

INDEX OF SHEETS

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
- 3 PLAN AND PROFILE
- 4-8 STATION CROSS SECTIONS
- 9-21 BRIDGE PLANS

LIST OF STANDARDS

STANDARD 000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
STANDARD 280001-05	TEMPORARY EROSION CONTROL SYSTEMS
STANDARD 482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
STANDARD 515001-03	NAME PLATE FOR BRIDGES
STANDARD 606201-02	TYPE B GUTTER (INLET, OUTLET & ENTRANCE)
STANDARD 701901-01	TRAFFIC CONTROL DEVICES
STANDARD BLR-21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

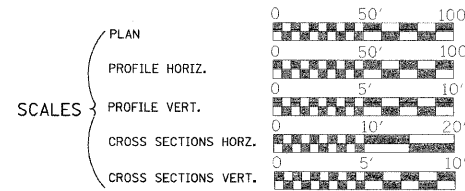
ROADWAY CLASSIFICATION: URBAN LOCAL ROAD  
 2033 ADT = 1050  
 DESIGN SPEED: 30 MPH  
 DESIGN GUIDELINES: URBAN  
 VARIANCES GRANTED: ELIMINATION OF APPROACH GUARDRAIL  
 COMMITMENTS: EXISTING ROADWAY AND BRIDGE MUST REMAIN OPEN THROUGH LABOR DAY 2011

JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS  
 J.U.L.I.E. TELEPHONE NO. TOLL FREE 1-800-892-0123



345 EAST ASH AVENUE, SUITE B  
 DECATUR, ILLINOIS 62526  
 PH. 217-875-4800

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
**PLANS FOR PROPOSED  
 LOCAL AGENCY IMPROVEMENT**

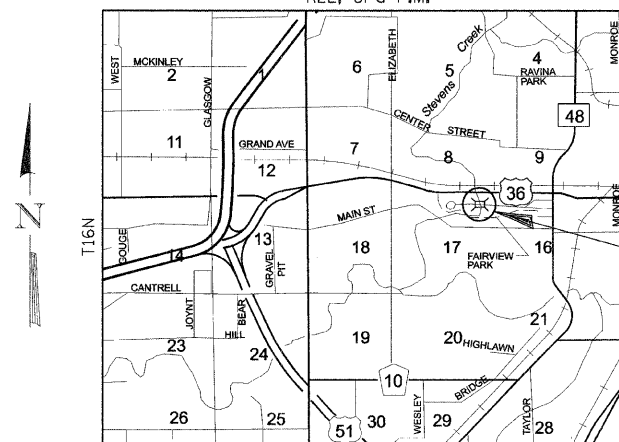


SURFACE TRANSPORTATION  
 URBAN (STU) FUNDS  
 DECATUR PARK DISTRICT  
 T.R. 939 (PARK DRIVE) OVER STEVENS CREEK  
 SECTION 10-P4000-00-BR  
 MACON COUNTY

T.R. 939 (PARK DRIVE) OVER STEVENS CREEK  
 SECTION 10-P4000-00-BR  
 MACON COUNTY  
 CONTRACT NO. 95660  
 PROJ. #M-5169(049)

C-97-065-11  
 R2E, 3rd P.M.

EXIST. STR. NO. 058-9200  
 PROP. STR. NO. 058-9201



PROJECT LOCATION  
 IMPROVEMENT BEGINS  
 STA. 11+28.98  
 IMPROVEMENT ENDS  
 STA. 18+36.19

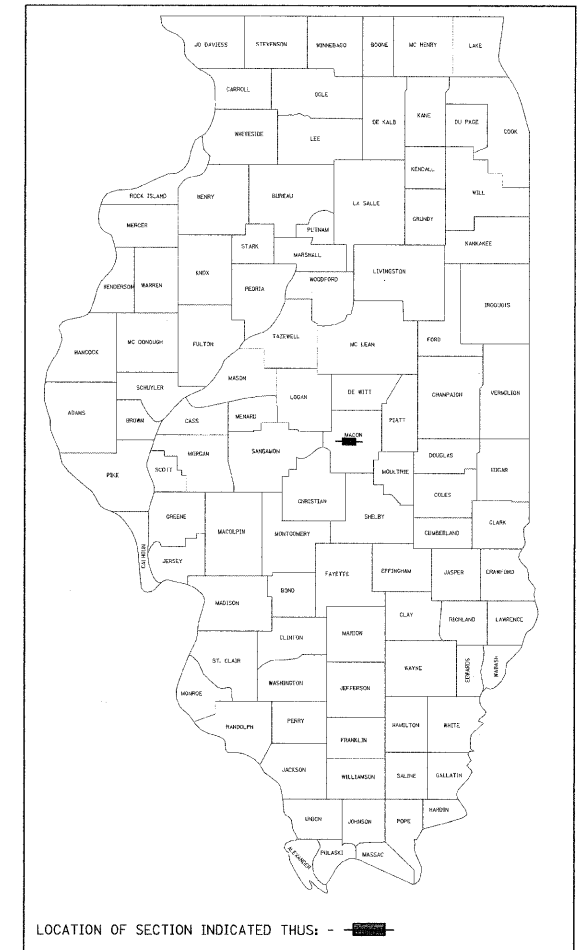
IMPROVEMENT CONSISTS OF THE REMOVAL OF A THREE SPAN CONCRETE SLAB BRIDGE WITH STEEL STRINGERS ON CLOSED CONCRETE ABUTMENTS AND CONCRETE PIERS 0-0 DECK = 28'-0". BK.-BK. ABUTMENTS = 89'-0" AND THE CONSTRUCTION OF A THREE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE ON CONCRETE SPILL THRU ABUTMENTS AND CONCRETE PIERS. TOTAL LENGTH = 119'-2", WIDTH = 30'-0" 0.-0. DECK AND NECESSARY APPROACH ROADWAY WORK.

LAYOUT

APPROXIMATE SCALE scale miles

TOTAL AND NET LENGTH OF IMPROVEMENT 707.21 FEET = 0.134 MILES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 939	10-P4000-00-BR	MACON	21	1
FED. ROAD DIST. NO.	ILLINOIS PROJECT:			

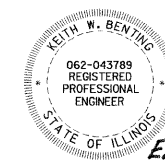


APPROVED 7-21 2011  
 EXECUTIVE DIRECTOR

PASSED 4-26 2011  
 DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW 4-26 2011  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



Exp. 11/30/2011

4/21/2011  
 ILLINOIS PROFESSIONAL NO. 43789 DATE

**SUMMARY OF QUANTITIES**

ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT 76
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT 120
20200100	EARTH EXCAVATION	CU YD 73
20300100	CHANNEL EXCAVATION	CU YD 141
20400800	FURNISHED EXCAVATION	CU YD 1447
25000200	SEEDING, CLASS 2	ACRE 0.5
25000400	NITROGEN FERTILIZER NUTRIENT	POUND 45
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND 45
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND 45
25100115	MULCH, METHOD 2	ACRE 1.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND 50
28000400	PERIMETER EROSION BARRIER	FOOT 1258
28100107	STONE RIPRAP, CLASS A4	SQ YD 195
28200200	FILTER FABRIC	SQ YD 195
30200650	PROCESSING MODIFIED SOIL 12"	SQ YD 1731
30201700	PORTLAND CEMENT	TON 74
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON 85
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON 187
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON 483
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON 161
44000100	PAVEMENT REMOVAL	SQ YD 1140
44000400	GUTTER REMOVAL	FOOT 1182
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD 17
50100100	REMOVAL OF EXISTING STRUCTURES	EACH 1
50300225	CONCRETE STRUCTURES	CU YD 140.1
50300260	BRIDGE DECK GROOVING	SQ YD 360
50300280	CONCRETE ENCASEMENT	CU YD 8.4
50300300	PROTECTIVE COAT	SQ YD 461
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT 3510
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND 17670
51201400	FURNISHING STEEL PILES HP10X42	FOOT 533
51202305	DRIVING PILES	FOOT 533
51203400	TEST PILE STEEL HP10X42	EACH 2
51500100	NAME PLATES	EACH 1
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT 1055
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD 49.4
60602800	CONCRETE GUTTER, TYPE B	FOOT 1024
60603400	GUTTER OUTLET (SPECIAL)	EACH 4
67100100	MOBILIZATION	L SUM 1
X0325862	CONCRETE BRIDGE RAILING	FOOT 238
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH 1
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH 1
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD 391
X6640304	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED	FOOT 130

\* SEE SPECIAL PROVISIONS

**GENERAL NOTES**

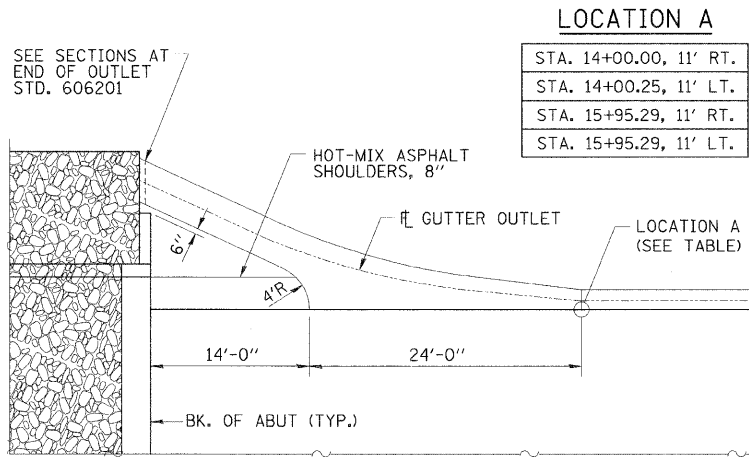
EXISTING SUBGRADE SOIL WAS ASSUMED TO BE SUITABLE FOR PORTLAND CEMENT MODIFICATION. THE EXISTING PAVEMENT SHALL BE BROKEN AT LOCATIONS INDICATED ON THE PLANS AND IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS. PAVEMENT BREAKING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCLUDED IN THE COST OF FURNISHED EXCAVATION. THE DESIGNER HAS MADE NO PROVISIONS IN THE QUANTITY OF FURNISHED EXCAVATION FOR THE REPLACEMENT OF THE PAVEMENT THAT HAS BEEN INDICATED TO REMAIN. ALL EXISTING GUTTER WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED. THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER. ALL TREES THAT INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.

AGGREGATE SURFACE COURSE, TYPE B IS FOR TEMPORARY SURFACING UNTIL A PERMANENT PARKING AREA IS CONSTRUCTED BY OTHERS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITY FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR THEIR MARKING OF THE EXACT LOCATION.

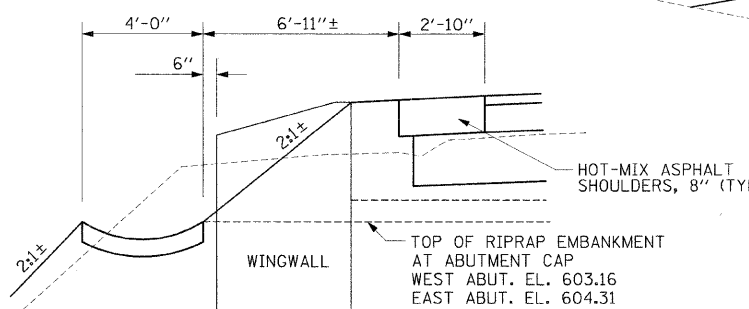
**APPLICATION RATES**

GRANULAR MATERIALS	2.05	TONS/CU. YD.
STONE RIPRAP	1.50	TONS/CU. YD.
BITUMINOUS MATERIALS PRIME COAT	0.10	GALS./S.Y. (ON SOIL, PRIOR TO BINDER)
BITUMINOUS MATERIALS PRIME COAT	0.03	GALS./S.Y. (ON BINDER, PRIOR TO SURFACE)
HOT-MIX ASPHALT	112	LBS./S.Y./INCH THICKNESS
FERTILIZER NUTRIENTS	90	LBS./ACRE
MULCH METHOD 2	2	TONS/ACRE
PORTLAND CEMENT (MODIFIED SOIL)	85	LBS./S.Y.



**GUTTER OUTLET (SPECIAL) DETAIL**

(WORK THIS DETAIL WITH STD. 606201)

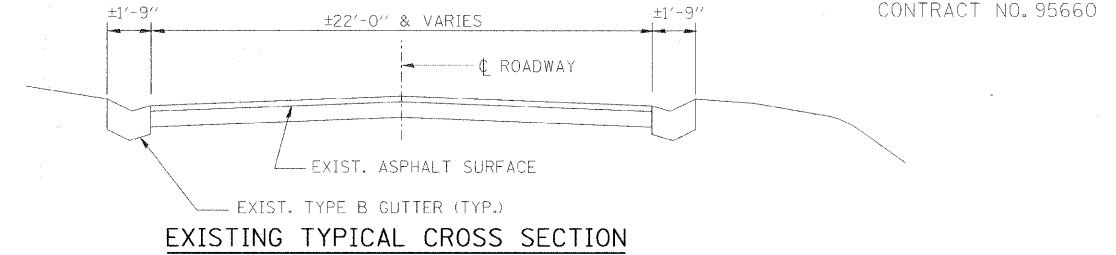


**SECTION AT OUTLET LOCATION**

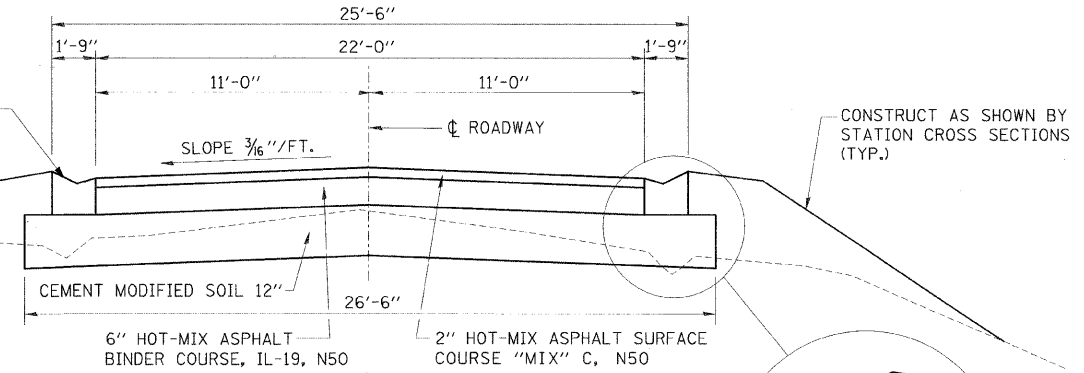
STA. 14+38.13 LT. AS SHOWN, RT. OPP. HAND  
STA. 15+57.29 LT. AS SHOWN, RT. OPP. HAND

**BITUMINOUS MIXTURE REQUIREMENTS**

LOCATION	CH 32	CH 32
MIX USE	BINDER	SURFACE
AC/PG	PG 64-22	PG 64-22
RAP %	25	15
DESIGN VOIDS	4.0 @ N=50	4.0 @ N=50
MIXTURE COMPOSITION (GRAD. MIXTURE)	IL-19.0	IL-9.5
FRICTION	N/A	MIX C

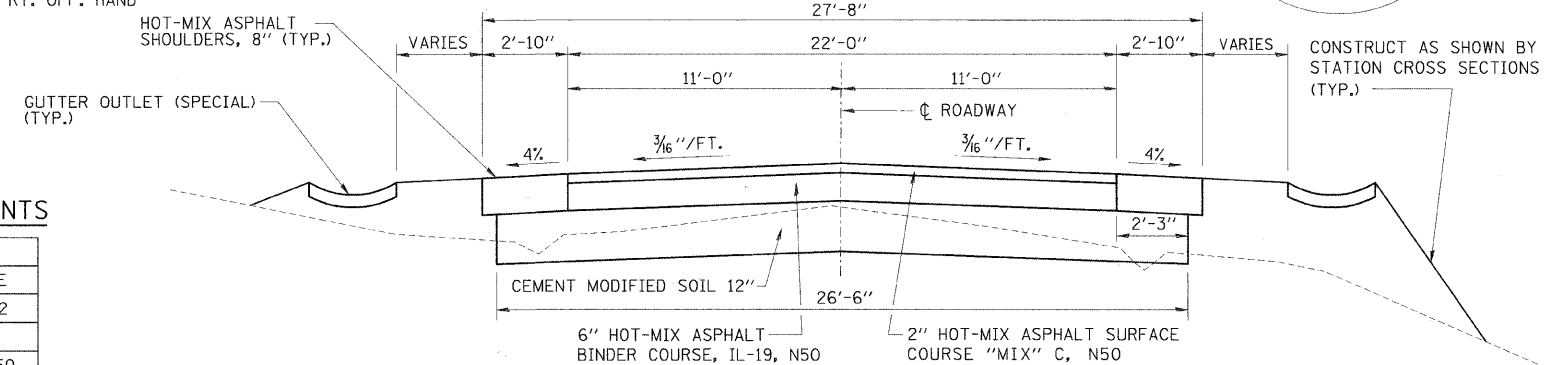


**EXISTING TYPICAL CROSS SECTION**



**PROPOSED TYPICAL CROSS SECTION - T.R. 939**

STA. 11+78.98 TO STA. 14+24.13  
STA. 15+71.29 TO STA. 17+86.19  
(TRANSITION STA. 11+28.98 TO STA. 11+78.98  
(TRANSITION STA. 17+86.19 TO STA. 18+36.19



**PROPOSED TYPICAL CROSS SECTION - T.R. 939**

STA. 14+24.13 TO STA. 14+38.13  
STA. 15+57.29 TO STA. 15+71.29  
(ALSO SEE SECTION AT OUTLET LOCATION)

**ROADWAY QUANTITY SCHEDULE**

LOCATION	PROCESS MOD SOIL 12 (SQ YD)	PORTLAND CEMENT (TON)	BITUMINOUS MATERIALS (PRIME COAT) (GAL)	HMA BC IL-19.0 N50 (TON)	HMA SC "C" N50 (TON)	PAVEMENT REMOVAL (SQ YD)	GUTTER REMOVAL (FT)	CONCRETE GUTTER, TYPE B (FT)	GUTTER OUTLET (SPECIAL) (EA)	HOT-MIX ASPHALT SHOULDERS, 8" (SQ YD)
M.L. STA. 11+28.98 TO STA. 14+38.13	907	39	98	253	84	703	606	542	2	8.5
M.L. STA. 15+57.29 TO STA. 18+36.19	824	35	89	230	77	437	576	482	2	8.5
TOTALS	1731	74	187	483	161	1140	1182	1024	4	17

**SUM. OF QTY'S, GEN. NOTES & TYP. SECTIONS**

Date	Designed DCS	T.R. 939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201
Revisions	Drawn BKN	
	Checked KWB	
	Approved KWB	
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526	URS Job No. 36432943

**BENCHMARK:**

SURVEY CONTROL POINT #2 (IRON PIN)  
 STA. 13+99.29, 15.24' RT.  
 ELEV. = 604.32

**EXISTING STRUCTURE NO. 058-9200**

THREE SPAN CONCRETE SLAB WITH STEEL STRINGERS  
 ON CONCRETE CLOSED ABUTMENTS AND CONCRETE PIERS.

STA. 14+97.71, SPECIAL BRIDGE DESIGN,  
 THREE SPAN PPC DECK BEAM BRIDGE,  
 SPANS 1 & 3 = 24'-4 1/2", SPAN 2 = 64'-9"  
 ON CONC. PILE BENT ABUTMENTS & PIERS  
 LENGTH = 119'-2" BK.-BK. ABUTMENTS  
 WIDTH = 30'-0" O.-O. DECK  
 NO SKEW

SURVEY CONTROL POINT NO. 1

PT Sta 8+99.57  
 N100001.795  
 E99502.124

50' TRANS. TO  
 MATCH EXIST.

BEGIN CONSTRUCTION  
 STA. 11+28.98

PC Sta 11+49.08  
 N100017.120  
 E99751.166

PT Sta 14+20.11  
 N100013.480  
 E100021.919

FUTURE  
 BIKE TRAIL  
 (BY OTHERS)

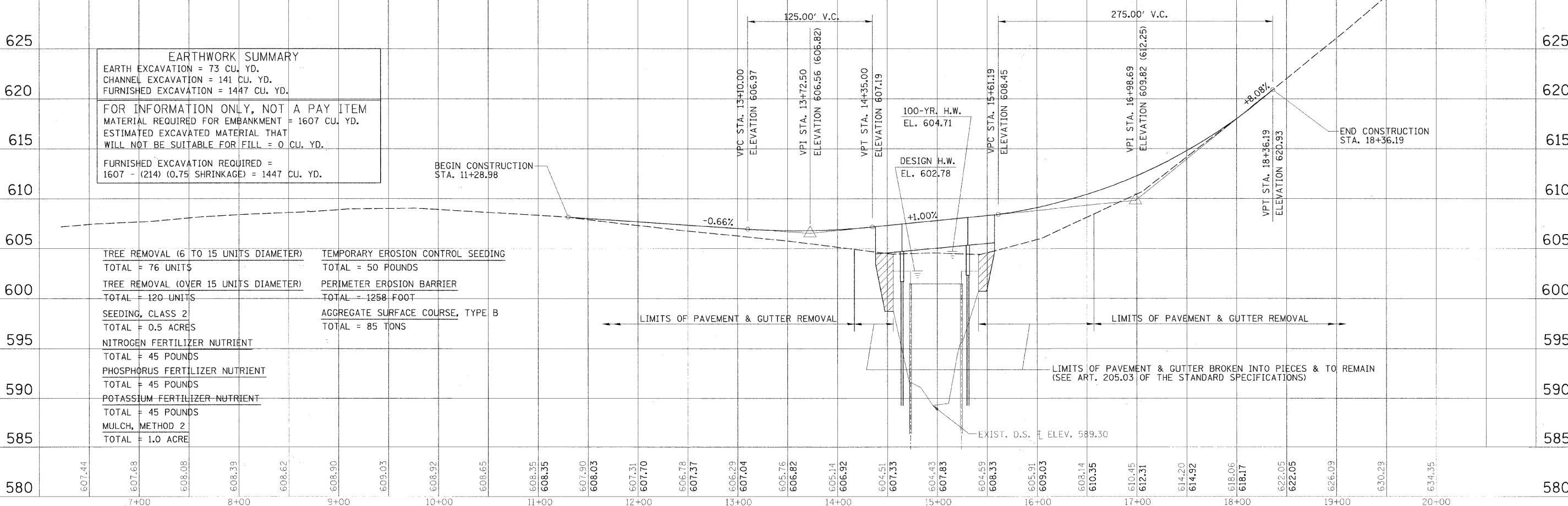
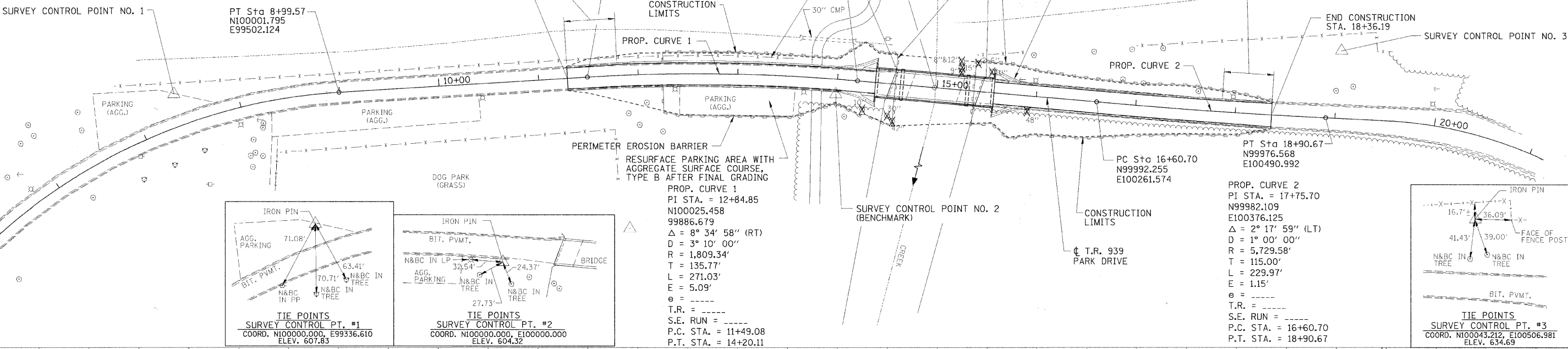
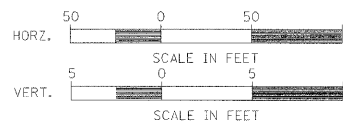
50' TRANS. TO  
 MATCH EXIST.

PERIMETER EROSION BARRIER

GUTTER OUTLET (SPECIAL)  
 TYPICAL ALL QUADRANTS  
 SEE DETAIL ON SHEET 2 OF 21.

END CONSTRUCTION  
 STA. 18+36.19

SURVEY CONTROL POINT NO. 3



**EARTHWORK SUMMARY**

EARTH EXCAVATION = 73 CU. YD.  
 CHANNEL EXCAVATION = 141 CU. YD.  
 FURNISHED EXCAVATION = 1447 CU. YD.

FOR INFORMATION ONLY, NOT A PAY ITEM  
 MATERIAL REQUIRED FOR EMBANKMENT = 1607 CU. YD.  
 ESTIMATED EXCAVATED MATERIAL THAT  
 WILL NOT BE SUITABLE FOR FILL = 0 CU. YD.

FURNISHED EXCAVATION REQUIRED =  
 1607 - (214) (0.75 SHRINKAGE) = 1447 CU. YD.

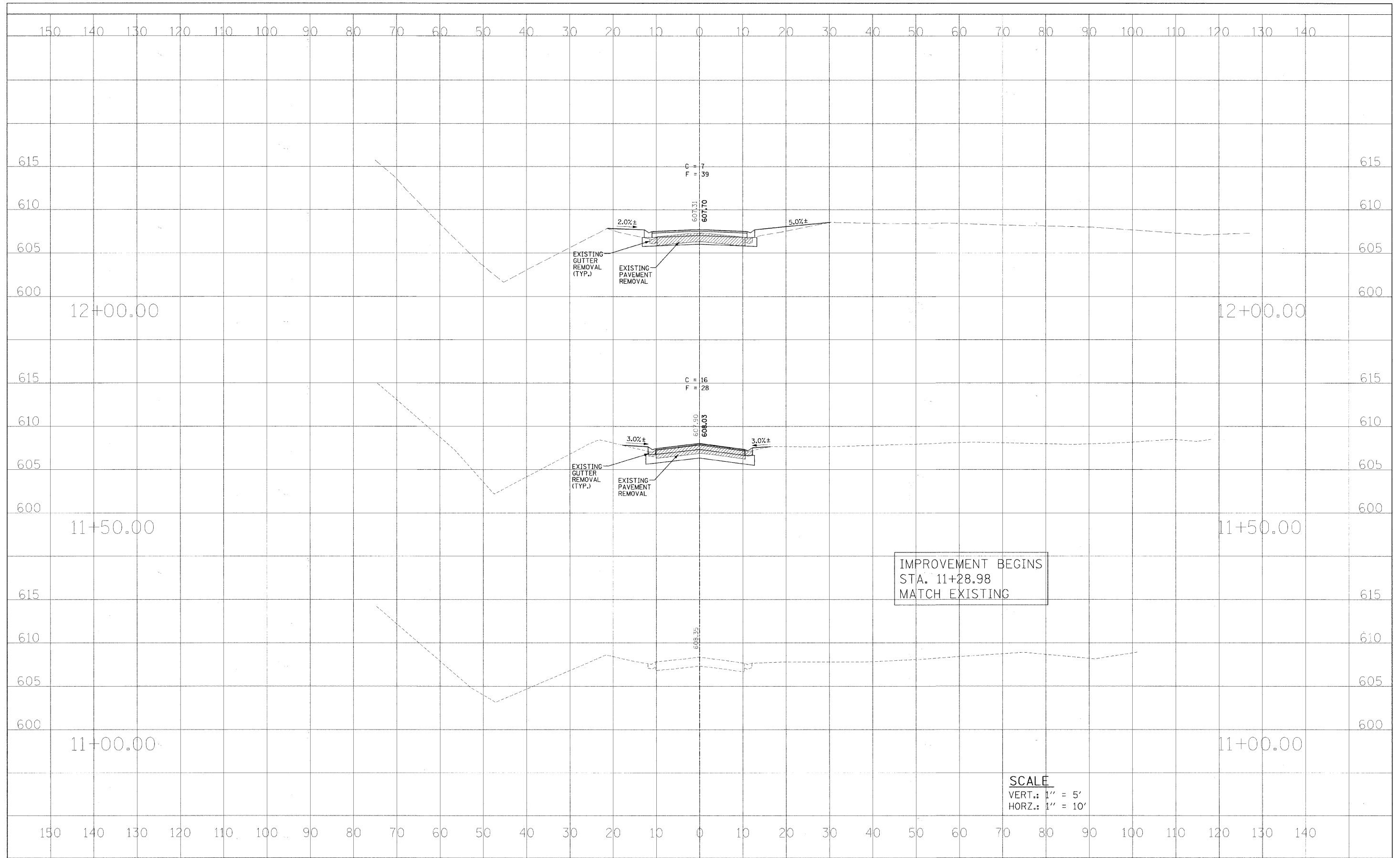
TREE REMOVAL (6 TO 15 UNITS DIAMETER) TOTAL = 76 UNITS	TEMPORARY EROSION CONTROL SEEDING TOTAL = 50 POUNDS
TREE REMOVAL (OVER 15 UNITS DIAMETER) TOTAL = 120 UNITS	PERIMETER EROSION BARRIER TOTAL = 1258 FOOT
SEEDING, CLASS 2 TOTAL = 0.5 ACRES	AGGREGATE SURFACE COURSE, TYPE B TOTAL = 85 TONS
NITROGEN FERTILIZER NUTRIENT TOTAL = 45 POUNDS	
PHOSPHORUS FERTILIZER NUTRIENT TOTAL = 45 POUNDS	
POTASSIUM FERTILIZER NUTRIENT TOTAL = 45 POUNDS	
MULCH, METHOD 2 TOTAL = 1.0 ACRE	

FILE NAME =	USER NAME = #USER#	DESIGNED - MJP	REVISED -	<p align="center"><b>STATE OF ILLINOIS                  DEPARTMENT OF TRANSPORTATION</b></p> <p align="center"><b>PLAN AND PROFILE</b></p>	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - BKN	REVISED -		TR-939	10-P4000-00-BR	MACON	21	3
PLOT SCALE = #SCALE#		CHECKED - KWB	REVISED -		CONTRACT NO. 95660				
PLOT DATE = #DATE#		DATE -	REVISED -		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT:				

SCALE: AS SHOWN SHEET NO. 1 OF 1 SHEETS STA. 8+99.57 TO STA. 18+90.67

DATE	
BY	
SURVEYED	
TEMPLATE	
NOTE BOOK	
AREAS	
AREAS CHECKED	
NO.	

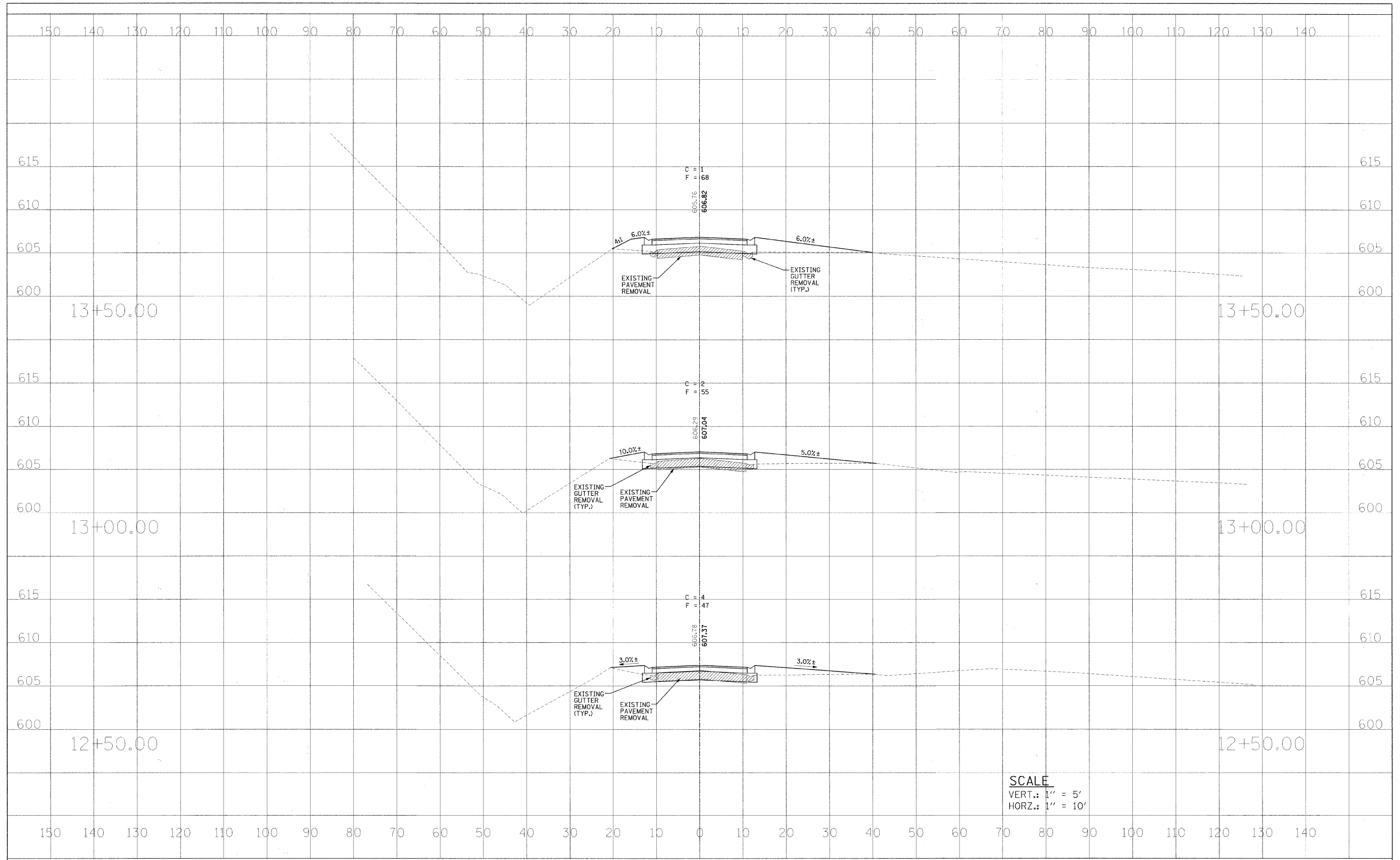
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BY	
SURVEYED	
TEMPLATE	
NOTE BOOK	
AREAS	
AREAS CHECKED	
NO.	



FILE NAME =	USER NAME = #USER#	DESIGNED - DCS	REVISED - ---	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b>	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = #DATE#	CHECKED - KWB	REVISED - ---			CONTRACT NO. 95660					
		DATE - -----	REVISED - ---			SCALE: AS SHOWN	SHEET NO. 1 OF 5 SHEETS	STA. 11+00.00 TO STA. 12+00.00	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT:	

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

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

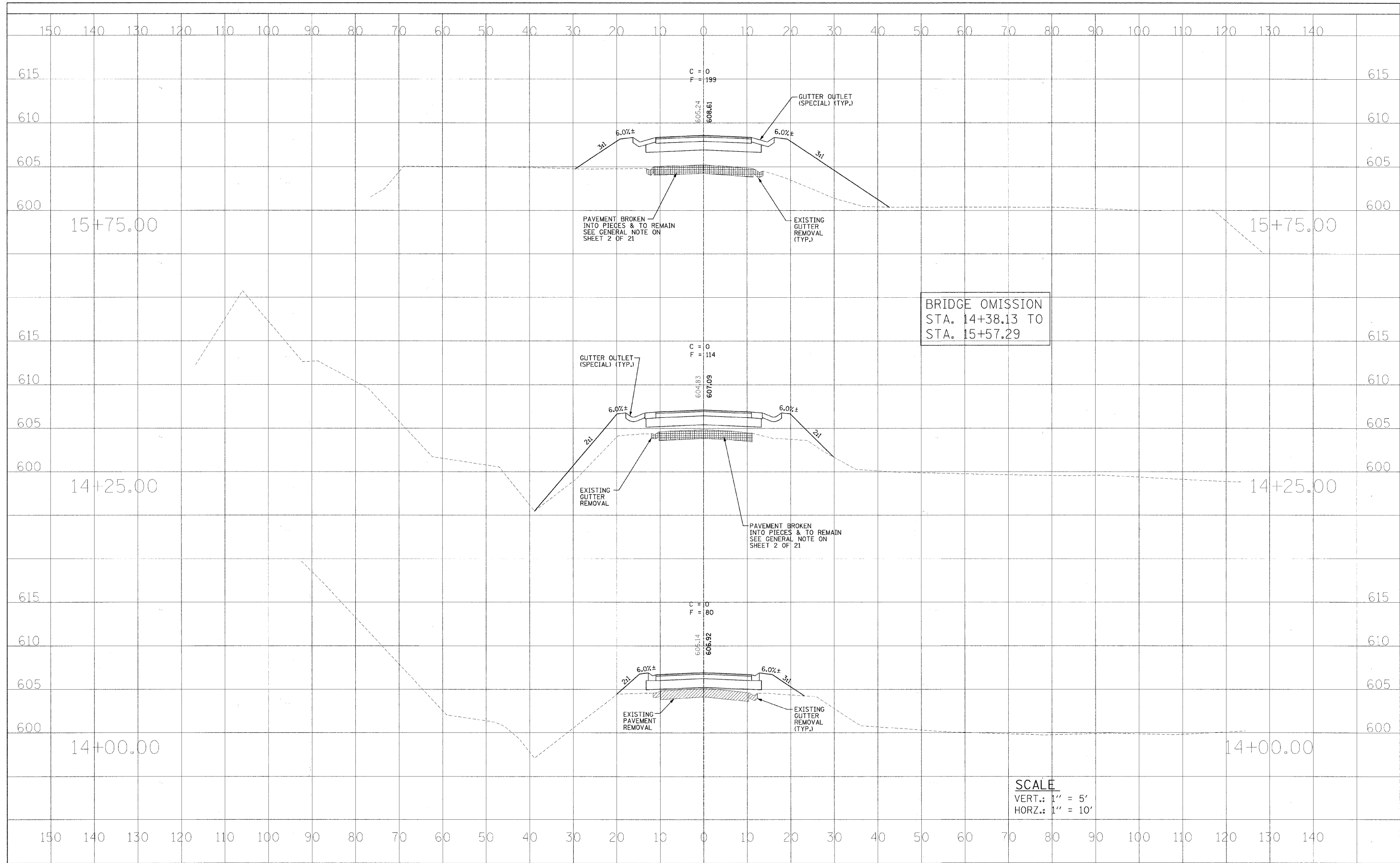


**SCALE**  
 VERT.: 1" = 5'  
 HORZ.: 1" = 10'

FILE NAME =	USER NAME = #USER#	DESIGNED - DCS	REVISED - ---	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b>	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = #DATE#	CHECKED - KWB	REVISED - ---			<b>CONTRACT NO. 95660</b>					
		DATE -	REVISED - ---			SCALE: AS SHOWN	SHEET NO. 2 OF 5 SHEETS	STA. 12+50.00 TO STA. 13+50.00	FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT:		

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

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

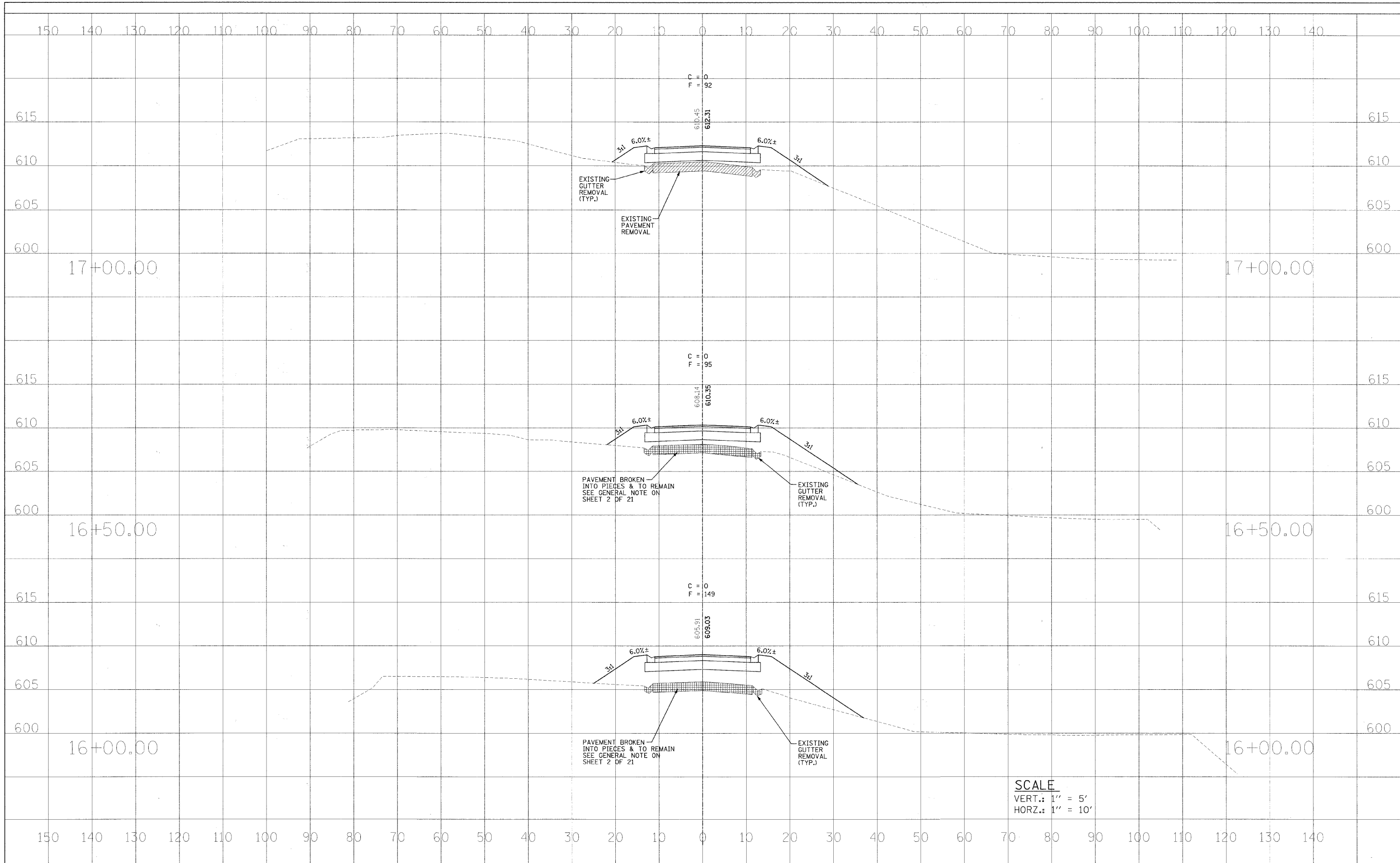


SCALE  
 VERT.: 1" = 5'  
 HORZ.: 1" = 10'

FILE NAME =	USER NAME = #USER#	DESIGNED - DCS	REVISD - ---	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b>				RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT SCALE = #SCALE#		CHECKED - KWB	REVISD - ---		SCALE: AS SHOWN	SHEET NO. 3 OF 5 SHEETS	STA. 14+00.00 TO STA. 16+50.00	CONTRACT NO. 95660					
PLOT DATE = #DATE#		DATE - -----	REVISD - ---		FED. ROAD DIST. NO.			[ILLINOIS] FED. AID PROJECT					

DATE	
BY	
FINAL SURVEY	
SURVEY	
NOTE BOOK	
TEMPLATE	
AREAS	

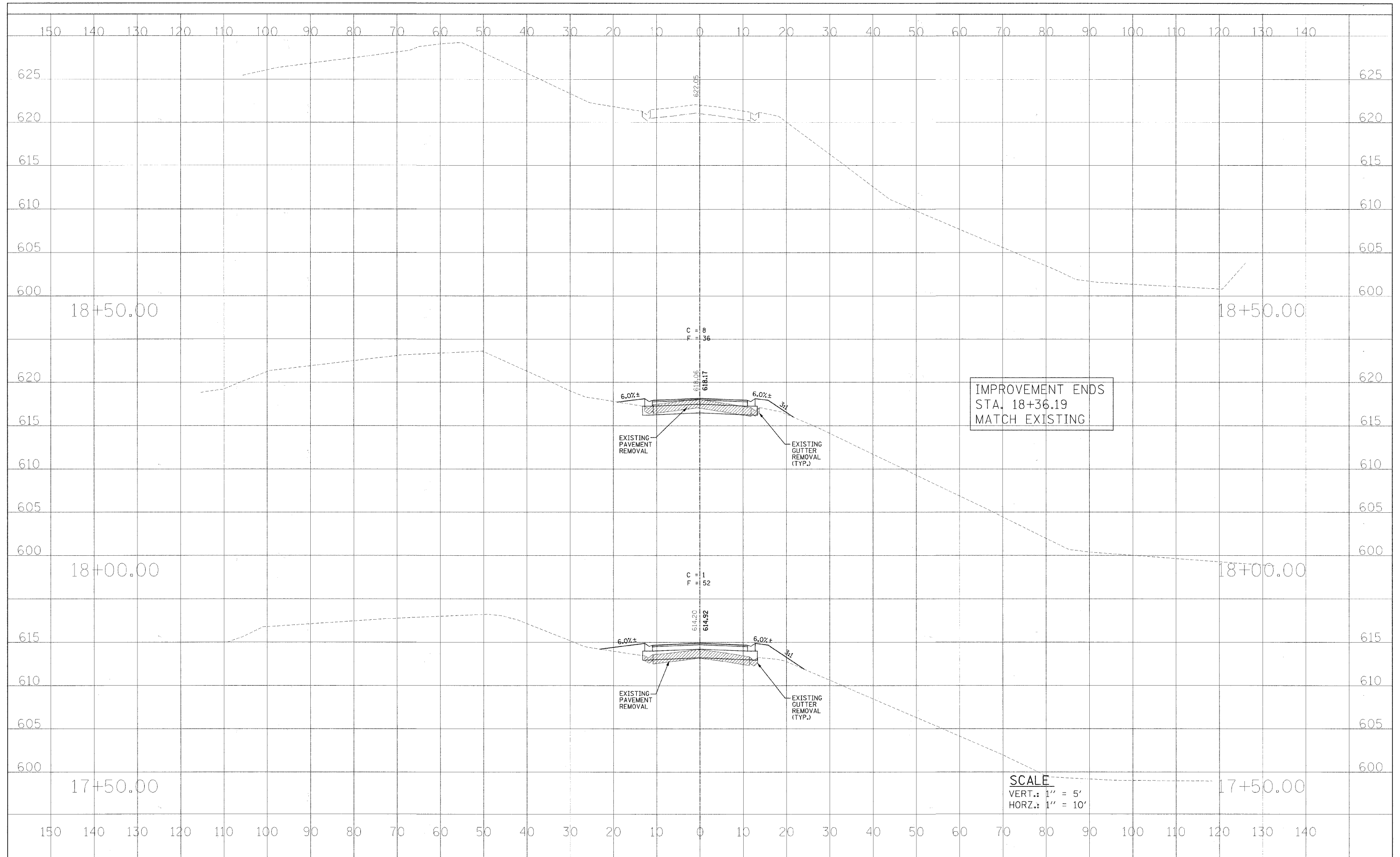
DATE	
BY	
ORIGINAL SURVEY	
SURVEY	
NOTE BOOK	
TEMPLATE	
AREAS	
CHECKED	



FILE NAME =	USER NAME = #USER#	DESIGNED - DCS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b>				RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILE#		DRAWN - BKN	REVISED -		SCALE: AS SHOWN	SHEET NO. 4 OF 5 SHEETS	STA. 17+00.00 TO STA. 18+00.00	1.R. 939	10-P4000-00-BR	MACON	21	7	
		CHECKED - KWB	REVISED -						CONTRACT NO. 95660				
		DATE -	REVISED -						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT:				

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

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



FILE NAME =  
#FILE#

USER NAME = #USER#  
PLOT SCALE = #SCALE#  
PLOT DATE = #DATE#

DESIGNED - DCS  
DRAWN - BKN  
CHECKED - KWB  
DATE -

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

SCALE: AS SHOWN    SHEET NO. 5 OF 5 SHEETS    STA. 18+50.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 939	10-P4000-00-BR	MACON	21	8
CONTRACT NO. 95660				
FED. ROAD DIST. NO.    ILLINOIS FED. AID PROJECT:				



**BENCHMARK:**  
 Survey Control Point #2 (Iron Pin)  
 Sta. 13+99.29, 15.24' RI.  
 Elev. = 604.32

Roadway closed to traffic during construction.  
 No Salvage.

**EXISTING STRUCTURE:**

Three Span Concrete Slab Bridge with Steel Stringers on Closed Concrete Abutments and Concrete Piers. 28'-0" O.-O. Deck, 89'-0" Bk.-Bk. Abutments.

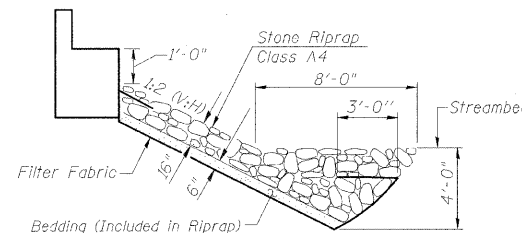
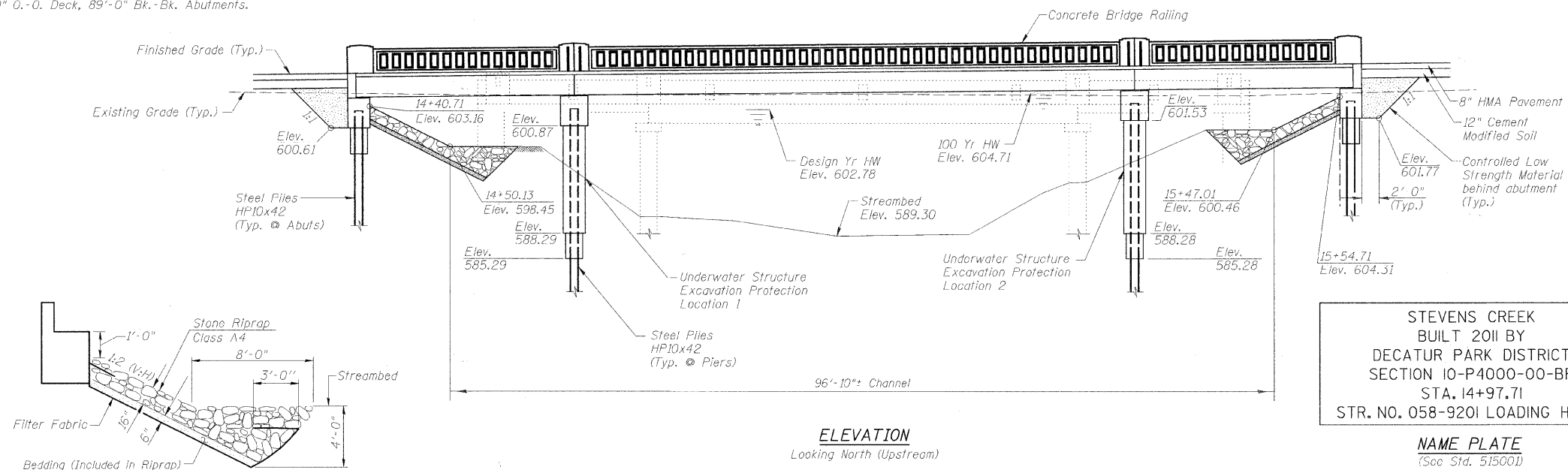
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-939	10-P4000-00-BR	MACON	21	9
FED. ROAD DIST. NO.		ILLINOIS PROJECT:	CONTRACT NO. 95660	

**GENERAL NOTES**

Layout of Riprap Slopes may be varied in the field to suit ground conditions as directed by the Engineer.  
 See Proposal for Boring Data.  
 Reinforcement Bars shall conform to the requirements of ASTM A 706, Grade 60. See Special Provisions.  
 The Contractor shall drive one Steel Test Pile to 110% of the Nominal Required Bearing in a permanent location at Pier 2 and the East Abutment as directed by the Engineer before ordering the remainder of piles.  
 Excavation required for abutment construction shall be included in Concrete Structures. No additional compensation will be provided for Structure Excavation.

**BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		141	141
Stone Riprap, Class A4	Sq. Yd.		195	195
Filter Fabric	Sq. Yd.		195	195
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		140.1	140.1
Bridge Deck Grooving	Sq. Yd.	360		360
Concrete Encasement	Cu. Yd.		8.4	8.4
Protective Coat	Sq. Yd.	461		461
P.P.C Deck Beams (27" Depth)	Sq. Ft.	3510		3510
Reinforcement Bars, Epoxy Coated	Pound	7290	10380	17670
Furnishing Steel Piles HP10X42	Foot		533	533
Driving Piles	Foot		533	533
Test Pile Steel HP10X42	Each		2	2
Name Plates	Each		1	1
Portland Cement Mortar Facing Course	Foot	1055		1055
Controlled Low-Strength Material	Cu. Yd.		49.4	49.4
Concrete Bridge Railing	Foot	238		238
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
Concrete Wearing Surface, 5"	Sq. Yd.	391		391



**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	600.6	589.0	591.9	601.8

**STEVENS CREEK  
 BUILT 2011 BY  
 DECATUR PARK DISTRICT  
 SECTION 10-P4000-00-BR  
 STA. 14+97.71  
 STR. NO. 058-9201 LOADING HL-93**

**NAME PLATE**  
 (See Std. 515001)

**DESIGN SPECIFICATIONS**

2010 AASHTO LRFD  
**LOADING HL-93**  
 Allowed 50#/sq. ft. for future wearing surface.

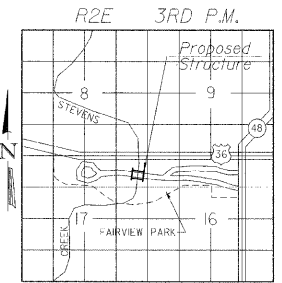
**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  p.s.i.  
 $f_y = 60,000$  p.s.i.  
 $n = 9$

**PPC UNITS**  
 $f'_{ci} = 5,000$  p.s.i.  
 $f'_c = 6,000$  p.s.i.  
 $f'_s = 270,000$  p.s.i.  
 $f'_{si} = 201,960$  p.s.i.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.154g  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.278g  
 Soil Site Class = D



**WATERWAY INFORMATION**

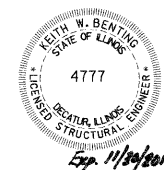
Drainage Area = 86.7 Sq. Mi. Existing Low Grade Elev. 604.46 @ Sta. 14+50.00  
 Proposed Low Grade Elev. 606.82 @ Sta. 13+50.00

Flood	Freq. Yr.	Q	Opening Sq. Ft.	Nat.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.	
Design	30	8,500	648	865	602.78	3.71	1.54	606.49	604.32
Base	100	10,870	648	937	604.71	4.54	1.41	609.25	606.12
Overtopping									
Max. Calc.	500	14,430	648	943	608.36	1.85	2.95	610.21	611.31

Low Beam Elev. (Prop.) = 604.24

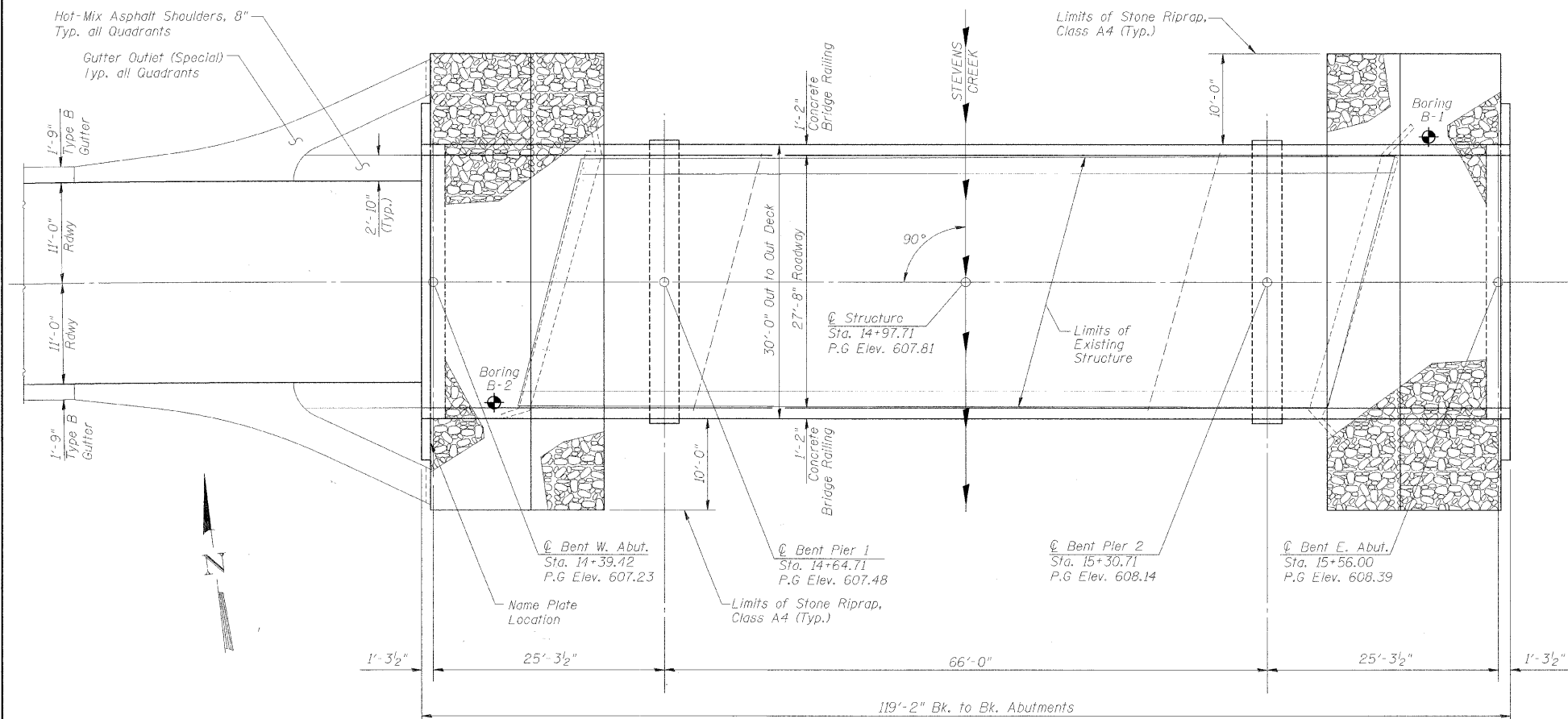
\* Over-the-Road Flow Occurs  
**EXISTING**  
 30 Yr.: 387 Sq. Ft. over roadway  
 100 Yr.: 2,711 Sq. Ft. over roadway  
 500 Yr.: 2,337 Sq. Ft. over roadway

**PROPOSED**  
 500 Yr.: 1 Sq. Ft. over roadway



DATE: April 21, 2011  
 Keith W. Beating  
 KEITH W. BEATING  
 ILL. STRUCTURAL NO. 4777

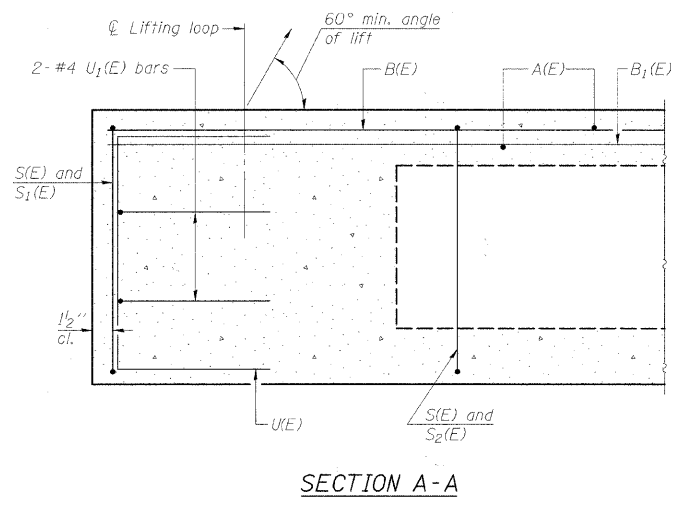
"I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE FOR THE STYLE OF STRUCTURE AND COMPLIES WITH REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES."



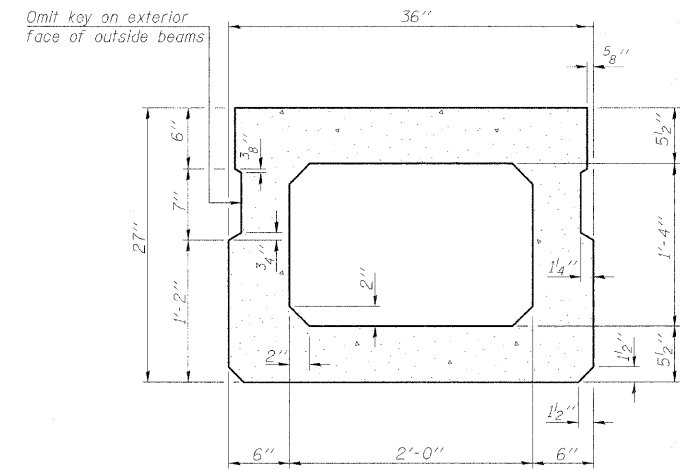
**PLAN**

**GENERAL PLAN AND ELEVATION**

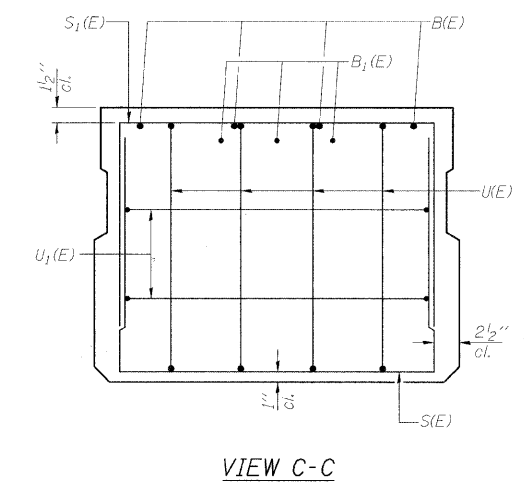
Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	Sheet No.
Revisions	Drawn BKN		1
	Checked KWD		
	Approved KWB		
			of 13
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526	URS Job No. 36432943	



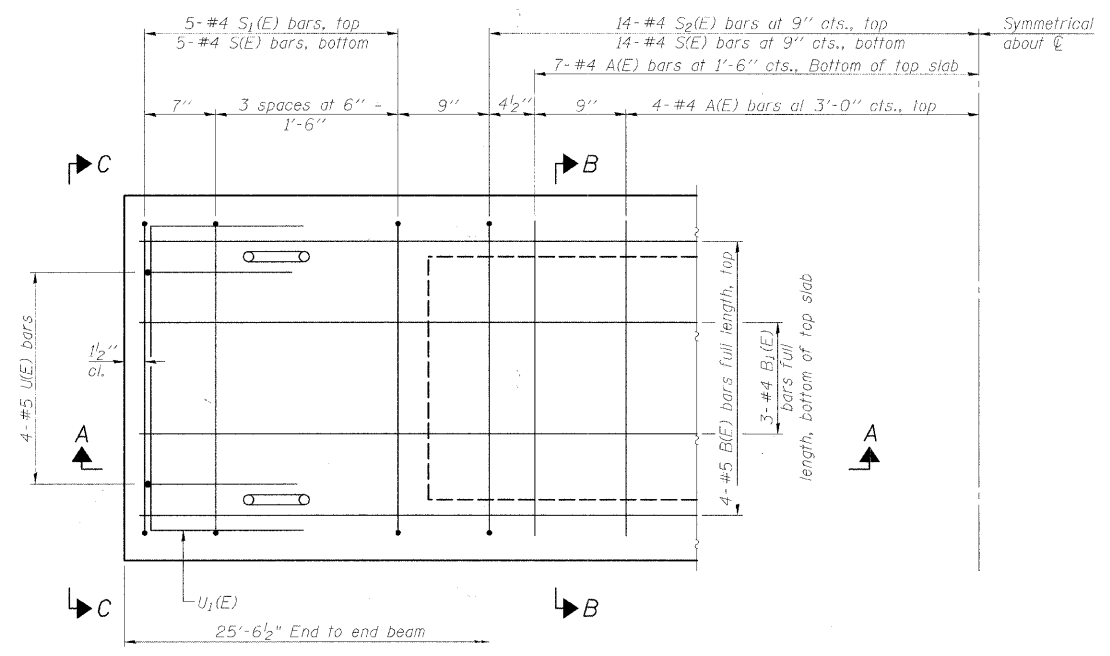
SECTION A-A



SECTION B-B  
(Showing dimensions)



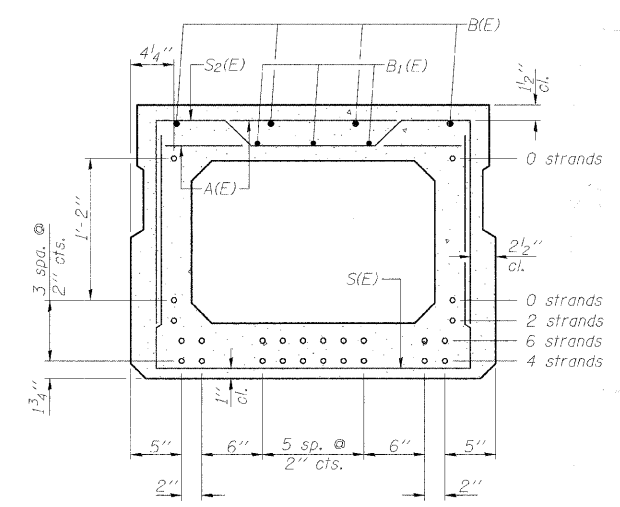
VIEW C-C



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.

**MINIMUM BAR LAP**  
 #4 bar = 2'-0"  
 #5 bar = 2'-6"



SECTION B-B

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

**BAR LIST**  
**ONE BEAM ONLY**  
 (For information only)

Bar	No.	Size	Length	Shape
A(E)	21	#4	2'-7"	—
B(E)	4	#5	25'-3"	—
B1(E)	3	#4	25'-3"	—
S(E)	37	#4	6'-5"	┌
S1(E)	10	#4	5'-11"	┌
S2(E)	27	#4	6'-2"	┌
U(E)	8	#5	4'-6"	┌
U1(E)	4	#4	5'-0"	┌

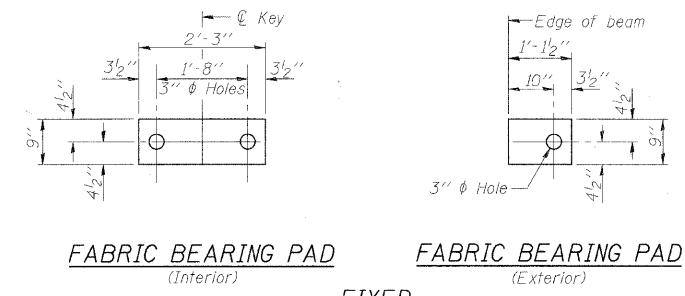
Note: See sheet 3 of 13 for additional details and Bill of Material.

**27" x 36" PPC DECK BEAM**  
**STRUCTURE NO. 058-9201**

PPC DECK BEAM (SPANS 1 AND 3)			
Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	Sheet No.
Revisions	Drawn BKN		2
	Checked KWB		of 13
	Approved KWB		URS Job No. 36432943
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		

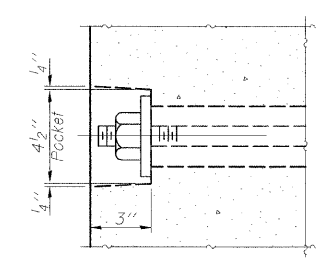
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-939	10-P4000-00-BR	MACON	21	11
FED. ROAD DIST. NO.		ILLINOIS PROJECT:		

CONTRACT NO. 95660

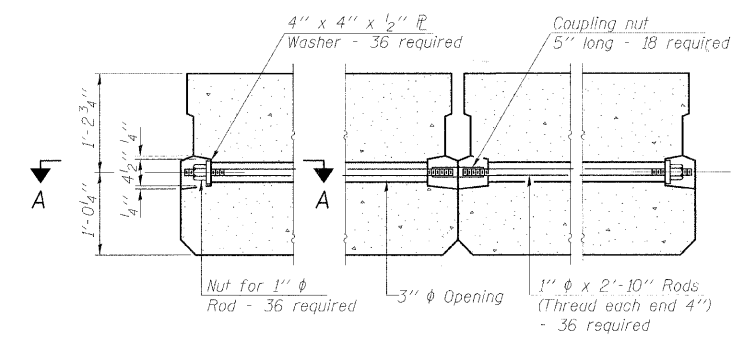


**FABRIC BEARING PAD**  
(Interior)      **FABRIC BEARING PAD**  
(Exterior)

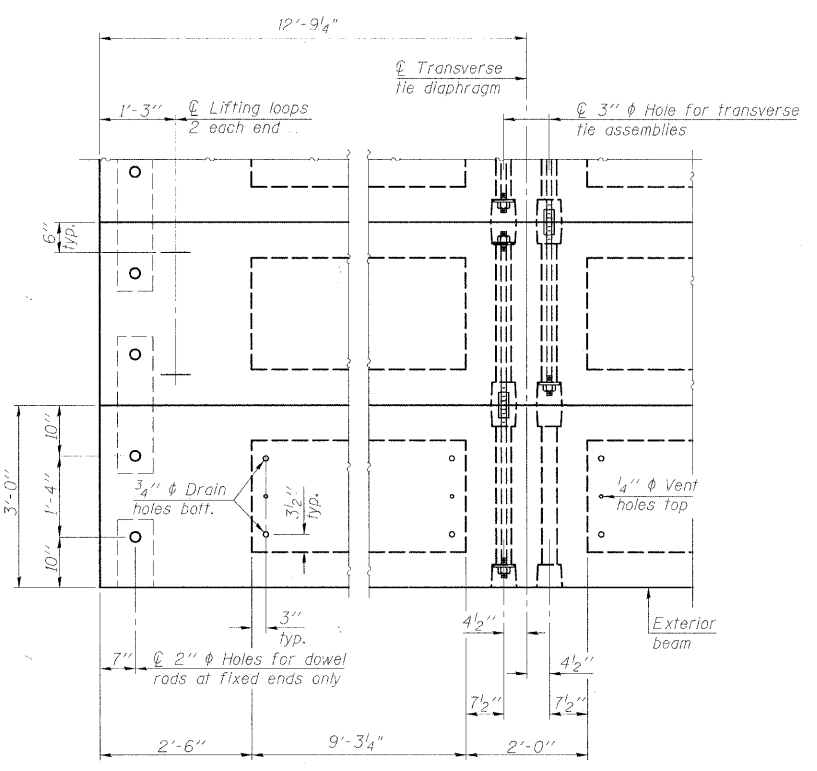
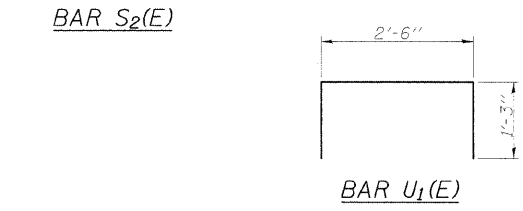
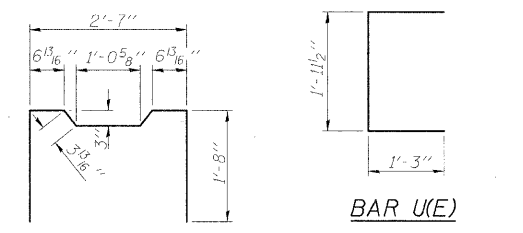
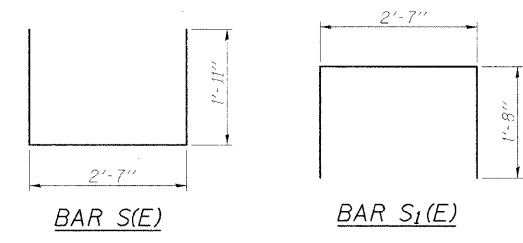
**FIXED**  
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



**SECTION A-A**

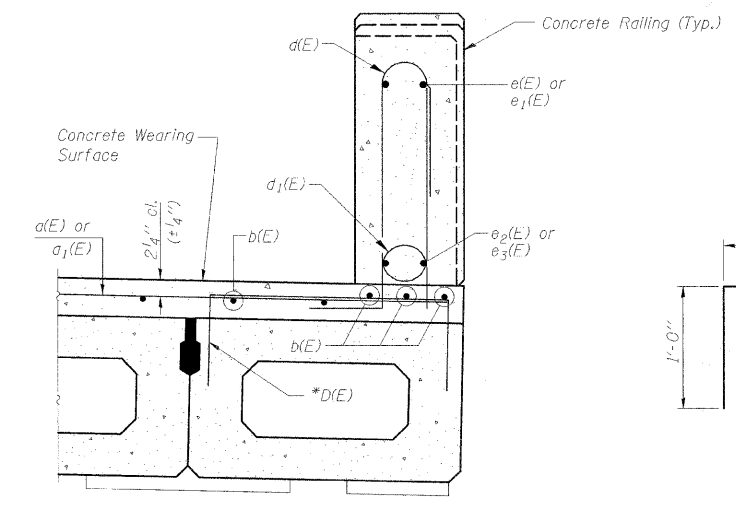


**TYPICAL TRANSVERSE TIE ASSEMBLY**  
(Hardware quantities listed include both spans)



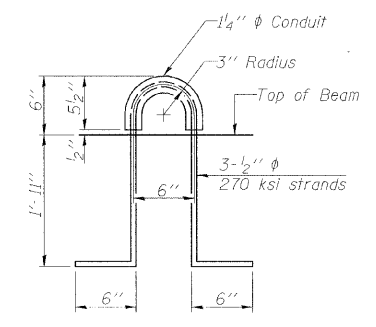
**PLAN VIEW**

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



**SECTION THRU CONCRETE RAILING**

\* Place #4 D(E) bars at 9" cts. in fascia beams. D(E) bar included in cast of beam.



**LIFTING LOOP DETAIL**

**BILL OF MATERIAL**

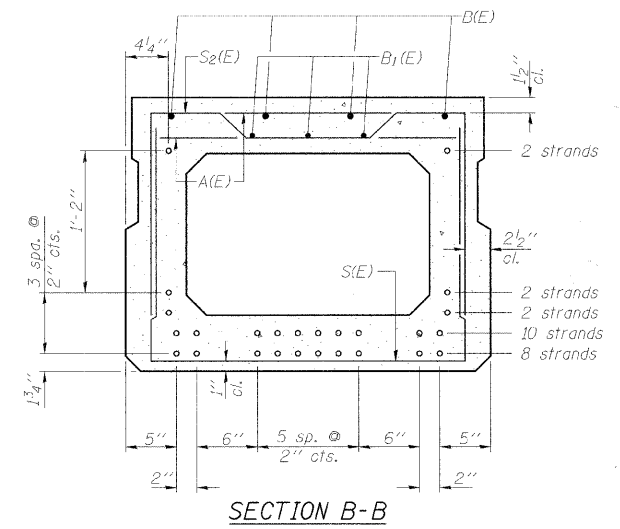
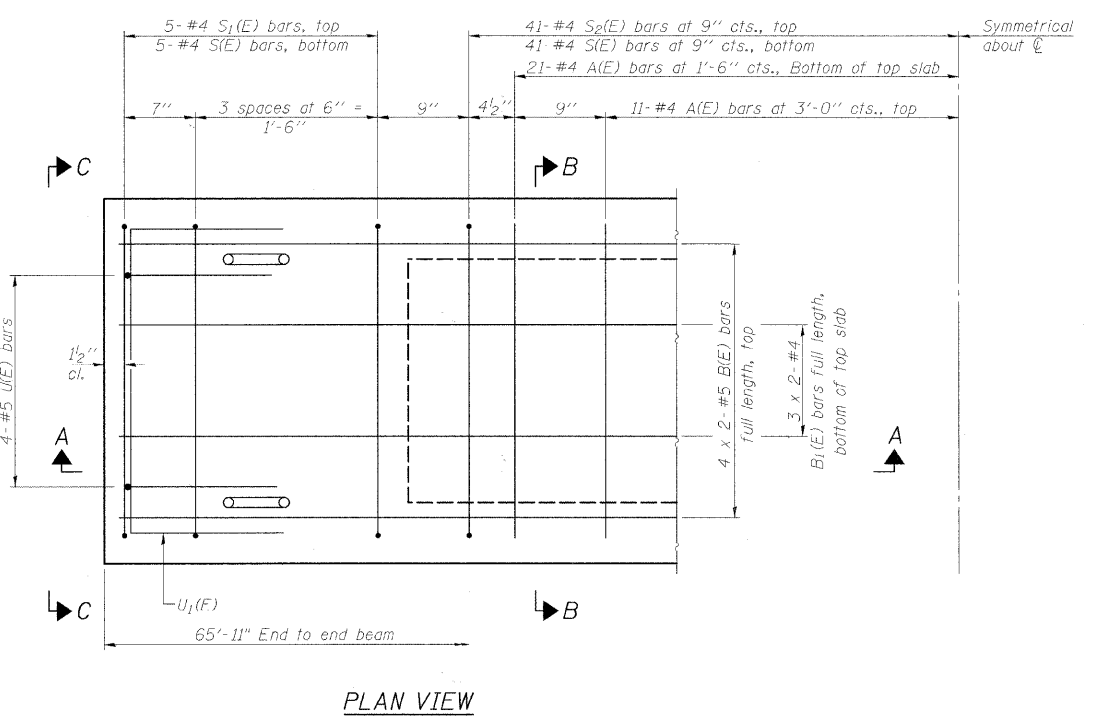
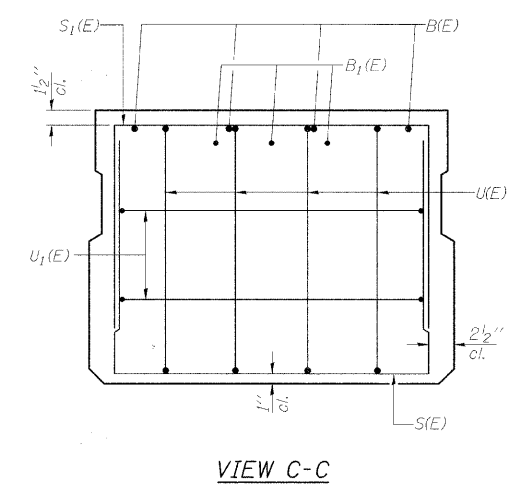
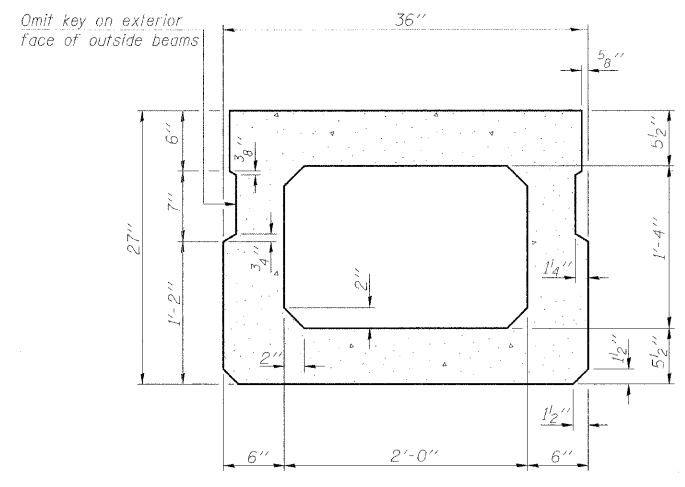
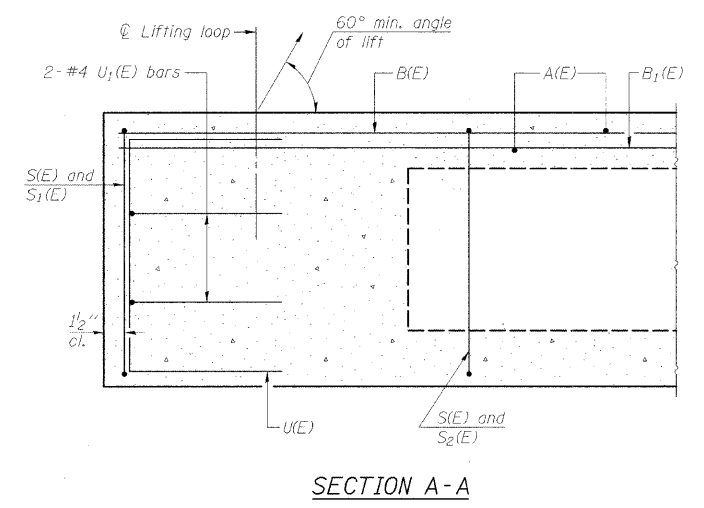
Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1532.5
-------------------------------------------------	---------	--------

**27" x 36" PPC DECK BEAM DETAILS  
STRUCTURE NO. 058-9201**

**NOTES**

Pressing 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" phi 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" phi 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.

PPC DECK BEAM DETAILS (SPANS 1 AND 3)			Sheet No.
Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	3
Revisions	Drawn BKN		
	Checked KWB		
	Approved KWB		
Prepared by:	<b>URS</b>		
345 East Ash Avenue Decatur, IL 62526		URS Job No. 36432943	of 13



**BAR LIST**  
**ONE BEAM ONLY**  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	62	#4	2'-7"	—
B(E)	8	#5	34'-1"	—
B1(E)	6	#4	33'-10"	—
S(E)	91	#4	6'-5"	—
S1(E)	10	#4	5'-11"	□
S2(E)	81	#4	6'-2"	□
U(E)	8	#5	4'-6"	□
U1(E)	4	#4	5'-0"	□

Notes:  
See sheet 5 of 13 for additional details and Bill of Material.  
Bars indicated thus 3 x 2-#4 etc. indicates 3 lines of bars with 2 lengths per line.

**27" x 36" PPC DECK BEAM**  
**STRUCTURE NO. 058-9201**

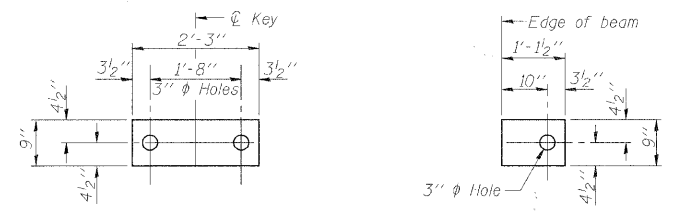
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

**MINIMUM BAR LAP**  
#4 bar = 2'-0"  
#5 bar = 2'-6"

PPC DECK BEAM (SPAN 2)			Sheet No.
Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	<b>4</b>
Revisions	Drawn BKN		
	Checked KWB		
	Approved KWB		
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526	URS Job No.	36432943

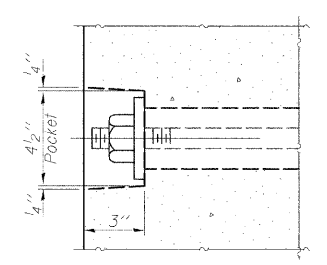
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-939	10-P4000-00-BR	MACON	21	13
FED. ROAD DIST. NO.		ILLINOIS PROJECT:		

CONTRACT NO. 95660

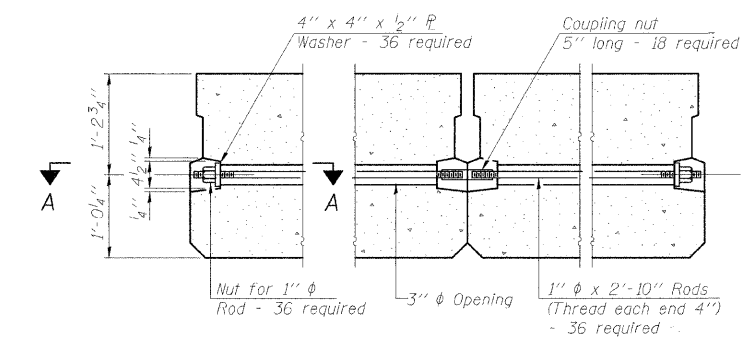


**FABRIC BEARING PAD**  
(Interior) **FIXED**  
**FABRIC BEARING PAD**  
(Exterior)

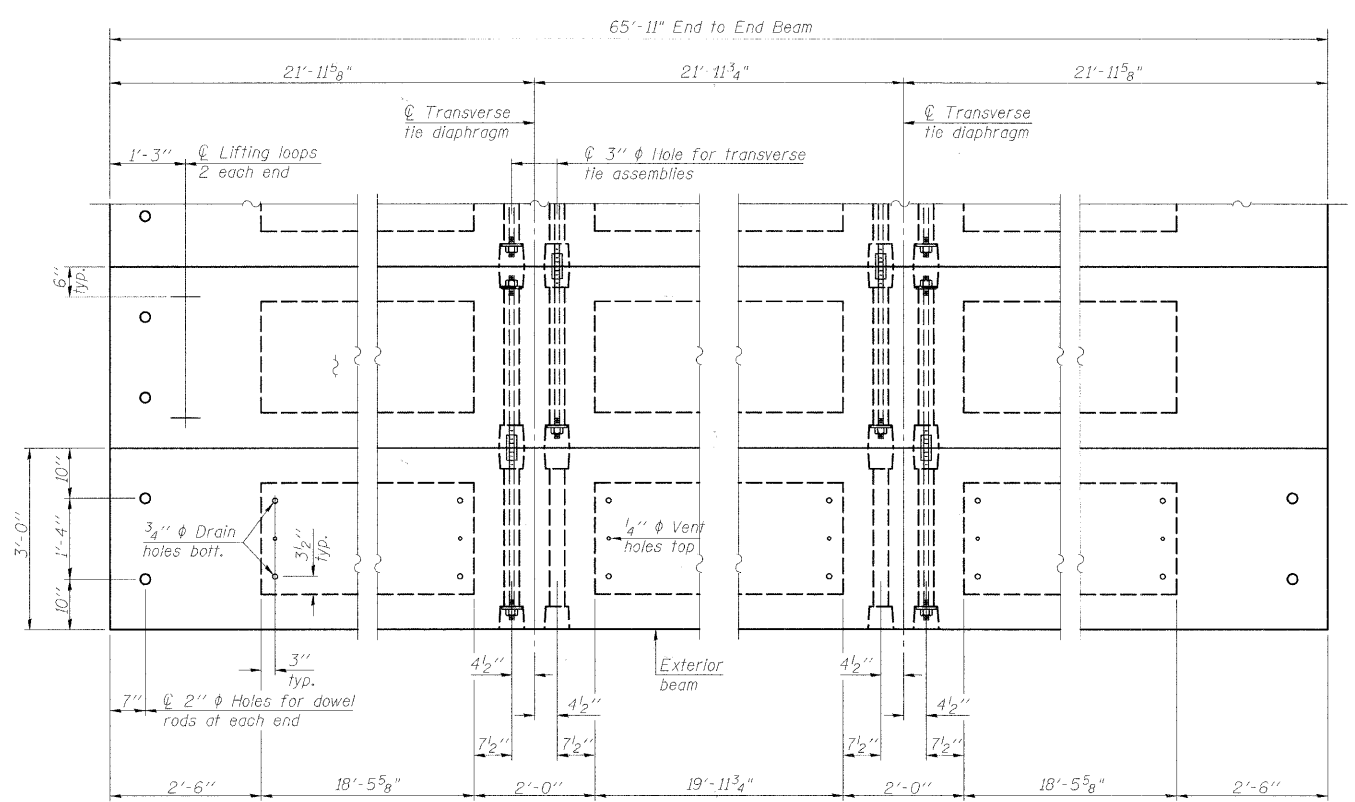
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



**SECTION A-A**



**TYPICAL TRANSVERSE TIE ASSEMBLY**

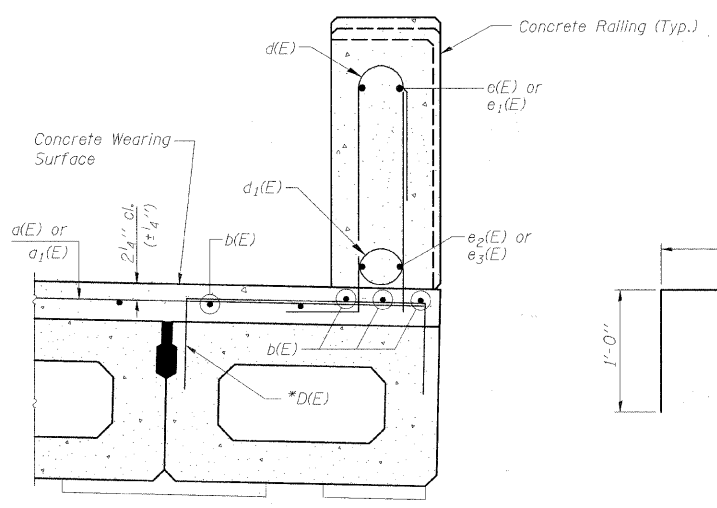
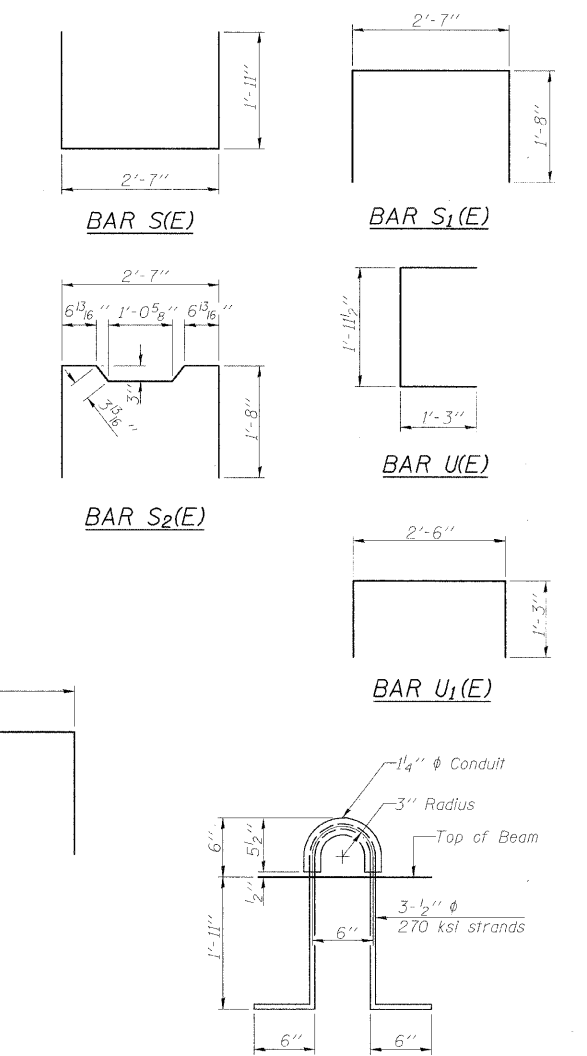


**PLAN VIEW**

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

**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" 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.



**SECTION THRU CONCRETE RAILING**

\* Place #4 D(E) bars at 9" cts. in fascia beams. D(E) bar included in cost of beam.

**LIFTING LOOP DETAIL**

**BILL OF MATERIAL**

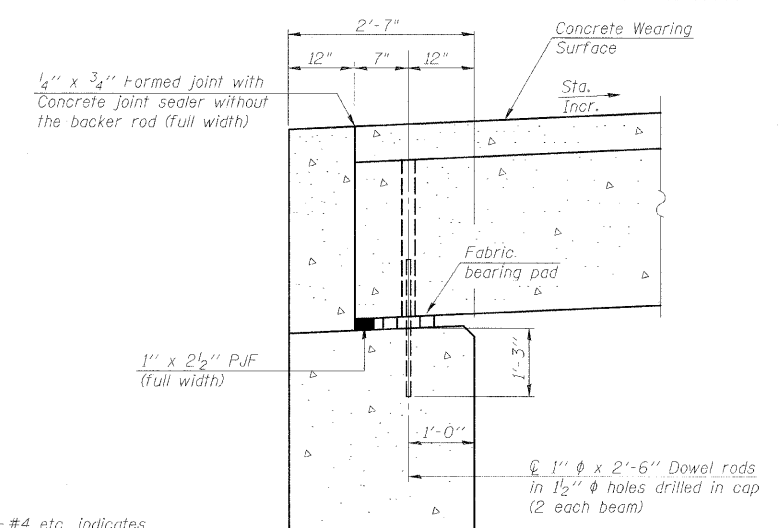
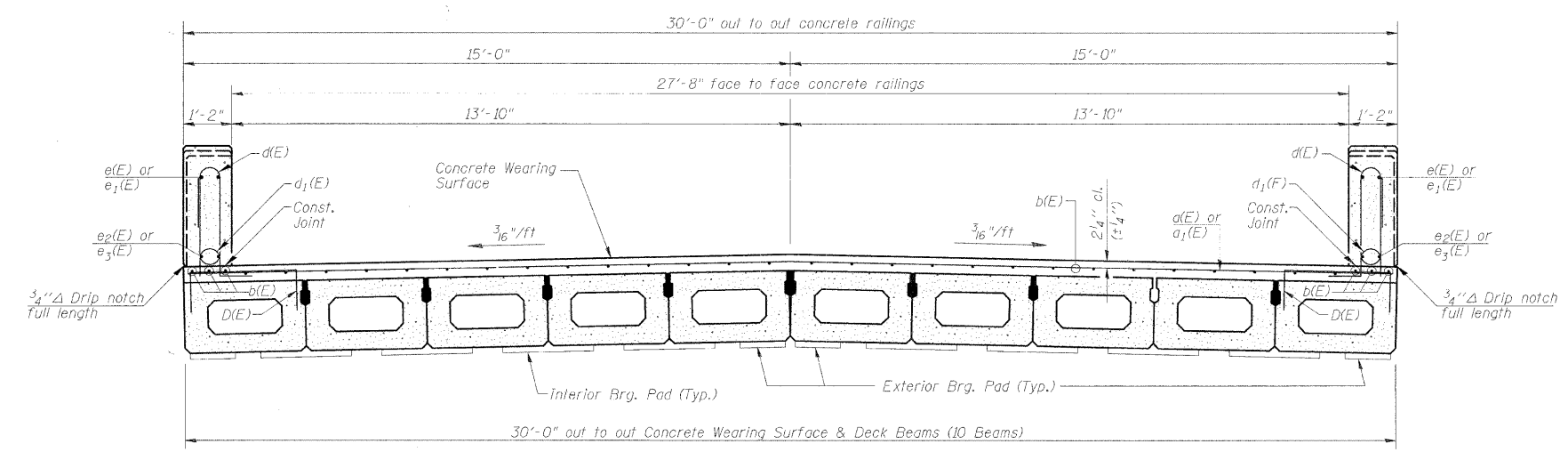
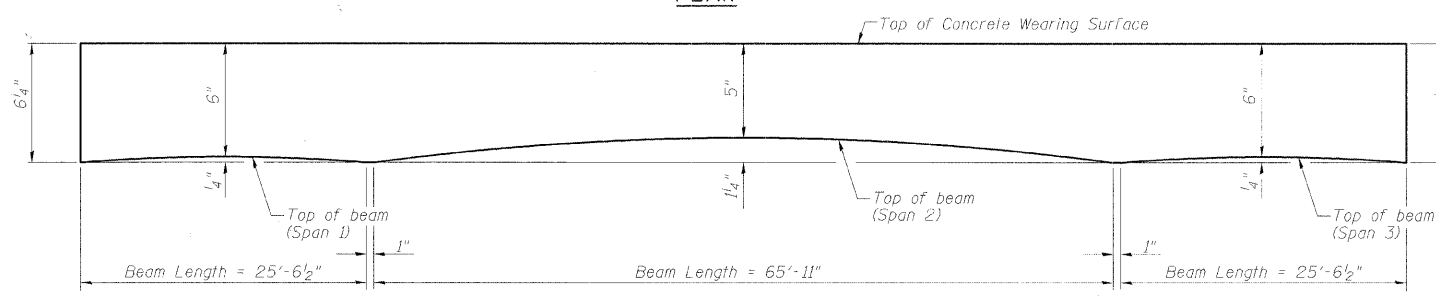
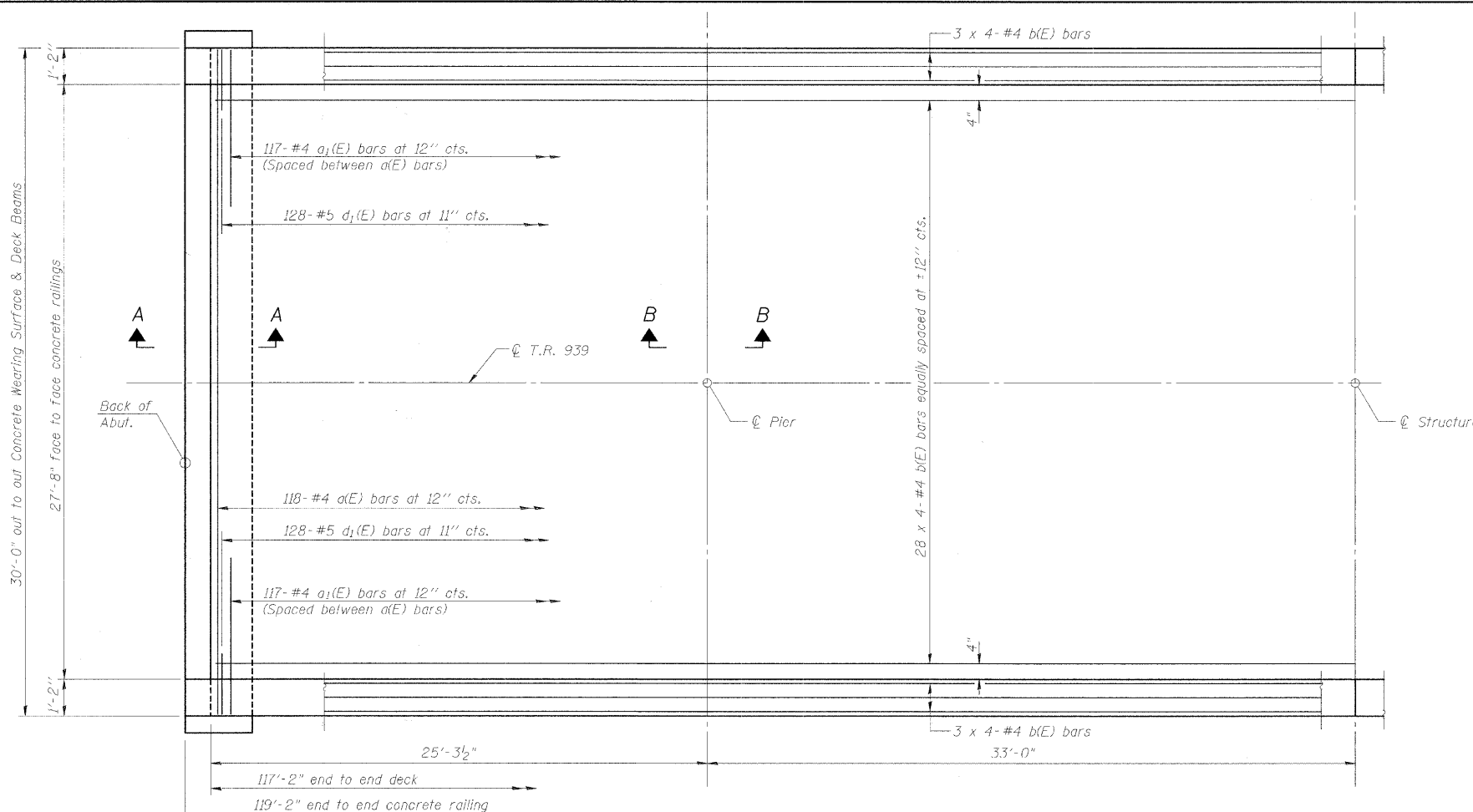
Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1977.5
-------------------------------------------------	---------	--------

**27" x 36" PPC DECK BEAM DETAILS  
STRUCTURE NO. 058-9201**

**PPC DECK BEAM DETAILS (SPAN 2)**

Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	Sheet No.
Revisions	Drawn BKN		<b>5</b>
	Checked KWB		
	Approved KWB		
Prepared by:	<b>URS</b>		

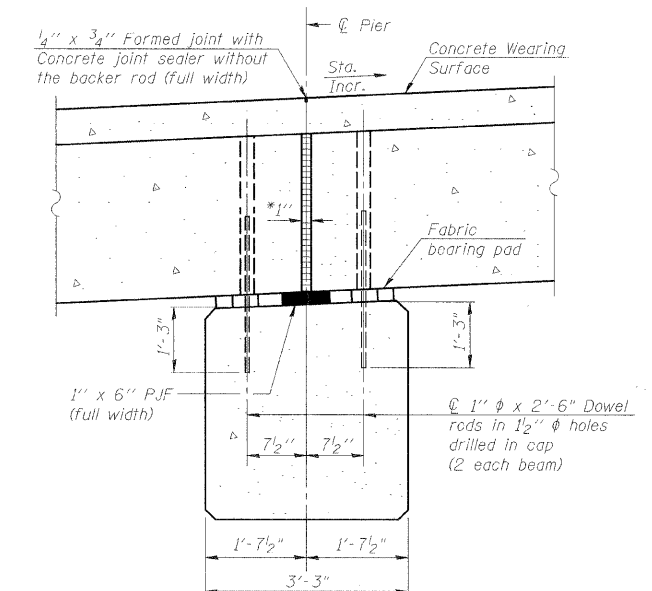
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-939	10-P4000-00-BR	MACON	21	14
FED. ROAD DIST. NO.		ILLINOIS PROJECT:	CONTRACT NO. 95660	



**NOTES**  
 Bars indicated thus 28 x 4-#4 etc. indicates 28 lines of bars with 4 lengths per line.

**MINIMUM BAR LAP**  
 #4 bar = 2'-7"

**Notes:**  
 All concrete wearing surfaces shall be placed prior to casting the backfill. See sheet 3 & 5 of 13 for fabric bearing pad details.



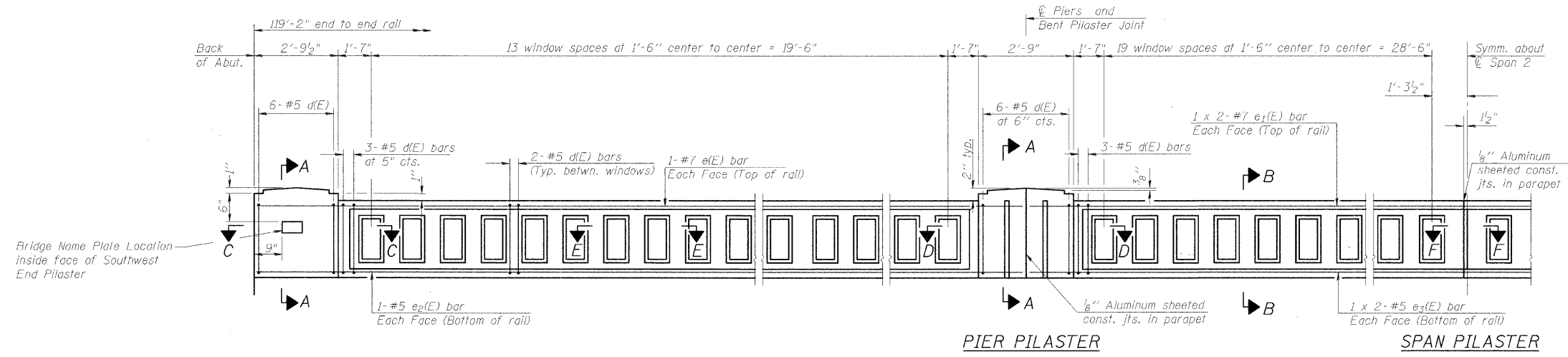
\*1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

**SUPERSTRUCTURE**  
**STRUCTURE NO. 058-9201**

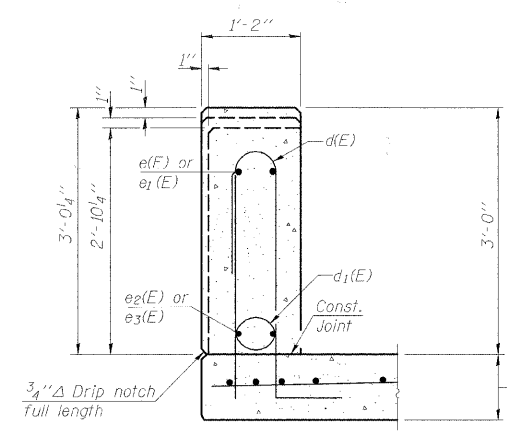
<b>SUPERSTRUCTURE</b>			Sheet No.
Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	<b>6</b>
Revisions	Drawn BKN		
	Checked KWB		
	Approved KWB		
Prepared by:	<b>URS</b>		
345 East Ash Avenue Decatur, IL 62526		URS Job No. 36432943	of 13

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 939	10-P4000-00-BR	MACON	21	15
FED. ROAD DIST. NO.	ILLINOIS PROJECT:			

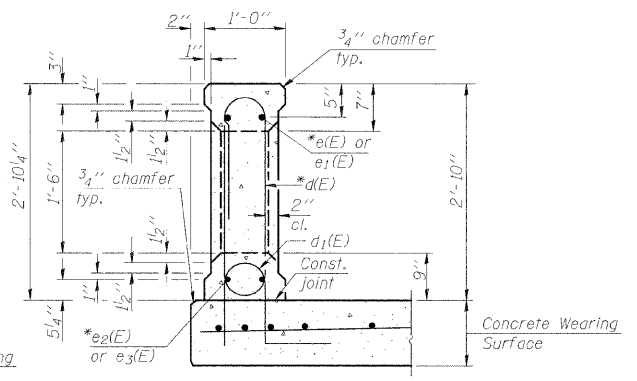
CONTRACT NO. 95660



INSIDE ELEVATION OF RAIL

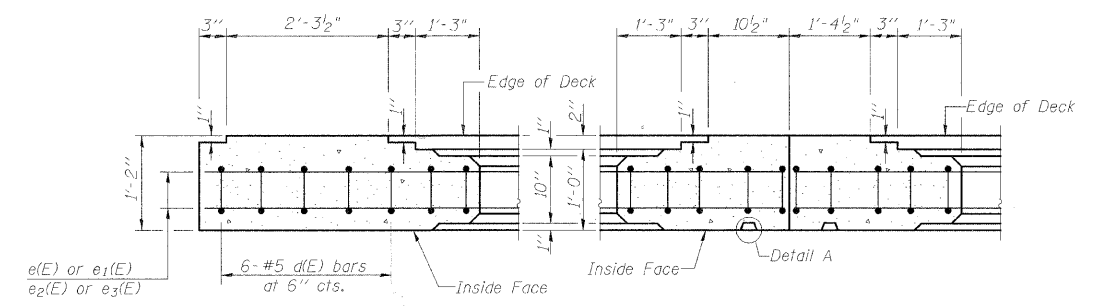


SECTION A-A  
THRU POST ON SLAB BRIDGE



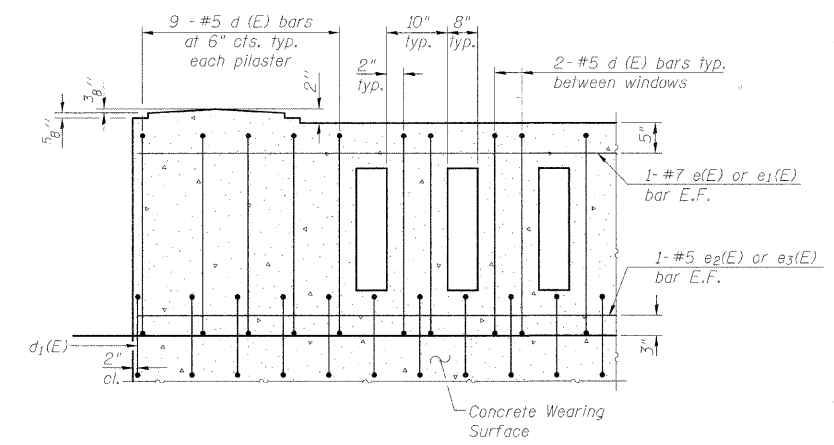
SECTION B-B  
THRU WINDOW ON SLAB BRIDGE

\*Bars e(E) thru e3(E) and d(E) are included in the cost of Concrete Bridge Railing.



SECTION C-C

SECTION D-D



TYPICAL REINFORCEMENT PLACEMENT  
(Inside Face)

BAR LIST

Bar	No.	Size	Length	Shape
d(E)	348	#5	7'-7"	U
e(E)	8	#7	26'-3"	—
e1(E)	16	#7	18'-5"	—
e2(E)	8	#5	26'-3"	—
e3(E)	16	#5	17'-8"	—

(Sheet 1 of 2)

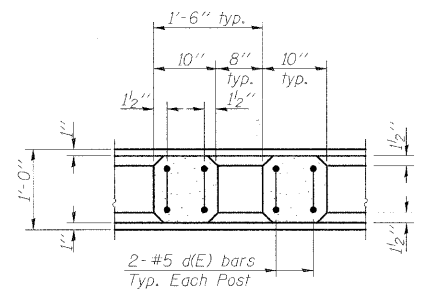
CONCRETE BRIDGE RAILING  
STRUCTURE NO. 058-9201

Notes:  
All concrete for railing wall shall be Class BS according to Article 1020.04 of the Standard Specifications. Surface of railing shall receive a rubbed finish according to Article 503.15(b) of the Standard Specifications.  
All parts of the railing including concrete and reinforcing will be paid for at the contract unit price per Foot for Concrete Bridge Railing.  
Holes and recesses must be formed or cored. Drilling is not permitted.  
Aluminum sheets shall be according to ASTM B209 alloy 3003-H14.

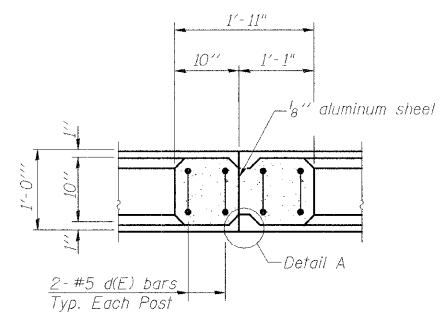
CONCRETE BRIDGE RAILING				Sheet No.
Date	Designed	DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	7 of 13
Revisors	Drawn	BKN		
	Checked	KWB		
	Approved	KWB		
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526			URS Job No. 36432943

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 939	10-P4000-00-BR	MACON	21	16
FED. ROAD DIST. NO.	ILLINOIS PROJECT:			

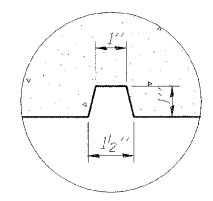
CONTRACT NO. 95660



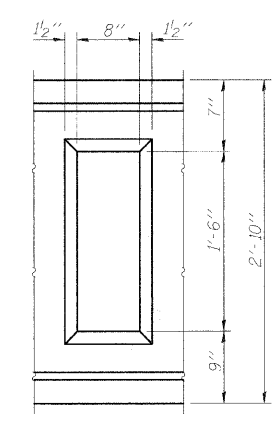
**SECTION E-E**



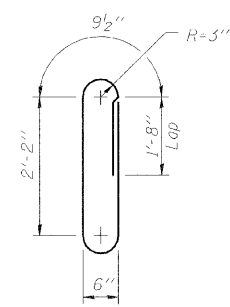
**SECTION F-F**  
(For span greater than 50'-0")



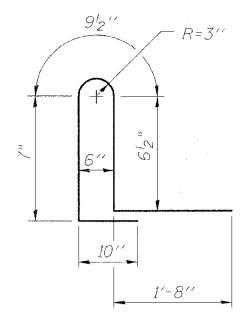
**DETAIL A**



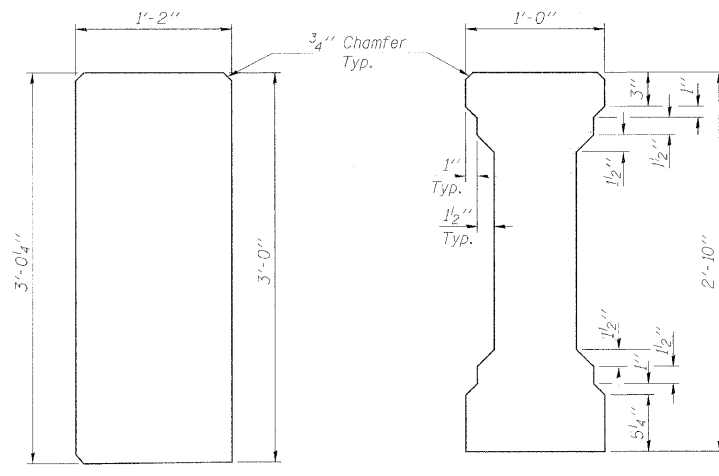
**WINDOW DETAIL**



**BAR d(E)**



**BAR d1(E)**



**PIER PILASTER JOINT**

**SPAN PILASTER JOINT**

**ALUMINUM JOINT DETAILS**

**MIN. BAR LAP**  
#5 bars = 2'-6"  
#7 bars = 3'-11"

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	118	#4	29'-8"	—
d1(E)	234	#4	6'-0"	—
b(E)	136	#4	31'-2"	—
d1(E)	256	#5	4'-5"	⌋
Reinforcement Bars, Epoxy Coated		Pound		7290
Concrete Wearing Surface		Sq. Yds.		391
Concrete Bridge Railing		Foot		238

Bars indicated thus 1 x 15- #5 etc. indicates 1 line of bars with 15 lengths per line.

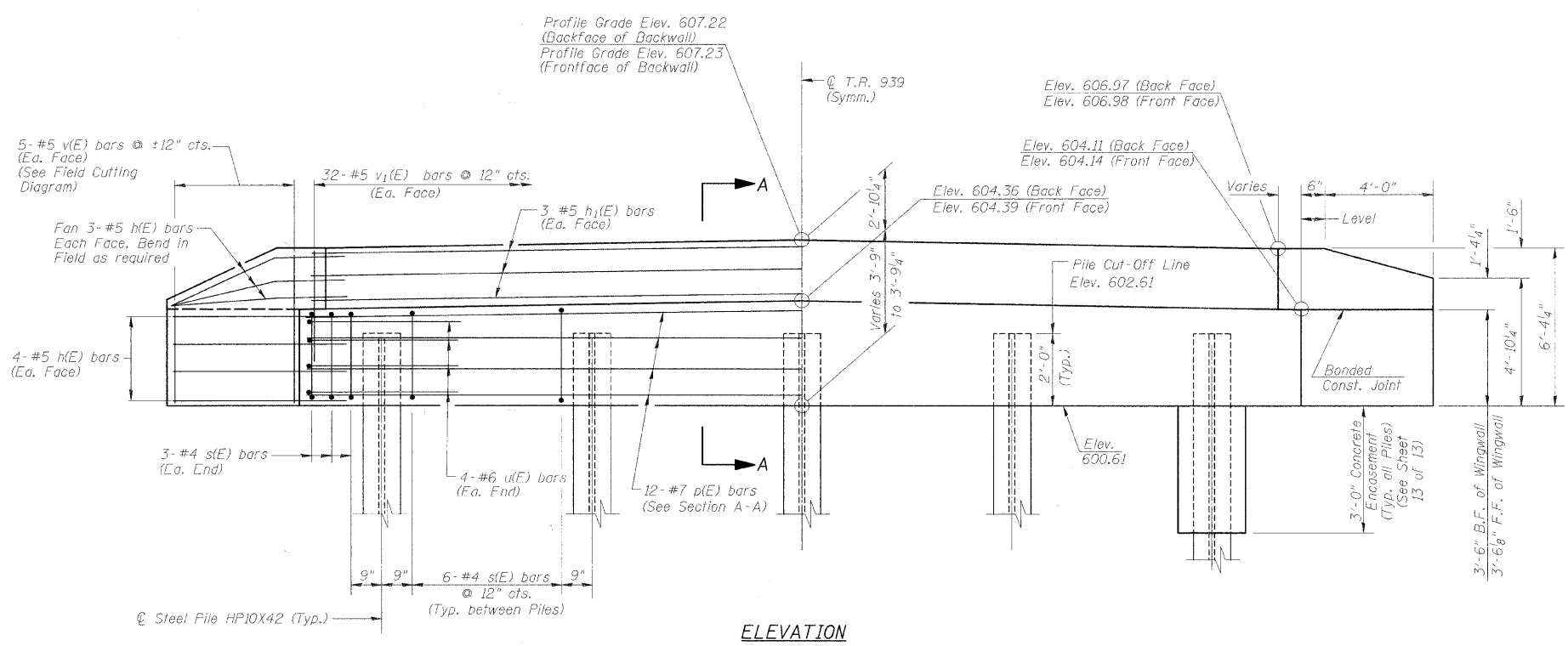
(Sheet 2 of 2)  
**CONCRETE BRIDGE RAILING  
STRUCTURE NO. 058-9201**

CONCRETE BRIDGE RAILING			Sheet No.
Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	<b>8</b> of 13
Revisions	Drawn BKN		
	Checked KWB		
	Approved KWB		
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		URS Job No. 36432943

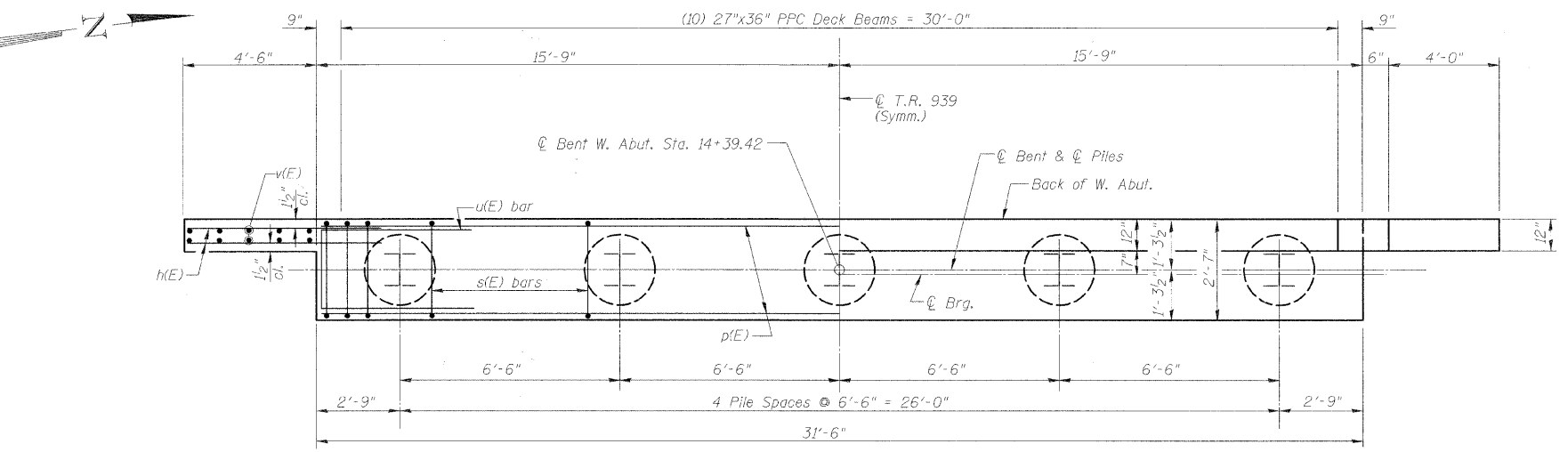


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 939	10-P4000-00-BR	MACON	21	17
FED. ROAD DIST. NO.	ILLINOIS	PROJECT:		

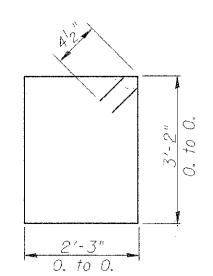
CONTRACT NO. 95660



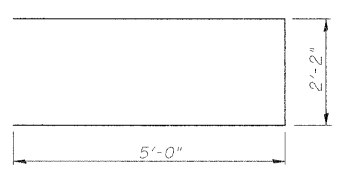
ELEVATION



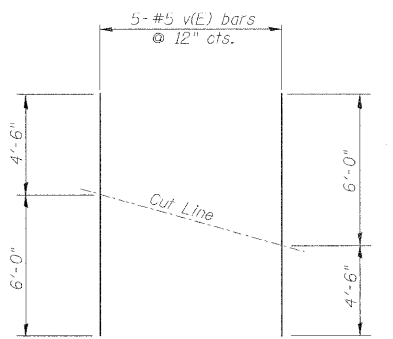
PLAN



BAR s(E)

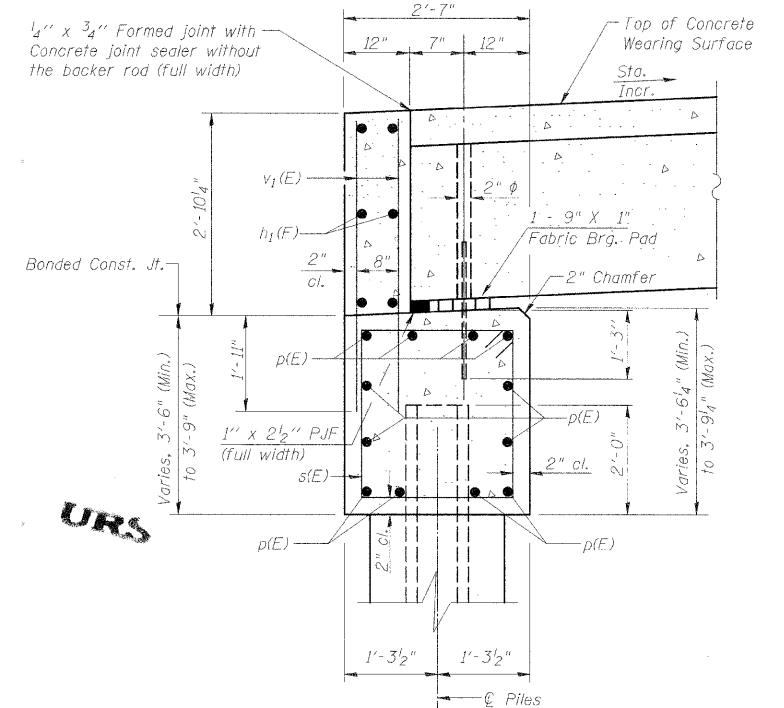


BAR u(E)



FIELD CUTTING DIAGRAM

Order bars full length. Cut to fit as shown and use remainder of bars in other face.



SECTION A-A

NOTES

- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beams and concrete wearing surface.
- 1" dia. x 2'-6" dowel rods in 1/2" dia. holes drilled in cap (2 ea. beam). Dowel rods to be grouted after beams are in place and allowed to cure (min. 24 hrs.) prior to grouting the shear keys. The grout shall be an approved non-shrink grout.
- Reinforcement bars designated (C) shall be epoxy coated.
- Reinforcement bars shall conform to the requirements of A.S.T.M. A706 Grade 60. See Special Provisions.
- Space reinforcement in cap to miss dowel rods.

DESIGN STRESSES

$f'_c = 3,500 \text{ psi}$   
 $f_y = 60,000 \text{ psi}$

PILE DATA

Type & Size: HP10x42  
 Nominal Required Bearing: 335 Kips  
 Factored Resistance Available: 184 Kips (Refusal)  
 Est. Length: 21'-0"  
 No. Required: 5

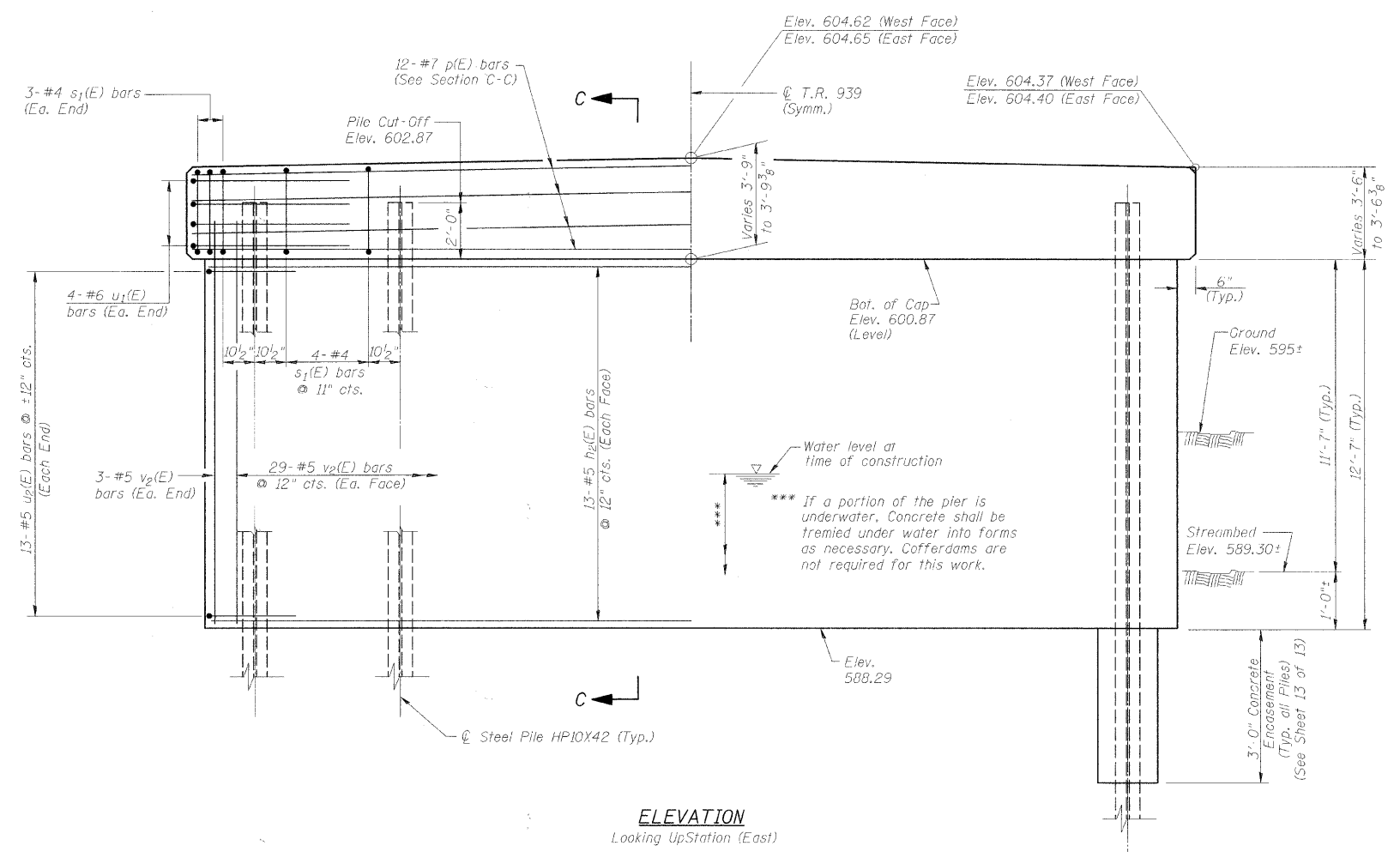
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#5	6'-9"	—
h1(E)	6	#5	31'-2"	—
p(E)	12	#7	31'-2"	—
s(E)	30	#4	11'-7"	□
u(E)	8	#6	12'-2"	—
v(E)	10	#5	10'-6"	—
v1(E)	64	#5	4'-8"	—
Concrete Structures			Cu. Yd.	16.2
Concrete Encasement			Cu. Yd.	1.8
Reinforcement Bars, Epoxy Coated			Pound	1960
Furnishing Steel Piles HP10x42			Foot	105
Driving Piles			Foot	105

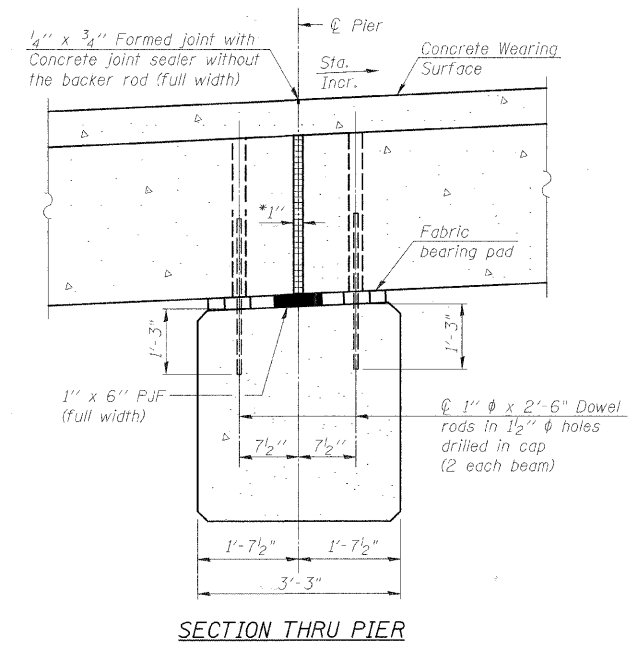
WEST ABUTMENT			
Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	Sheet No.
Revisions	Drawn BKN		9
	Checked KWB		of 13
	Approved KWB		URS Job No. 36432943
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		



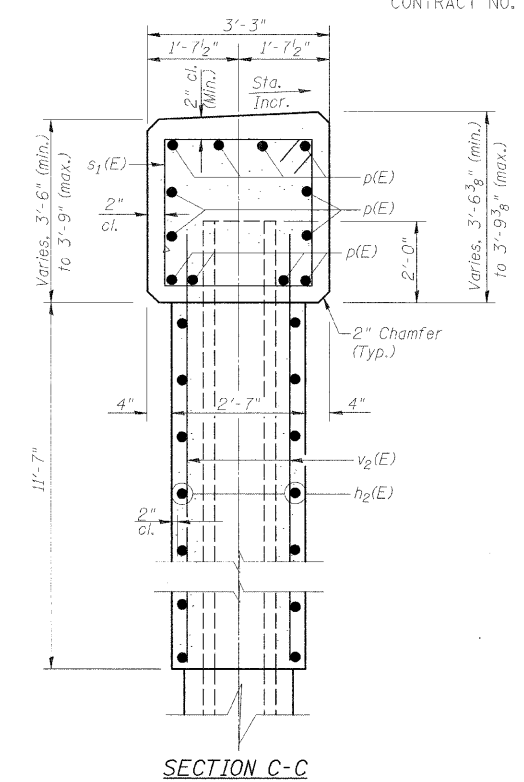
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 939	IO-P4000-00-BR	MACON	21	19
FED. ROAD DIST. NO.	ILLINOIS PROJECT:	CONTRACT NO. 95660		



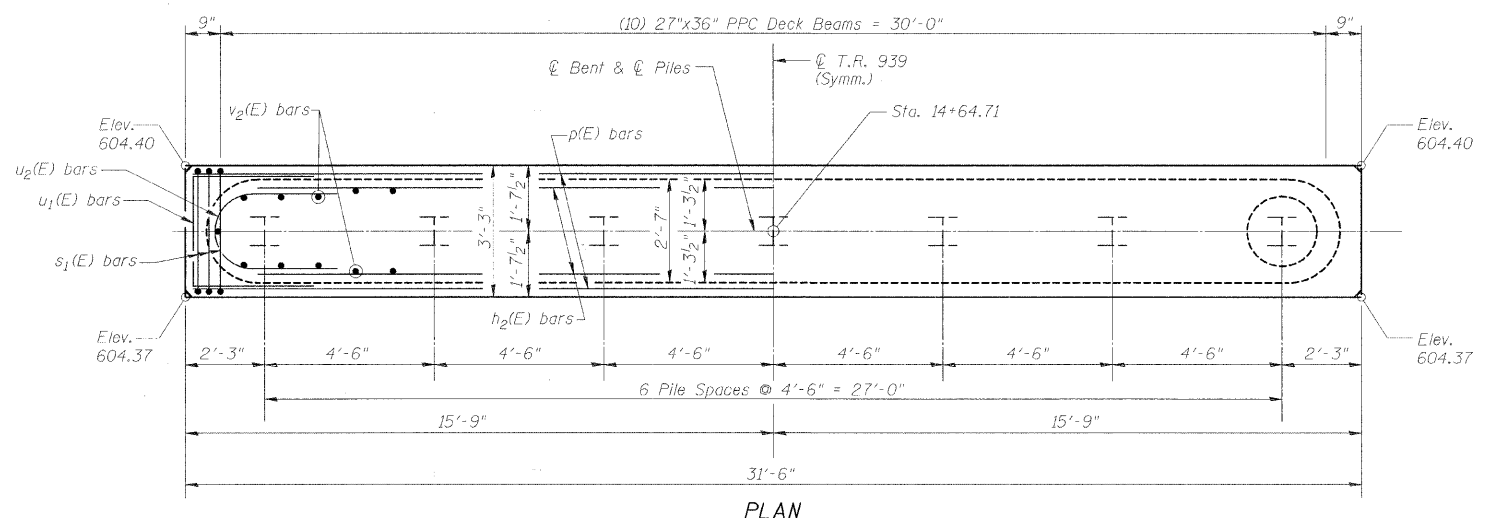
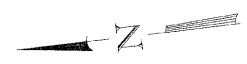
**ELEVATION**  
Looking Up Station (East)



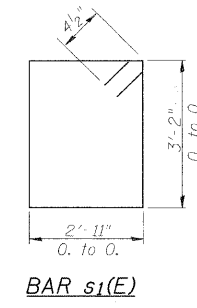
**SECTION THRU PIER**



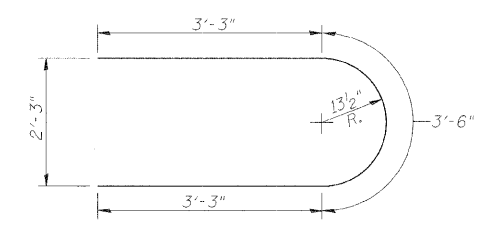
**SECTION C-C**



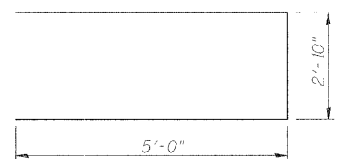
**PLAN**



**BAR s1(E)**



**BAR u2(E)**



**BAR u1(E)**

**NOTES**

- 1" dia. x 2'-6" dowel rods in 1/2" dia. holes drilled in cap (2 ea. beam). Dowel rods to be grouted after beams are in place and allowed to cure (min. 24 hrs.) prior to grouting the shear keys. The grout shall be an approved non-shrink grout.
- Reinforcement bars designated (E) shall be epoxy coated.
- Reinforcement bars shall conform to the requirements of A.S.T.M. A706 Grade 60. See Special Provisions.
- Space reinforcement in cap to miss dowel rods.

**DESIGN STRESSES**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi

**PILE DATA**

Type & Size: HP10x42  
Nominal Required Bearing: 335 Kips  
Factored Resistance Available: 181 Kips (Refusal)  
Est. Length: 22'-0"  
No. Required: 7

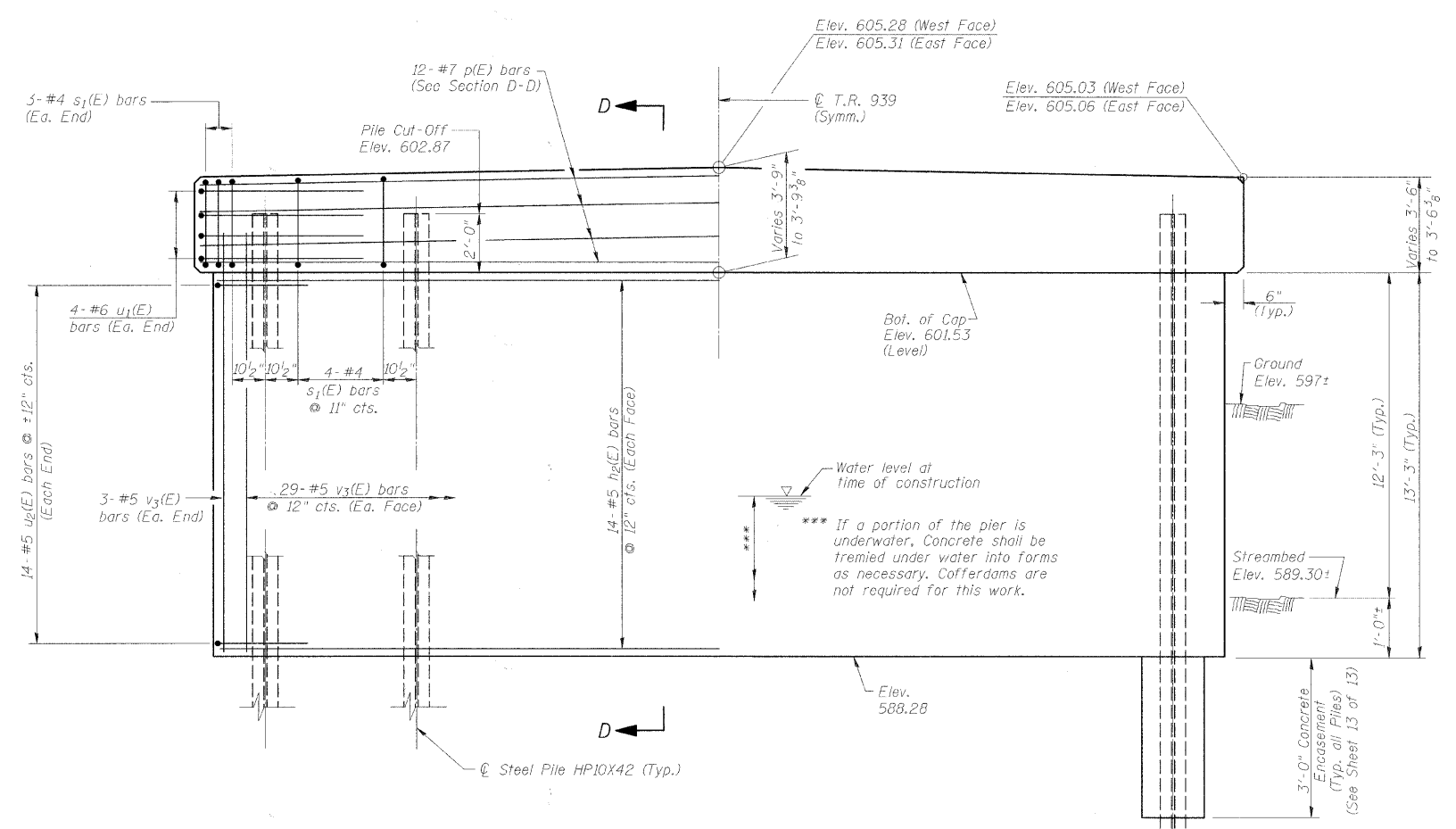
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h2(E)	26	#5	27'-11"	—
p(E)	12	#7	31'-2"	—
s1(E)	30	#4	12'-11"	□
u1(E)	8	#6	12'-10"	—
u2(E)	26	#5	10'-0"	—
v2(E)	64	#5	14'-4"	—
Concrete Structures			Cu. Yd.	52.8
Concrete Encasement			Cu. Yd.	2.4
Reinforcement Bars, Epoxy Coated			Pound	3170
Furnishing Steel Piles HP10x42			Foot	154
Driving Steel Piles			Foot	154
Underwater Structure Excavation Protection - Location 1			Each	1

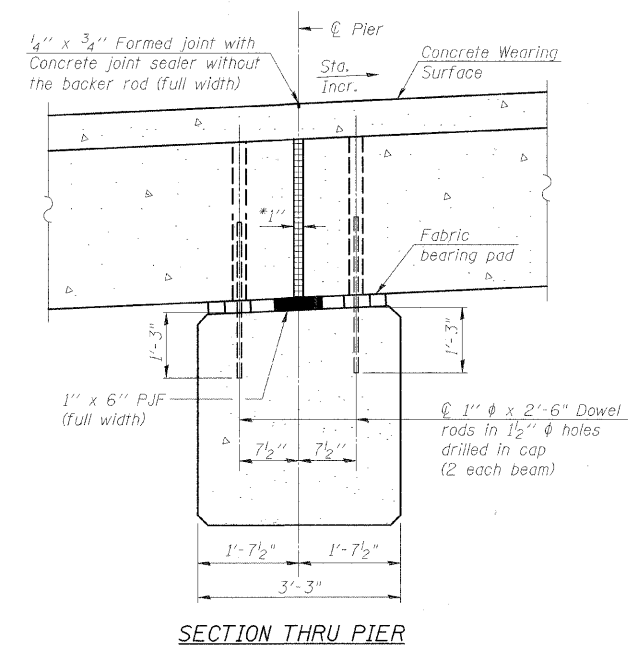
**PIER I**

Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION IO-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	Sheet No.
Revisions	Drawn BKN		11
	Checked KWB		of 13
	Approved KWB		URS Job No. 36432943
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 939	10-P4000-00-BR	MACON	21	20
FED. ROAD DIST. NO.	ILLINOIS PROJECT:	CONTRACT NO. 95660		



**ELEVATION**  
Looking Up Station (East)



**SECTION THRU PIER**

\* 1" joint shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam length.

**NOTES**

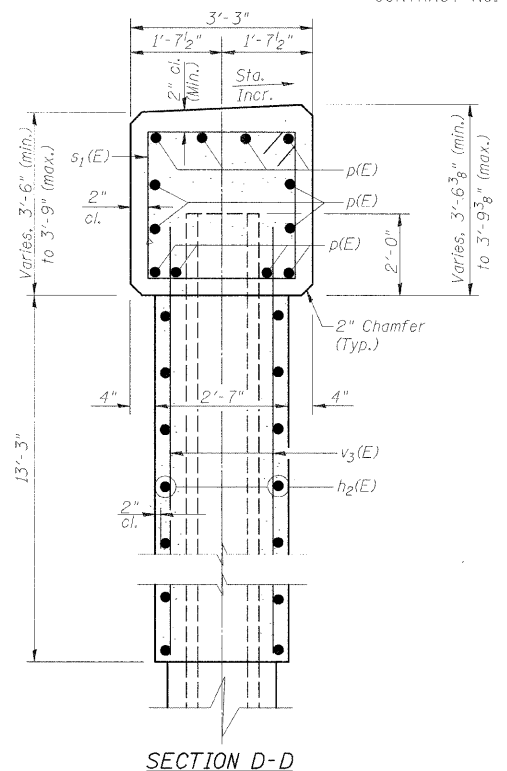
- 1" dia. x 2'-6" dowel rods in 1/2" dia. holes drilled in cap (2 ea. beam). Dowel rods to be grouted after beams are in place and allowed to cure (min. 24 hrs.) prior to grouting the shear keys. The grout shall be an approved non-shrink grout.
- Reinforcement bars designated (E) shall be epoxy coated.
- Reinforcement bars shall conform to the requirements of A.S.T.M. A706 Grade 60. See Special Provisions.
- Space reinforcement in cap to miss dowel rods.
- The Contractor shall drive test piles to 110 Percent of the Nominal Required Bearing indicated in the Pile Data information before ordering the remainder of the piles.

**DESIGN STRESSES**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi

**PILE DATA**

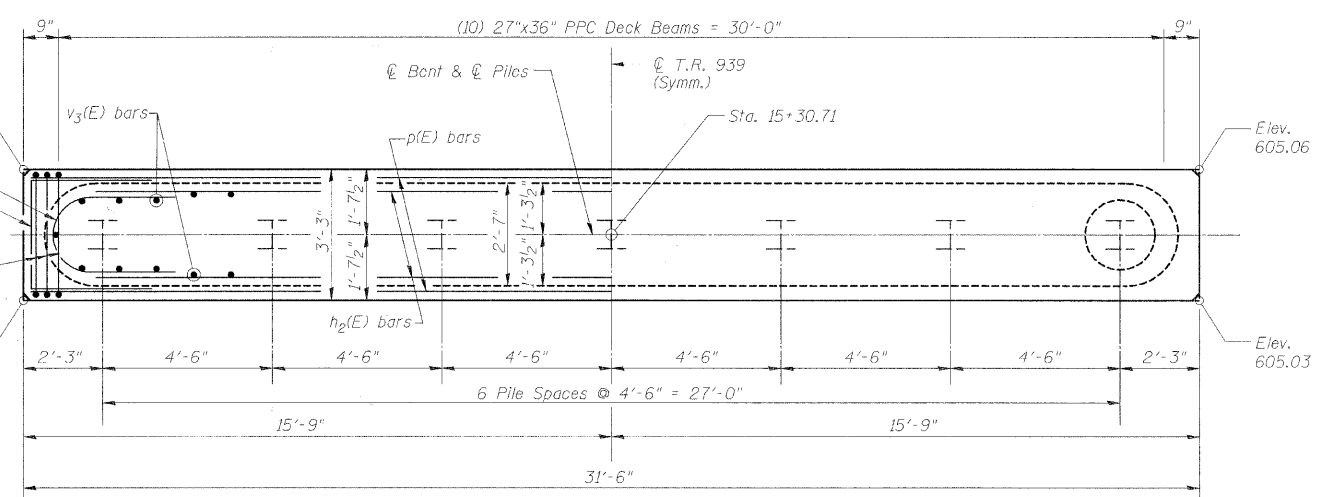
Type & Size: HPI0x42  
Nominal Required Bearing: 335 Kips  
Factored Resistance Available: 180 Kips (Refusal)  
Est. Length: 27'-0"  
No. Required: 6 Plus 1 Permanent Test Pile



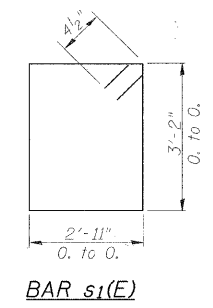
**SECTION D-D**

**BILL OF MATERIAL**

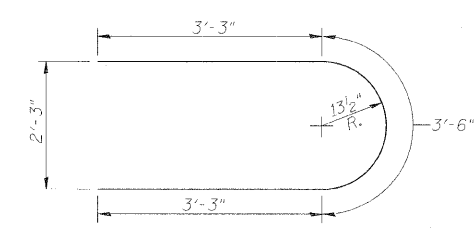
Bar	No.	Size	Length	Shape
h <sub>2</sub> (E)	28	#5	27'-11"	—
p(E)	12	#7	31'-2"	—
s <sub>1</sub> (E)	30	#4	12'-11"	□
u <sub>1</sub> (E)	8	#6	12'-10"	—
u <sub>2</sub> (E)	28	#5	10'-0"	—
v <sub>3</sub> (E)	64	#5	15'-0"	—
Concrete Structures		Cu. Yd.	54.9	
Concrete Encasement		Cu. Yd.	2.4	
Reinforcement Bars, Epoxy Coated		Pound	3290	
Furnishing Steel Piles HPI0x42		Foot	162	
Driving Steel Piles		Foot	162	
Test Pile Steel HPI0x42		Each	1	
Underwater Structure Excavation Protection - Location 2		Each	1	



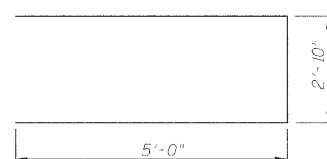
**PLAN**



**BAR s<sub>1</sub>(E)**



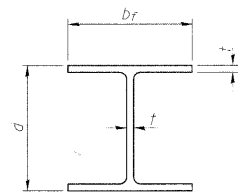
**BAR u<sub>2</sub>(E)**



**BAR u<sub>1</sub>(E)**

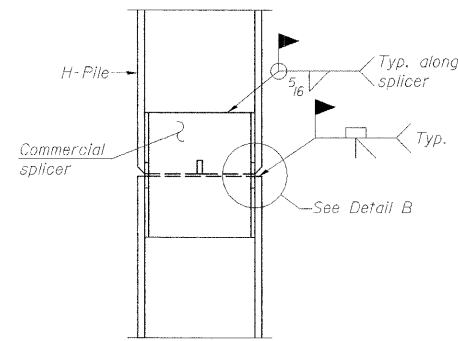
**PIER 2**

Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	Sheet No.
Revisions	Drawn BKN		<b>12</b>
	Checked KWB		
	Approved KWB		
Prepared by:	URS		

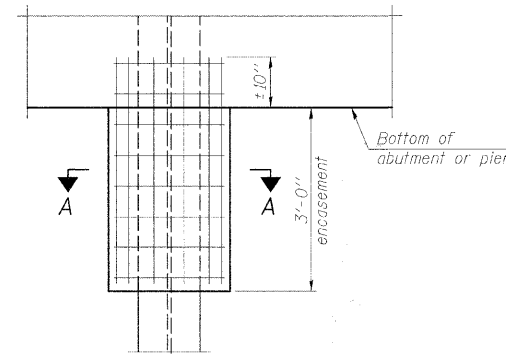


STEEL PILE TABLE

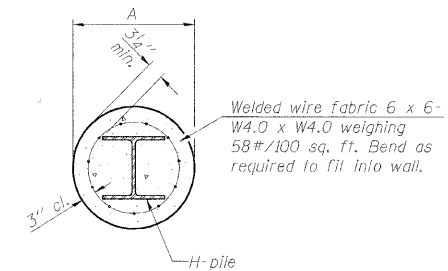
Designation	Depth d	Flange width b <sub>f</sub>	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"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



ELEVATION



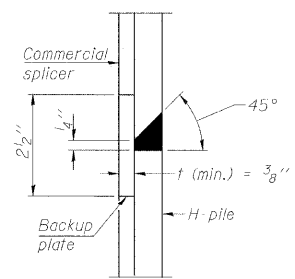
ELEVATION



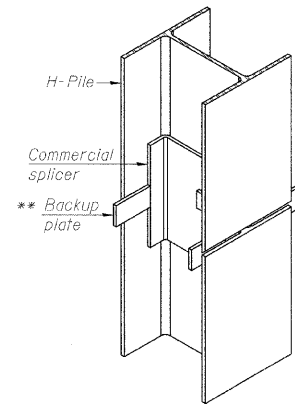
Note:  
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT

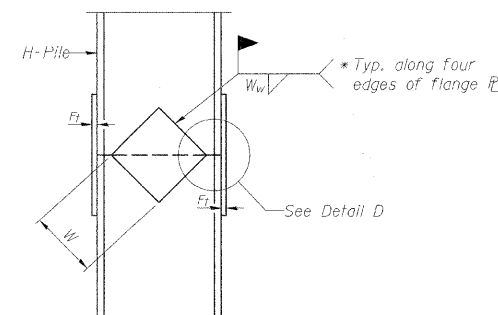


DETAIL "B"

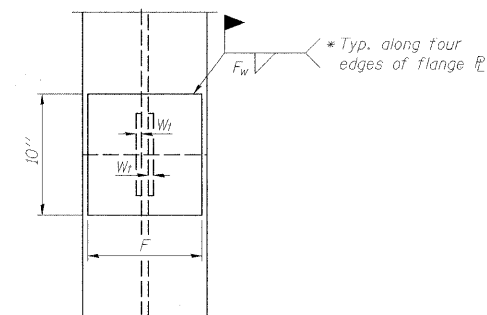


ISOMETRIC VIEW

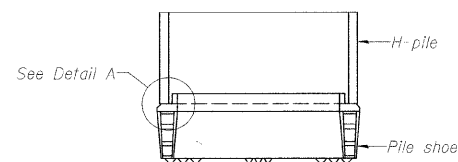
WELDED COMMERCIAL SPLICE



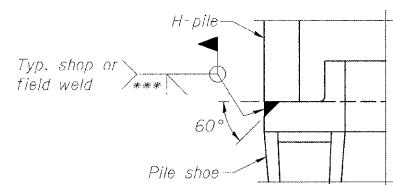
ELEVATION



END VIEW

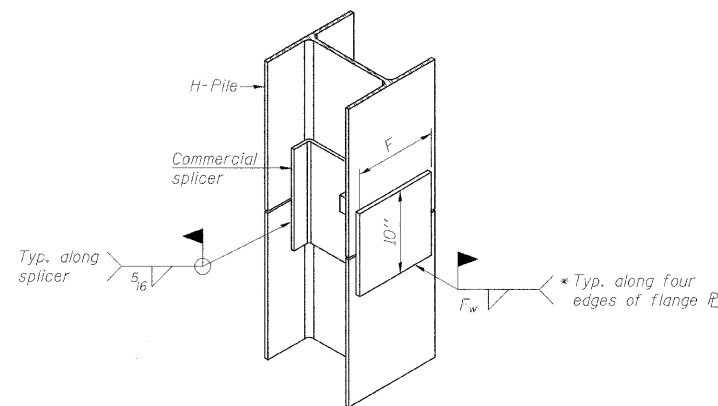


ELEVATION



DETAIL A

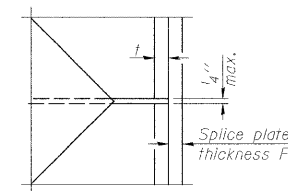
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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



DETAIL D

WELDED PLATE FIELD SPLICE

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

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

HP PILE DETAILS  
STRUCTURE NO. 058-9201

HP PILE DETAILS

Date	Designed DCS	TR-939 (PARK DRIVE) OVER STEVENS CREEK SECTION 10-P4000-00-BR CITY OF DECATUR PARK DISTRICT STA. 14+97.71 PROP. STR. NO. 058-9201	Sheet No.
Revisions	Drawn BKN		13
	Checked KWB		
	Approved KWB		
Prepared by:	URS		

345 East Ash Avenue  
Decatur, IL 62526

URS Job No.  
36432943