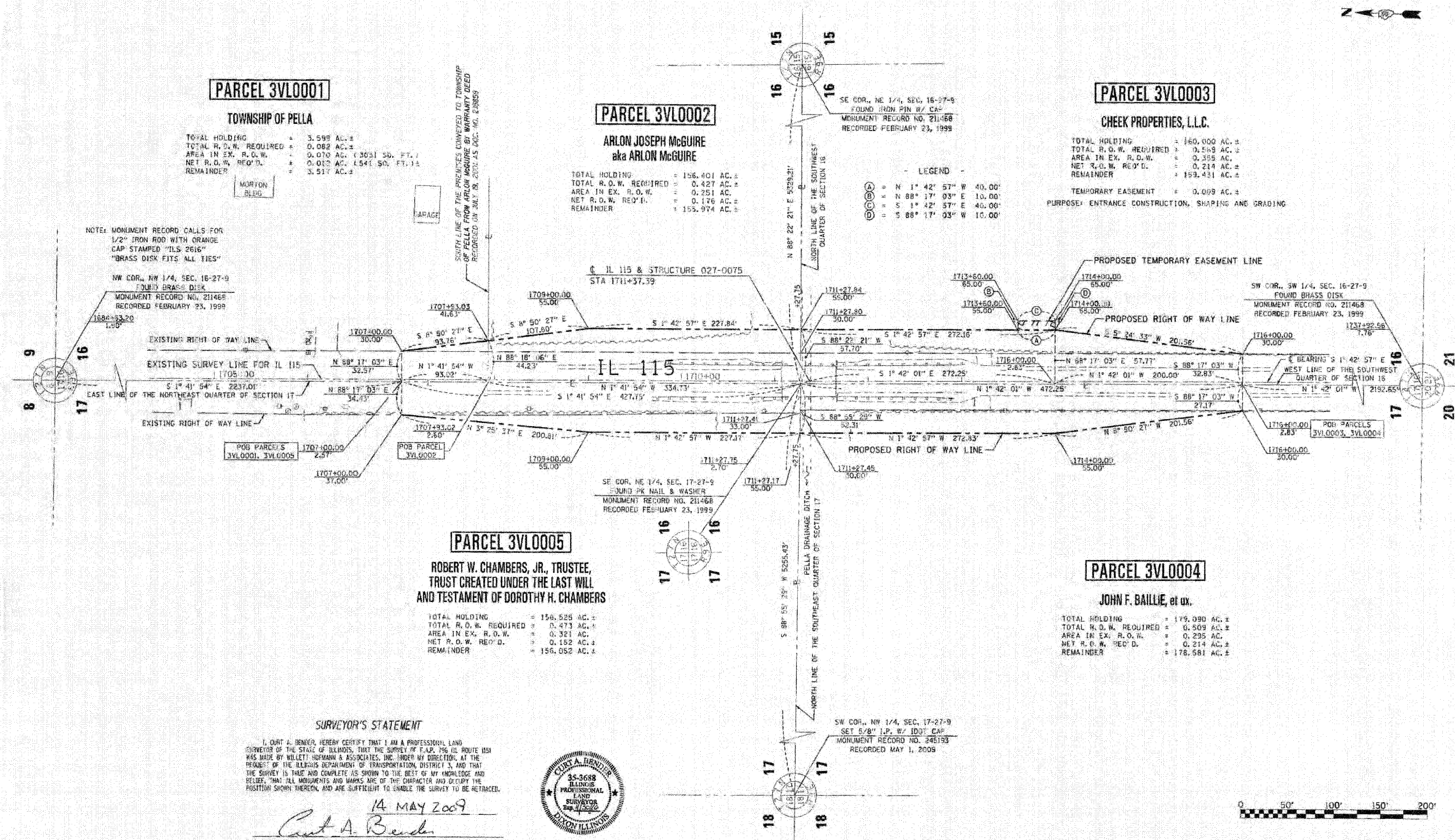
STAGE CONSTRUCTION TRAFFIC CONTROL

STA. 1707+00 TO STA. 1716+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	10
		CONTRACT NO. 66916		
		ILLINOIS	FED. AID PROJECT	

RECORDED AS DOCUMENT NO. ______

SEC. 16, T. 27 N., R. 9 E., 3RD P.M.



PARCEL 3VL0001
TOWNSHIP OF PELLA
TOTAL HOLDING = 3.599 AC.±
TOTAL R.O.W. REQUIRED = 0.082 AC.±
AREA IN EX. R.O.W. = 0.070 AC. (3031 SQ. FT.)
NET R.O.W. REQ'D. = 0.012 AC. (541 SQ. FT.)±
REMAINDER = 3.517 AC.±
MORTON BLDG
GARAGE
SOUTH LINE OF THE PREMISES CONVEYED TO TOWNSHIP OF PELLA FROM ARLON McGUIRE BY WARRANTY DEED RECORDED ON JULY 19, 2001 AS DOC. NO. 236859
NOTE: MONUMENT RECORD CALLS FOR 1/2" IRON ROD WITH ORANGE CAP STAMPED "ILS 2616" "BRASS DISK FITS ALL TIES"
NW COR., NW 1/4, SEC. 16-27-9
FOUND BRASS DISK
MONUMENT RECORD NO. 211468
RECORDED FEBRUARY 23, 1999
PARCEL 3VL0002
ARLON JOSEPH McGUIRE
aka ARLON McGUIRE
TOTAL HOLDING = 156.401 AC.±
TOTAL R.O.W. REQUIRED = 0.427 AC.±
AREA IN EX. R.O.W. = 0.251 AC.
NET R.O.W. REQ'D. = 0.176 AC.±
REMAINDER = 155.974 AC.±
SE COR., NE 1/4, SEC. 16-27-9
FOUND IRON PIN W/ CAP
MONUMENT RECORD NO. 211468
RECORDED FEBRUARY 23, 1999
- LEGEND -
Ⓐ = N 1° 42' 57" W 40.00'
Ⓑ = N 88° 17' 03" E 10.00'
Ⓒ = S 1° 42' 57" E 40.00'
Ⓓ = S 88° 17' 03" W 10.00'
N 88° 22' 21" E 5329.21'
NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 16
PARCEL 3VL0003
CHEEK PROPERTIES, L.L.C.
TOTAL HOLDING = 160.000 AC.±
TOTAL R.O.W. REQUIRED = 0.569 AC.±
AREA IN EX. R.O.W. = 0.355 AC.
NET R.O.W. REQ'D. = 0.214 AC.±
REMAINDER = 159.431 AC.±
TEMPORARY EASEMENT = 0.009 AC.±
PURPOSE: ENTRANCE CONSTRUCTION, SHAPING AND GRADING
PROPOSED TEMPORARY EASEMENT LINE
℄ IL 115 & STRUCTURE 027-0075
STA 1711+37.39
PROPOSED RIGHT OF WAY LINE
EXISTING RIGHT OF WAY LINE
EXISTING SURVEY LINE FOR IL 115
EAST LINE OF THE NORTHEAST QUARTER OF SECTION 17
IL 115
SW COR., SW 1/4, SEC. 16-27-9
FOUND BRASS DISK
MONUMENT RECORD NO. 211468
RECORDED FEBRUARY 23, 1999
℄ BEARING S 1° 42' 57" E
WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 16
POB PARCELS 3VL0001, 3VL0005
POB PARCEL 3VL0002
POB PARCELS 3VL0003, 3VL0004
SE COR., NE 1/4, SEC. 17-27-9
FOUND PK NAIL & WASHER
MONUMENT RECORD NO. 211468
RECORDED FEBRUARY 23, 1999
PELLA DRAINAGE DITCH
S 88° 55' 29" W 5255.43'
NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 17
PARCEL 3VL0005
ROBERT W. CHAMBERS, JR., TRUSTEE, TRUST CREATED UNDER THE LAST WILL AND TESTAMENT OF DOROTHY H. CHAMBERS
TOTAL HOLDING = 156.525 AC.±
TOTAL R.O.W. REQUIRED = 0.473 AC.±
AREA IN EX. R.O.W. = 0.321 AC.
NET R.O.W. REQ'D. = 0.152 AC.±
REMAINDER = 156.052 AC.±
PARCEL 3VL0004
JOHN F. BAILLIE, et ux.
TOTAL HOLDING = 179.090 AC.±
TOTAL R.O.W. REQUIRED = 0.509 AC.±
AREA IN EX. R.O.W. = 0.295 AC.
NET R.O.W. REQ'D. = 0.214 AC.±
REMAINDER = 178.581 AC.±
SW COR., NW 1/4, SEC. 17-27-9
SET 5/8" I.P. W/ IDOT CAP
MONUMENT RECORD NO. 245193
RECORDED MAY 1, 2009
0 50' 100' 150' 200'

SURVEYOR'S STATEMENT

I, CURT A. BENDER, HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR OF THE STATE OF ILLINOIS, THAT THE SURVEY OF F.A.P. 796 (IL ROUTE 115) WAS MADE BY WILLETT HOFMANN & ASSOCIATES, INC. UNDER MY DIRECTION, AT THE REQUEST OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DISTRICT 3, AND THAT THE SURVEY IS TRUE AND COMPLETE AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT ALL MONUMENTS AND MARKS ARE OF THE CHARACTER AND OCCUPY THE POSITION SHOWN THEREON, AND ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED.

14 MAY 2009

Curt A. Bender

CURT A. BENDER, ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3688 (EXPIRES NOVEMBER 2010)
WILLETT, HOFMANN & ASSOCIATES, INC. - DESIGN FIRM NO. 184-000918

CURT A. BENDER 35-3688 ILLINOIS PROFESSIONAL LAND SURVEYOR DIXON ILLINOIS

NOTE: FOR THE PURPOSES OF THIS PLAT, BEARINGS ARE BASED UPON AN ASSUMED NORTH.

SEC. 17, T. 27 N., R. 9 E., 3RD P.M.

WILLETT, HOFMANN & ASSOCIATES, INC. CONSULTING ENGINEERS

USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RIGHT OF WAY PLANS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -		PROJECT / JOB NO. R-93-006-09	796	(106)BR-3	FORD	1	1
PLOT SCALE =	CHECKED -	REVISED -		SCALE: 1" = 50' / SHEET NO. 1 OF 1 SHEETS / STA. 1707+00 TO STA. 1716+00	CONTRACT NO. 66916				
PLOT DATE =	DATE -	REVISED -			FED. ROAD DIST. NO. / ILLINOIS / FED. AID PROJECT				

ILLINOIS 115

FILE NAME = ...\D366916-SHT-Right of Way.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering — Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	RIGHT OF WAY PLANS	F.A.P. RTE. 796	SECTION (106) BR-3	COUNTY FORD	TOTAL SHEETS 48	SHEET NO. 11
		DRAWN - RAC	REVISED -				CONTRACT NO. 66916				
	PLOT SCALE = 1.00000 ' / IN.	CHECKED - DAZ	REVISED -		SCALE: N/A	SHEET NO. 11 OF 48 SHEETS	STA. 1707+00 TO STA. 1716+00				
	PLOT DATE = 10/6/2010	DATE - 10/08/10	REVISED -				ILLINOIS FED. AID PROJECT				

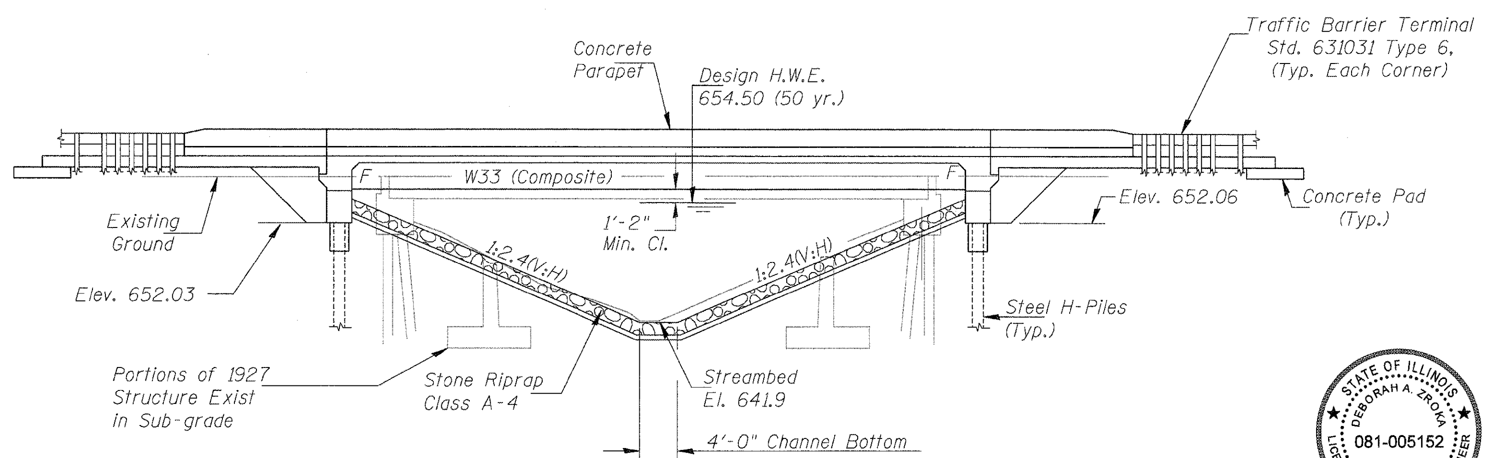
BM#3 - RR Spike in Power Pole W. Side of Road
Sta. 1706+38, 40' Rt.
Elev. 656.92

Existing Structure:

S.N. 027-0075 was built in 1981 as F.A. Route 796, Section 106 BR-3. The existing structure is a single span PPC Deck Beam bridge supported on pile bent abutments, 59'-6" back to back abutments and 33'-0" out-to-out deck. In 2008, several PPC Deck Beams were replaced in kind. Existing bridge to be completely removed and replaced. One lane traffic shall be maintained at all times utilizing Stage Construction and Temporary Traffic Barrier.

No Salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

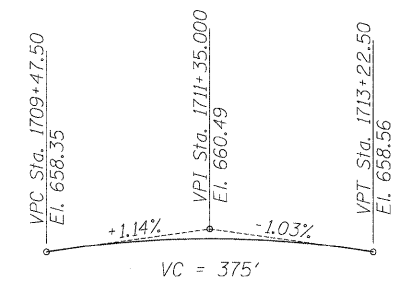


ELEVATION

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS DEBORAH A. ZROKA 081-005152 LICENSED STRUCTURAL ENGINEER

Oct. 4, 2010
Signature Date
November 30, 2010
Expires



PROFILE GRADE
(Along ℄ IL 115)

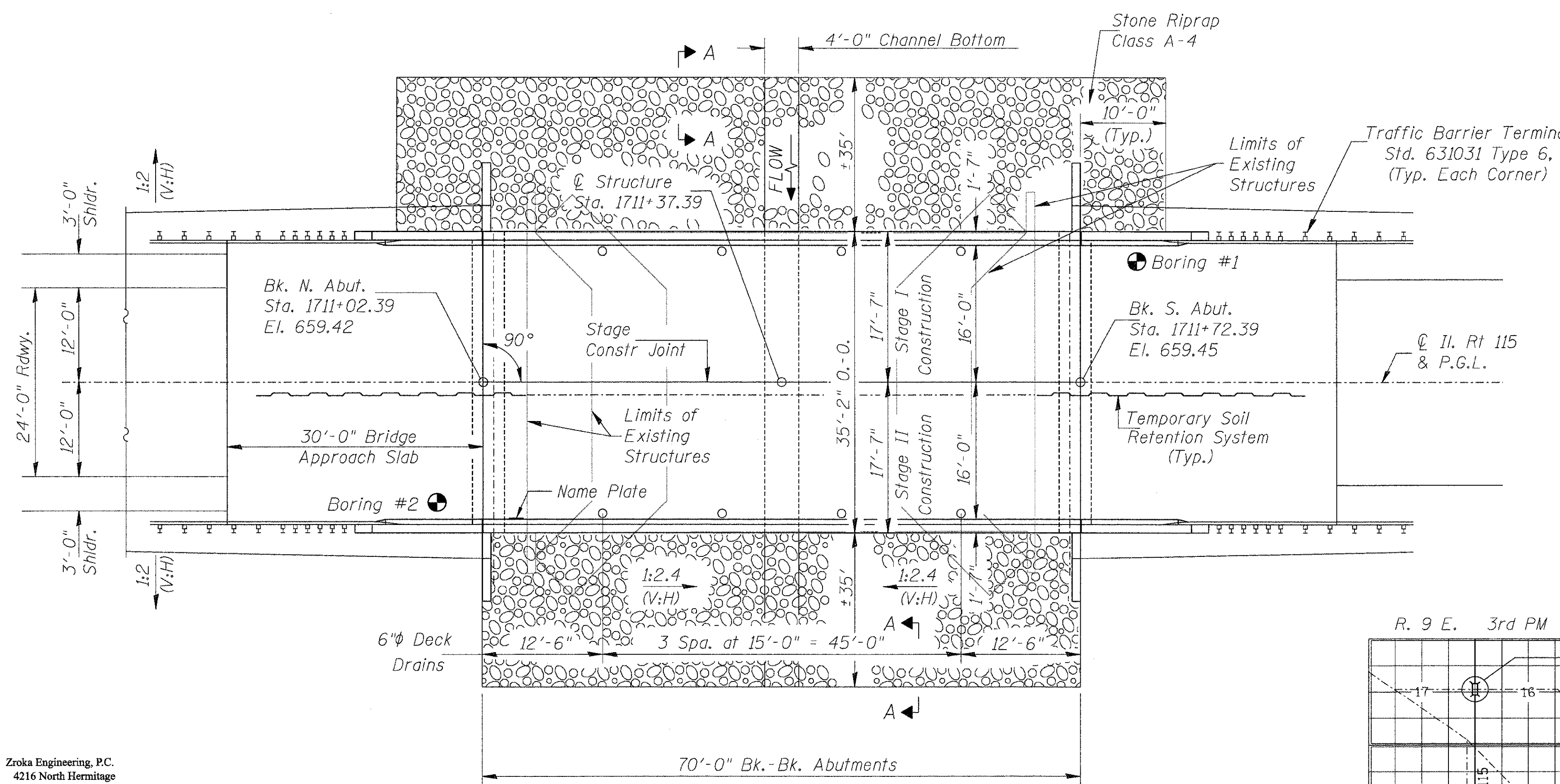
DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications with 2008 & 2009 Interims

DESIGN STRESSES
FIELD UNITS

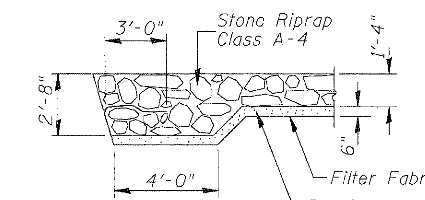
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
Fy = 50,000 psi (M270 Grade 50W)

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

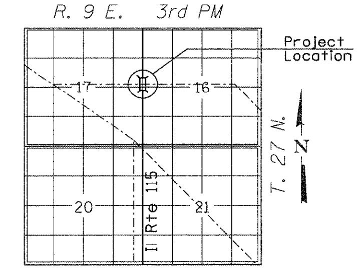
SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.078g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.134g
Soil Site Class = C



PLAN



SECTION A-A



LOCATION SKETCH

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

GENERAL PLAN & ELEVATION
IL ROUTE 115 OVER
TRIB. N. FORK OF VERMILION RIVER
F.A.P. ROUTE 796 SECTION (106)BR-3
FORD COUNTY
STATION 1711+37.39
STRUCTURE NO. 027-0099

SHEET NO. 1 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	12
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

10/8/2010 8:10:33 AM C:\Drawings\5700\101\IL115\66916-001-GPE.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

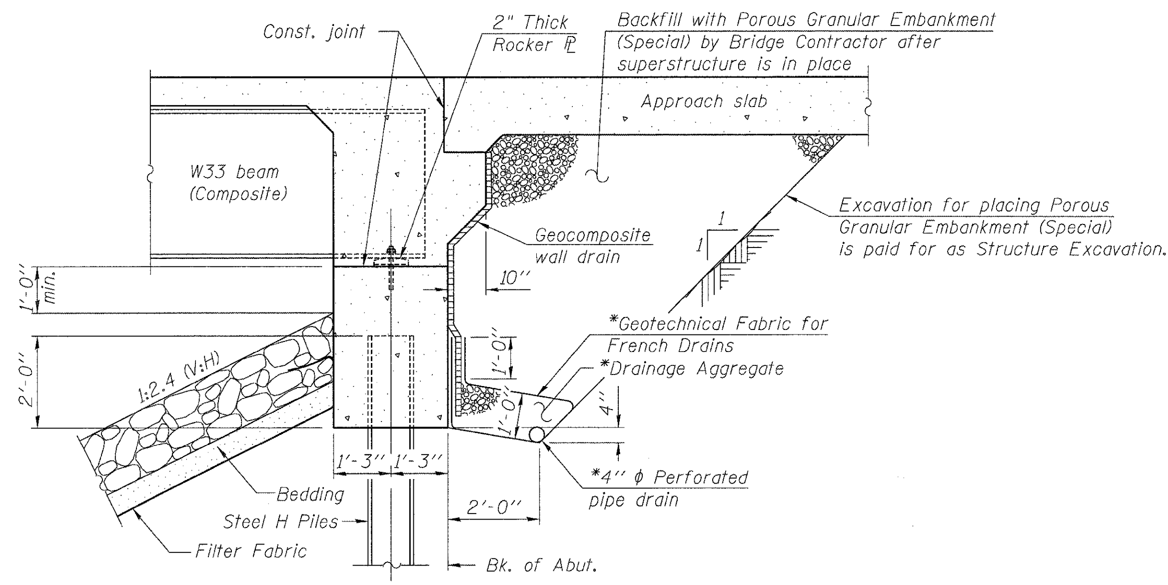
INDEX OF SHEETS

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type I, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts ¾ in. dia., holes 13/16 in. dia., unless otherwise noted.
2. Calculated weight of structural steel = 59,430 pounds.
3. All structural steel shall be AASHTO M 270 Grade 50W. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60. See Special Provisions.
6. Reinforcement bars designated (E) shall be epoxy coated.
7. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
8. Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 in. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
9. Slipforming of the parapets is not allowed.
10. The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
11. If the Contractor's procedures for existing deck beam removal or construction of the new superstructure involves placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the deck beams for the proposed loads. Cost included with Removal of Existing Structures.

TOTAL BILL OF MATERIAL

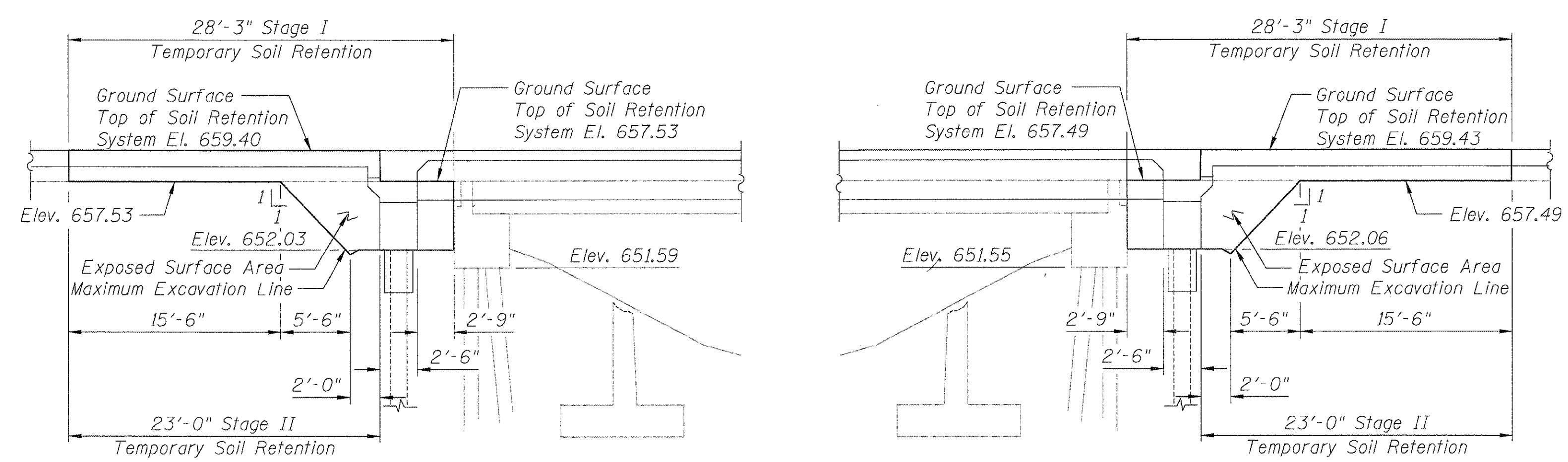
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		119	119
Stone Riprap Class A4	Sq. Yd.		910	910
Filter Fabric	Sq. Yd.		910	910
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		141	141
Floor Drains	Each	8		8
Concrete Structures	Cu. Yd.		53.3	53.3
Concrete Superstructure	Cu. Yd.	214.1		214.1
Bridge Deck Grooving	Sq. Yd.	436		436
Concrete Encasement	Cu. Yd.		4.0	4.0
Protective Coat	Sq. Yd.	541		541
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	990		990
Reinforcement Bars, Epoxy Coated	Pound	45,050	12,630	57,680
Bar Splicers	Each	453	126	579
Furnishing Steel Piles HP 12x53	Foot		236	236
Driving Piles	Foot		236	236
Test Pile Steel HP 12x53	Each		1	1
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	24		24
Geocomposite Wall Drain	Sq. Yd.		46	46
Pipe Underdrains for Structures 4"	Foot		118	118
Temporary Soil Retention System	Sq. Ft.		197	197
Asbestos Bearing Pad Removal	Each	16		16



SECTION THRU INTEGRAL ABUTMENT

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.)

*Included in the cost of Pipe Underdrains for Structures.



TEMPORARY SOIL RETENTION SYSTEM

A cantilevered sheet piling system does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceotance by the Engineer.

WATERWAY INFORMATION

Drainage Area = 11.25 Sq. Mi.	Exist. Low Grade Elev. = 656.63 @ Sta. 1719+00.00 Prop. Low Grade Elev. = 656.63 @ Sta. 1719+00.00									
Flood	Freq.	Q	Opening Sq. Ft.		Nat.	Head - Ft.		Headwater El.		
	Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.	
	10	583	243	243	652.4	0.00	0.00	652.4	652.4	
Design	50	893	330	330	654.5	0.00	0.00	654.5	654.5	
Base	100	1,025	349	364	655.2	0.1	0.00	655.3	655.2	
Overtopping	N/A									
Max. calc.	500	1,339	349	394	656.6	0.2	0.1	656.8	656.7	

DESIGN SCOUR ELEVATION TABLE

Location	N. Abut	S. Abut
Design Scour Elevation	652.0	652.1

STATION 1711+37.39
BUILT BY
STATE OF ILLINOIS
F.A.P. RTE. 796 SEC. (106)BR-3
LOADING HL-93
STRUCTURE NO. 027-0099

NAME PLATE

See Std. 515001

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

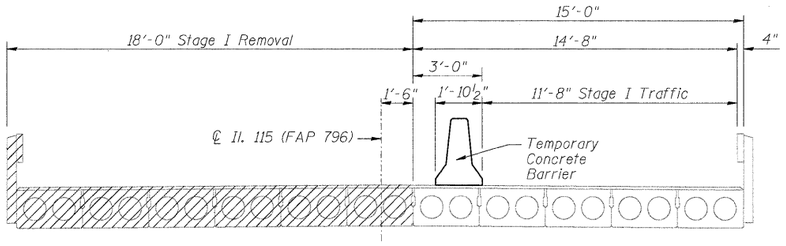
DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

GENERAL DATA
STRUCTURE NO. 027-0099

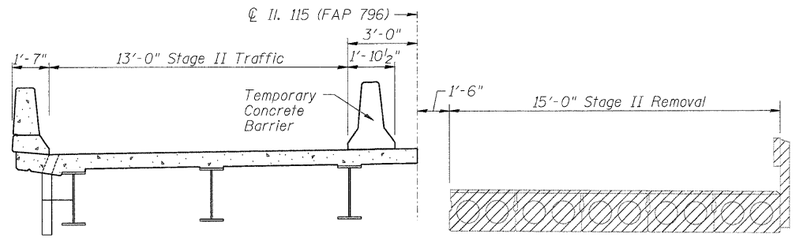
SHEET NO. 2 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	13
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

10/8/2010 10:51:18 AM C:\Drawings\5700-1011L1(15)\66916-002-GenData.dgn

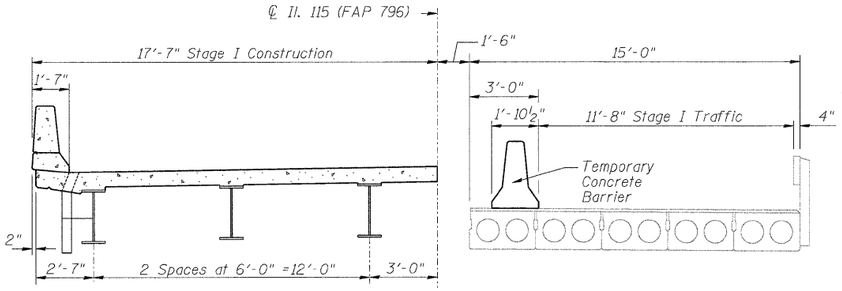
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



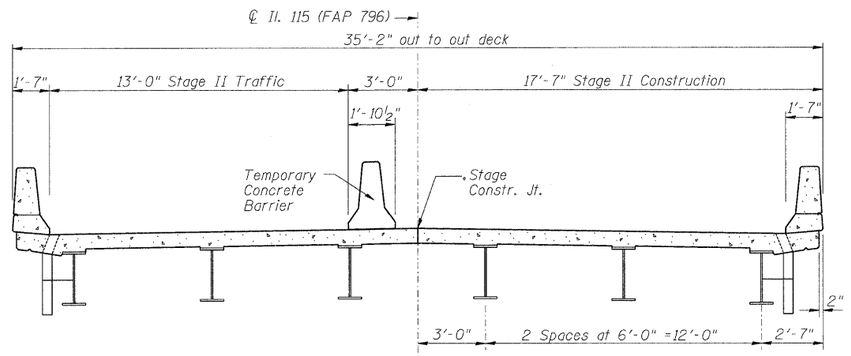
STAGE I REMOVAL
(Looking South)



STAGE II REMOVAL
(Looking South)



STAGE I CONSTRUCTION
(Looking South)



STAGE II CONSTRUCTION
(Looking South)

Notes:

Hatched areas indicate removal of existing structures.

For quantity of temporary concrete barrier, see Roadway Plans.

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

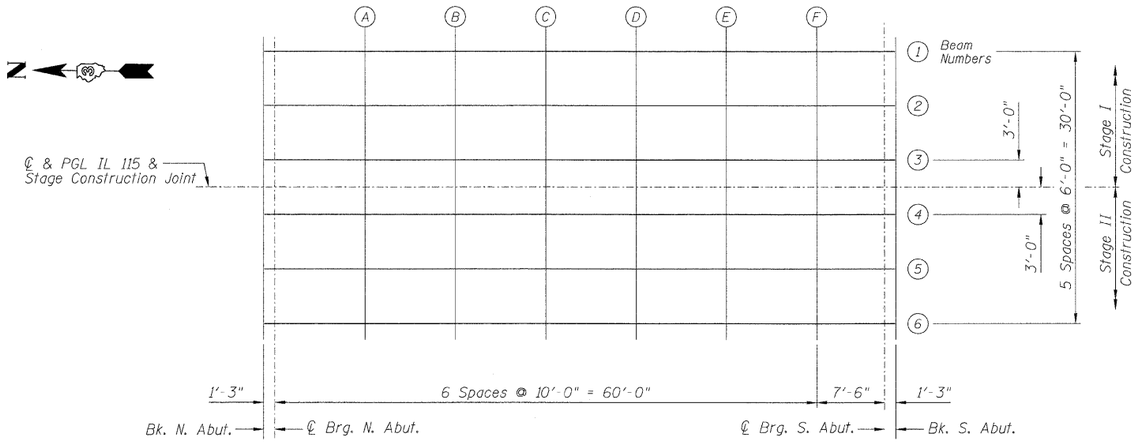
DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

10-6-2010 8:07:04 PM C:\Drawings\5700-10\IL115\66916-003-StageConst.dgn

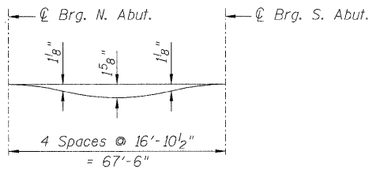
STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 027-0099

SHEET NO. 3 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	14
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



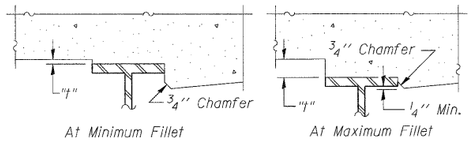
PLAN FOR TOP OF SLAB ELEVATIONS



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 "Theoretical Grade Elevations Adjusted for Dead Load Deflection".



At Minimum Fillet — At Maximum Fillet

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on this sheet. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 5, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

10/6/2010 8:07:16 PM C:\Drawings\5700-10\ILIS\N66916-004-TSEI.dgn

TOP OF SLAB ELEVATIONS 1
STRUCTURE NO. 027-0099

SHEET NO. 4 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	15
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1711+02.39	-15.00	659.17	659.17
℄ Brg. N. Abut.	1711+03.64	-15.00	659.17	659.17
A	1711+13.64	-15.00	659.20	659.25
B	1711+23.64	-15.00	659.21	659.32
C	1711+33.64	-15.00	659.22	659.35
D	1711+43.64	-15.00	659.22	659.35
E	1711+53.64	-15.00	659.22	659.32
F	1711+63.64	-15.00	659.21	659.26
℄ Brg. S. Abut.	1711+71.14	-15.00	659.20	659.20
Bk. S. Abut.	1711+72.39	-15.00	659.20	659.20

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1711+02.39	-9.00	659.28	659.28
℄ Brg. N. Abut.	1711+03.64	-9.00	659.28	659.28
A	1711+13.64	-9.00	659.30	659.36
B	1711+23.64	-9.00	659.32	659.43
C	1711+33.64	-9.00	659.33	659.46
D	1711+43.64	-9.00	659.33	659.46
E	1711+53.64	-9.00	659.33	659.43
F	1711+63.64	-9.00	659.32	659.37
℄ Brg. S. Abut.	1711+71.14	-9.00	659.31	659.31
Bk. S. Abut.	1711+72.39	-9.00	659.31	659.31

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1711+02.39	-3.00	659.37	659.37
℄ Brg. N. Abut.	1711+03.64	-3.00	659.38	659.38
A	1711+13.64	-3.00	659.40	659.46
B	1711+23.64	-3.00	659.41	659.52
C	1711+33.64	-3.00	659.42	659.55
D	1711+43.64	-3.00	659.43	659.55
E	1711+53.64	-3.00	659.42	659.52
F	1711+63.64	-3.00	659.42	659.46
℄ Brg. S. Abut.	1711+71.14	-3.00	659.41	659.41
Bk. S. Abut.	1711+72.39	-3.00	659.40	659.40

℄ & PGL IL 115 & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1711+02.39	0.00	659.42	659.42
℄ Brg. N. Abut.	1711+03.64	0.00	659.42	659.42
A	1711+13.64	0.00	659.45	659.50
B	1711+23.64	0.00	659.46	659.57
C	1711+33.64	0.00	659.47	659.60
D	1711+43.64	0.00	659.47	659.60
E	1711+53.64	0.00	659.47	659.57
F	1711+63.64	0.00	659.46	659.51
℄ Brg. S. Abut.	1711+71.14	0.00	659.45	659.45
Bk. S. Abut.	1711+72.39	0.00	659.45	659.45

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1711+02.39	3.00	659.37	659.37
℄ Brg. N. Abut.	1711+03.64	3.00	659.38	659.38
A	1711+13.64	3.00	659.40	659.46
B	1711+23.64	3.00	659.41	659.52
C	1711+33.64	3.00	659.42	659.55
D	1711+43.64	3.00	659.43	659.55
E	1711+53.64	3.00	659.42	659.52
F	1711+63.64	3.00	659.42	659.46
℄ Brg. S. Abut.	1711+71.14	3.00	659.41	659.41
Bk. S. Abut.	1711+72.39	3.00	659.40	659.40

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1711+02.39	9.00	659.28	659.28
℄ Brg. N. Abut.	1711+03.64	9.00	659.28	659.28
A	1711+13.64	9.00	659.30	659.36
B	1711+23.64	9.00	659.32	659.43
C	1711+33.64	9.00	659.33	659.46
D	1711+43.64	9.00	659.33	659.46
E	1711+53.64	9.00	659.33	659.43
F	1711+63.64	9.00	659.32	659.37
℄ Brg. S. Abut.	1711+71.14	9.00	659.31	659.31
Bk. S. Abut.	1711+72.39	9.00	659.31	659.31

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1711+02.39	15.00	659.17	659.17
℄ Brg. N. Abut.	1711+03.64	15.00	659.17	659.17
A	1711+13.64	15.00	659.20	659.25
B	1711+23.64	15.00	659.21	659.32
C	1711+33.64	15.00	659.22	659.35
D	1711+43.64	15.00	659.22	659.35
E	1711+53.64	15.00	659.22	659.32
F	1711+63.64	15.00	659.21	659.26
℄ Brg. S. Abut.	1711+71.14	15.00	659.20	659.20
Bk. S. Abut.	1711+72.39	15.00	659.20	659.20

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

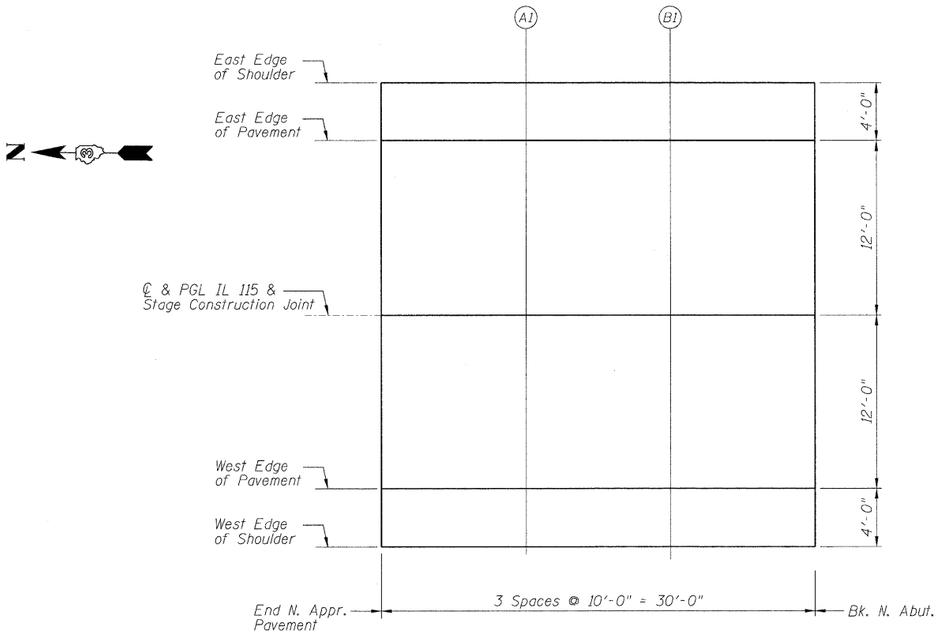
DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

10/6/2010 8:07:30 PM C:\Drawings\5700-IOIU15\66916-005-TSE2.dgn

TOP OF SLAB ELEVATIONS 2
STRUCTURE NO. 027-0099

SHEET NO. 5 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	16
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN FOR TOP OF SLAB ELEVATIONS

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
End N. Appr. Pvmt.	1710+72.39	-16.00	659.05
A1	1710+82.39	-16.00	659.09
B1	1710+92.39	-16.00	659.12
Bk. N. Abut.	1711+02.39	-16.00	659.15

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End N. Appr. Pvmt.	1710+72.39	-12.00	659.13
A1	1710+82.39	-12.00	659.17
B1	1710+92.39	-12.00	659.21
Bk. N. Abut.	1711+02.39	-12.00	659.23

℄ & PGL IL 115 & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
End N. Appr. Pvmt.	1710+72.39	0.00	659.32
A1	1710+82.39	0.00	659.36
B1	1710+92.39	0.00	659.39
Bk. N. Abut.	1711+02.39	0.00	659.42

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End N. Appr. Pvmt.	1710+72.39	12.00	659.13
A1	1710+82.39	12.00	659.17
B1	1710+92.39	12.00	659.21
Bk. N. Abut.	1711+02.39	12.00	659.23

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
End N. Appr. Pvmt.	1710+72.39	16.00	659.05
A1	1710+82.39	16.00	659.09
B1	1710+92.39	16.00	659.12
Bk. N. Abut.	1711+02.39	16.00	659.15

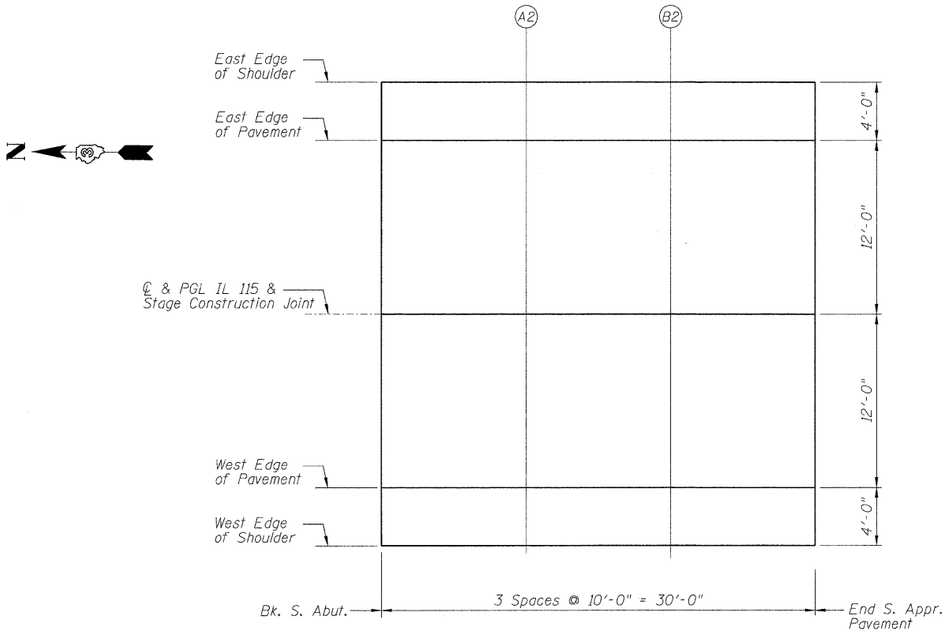
ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

NORTH APPROACH
TOP OF SLAB ELEVATIONS
STRUCTURE NO. 027-0099

SHEET NO. 6 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	17
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN FOR TOP OF SLAB ELEVATIONS

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abut.	1711+72.39	-16.00	659.18
A2	1711+82.39	-16.00	659.16
B2	1711+92.39	-16.00	659.14
End S. Appr. Pvmt.	1712+02.39	-16.00	659.11

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abut.	1711+72.39	-12.00	659.26
A2	1711+82.39	-12.00	659.24
B2	1711+92.39	-12.00	659.22
End S. Appr. Pvmt.	1712+02.39	-12.00	659.19

℄ & PGL IL 115 & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abut.	1711+72.39	0.00	659.45
A2	1711+82.39	0.00	659.43
B2	1711+92.39	0.00	659.41
End S. Appr. Pvmt.	1712+02.39	0.00	659.38

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abut.	1711+72.39	12.00	659.26
A2	1711+82.39	12.00	659.24
B2	1711+92.39	12.00	659.22
End S. Appr. Pvmt.	1712+02.39	12.00	659.19

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
Bk. S. Abut.	1711+72.39	16.00	659.18
A2	1711+82.39	16.00	659.16
B2	1711+92.39	16.00	659.14
End S. Appr. Pvmt.	1712+02.39	16.00	659.11

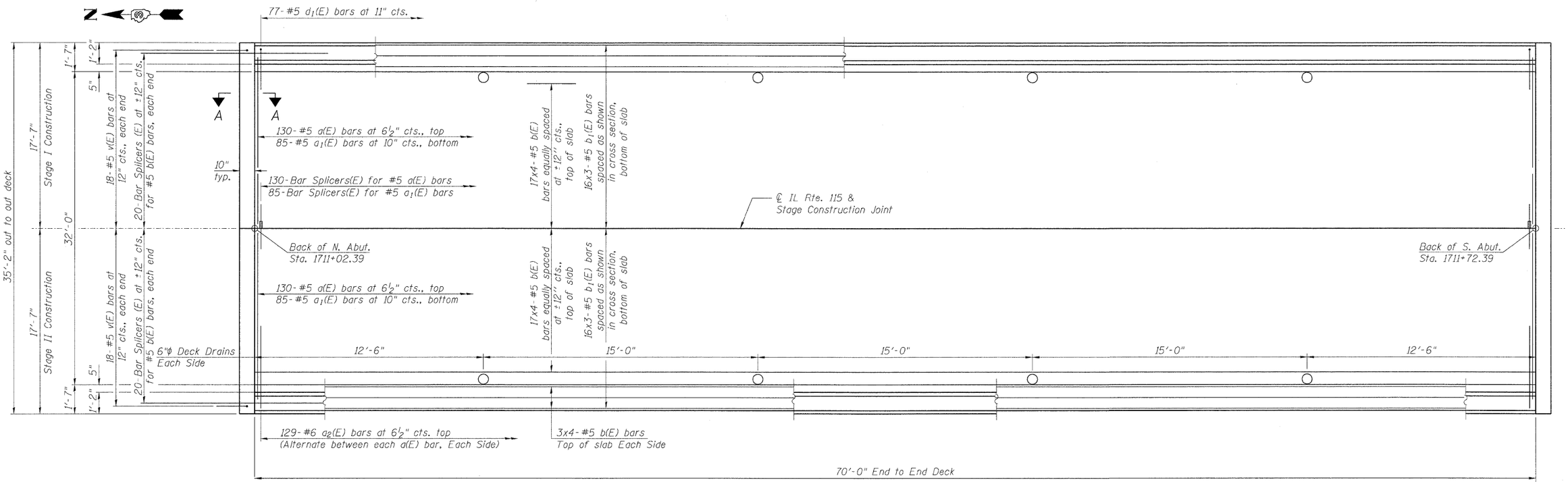
ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

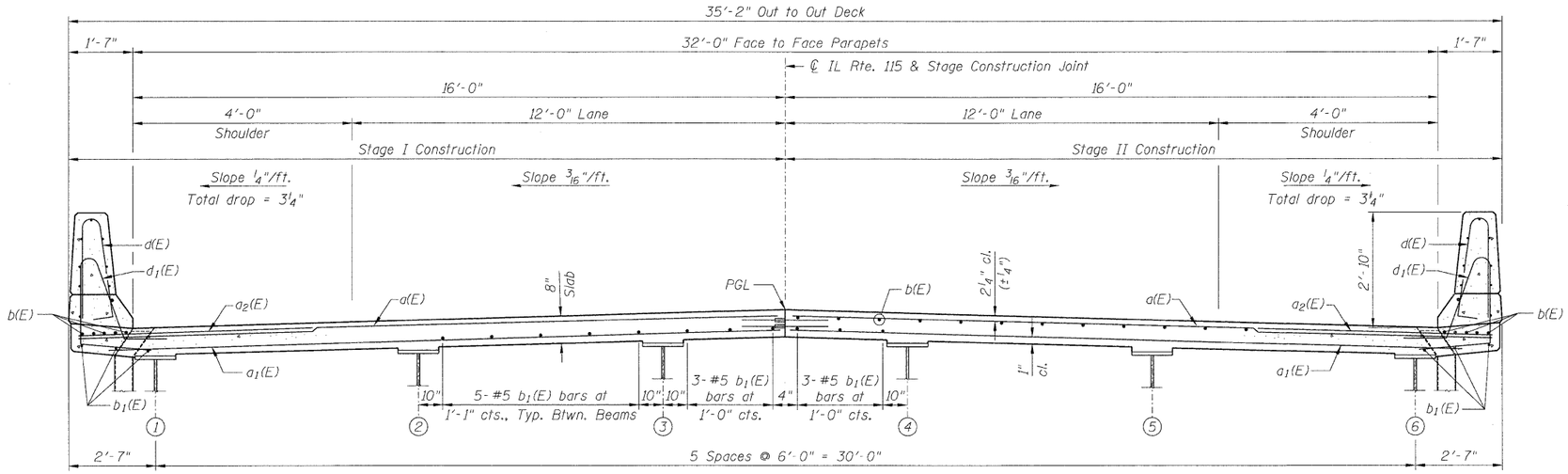
SOUTH APPROACH
TOP OF SLAB ELEVATIONS
STRUCTURE NO. 027-0099

SHEET NO. 7 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	18
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



CROSS SECTION
(Looking South)

Notes:
See Sheet 9 of 21 for superstructure details and Bill of Material.
Bars indicated thus 33x4-#5 etc. indicates 33 lines of bars with 4 lengths per line.
See Sheet 9 of 21 for parapet reinforcement.
See Sheet 10 of 21 for Section A-A.

MIN. BAR LAP
#5 Bar = 3'-3"

SUPERSTRUCTURE PLAN
STRUCTURE NO. 027-0099

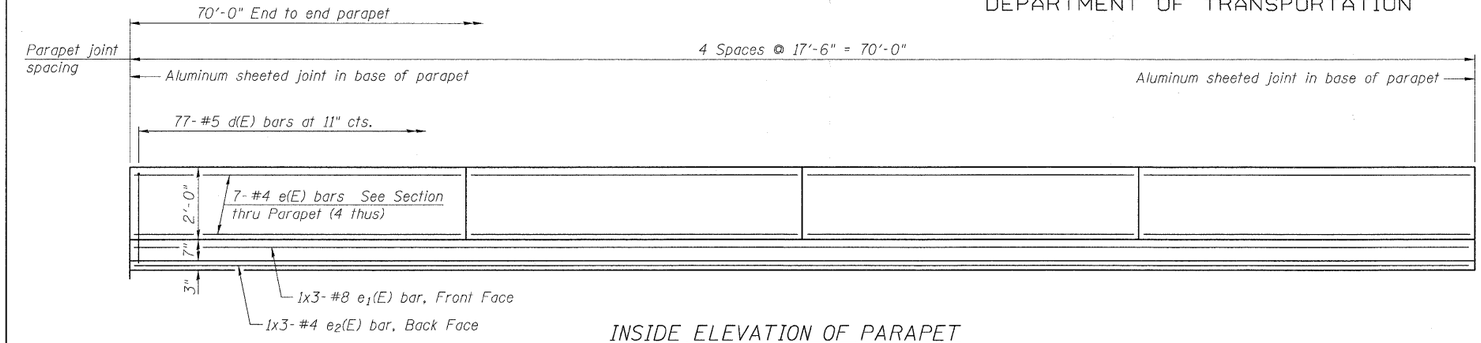
ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	JLA
CHECKED	LAS
DRAWN	SAW
CHECKED	JLA

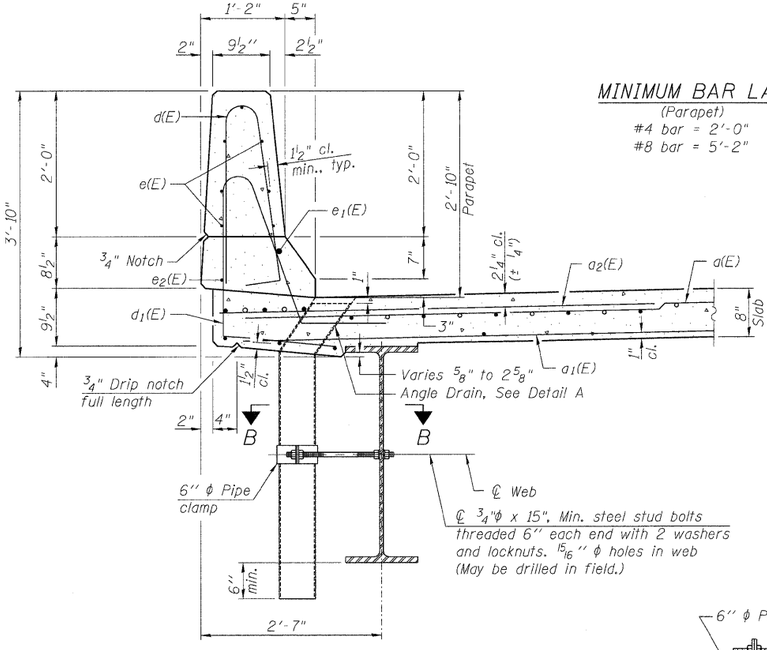
SI-1-0 11-1-09

SHEET NO. 8 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	19
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

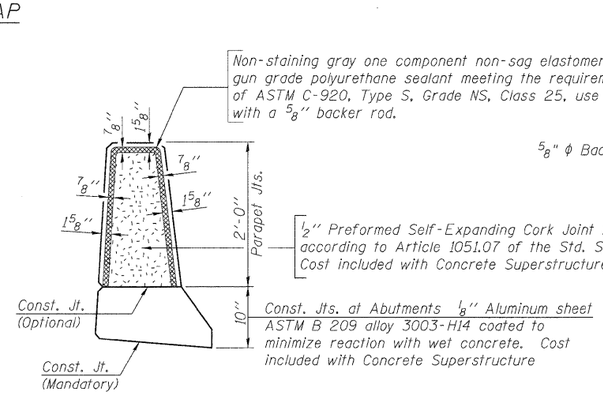


INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

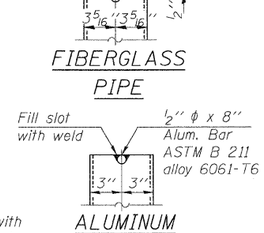


PARAPET JOINT DETAILS

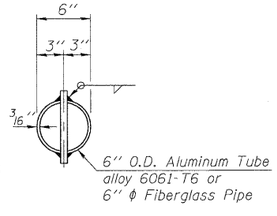
SECTION B-B
*Dimension as required by Pipe Clamp

TOP PLAN

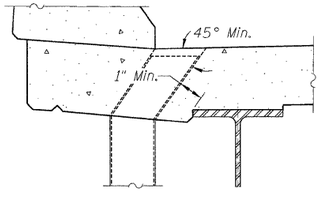
FIBERGLASS PIPE



ALUMINUM TUBE

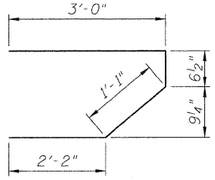


TOP PLAN
(Showing Aluminum Tube)

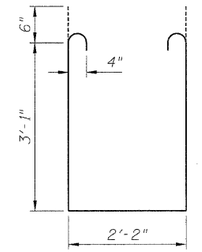


DETAIL A

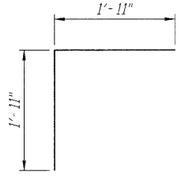
Note:
The exterior surfaces of the floor drains shall be painted with the finish as specified in the special provision for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coating's Spec. SSPC-SP1 prior to painting. Fiberglass 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 galvanizing included with Floor Drains.



BAR s(E)



BAR s1(E)

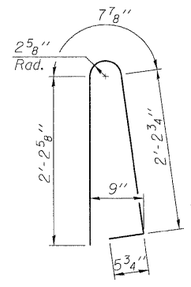


BAR v(E)

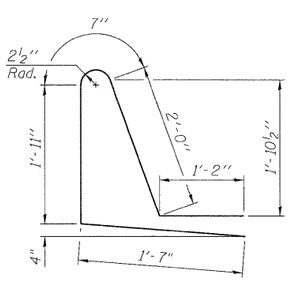
SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	260	#5	17'-3"	——
a1(E)	170	#5	16'-9"	——
a2(E)	258	#6	6'-6"	——
b(E)	160	#5	19'-11"	——
b1(E)	96	#5	25'-5"	——
d(E)	154	#5	5'-7"	
d1(E)	154	#5	7'-3"	
e(E)	56	#4	17'-2"	——
e1(E)	6	#8	26'-8"	——
e2(E)	6	#4	24'-7"	——
m(E)	20	#6	17'-3"	——
m1(E)	24	#6	8'-2"	——
m2(E)	8	#6	5'-8"	——
m3(E)	4	#6	2'-3"	——
m4(E)	4	#6	2'-8"	——
s(E)	76	#5	6'-10"	⊐
s1(E)	76	#4	9'-4"	⊔
v(E)	72	#5	3'-10"	⊏
Reinforcement Bars, Epoxy Coated			Pound	21,480
Concrete Superstructure			Cu. Yds.	108.2

Bars indicated thus: 1x3-#8 etc. indicates 1 line of bars with 3 lengths per line.



BAR d(E)



BAR d1(E)

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 027-0099

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

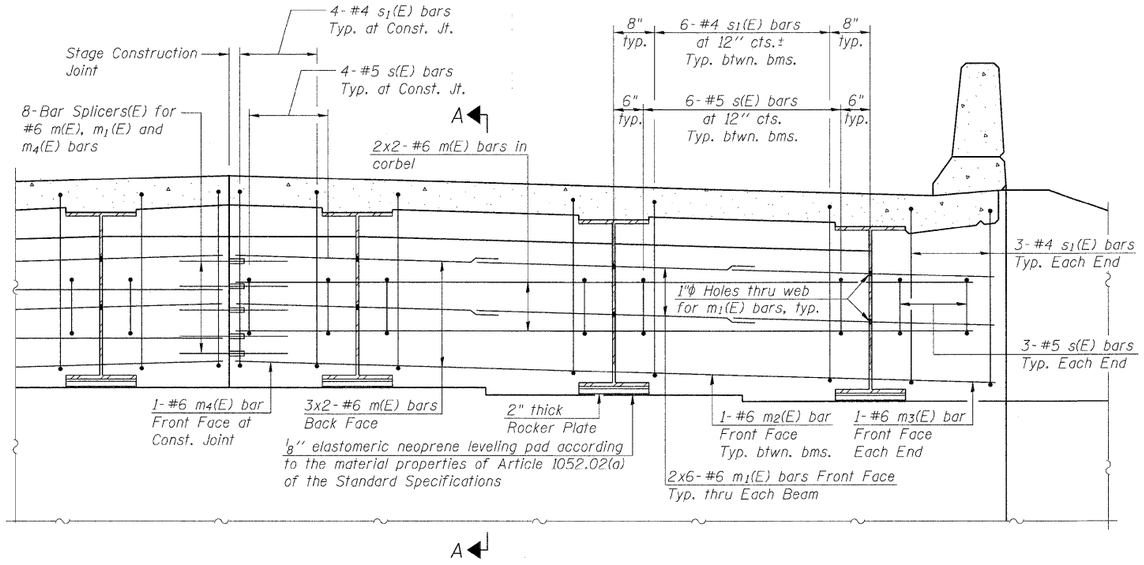
DESIGNED	JLA
CHECKED	LAS
DRAWN	SAW
CHECKED	JLA

S-I-D 11-1-09

SHEET NO. 9 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	20
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

10/6/2010 8:08:23 PM C:\Drawings\5700-10\IL115\66916-009-SuperstructureDetails.dgn

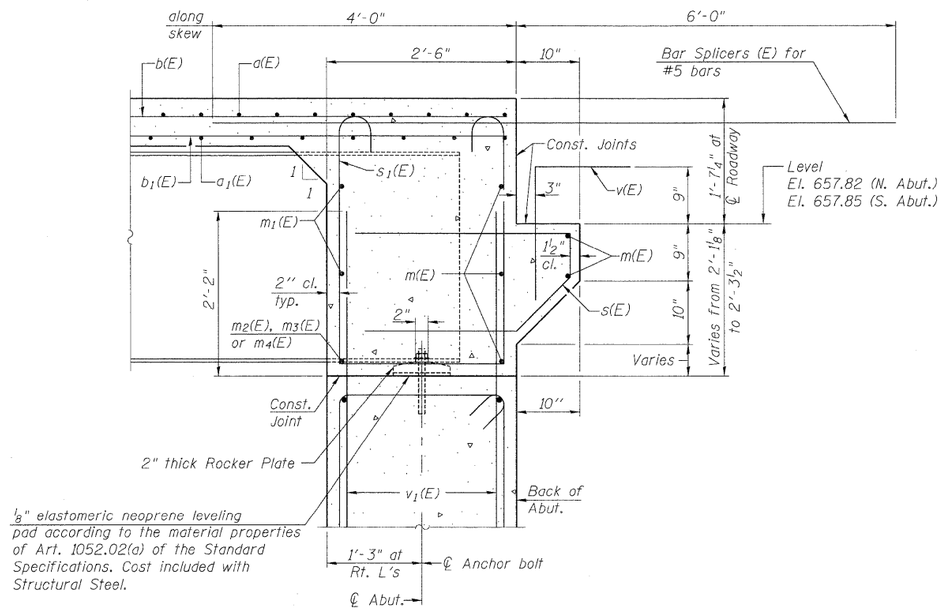
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DIAPHRAGM ELEVATION AT ABUTMENT

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 21.
Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 21.
For details of bars s(E), s_1(E) & v(E) see sheet 9 of 21.
The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
For details of bars v_1(E) see sheet 15 of 21 and sheet 16 of 21.

MIN. BAR LAP
#6 bar = 3'-6"



SECTION A-A
Dimensions at right angles to abutment, except as shown.

INTEGRAL ABUTMENT
DIAPHRAGM DETAILS
STRUCTURE NO. 027-0099

SHEET NO. 10 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	21
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	JLA
CHECKED	LAS
DRAWN	SAW
CHECKED	JLA

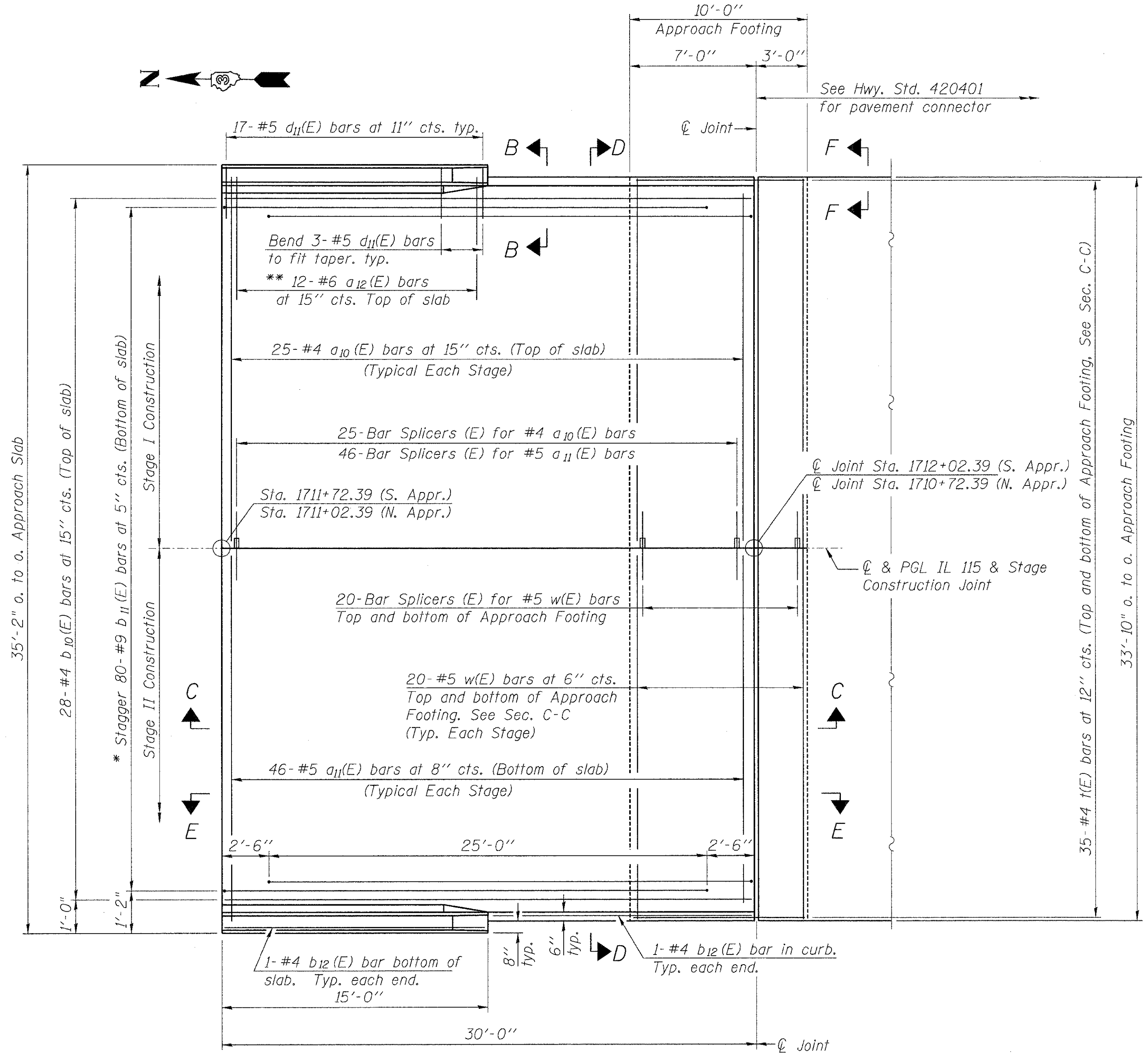
SI-DS1 11-1-09

10/6/2010 8:08:36 PM C:\Drawings\5700-01\US15\A66916-010-DiaphragmDetails.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:
See sheet 12 of 21 for Sections C-C & D-D and View E-E.
a_{10}(E) and a_{11}(E) bar spacings measured along ℄ Rdwy.

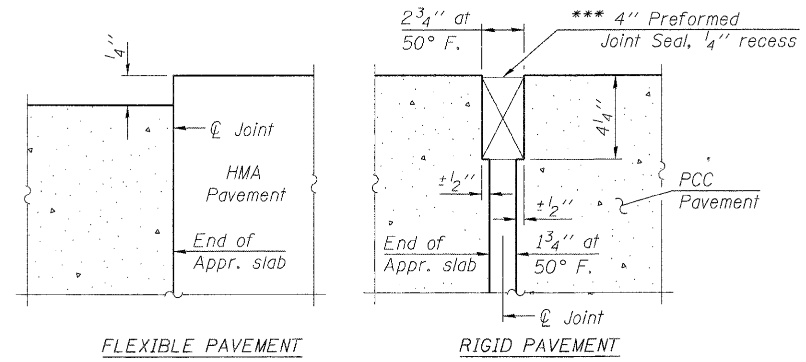
*** Cost included with Concrete Superstructure.



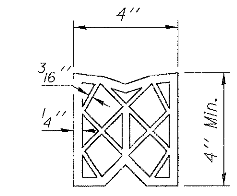
SOUTH APPROACH SLAB PLAN

(North Approach Slab Similar)

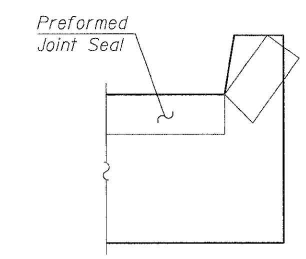
* Tilt #9 b_{11}(E) bars as required to maintain clearance.
** Space between a_{10}(E) bars, typ. ea. parapet.



DETAIL A

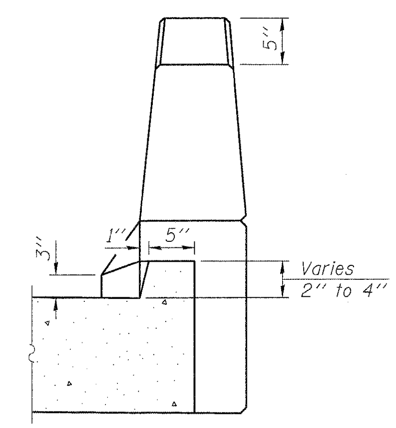


PREFORMED JOINT SEAL



VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW B-B

ZROKA engineering — Zroka Engineering, P.C., 4216 North Hermitage, Chicago, IL 60613

DESIGNED	JLA
CHECKED	LAS
DRAWN	SAW
CHECKED	JLA

BA-0 11-1-09

10/6/2010 8:08:49 PM C:\Drawings\5700-101\IL115\66916-011-ApprSlabDetails.dgn

(Sheet 1 of 2)

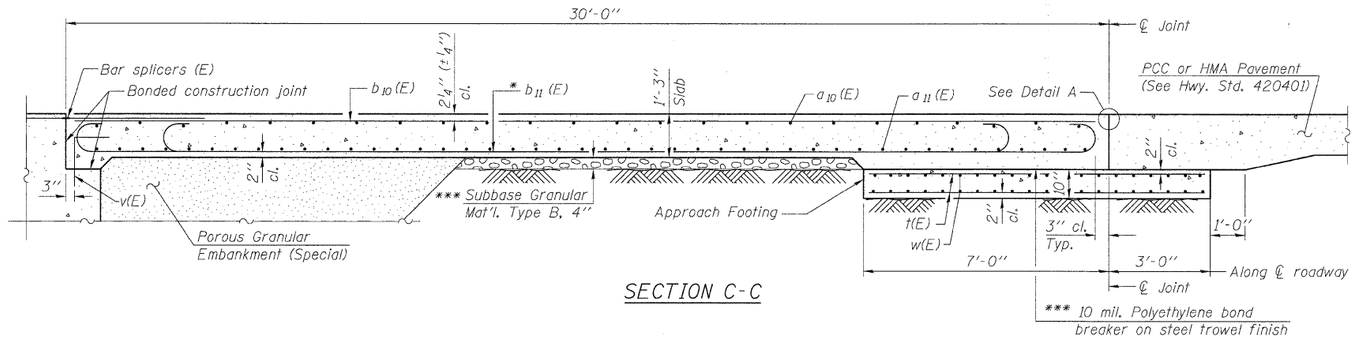
BRIDGE APPROACH SLAB DETAILS

STRUCTURE NO. 027-0099

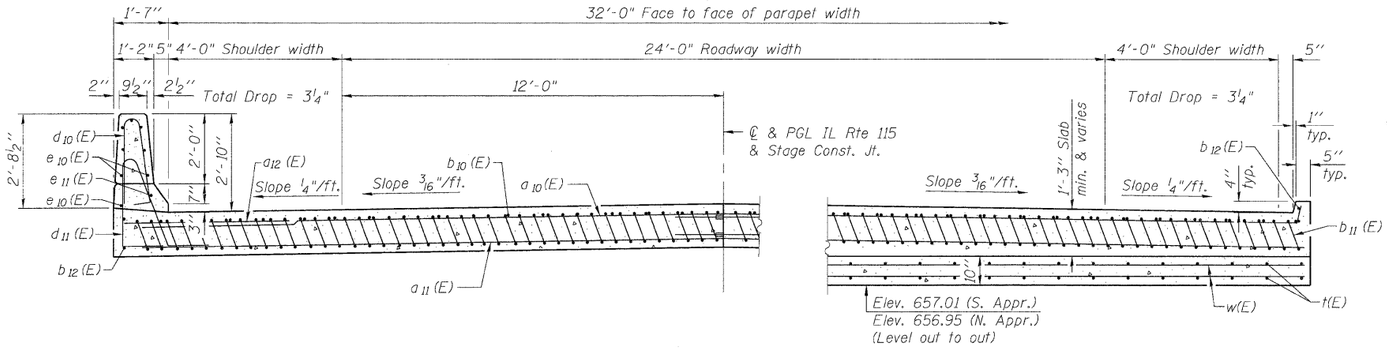
SHEET NO. 11 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	22
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:
See sheet 11 of 21 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 9 of 21.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 17 of 21.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 21.
For additional parapet details, see sheet 9 of 21.



SECTION C-C

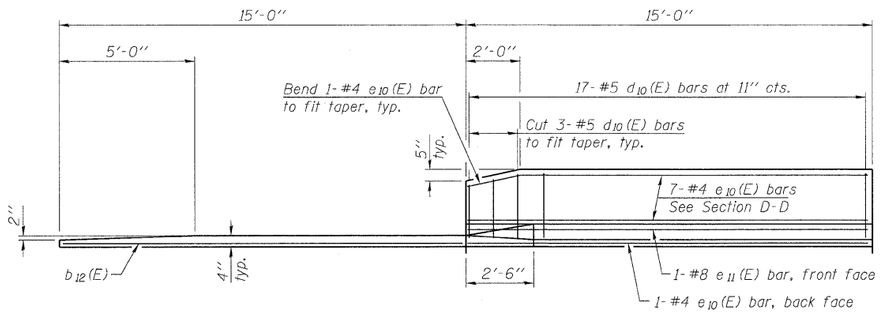


NEAR ABUTMENT

SECTION D-D

(See Plan for dimensions not shown)

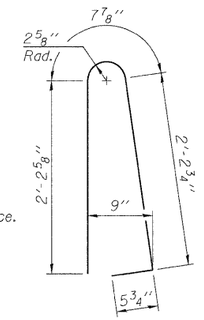
AT APPROACH FOOTING



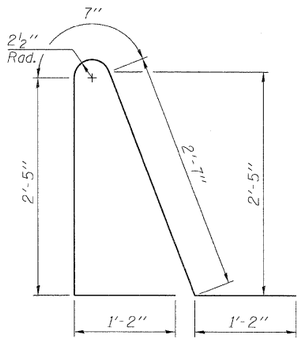
VIEW E-E

* Tilt #9 b 11 (E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.



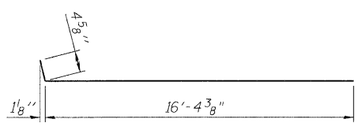
BAR d 10 (E)



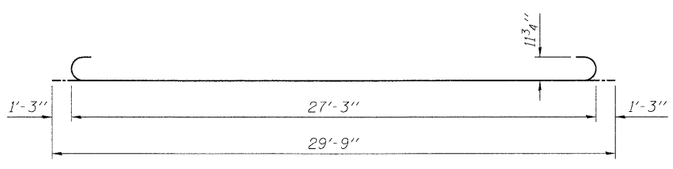
BAR d 11 (E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a 10 (E)	100	#4	16'-9"	
a 11 (E)	184	#5	16'-7"	
a 12 (E)	48	#6	6'-6"	
b 10 (E)	56	#4	29'-8"	
b 11 (E)	160	#9	29'-9"	
b 12 (E)	8	#4	14'-8"	
d 10 (E)	68	#5	5'-7"	
d 11 (E)	68	#5	7'-11"	
e 10 (E)	32	#4	14'-8"	
e 11 (E)	4	#8	14'-8"	
t(E)	140	#4	9'-8"	
w(E)	160	#5	16'-7"	
Concrete Superstructure			Cu. Yd.	105.9
Concrete Structures			Cu. Yd.	20.9
Reinforcement Bars, Epoxy Coated			Pound	27,240



BAR a 10 (E)



BAR b 11 (E)

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	JLA
CHECKED	LAS
DRAWN	SAW
CHECKED	JLA

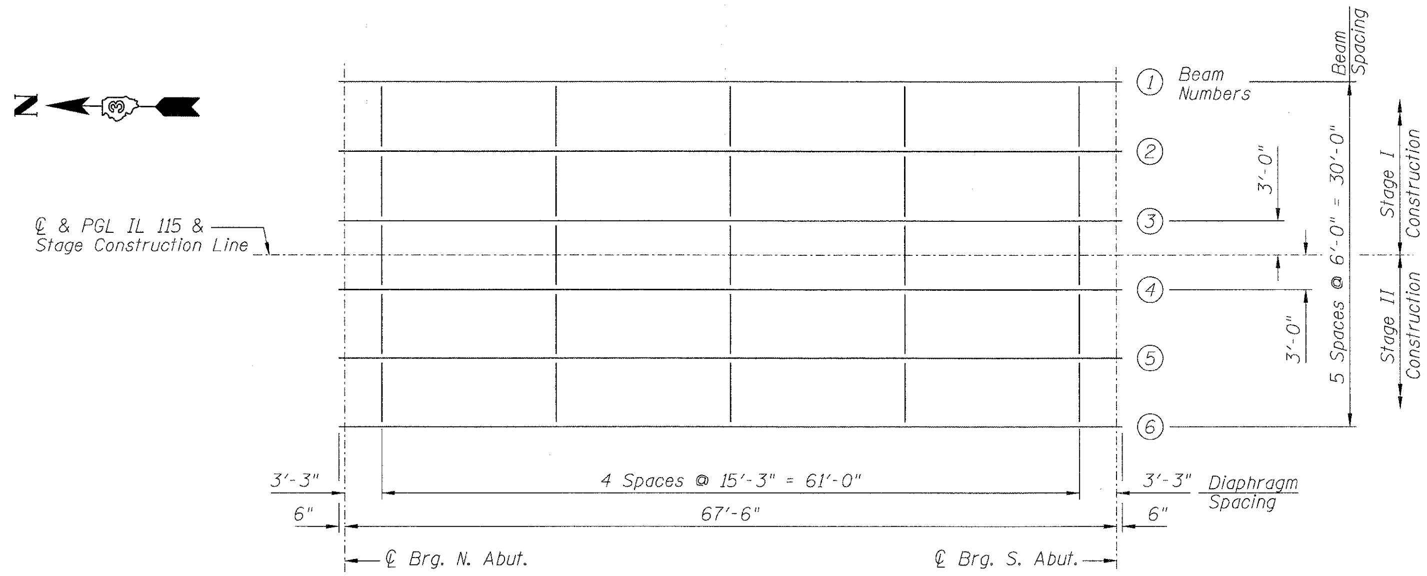
BA-0 11-1-09

(Sheet 2 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 027-0099

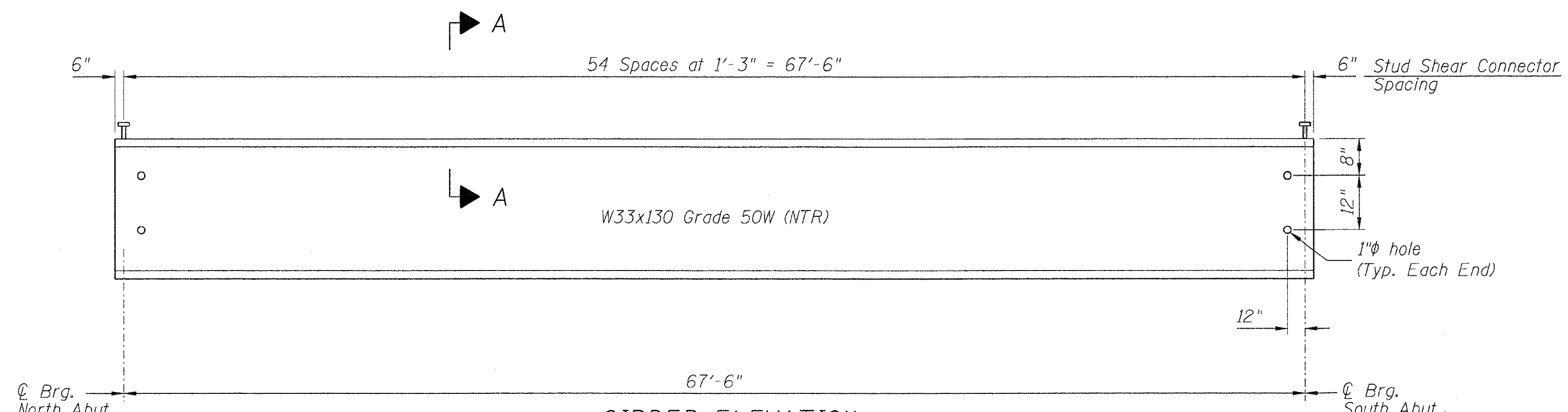
SHEET NO. 12 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	23
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

10/6/2010 8:09:04 PM C:\Drawings\5700-1101\11\5\A6916-012-ApprSlabDetails2.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FRAMING PLAN



GIRDER ELEVATION

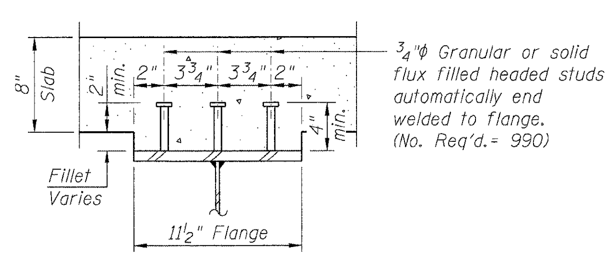
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

Notes:

All dimensions are horizontal.

End of girders and connection plates shall be vertical.

Work this sheet with Sheet 14 of 21.



SECTION A-A

TOP OF BEAM ELEVATIONS
(For Fabrication Only)

Beam	℄ Brg. N. Abut.	℄ Brg. S. Abut.
1	658.47	658.49
2	658.58	658.60
3	658.67	658.70
4	658.67	658.70
5	658.58	658.60
6	658.47	658.49

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	990

Note:

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporaily disconnected to install bearing anchor rods.

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

10/6/2010 8:09:16 PM C:\Drawings\5700\01\IL115\66916-013-FramingPlan.dgn

FRAMING PLAN
STRUCTURE NO. 027-0099

SHEET NO. 13 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	24
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

INTERIOR GIRDER MOMENT TABLE		
		0.5 Sp. 1
I_s	(in⁴)	6,710
$I_c(n)$	(in^4)	17,995
$I_c(3n)$	(in^4)	13,056
S_s	(in^3)	406
$S_c(n)$	(in^3)	598
$S_c(3n)$	(in^3)	537
Z	(in^3)	-
DC1	(k/')	0.790
M_{DC1}	('k)	450
DC2	(k/')	0.15
M_{DC2}	('k)	84
DW	(k/')	0.266
M_{DW}	('k)	152
M_{LL+IM}	('k)	888
M_u (Strength I)	('k)	2,449
* $\phi_f M_n$, $\phi_f M_{nc}$	('k)	3,040
f_s DC1	(ksi)	13.5
f_s DC2	(ksi)	1.9
f_s DW	(ksi)	3.4
f_s 1.3(LL+IM)	(ksi)	23.2
f_s (Service II)	(ksi)	42.0
** f_s (Total)(Strength I)	(ksi)	-
V_f	(k)	22.6

* Compact sections
** Non-Compact and slender sections

INTERIOR GIRDER REACTION TABLE		
		Abut.
R_{DC1}	(k)	26.6
R_{DC2}	(k)	4.9
R_{DW}	(k)	9.0
R_{LL+IM}	(k)	69.8
R_{Total}	(k)	110.3

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 ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: 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) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: 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) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations ($in.^3$).

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

M_{DC1}: 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.).

M_{DC2}: 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.).

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

M_{LL+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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

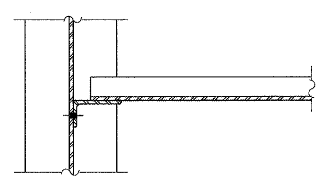
$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

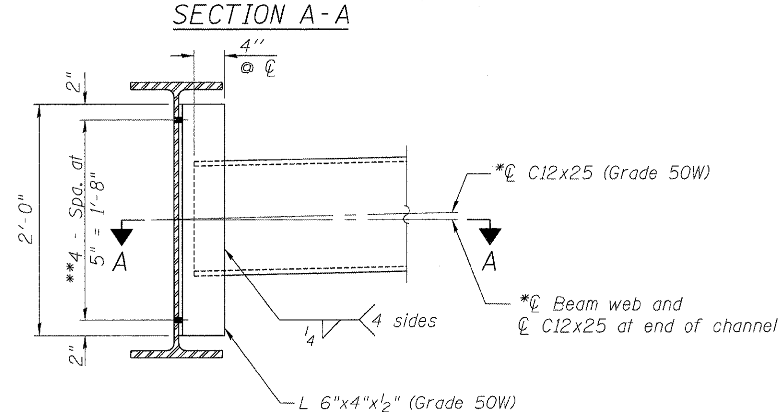
f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{LL+IM}$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{LL+IM}$

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

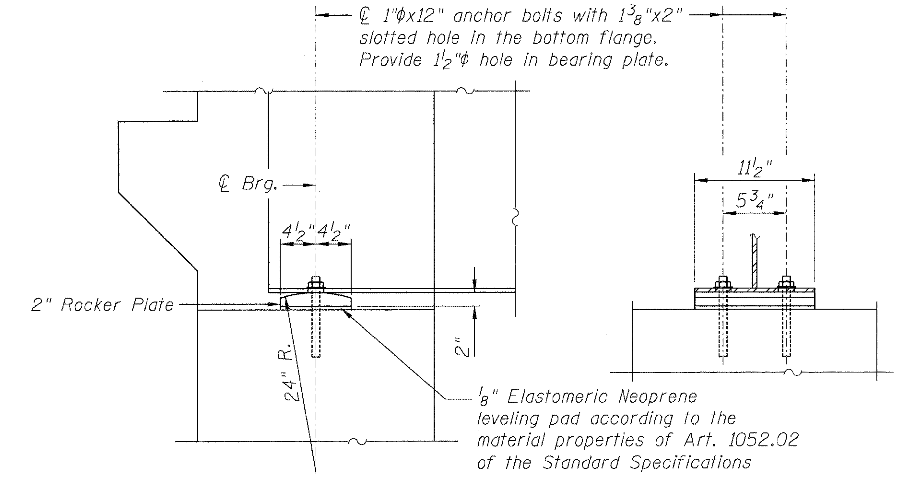


SECTION A-A



INTERIOR DIAPHRAGM
(25 Required)

Notes:
Two hardened washers required for each set of oversized holes.
*Alternate channels C12X30 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.
**3/4"φ HS bolts, 15/16"φ holes, except on Beam 4 connection angle use 3/4"φ HS bolts, 13/16"x1 7/8" holes.
Bolts in slots shall be finger tight until the second stage pour is complete.
Position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load, allowing maximum displacement without laterally stressing main members.



ABUTMENT BEARING DETAILS

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). 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.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

10/6/2010 8:09:29 PM C:\Drawings\5700-10\IL\115\66916-014-SteelDetails.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

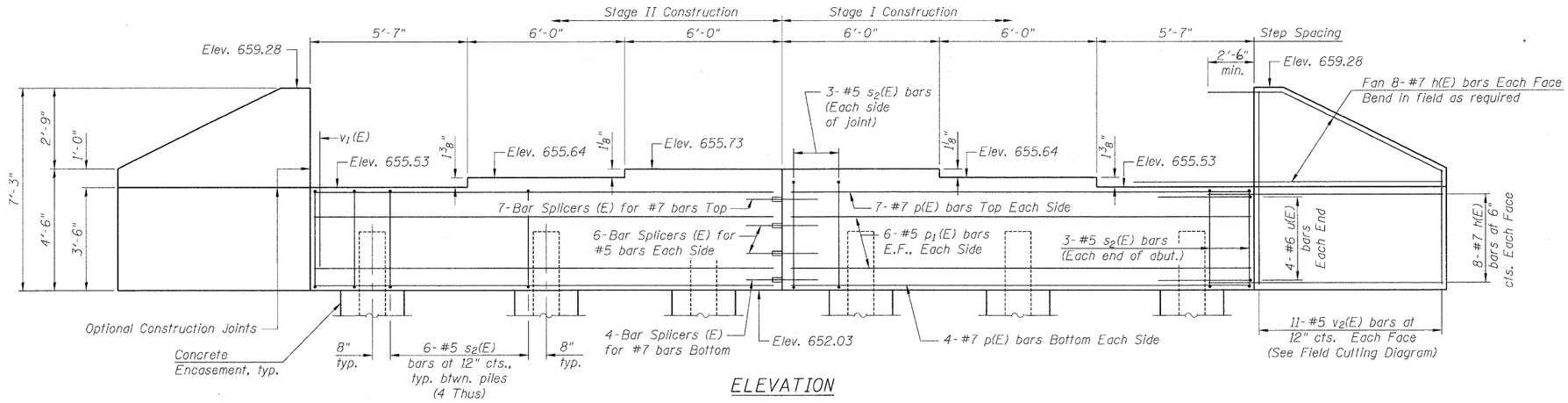
DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 027-0099

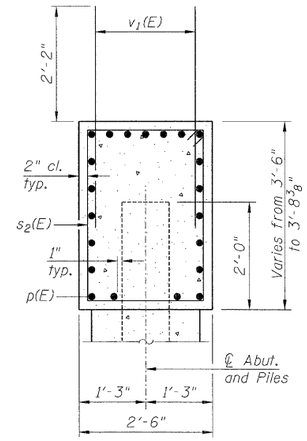
SHEET NO. 14 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	25
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

Notes:
Pour steps monolithically with cap.

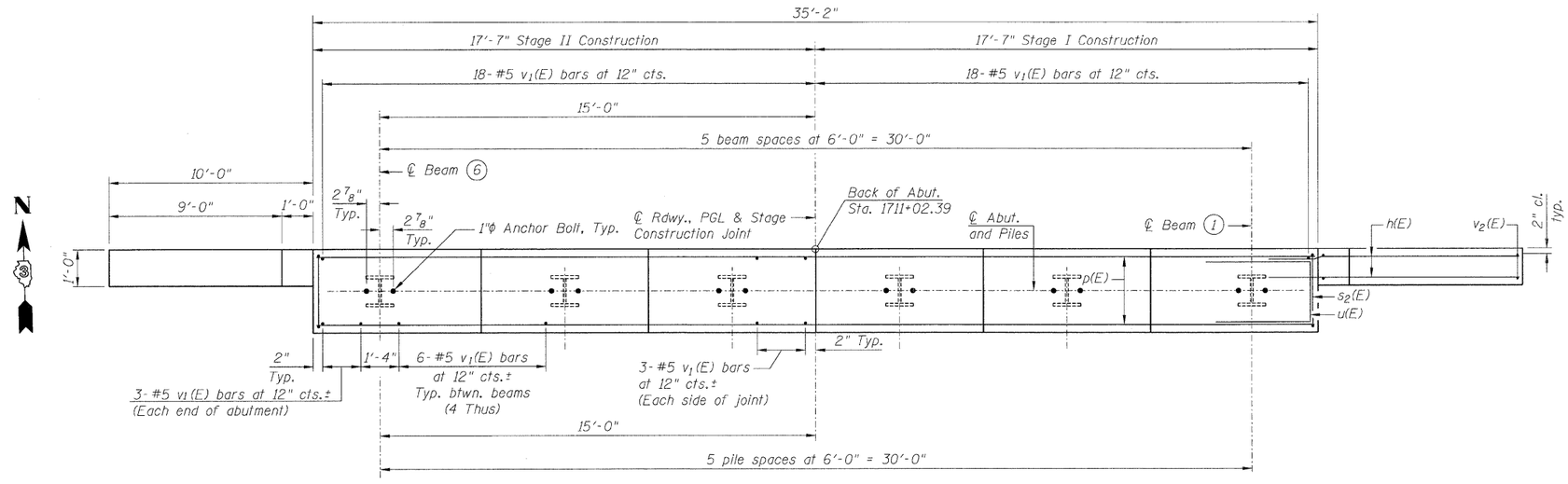
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



SEC. THRU ABUT.



PLAN

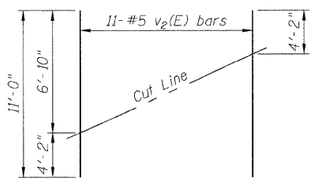
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	64	#7	12'-11"	——
p(E)	22	#7	17'-3"	——
p1(E)	24	#5	17'-3"	——
s2(E)	36	#5	11'-7"	□
u(E)	8	#6	10'-11"	⊔
v1(E)	72	#5	4'-4"	——
v2(E)	22	#5	11'-0"	——
Structure Excavation			Cu. Yd.	71
Concrete Structures			Cu. Yd.	16.2
Reinforcement Bars, Epoxy Coated			Pound	4,480
Furnishing Steel Piles, HP12x53			Foot	126
Driving Piles			Foot	126
Concrete Encasement			Cu. Yd.	2.0

For details of Bar Splicers, see sheet 17 of 21.
For details of piles and Concrete Encasement, see sheet 18 of 21.
Space reinforcement in cap to miss anchor bolts.

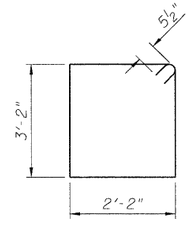
PILE DATA

Type: Steel HP12x53
Nominal Required Bearing: 278k
Factored Resistance Available: 153k
Est. Length: 21'
No. Production Piles: 6
No. Test Piles: 0

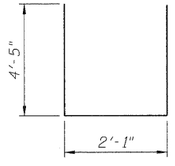


FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)

NORTH ABUTMENT
STRUCTURE NO. 027-0099

Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

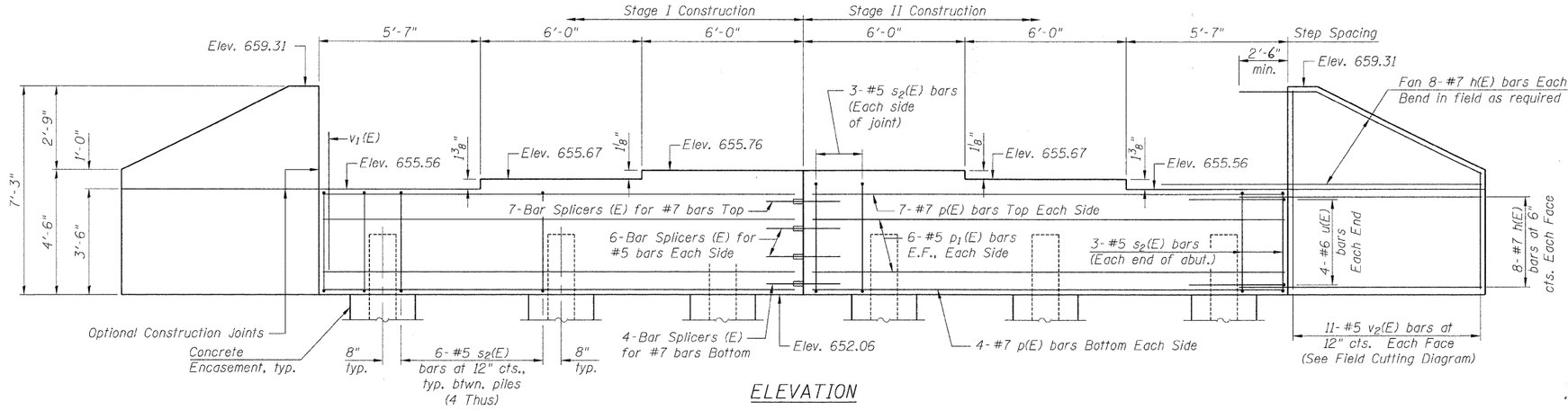
AI-0 11-1-09

SHEET NO. 15 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	26
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

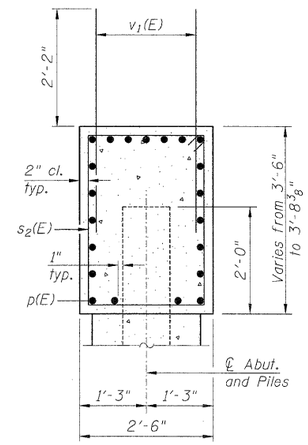
10/6/2010 8:09:43 PM C:\Drawings\5700-10\ILI5\66916-015-NAbut.dgn

Notes:
Pour steps monolithically with cap.

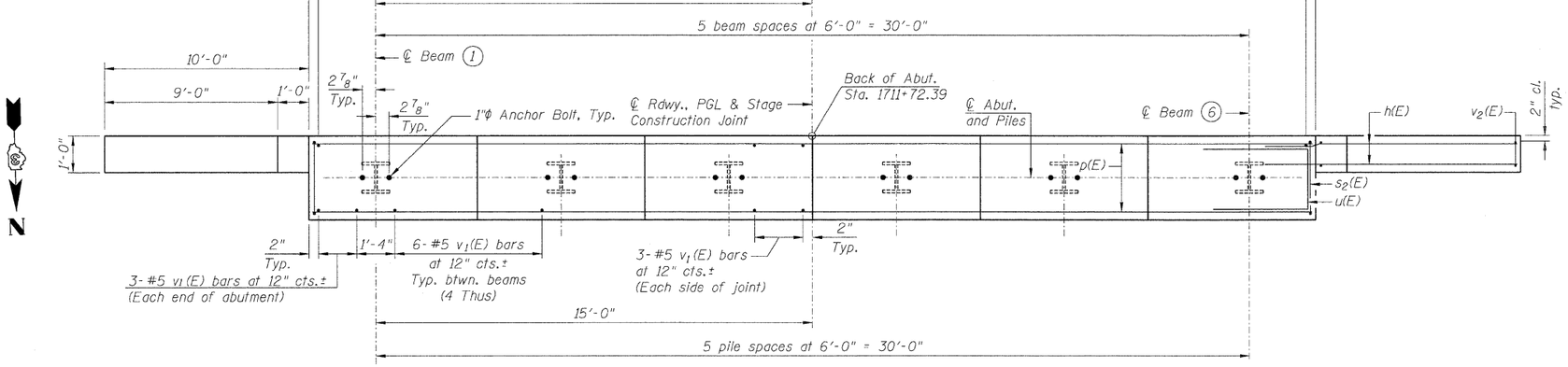
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



SEC. THRU ABUT.



PLAN

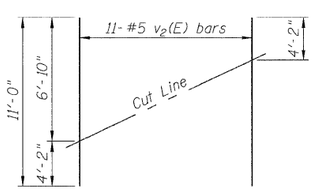
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	64	#7	12'-11"	——
p(E)	22	#7	17'-3"	——
p1(E)	24	#5	17'-3"	——
s2(E)	36	#5	11'-7"	□
u(E)	8	#6	10'-11"	⊔
v1(E)	72	#5	4'-4"	——
v2(E)	22	#5	11'-0"	——
Structure Excavation		Cu. Yd.	70	
Concrete Structures		Cu. Yd.	16.2	
Reinforcement Bars, Epoxy Coated		Pound	4,480	
Furnishing Steel Piles, HP12x53		Foot	110	
Driving Piles		Foot	110	
Test Pile, HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.0	

For details of Bar Splicers, see sheet 17 of 21.
For details of piles and Concrete Encasement, see sheet 18 of 21.
Space reinforcement in cap to miss anchor bolts.

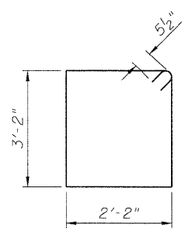
PILE DATA

Type: Steel HP12x53
Nominal Required Bearing: 264k
Factored Resistance Available: 145k
Est. Length: 22'
No. Production Piles: 5
No. Test Piles: 1

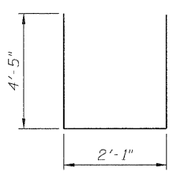


FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)



BAR u(E)

SOUTH ABUTMENT
STRUCTURE NO. 027-0099

SHEET NO. 16 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	27
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

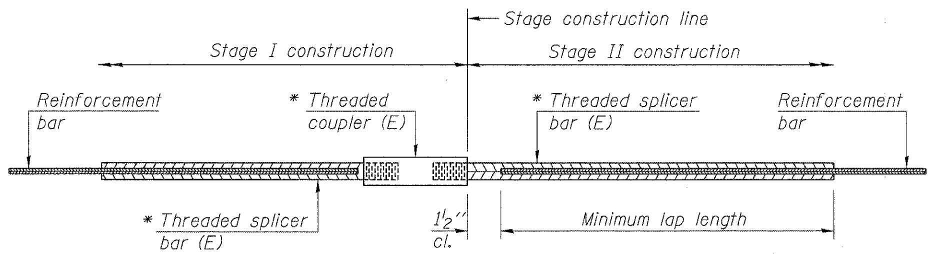
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

AI-0 11-1-09

10/6/2010 8:09:58 PM C:\Drawings\5700-10\ILL15\N6916 016 SAbut.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

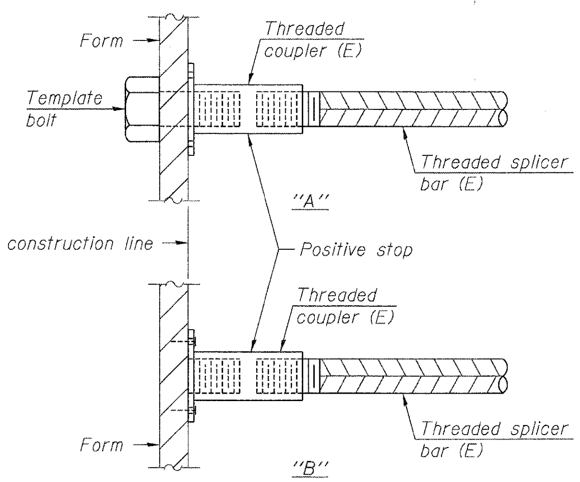
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1′-5″	1′-11″	2′-1″	2′-4″
5	1′-9″	2′-5″	2′-7″	2′-11″
6	2′-1″	2′-11″	3′-1″	3′-6″
7	2′-9″	3′-10″	4′-2″	4′-8″
8	3′-8″	5′-1″	5′-5″	6′-2″
9	4′-7″	6′-5″	6′-10″	7′-9″

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1½″ + thread length

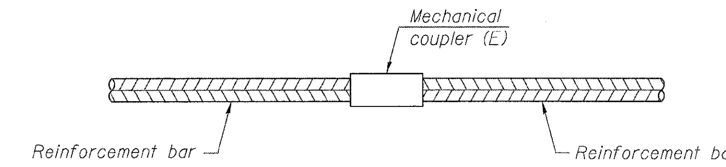
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck a(E) bars	5	130	3
Deck a_1(E) bars	5	85	3
2-Approach slabs a_{10}(E) bars	4	50	4
2-Approach slabs a_{11}(E) bars	5	92	3
2-Approach footings w(E) bars	5	80	3
Abutment Diaphragm m(E), m_1(E) & m_4(E) bars	6	16	4
Abutment p(E) bars	7	22	4
Abutment p_1(E) bars	5	24	4



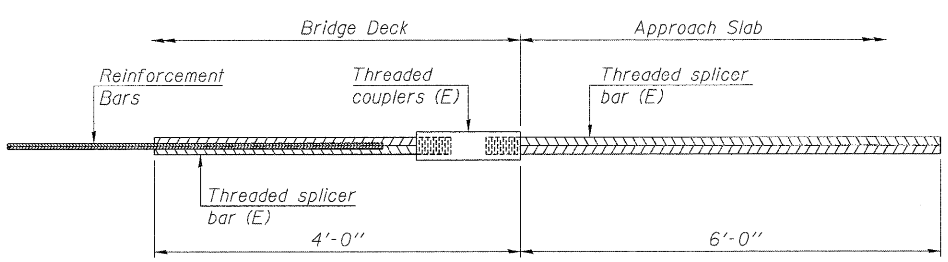
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



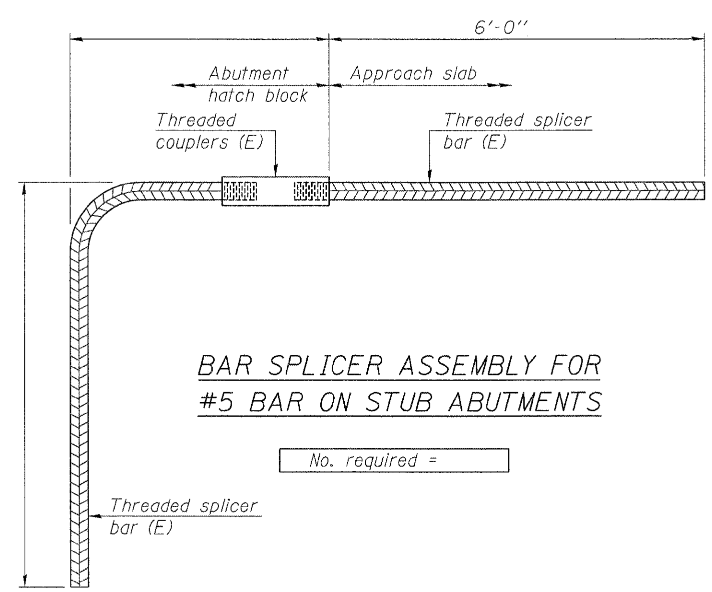
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 80



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

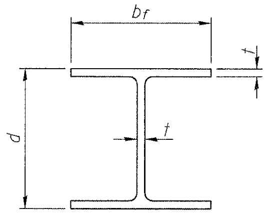
ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

BSD-1 11-1-09

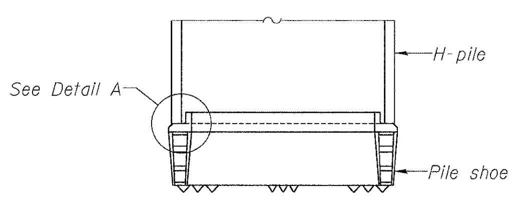
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 027-0099

SHEET NO. 17 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	28
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

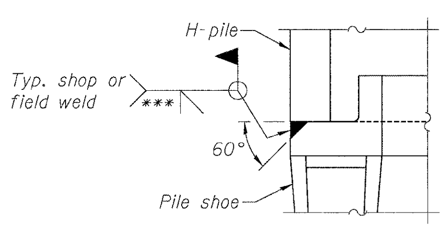


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	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"	11/16"	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"

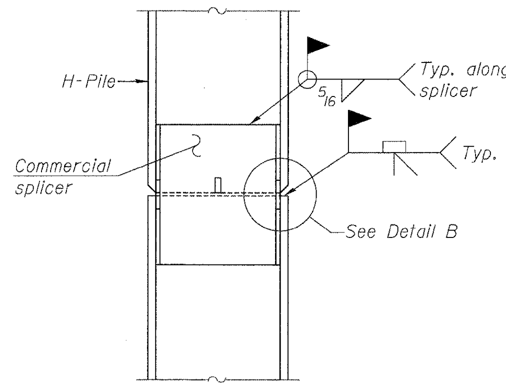


ELEVATION

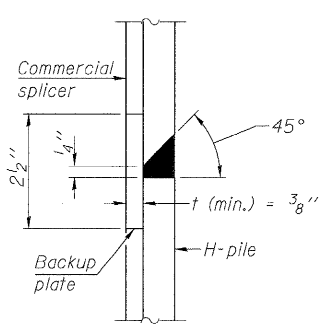


DETAIL A

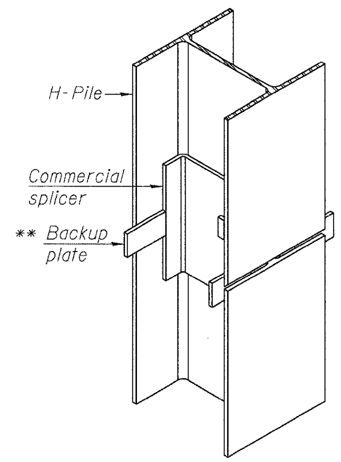
H-PILE SHOE ATTACHMENT



ELEVATION

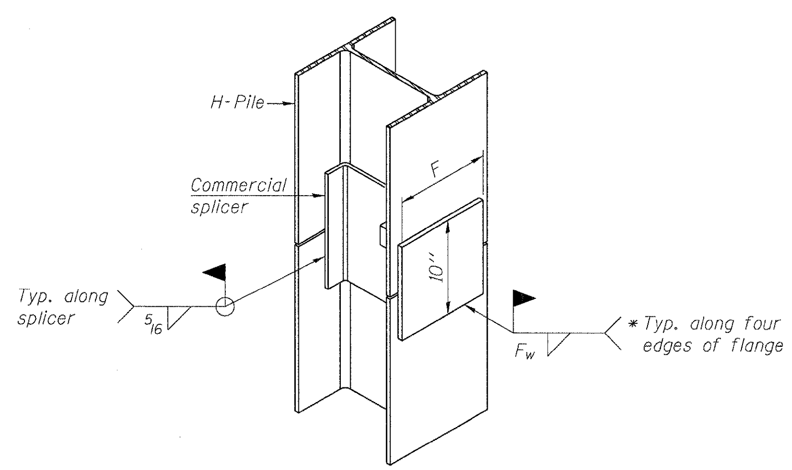


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



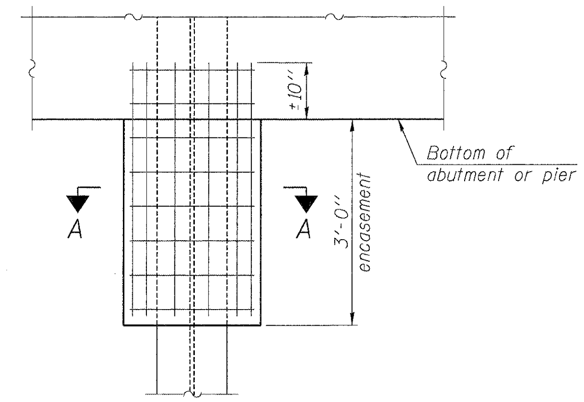
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

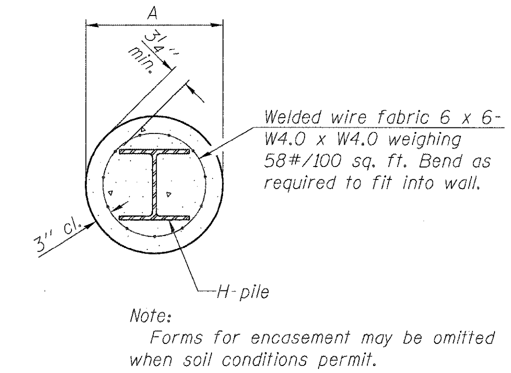
* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



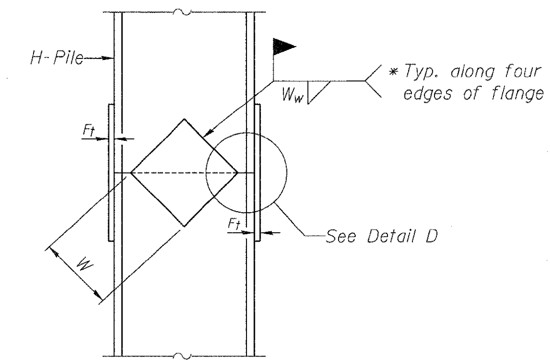
ELEVATION



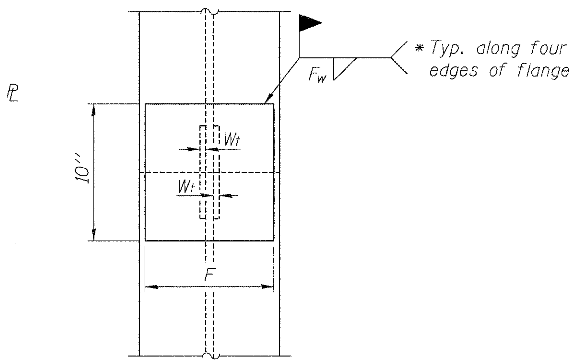
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT

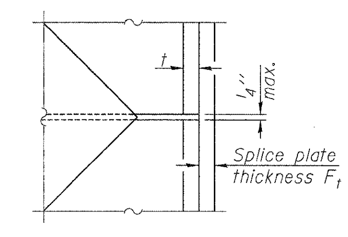


ELEVATION



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"	11/16"	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"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	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"



DETAIL D

WELDED PLATE FIELD SPLICE

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

HP PILE DETAILS
STRUCTURE NO. 027-0099

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

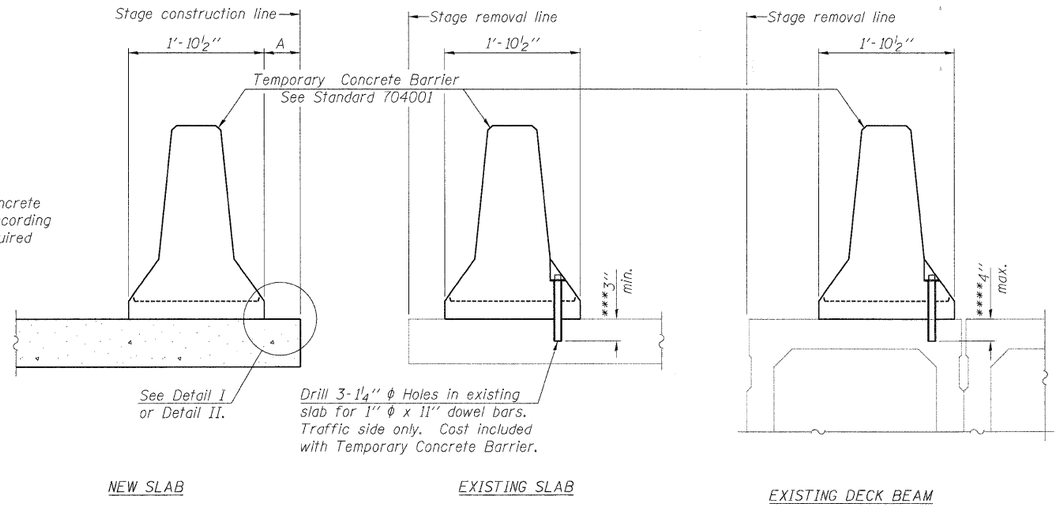
DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

F-HP 11-1-09

SHEET NO. 18 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	29
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB — EXISTING SLAB — EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x 10" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

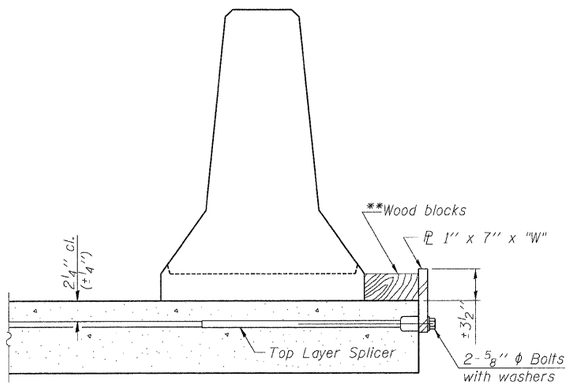
Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

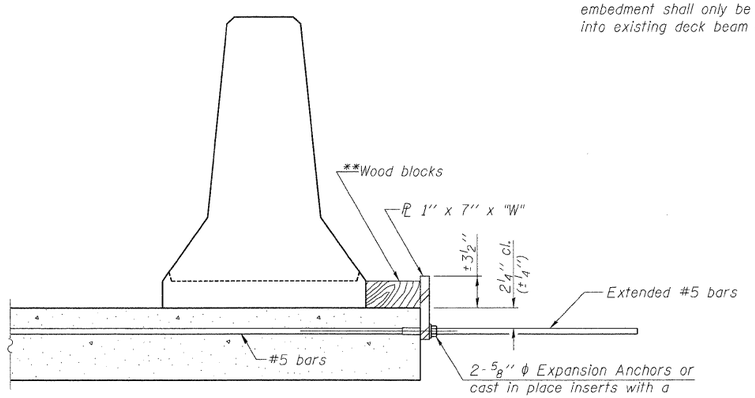
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

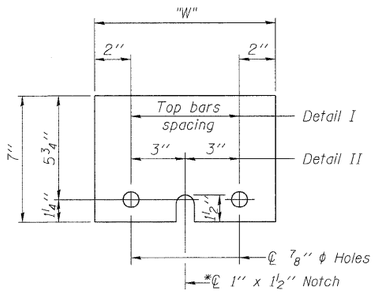
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER ℙ 1" x 7" x 10"

* Required only with Detail II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

R-27 11-1-09

10/6/2010 8:10:39 PM C:\Drawings\5700-10\ILL15\N66916-019-TCB.dgn

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 027-0099

SHEET NO. 19 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	30
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING B-1 (Page 1 of 2)

Illinois Department of Transportation
Division of Highways
District #3, Ottawa

SOIL BORING LOG

Page 1 of 2

Date 2/24/09

ROUTE FA-796 (IL 115) DESCRIPTION IL 115 over Drainage Ditch LOGGED BY L. Myers

SECTION 106 BR-3 LOCATION East 1/2, SEC. 17, TWP. 27N, RNG. 9E, 3rd PM

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 027- (Prop.) 027-0075 (Exist.)
Station 1711+37.39

BORING NO. 1 (S. Abut.)
Station 1711+79
Offset 14.00ft Lt.
Ground Surface Elev. 657.2 ft

Surface Water Elev. 643.15 ft
Stream Bed Elev. 642.43 ft

Groundwater Elev.:
First Encounter ft
Upon Completion 643.2 ft ▽
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Bit, Shldr. with CA6 fill & Gray/Green Silty Clay Fill				
	652.20 -5	3		
Very Stiff Brown/Gray Silty Clay Loess		3 4	2.5 P	25.1
		2		
		3 4	2.0 P	25.7
	647.20 -10	1		
Hard Brown Silty Clay Loam Till		4 5	4.0 S	20.0
	645.20	5		
Hard Gray Silty Clay Loam Till		7 11 ▽	4.8 S	17.0
	-15	5		
		8 13	5.8 S	17.6
		3		
		3 7	4.9 S	20.9
	637.70 -20			
Very Stiff Brownish Gray Clay Loam Till *(continued)*		2 3 5	2.5 P	15.1
	634.70	5		
Medium Brown Fine Sand & Silt		9 10		18.6
	-25	9		
		14 14		18.6
	629.70	9		
Hard Gray Silt with Minor layers of Fine Sand		14 27	4.5 P	19.3
	627.70 -30	21		
Hard Brittle Gray Silt Loam Till with layers of Very Dense Gray Silt		34 41	8.7 S	13.2
	624.70	8		
Hard Gray Silty Clay Loam Till		15 21	4.2 S	13.4
	-35	8		
		12 14	4.8 S	14.3
		7		
		9 12	5.8 S	13.5
	-60			

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

BBS, from 137 (Rev. 8-99)

SOIL BORING B-1 (Page 2 of 2)

Illinois Department of Transportation
Division of Highways
District #3, Ottawa

SOIL BORING LOG

Page 2 of 2

Date 2/24/09

ROUTE FA-796 (IL 115) DESCRIPTION IL 115 over Drainage Ditch LOGGED BY L. Myers

SECTION 106 BR-3 LOCATION East 1/2, SEC. 17, TWP. 27N, RNG. 9E, 3rd PM

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 027- (Prop.) 027-0075 (Exist.)
Station 1711+37.39

BORING NO. 1 (S. Abut.)
Station 1711+79
Offset 14.00ft Lt.
Ground Surface Elev. 657.2 ft

Surface Water Elev. 643.15 ft
Stream Bed Elev. 642.45 ft

Groundwater Elev.:
First Encounter ft
Upon Completion 643.2 ft ▽
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray Silty Clay Loam Till *(continued)*		5 7 11	5.6 S	13.2
	615.20			
Medium to Dense Gray Fine to Coarse Gravel		5 12 17		13.2
	-45	7		
		14 22		13.3
	610.20			
Hard Brown Silty Clay Loam Till		22		
		28 37	11 S	8.8
	607.70			
Very Dense Gray Fine Sand to Coarse Gravel with Minor layers of Silty Clay Loam Till	-50	61		
		55 45		14.4
	605.20			
Dense interbedded layers of Fine, Medium, Coarse Sand, Silt, Sandy Clay Loam Till, Sandy Gravel		16 22 24		18.1
	603.20			
End of Boring	-55			
	-60			

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

BBS, from 137 (Rev. 8-99)

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

BORING LOGS 1
STRUCTURE NO. 027-0099

SHEET NO. 20 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	31
	SN 027-0099		CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

10/6/2010 8:10:52 PM C:\Drawings\5700-10\IL115\66916-020-BorIngLogs1.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING B-2 (Page 1 of 2)

Illinois Department of Transportation
Division of Highways
District #3, Ottawa

SOIL BORING LOG

Page 1 of 2
Date 2/25/09

ROUTE FA-796 (IL 115) DESCRIPTION IL 115 over Drainage Ditch LOGGED BY L. Myers

SECTION 106 BR-3 LOCATION East 1/2, SEC. 17, TWP. 27N, RNG. 9E, 3rd PM

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 027- (Prop.) 027-0075 (Exist.)
Station 1711+37.39

BORING NO. 2 (N. Abut.)
Station 1710+97
Offset 14.00ft Rt.
Ground Surface Elev. 657.13 ft

Surface Water Elev. 643.15 ft
Stream Bed Elev. 642.43 ft

Groundwater Elev.:
First Encounter ft
Upon Completion 641.1 ft ▽
After Hrs. ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Augered Blt. Shldr. with CA6 Fill, Brown/Green Silty Clay Fill	652.13	-5			
Stiff Black/Green Silty Clay/Silty Clay Loam Fill			2 / 3 / 4	2.0 P	31.5
			2 / 2 / 2	1.5 P	28.6
		-10	2 / 1 / 2	1.5 P	29.0
	645.63				
Hard Gray Silty Clay Loam Till			4 / 5 / 7	5.2 S	17.2
		-15	5 / 7 / 11 (▽)	7.2 S	17.5
	640.13				
Hard to Very Stiff Brown Silty Clay Loam Till with layers of Brown Silt/Silty Clay			4 / 5 / 6	4.4 S	20.3
		-20			
Hard to Very Stiff Brown Silty Clay Loam Till with layers of Brown Silt/Silty Clay *(continued)*			3 / 4 / 4	3.2 S	14.6
	634.63				
Medium Brown Fine Sand & Silt with Free Water			5 / 6 / 11		24.3
	632.63				
Dense Brown Fine/Medium Sand with some Fine Sand/Silt layers (Washed sample at 25')		-25	8 / 16 / 24		18.8
			9 / 13 / 17		19.8
		-30	19 / 25 / 34		20.9
	625.13				
Hard Gray Silty Loam Till with layers of Gray Silt			10 / 8 / 10	4.8 S	19.1
		-35	11 / 8 / 12	4.6 S	17.0
	620.13				
Hard Gray Silty Clay Loam Till			5 / 7 / 7	6.4 S	12.7
		-40			

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

BBS, from 137 (Rev. 8-99)

SOIL BORING B-2 (Page 2 of 2)

Illinois Department of Transportation
Division of Highways
District #3, Ottawa

SOIL BORING LOG

Page 2 of 2
Date 2/25/09

ROUTE FA-796 (IL 115) DESCRIPTION IL 115 over Drainage Ditch LOGGED BY L. Myers

SECTION 106 BR-3 LOCATION East 1/2, SEC. 17, TWP. 27N, RNG. 9E, 3rd PM

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 027- (Prop.) 027-0075 (Exist.)
Station 1711+37.39

BORING NO. 2 (N. Abut.)
Station 1710+97
Offset 14.00ft Rt.
Ground Surface Elev. 657.13 ft

Surface Water Elev. 643.15 ft
Stream Bed Elev. 642.43 ft

Groundwater Elev.:
First Encounter ft
Upon Completion 641.1 ft ▽
After Hrs. ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Hard Gray Silty Clay Loam Till *(continued)*			2 / 5 / 6	4.1 S	15.6
	615.13				
Hard Brown Silty Loam/ Silty Clay Loam Till, Brittle			7 / 15 / 21	9.4 S	8.2
		-45	17 / 63 / 53	>11.5 S	13.0
			17 / 30 / 43	>11.5 S	8.2
		-50	31 / 39 / 59	>11.5 S	7.6
	604.63				
Medium to Dense Gray Fine to Coarse Gravel, very clean			5 / 9 / 19		13.0
		-55	7 / 10 / 22		20.5
	600.63				
End of Boring		-60			

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

BBS, from 137 (Rev. 8-99)

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

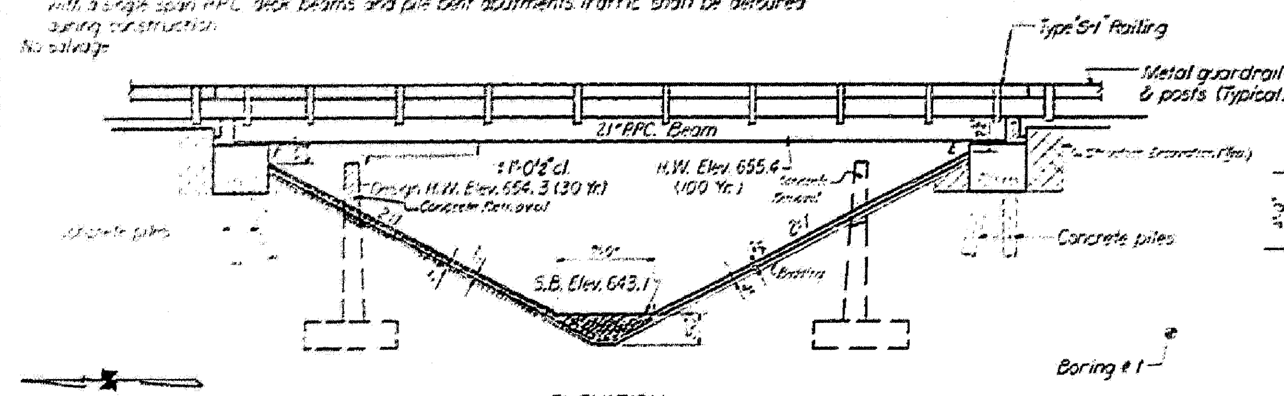
BORING LOGS 2
STRUCTURE NO. 027-0099

SHEET NO. 21 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	32
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

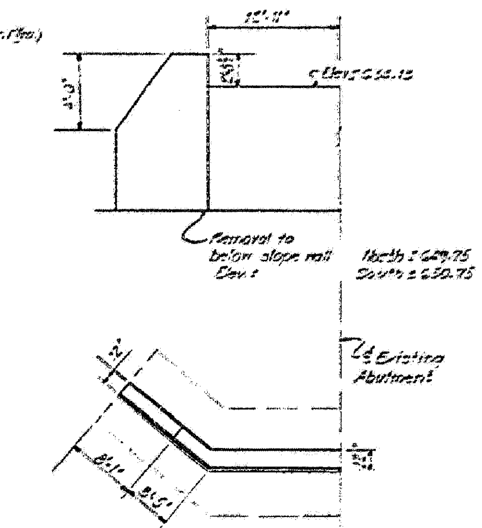
Bench Mark: [illegible] chiseled cross on N.E. Wingwall, Elev. 656.65.
Existing Structure: No. 027-0037. Built as S.B.I. Rte. 115, Sec 106-B, Sta 1711+31 in 1927. The R.C. thru Girder Single 65' Span [illegible] superstructure on P.C. closed abutments shall be removed and replaced with a single span PPC deck beams and pile bent abutments. Traffic shall be detoured during construction.
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. 796	106 BR-3	FORD	34	28	SHEET NO. 1 / 7 SHEETS



ELEVATION



CONCRETE REMOVAL OF EXIST. ABUTMENT

GENERAL NOTES

All structural steel shall be shop painted with two coats of basic lead silico chromate paint.

Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.

[illegible]

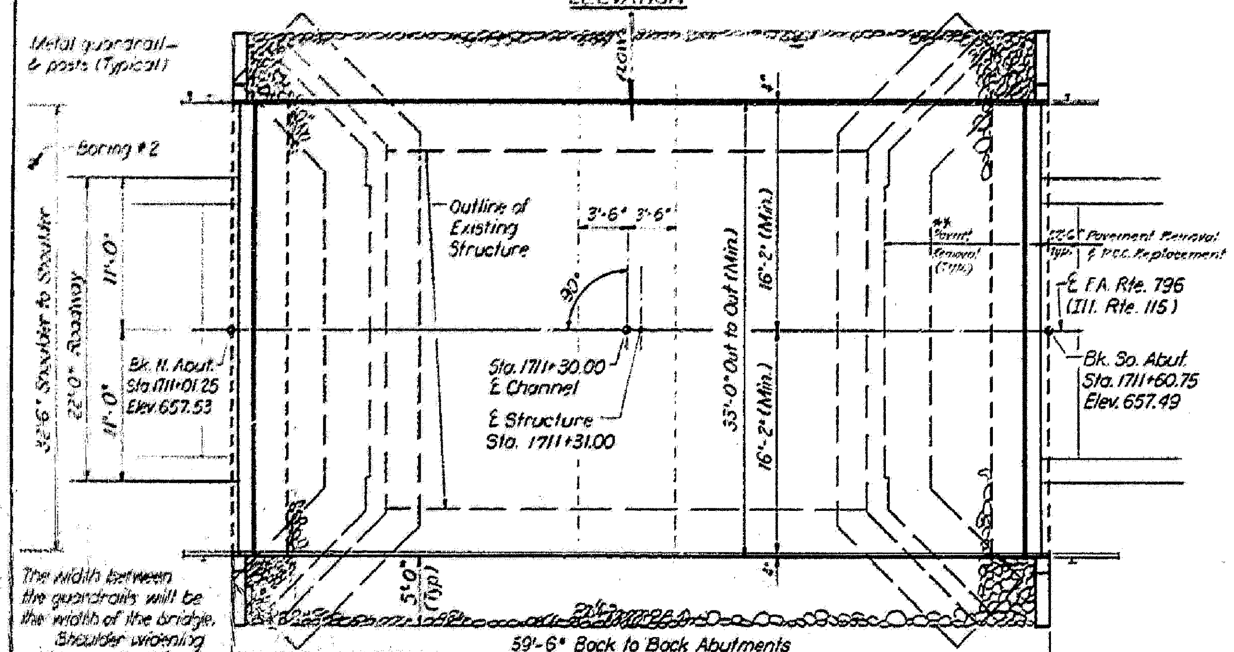
[illegible]

The Contractor shall drive one concrete test piles in a permanent location at the North Abutment as directed by the Engineer before ordering the remainder of piles.

For boring data see Proposal.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.

** Pavement removal behind existing abutments shall be incidental to removal of existing superstructures.



The width between the guardrails will be the width of the bridge. Shoulder widening will be required for the length of the guardrails. (Typical)

PLAN

WATERWAY INFORMATION

Drainage Area 10.6 Sq. Mi.			Low Grade Elev. 656.6		@ Sta. 1709+00				
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	30	517	320	320	654.3	0	0	654.3	654.3
Base	100	653	372	373	655.4	0	0	655.4	655.4
Overtopping	500	824	373	373	656.4	0.12	0.12	656.52	656.52
Max. Calc.	500	824	373	373	656.4	0.12	0.12	656.52	656.52

STATION 1711+31
BUILT 19 BY
STATE OF ILLINOIS
F.A.RT. 796 SEC. 106BR-3
LOADING HS 20
* STR. NO.

PROJECT BR-F-F-796(4)

NAME PLATE
See Std. 2113
* Structure Number to be supplied by District.

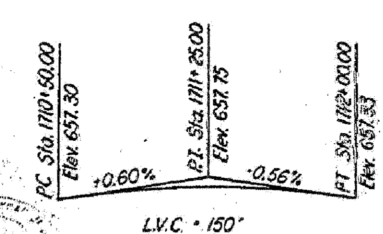
LOADING HS 20-44

Design Specifications: 1977 AASHTO and 1978, 1979 & 1980
Interim Specifications as applicable.
Allow 25#/Sq. Ft. for future wearing surface.

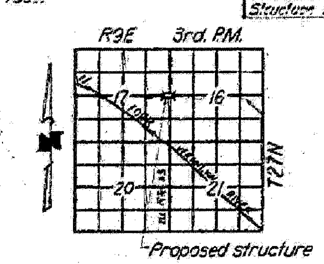
TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Removal of Existing Superstructures	Each	1		1
Bituminous Concrete Surface Course, Class I	Ton	27		27
Concrete Removal	Cu. Yd.		16	16
Class X Concrete	Cu. Yd.	68	[illegible]	[illegible]
Reinforcement Bars	Pound	100	2800	2900
Structural Steel	Pound	2310		2310
Concrete Piles	Lin. Ft.		459	459
Test Pile (Concrete)	Each		1	1
Pavement Removal & P.C.C. Replacement Type 2 10"	Sq. Yd.	12		12
Name Plates	Each			1
Stone Riprap	Sq. Yd.		257	257
Preformed Jt. Seal (2½")	Lin. Ft.	33		33
Precast Prestressed Conc. Deck Bms. (21")	Sq. Ft.	1871		1871
Steel Railing Type S-1	Lin. Ft.	112		114
P.C. Mortar Railing CSS	Lin. Ft.	567		567
Waterproofing Membrane System	Sq. Yd.	210		210
Structure Excavation	Cu. Yd.	72		72

DESIGN STRESSES
PRECAST PRESTRESSED UNITS
f'c = 5,000 p.s.i.
f'ci = 4,800 p.s.i.
f's = 270,000 p.s.i. (½" ø Strands)
f'si = 189,000 p.s.i. (½" ø Strands)
FIELD UNITS
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Reinforcement)



PROFILE GRADE
(F.A. Route 796)

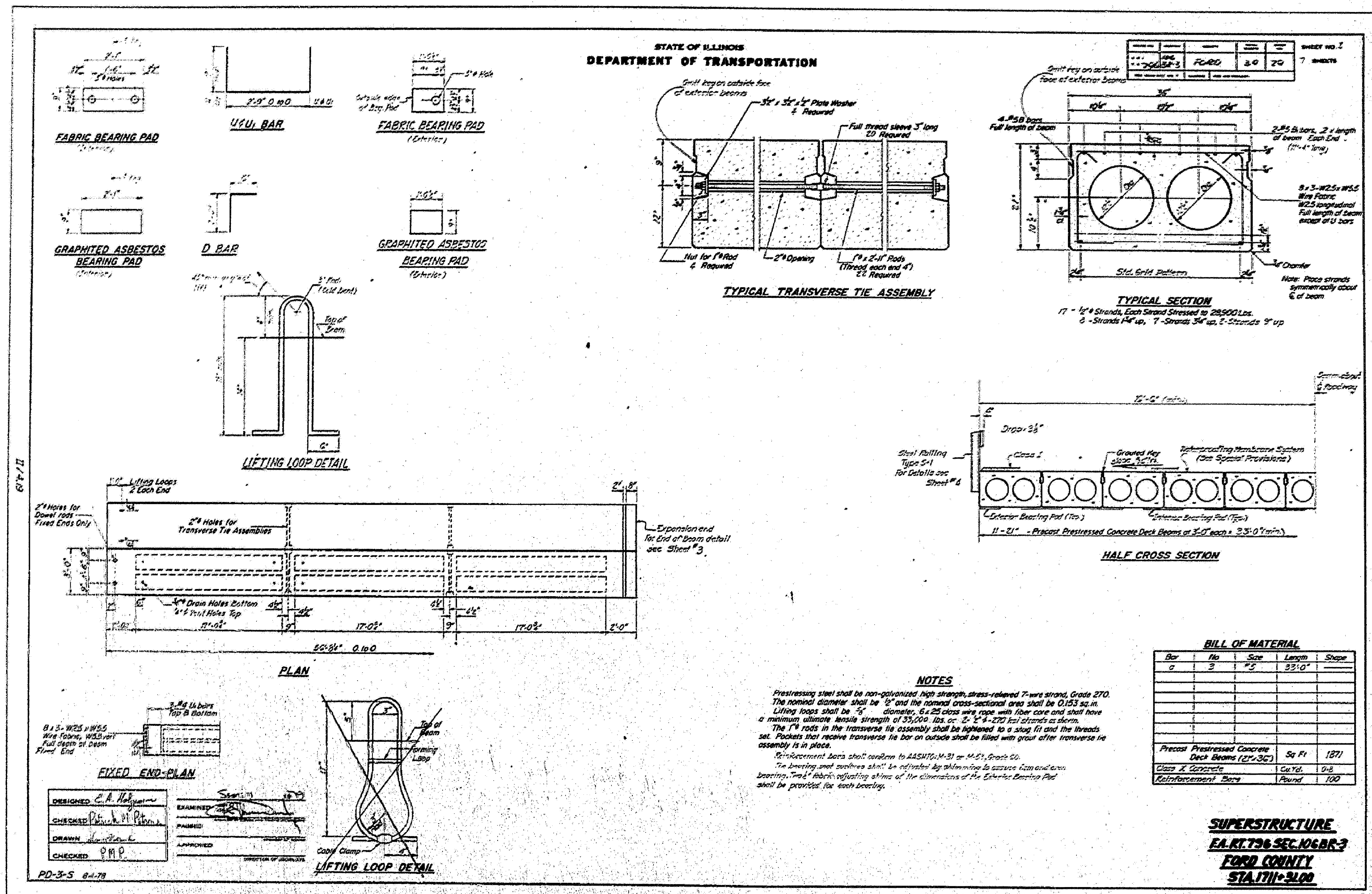


LOCATION SKETCH

GENERAL PLAN AND ELEVATION
F.A. ROUTE 796 OVER
DRAINAGE DITCH
F.A. ROUTE 796 SECTION 106 BR-3
FORD COUNTY
STATION 1711+31.00

DESIGNED C. H. [illegible]
CHECKED [illegible]
DRAWN [illegible]
CHECKED PMP

September 11, 1979
EXAMINED [illegible]
PASSED
APPROVED



NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq.in.

Lifting loops shall be ⅝" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 33,000 lbs. or 2-½" Ø-270 ksi strands as shown.

The 1"Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to AASHTO: M-31 or M-53, Grade 60.

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	3	#5	33'-0"	——
Precast Prestressed Concrete Deck Beams (27"x36")			Sq Ft	1871
Class X Concrete			Cu.Yd.	0.8
Reinforcement Bars			Pound	100

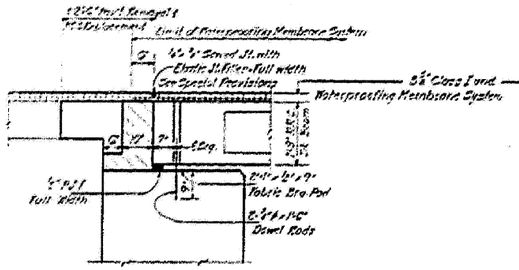
SUPERSTRUCTURE
F.A. RT. 796 SEC. 106BR-3
FORD COUNTY
STA. 1711+31.00

FILE NAME = ...\66916-034-ExistPlans2.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering, Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	EXISTING BRIDGE PLANS FOR INFORMATION ONLY
		DRAWN - RAC	REVISED -			
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -			
	PLOT DATE = 10/6/2010	DATE - 09/03/10	REVISED -		SCALE: 1" = 50' / SHEET NO. 2 OF 10 SHEETS	STA. 1707+00 TO STA. 1716+00

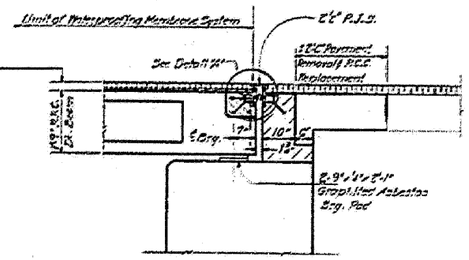
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	34
		CONTRACT NO. 66916		
		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

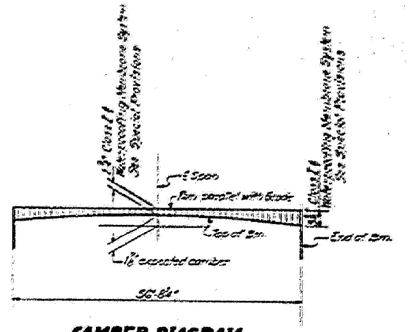
					SHEET NO. 3
					7 SHEETS
		FAP 796	34	30	



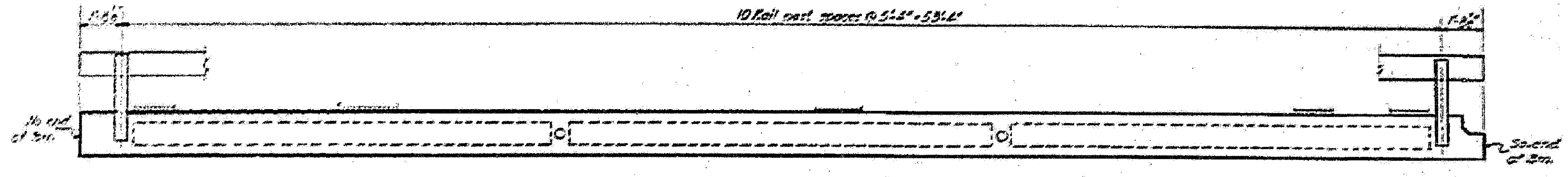
SEC. THRU NO. ABUT.



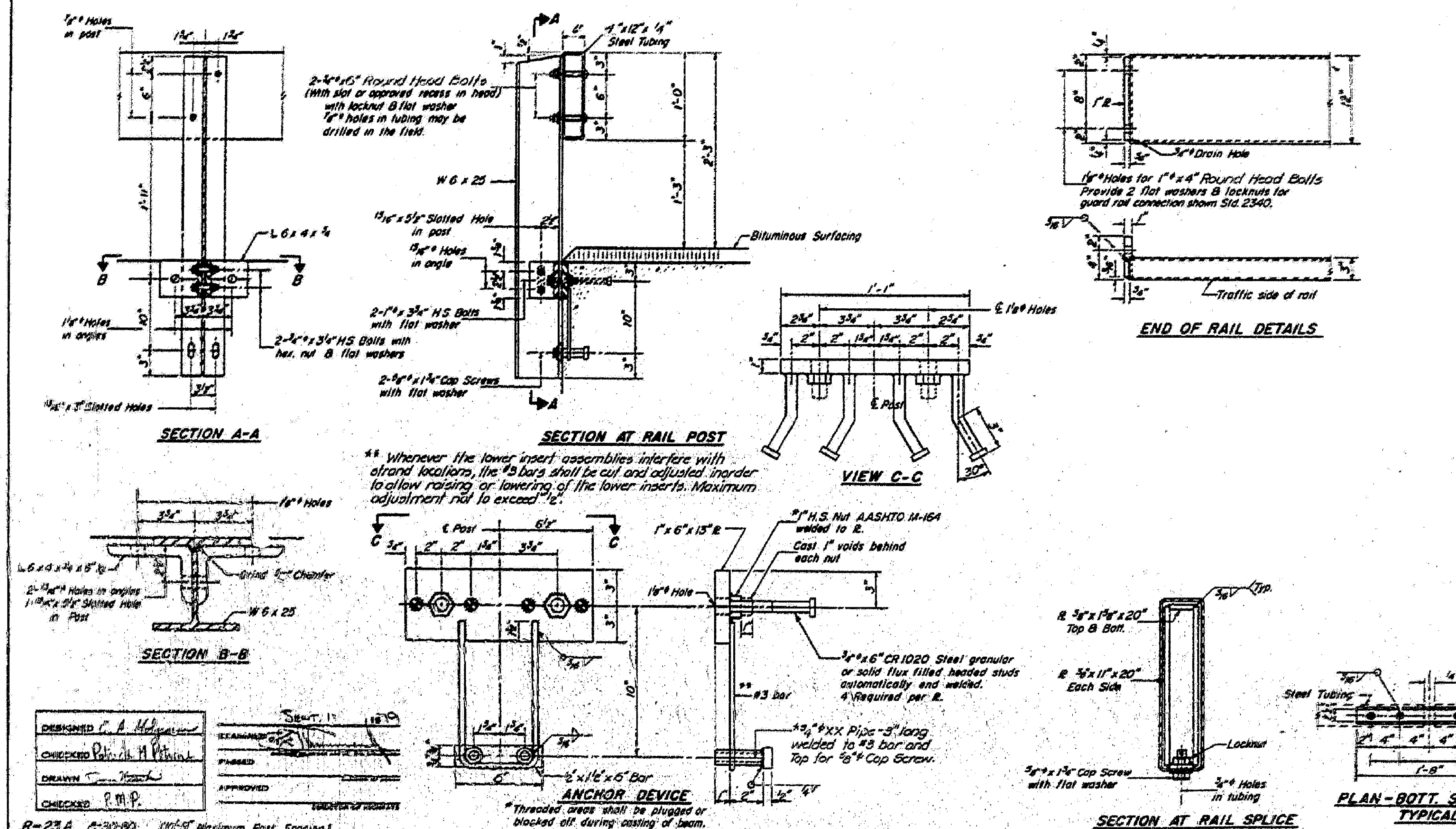
SEC. THRU SO. ABUT.


3½" Class I Waterproofing Membrane System
See Special Provisions
Same Waterproofing Membrane System
Tan. accepted with Grade
Tan. accepted with Grade
Tan. accepted with Grade

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



RAILING ELEVATION
Showing outside face.



NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of AASHTO M-183 except posts and angles shall conform to AASHTO M-223, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE S.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place ⅛" fabric bearing pad between the post and concrete.

The ¾" ϕ high strength bolts used to connect the 6 x 4 x ¾ angles to the post shall be tightened in accordance with Article 507.04(g)(3) of the Standard Specifications. The 1" ϕ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional ½ turn. The ⅝" ϕ cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Lin. Ft.	114

TYPE S-1 STEEL RAILING
F.A.RT.796 SEC.106BR-3
FORD COUNTY
STA.1711+31.00

FILE NAME = ...\66916-036-ExistPlans4.dgn	USER NAME = SAW	DESIGNED - RAC
	PLOT SCALE = 50.0000 ' / IN.	DRAWN - RAC
	PLOT DATE = 10/6/2010	CHECKED - DAZ
		DATE - 09/03/10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

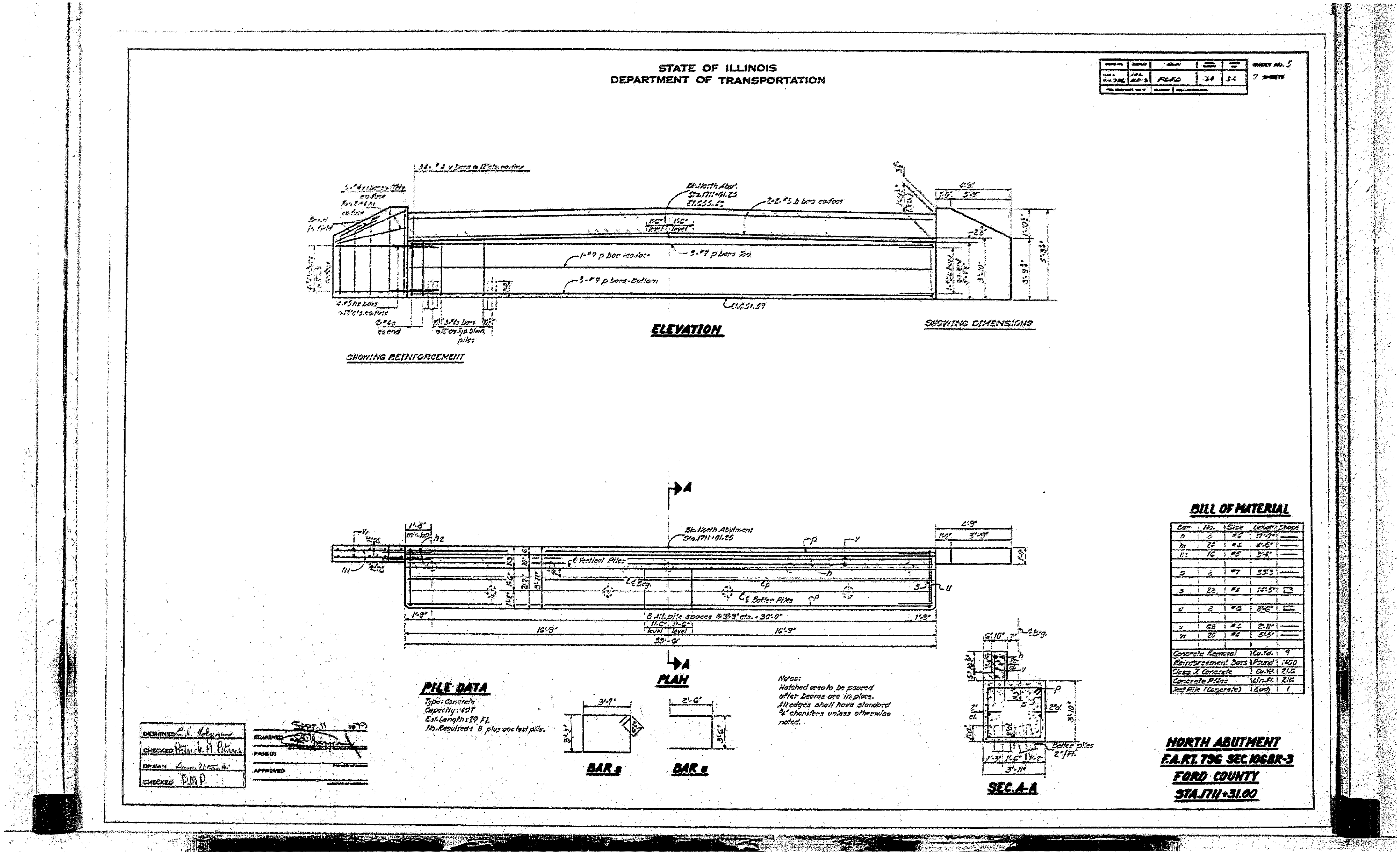
ZROKA engineering — Zroka Engineering, P.C., 4216 North Hermitage, Chicago, IL 60613

EXISTING BRIDGE PLANS FOR INFORMATION ONLY

SCALE: 1" = 50' | SHEET NO. 4 OF 10 SHEETS | STA. 1707+00 TO STA. 1716+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	36

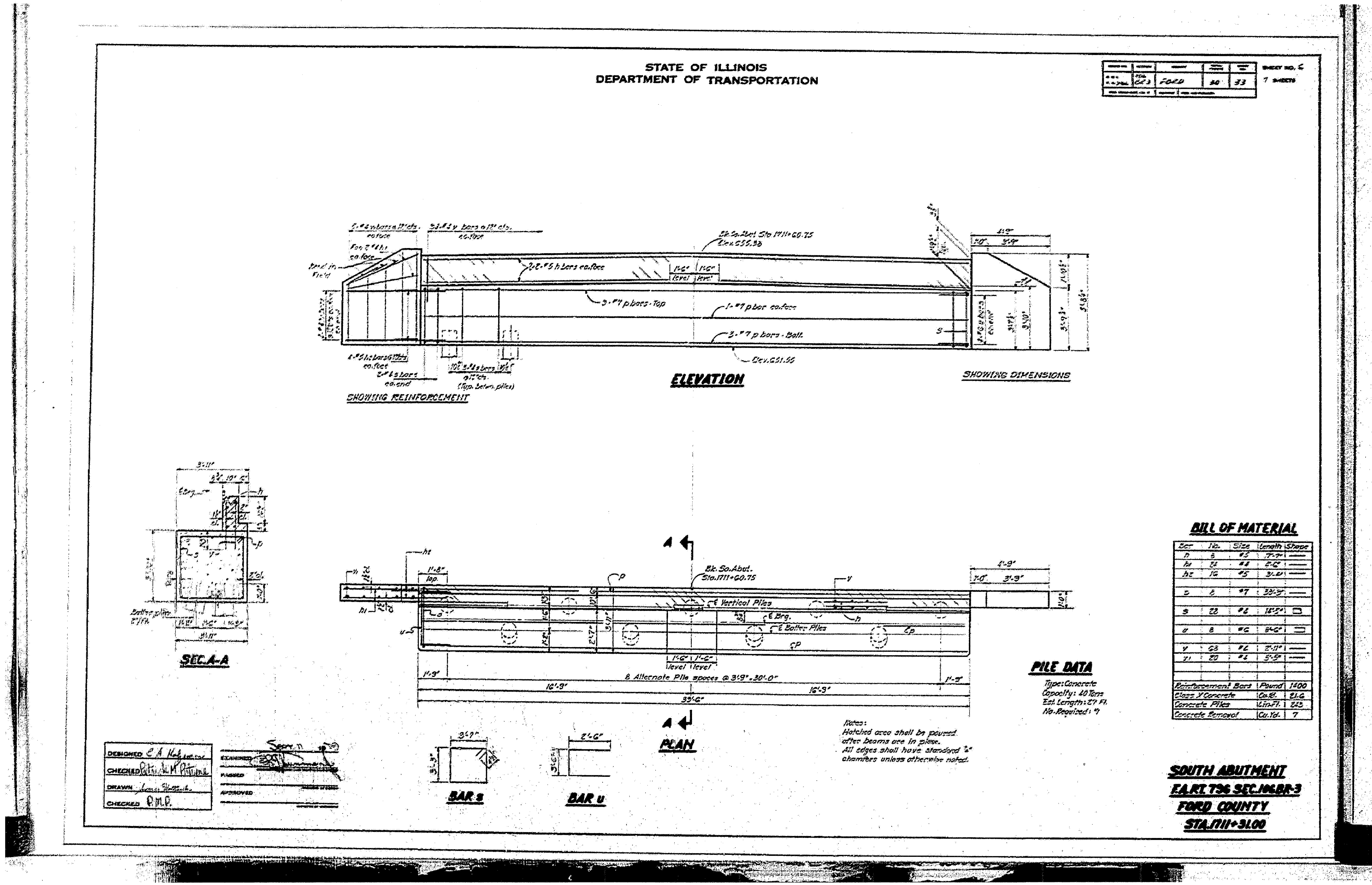
CONTRACT NO. 66916
ILLINOIS FED. AID PROJECT



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	8	#5	17'-7"	——
h1	25	#4	4'-6"	——
h2	16	#5	3'-4"	——
p	8	#7	33'-3"	——
s	23	#4	14'-5"	▭
u	8	#6	8'-6"	⊏
v	68	#4	2'-11"	——
v1	20	#4	5'-5"	——
Concrete Removal			Cu. Yd.	9
Reinforcement Bars			Pound	1400
Class X Concrete			Cu. Yd.	21.6
Concrete Piles			Lin. Ft.	216
Test Pile (Concrete)			Each	1

FILE NAME = ...\66916-037-ExistPlans5.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering — Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	EXISTING BRIDGE PLANS FOR INFORMATION ONLY	F.A.P. RTE. 796 — SECTION (106) BR-3 — COUNTY FORD — TOTAL SHEETS 48 — SHEET NO. 37
		DRAWN - RAC	REVISED -				CONTRACT NO. 66916
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -		SCALE: 1" = 50' — SHEET NO. 5 OF 10 SHEETS	STA. 1707+00 TO STA. 1716+00	ILLINOIS FED. AID PROJECT
	PLOT DATE = 10/6/2010	DATE - 09/03/10	REVISED -				



BILL OF MATERIAL

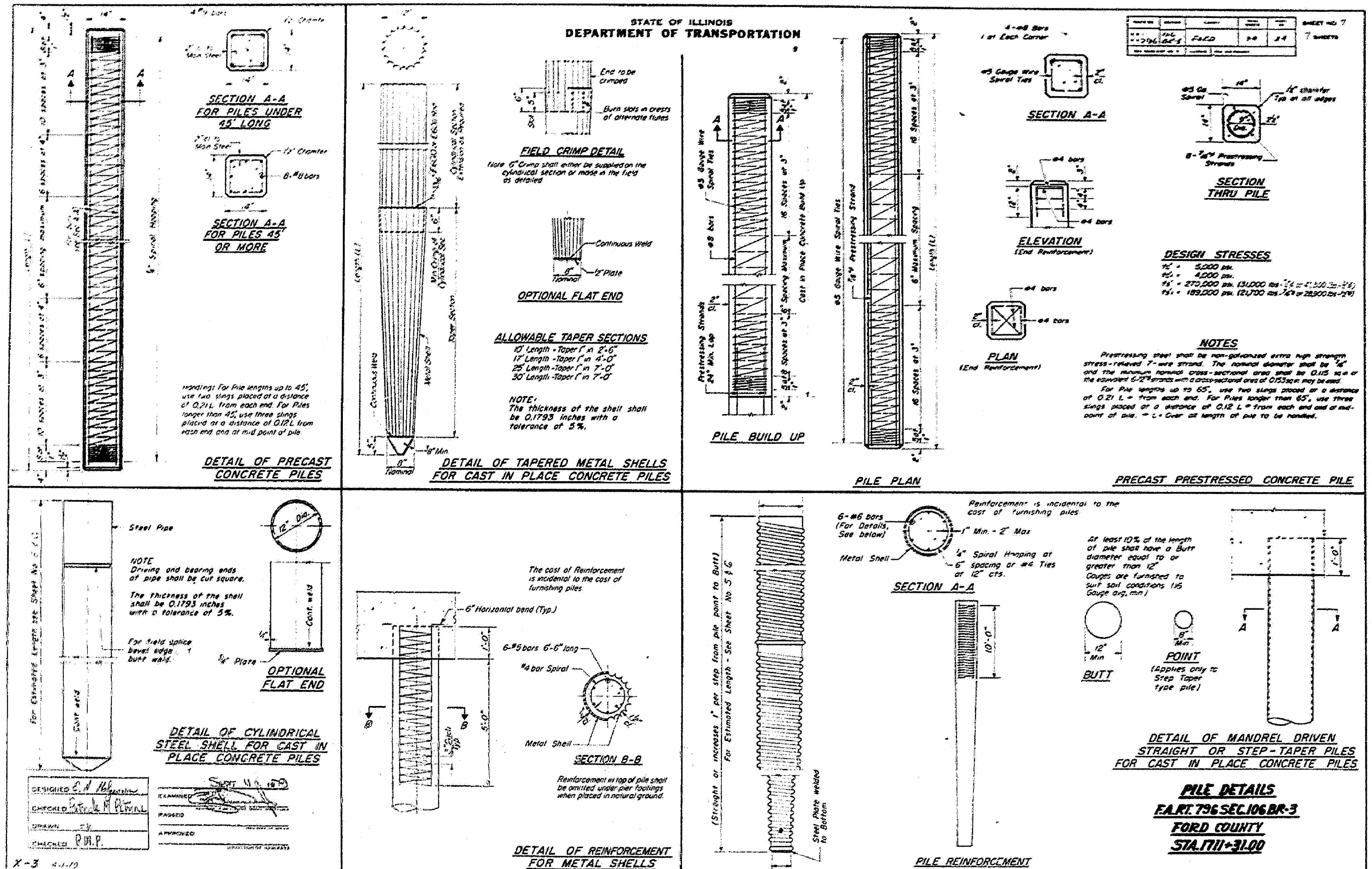
Bar	No.	Size	Length	Shape
h	8	#5	7'-7"	—
h1	24	#4	2'-6"	—
h2	16	#5	3'-2"	—
p	8	#7	33'-3"	—
s	22	#6	14'-5"	▭
u	8	#6	5'-6"	⊐
v	68	#6	2'-11"	—
v1	20	#4	5'-5"	—
Reinforcement Bars			Pound	1400
Class X Concrete			Cu.Yd.	21.6
Concrete Piles			Lin.Ft.	263
Concrete Removal			Cu.Yd.	7

FILE NAME = ...\66916-038-ExistPlans6.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering — Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613
		DRAWN - RAC	REVISED -		
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -		
	PLOT DATE = 10/6/2010	DATE - 09/03/10	REVISED -		SCALE: 1" = 50' — SHEET NO. 6 OF 10 SHEETS

EXISTING BRIDGE PLANS FOR INFORMATION ONLY

STA. 1707+00 TO STA. 1716+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	38
		CONTRACT NO. 66916		
	ILLINOIS FED. AID PROJECT			



FILE NAME =	USER NAME = SAW	DESIGNED - RAC	REVISED -
...\66916-039-ExistPlans7.dgn		DRAWN - RAC	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE - 09/03/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering — Zroka Engineering, P.C., 4216 North Hermitage, Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 7 OF 10 SHEETS

EXISTING BRIDGE PLANS FOR INFORMATION ONLY

STA. 1707+00 TO STA. 1716+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	39

CONTRACT NO. 66916

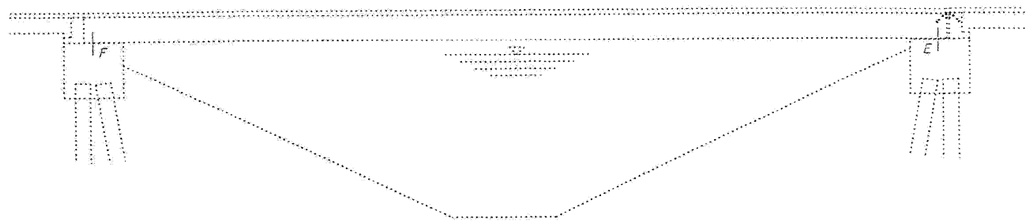
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

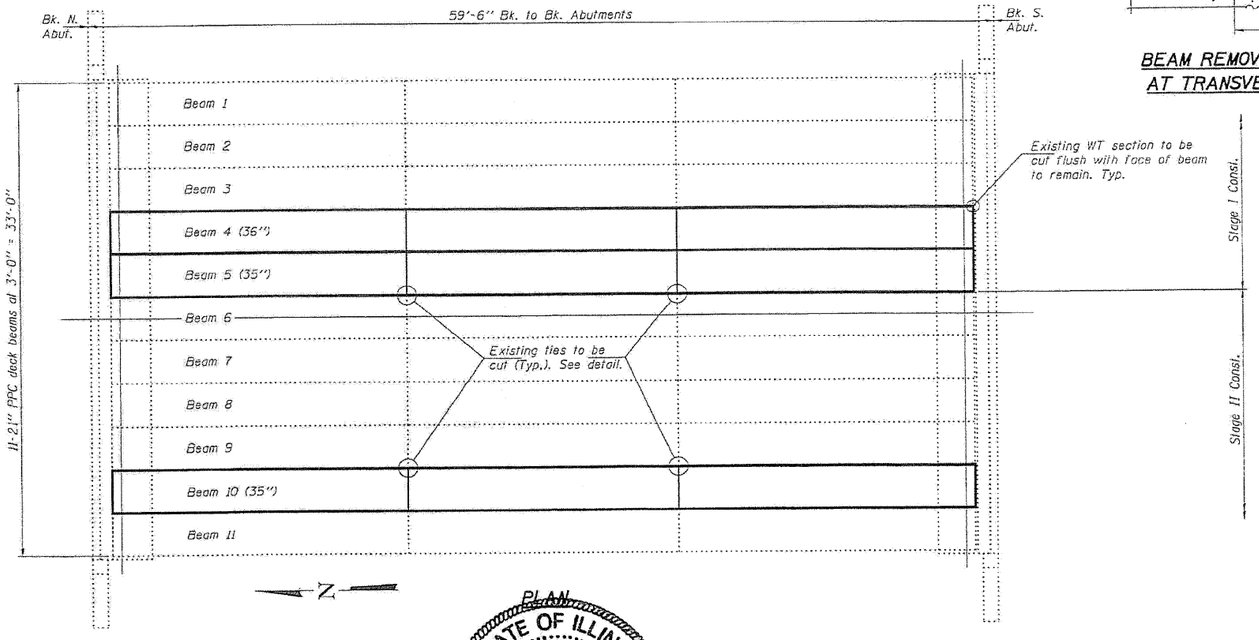
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 796		FORD	12	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
3 SHEETS

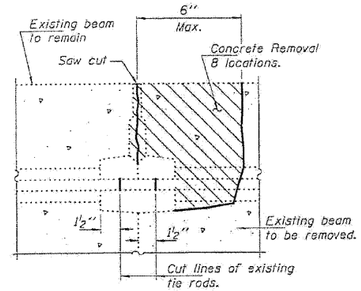
Contract Number: 66767



ELEVATION



PLAN



BEAM REMOVAL DETAIL AT TRANSVERSE TIES

GENERAL NOTES

The contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work

Temporary concrete barrier shall only be anchored into the overlay and not into the PPC deck beams.

Any damage done to the bridge during beam removal shall be repaired by the contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Precast Prestressed Concrete Deck Beams (21" Depth).

DESIGNED	Adriana I. Hallaway
CHECKED	Victor H. Volz
DRAWN	baliva
CHECKED	VHV ATH

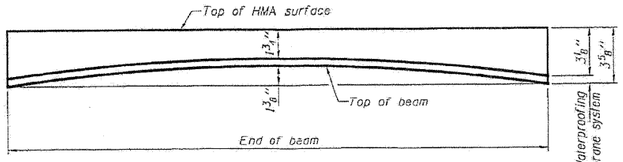
DECEMBER 28, 2007

EXAMINED — ENGINEER OF STRUCTURAL SERVICES

PASSED — ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
RALPH E. ANDERSON
081-004625
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

Expires: November 30, 2008



ANTICIPATED INITIAL CAMBER DIAGRAM

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	511
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	501
Hot-Mix Asphalt Surface Removal	Sq. Yd.	13.2
HMA Surface Course Mix "D" N50	Tons	9.6
PC Mortar Fairing Course	Foot	283
Asbestos Bearing Pad Removal	Each	3
Waterproofing Membrane System	Sq. Yd.	70
		--

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

f'c = 5,000 psi
f'ci = 4,200 psi
f's = 270,000 psi (½"ϕ low lax strands)
f'si = 201,960 psi (½"ϕ low lax strands)

PLAN AND ELEVATION FA 796 OVER DRAINAGE DITCH FORD COUNTY SN 027-0075

\deck beams fy08\0270075.dgn 12/28/2007 1:53:53 PM

FILE NAME =	USER NAME = SAW	DESIGNED - BAC	REVISED -
...\66916-040-ExistPlans8.dgn		DRAWN - BAC	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE - 09/03/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 8 OF 10 SHEETS | STA. 1707+00 TO STA. 1716+00

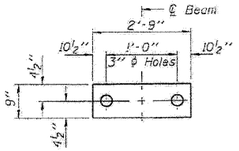
EXISTING BRIDGE PLANS FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	40
		CONTRACT NO. 66916		
	ILLINOIS FED. AID PROJECT			

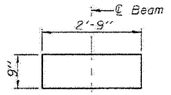
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 796		FORD	12	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

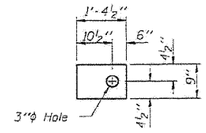
SHEET NO. 2
3 SHEETS
Contract Number: 66767



FABRIC BEARING PAD
FIXED

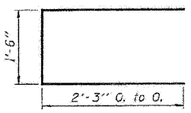


FABRIC BEARING PAD
EXPANSION

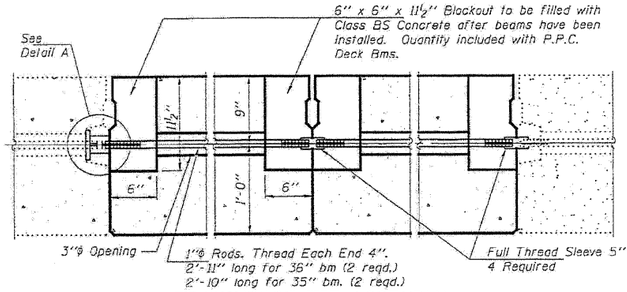


FABRIC ADJUSTING SHIM
FIXED

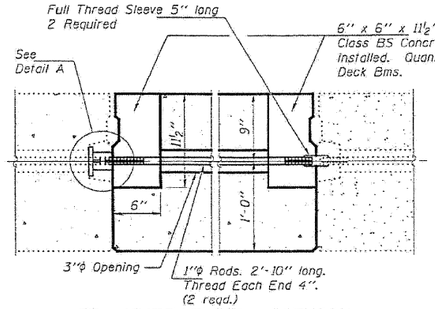
FABRIC ADJUSTING SHIM
EXPANSION



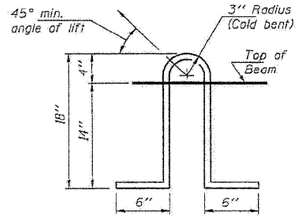
BAR U



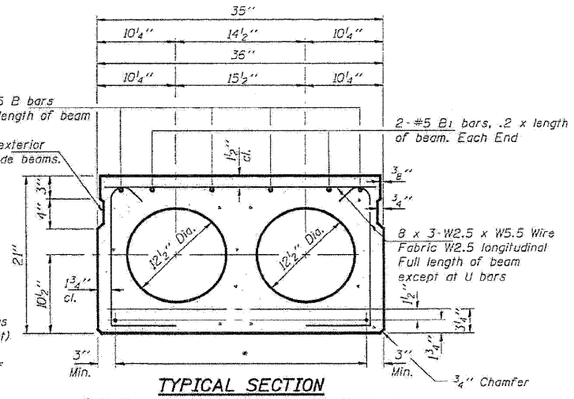
TRANSVERSE TIE ASSEMBLY
(Beams 4 & 5)



TRANSVERSE TIE ASSEMBLY
(Beam 10)



LIFTING LOOP DETAIL



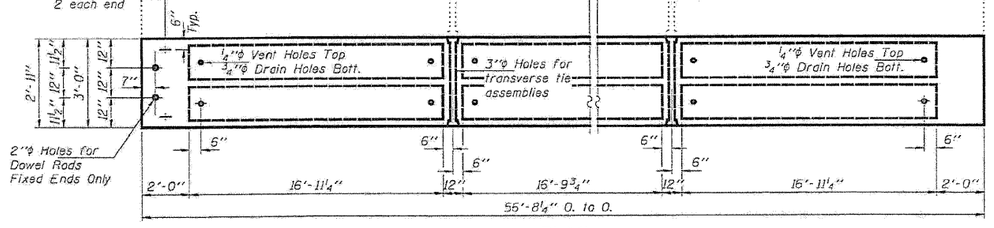
TYPICAL SECTION

½"ϕ Strands, Each Strand Stressed to 30,900 Lbs.
6 - Strands 1¾" up, 8 - Strands 3¼" up, 2 - Strands 9" up

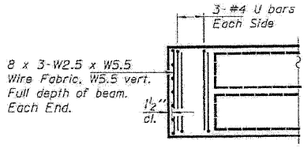
* TRANSVERSE PLACEMENT GUIDELINES

1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be ½".
4. The minimum clearance from strand to void shall be 1½".

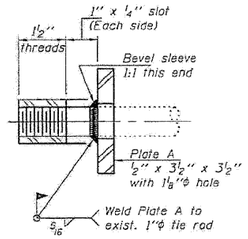
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



PLAN



END PLAN



SECTION A-A
(4 Required)

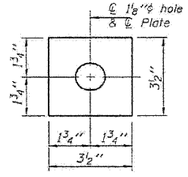
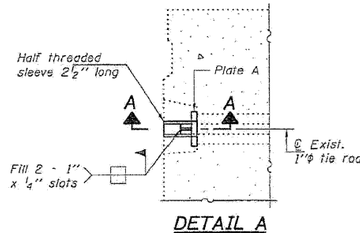
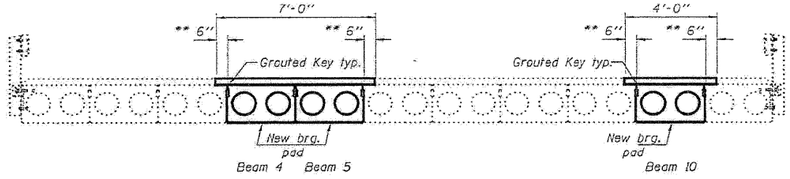


PLATE A
(4 Required)



DETAIL A



CROSS SECTION
(Looking South)

** Limits of HMA Surface Removal. Existing waterproofing to remain. Lap new waterproofing 6" over existing.

BILL OF MATERIAL

P. P.C. Deck Bms.	Sq. Ft.	501

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
Lifting loops shall be 2 - ½"ϕ - 270 ksi strands, as shown.
The 1"ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
Non prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" fabric adjusting shims of the dimensions shown shall be provided for each bearing.
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.
Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Required Release Strength, f'ci, shall be 4200 p.s.i.

DESIGNED	ATH
CHECKED	VHV
DRAWN	baliva
CHECKED	ATH VHV

DECEMBER 28, 2007
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS FA 796 OVER DRAINAGE DITCH FORD COUNTY SN 027-0075

...\deck_beams_fy08\0270075.dgn 12/28/2007 1:53:54 PM

FILE NAME =	USER NAME = SAW	DESIGNED - RAC	REVISED -
...\66916-041-ExistPlans9.dgn		DRAWN - RAC	REVISED -
	PLOT SCALE = 50.0002 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE - 09/03/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 9 OF 10 SHEETS | STA. 1707+00 TO STA. 1716+00

EXISTING BRIDGE PLANS FOR INFORMATION ONLY

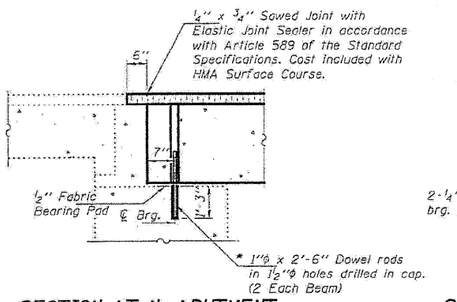
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	41
		CONTRACT NO. 66916		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

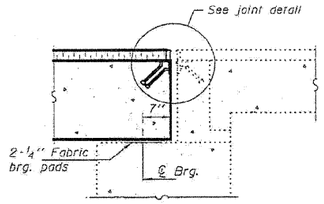
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 796		FORD	12	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
3 SHEETS

Contract Number: 66767

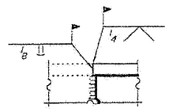


SECTION AT N. ABUTMENT

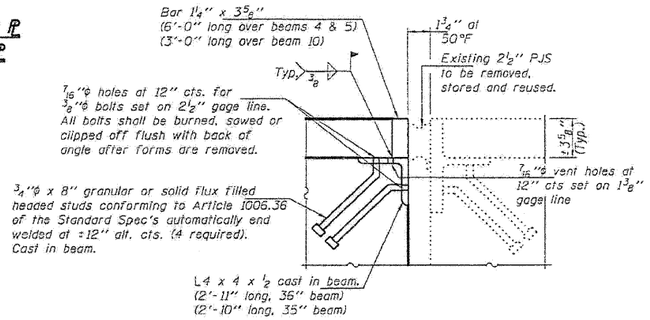


SECTION AT S. ABUTMENT

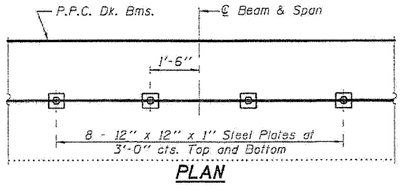
* Existing Dowel Rods shall be cut off & ground flush with the top of the existing concrete. Cost included with Removal of Existing P.P.C. Deck Beams. Proposed Dowel Rods shall be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting shear keys.



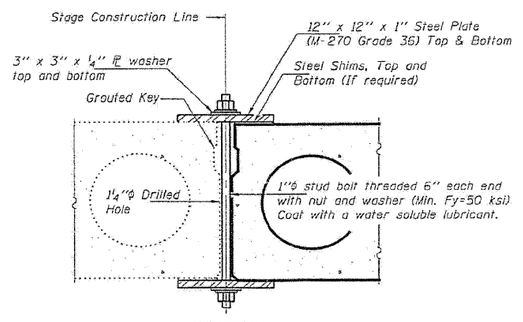
ELEVATION NEW JOINT ℙ
TO EXISTING JOINT ℙ



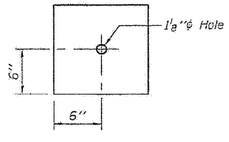
SOUTH ABUTMENT JOINT DETAIL
(Cost included with PPC Deck Beams)



PLAN



SECTION



CLAMPING PLATE

Notes:
See Special Provisions for Stage Construction Precast Prestressed Concrete Deck Beams.
See Stage Construction Detail for traffic lane. Cost is included with Precast Prestressed Concrete Deck Beams.

DESIGNED	ATH
CHECKED	VHV
DRAWN	baliva
CHECKED	ATH VHV

PD-3-S 11-1-06

DECEMBER 28, 2007
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS
FA 796 OVER
DRAINAGE DITCH
FORD COUNTY
SN 027-0075

...\deck beams fy08\0270075.dgn 12/28/2007 1:59:55 PM

FILE NAME = ...\66916-Ø42-ExistPlans10.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - RAC	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE - 09/03/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

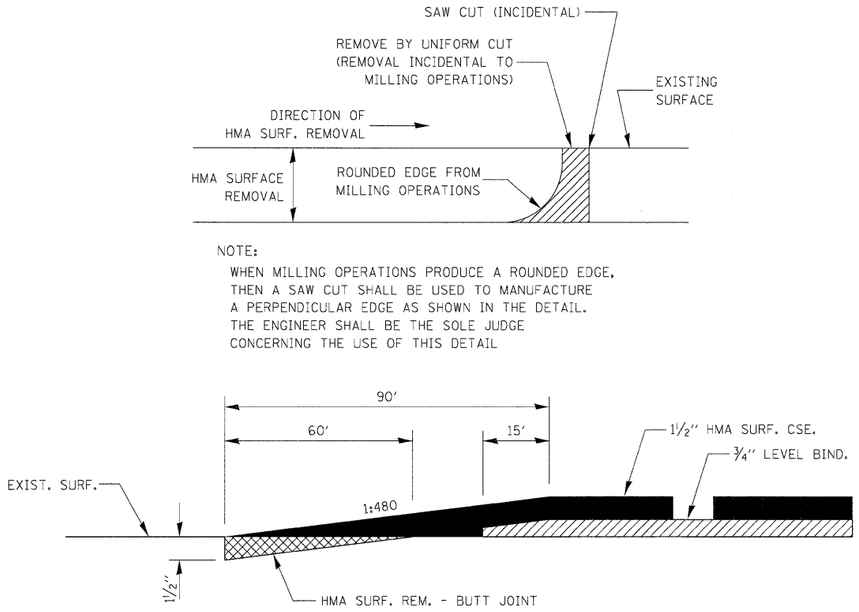
ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

SCALE: 1" = 50' | SHEET NO. 10 OF 10 SHEETS

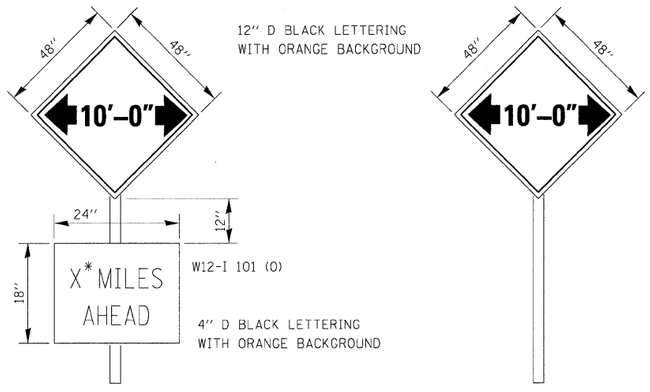
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

STA. 1707+00 TO STA. 1716+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	42
		CONTRACT NO. 66916		
		ILLINOIS	FED. AID PROJECT	



HMA DETAIL AT BUTT JOINTS



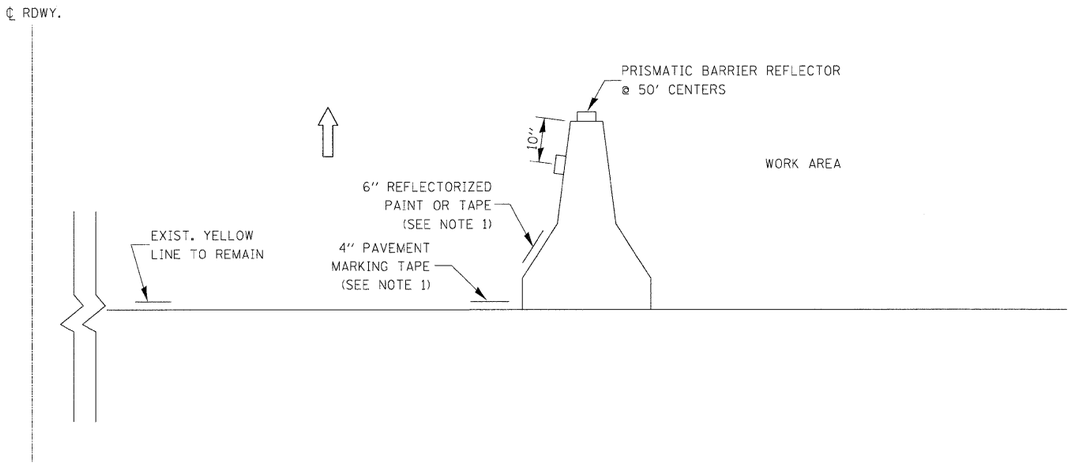
TO BE POST MOUNTED AS SHOWN ELSEWHERE IN THE PLANS.

THE RE/RT SHALL CONTACT THE PERMITS OFFICE A MINIMUM OF 21 DAYS PRIOR TO ANY ROADWAY WIDTH RESTRICTION AT THE FOLLOWING EMAIL ADDRESS:
ROADINFO@DOT.IL.GOV

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ENGINEER TO MEET THIS REQUIREMENT.

COST OF SUPPLYING, INSTALLING, MAINTAINING AND REMOVING WIDTH RESTRICTION SIGNS SHALL BE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION PAY ITEMS.

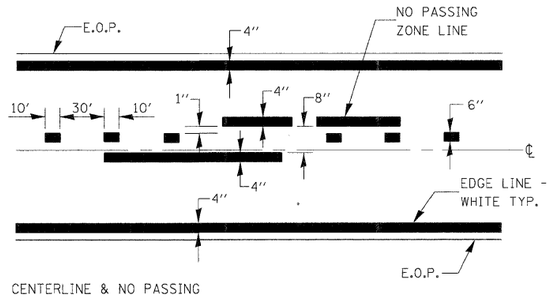
WIDTH RESTRICTION SIGNING DETAILS



NOTES:

1. THE CONTRACTOR HAS THE OPTION OF USING EITHER THE LINE ON THE TEMPORARY CONCRETE BARRIER OR ON THE PAVEMENT.
2. THE COLOR OF THE REFLECTORS AND PAVEMENT/BARRIER MARKING LINE WILL VARY WITH STAGING AND SHALL MATCH THE EXISTING LINE IN THE WORK AREA.
3. THE COST OF THE REFLECTORS AND THE PAVEMENT/BARRIER MARKING LINE IS INCLUDED IN THE COST OF THE TEMPORARY CONCRETE BARRIER.

TRAFFIC CONTROL DETAILS FOR TEMPORARY CONCRETE BARRIER

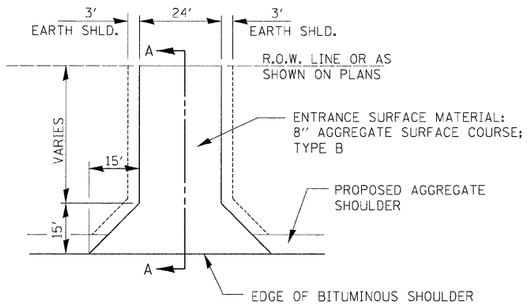


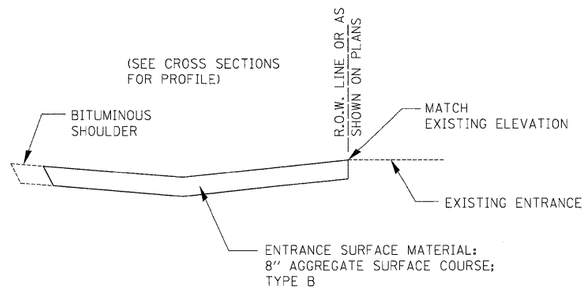
CENTERLINE & NO PASSING ZONE LINES - YELLOW

(SEE TYPICAL SECTIONS)

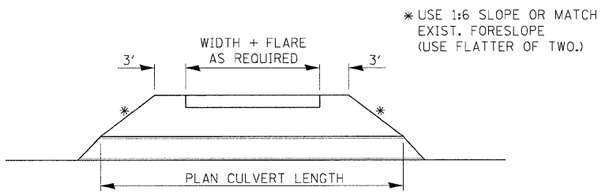
PAVEMENT MARKING

FILE NAME = ...\Civil\D366916-SHT-Details.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering	Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	DETAILS	F.A.P. RTE.	SECTION	COUNTY / TOTAL SHEETS / SHEET NO.
		DRAWN - RAC	REVISED -					796	(106) BR-3	FORD / 48 / 43
	PLOT SCALE = 50.00000 ' / IN.	CHECKED - DAZ	REVISED -							CONTRACT NO. 66916
	PLOT DATE = 10/6/2010	DATE - 10/08/10	REVISED -		SCALE: 1" = 50'	SHEET NO. 43 OF 48 SHEETS	STA. 1707+00 TO STA. 1716+00		ILLINOIS FED. AID PROJECT	

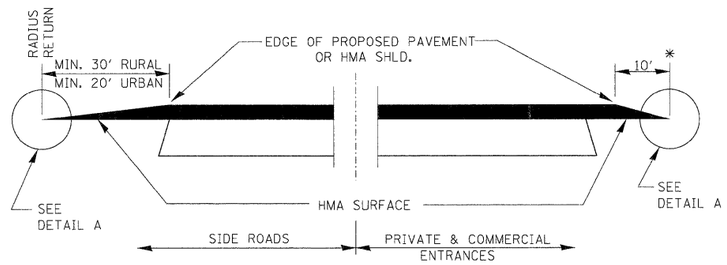




SECTION A–A

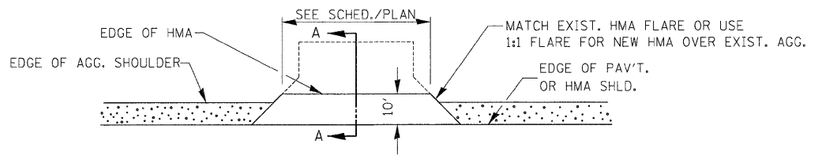


FIELD ENTRANCE DETAIL



SECTION A–A

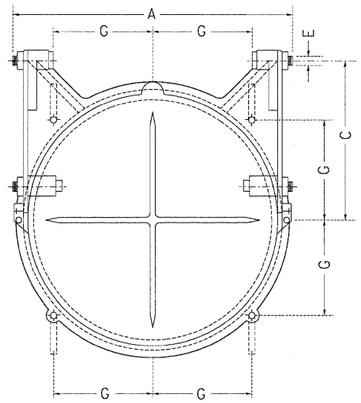
DETAILS AT ENTRANCES & SIDE ROADS



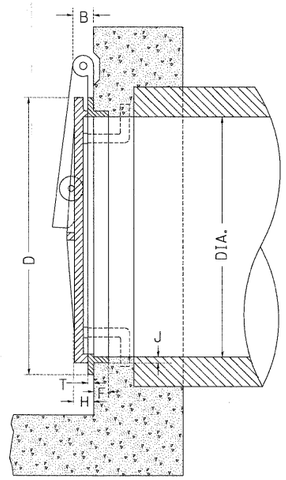
PLAN AT PRIVATE & COMMERCIAL ENTRANCES

(DO NOT RESURFACE FIELD ENTRANCES)

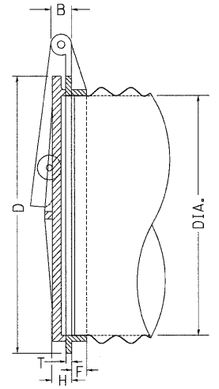
FILE NAME = ...\Civil\0366916-SHT-Details.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ZROKA engineering	Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RAC	REVISED -					796	(106) BR-3	FORD	48	44
	PLOT SCALE = 50.00000 ' / IN.	CHECKED - DAZ	REVISED -							CONTRACT NO. 66916		
	PLOT DATE = 10/6/2010	DATE - 10/08/10	REVISED -		SCALE: 1" = 50'	SHEET NO. 44 OF 48 SHEETS	STA. 1707+00 TO STA. 1716+00		ILLINOIS	FED. AID PROJECT		



FRONT ELEVATION



SECTION



SECTION SHOWING METHOD OF APPLICATION TO CORRUGATED METAL PIPE

IT IS INTENTED THAT THE AUTOMATIC FLAP GATES SHALL BE A COMMERCIAL PRODUCT PRODUCED BY A RELIABLE MANUFACTURER. THE GATE MAY BE MADE OF CAST IRON, CAST STEEL OR OTHER SUITABLE MATERIALS. THE DESIGN MAY DIFFER FROM THE DRAWING IF IT WILL WORK IN A SATISFACTORY, TROUBLE FREE MANNER AND WILL WITHSTAND THE WATER PRESSURE AT THE INSTALLATION LOCATION. THE GATE SHALL BE APPROVED BY THE ENGINEER.

THE SIZE OF AUTOMATIC FLAP GATES SHALL REFER TO THE DIAMETER OF THE OUTLET PIPE OR OPENING.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR FLAP GATES OF THE SIZE SPECIFIED AND SHALL INCLUDE ALL MATERIALS AND COMPLETE INSTALLATION.

TABLE OF DIMENSIONS

DIAM	A	B	C	D	E	F	G	H	J	T
8″	10 3/4″	1 3/8″	5 11/16″	10″	1/2″	1 1/8″	3 9/16″	1 1/4″	3/8″	3/8″
10″	12 3/4″	1 3/8″	7 1/8″	12 1/4″	1/2″	1 1/8″	4 3/8″	1 1/2″	1/2″	7/16″
12″	14 3/4″	1 3/8″	8 1/2″	14 1/2″	1/2″	1 1/8″	5 1/8″	1 1/2″	1/2″	1/2″
14″	17 1/4″	1 3/8″	9 7/8″	16 3/4″	1/2″	1 1/4″	5 15/16″	1 1/2″	1/2″	9/16″
15″	17 3/4″	1 3/8″	10 5/8″	17 3/4″	1/2″	1 1/4″	6 1/4″	1 1/2″	1/2″	9/16″
16″	19 1/4″	1 3/8″	11 1/4″	18 3/4″	1/2″	1 1/4″	6 5/8″	1 1/2″	1/2″	9/16″
18″	22 1/4″	2″	12 5/8″	21″	3/4″	1 9/16″	7 1/16″	1 3/4″	9/16″	9/16″
20″	24 3/4″	2″	14 1/8″	23 3/4″	3/4″	1 3/8″	8 1/4″	1 3/4″	5/8″	5/8″
21″	25 1/4″	2″	14 7/8″	24 1/4″	3/4″	1 3/8″	8 9/16″	1 3/4″	5/8″	5/8″
24″	28 1/4″	2″	17″	27 1/2″	3/4″	1 1/2″	9 3/4″	1 3/4″	5/8″	5/8″
30″	35 1/4″	2 1/2″	20 1/2″	34″	1″	1 9/16″	12″	2″	1 1/16″	5/8″
36″	41 1/2″	2 1/2″	25″	40 7/8″	1″	2 1/16″	14 7/16″	2 1/4″	1 1/8″	11/16″
42″	47 1/2″	2 1/2″	29 3/4″	47″	1″	2 5/16″	16 5/8″	2 1/4″	1 1/8″	3/4″
48″	53 1/2″	2 1/2″	34″	54″	1″	2 3/4″	19 1/16″	2 1/4″	1 3/8″	3/4″
54″	60 3/4″	2 1/2″	38″	62 1/4″	1 1/4″	2 3/4″	22″	3″	1 1/2″	7/8″
60″	67″	2 1/2″	42″	68 1/2″	1 1/4″	2 3/4″	24 1/4″	3″	1 1/2″	15/16″
66″	73 3/8″	2 1/2″	47″	75″	1 1/4″	2 7/8″	26 1/2″	3″	1 1/2″	1″
72″	79″	2 1/2″	51″	82″	1 1/4″	3″	29″	3″	1 1/2″	1″
78″	86″	2 1/2″	55 1/4″	88 3/4″	1 1/4″	3 1/2″	31 3/8″	3″	1 5/8″	1 1/8″
84″	92 1/2″	3 1/2″	59 1/2″	95 1/2″	1 1/2″	3 1/2″	33 3/4″	3″	1 3/4″	1 1/4″

AUTOMATIC FLAP GATE

FILE NAME = ...\Civil\0366916-SHT-Details.dgn	USER NAME = SAW	DESIGNED - RAC	REVISED -
		DRAWN - RAC	REVISED -
	PLOT SCALE = 50.00000 ' / IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE - 10/08/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

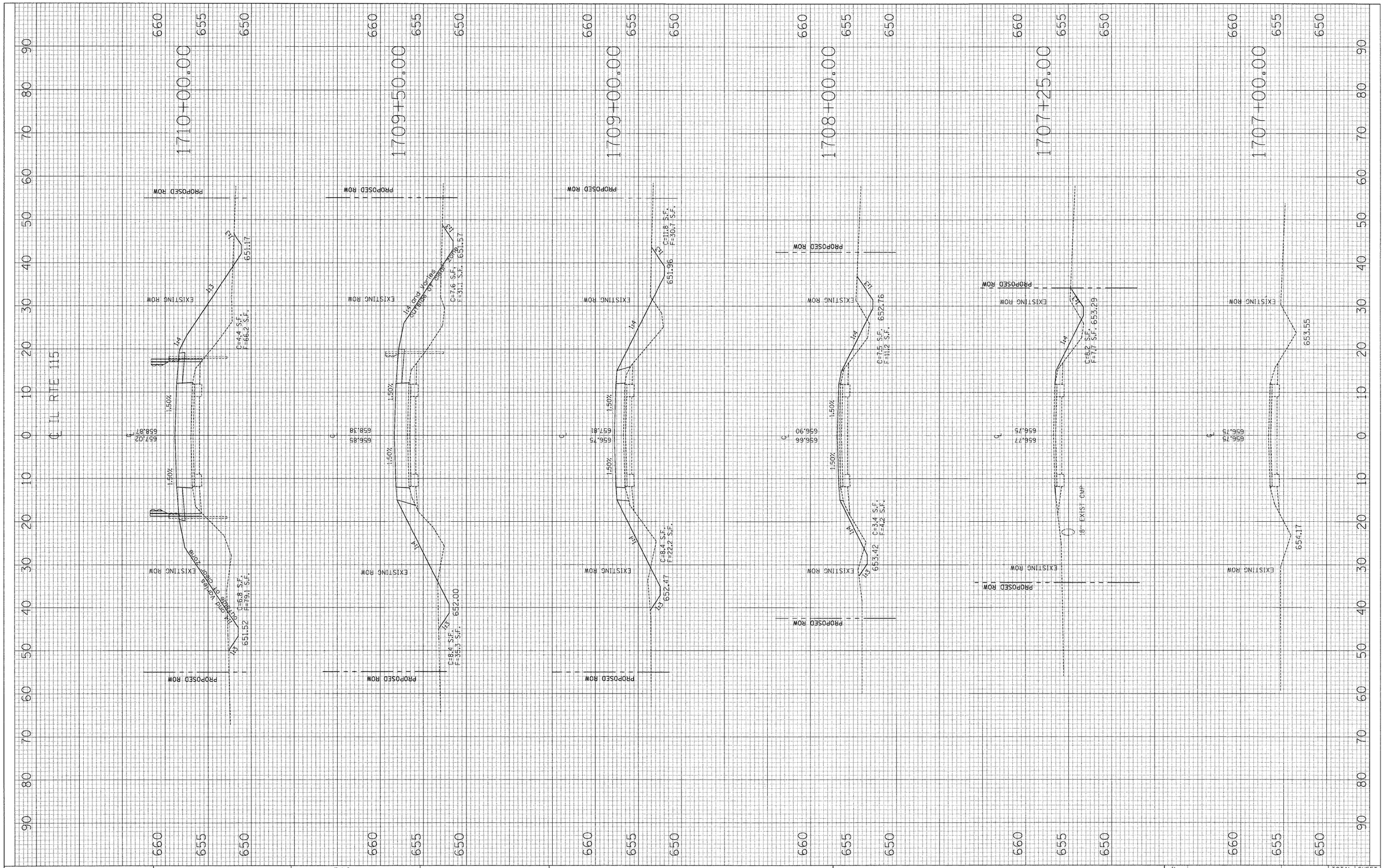
SCALE: 1" = 50' | SHEET NO. 45 OF 48 SHEETS | STA. 1707+00 TO STA. 1716+00

DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
796	(106) BR-3	FORD	48	45
		CONTRACT NO. 66916		
	ILLINOIS FED. AID PROJECT			

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

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



FILE NAME = ...\Civil\D366916-SHT-XS.dgn	USER NAME = SAW	DESIGNED RAC	REVISED -
		DRAWN SAW	REVISED -
	PLOT SCALE = 10.0000 ' / IN.	CHECKED DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE 10/08/10	REVISED -

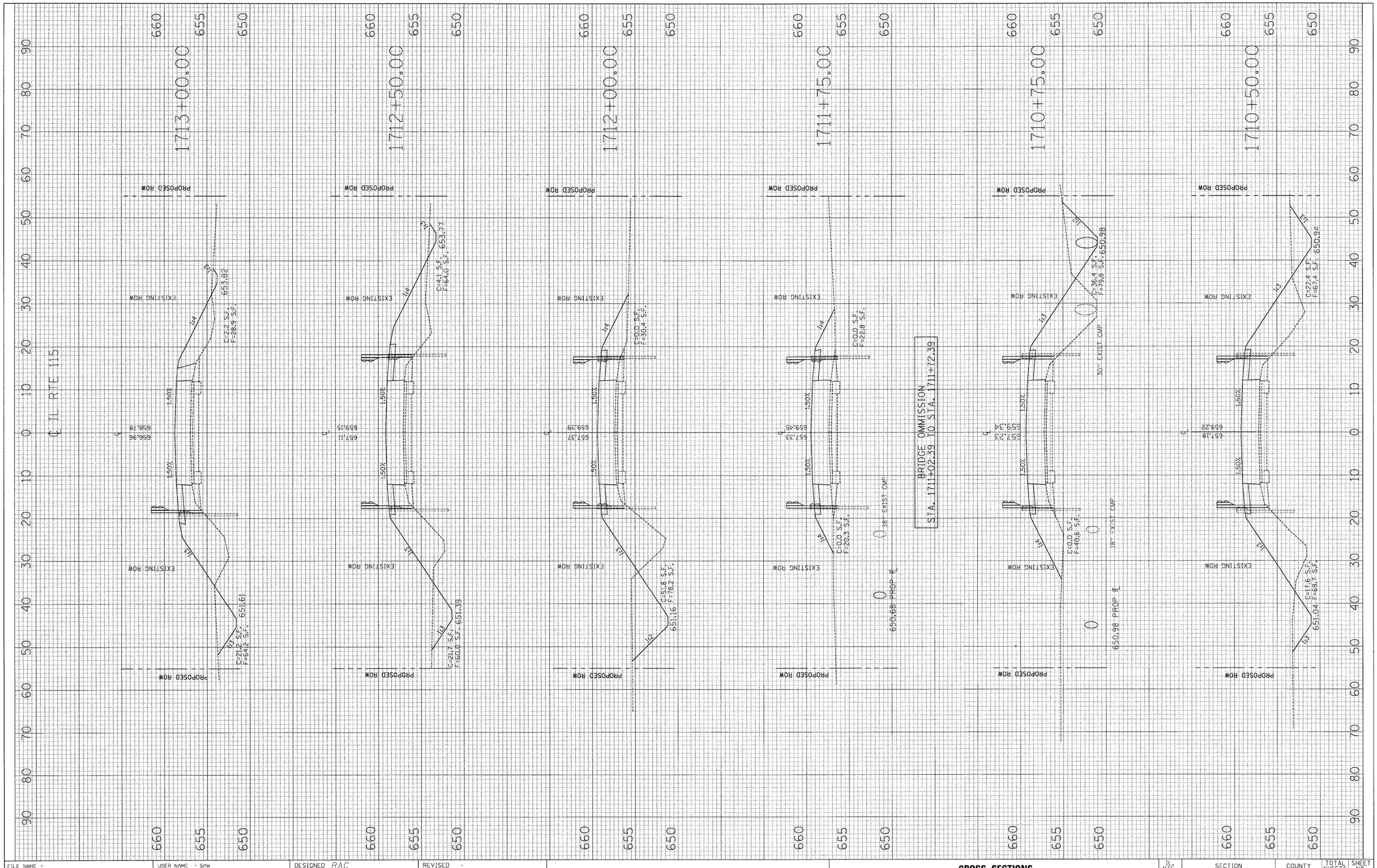
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. 46 OF 48 SHEETS | STA. 1707+00.00 TO STA. 1710+00.00

IL. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
115	(106)BR-3	FORD	48	46
		CONTRACT NO. 66916		
	ILLINOIS	FED. AID PROJECT		

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



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

FILE NAME = ...\C1v1\D386916-SHT-XS.dgn	USER NAME = SAW	DESIGNED RAC	REVISED -
		DRAWN SAW	REVISED -
	PLOT SCALE = 10.0000 ' / IN.	CHECKED DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE 10/08/10	REVISED -

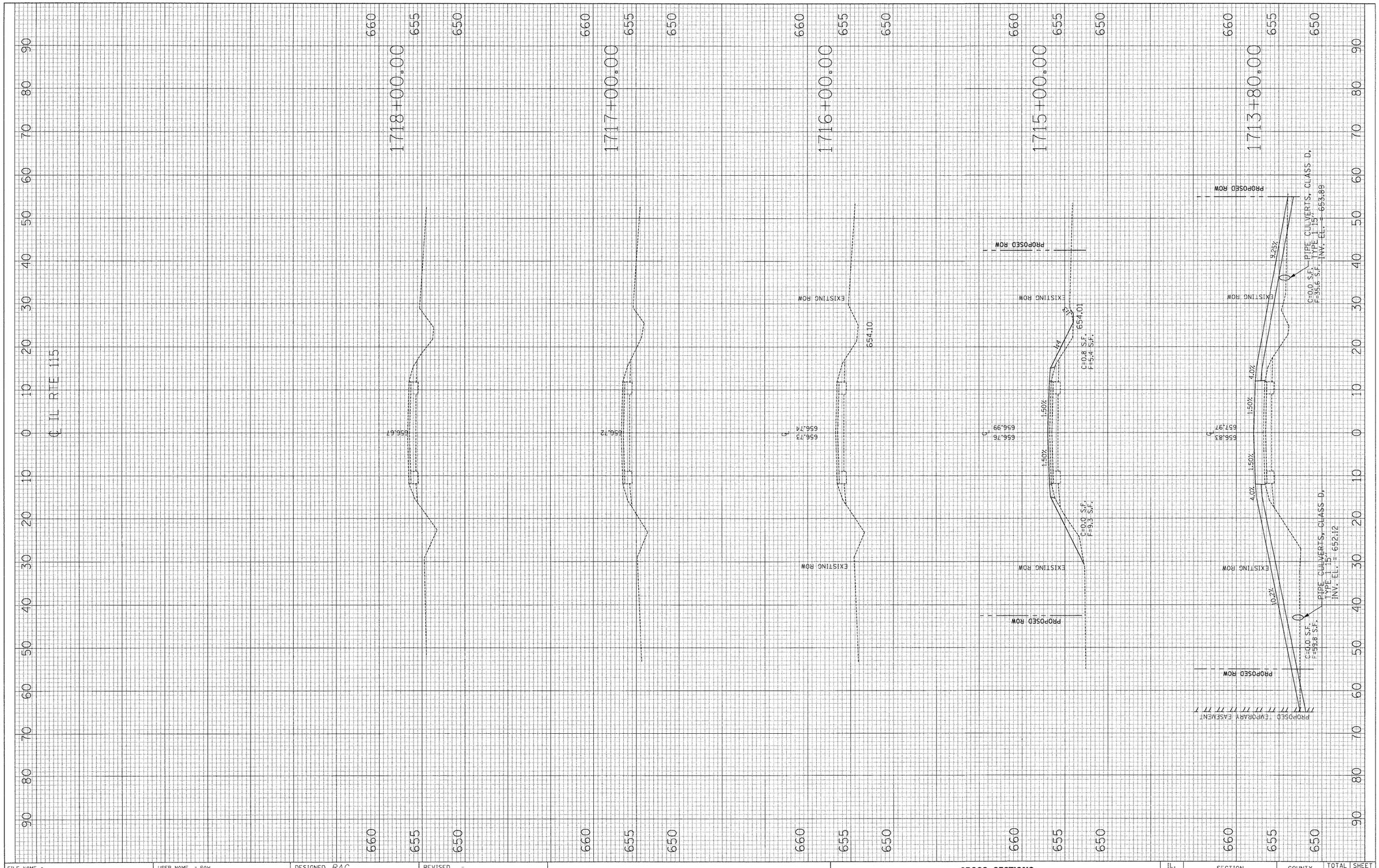
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. 47 OF 48 SHEETS | STA. 1710+50.00 TO STA. 1713+00.00

IL. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
115	(106)BR-3	FORD	48	47
		CONTRACT NO. 66916		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	ADDITIONS		
NO.	TEMP. AE		
	AREAS		
	AREAS CHECKED		



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	ADDITIONS		
NO.	TEMP. AE		
	AREAS		
	AREAS CHECKED		

FILE NAME = ...\Civil\D366916-SHT-XS.dgn	USER NAME = SAW	DESIGNED RAC	REVISED -
		DRAWN SAW	REVISED -
	PLOT SCALE = 10.0000 ' / IN.	CHECKED DAZ	REVISED -
	PLOT DATE = 10/6/2010	DATE 10/08/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. 48 OF 48 SHEETS | STA. 1713+80.00 TO STA. 1718+00.00

IL. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
115	(106)BR-3	FORD	48	48
		CONTRACT NO. 66916		
	ILLINOIS	FED. AID PROJECT		