

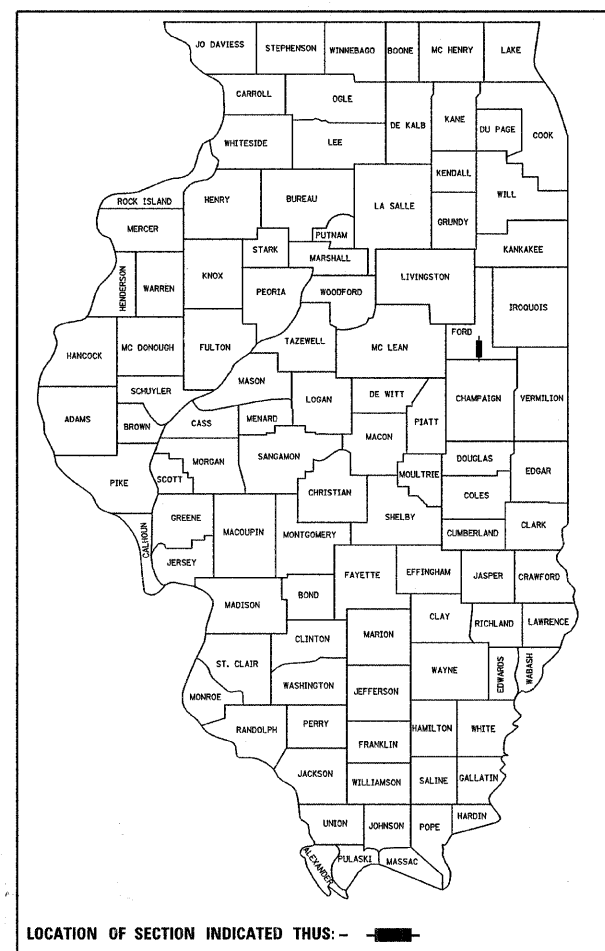
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 340	09-00106-00-BR 09-00107-00-BR	FORD	32	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 87411		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
AMERICAN RECOVERY
AND REINVESTMENT ACT**

PROJECT ARA-0340(103)
SECTION 09-00106-00-BR
SECTION 09-00107-00-BR
FORD COUNTY

F.A.S. 340 /C.H. 26 /STEVE'S ROAD
PROPOSED STRUCTURE NO. 027-3438
PROPOSED STRUCTURE NO. 027-3439
JOB NO. C-93-132-09



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	SCHEDULE OF QUANTITIES
4.	TYPICAL CROSS SECTIONS
5.	PLAN AND PROFILE (SEC. 09-00106-00-BR)
6.-9.	STATION CROSS SECTIONS (SEC. 09-00106-00-BR)
10.	PLAN AND PROFILE (SEC. 09-00107-00-BR)
11.-13.	STATION CROSS SECTIONS (SEC. 09-00107-00-BR)
14.-20.	BRIDGE PLANS (SEC. 09-00106-00-BR)
21.-22.	BORINGS (SEC. 09-00106-00-BR)
23.-30.	BRIDGE PLANS (SEC. 09-00107-00-BR)
31.-32.	BORINGS (SEC. 09-00107-00-BR)

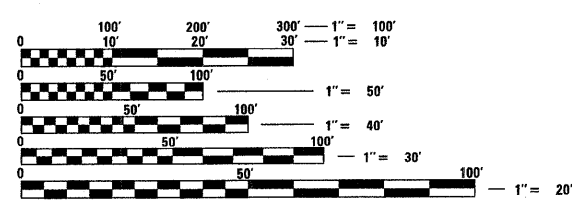
HIGHWAY STANDARDS:

000001-05	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
515001-03	NAME PLATE FOR BRIDGES
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL; DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 23-3	TRAFFIC BARRIER TERMINAL TYPE 1
BLR 26-1	STEEL PLATE BEAM GUARDRAIL 700MM (27 1/2") HEIGHT
BLR 27-1	TRAFFIC BARRIER TERMINAL TYPE 5A

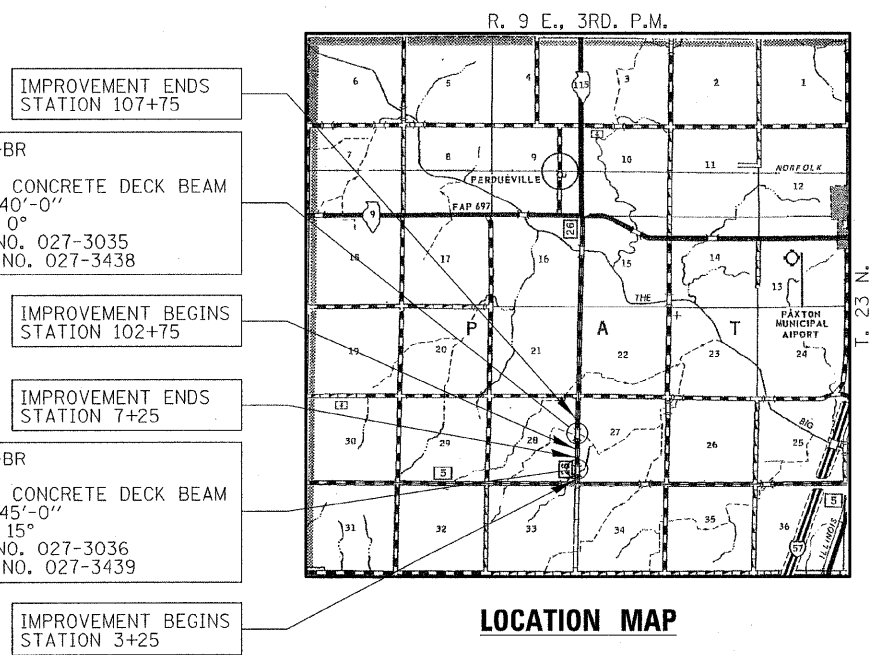
UTILITIES

VERIZON NORTH CENTRAL INC.
110 E. MONROE ST.
P.O. BOX 2675 MC*ILLBOM
BLOOMINGTON, IL 61702-2675

EASTERN ILLINOIS ELECTRIC COOPERATIVE
330 WEST OTTAWA ST.
P.O. BOX 96
PAXTON, IL 60957



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



LOCATION OF SECTION INDICATED THUS: —■—

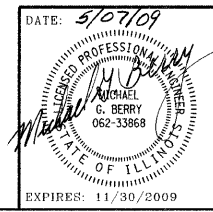
(SEC. 09-00106-00-BR)	FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON URBAN)
	DESIGN SPEED: 40 MPH
	DESIGN TRAFFIC: 225 ADT
	DESIGN POLICY: 3R
(SEC. 09-00107-00-BR)	FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON URBAN)
	DESIGN SPEED: 40 MPH
	DESIGN TRAFFIC: 225 ADT
	DESIGN POLICY: 3R

FORD COUNTY HIGHWAY DEPARTMENT

APPROVED May 18 20 09
Theresa C. Parkinson
COUNTY ENGINEER

PASSED May 26 20 09
Michael G. Berry
DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review May 26 20 09
Sharon K. Brien
DEPUTY DIRECTOR OF HIGHWAYS
REGION TWO ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DATE: 5/17/09

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

HLR

ELGIN • SPRINGFIELD

EXPIRES: 11/30/2009 PROJECT NUMBER: 07.0432/0435.130 DATE: 03/31/09

CONTRACT NO. 87411

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL	CONSTRUCTION CODE	
				X080-2A	X080-2A
20300100	CHANNEL EXCAVATION	CU YD	160	70	90
20400800	FURNISHED EXCAVATION	CU YD	584	371	213
> 20700300	POROUS GRANULAR EMBANKMENT, SPECIAL	TON	190	90	100
> 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.88	1	0
> 28101200	DUMPED RIPRAP	TON	240	130	110
35101400	AGGREGATE BASE COURSE, TYPE B	TON	68	34	34
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	213	118	95
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	544	233	311
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	249	217	32
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	192	102	90
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	2	1	1
50300225	CONCRETE STRUCTURES	CU YD	43.8	21	22
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2,295	1,080	1,215
50800105	REINFORCEMENT BARS	POUND	5,060	2,500	2,560
* 50900205	STEEL RAILING, TYPE S1	FOOT	182	86	96
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	570	260	310
51202305	DRIVING PILES	FOOT	570	260	310
51203200	TEST PILE METAL SHELLS	EACH	2	1	1
51500100	NAME PLATES	EACH	2	1	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	1,152	576	576
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	255	120	135
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	170	80	90
* 63000002	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6.75 FOOT POSTS	FOOT	450	225	225
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	8	4	4
67100100	MOBILIZATION	L SUM	2	1	1
> * 78200405	GUARDRAIL MARKERS	EACH	16	8	8
> * 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	8	4	4
> * LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	8	4	4
XX005543	STEEL PLATE BEAM GUARD RAIL REMOVAL AND SALVAGE	FOOT	742	374	368

> SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

GENERAL NOTES

ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2007," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

ALL CLEARING, GRUBBING, REMOVAL OF EXISTING DRAINAGE STRUCTURES AND REMOVAL OF THE EXISTING BITUMINOUS SURFACE SHALL BE INCLUDED IN EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

THE LOCATIONS OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTIONS.

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

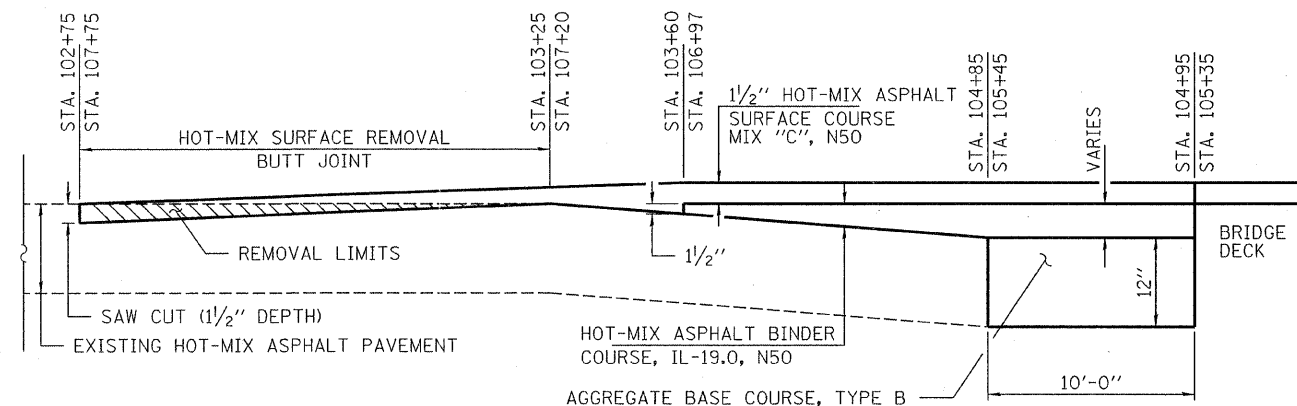
HOT-MIX ASPHALT	112 LBS/SQ YD/IN
DUMPED RIPRAP	1.75 TON/CU YD
AGGREGATE BASE COURSE	2.05 TON/CU YD

THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER IN REGARD TO THE EXACT LENGTH OF PIPE CULVERTS BEFORE ORDERING THESE ITEMS.

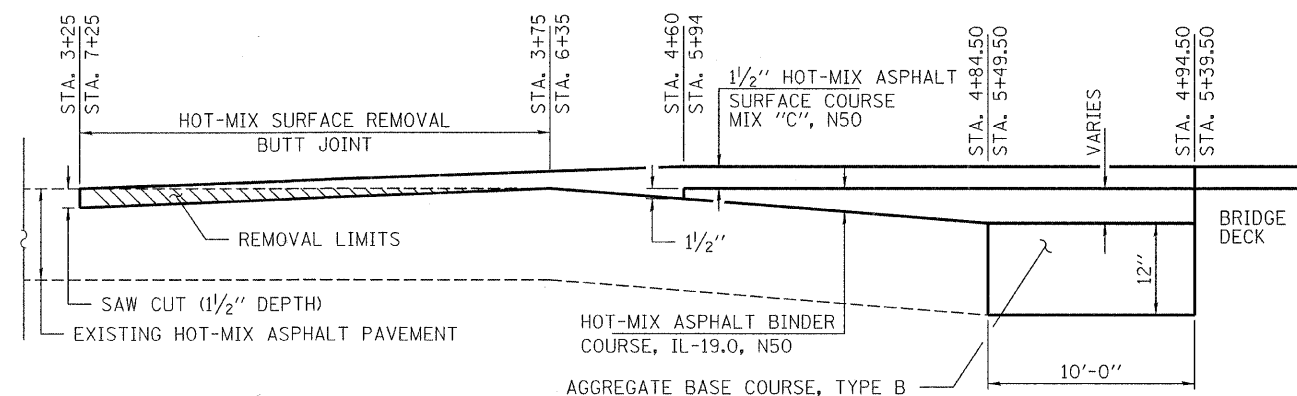
PIPE DRAINS AND PIPE CULVERTS SHALL BE PRECOATED IN ACCORDANCE WITH ARTICLE 1006.01c OF THE STANDARD SPECIFICATIONS.

THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. ESTIMATED QUANTITY: SEEDING CLASS 2, SPECIAL = 0.60 ACRE.

ACCESS TO ALL ENTRANCES SHALL BE MAINTAINED DURING ALL STAGES OF WORK.



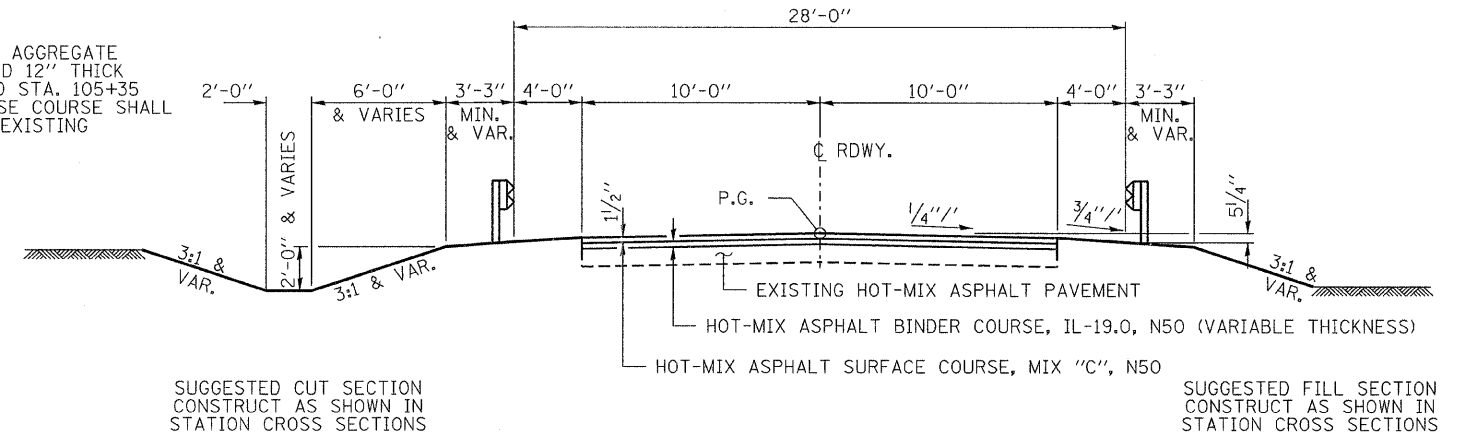
PAVEMENT TRANSITION DETAIL - SEC. 09-00106-00-BR



PAVEMENT TRANSITION DETAIL - SEC. 09-00107-00-BR

FILE NAME = 070432-sh-t-summary.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS FORD COUNTY HIGHWAY DEPARTMENT	HLR HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS	SUMMARY OF QUANTITIES AND GENERAL NOTES	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE =	CHECKED - M.G.B.	REVISED - TWK	340				09-00106-00-BR / 09-00107-00-BR	FORD	32	2	
PLOT DATE = 5/7/2009	DATE - 03/31/09	REVISED - L.F.S.	SCALE:				SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
		REVISED - 04/22/09									CONTRACT NO. 87411

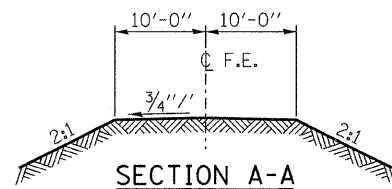
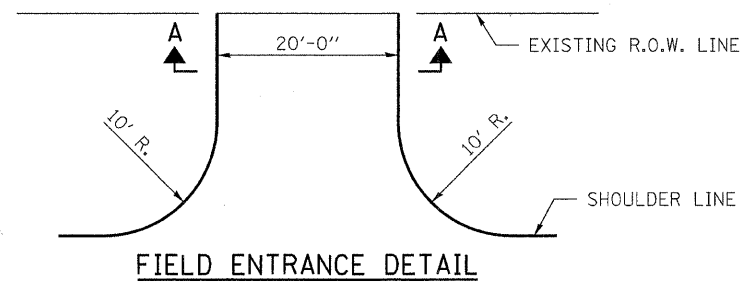
* THE CONTRACTOR SHALL CONSTRUCT AN AGGREGATE BASE COURSE, TYPE B, 22'-0" WIDE AND 12" THICK FROM STA. 104+85 TO STA. 104+95 AND STA. 105+35 TO STA. 105+45. THE TOP OF THE BASE COURSE SHALL BE CONSTRUCTED TO THE TOP OF THE EXISTING PAVEMENT.



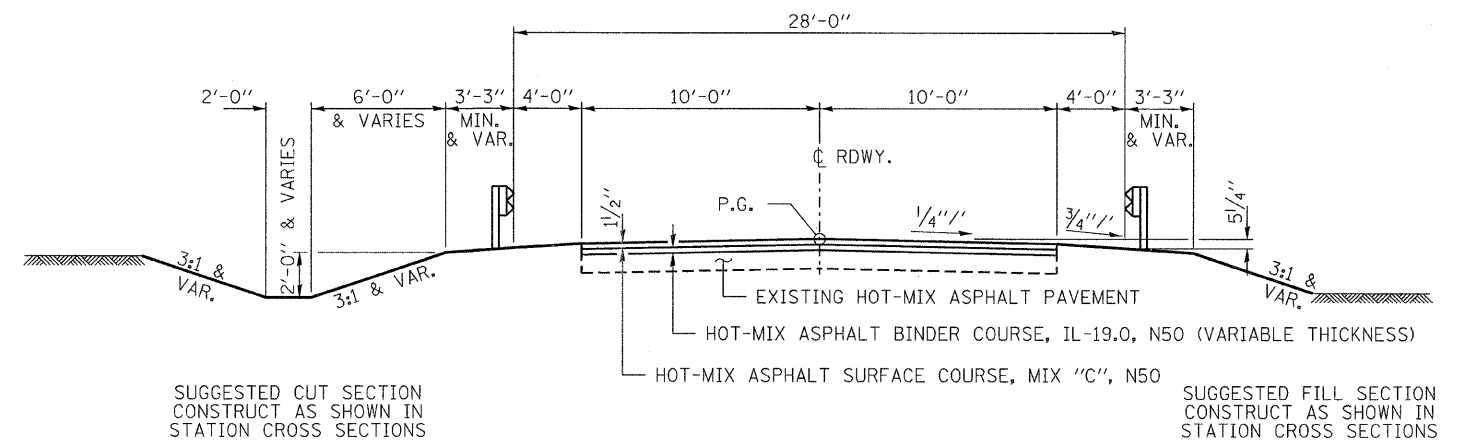
TYPICAL CROSS SECTION - SEC. 09-00106-00-BR

STA. 102+75 TO 107+75*

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 102+75 TO 103+00 AND STA. 107+50 TO 107+75. SEE SHEET 13 FOR TRANSITION AT BRIDGE.



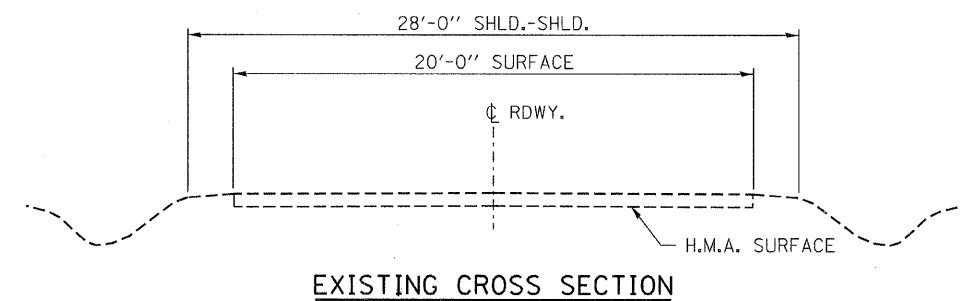
** THE CONTRACTOR SHALL CONSTRUCT AN AGGREGATE BASE COURSE, TYPE B, 22'-0" WIDE AND 12" THICK FROM STA. 4+84.50 TO STA. 4+94.50 AND FROM STA. 5+39.50 TO STA. 5+49.50. THE TOP OF THE BASE COURSE SHALL BE CONSTRUCTED TO THE TOP OF THE EXISTING PAVEMENT.



TYPICAL CROSS SECTION - SEC. 09-00107-00-BR

STA. 3+25 TO 7+25**

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 3+25 TO 3+50 AND STA. 7+00 TO 7+25. SEE SHEET 22 FOR TRANSITION AT BRIDGE.



FILE NAME = 070432-shl-typsections.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -
		DRAWN - D.A.B.	REVISED - TWK
	PLOT SCALE =	CHECKED - M.G.B.	REVISED - L.F.S.
	PLOT DATE = 5/6/2009	DATE - 03/31/09	REVISED - 04/22/09

STATE OF ILLINOIS
 FORD COUNTY HIGHWAY DEPARTMENT

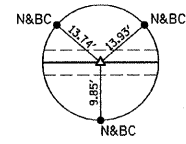
HLR HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS

TYPICAL SECTIONS

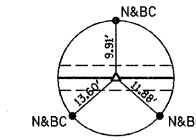
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00106-00-BR / 09-00107-00-BR	FORD	32	4
CONTRACT NO. 87411				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

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

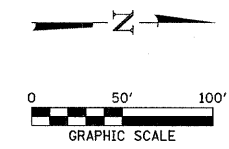
GARY & KIMBERLY ANDERSON
E 1/2, NE 1/4, SEC 28, T. 23 N., R. 9 E., 3RD P.M.



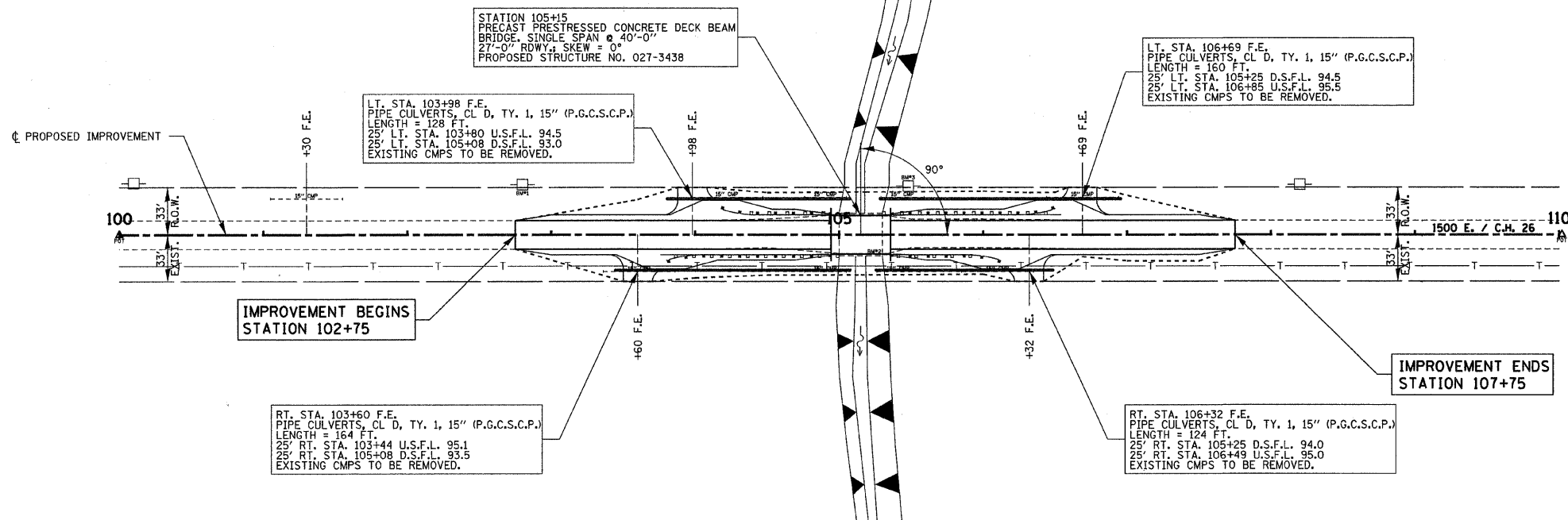
P.O.T. STA. 100+00
PK NAIL & RIBBON (SET)
N. 10,000.00
E. 10,000.00



P.O.T. STA. 110+02
PK NAIL & RIBBON (SET)
N. 11,002.00
E. 10,000.00



DATE	
BY	
SURVEYED	
ALIGNMENT CHECKED	
PLAN FILE NAME	
NO.	

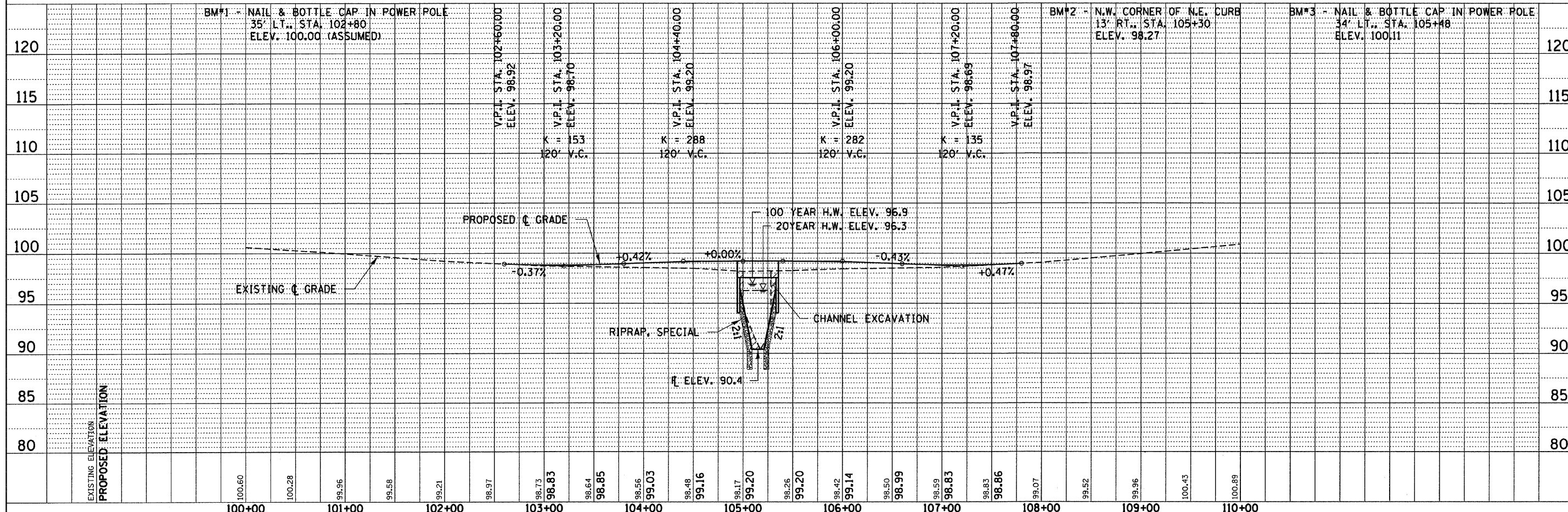


ENTRANCES TO BE BUILT
RT. STA. 103+60 F.E. -9.0% EARTH 20' SURF.
LT. STA. 103+98 F.E. -5.0% EARTH 20' SURF.
RT. STA. 106+32 F.E. -10.0% EARTH 20' SURF.
LT. STA. 106+69 F.E. -10.0% EARTH 20' SURF.
QUANTITIES INCLUDED IN EARTHWORK SCHEDULE.

CHANNEL EXCAVATION
THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.

EXISTING STRUCTURE NO. 027-3035
STATION 105+15 - SINGLE SPAN PRECAST CONC. CHANNEL BEAM BRIDGE WITH CONC CURB ON TIMBER PILINGS AND CAP.
30.0' BK.-BK. ABUTS; 30.00' o.-o. DECK

CARL H. STURIES, EST. & CAMP FARM MANAGEMENT
SW 1/4, NE 1/4, SEC 27, T. 23 N., R. 9 E., 3RD P.M.

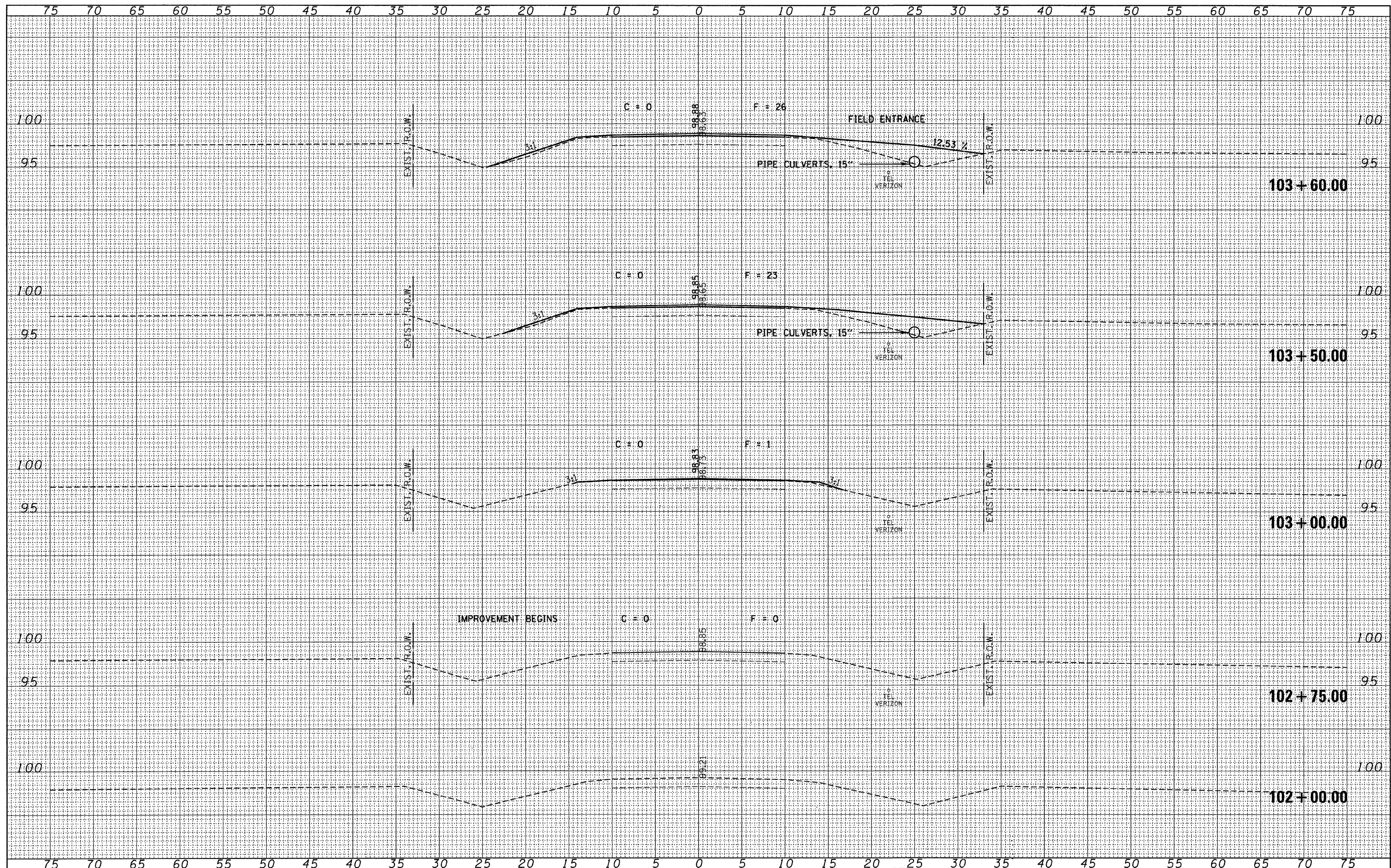


DATE	
BY	
SURVEYED	
GRADES CHECKED	
NOTE BOOK	
STRUCTURE NOTATIONS CHECKED	
NO.	

FILE NAME = 070432-shr-pp1.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS FORD COUNTY HIGHWAY DEPARTMENT	HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS	1500 E. PLAN & PROFILE	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE =	DRAWN - D.T.M.	REVISED - TWK	340				09-00106-00-BR	FORD	32	5	
PLOT DATE = 5/6/2009	CHECKED - M.G.B.	REVISED - L.F.S.	CONTRACT NO. 87411								
	DATE - 03/31/09	REVISED - 04/22/09	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT								

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

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



FILE NAME = 070432-sht-axs.dgn

USER NAME =
 DESIGNED - J.W.F.
 DRAWN - D.T.M.
 CHECKED - S.W.M.
 DATE - 12/20/07

REVISED -
 REVISED - TWK
 REVISED - L.F.S.
 REVISED - 04/22/09

STATE OF ILLINOIS
 FORD COUNTY HIGHWAY DEPARTMENT



HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS

1500 E.
 CROSS SECTIONS

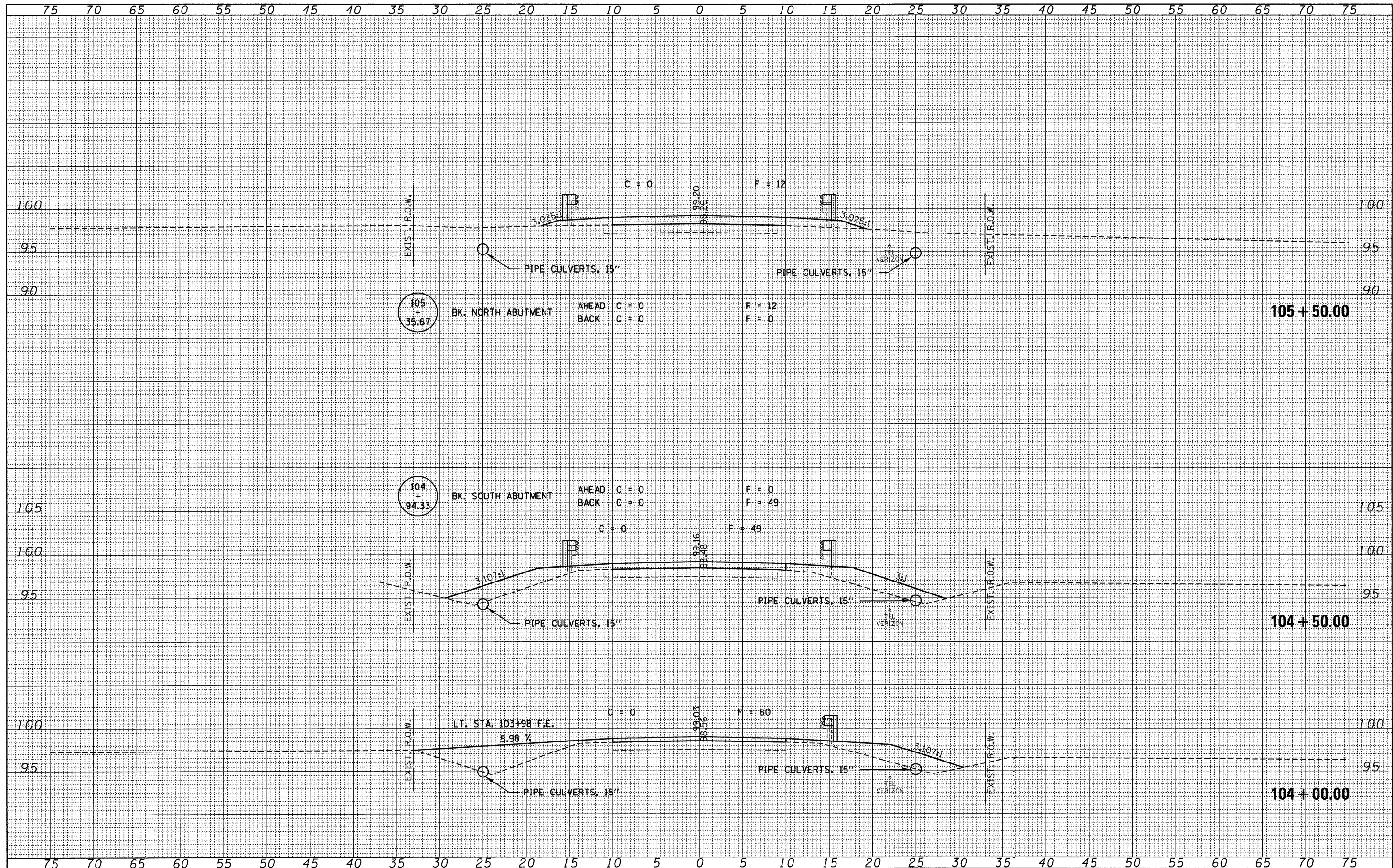
SCALE: SHEET NO. OF SHEETS

STA. 102+00.00 TO STA. 103+60.00

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26	09-00106-00-BR	FORD	32	6
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 87411	

DATE	
BY	
FINAL SURVEY	
NOTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
NOTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



FILE NAME = 070432-sht-axe.dgn

USER NAME =
 PLOT SCALE =
 PLOT DATE = 5/6/2009

DESIGNED - J.W.F.
 DRAWN - D.T.M.
 CHECKED - S.W.M.
 DATE - 12/20/07

REVISED -
 REVISED - TWK
 REVISED - L.F.S.
 REVISED - 04/22/09

STATE OF ILLINOIS
 FORD COUNTY HIGHWAY DEPARTMENT



HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS

1500 E.
 CROSS SECTIONS

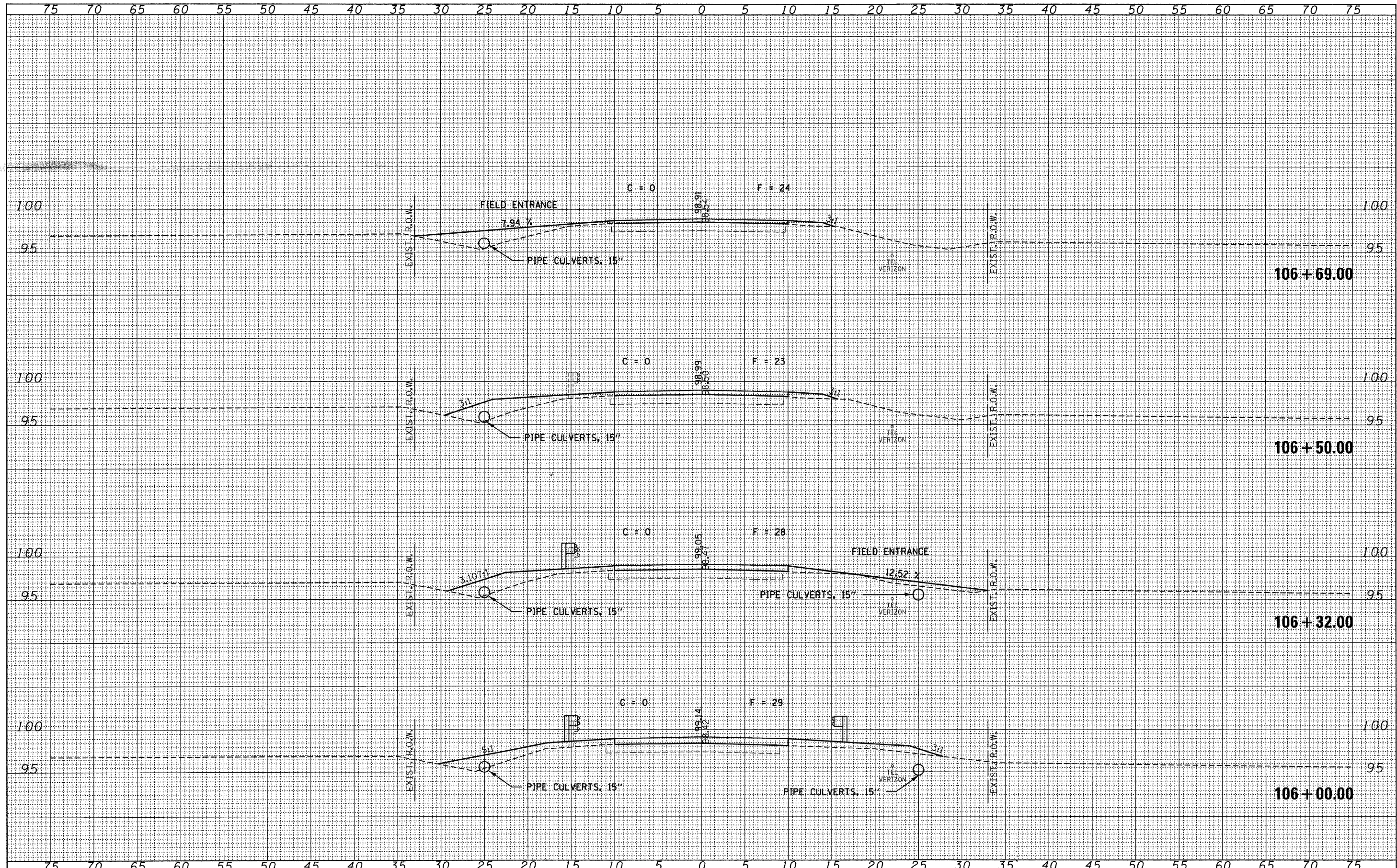
SCALE: SHEET NO. OF SHEETS

STA. 104+00.00 TO STA. 105+50.00

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26	09-00106-00-BR	FORD	32	7
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 87411	

DATE	
BY	
FINAL SURVEY	
NOTED	
NOTE BOOK	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
NOTED	
NOTE BOOK	
NO.	



FILE NAME = 070432-sht-axe.dgn

USER NAME =	DESIGNED - J.W.F.	REVISED -
PLOT SCALE =	DRAWN - D.T.M.	REVISED - TWK
PLOT DATE = 5/6/2009	CHECKED - S.W.M.	REVISED - L.F.S.
	DATE - 12/20/07	REVISED - 04/22/09

**STATE OF ILLINOIS
FORD COUNTY HIGHWAY DEPARTMENT**

HLR HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

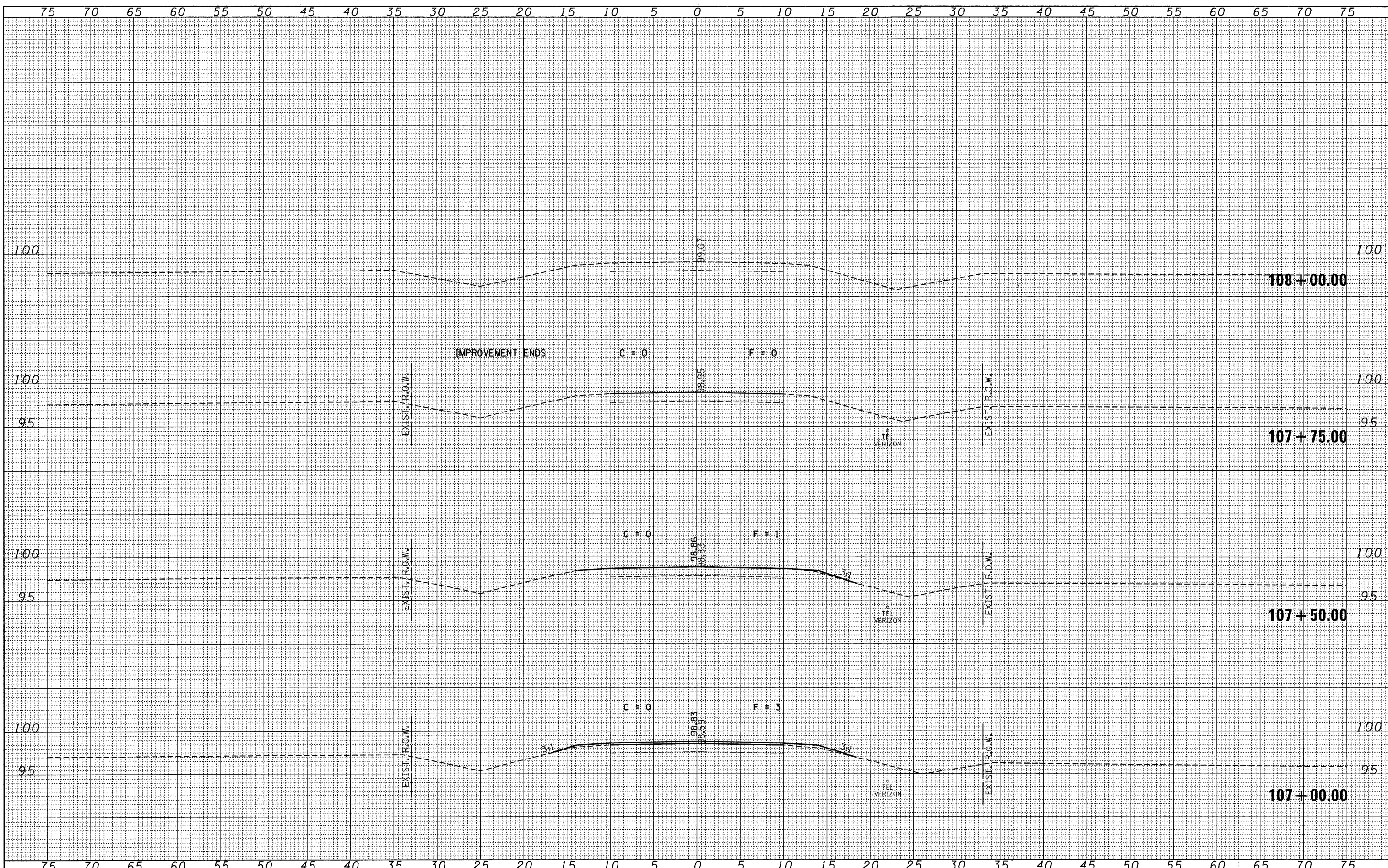
**1500 E.
CROSS SECTIONS**

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26	09-00106-00-BR	FORD	32	8
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
		CONTRACT NO. 87411		

SCALE: SHEET NO. OF SHEETS STA. 106+00.00 TO STA. 106+69.00

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



FILE NAME = 070432-sht-axs.dgn
 USER NAME =
 PLOT SCALE =
 PLOT DATE = 5/6/2009

DESIGNED - J.W.F.	REVISED -
DRAWN - D.T.M.	REVISED - TWK
CHECKED - S.W.M.	REVISED - L.F.S.
DATE - 12/20/07	REVISED - 04/22/09

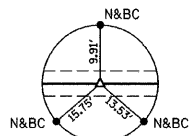
STATE OF ILLINOIS
FORD COUNTY HIGHWAY DEPARTMENT

HLR HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
 SCALE: SHEET NO. OF SHEETS

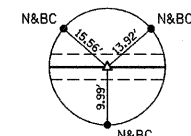
1500 E.
CROSS SECTIONS
 STA. 107+00.00 TO STA. 108+00.00

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26	09-00106-00-BR	FORD	32	9
CONTRACT NO. 87411				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

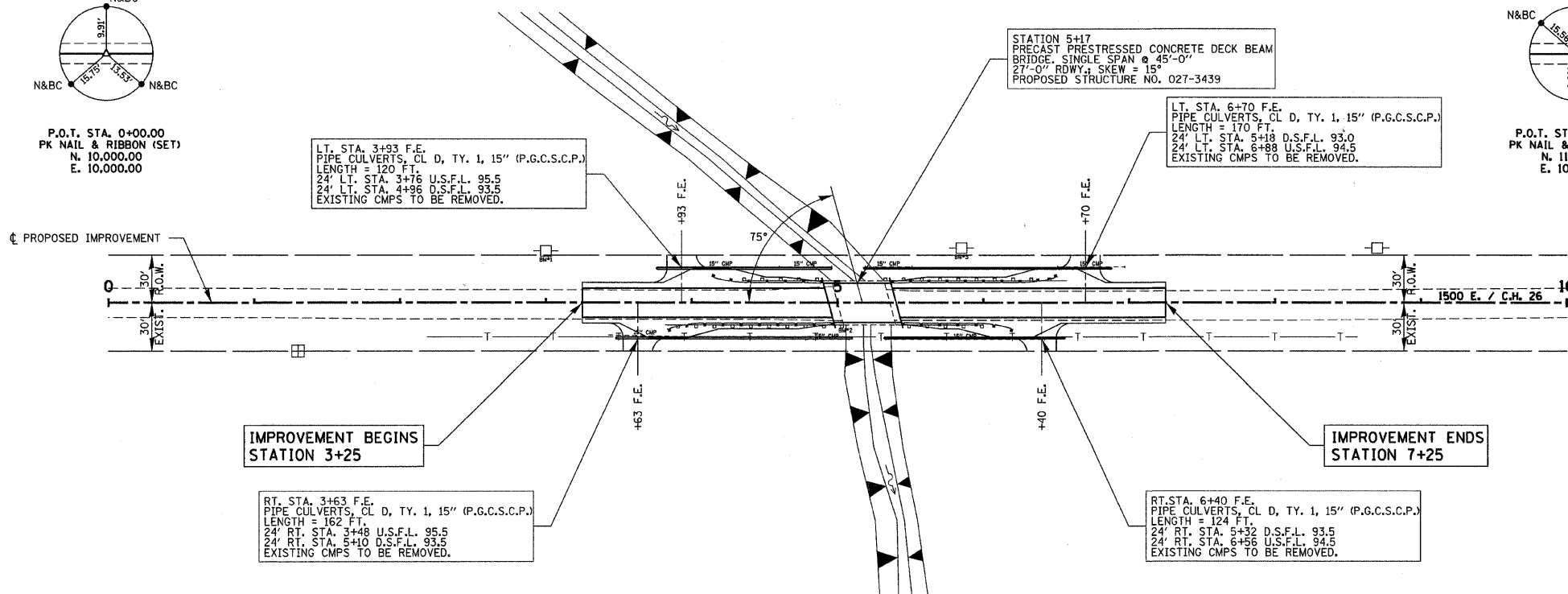
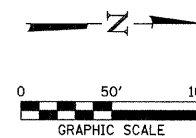
SUE BURKLUND c/o BILL BETKA
SE 1/4, SE 1/4, SEC 28, T. 23 N., R. 9 E., 3RD P.M.



P.O.T. STA. 0+00.00
PK NAIL & RIBBON (SET)
N. 10,000.00
E. 10,000.00



P.O.T. STA. 10+00.00
PK NAIL & RIBBON (SET)
N. 11,000.00
E. 10,000.00

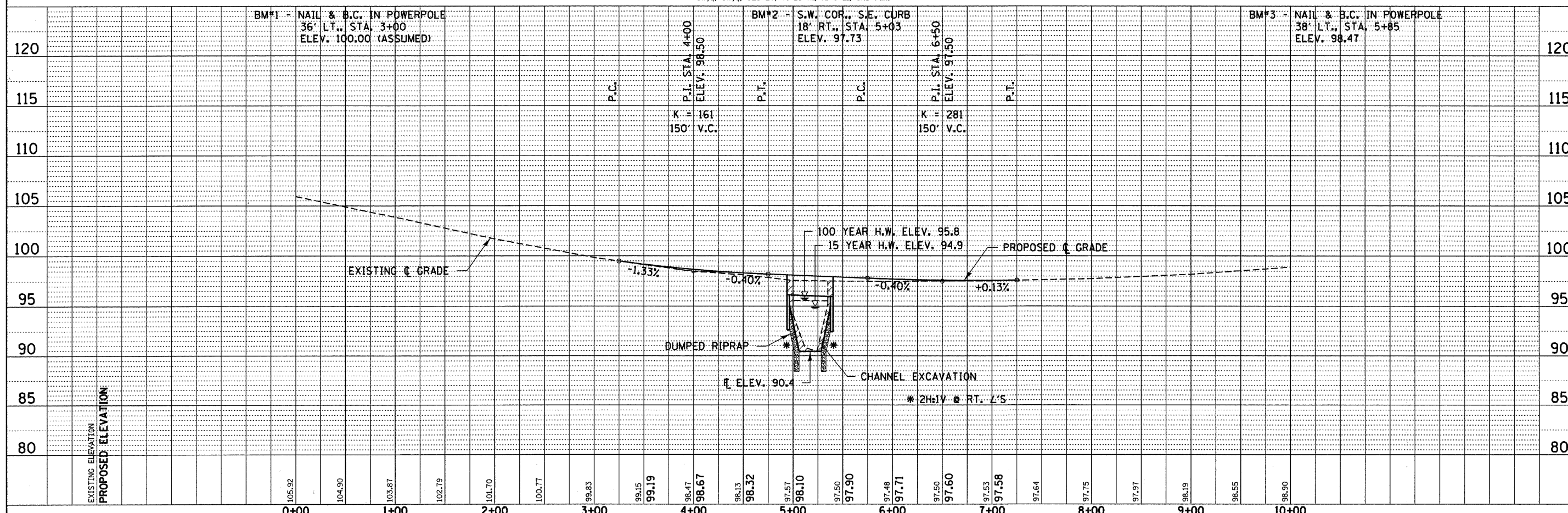


ENTRANCES TO BE BUILT
RT. STA. 3+63 F.E. -10.0% EARTH 20' SURF.
LT. STA. 3+93 F.E. -5.0% EARTH 20' SURF.
RT. STA. 6+40 F.E. -10.0% EARTH 20' SURF.
LT. STA. 6+70 F.E. -6.0% EARTH 20' SURF.
QUANTITIES INCLUDED IN EARTHWORK SCHEDULE.

CHANNEL EXCAVATION
THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.

EXISTING STRUCTURE NO. 027-3036
STATION 5+17.95 - SINGLE SPAN PRECAST CONCRETE CHANNEL BEAM BRIDGE WITH CLOSED TIMBER ABUTS, AND CAPS. 35.9' FC-FC, ABUTS; 28.3' o-o, DECK

SUE BURKLUND c/o BILL BETKA
SW 1/4, SW 1/4, SEC 27, T. 23 N., R. 9 E., 3RD P.M.



FILE NAME = 070435-sh1-pp1.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	<p align="center">STATE OF ILLINOIS FORD COUNTY HIGHWAY DEPARTMENT</p> <p align="center">HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS</p>	<p align="center">1500 E. PLAN & PROFILE</p>	F.A.S. = 340	SECTION = 09-00107-00-BR	COUNTY = FORD	TOTAL SHEETS = 32	SHEET NO. = 10
PLOT SCALE =	CHECKED - M.G.B.	REVISED - TWK	CONTRACT NO. 87411							
PLOT DATE = 5/6/2009	DATE - 03/31/09	REVISED - L.F.S.	FED. ROAD DIST. NO. =			ILLINOIS FED. AID PROJECT				
		REVISED - 04/22/09								

PLAN

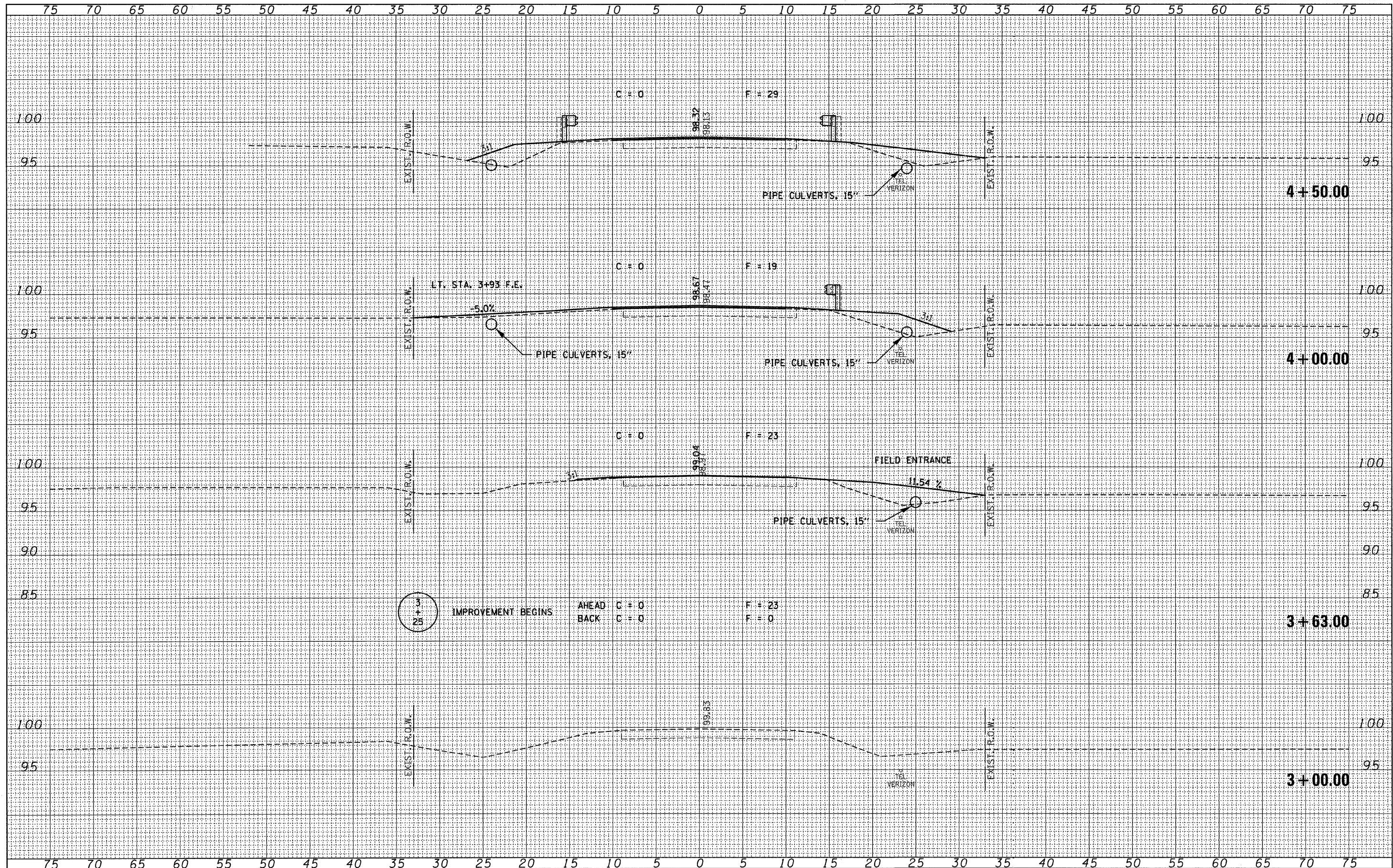
DATE	
BY	
SURVEYED	
ALIGNED	
CHECKED	
NOTE BOOK NO.	
DATE	

PROFILE

DATE	
BY	
SURVEYED	
GRADES CHECKED	
BLM NOTED	
STRUCTURE NOTATION	
NOTE BOOK NO.	
DATE	

DATE	BY
SURVEYED	
NOTE BOOK	
NO.	

DATE	BY
SURVEYED	
NOTE BOOK	
NO.	



FILE NAME = 070435-shr-axe.dgn

USER NAME =	DESIGNED - J.W.F.	REVISED -
PLOT SCALE =	DRAWN - D.T.M.	REVISED - TWK
PLOT DATE = 5/6/2009	CHECKED - S.W.M.	REVISED - L.F.S.
	DATE - 12/26/07	REVISED - 04/22/09

**STATE OF ILLINOIS
FORD COUNTY HIGHWAY DEPARTMENT**

HLR HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

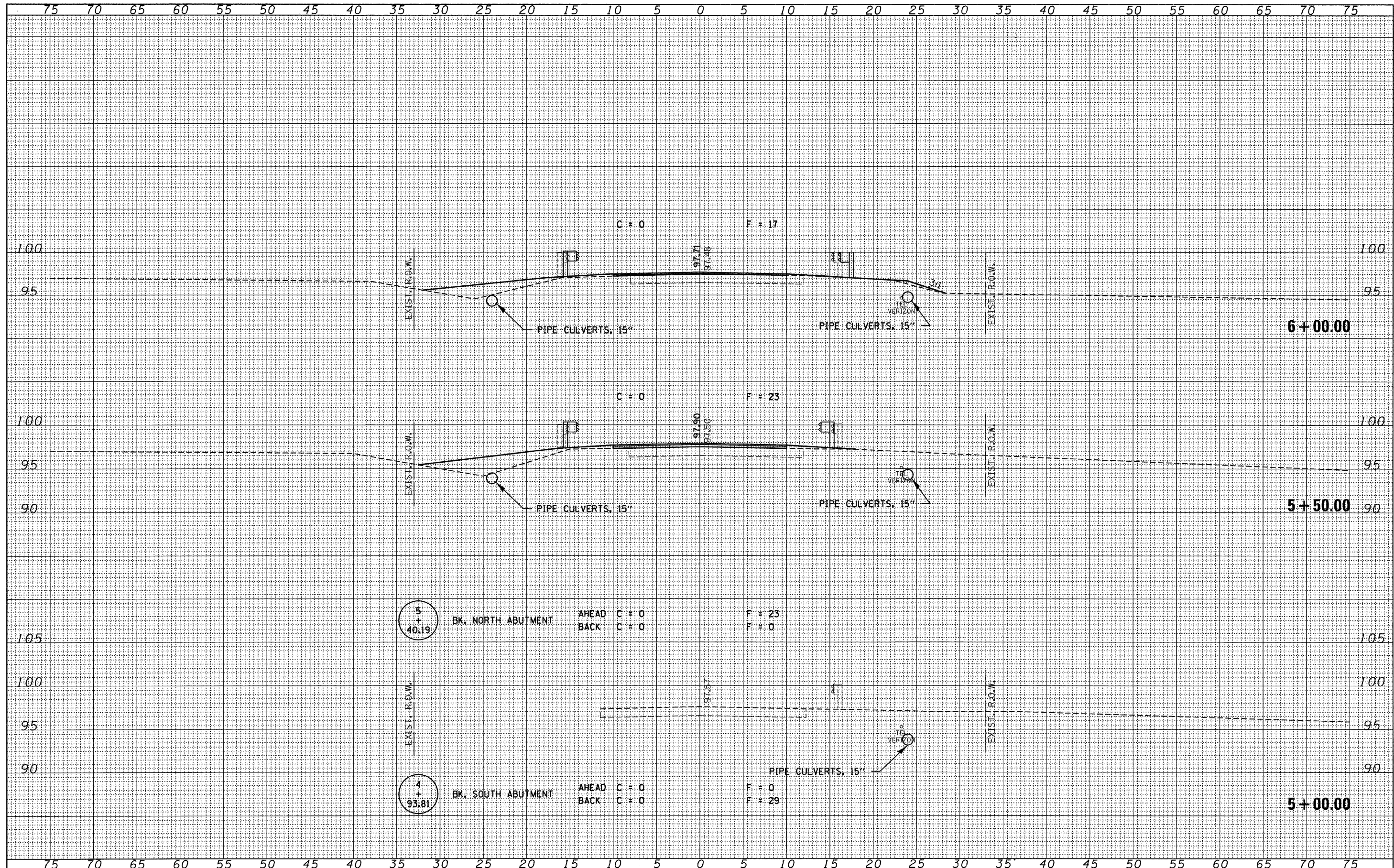
**1500 E.
CROSS SECTIONS**

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26	09-00107-00-BR	FORD	32	11
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 87411	

SCALE: SHEET NO. OF SHEETS STA. 3+00.00 TO STA. 4+50.00

FINAL SURVEY SURVEYED BY DATE
 REVISIONS TO DATE
 NOTE BOOK NO.
 AREAS CHECKED

ORIGINAL SURVEY SURVEYED BY DATE
 REVISIONS TO DATE
 NOTE BOOK NO.
 AREAS CHECKED



FILE NAME = 070435-sht-sxs.dgn
 USER NAME =
 PLOT SCALE =
 PLOT DATE = 5/6/2009

DESIGNED - J.W.F.
 DRAWN - D.T.M.
 CHECKED - S.W.M.
 DATE - 12/26/07

REVISED -
 REVISED - TWK
 REVISED - L.F.S.
 REVISED - 04/22/09

STATE OF ILLINOIS
 FORD COUNTY HIGHWAY DEPARTMENT

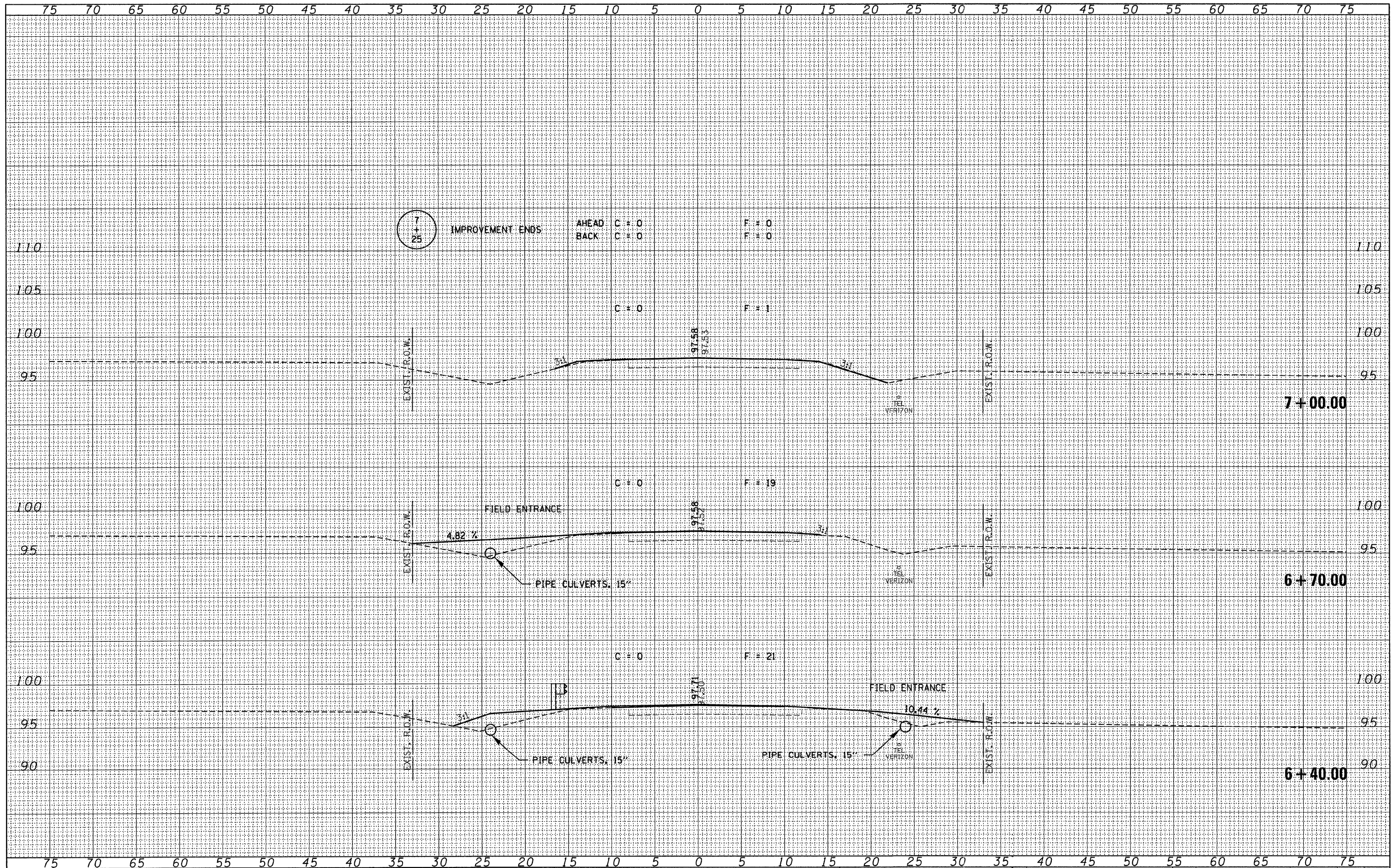
HLR HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS

1500 E.
 CROSS SECTIONS
 STA. 5+00.00 TO STA. 6+00.00

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26	09-00107-00-BR	FORD	32	12
CONTRACT NO. 87411				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

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

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



FILE NAME = 070435-sht-sss.dgn

USER NAME =
 PLOT SCALE =
 PLOT DATE = 5/6/2009

DESIGNED - J.W.F.
 DRAWN - D.T.M.
 CHECKED - S.W.M.
 DATE - 12/26/07

REVISED -
 REVISED - TWK
 REVISED - L.F.S.
 REVISED - 04/22/09

STATE OF ILLINOIS
 FORD COUNTY HIGHWAY DEPARTMENT

HLR HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
 SCALE: SHEET NO. OF SHEETS

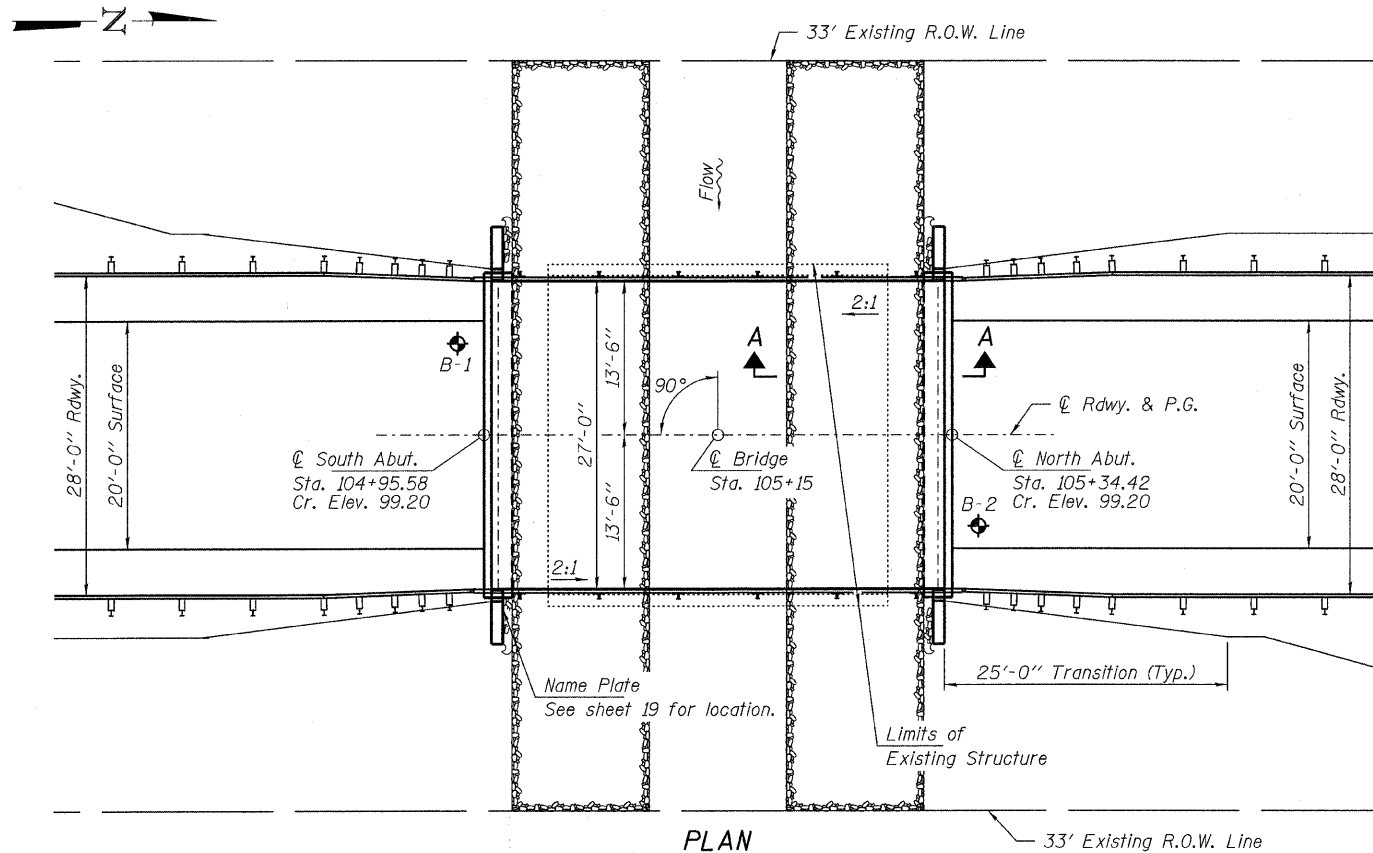
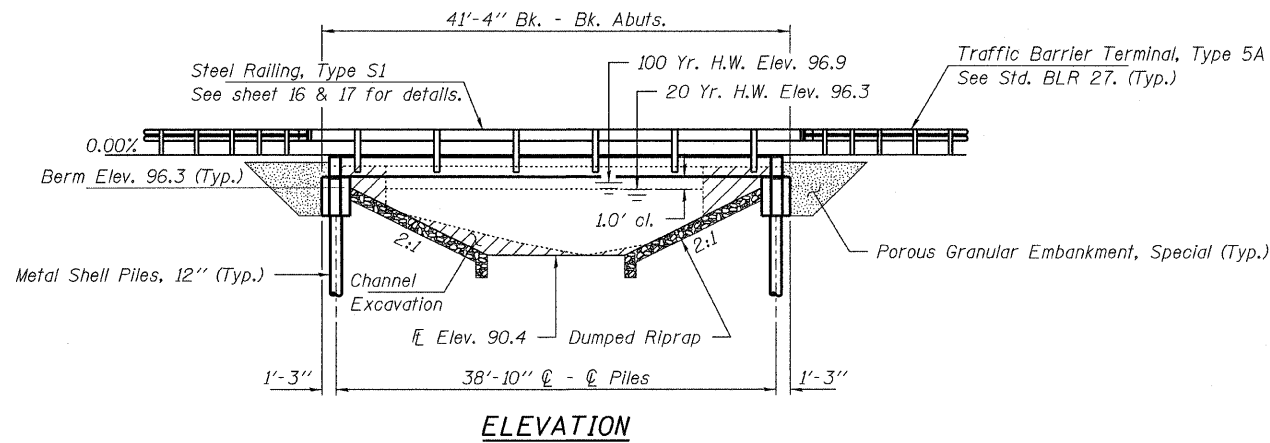
1500 E.
 CROSS SECTIONS
 STA. 6+40.00 TO STA. 7+00.00

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
26	09-00107-00-BR	FORD	32	13
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 87411	

BENCHMARK: BM#1 - Nail & BC in Power Pole, 35' Lt., Sta. 102+80, Elev. 100.00 (Assumed)

EXISTING STRUCTURE: Station 105+15 - Single Span Precast Concrete Channel Beam Bridge with concrete curb on timber pilings and cap. Structure closed to traffic.

No Salvage

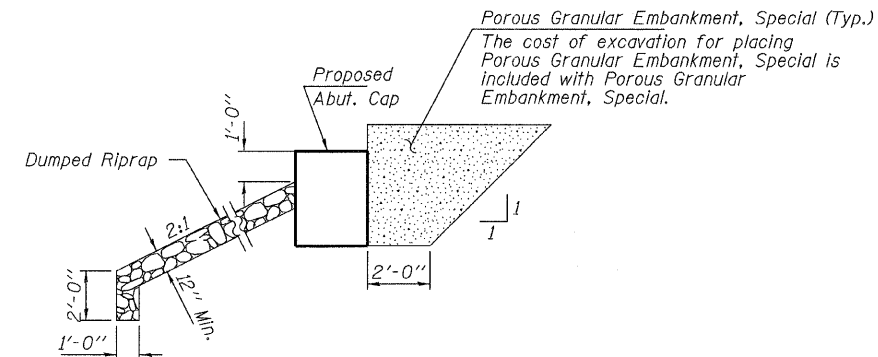


GENERAL NOTES

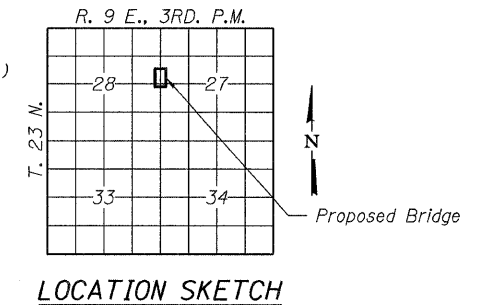
Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.
The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at South Abutment or approved by the Engineer before ordering the remainder of piles. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.
The abutments shall be backfilled full width with porous granular embankment from the bottom of the abutment cap to the subgrade elevation as directed by the Engineer.
See Sheets 20 & 21 for Borings.

BUILT 200_ BY
FORD COUNTY
SEC. 09-00106-00-BR
F.A.S. 340 / C.H. 26
STR. NO. 027-3438
LOADING HL-93

NAME PLATE
See Std. 515001



SECTION A-A
Note: See Special Provisions for Dumped Riprap and Porous Granular Embankment, Special.



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			70
Porous Granular Embankment, Special	Ton			90
Dumped Riprap	Ton			130
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	12		12
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		21.4	21.4
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,080		1,080
Reinforcement Bars	Pound		2,500	2,500
Steel Railing, Type S1	Foot	86		86
Furnishing Metal Shell Piles 12"x 0.250"	Foot		260	260
Driving Piles	Foot		260	260
Test Pile Metal Shells	Each		1	1
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	120		120
Portland Cement Mortar Fairing Course	Foot	80		80

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" low lax. strands)
fpbt = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2007 AASHTO LRFD with all applicable interims.
50#/Sq. Ft. Included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.123g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.204g
Soil Site Class = D

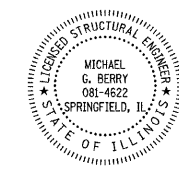
WATERWAY DATA

Flood Year	Frequency	Discharge (cfs)	Waterway Opening (sq. ft.)		Natural H.W.E.	Head (ft.)		Headwater Elev.	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
DESIGN	15	417	120	140	96.3	0.0	0.0	96.3	96.3
BASE	100	649	120	160	96.9	0.7	0.5	97.6	97.4
MAX CALC	500	898	120	170	97.4	1.1	1.1	98.5	98.5

Existing Low Grade Elevation = 98.3 ft. at Sta. 105+50
Proposed Low Grade Elevation = 98.6 ft. at Sta. 103+50
Drainage Area = 0.8 sq. mi.

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Specifications."

Michael G. Berry 5/27/09
ILLINOIS STRUCTURAL NO. 081-4622

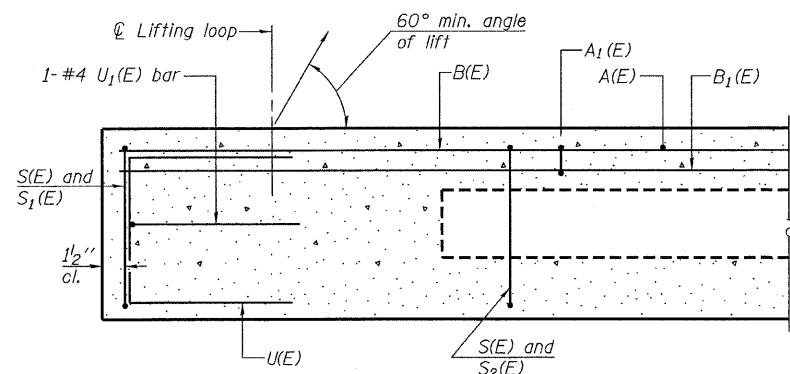


Expires 11-30-2010

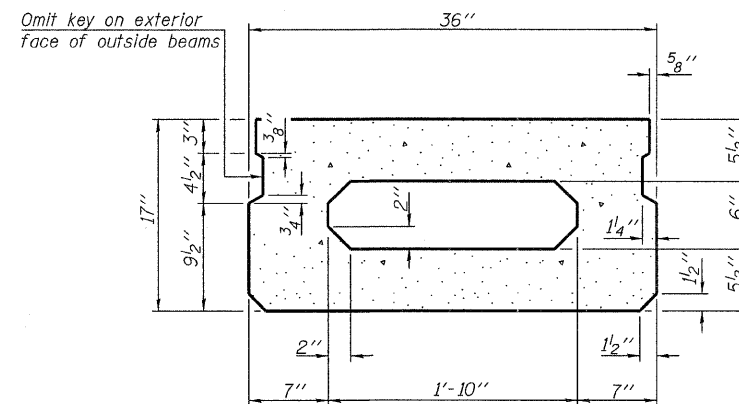
GENERAL PLAN AND ELEVATION
STRUCTURE NO. 027-3438

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

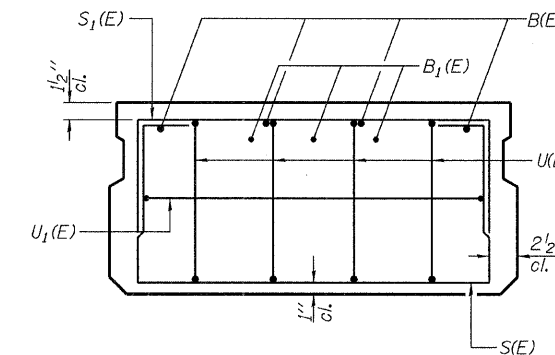
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 07-0432.130 DATE: 03/31/09	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	340	09-00106-00-BR	FORD	32	14
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 87411					



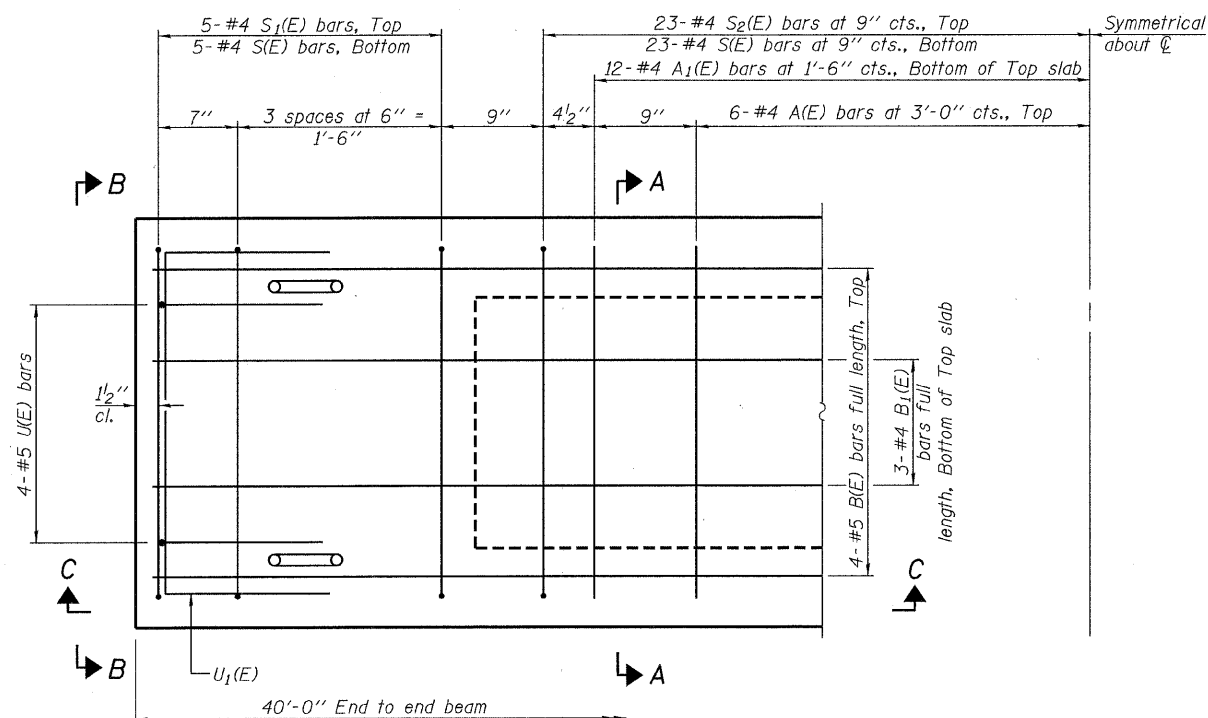
SECTION C-C



SECTION A-A
(Showing dimensions)

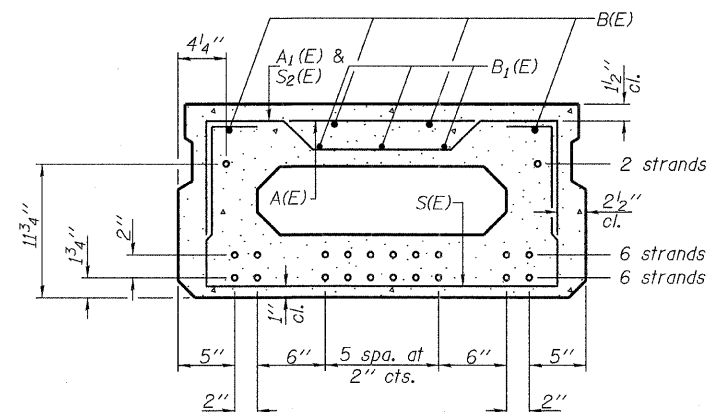


VIEW B-B



PLAN VIEW

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



SECTION A-A

(Showing reinforcement and permissible strand locations)

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

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	12	#4	2'-7"	—
A1(E)	24	#4	2'-11"	—
B(E)	4	#5	39'-8"	—
B1(E)	3	#4	39'-8"	—
S(E)	56	#4	5'-9"	□
S1(E)	10	#4	4'-3"	□
S2(E)	46	#4	4'-6"	□
U(E)	8	#5	3'-8"	□
U1(E)	2	#4	5'-0"	□

Note: See sheet 15 & 16 for additional details and Bill of Material.

SUPERSTRUCTURE
17" X 36" PPC DECK BEAM
STRUCTURE NO. 027-3438

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

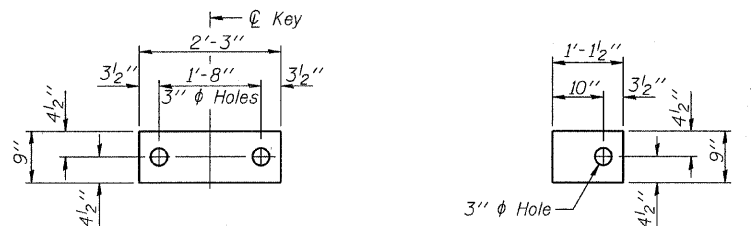
PD-1736-0 5-16-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

HLR 3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

PROJECT NUMBER: 07.0432.130 DATE: 03/31/09

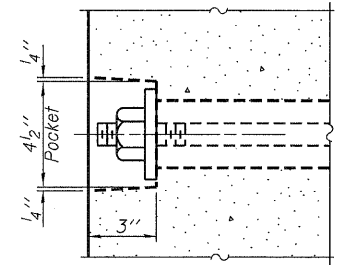
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00106-00-BR	FORD	32	15
CONTRACT NO. 87411				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



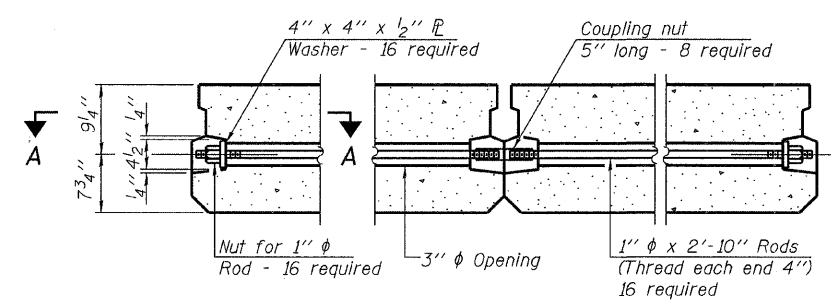
FABRIC BEARING PAD
(Interior - 16 Req'd.)

FABRIC BEARING PAD
(Exterior - 4 Req'd.)

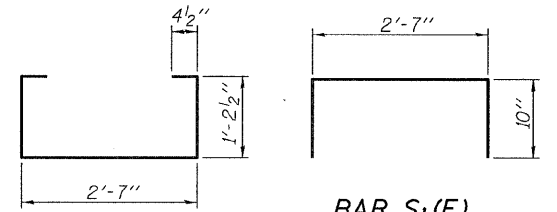
FIXED
Note: Omit holes when using expansion bearings.



SECTION A-A

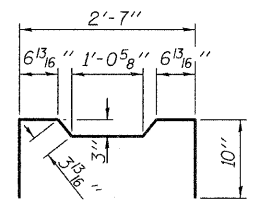


TYPICAL TRANSVERSE TIE ASSEMBLY



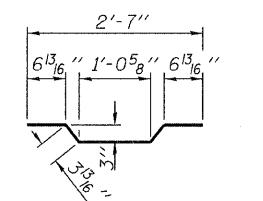
BAR S(E)

BAR S₁(E)



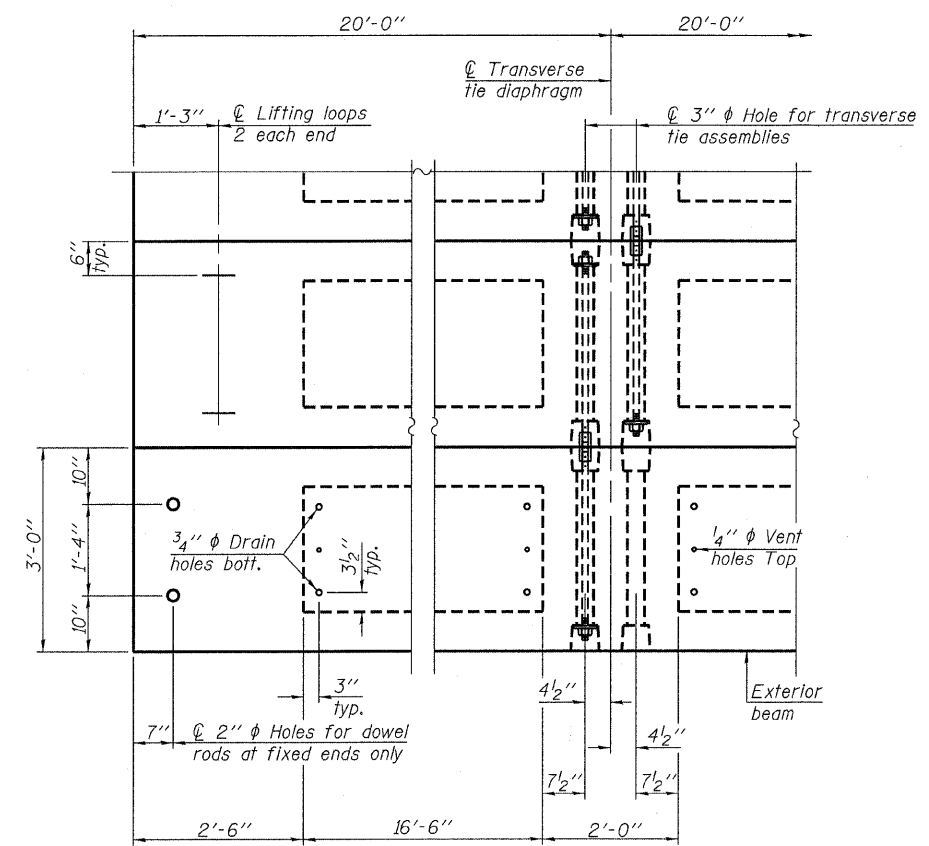
BAR S₂(E)

BAR U(E)



BAR U₁(E)

BAR A₁(E)



PLAN VIEW

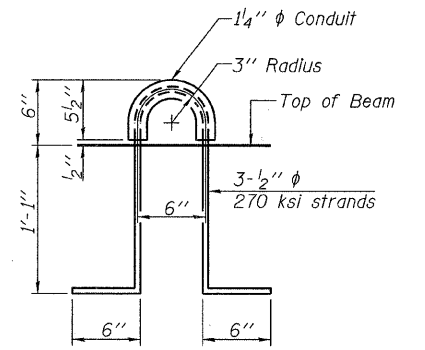
Note: Connect beams in pairs with the transverse tie configuration shown.

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

PD-1736-0D 5-16-08

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



LIFTING LOOP DETAIL

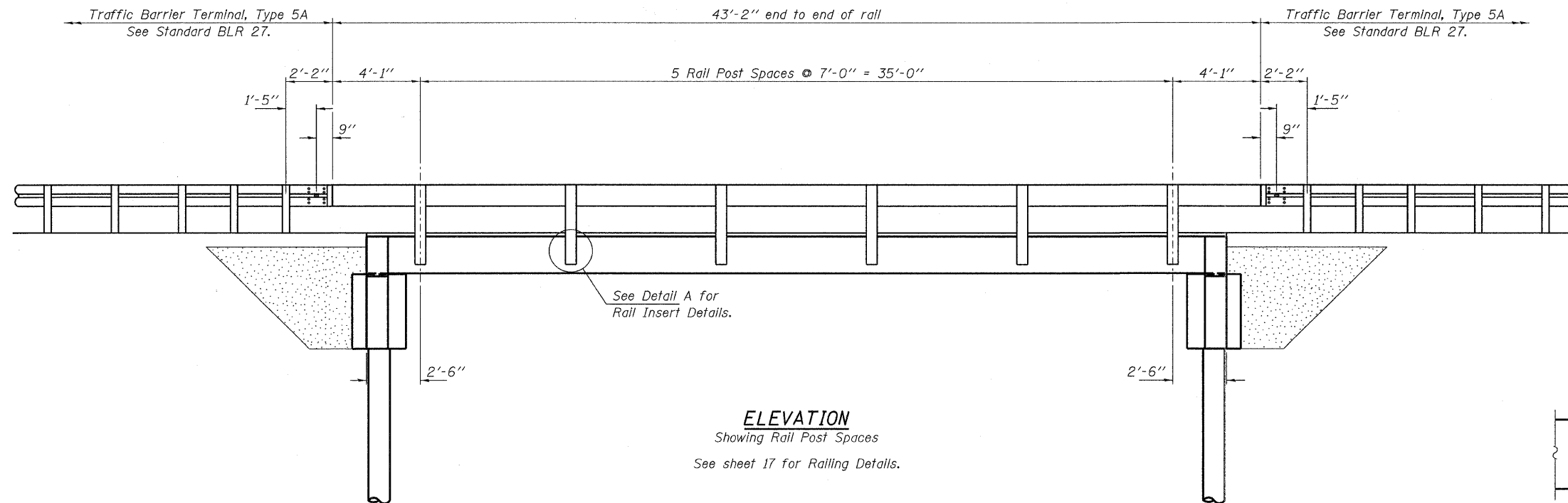
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1,080
---	---------	-------

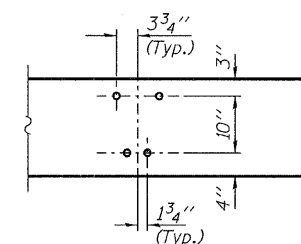
SUPERSTRUCTURE
17" X 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 027-3438

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
PROJECT NUMBER: 07-0432.130 DATE: 03/31/09

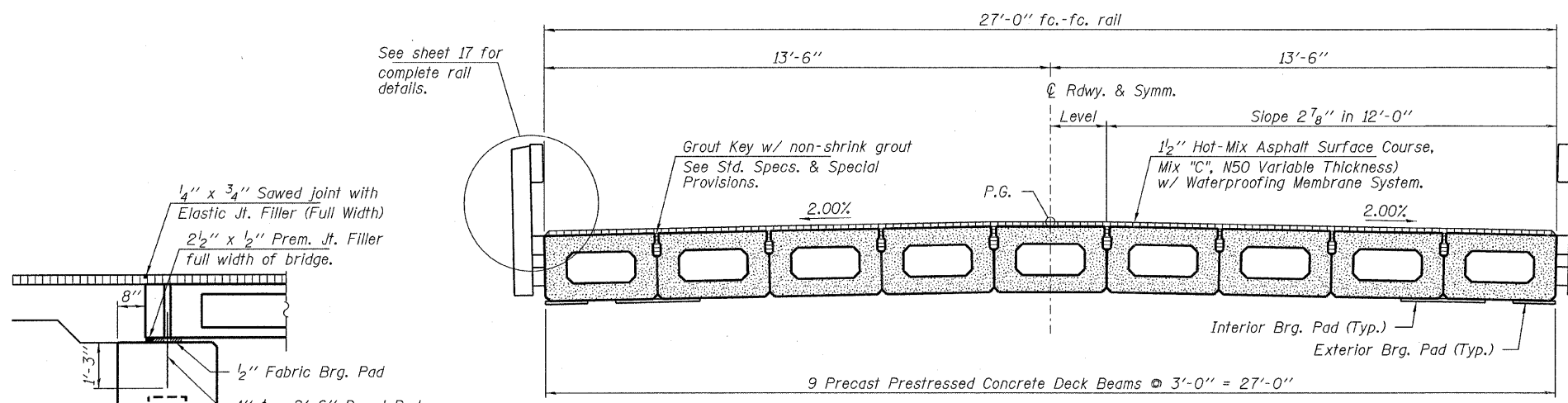
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00106-00-BR	FORD	32	16
CONTRACT NO. 87411				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



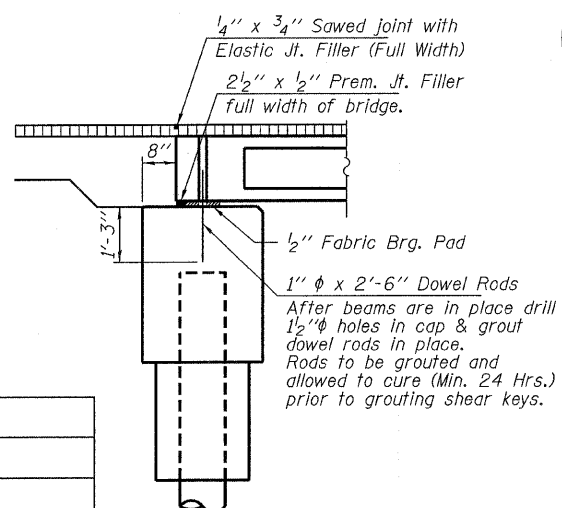
ELEVATION
Showing Rail Post Spaces
See sheet 17 for Railing Details.



DETAIL A



CROSS SECTION
See sheets 14 & 15 for Superstructure.



SECTION AT ABUTMENTS

© Rf. L's

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

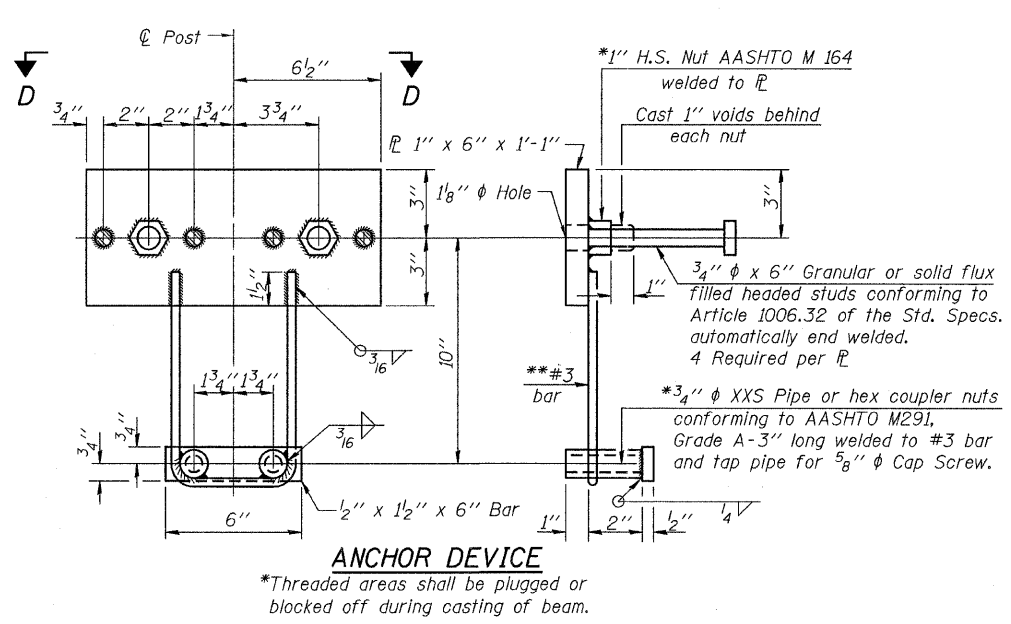
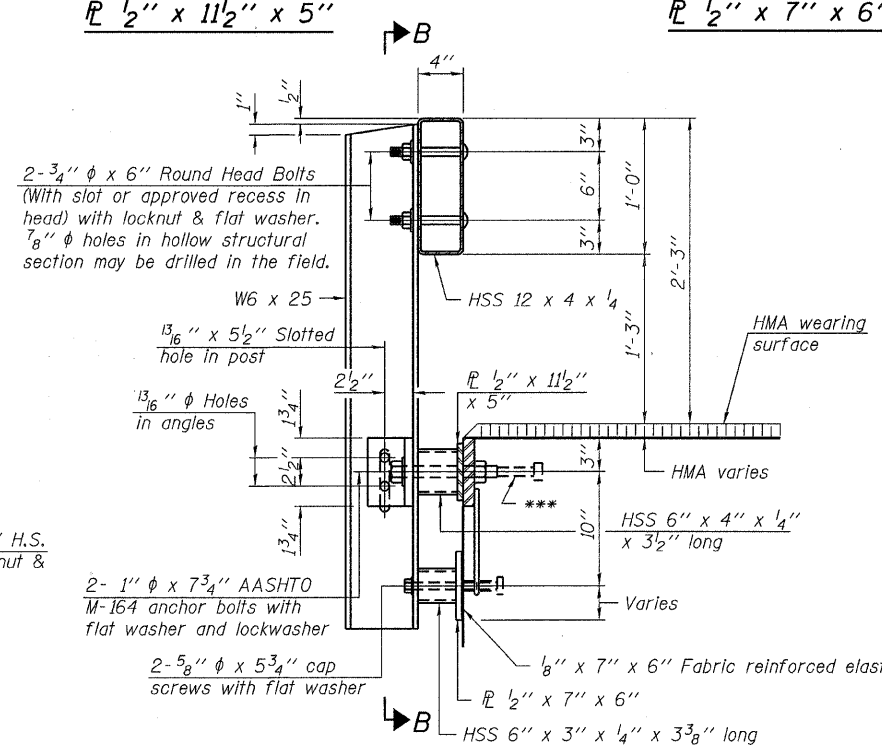
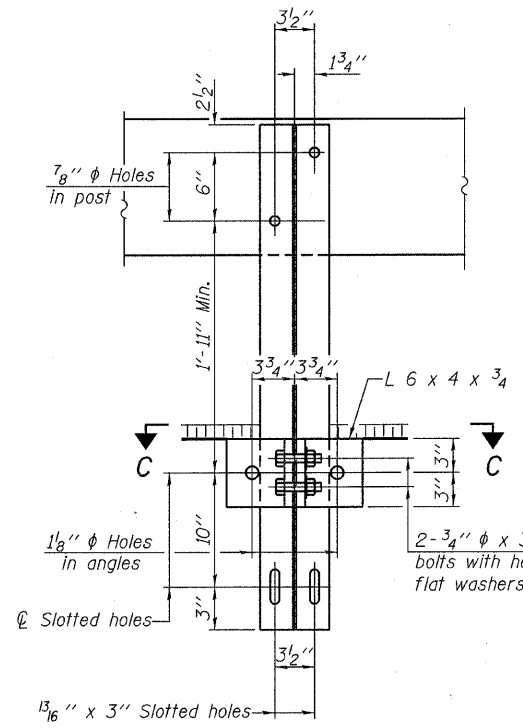
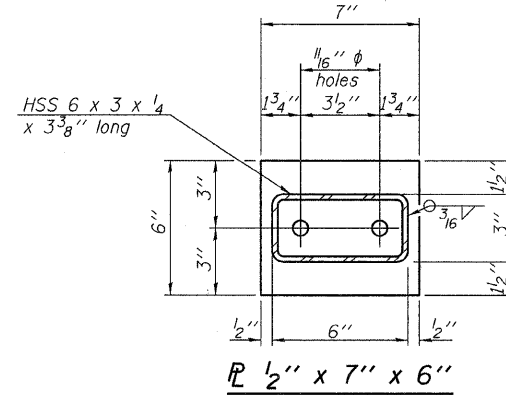
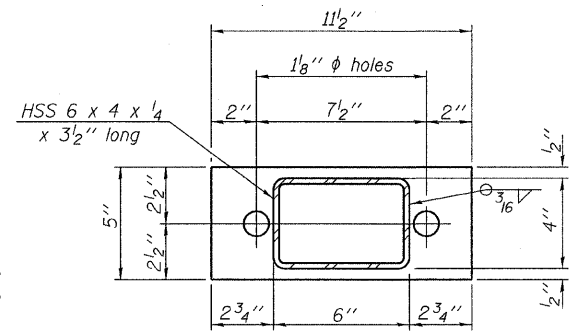
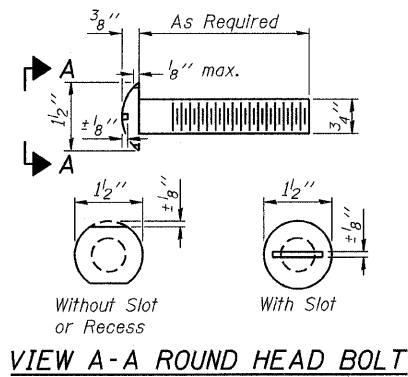
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 027-3438

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

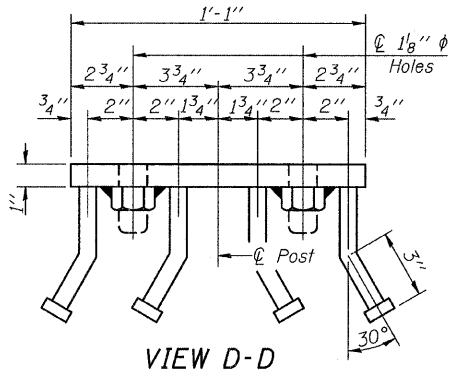
HLR 3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

PROJECT NUMBER: 07.0432.130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00106-00-BR	FORD	32	17
CONTRACT NO. 87411				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

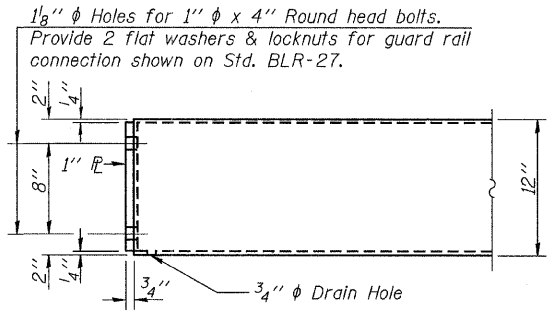


Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 ***The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

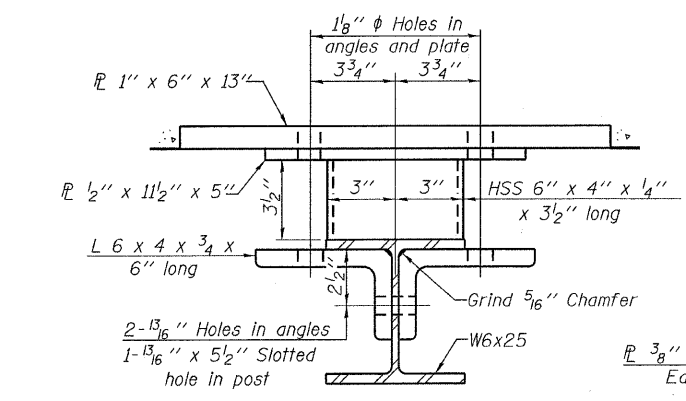


SECTION B-B

SECTION AT RAILING POST

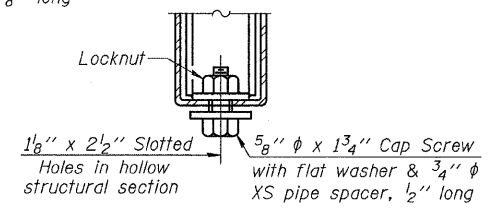


END OF RAIL DETAILS

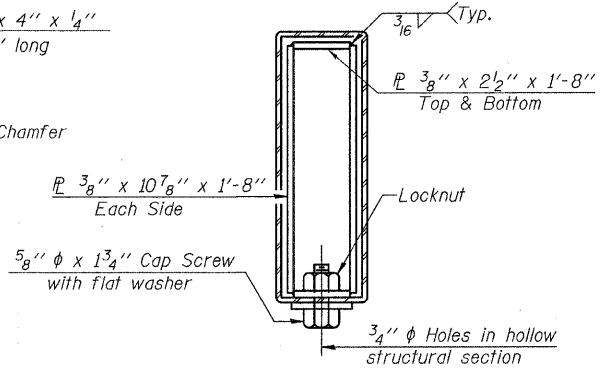


SECTION C-C

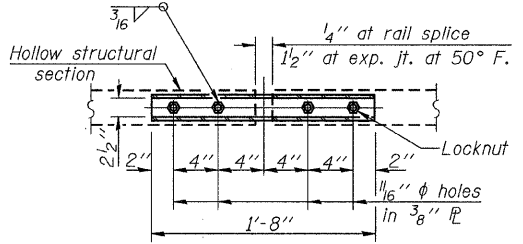
**Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTIONS AT RAIL SPLICE



PLAN-BOTTOM SPLICE TYPICAL

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

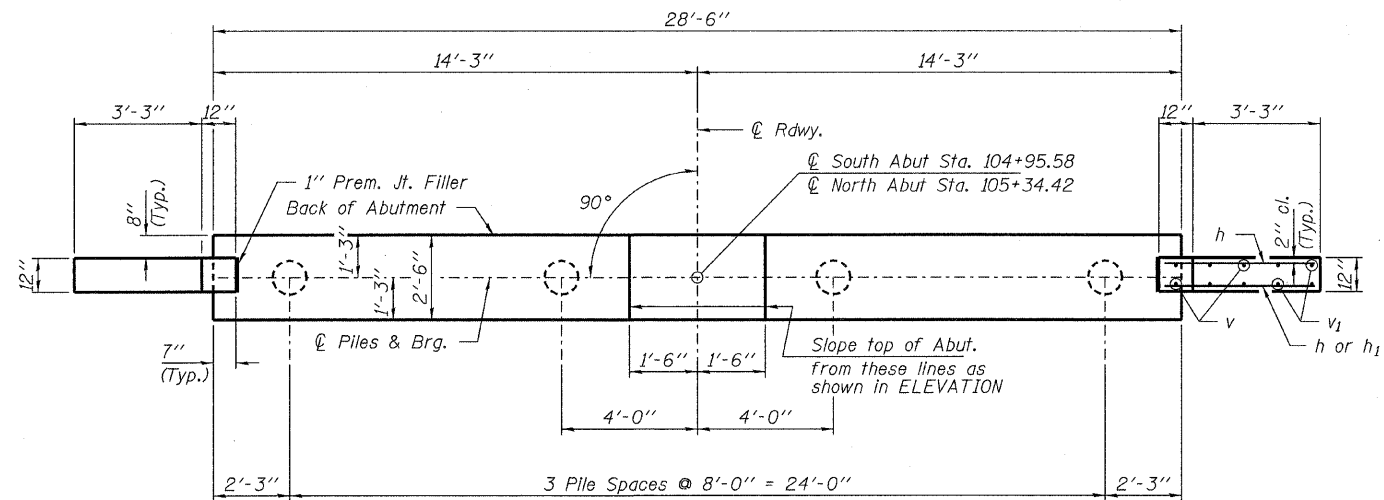
R-23A 5-16-08 (10'-9" Maximum Post Spacing)

BILL OF MATERIAL

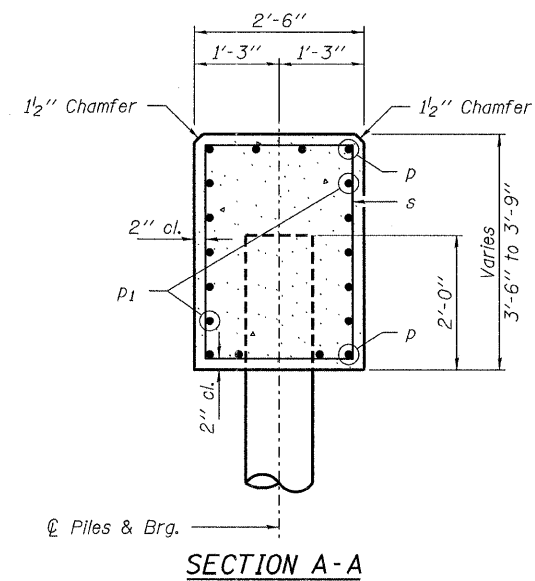
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	86

STEEL RAILING, TYPE S-1
 STRUCTURE NO. 027-3438

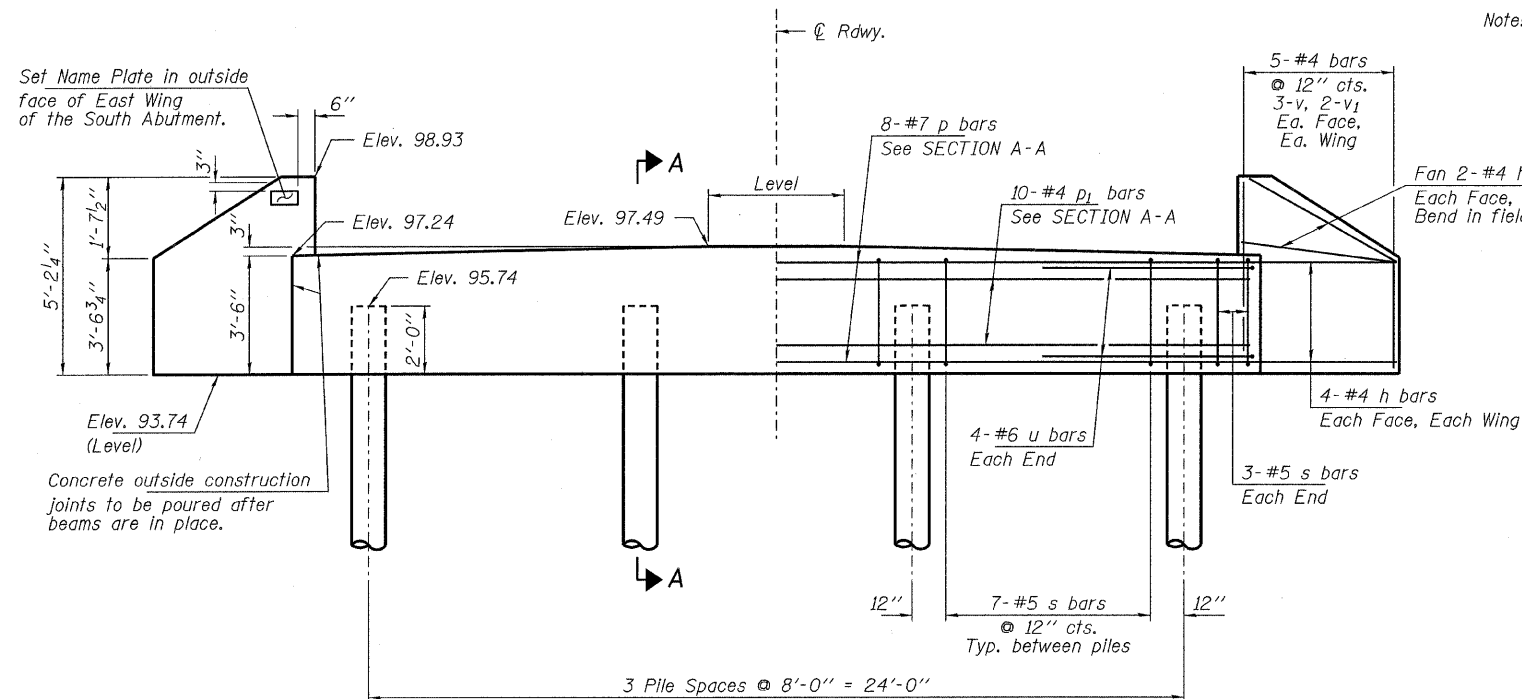
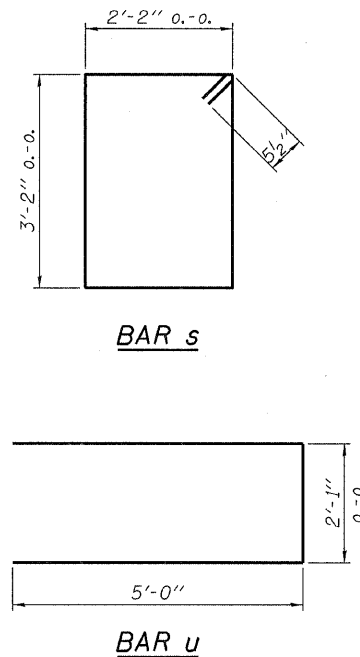
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 07.0432.130 DATE: 03/31/09	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	340	09-00106-00-BR	FORD	32	18
	CONTRACT NO. 87411			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	



PLAN



SECTION A-A



ELEVATION

Note: Extend h bars into abutment cap.

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	32	#4	5'-6"	—
h1	16	#4	4'-0"	—
p	16	#7	28'-2"	—
p1	20	#4	28'-2"	—
s	54	#5	11'-7"	□
u	16	#6	12'-1"	—
v	24	#4	4'-3"	—
v1	16	#4	3'-3"	—
Concrete Structures			Cu. Yd.	21.4
Reinforcement Bars			Pound	2,500
Metal Pile Shells 12"			Foot	260
Test Pile Metal Shells			Each	1
Name Plates			Each	1

PILE DATA

Type: Metal Shell, 12", dia. x 0.25 in. walls
 No. Req'd. (2 Abuts.): 8
 Factored Resistance Available (Rf): 137 Kips/Pile
 Nominal Required Bearing (Rn): 274 Kips/Pile
 Est. Length: 40 Ft/Pile (S. Abut.)
 35 Ft/Pile (N. Abut.)

Notes: * Includes one test pile to be driven in permanent locations at the South Abutment.

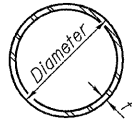
The Metal Shell Piles shall be according to ASTM A 252 Grade 3.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

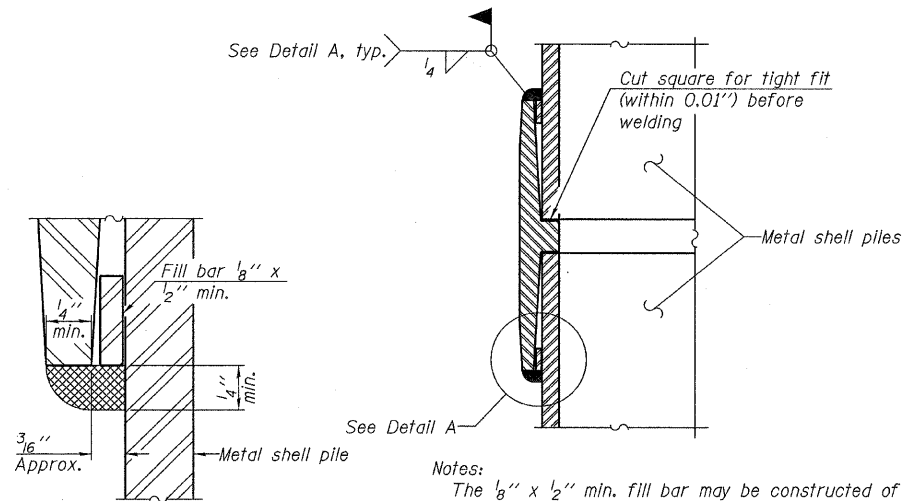
ABUTMENTS
 STRUCTURE NO. 027-3438

 HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 07.0432.130 DATE: 03/31/09	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	340	09-00106-00-BR	FORD	32	19
			CONTRACT NO. 87411		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		



METAL SHELL PILE TABLE

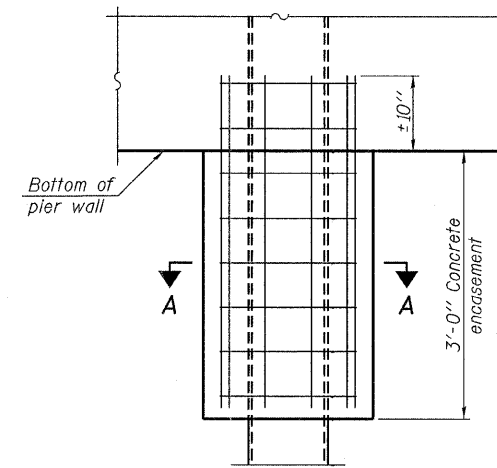
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



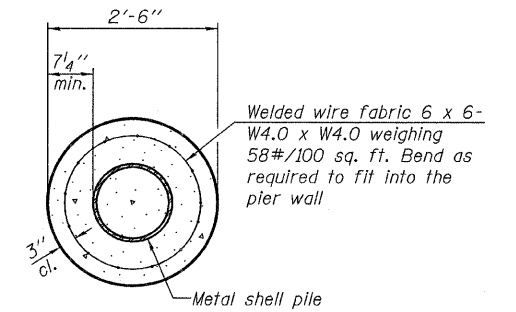
DETAIL A

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

WELDED COMMERCIAL SPLICE



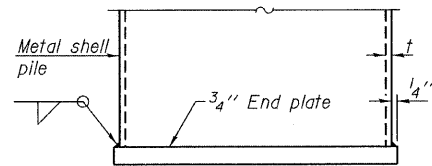
ELEVATION



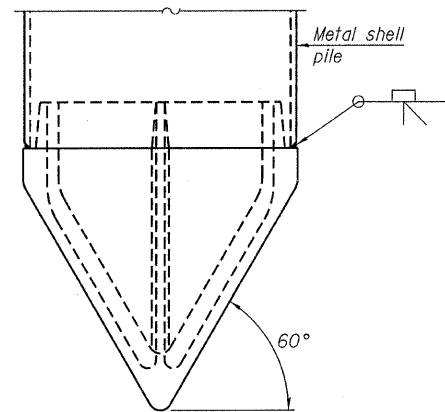
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



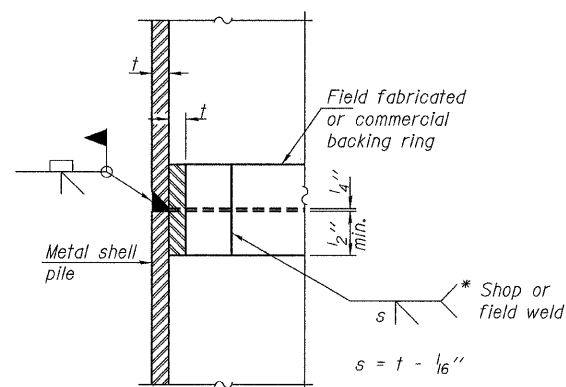
END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT

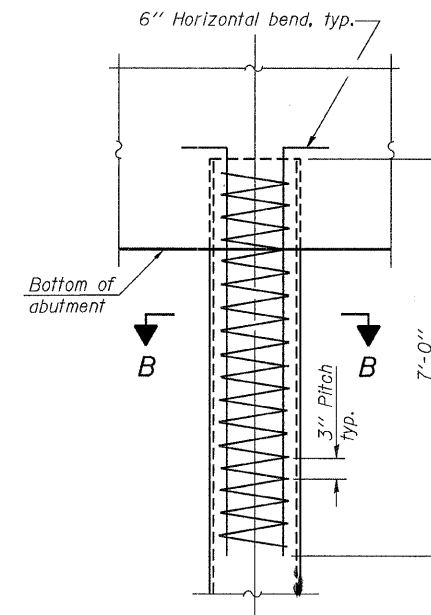
(See Note A)

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

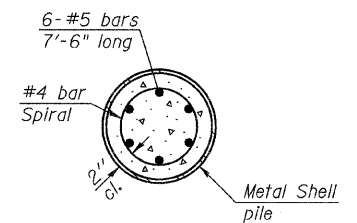


COMPLETE PENETRATION WELD SPLICE

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



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

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

**METAL SHELL PILE DETAILS
 STRUCTURE NO. 027-3438**

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

F-MS

5-16-08

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS

HLR 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400

PROJECT NUMBER: 07.0432.130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00106-00-BR	FORD	32	20
CONTRACT NO. 87411				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



SOIL BORING LOG

Page 1 of 2

Date 7/28/08

ROUTE C.H. 28 DESCRIPTION Bridge over Tributary LOGGED BY RRG
 SECTION 09-00106-00-BR LOCATION 150N, 1500E, SEC. 27, TWP. T32N, RNG. R9E, 3rd PM
 COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb Auto

STRUCT. NO. Station	DEPTH H	BL W	UCS Qu	MOIST T	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter Upon Completion After	ft Div ft Hrs.	DEPTH H	BL W	UCS Qu	MOIST T	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter Upon Completion After	ft Div ft Hrs.
027-3035 0+00																
Boring No. B-1 Station 8' S. of S. Abut. Offset 8.00ft W. Cl. Rdwy. Ground Surface Elev. 99.6 (98.4) ft																
Bituminous Concrete Surface = 99.30 4.0" (98.1) / 98.70																
Base Course = 6.0" (97.5)																
Medium Stiff Black SILTY CLAY FILL																
(95.4) 96.60																
Stiff Dark Yellow Brown to Yellow Brown SILTY CLAY																
2 2 0.7 12.7																
2 2 P																
2 2 1.6 26.8																
3 3 B																
2 2																
2 2 1.2 23.2																
2 2 B																
(89.9) 91.10																
Very Stiff Brown SILTY CLAY, trace sand & gravel																
2 2																
4 4 3.3 16.1																
7 7 B																
(87.4) 89.50																
Hard to Stiff Gray SILTY CLAY, trace sand & gravel																
5 5																
9 9 4.1 16.4																
9 9 B																
5 5																
8 8 4.1 20.3																
9 9 B																
3 3																
4 4 3.3 19.7																
6 6 B																
4 4																
5 5 3.5 20.8																
8 8 B																

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. 9-89)



SOIL BORING LOG

Page 2 of 2

Date 7/28/08

ROUTE C.H. 28 DESCRIPTION Bridge over Tributary LOGGED BY RRG
 SECTION 09-00106-00-BR LOCATION 150N, 1500E, SEC. 27, TWP. T32N, RNG. R9E, 3rd PM
 COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb Auto

STRUCT. NO. Station	DEPTH H	BL W	UCS Qu	MOIST T	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter Upon Completion After	ft Div ft Hrs.	DEPTH H	BL W	UCS Qu	MOIST T	Surface Water Elev. ft	Stream Bed Elev. ft	Groundwater Elev.: First Encounter Upon Completion After	ft Div ft Hrs.
027-3035 0+00																
Boring No. B-1 Station 8' S. of S. Abut. Offset 8.00ft W. Cl. Rdwy. Ground Surface Elev. 99.6 (98.4) ft																
Hard to Stiff Gray SILTY CLAY, trace sand & gravel (continued)																
3 3																
4 4 3.0 18.7																
5 5 B																
(54.4) 55.60																
Hard Gray SILTY CLAY, trace sand & gravel																
5 5																
7 7 4.0 10.1																
10 10 B																
3 3																
5 5 3.5 16.5																
6 6 B																
(48.4) 48.80																
End of Boring																

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-89)

BORING 1

BORINGS
 STRUCTURE NO. 027-3438

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400
 PROJECT NUMBER: 07.0432.130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00106-00-BR	FORD	32	21
CONTRACT NO. 87411				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



SOIL BORING LOG

Page 1 of 2

Date 7/28/08

ROUTE C.H. 26 DESCRIPTION Bridge over Tributary LOGGED BY RRG
 SECTION 09-00106-00-BR LOCATION 150N, 1500E, SEC. 27, TWP. T32N, RNG. R9E, 3rd PM
 COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb Auto

STRUCT. NO.	STATION	BORING NO.	STATION	OFFSET	GROUND SURFACE ELEV.	DEPTH (ft)	BLOW COUNT (blows/ft)	UNCONSOLIDATED QUANTITY (%)	MOISTURE (%)	SOIL DESCRIPTION	DEPTH (ft)	BLOW COUNT (blows/ft)	UNCONSOLIDATED QUANTITY (%)	MOISTURE (%)	
027-3035	0+00	B-2	8' N. of N. Abut.	8.00ft E. CL Rdwy.	99.6 (98.3)					Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter _____ ft Upon Completion _____ ft After _____ Hrs.					
Bituminous Concrete Surface = 4.5" (97.9) 99.70 Base Course = 5.5" (97.4) Stiff Black SILTY CLAY - FILL (95.3) 99.60 Dark Yellow Brown to Yellow Brown SILTY CLAY Hard to Very Stiff Gray SILTY CLAY, trace sand & gravel (continued) Hard to Very Stiff Gray SILTY CLAY, trace sand & gravel (87.3) 99.60															
						2					4				
						3	1	30.0			5	3.5	16.7		
						4	P				5	B			
						2					3				
						2	1.6	26.7			4	3.2	15.6		
						3	B				5	B			
						1					3				
						2	1.0	24.5			4	3.0	17.7		
						2	P				5	B			
						3					3				
						5	3.5	18.1			4	2.5	16.2		
						5	B				4	B			
						4					3				
						8	5.7	18.4			2				
						10	B				6	3.3	16.1		
						5					6	B			
						9	6.5	16.3			5				
						12	B				6	B			
						4					3				
						5	4.4	14.5			3	2.5	17.6		
						8	B				5	B			
						3					3				
						5	3.8	16.8			3	2.5	17.6		
						7	B				5	B			

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 LOG

Page 2 of 2

Date 7/28/08

ROUTE C.H. 26 DESCRIPTION Bridge over Tributary LOGGED BY RRG
 SECTION 09-00106-00-BR LOCATION 150N, 1500E, SEC. 27, TWP. T32N, RNG. R9E, 3rd PM
 COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb Auto

STRUCT. NO.	STATION	BORING NO.	STATION	OFFSET	GROUND SURFACE ELEV.	DEPTH (ft)	BLOW COUNT (blows/ft)	UNCONSOLIDATED QUANTITY (%)	MOISTURE (%)	SOIL DESCRIPTION	DEPTH (ft)	BLOW COUNT (blows/ft)	UNCONSOLIDATED QUANTITY (%)	MOISTURE (%)	
027-3035	0+00	B-2	8' N. of N. Abut.	8.00ft E. CL Rdwy.	99.6 (98.3)					Surface Water Elev. _____ ft Stream Bed Elev. _____ ft Groundwater Elev.: First Encounter _____ ft Upon Completion _____ ft After _____ Hrs.					
Hard to Very Stiff Gray SILTY CLAY, trace sand & gravel (continued) Hard Gray SILTY CLAY, trace sand & gravel (53.5) 94.60 Hard Gray SILTY CLAY, trace sand & gravel (48.3) 49.60 End of Boring															
						4					4				
						5	4.9	11.7			5	B			
						5	B				5				
						7	5.6	10.7			7	5.6	10.7		
						10	B				10	B			

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)

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

BORING 2

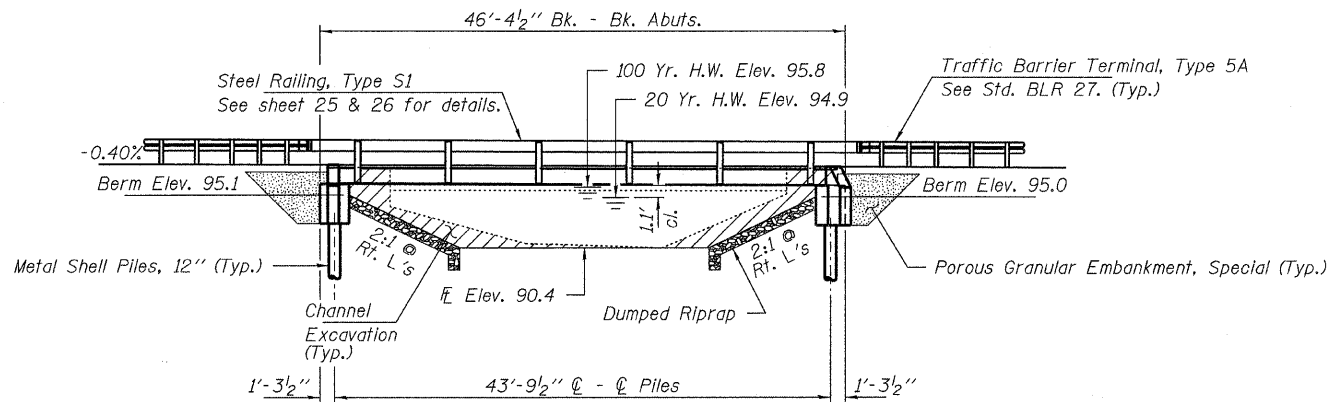
BORINGS
 STRUCTURE NO. 027-3438

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	340	09-00106-00-BR	FORD	32	22
PROJECT NUMBER: 07.0432.130			DATE: 03/31/09		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			
CONTRACT NO. 87411					

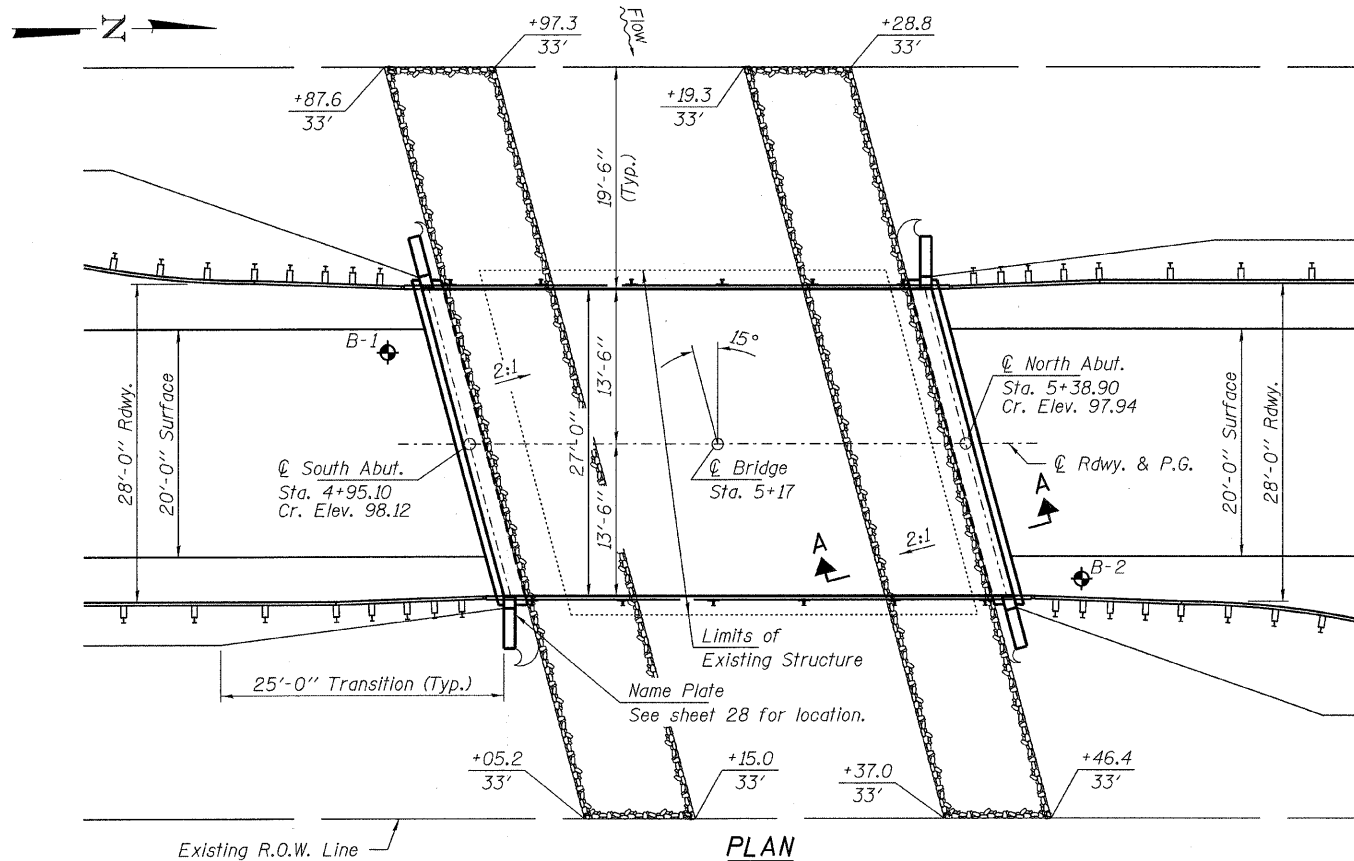
BENCHMARK: S.W. Corner, S.E. Curb, 18' Rt., Sta. 5+03, Elev. 97.73

EXISTING STRUCTURE: Single span precast concrete channel beam bridge with closed timber abutments and caps. 35.9' fc.-fc. abuts.; 28.3' o.-o. deck.

No Salvage



ELEVATION



PLAN

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2\"/>

LOADING HL-93

Design Specifications: 2007 AASHTO LRFD with all applicable interims. 50#/Sq. Ft. Included in dead load for future wearing surface.

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.123g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.205g
Soil Site Class = D

WATERWAY DATA

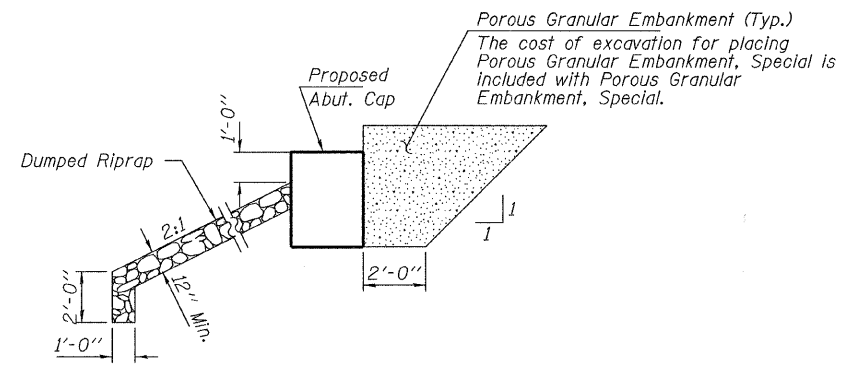
Drainage Area = 0.5 sq. mi.	Existing Low Grade Elevation = 97.5 ft. at Sta. 6+00	Proposed Low Grade Elevation = 97.6 ft. at Sta. 7+00							
Flood Year	Frequency	Discharge (cfs)	Waterway Opening (sq. ft.)		Natural H.W.E.	Head (ft.)		Headwater Elev.	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
DESIGN	15	316	80	120	94.5	0.0	0.0	94.5	94.5
BASE	100	495	110	170	95.8	0.0	0.0	95.8	95.8
MAX CALC	500	689	110	180	96.6	0.2	0.0	96.8	96.6

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at North Abutment or approved by the Engineer before ordering the remainder of piles. Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (1L Modified). See Special Provisions. Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation. All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions. The abutments shall be backfilled full width with porous granular embankment from the bottom of the abutment cap to the subgrade elevation as directed by the Engineer. See sheets 30 & 31 for Borings.

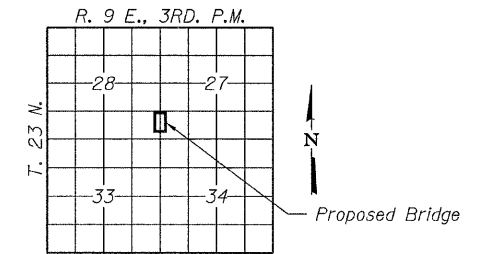
BUILT 200_ BY FORD COUNTY SEC. 09-00107-00-BR F.A.S. 340 / C.H. 26 STR. NO. 027-3439 LOADING HL-93

NAME PLATE See Std. 515001



SECTION A-A

Note: See Special Provisions for Dumped Riprap and Porous Granular Embankment, Special.

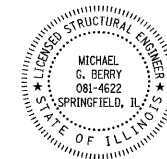


LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			90
Porous Granular Embankment, Special	Ton			100
Dumped Riprap	Ton			110
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	14		14
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		22.4	22.4
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,215		1,215
Reinforcement Bars	Pound		2,560	2,560
Steel Railing, Type S1	Foot	96		96
Furnishing Metal Shell Piles 12"x 0.250"	Foot		310	310
Driving Piles	Foot		310	310
Test Pile Metal Shells	Each		1	1
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	135		135
Portland Cement Mortar Fairing Course	Foot	90		90

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Specifications."



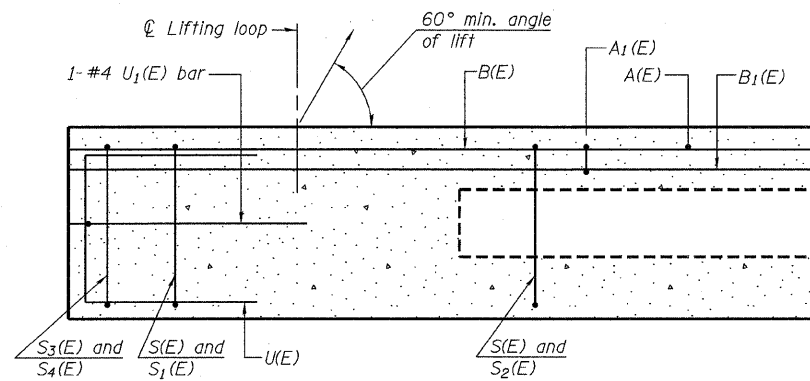
Expires 11-30-2010

Michael G. Berry 5/07/09 ILLINOIS STRUCTURAL NO. 081-4622

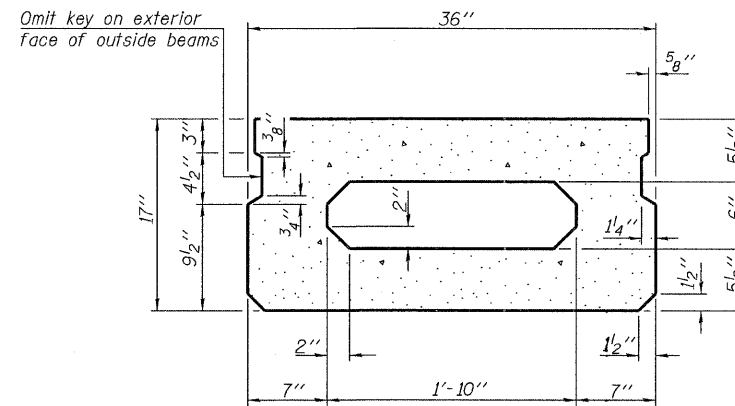
GENERAL PLAN AND ELEVATION STRUCTURE NO. 027-3439

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS
HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400
PROJECT NUMBER: 07.0435.130 DATE: 03/31/09

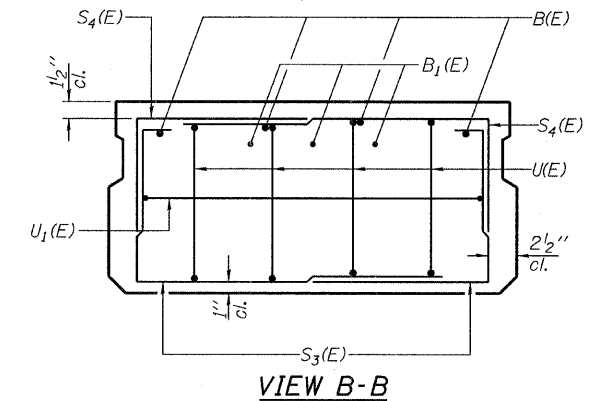
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	23
				CONTRACT NO. 87411
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



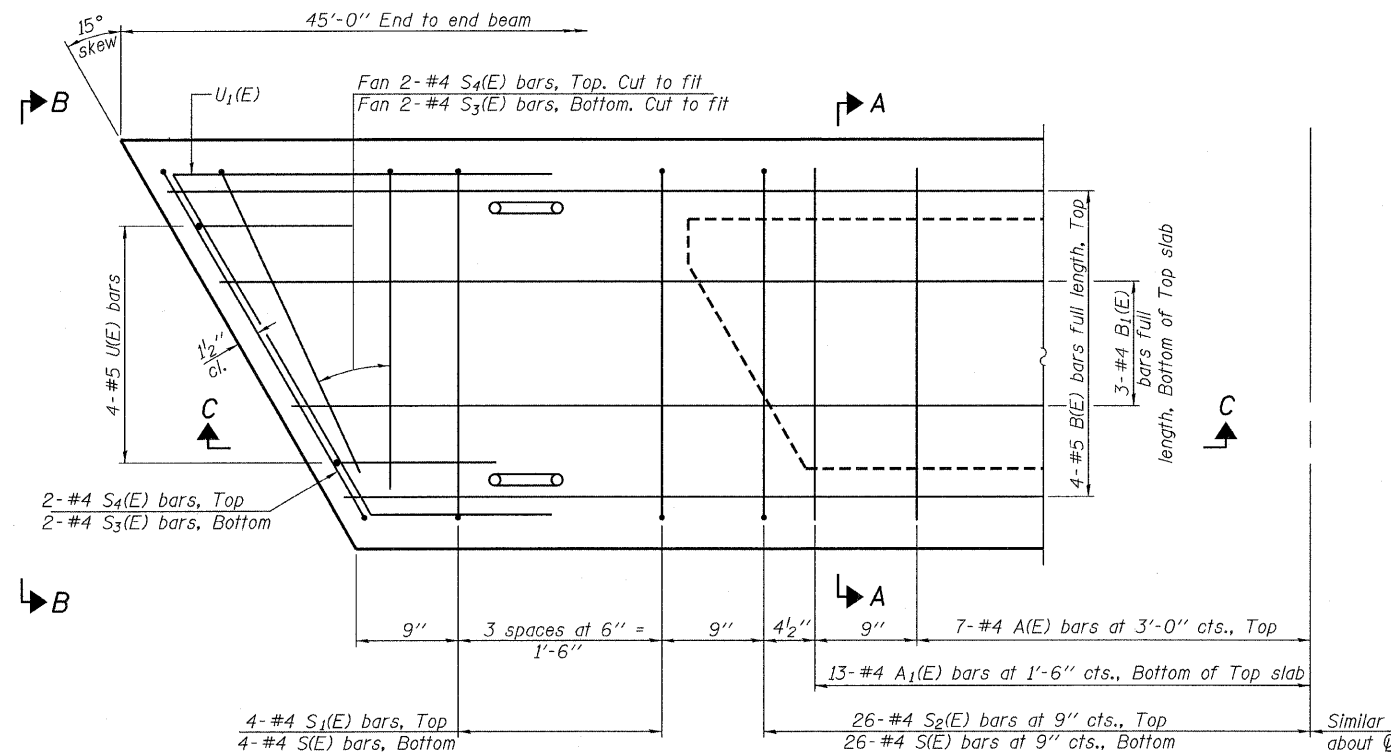
SECTION C-C



SECTION A-A
(Showing dimensions)

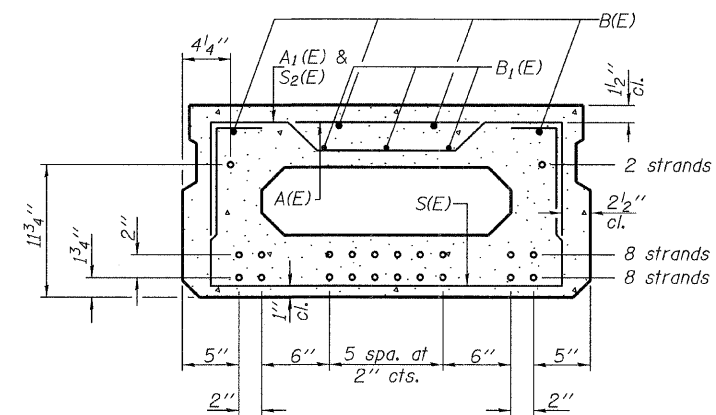


VIEW B-B



PLAN VIEW

Note: Spacing of S1(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION A-A

(Showing reinforcement and permissible strand locations)

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

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	14	#4	2'-7"	—
A1(E)	26	#4	2'-11"	—
B(E)	4	#5	44'-8"	—
B1(E)	3	#4	44'-8"	—
S(E)	60	#4	5'-9"	U
S1(E)	8	#4	4'-3"	U
S2(E)	52	#4	4'-6"	U
S3(E)	8	#4	3'-10"	U
S4(E)	8	#4	3'-1"	U
U(E)	8	#5	3'-8"	U
U1(E)	2	#4	5'-9"	U

Note: See sheets 24 of 25 for additional details and Bill of Material.

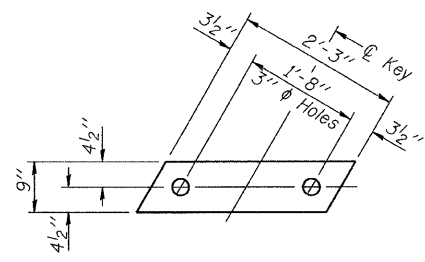
SUPERSTRUCTURE
17" X 36" PPC DECK BEAM
STRUCTURE NO. 027-3439

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

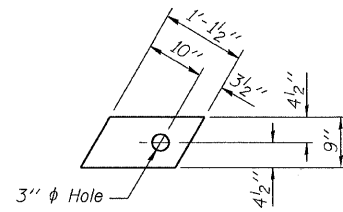
PD-1736-R 5-16-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
PROJECT NUMBER: 07.0435.130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	24
CONTRACT NO. 87411				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



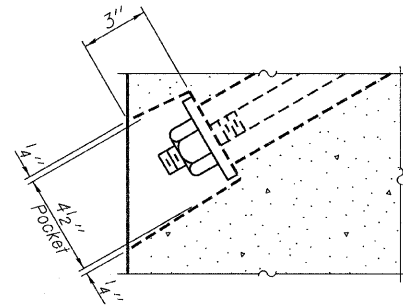
FABRIC BEARING PAD
(Interior - 16 Req'd)



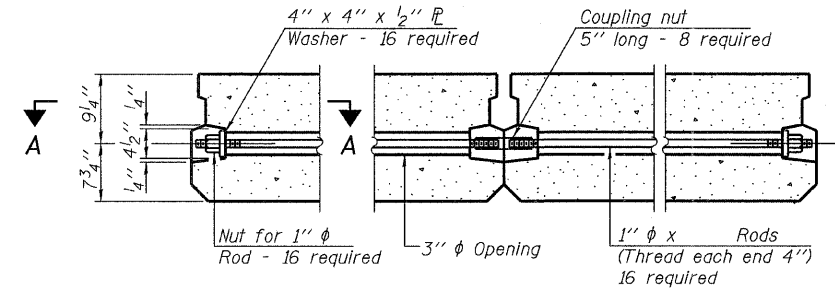
FABRIC BEARING PAD
(Exterior - 4 Req'd)

FIXED

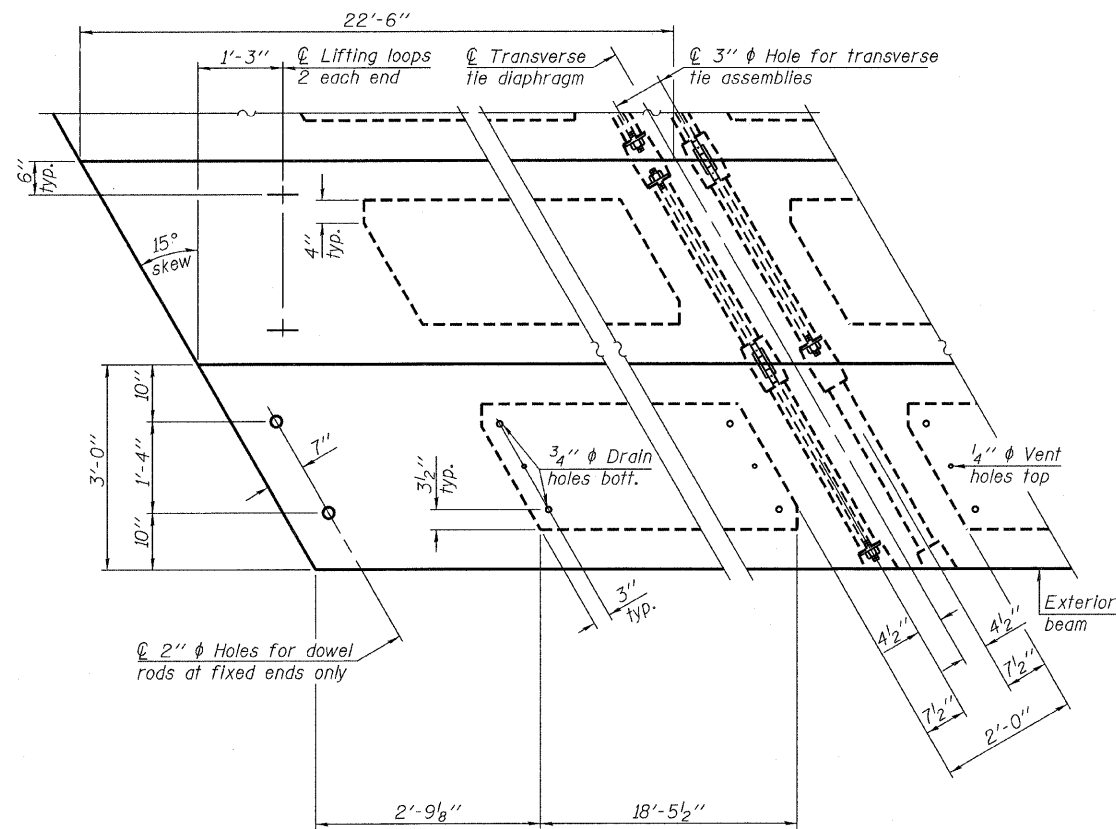
Note: Omit holes when using expansion bearings.



SECTION A-A

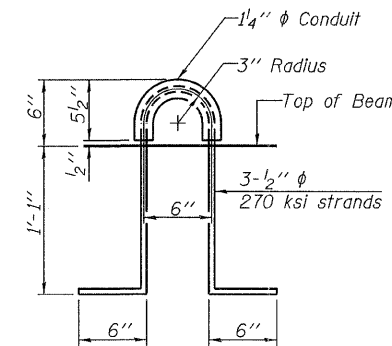


TYPICAL TRANSVERSE TIE ASSEMBLY

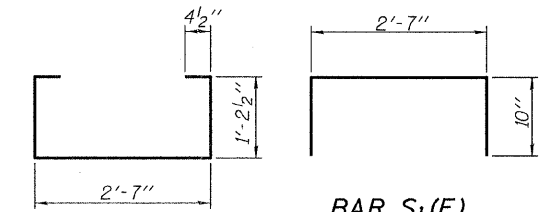


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

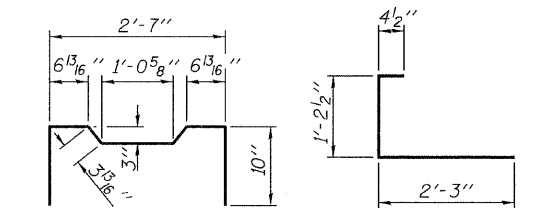


LIFTING LOOP DETAIL



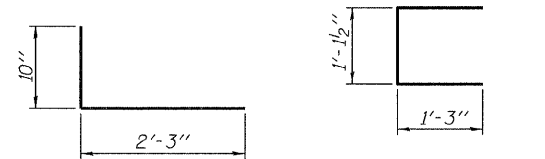
BAR S₁(E)

BAR S(E)



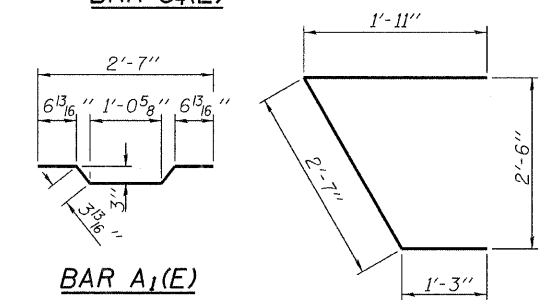
BAR S₂(E)

BAR S₃(E)



BAR S₄(E)

BAR U(E)



BAR A₁(E)

BAR U₁(E)

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1,215
---	---------	-------

SUPERSTRUCTURE DETAILS
17" X 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 027-3439

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

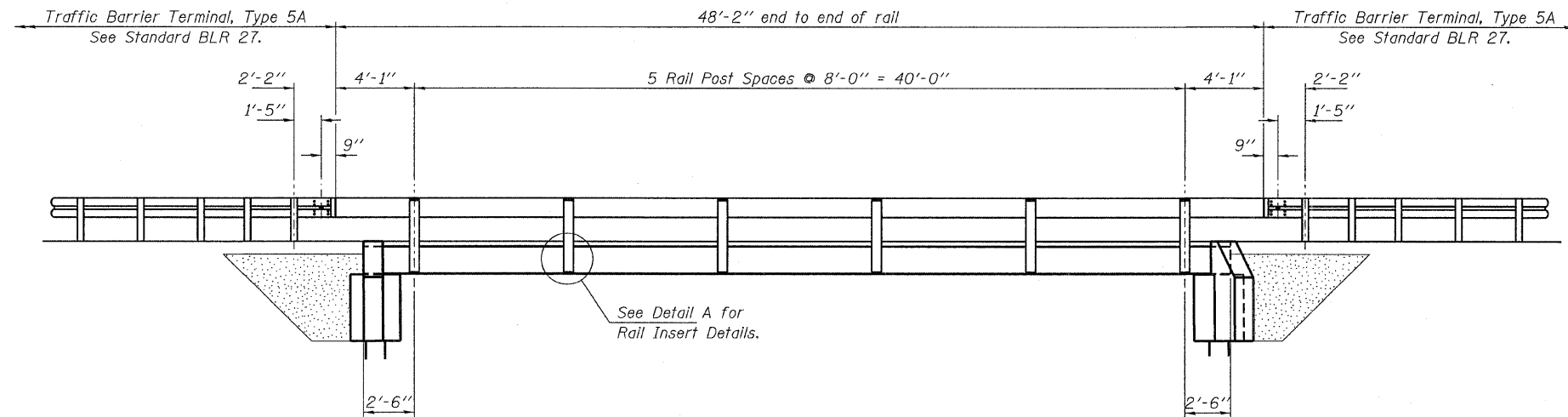
PD-1736-RD 5-16-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

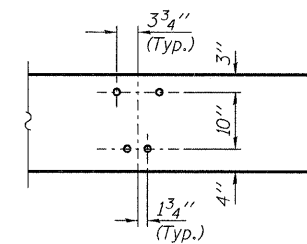
HLR 3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

PROJECT NUMBER: 07.0435.130 DATE: 03/31/09

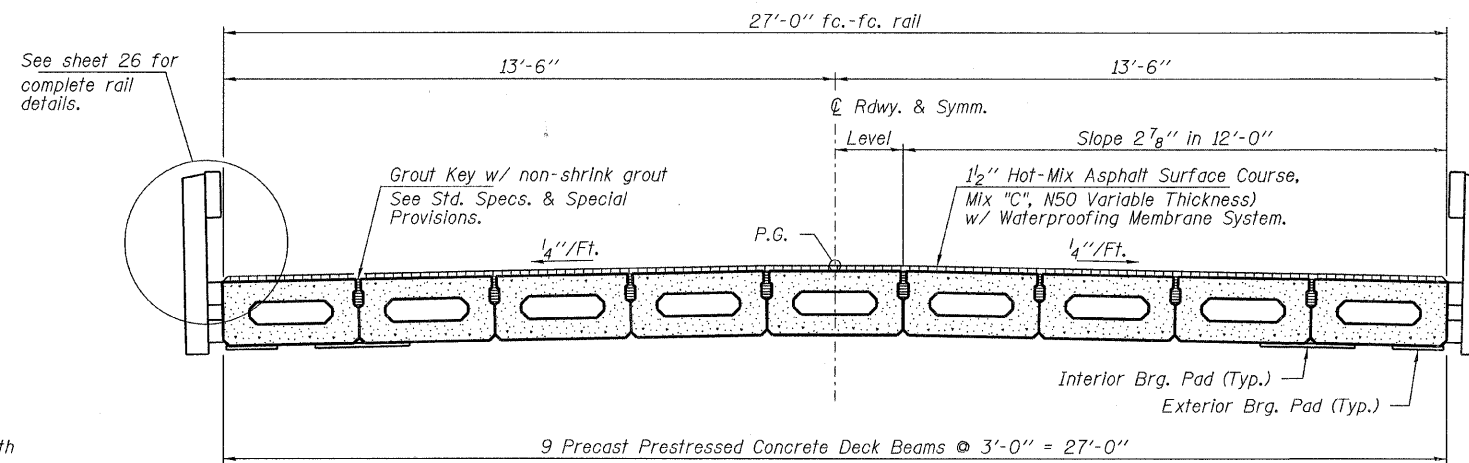
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	25
CONTRACT NO. 87411				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



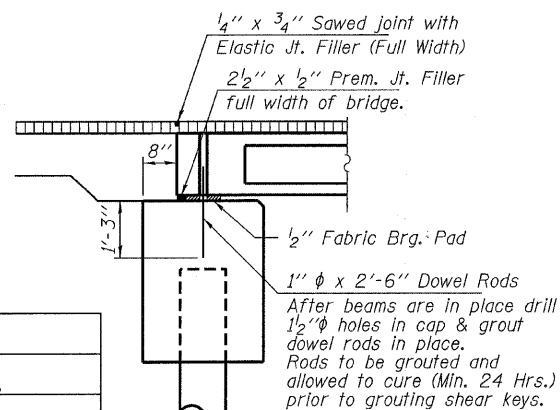
ELEVATION
Showing Rail Post Spaces
See sheet 26 for Railing Details.



DETAIL A



CROSS SECTION
See sheets 23 & 24 for Superstructure.



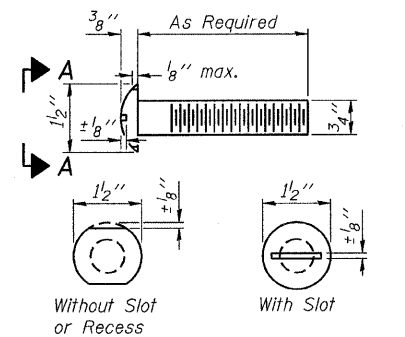
SECTION AT ABUTMENTS

© Rt. L's

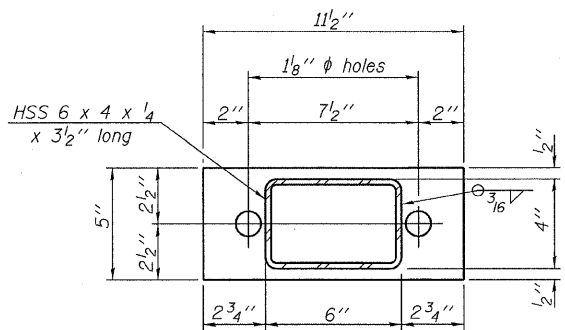
DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 027-3439

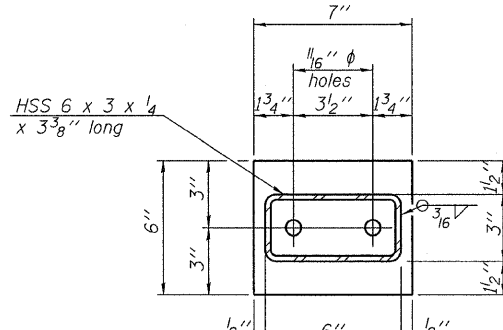
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 07.0435.130 DATE: 03/31/09	F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	340	09-00107-00-BR	FORD	32	26
			CONTRACT NO. 87411		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			



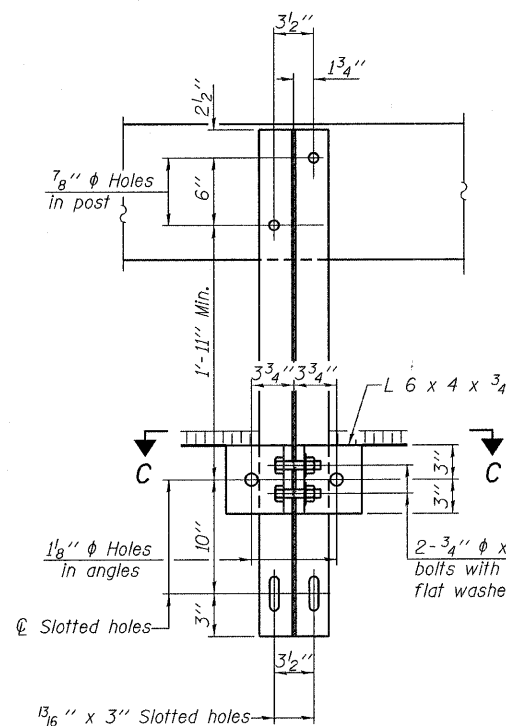
VIEW A-A ROUND HEAD BOLT



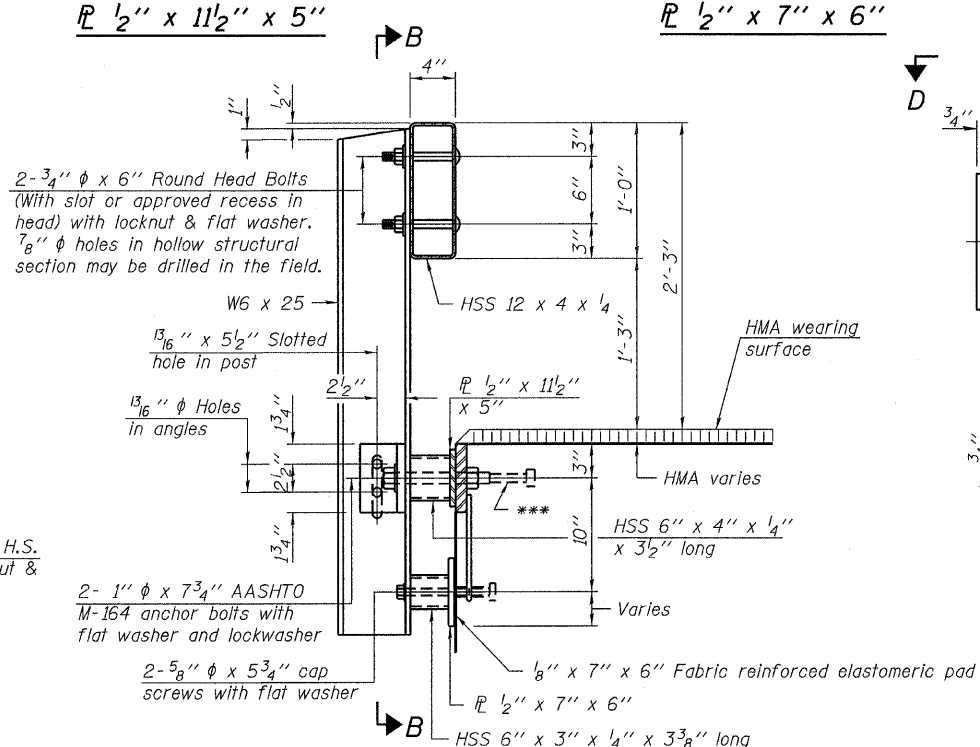
PL 1/2" x 11 1/2" x 5"



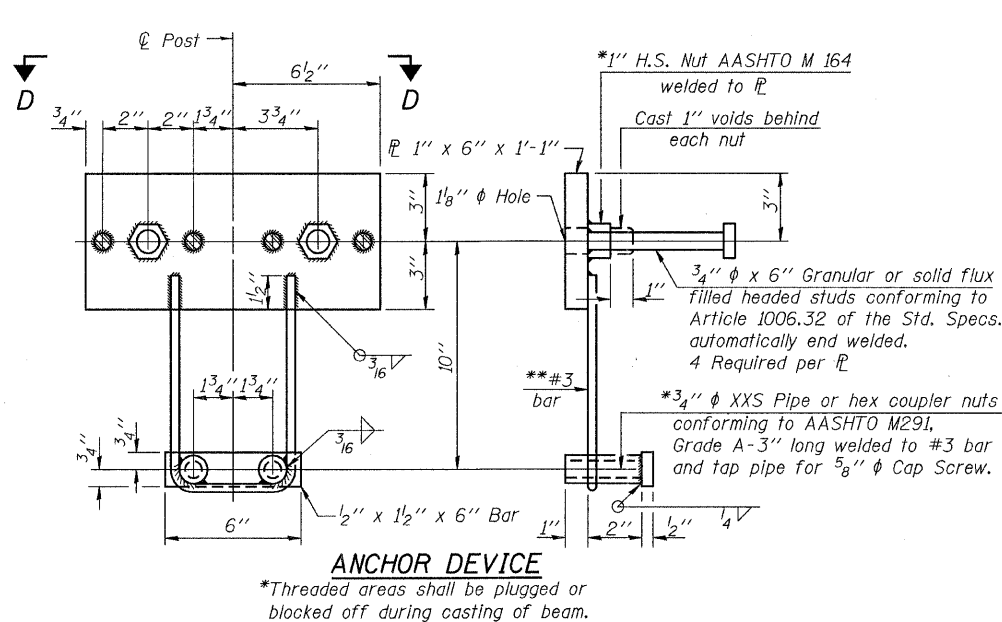
PL 1/2" x 7" x 6"



SECTION B-B

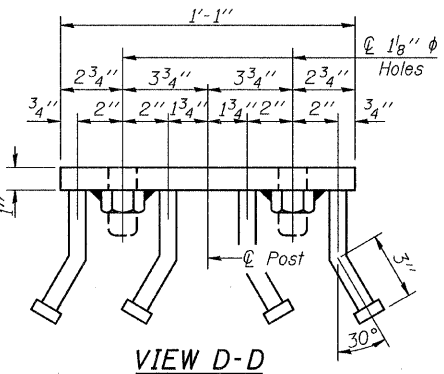


SECTION AT RAILING POST

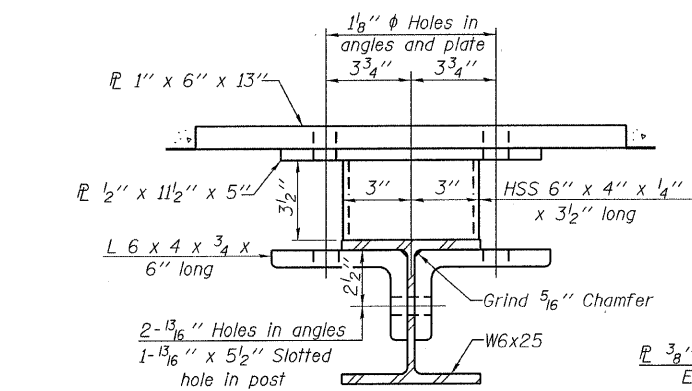


ANCHOR DEVICE

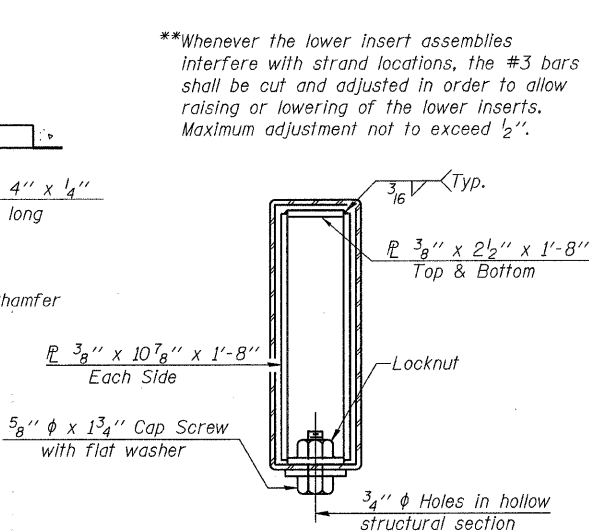
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 ***The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



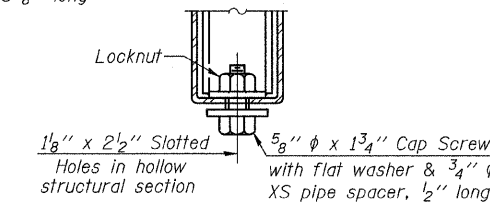
VIEW D-D



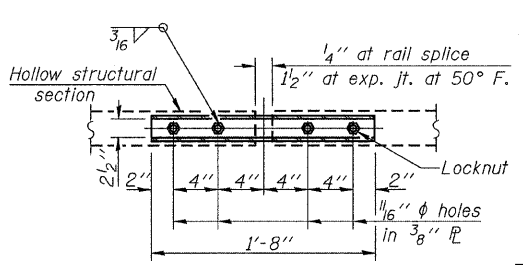
SECTION C-C



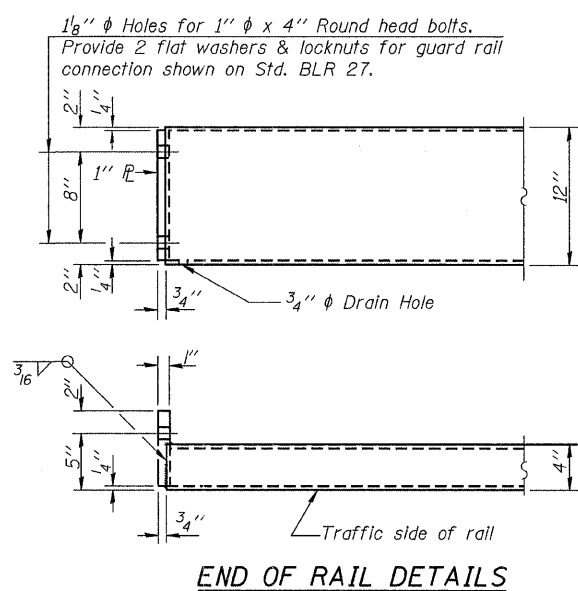
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTTOM SPLICE PL TYPICAL



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	96

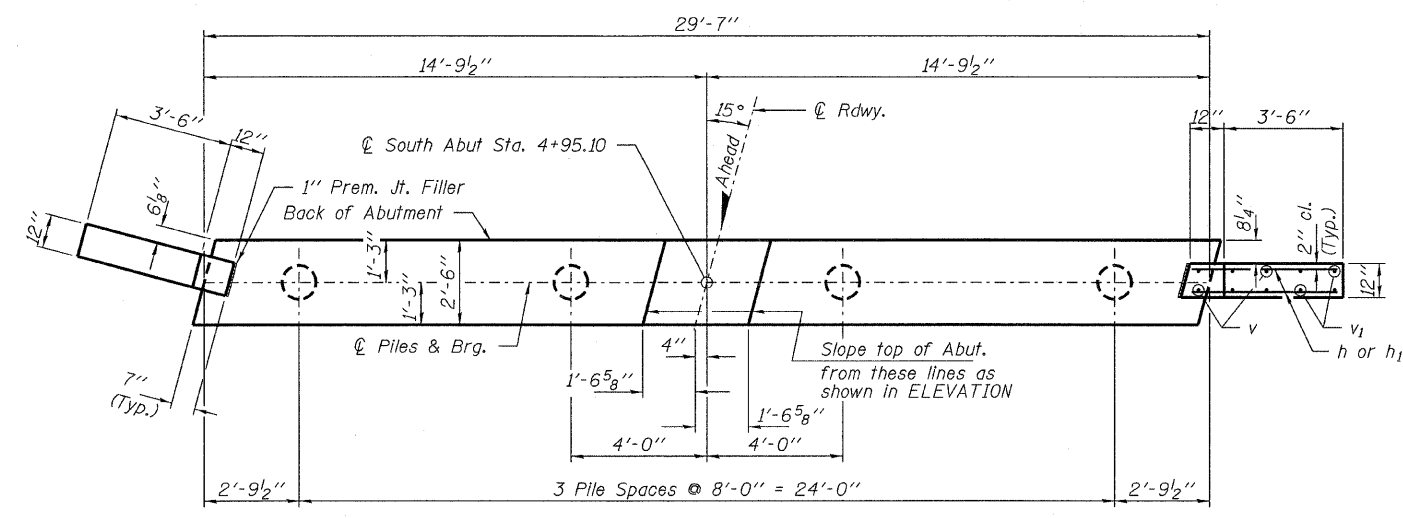
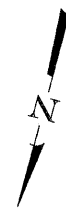
STEEL RAILING, TYPE S-1
 STRUCTURE NO. 027-3439

DESIGNED - A.S.L.
 CHECKED - M.G.B.
 DRAWN - D.A.B.
 CHECKED - D.T.M.
 R-23A

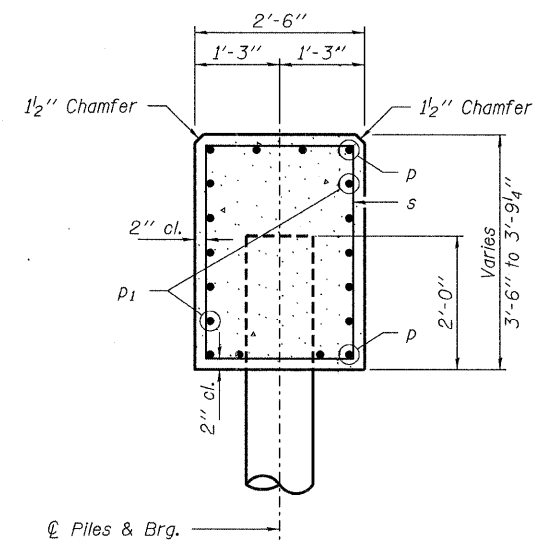
15-16-08 (10'-9" Maximum Post Spacing)

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
HLR
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400
 PROJECT NUMBER: 07.0435.130 DATE: 03/31/09

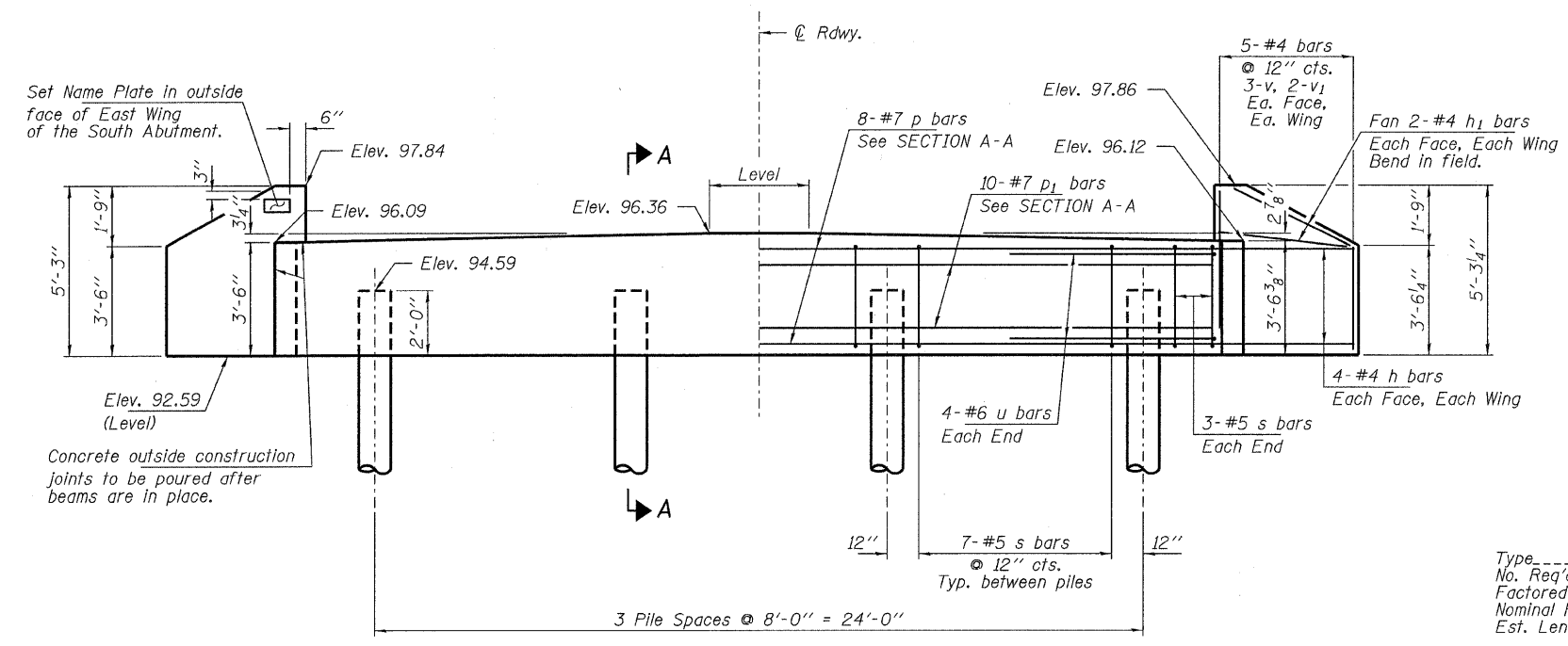
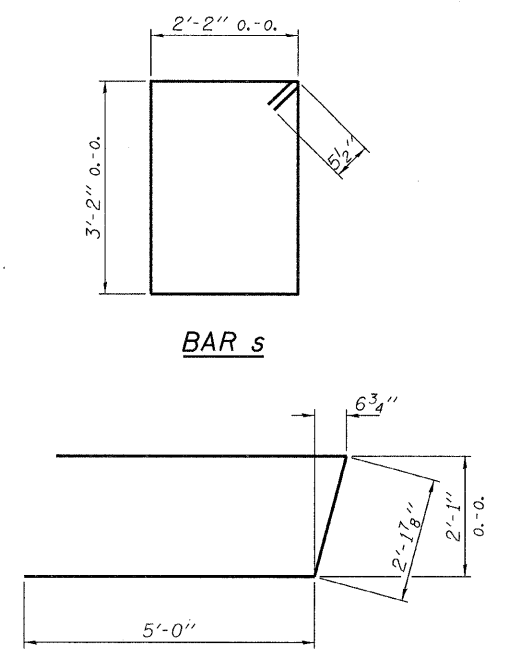
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	27
CONTRACT NO. 87411				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



PLAN



SECTION A-A



PILE DATA

Type: Metal Shell, 12", dia. x 0.25 in. walls
 No. Req'd. (2 Abuts.): 4
 Factored Resistance Available (Rf): 152 Kips/Pile
 Nominal Required Bearing (Rn): 304 Kips/Pile
 Est. Length: 40 Ft/Pile

Notes: The Metal Shell Piles shall be according to ASTM A 252 Grade 3.

BILL OF MATERIAL - S. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#4	5'-9"	—
h1	8	#4	4'-3"	—
p	8	#7	29'-3"	—
pi	10	#4	29'-3"	—
s	27	#5	11'-7"	□
u	8	#6	12'-2"	—
v	12	#4	4'-4"	—
v1	8	#4	3'-4"	—
Concrete Structures			Cu. Yd.	11.2
Reinforcement Bars			Pound	1,280
Metal Pile Shells 12"			Foot	160
Name Plates			Each	1

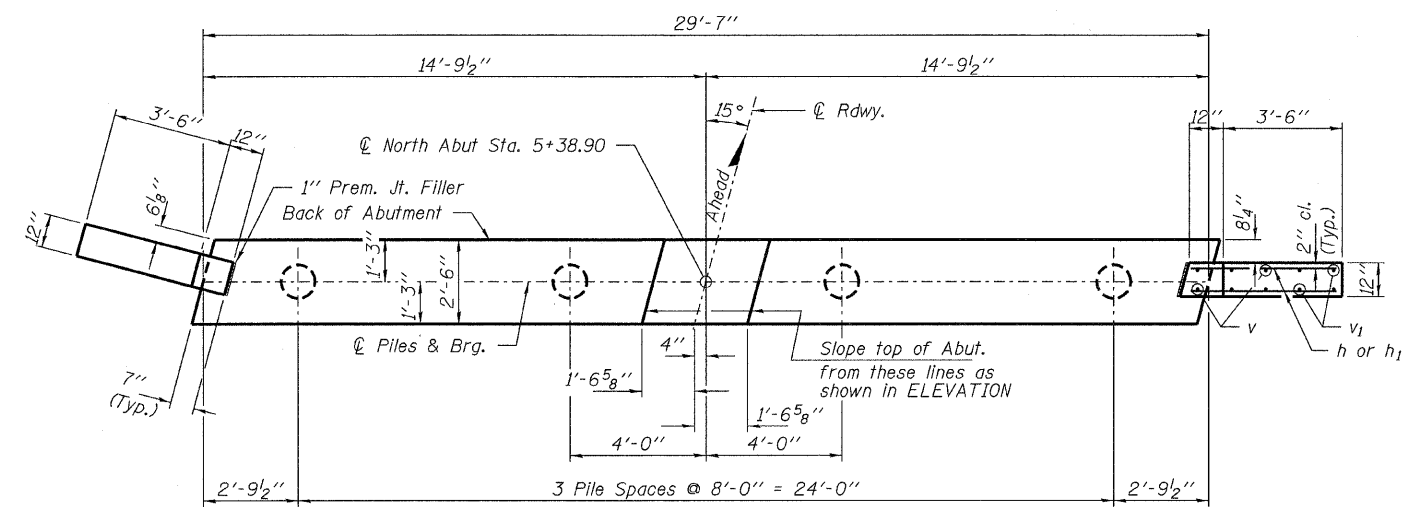
DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

**SOUTH ABUTMENT
STRUCTURE NO. 027-3439**

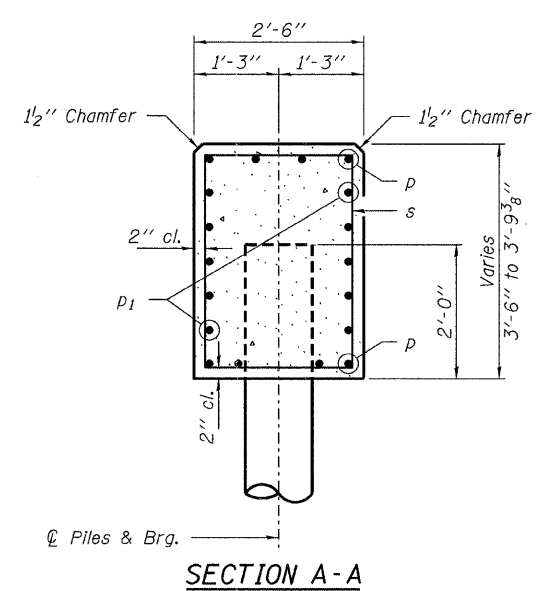
HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	28
CONTRACT NO. 87411				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

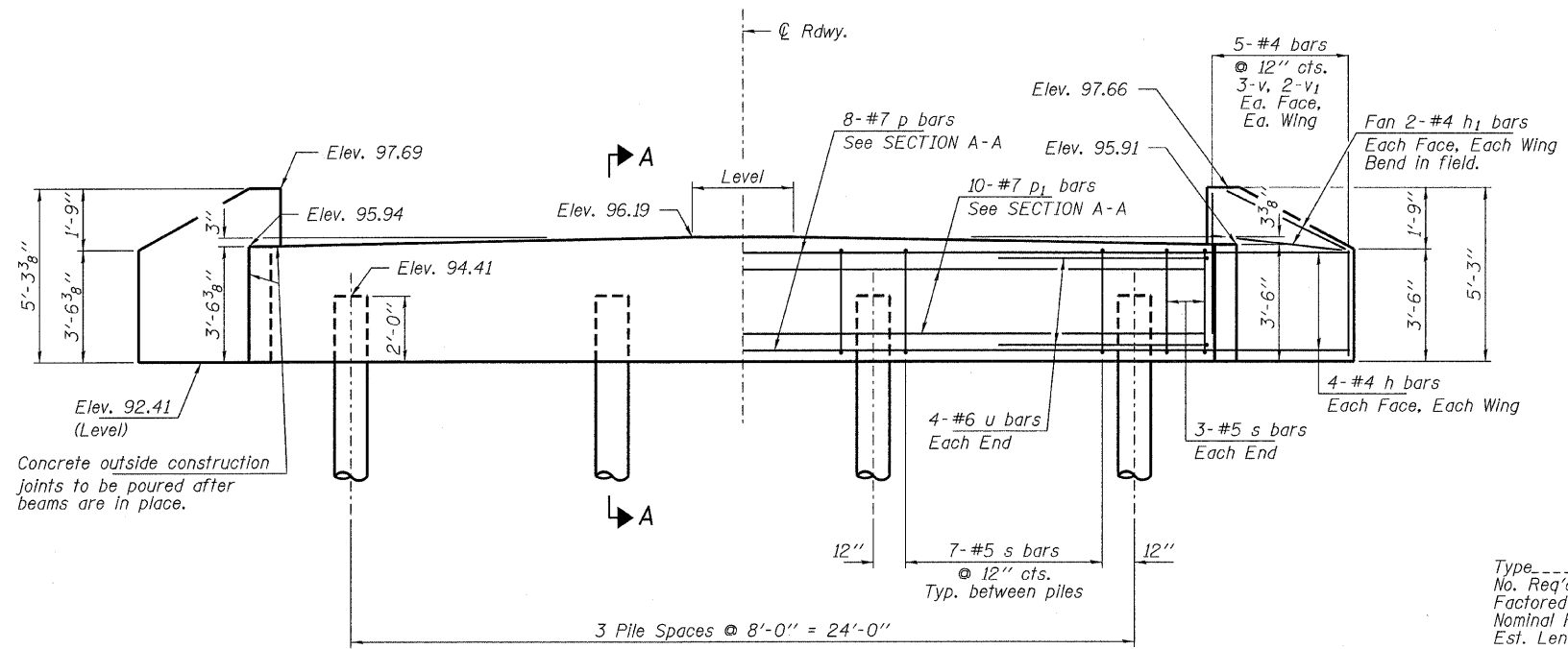
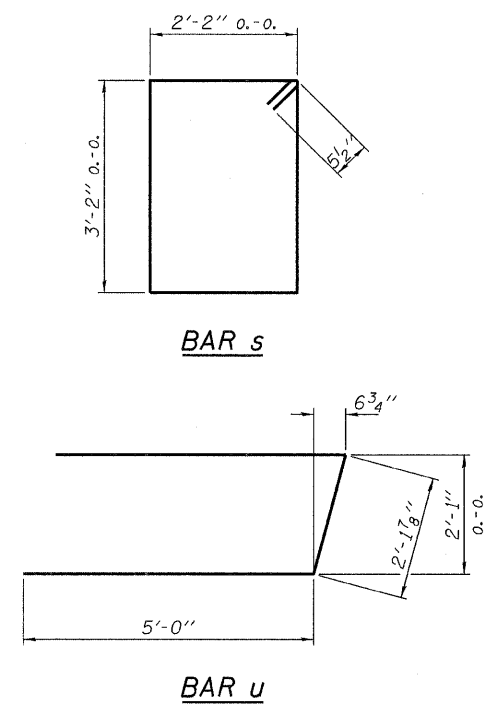
PROJECT NUMBER: 07.0435.130 DATE: 03/31/09



PLAN



SECTION A-A



PILE DATA

Type ----- Metal Shell, 12", dia. x 0.25 in. walls
 No. Req'd. (N. Abut.) ----- *4
 Factored Resistance Available (Rf) ----- 152 Kips/Pile
 Nominal Required Bearing (Rn) ----- 304 Kips/Pile
 Est. Length ----- 50 Ft/Pile

Notes: * Includes one test pile to be driven in permanent location at the North Abutment.

The Metal Shell Piles shall be according to ASTM A 252 Grade 3.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

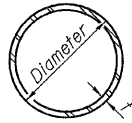
BILL OF MATERIAL - N. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#4	5'-9"	—
h1	8	#4	4'-3"	—
p	8	#7	29'-3"	—
p1	10	#4	29'-3"	—
s	27	#5	11'-7"	□
u	8	#6	12'-2"	U
v	12	#4	4'-4"	—
v1	8	#4	3'-4"	—
Concrete Structures			Cu. Yd.	11.2
Reinforcement Bars			Pound	1,280
Metal Pile Shells 12"			Foot	150
Test Pile Metal Shells			Each	1

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

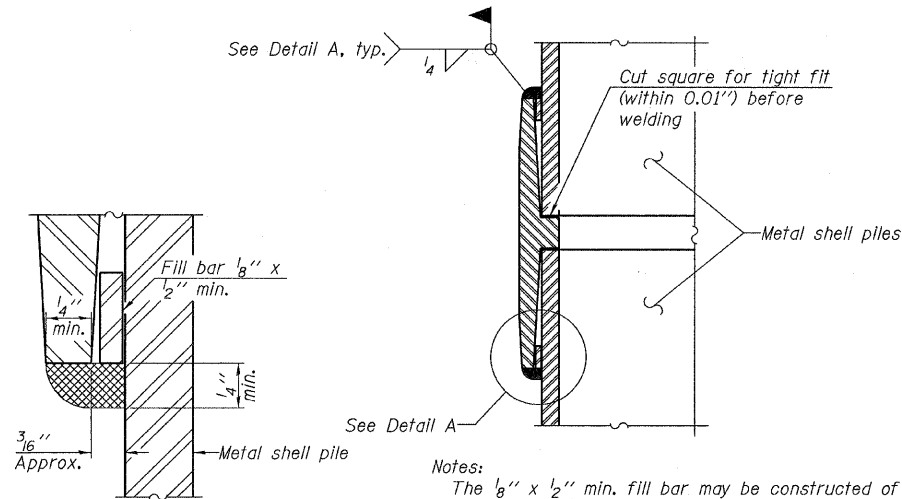
HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
HLR
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400
 PROJECT NUMBER: 07.0435.130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	29
CONTRACT NO. 87411				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



METAL SHELL PILE TABLE

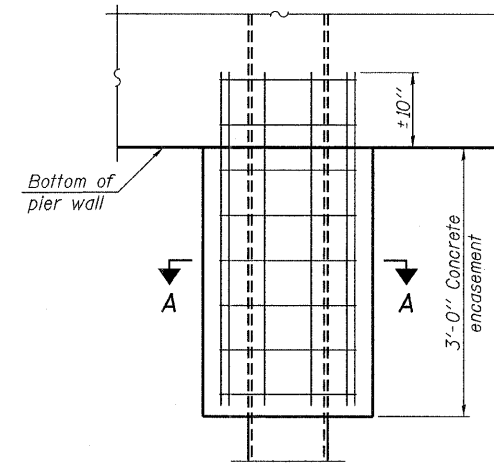
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



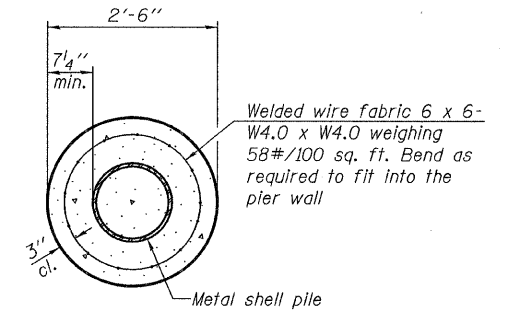
DETAIL A

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

WELDED COMMERCIAL SPLICE



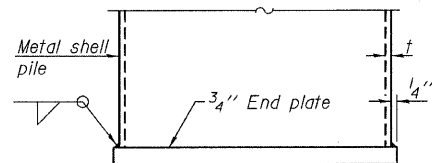
ELEVATION



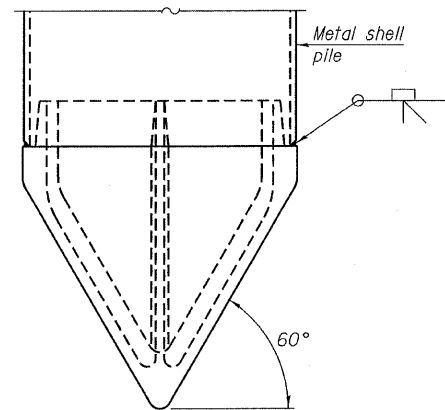
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



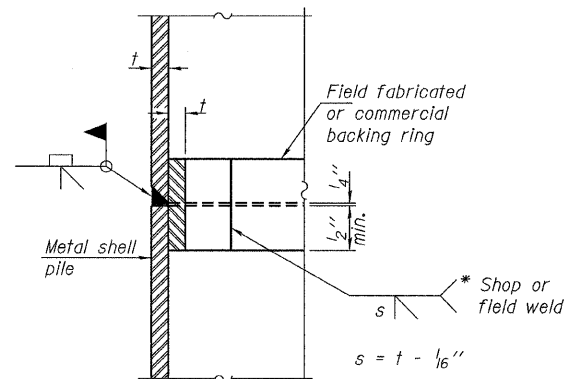
END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT

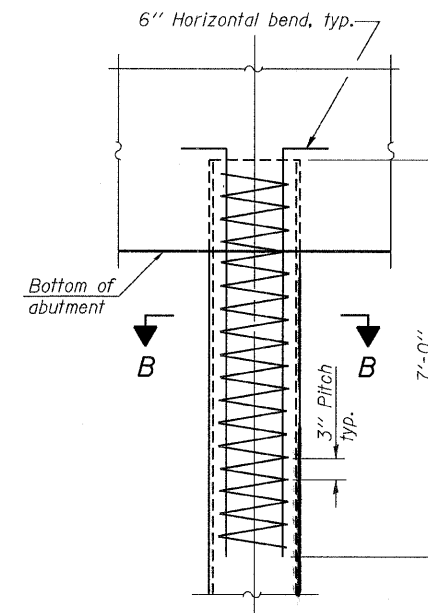
(See Note A)

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

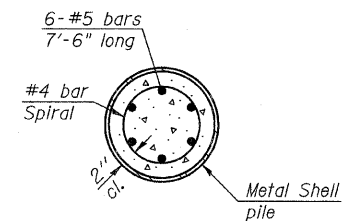


COMPLETE PENETRATION WELD SPLICE

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



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

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

**METAL SHELL PILE DETAILS
 STRUCTURE NO. 027-3439**

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

F-MS

5-16-08

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS

HLR 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 548-3400

PROJECT NUMBER: 07 0435 130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	30
CONTRACT NO. 87411				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



SOIL BORING LOG

Page 1 of 2

Date 7/28/08

ROUTE C.H. 26 DESCRIPTION Bridge over Tributary LOGGED BY RRG
 SECTION 09-00107-00-BR LOCATION 120N, 1500E, SEC. 27, TWP. T32N, R9E, 3rd PM
 COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb. Auto

STRUCT. NO. 027-3036 DEPTH (ft) (8") (tsf) (%) SURFACE WATER Elev. _____ ft
 Station 0+00 STREAM BED Elev. _____ ft
 BORING NO. B-1 GROUNDWATER Elev.: _____ ft
 Station 10' S. of S. Abut. First Encounter 83.7 ft
 Offset 8,00ft W. CL Rdwy Upon Completion Dry ft
 Ground Surface Elev. 99.7(97.8) ft After _____ Hrs. _____ ft

DEPTH (ft)	(8")	(tsf)	(%)	DESCRIPTION	DEPTH (ft)	(8")	(tsf)	(%)
0				Black SILTY CLAY - FILL	0			
3					3			
1		22.8			5	3.5	16.5	
2					6	B		
(94.8)	96.70			Hard to Stiff Gray SILTY CLAY, trace sand & gravel (continued)				
0				Stiff Yellow Brown SILTY CLAY	0			
1					3			
2	2.0	21.7			3	2.6	18.2	
3	P				5	B		
3					3			
2	1.2	26.3			4	2.3	17.9	
2	B				3	B		
5					4			
6	2.2	15.9			4	3.4	15.8	
9	P				5	B		
(86.8)	86.70			Hard to Stiff Gray SILTY CLAY, trace sand & gravel				
4					3			
7	5.6	12.7			5	3.5	16.0	
7	B				5	B		
4					3			
6	4.5	10.2			5	3.5	16.0	
6	B				5	B		
5								
6	4.7	12.5						
6	B							
4					3			
6	4.9	13.4			4	3.5	16.3	
9	B				6	B		

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 LOG

Page 2 of 2

Date 7/28/08

ROUTE C.H. 26 DESCRIPTION Bridge over Tributary LOGGED BY RRG
 SECTION 09-00107-00-BR LOCATION 120N, 1500E, SEC. 27, TWP. T32N, R9E, 3rd PM
 COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb. Auto

STRUCT. NO. 027-3036 DEPTH (ft) (8") (tsf) (%) SURFACE WATER Elev. _____ ft
 Station 0+00 STREAM BED Elev. _____ ft
 BORING NO. B-1 GROUNDWATER Elev.: _____ ft
 Station 10' S. of S. Abut. First Encounter 83.7 ft
 Offset 8,00ft W. CL Rdwy Upon Completion Dry ft
 Ground Surface Elev. 99.7 ft After _____ Hrs. _____ ft

DEPTH (ft)	(8")	(tsf)	(%)	DESCRIPTION	DEPTH (ft)	(8")	(tsf)	(%)
0				Hard to Stiff Gray SILTY CLAY, trace sand & gravel (continued)	0			
6					6			
(55.8)	57.70			Hard Gray SILTY CLAY, trace sand & gravel				
6					6			
8	5.1	12.7			8	5.1	12.7	
11	B				11	B		
7					7			
10	6.1	12.0			10	6.1	12.0	
(47.8)	49.70			End of Boring				
12	B				12	B		

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)

BORING 1

BORINGS
 STRUCTURE NO. 027-3439

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.A.B.
CHECKED - D.T.M.

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS
 LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400
 PROJECT NUMBER: 07-0486-130 DATE: 03/31/09

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
340	09-00107-00-BR	FORD	32	31
CONTRACT NO. 87411				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SOIL BORING LOG

Page 1 of 2

Date 7/26/08

ROUTE C.H. 26 DESCRIPTION Bridge over Tributary LOGGED BY RRG
SECTION 09-00107-00-BR LOCATION 120N, 1800E, SEC. 27, TWP. T32N, RNG. R9E, 3rd PM
COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb. Auto

Table with columns for Depth (ft), Blows (16"), UCS (tsf), Moisture (%), and Soil Description. Includes data for Bituminous Concrete Surface, Silty Black SILTY CLAY - FILL, Stiff Yellow Brown SILTY CLAY, Hard to Stiff Gray SILTY CLAY, Firm Gray Fine SAND - moist, Firm Gray SILT - very moist, and Very Stiff to Hard Gray SILTY CLAY.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Table with rows: DESIGNED - A.S.L., CHECKED - M.G.B., DRAWN - D.A.B., CHECKED - D.T.M.



SOIL BORING LOG

Page 2 of 2

Date 7/28/08

ROUTE C.H. 26 DESCRIPTION Bridge over Tributary LOGGED BY RRG
SECTION 09-00107-00-BR LOCATION 120N, 1800E, SEC. 27, TWP. T32N, RNG. R9E, 3rd PM
COUNTY FORD DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140 lb. Auto

Table with columns for Depth (ft), Blows (16"), UCS (tsf), Moisture (%), and Soil Description. Includes data for Very Stiff to Hard Gray SILTY CLAY, trace sand & gravel.

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)

BORING 2

BORINGS
STRUCTURE NO. 027-3439

Complex block containing HAMPTON, LENZINI & RENWICK, INC. logo and contact info, and a table with columns: F.A.S., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO., FED. ROAD DIST. NO., ILLINOIS, FED. AID PROJECT.