

INDEX TO SHEETS

- 1 COVER SHEET & SUMMARY OF QUANTITIES
- 2 GENERAL NOTES & TYPICAL SECTIONS
- 3 PLAN AND PROFILE
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- 9-10 CROSS SECTIONS

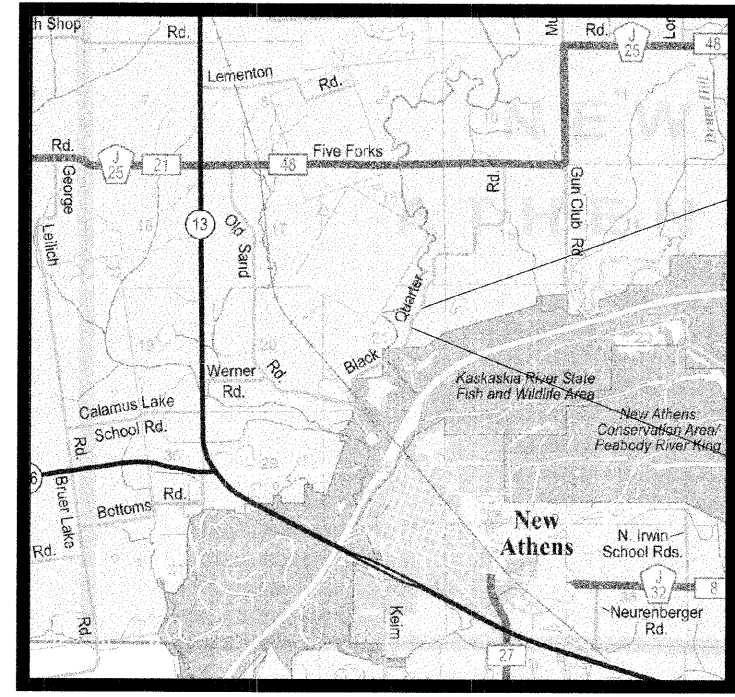
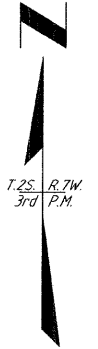
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
LOCAL AGENCY IMPROVEMENT
T.R. 198 BLACK QUARTER ROAD
SECTION 05-14109-00-BR
FED PROJECT NO. BROS-163(034)
NEW ATHENS ROAD DISTRICT
ST CLAIR COUNTY
CONSTRUCTION JOB NO. C-98-342-09

SECTION NO.	ROAD DISTRICT	COUNTY	SHEET OF SHEETS
05-14109-00-BR	NEW ATHENS	ST. CLAIR	1 OF 10
FHWA REG. NO. 7	ILLINOIS	PROJ BROS-163(034)	
FEDERAL AID PROJECT		CONTRACT 97377	

SUMMARY OF QUANTITIES

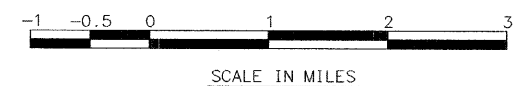
CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	236
20300100	CHANNEL EXCAVATION	CU YD	43
20700220	POROUS GRANULAR EMBANKMENT	CU YD	211
25000200	SEEDING, CLASS 2	ACRE	0.3
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	12
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	12
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	12
25100115	MULCH, METHOD 2	ACRE	0.3
25100630	EROSION CONTROL BLANKET	SQ YD	617
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	13
28100705	STONE DUMPED RIPRAP, CLASS A3	SQ YD	126
28200200	FILTER FABRIC	SQ YD	126
35101100	AGGREGATE BASE COURSE, TYPE A 12"	SQ YD	870
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	472
40300300	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	GALLON	870
40300500	COVER COAT AGGREGATE	TON	11
40300600	SEAL COAT AGGREGATE	TON	11
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	169
50200500	COFFERDAMS	EACH	2
50300225	CONCRETE STRUCTURES	CU YD	40.8
50800105	REINFORCEMENT BARS	POUND	4600
* 50900205	STEEL RAILING, TYPE S1	FOOT	77
51200958	FURNISHING METAL SHELL PILES 14X0.250	FOOT	525
51202305	DRIVING PILES	FOOT	525
51203200	TEST PILE METAL SHELLS	EACH	1
51500100	NAME PLATES	EACH	1
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	2
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	2
X0323330	PRECAST CONCRETE SUBSTRUCTURE	L SUM	1
XX003551	THREE SIDED PRECAST CONCRETE STRUCTURES	FOOT	27.5
Δ 20076600	TRAINEES	HOUR	500

* :SPECIALTY ITEM
Δ 1080



LOCATION MAP

LENGTH OF STRUCTURE = 38.33 ft (0.007 mi)
LENGTH OF ROADWAY = 387.16 ft (0.073 mi)
TOTAL LENGTH OF PROJECT = 425.49 ft (0.081 mi)



UTILITIES

AT&T ILLINOIS AMEREN IP
203 GOETHE AVENUE 1050 WEST BOULEVARD
COLLINSVILLE, IL 62234 BELLEVILLE, IL 62222
618-346-6494 TEL: (618) 755-5000

Call Joint Utility Locating Information for Excavators (J.U.L.I.E.) before digging 800-892-0123

PLAN	1" = 20'
PROFILE	HORZ 1" = 20' VERT 1" = 20'
CROSS SECTIONS	HORZ 1" = 10' VERT 1" = 10'

SECTION 05-14109-00-BR ENDS STATION 59+28.00

SECTION 05-14109-00-BR INCLUDES A THREE-SIDED PRECAST CONCRETE STRUCTURE 36' X 10' AT STA. 55+79.74.

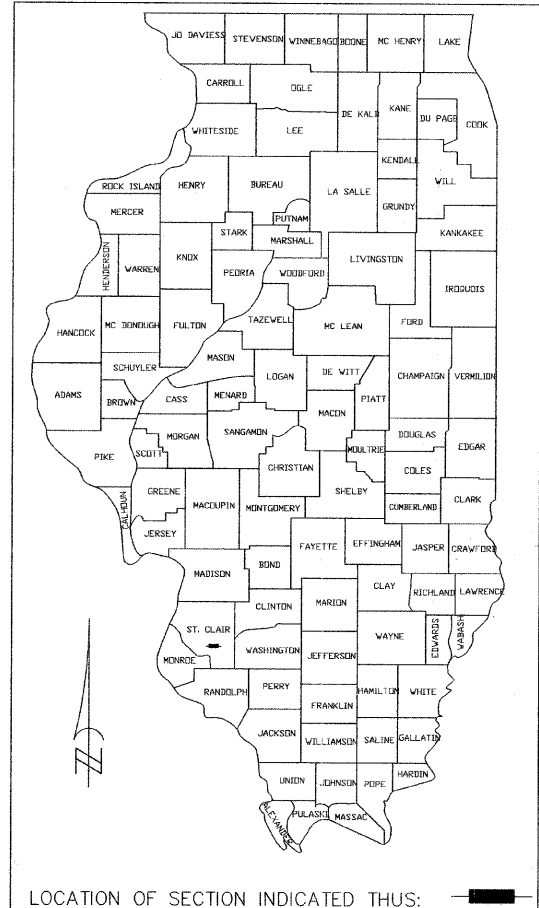
SECTION 05-14109-00-BR BEGINS STATION 54+98.60

DESIGN DESIGNATION
ROADWAY CLASSIFICATION : LOCAL ROAD
BRIDGE CLASSIFICATION : LOCAL ROAD
CURRENT ADT : 150
DESIGN SPEED : 30 MPH
DESIGN FREQUENCY : 15 YR.

NEW ATHENS TOWNSHIP T.2S., R.7W.
N.E. 1/4 SECTION 21

STANDARDS

000001-05	631032-04
280001-04	635006-03
515001-03	701901-01
630301-05	B.L.R. 21-8



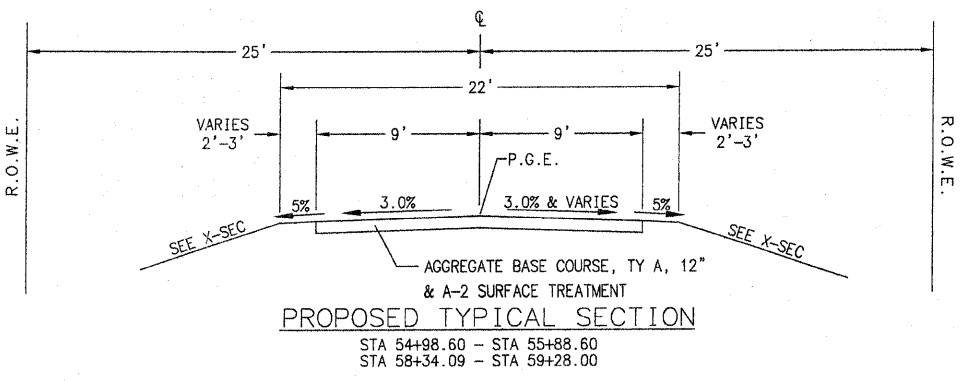
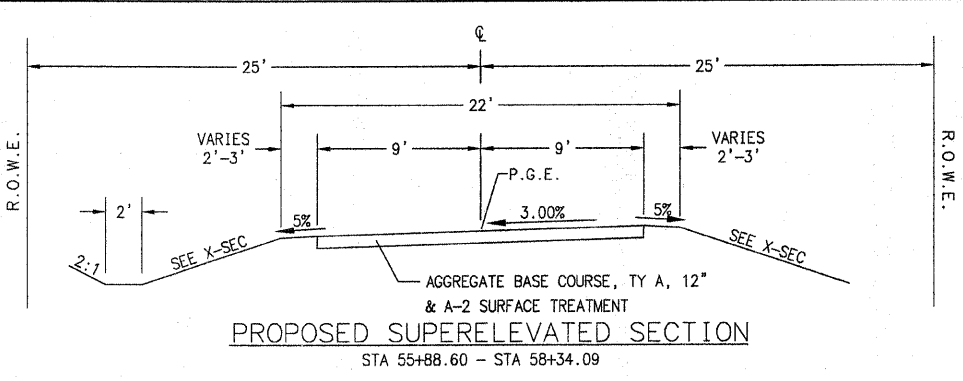
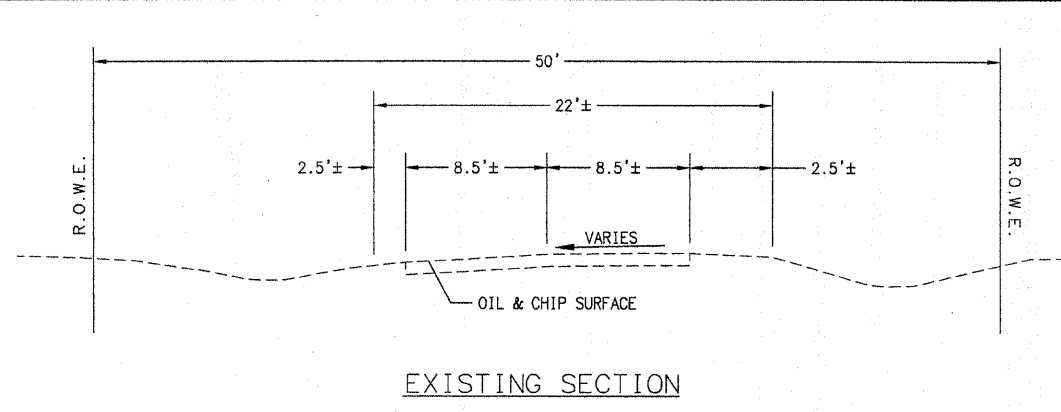
Darrell Cates April 14, 2009

DARRELL I. CATES, P.E.

County Engineer
License Number 62-042908
License Expiration Date: November 30, 2009

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
APPROVED	<i>April 9</i> , 2009 <i>David G. ...</i> HIGHWAY COMMISSIONER
APPROVED	<i>April 14</i> , 2009 <i>Darrell Cates</i> COUNTY ENGINEER
PASSED	<i>4/15</i> , 2009 <i>...</i> DISTRICT 8 ENGINEER OF LOCAL ROADS & STREETS
RELEASING FOR BID BASED ON LIMITED REVIEW	<i>4/15</i> , 2009 <i>...</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

SECTION NO.	ROAD DISTRICT	COUNTY	SHEET OF SHEETS
05-14109-00-BR	NEW ATHENS	ST. CLAIR	2 OF 10
FHWA REG. NO.	ILLINOIS	PROJ BROS-163(034)	
FEDERAL AID PROJECT		CONTRACT 97377	



- NOTES:**
- INCREASE THE BASE COURSE DEPTH PER ARTICLE 351.07 OF THE STANDARD SPECIFICATIONS.
 - WARP FROM THE EXISTING SECTION TO THE PROPOSED TEMPLATE:
LEFT - STA 54+98.60 TO STA 55+04.60
RIGHT - STA 54+98.60 TO STA 55+28.60
WARP FROM THE PROPOSED TEMPLATE TO THE EXISTING SECTION:
LEFT - STA 59+02.50 TO STA 59+28.00
RIGHT - STA 59+13.00 TO STA 59+28.00
 - INCREASE THE SHOULDER WIDTH FROM 2 FT TO 3 FT LEFT STA. 55+45.41 TO STA. 55+60.41.
DECREASE THE SHOULDER WIDTH FROM 3 FT TO 2 FT RIGHT STA. 55+90.07 TO STA. 58+05.07.

GENERAL NOTES

- ALL MATERIALS DEEMED SALVAGEABLE BY THE ENGINEER SHALL REMAIN THE PROPERTY OF THE ROAD DISTRICT. ALL OTHER MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE.
- THE FOLLOWING UTILITY COMPANIES MAY HAVE FACILITIES LOCATED WITHIN THE LIMITS OF CONSTRUCTION.

TELEPHONE: AT & T ILLINOIS 203 GOETHE AVENUE COLLINSVILLE, IL 62234 (618) 346-6494
AMEREN IP 1050 WEST BOULEVARD BELLEVILLE, IL 62222 (618) 346-6494755-5000

- THE FOLLOWING FACTORS WERE USED TO DETERMINE THE REQUIRED AMOUNT OF MATERIALS NEEDED.

BITUMINOUS MATERIALS (PRIME COAT)	0.5 GALLON/SQ YD
BITUMINOUS MATERIALS (COVER AND SEAL COATS)	0.5 GALLON/SQ YD
COVER COAT AGGREGATE	25 POUNDS/SQ YD
SEAL COAT AGGREGATE	25 POUNDS/SQ YD

- THE FOLLOWING ITEMS AND ESTIMATED QUANTITIES SHALL BE USED THROUGHOUT THIS PROJECT:

0.3 ACRE, SEEDING, CLASS 2; 12 POUND, NITROGEN FERTILIZER NUTRIENT; 12 POUND, PHOSPHORUS FERTILIZER NUTRIENT; 12 POUND, POTASSIUM FERTILIZER NUTRIENT; 0.3 ACRE, MULCH, METHOD 2; 870 SQ.YD., AGGREGATE BASE COURSE, TYPE A 12"; 422 GALLON., BITUMINOUS MATERIALS (PRIME COAT); 870 GALLON, BITUMINOUS MATERIALS (COVER AND SEAL COATS); 13 POUND, TEMPORARY EROSION CONTROL SEEDING; 11 TON, COVER COAT AGGREGATE; 11 TON, SEAL COAT AGGREGATE.

- THE CONTRACTOR SHALL NOT BE ALLOWED TO SET THE THREE SIDED STRUCTURE UNTIL THE STEEL RAILING HAS BEEN DELIVERED TO THE JOB SITE OR TO THE CONTRACTOR'S YARD. PROOF OF SUCH DELIVERY MUST BE PRESENTED TO THE ENGINEER, AT HIS REQUEST, PRIOR TO THE PLACEMENT OF THE BEAMS.

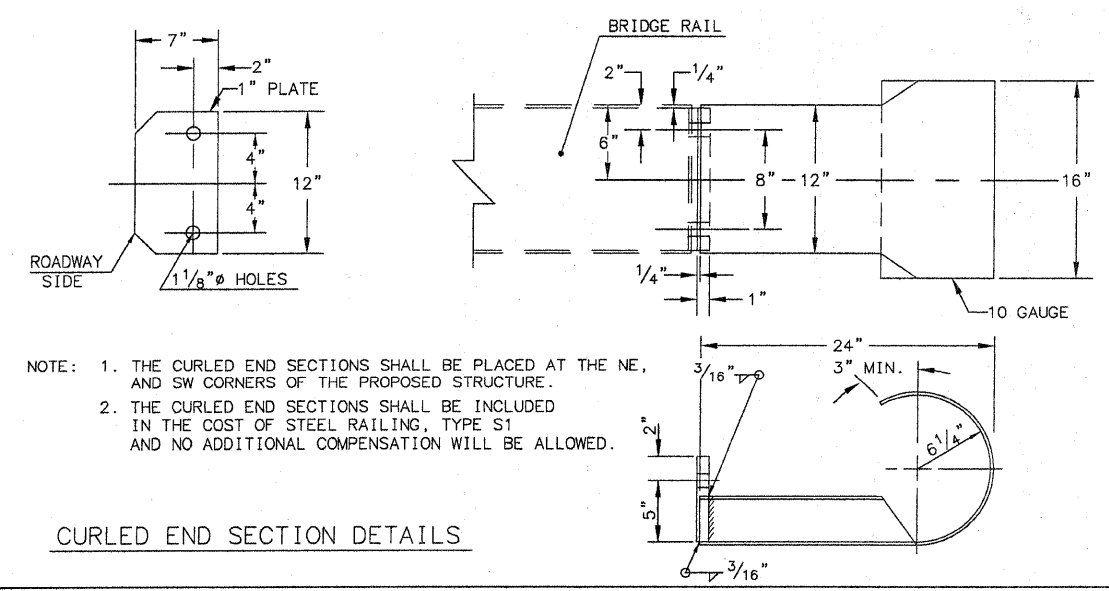
EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU. YD.)	CHANNEL EXCAVATION (CU. YD.)	STRUCTURE EXCAVATION (CU. YD.)	EXCAVATION ADJUSTED FOR SHRINKAGE (25%) (CU. YD.)	EMBANKMENT (CU. YD.)	EXCESS EXCAVATION (CU. YD.)
STA 54+98.60 TO STA 55+60.41	42	0		31.5	35	-3.5
STA 55+60.41 TO STA 55+90.07	0	43	169	159	0	159
STA 55+90.07 TO STA 59+28.00	194	0		145.5	70	75.5
TOTALS	236	43	169	336	105	231

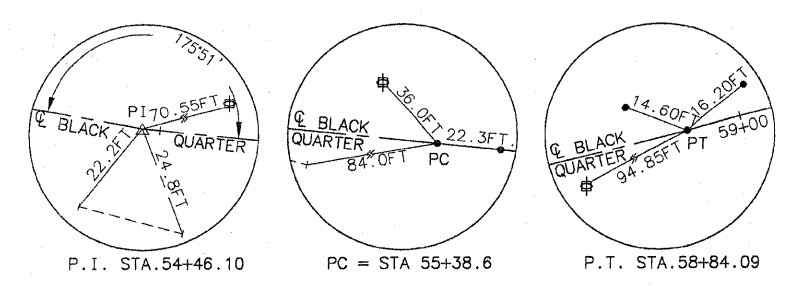
NOTE: EARTH EXCAVATION QUANTITIES INCLUDE REMOVAL OF THE EXISTING OIL & CHIP SURFACE AND THE AGGREGATE BASE MATERIAL. THIS SURPLUS UNSUITABLE MATERIAL SHALL BE DISPOSED OF ACCORDING TO SECTION 202 OF THE STANDARD SPECIFICATIONS.

EROSION CONTROL SCHEDULE

LOCATION	TEMPORARY EROSION CONTROL SEEDING (POUND)	MULCH METHOD 2 (ACRE)	EROSION CONTROL BLANKET (SQYD)
STA 54+60 TO STA 59+28	13	0.3	617
TOTALS	13	0.3	617



TIE POINTS



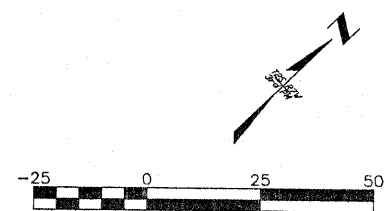
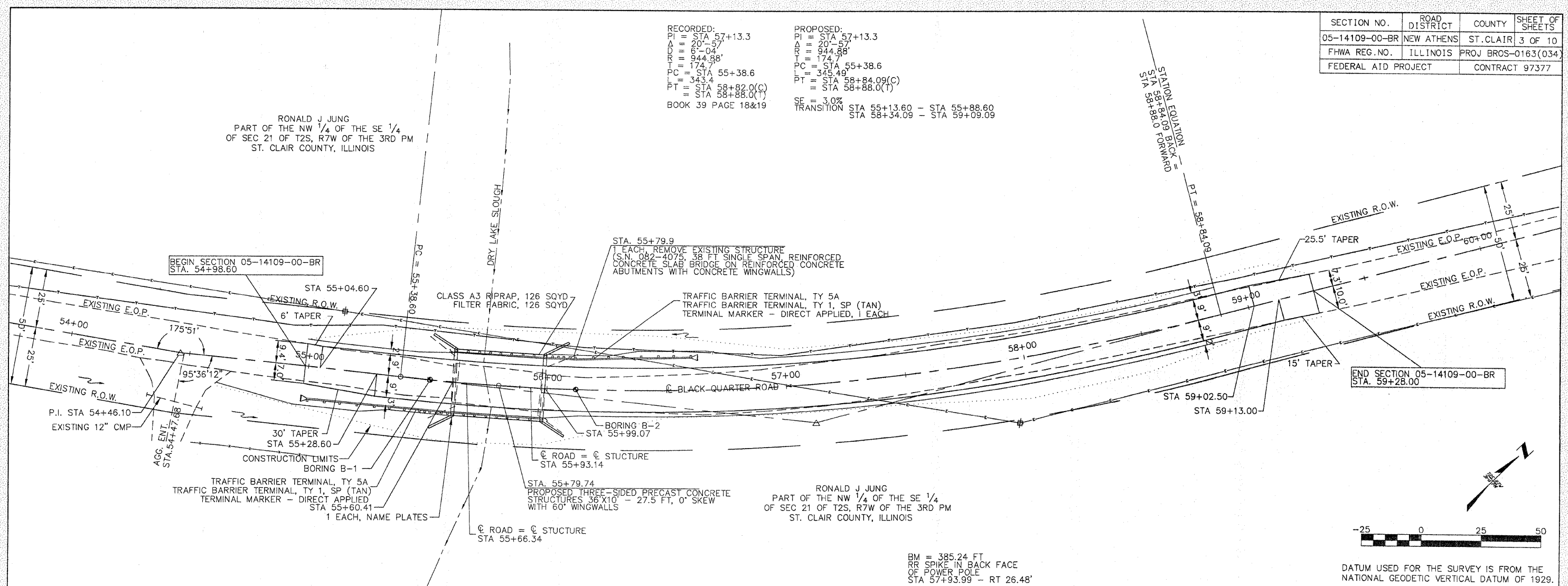
GENERAL NOTES, TYPICAL SECTIONS, SCHEDULES & DETAILS

SECTION NO.	ROAD DISTRICT	COUNTY	SHEET OF SHEETS
05-14109-00-BR	NEW ATHENS	ST. CLAIR	3 OF 10
FHWA REG. NO.	ILLINOIS	PROJ BROS-0163(034)	
FEDERAL AID PROJECT		CONTRACT 97377	

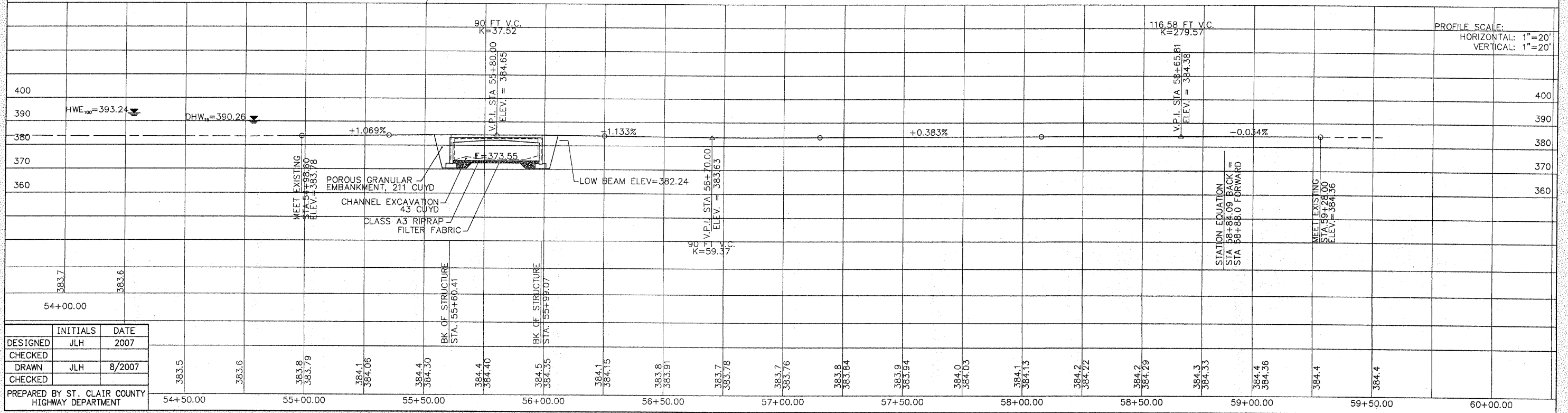
RECORDED:
 PI = STA 57+13.3
 $\Delta = 20'-57"$
 $RT = 944.88'$
 $T = 174.7'$
 PC = STA 55+38.6
 $L = 343.4'$
 PT = STA 58+82.0(C)
 = STA 58+88.0(T)
 BOOK 39 PAGE 18&19

PROPOSED:
 PI = STA 57+13.3
 $\Delta = 20'-57"$
 $RT = 944.88'$
 $T = 174.7'$
 PC = STA 55+38.6
 $L = 345.49'$
 PT = STA 58+84.09(C)
 = STA 58+88.0(T)
 SE = 3.0%
 TRANSITION STA 55+13.60 - STA 55+88.60
 STA 58+34.09 - STA 59+09.09

RONALD J JUNG
 PART OF THE NW 1/4 OF THE SE 1/4
 OF SEC 21 OF T2S, R7W OF THE 3RD PM
 ST. CLAIR COUNTY, ILLINOIS



BM = 385.24 FT
 RR SPIKE IN BACK FACE
 OF POWER POLE
 STA 57+93.99 - RT 26.48'



	INITIALS	DATE
DESIGNED	JLH	2007
CHECKED		
DRAWN	JLH	8/2007
CHECKED		

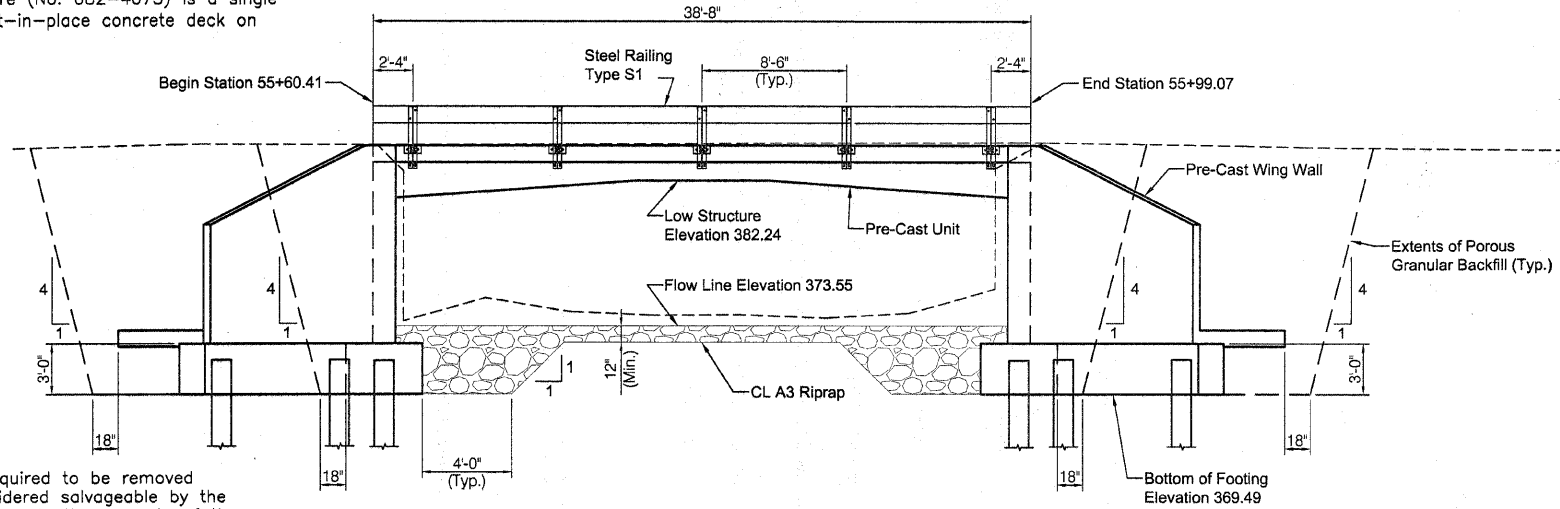
PREPARED BY ST. CLAIR COUNTY
 HIGHWAY DEPARTMENT

STATION	ELEVATION
54+50.00	383.5
54+60.00	383.6
54+70.00	383.8
54+80.00	383.79
54+90.00	384.1
55+00.00	384.06
55+10.00	384.4
55+20.00	384.30
55+30.00	384.4
55+40.00	384.40
55+50.00	384.5
55+60.00	384.35
55+70.00	384.1
55+80.00	384.15
55+90.00	383.8
56+00.00	383.91
56+10.00	383.7
56+20.00	383.78
56+30.00	383.7
56+40.00	383.76
56+50.00	383.8
56+60.00	383.84
56+70.00	383.9
56+80.00	383.94
56+90.00	384.0
57+00.00	384.03
57+10.00	384.1
57+20.00	384.13
57+30.00	384.2
57+40.00	384.22
57+50.00	384.2
57+60.00	384.29
57+70.00	384.3
57+80.00	384.33
57+90.00	384.4
58+00.00	384.4
58+10.00	384.4
58+20.00	384.4
58+30.00	384.4
58+40.00	384.4
58+50.00	384.4
58+60.00	384.4
58+70.00	384.4
58+80.00	384.4
58+90.00	384.4
59+00.00	384.4
59+10.00	384.4
59+20.00	384.4
59+30.00	384.4
59+40.00	384.4
59+50.00	384.4
59+60.00	384.4
59+70.00	384.4
59+80.00	384.4
59+90.00	384.4
60+00.00	384.4

Bench Mark:
 Railroad Spike in Back Face of Power Pole
 Station 57+93.99 - Rt. 26.48
 Elevation = 385.24 ft.

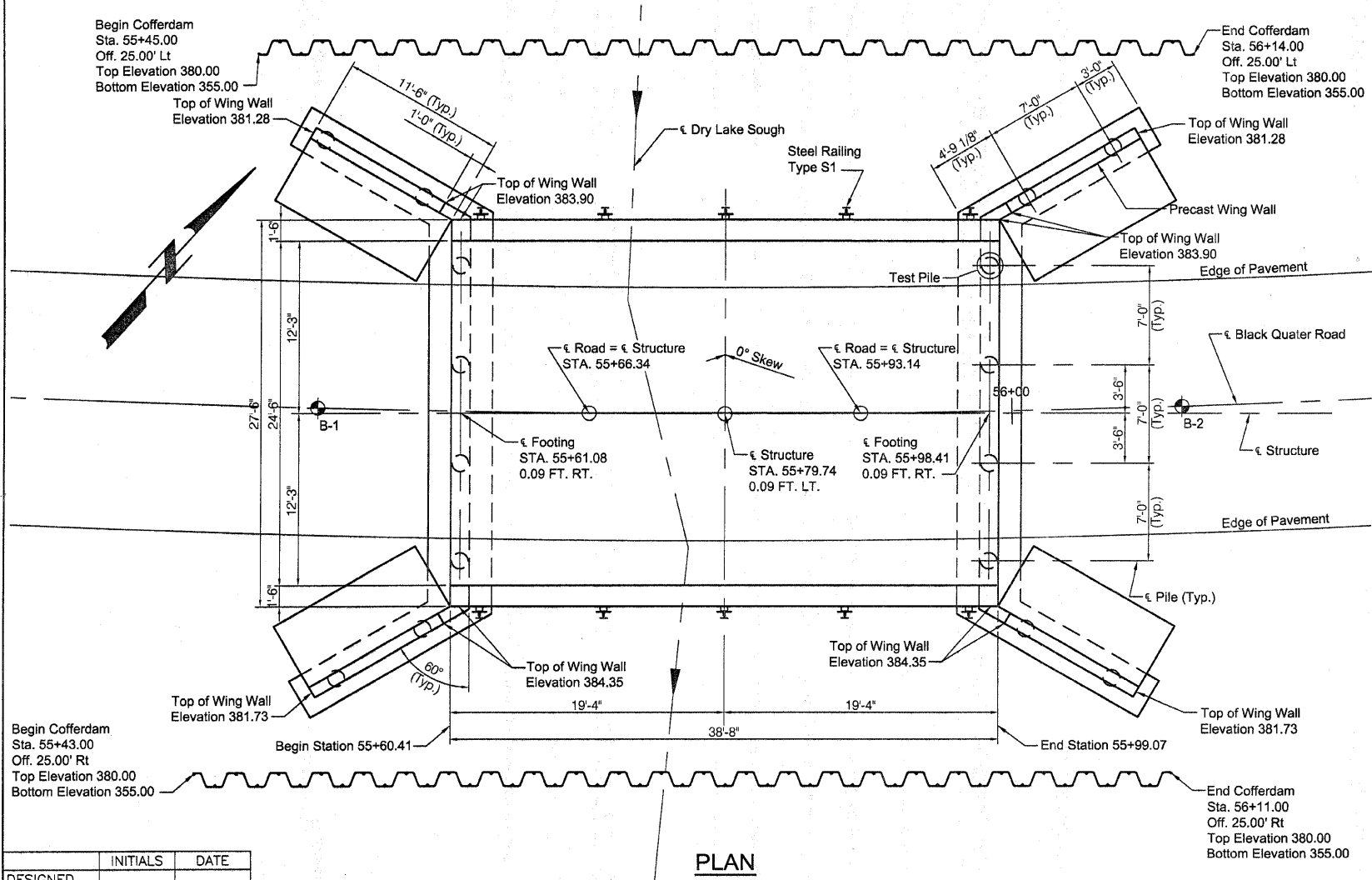
1 - 36' x 10' PRECAST 3 SIDED CONCRETE STRUCTURE

Existing Structure (No. 082-4075) is a single span (35') cast-in-place concrete deck on steel beams.



ELEVATION

Salvage:
 All materials required to be removed which are considered salvageable by the engineer shall remain the property of the road district. All others shall be disposed of by the contractor at his own expense.



PLAN

	INITIALS	DATE
DESIGNED		
CHECKED		
DRAWN		
CHECKED		



GENERAL NOTES:

DESIGN SPECIFICATIONS:

A.A.S.H.T.O. Standard Specifications for Highway Bridges - Seventeenth Edition 2002

CONSTRUCTION SPECIFICATIONS:

Illinois Standard Specifications for Road and Bridge Construction, 2007 Edition

DESIGN LOADING:

Live Load HS20
 Earth 120#/Cu. Ft., Equivalent Fluid Pressure 45#/Cu. Ft.

PILE DATA:

Type = 14"Ø Metal Shell Pile
 Allowable Resistance Available = 1600k
 Nominal Required Bearing = 416k
 Estimated Length = 35 ft.
 Number of Production Piles = 15
 Number Test Piles = 1

SEISMIC DATA:

S.P.C. = B
 A = .13
 S = 1.0

DESIGN UNIT STRESSES:

Concrete Structure (Footings) f'c = 3,500 psi
 Reinforcement Bars (Grade 60) fy = 60,000 psi

REINFORCING STEEL:

Minimum clearance to reinforcing steel shall be 2", unless otherwise shown.

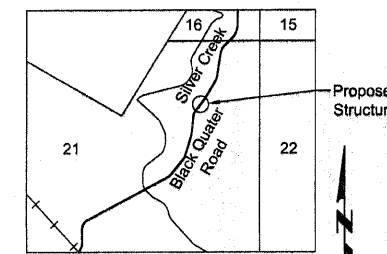
ESTIMATED QUANTITIES

Item	Unit	Quantity
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	169
Concrete Structures	Cu. Yd.	40.8
Reinforcement Bars	Pound	4,600
Steel Railing, Type S1	Foot	77
Cofferdams	Each	2
Furnishing Metal Shell Piles 14" x 0.250"	Foot	525
Driving Piles	Foot	525
Name Plates	Each	1
Three Sided Precast Concrete Structures	Foot	27.5
Precast Concrete Substructure	L.Sum	1
Test Pile Metal Shells	Each	1

Cost of drain openings, course aggregate and geotextile filter fabric shall be considered incidental and included in the cost of Three-Sided Pre-Cast Concrete Structures.

For quantities of Channel Excavation and area of Rock Blanket, see civil drawings.

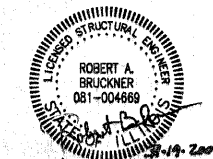
		Discharge (cfs)		Waterway Opening (sqft)		Head (ft)		Headwater Elevation		
Flood	Frequency (year)	Dry Lake Slough	Silver Creek	Existing	Proposed	Natural H.W.E.	Existing	Proposed	Existing	Proposed
Design	15	6041	9559	291.1	295.6	390.26	0.01	0.01	390.27	390.27
Base	100	10276	20013	291.1	295.6	393.24	0.01	0.01	393.25	393.25
Overtopping										
Max. Calc	500	13286	27864	291.1	295.6	395.09	0.00	0.00	395.09	395.09



LOCATION MAP

NEW ATHENS TOWNSHIP T.2S., R.7W.
 N.E. 1/4 SECTION 21

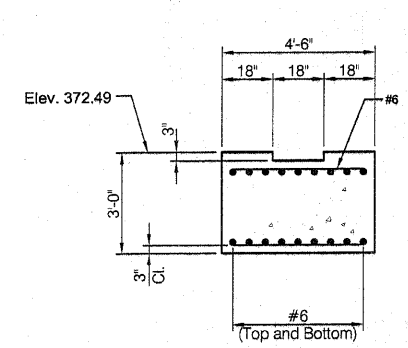
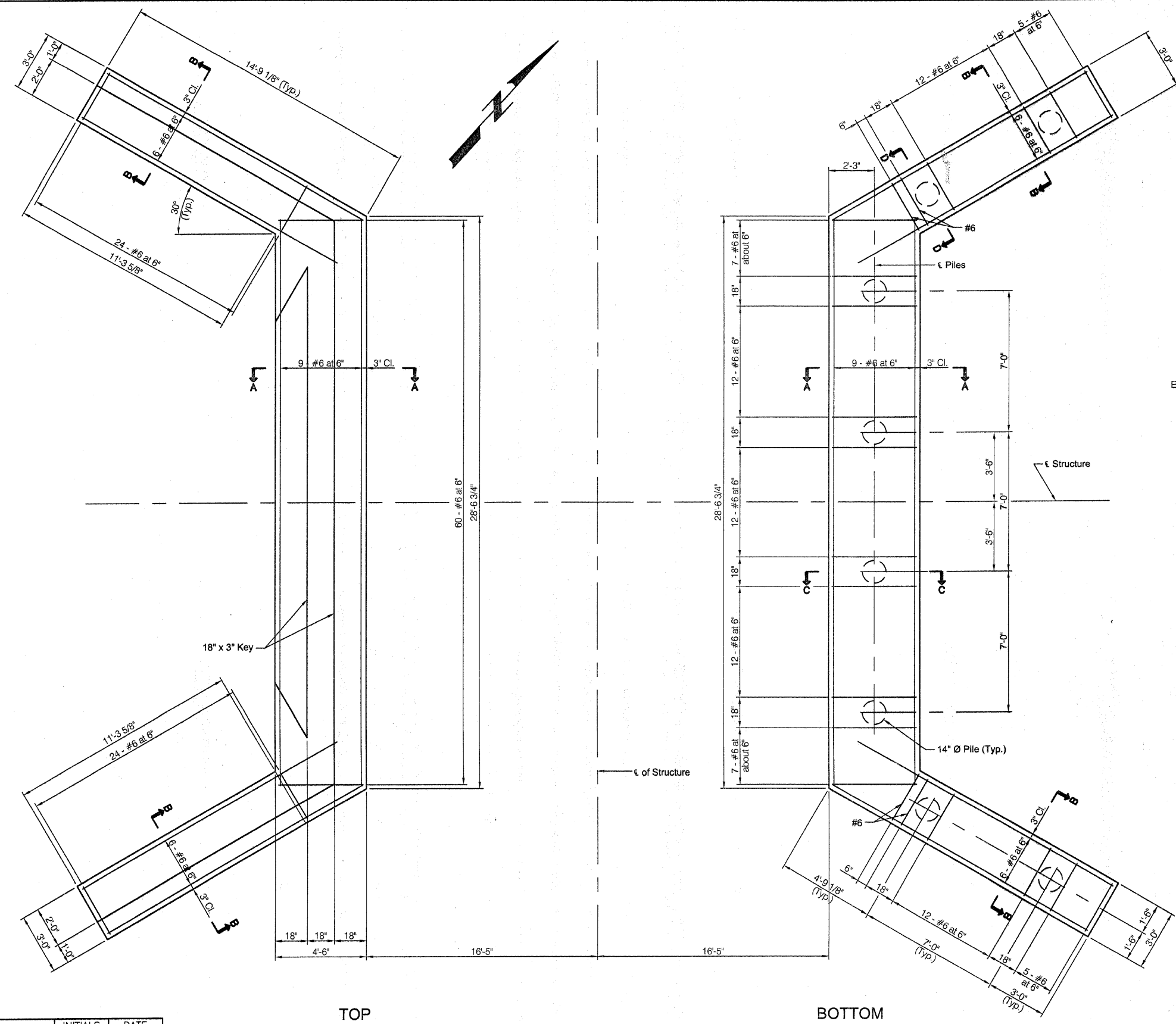
DRY LAKE SLOUGH
 BUILT 20__ BY
 NEW ATHENS TOWNSHIP
 SAINT CLAIR COUNTY
 SEC. 05-14109-00-BR
 STATION 55+79.74
 STRUCTURE NO. 082-4155
 LOADING HS20
 NAME PLATE
 See Std. 515001



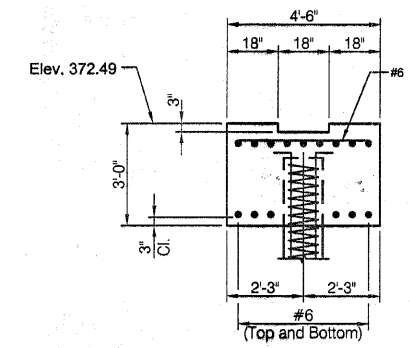
"I certify that to the best of my knowledge, information and belief, this bridge/box culvert design is structurally adequate for the design loading shown on plans. The design is an economical one for the style of structure and complies with requirements of current 'AASHTO Standard Specifications for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

BRIDGE OVER DRY LAKE SLOUGH
 GENERAL PLAN AND ELEVATION
 SAINT CLAIR COUNTY

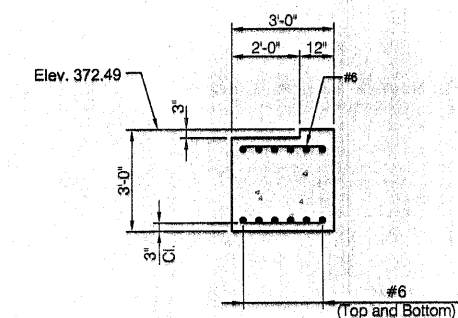
* 163(034)
** 97377



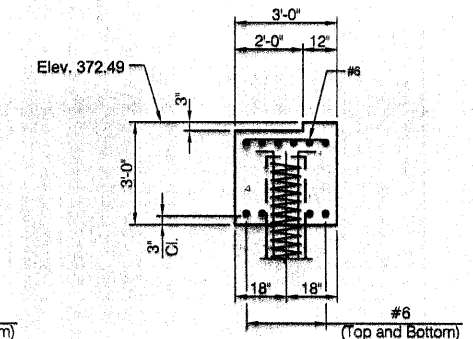
SECTION A-A



SECTION C-C



SECTION B-B



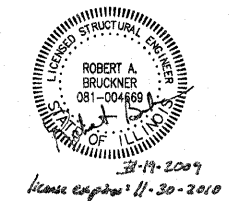
SECTION D-D

TOP

BOTTOM

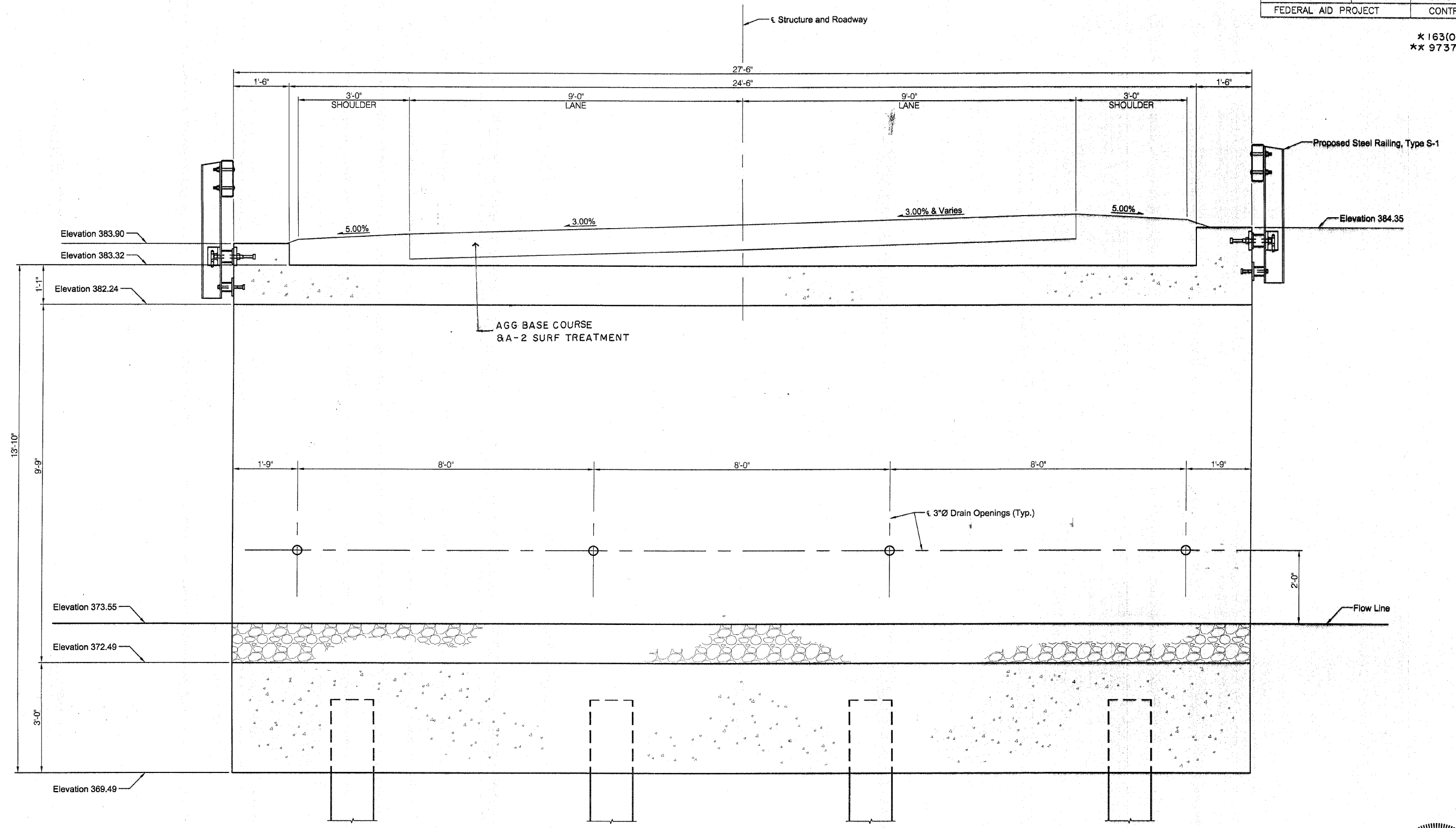
TYPICAL FOOTING PLAN

	INITIALS	DATE
DESIGNED		
CHECKED		
DRAWN	JMU	06/09/2008
CHECKED		



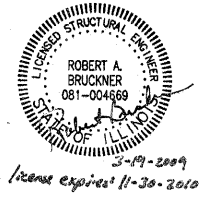
BRIDGE OVER DRY LAKE SOUGH
FOOTING PLAN AND DETAILS
SAINT CLAIR COUNTY

* 163(034)
** 97377



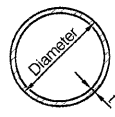
TYPICAL SECTION

	INITIALS	DATE
DESIGNED		
CHECKED		
DRAWN	JMU	06/10/08
CHECKED		



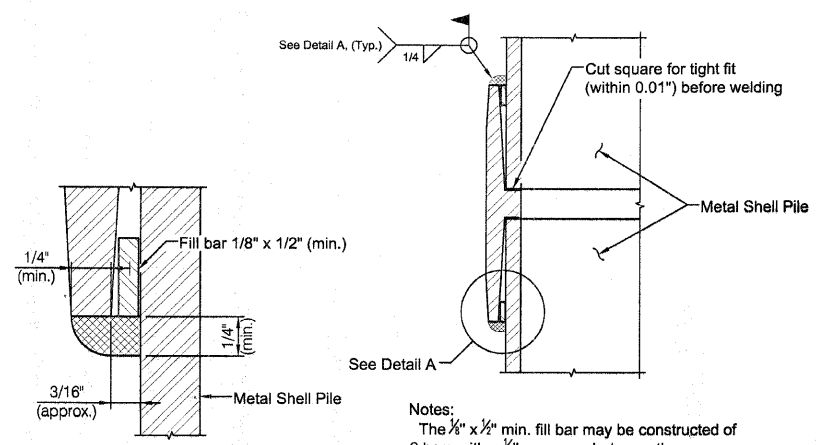
BRIDGE OVER DRY LAKE SOUGH
TYPICAL SECTION
SAINT CLAIR COUNTY

* 163(034)
** 97377



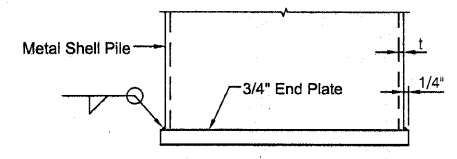
METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP14	0.250"	36.71	0.0368

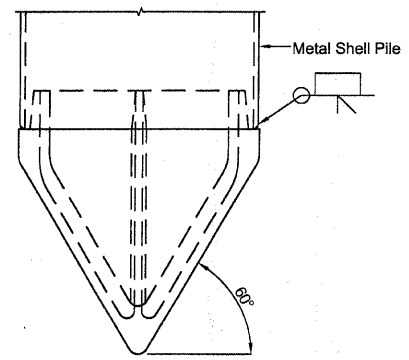


Notes:
The 1/2" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

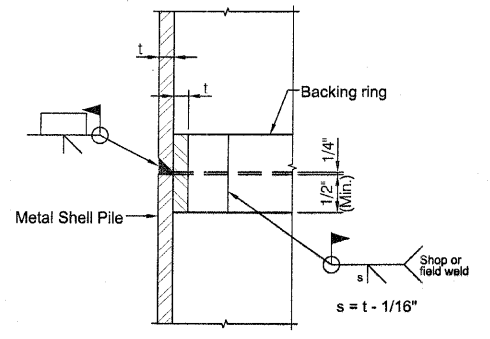


END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT
(See Note A)

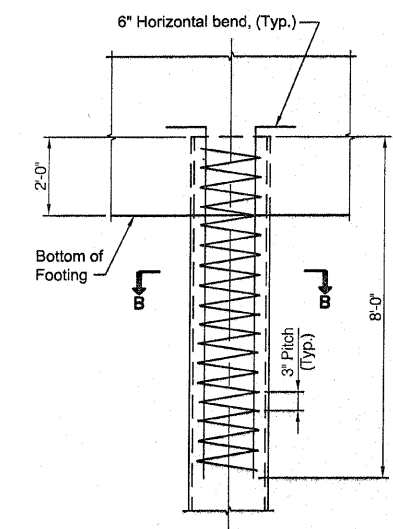
Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over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



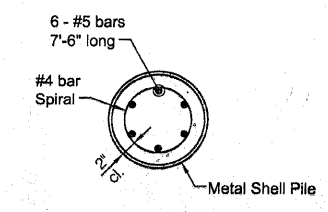
COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

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



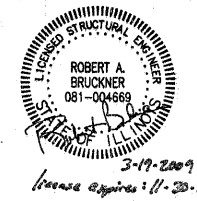
ELEVATION



SECTION B-B

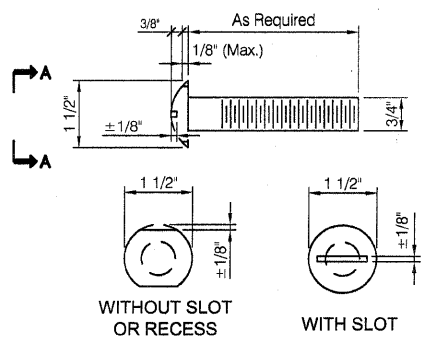
METAL SHELL REINFORCEMENT

	INITIALS	DATE
DESIGNED		
CHECKED		
DRAWN		
CHECKED		

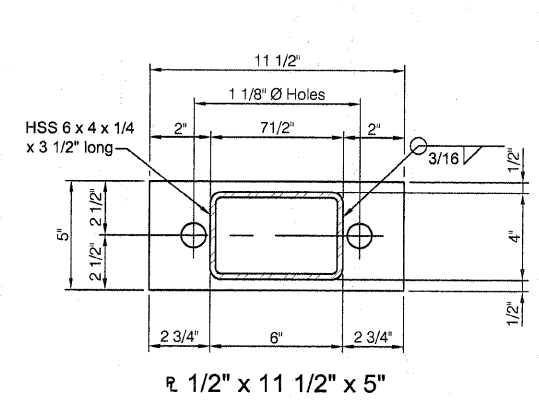


BRIDGE OVER DRY LAKE SOUGH
METAL SHELL PILE DETAILS
SAINT CLAIR COUNTY

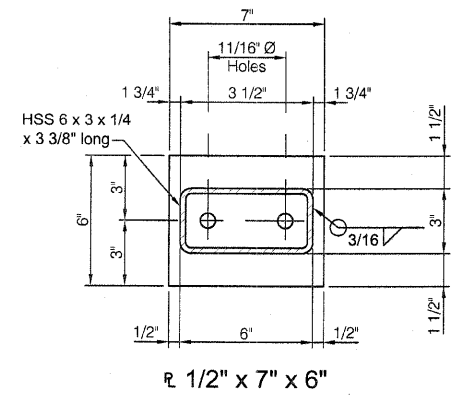
* 163 (034)
** 97377



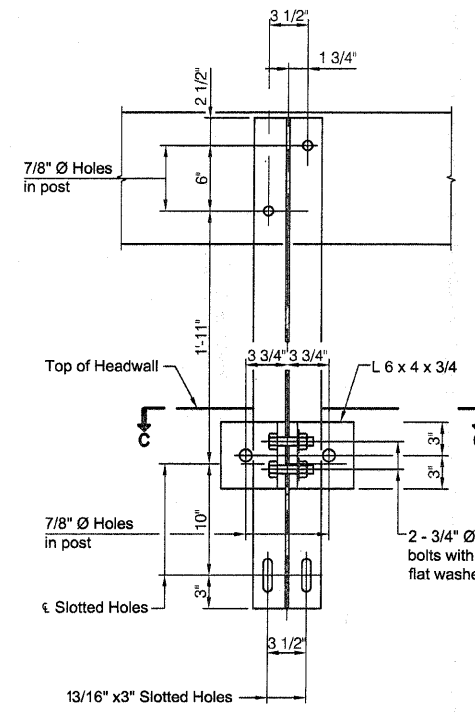
VIEW A-A
ROUND HEAD BOLT



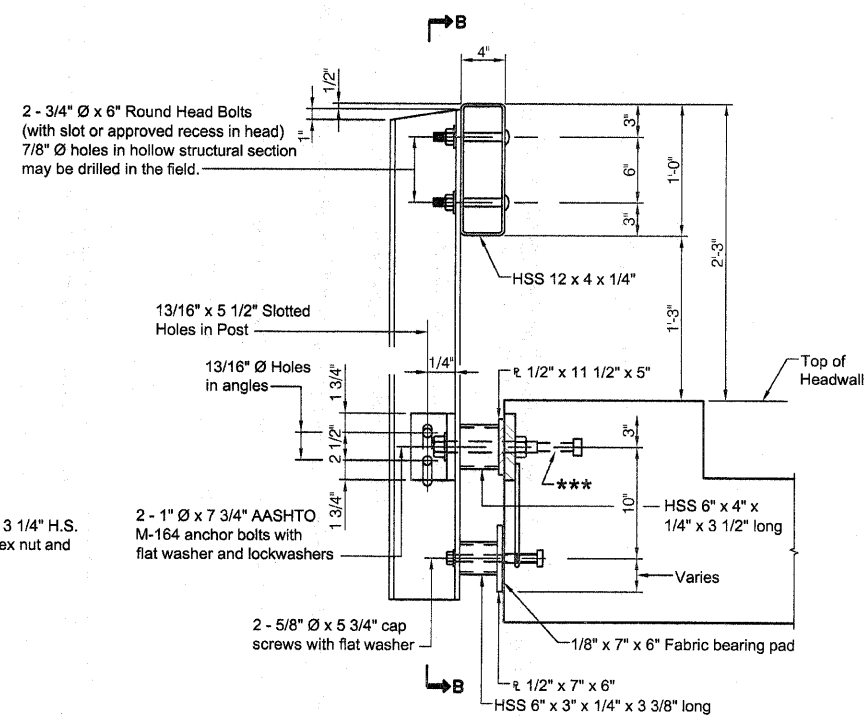
R 1/2" x 11 1/2" x 5"



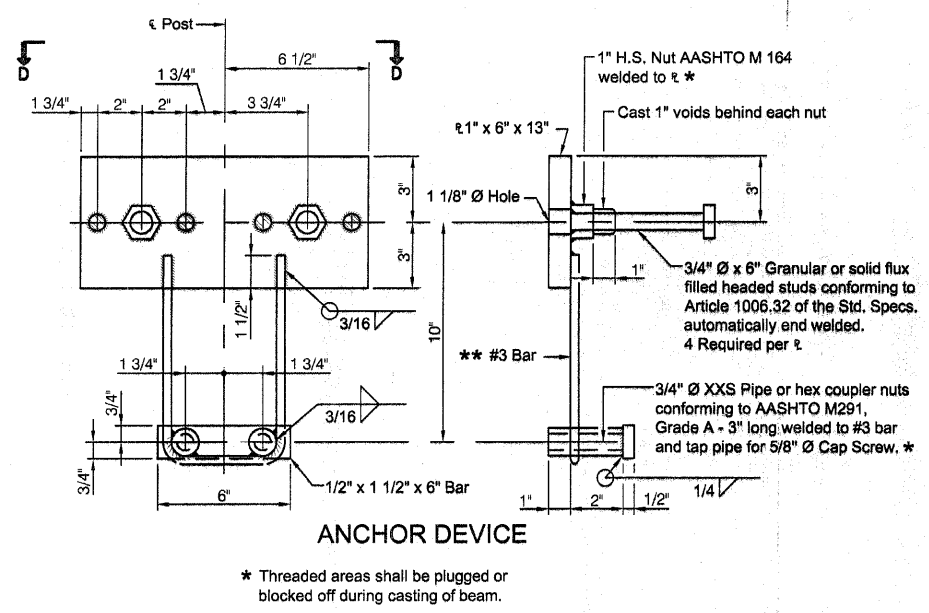
R 1/2" x 7" x 6"



SECTION B-B

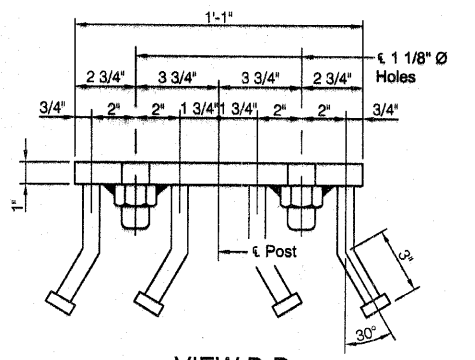


SECTION AT RAILING POST

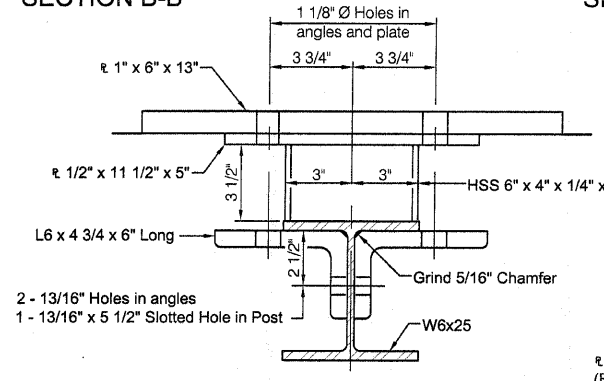


ANCHOR DEVICE

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4\"/>

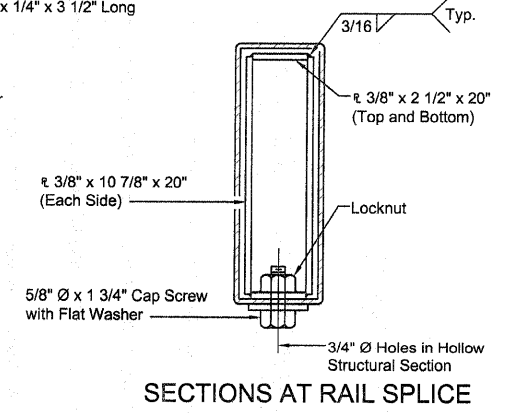


VIEW D-D

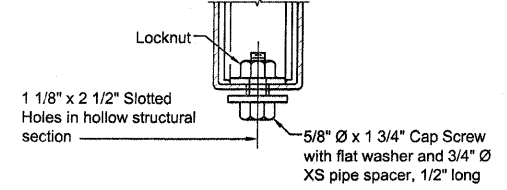


SECTION C-C

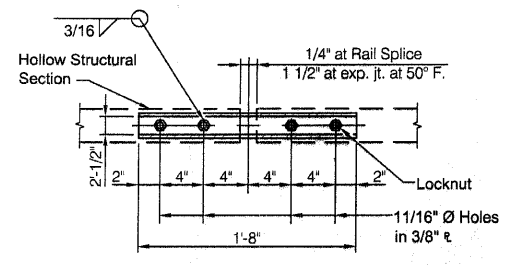
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2\".



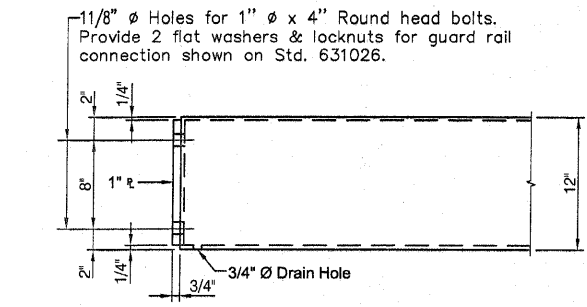
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL

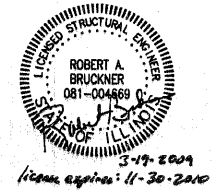


END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	77

STEEL RAILING, TYPE S-1

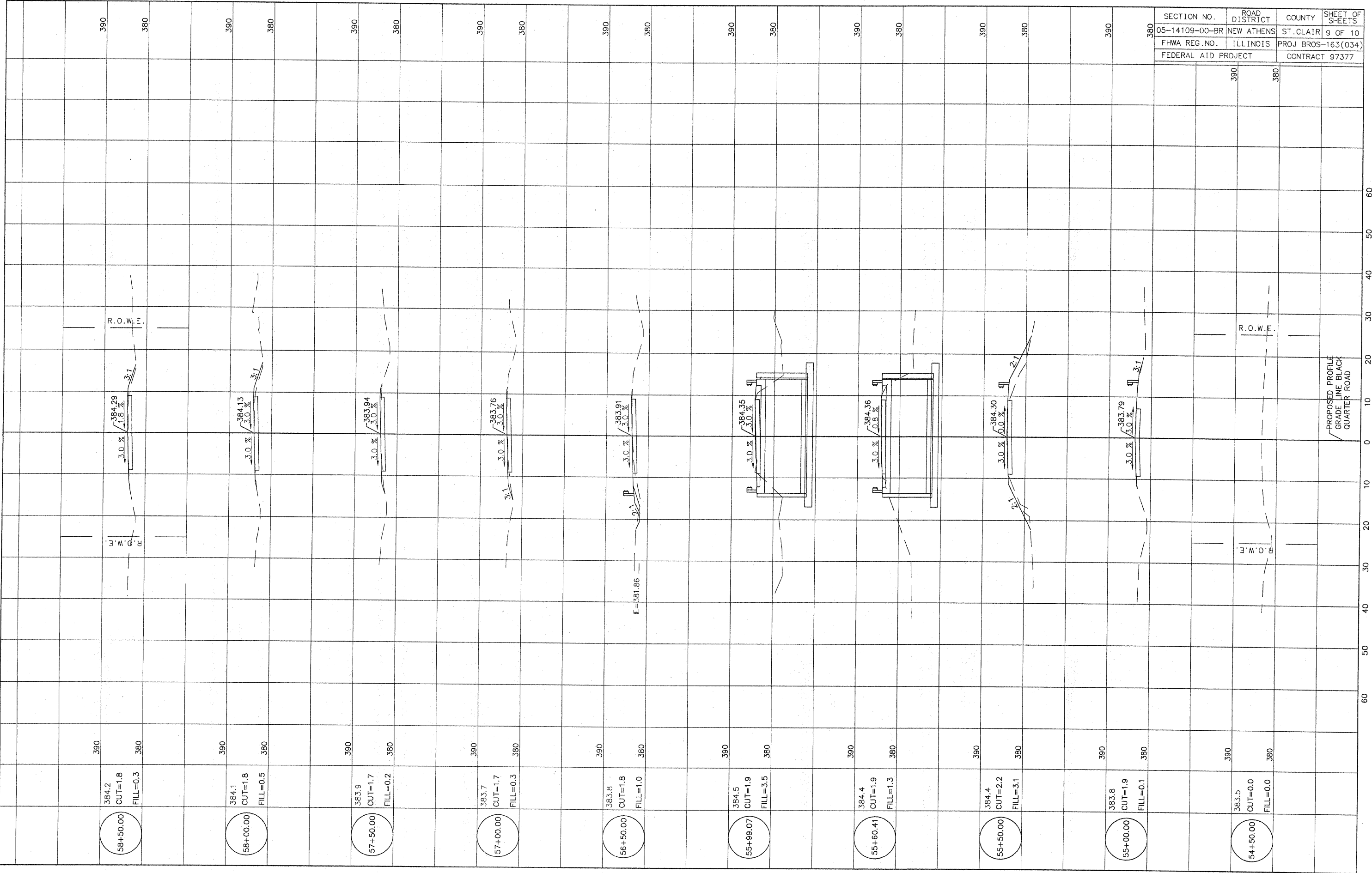


BRIDGE OVER DRY LAKE SOUGH
STEEL RAILING, TYPE S1
SAINT CLAIR COUNTY

	INITIALS	DATE
DESIGNED		
CHECKED		
DRAWN		
CHECKED		

kdg
Kuhlmann design Group, Inc. 10'-9" Maximum Post Spacing

SECTION NO.	ROAD DISTRICT	COUNTY	SHEET OF SHEETS
05-14109-00-BR	NEW ATHENS	ST. CLAIR	9 OF 10
FHWA REG. NO.	ILLINOIS	PROJ BROS-163(034)	
FEDERAL AID PROJECT		CONTRACT 97377	



PROPOSED PROFILE
GRADE LINE BLACK
QUARTER ROAD

SECTION NO.	ROAD DISTRICT	COUNTY	SHEET OF SHEETS
05-14109-00-BR	NEW ATHENS	ST. CLAIR	10 OF 10
FHWA REG. NO.	ILLINOIS	PROJ BROS-163(034)	
FEDERAL AID PROJECT		CONTRACT 97377	

