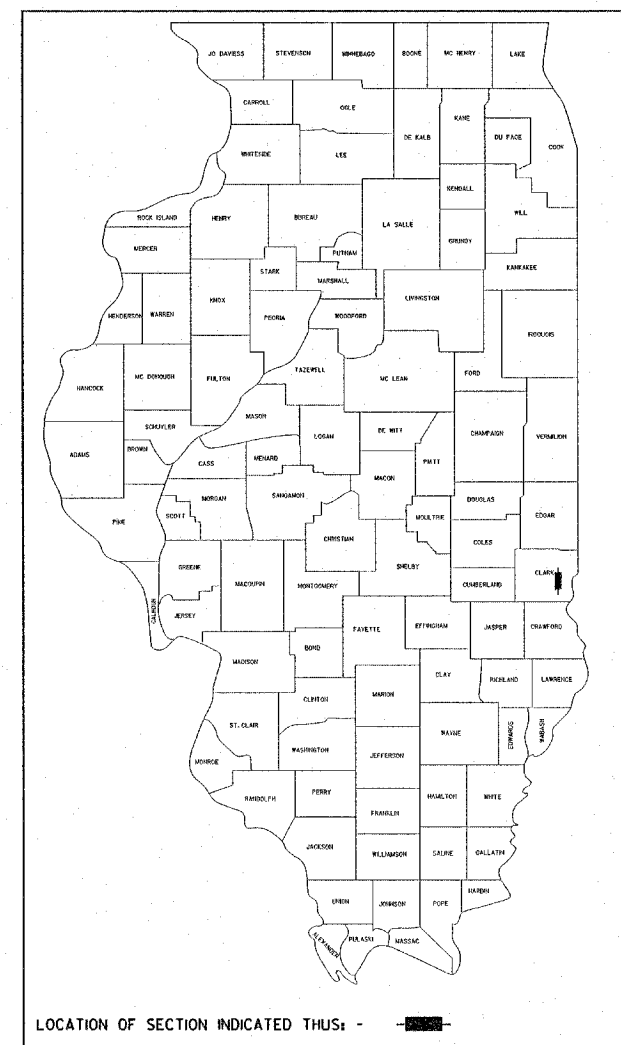


# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED SURFACE TRANSPORTATION PROGRAM – RURAL



### INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND TYPICAL CROSS SECTIONS
3. PLAN AND PROFILE
- 4.-7. STATION CROSS SECTIONS
- 8.-13. BRIDGE PLANS
14. BORINGS

### HIGHWAY STANDARDS:

- 515001-02 NAME PLATE FOR BRIDGES
- 630001-06 STEEL PLATE BEAM GUARDRAIL
- 631026-02 TRAFFIC BARRIER TERMINAL, TYPE 5 AND 5A
- 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-01 REFLECTOR MARKER AND MOUNTING DETAILS
- 702001-06 TRAFFIC CONTROL DEVICES
- BLR 21-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

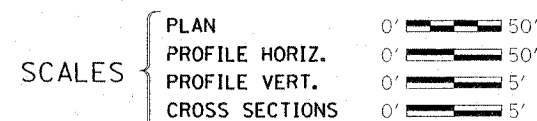
### UTILITIES

EDGAR ELECTRIC COOPERATIVE ASSOCIATION  
PO BOX 190  
PARIS, ILLINOIS 61944

VERIZON  
1312 EAST EMPIRE STREET  
PO BOX 2955  
BLOOMINGTON, ILLINOIS 61702-2955

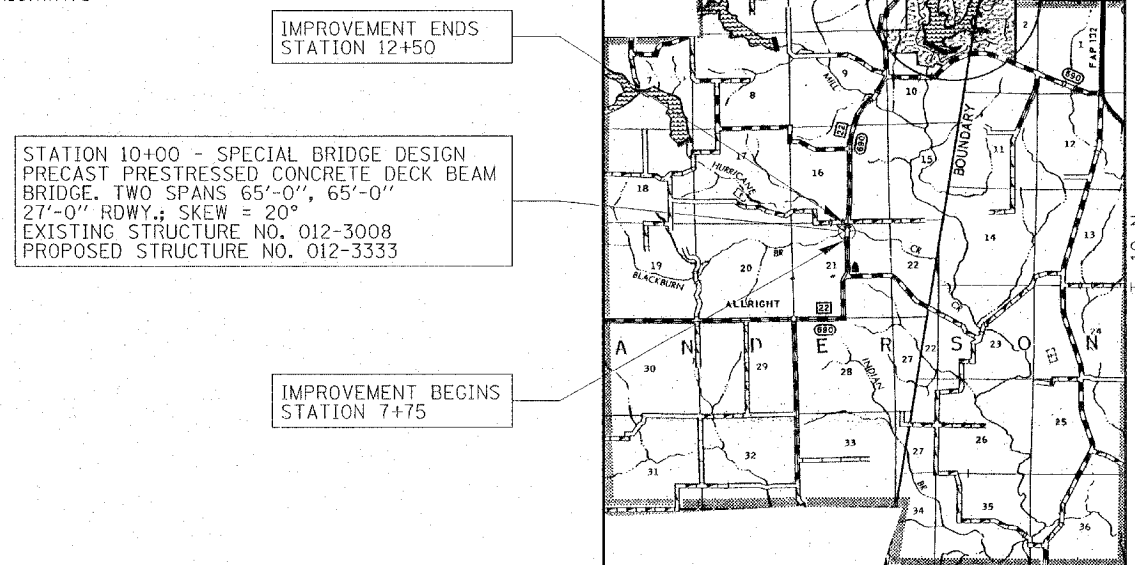
CLARK-EDGAR RURAL WATER DISTRICT  
c/o FRANCIS & ASSOCIATES  
330 NORTH CENTRAL AVENUE  
PARIS, ILLINOIS 61944

DESIGN FUNCTIONAL CLASSIFICATION:  
COLLECTOR (3R DESIGN GUIDELINES)  
DESIGN TRAFFIC: 250 ADT  
DESIGN SPEED: 40 M.P.H.



## SECTION 05-00261-00-BR PROJECT RS-690(108) CLARK COUNTY C.H. 22 / F.A.S. 690 / FOX ROAD C-97-133-06

R. 12 W., 2ND. P.M.



### LAYOUT

APPROXIMATE SCALE: 0 = 1 MILE  
NET LENGTH OF SECTION = 475 FEET = 0.089 MILES

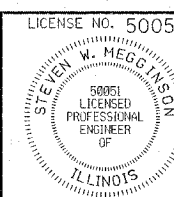


APPROVED	<u>May 15 20 06</u> <i>Jack E. Ward</i> COUNTY ENGINEER
PASSED	<u>June 7 20 06</u> <i>Maureen E. Card</i> DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS
Releasing For Bid Based on Limited Review	<u>June 7 20 06</u> <i>Christine W. Reed</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DATE: May 10 2006

BY: *Steven W. Meggison*

LICENSE EXPIRES: NOVEMBER 30, 2007



LICENSE NO. 50051

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS

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

ELGIN • SPRINGFIELD • DUQUOIN

PROJECT NUMBER: 12-23-0025-1 DATE: 05/10/06

### SUMMARY OF QUANTITIES

CODE NO	ITEM	CONSTRUCTION CODE	
		UNIT	QUANTITY
20300100	CHANNEL EXCAVATION	CU YD	370
28101700	RIPRAP, SPECIAL	TON	570
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	27.2
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	3,510
50800105	REINFORCEMENT BARS	POUND	4,200
50900205	STEEL RAILING, TYPE S1	FOOT	266
51201400	FURNISHING STEEL PILES HP10X42	FOOT	240
51202700	DRIVING STEEL PILES	FOOT	140
51203400	TEST PILE STEEL HP10X42	EACH	1
51204315	CONCRETE ENCASEMENT	CU YD	5.2
51500100	NAME PLATES	EACH	1
63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	50
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	304
67100100	MOBILIZATION	L SUM	1
78200400	GUARDRAIL REFLECTORS	EACH	8
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
Z0065000	SETTING PILES IN ROCK	EACH	5

SEE SPECIAL PROVISIONS

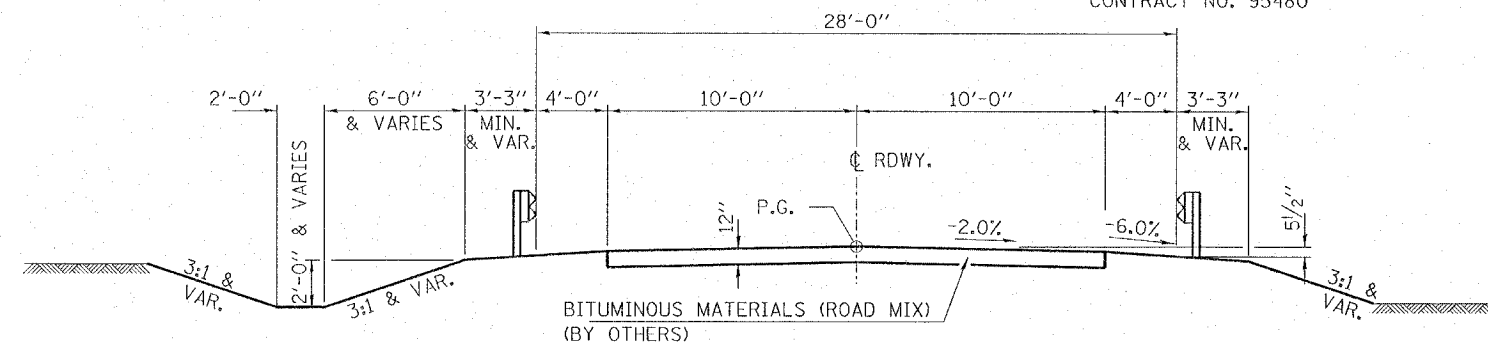
### GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," ADOPTED 1-1-02 (HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS); THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS," ADOPTED 1-1-05; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE "DETAILS" IN THE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE CONTRACT DOCUMENTS.
- ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED AS THE LATEST STANDARD OF THE DEPARTMENT.
- ALL TRAFFIC CONTROL AND OTHER ADVISORY SIGNS NEEDED FOR CONSTRUCTION ARE TO BE FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 107.14 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE OWNERS OF ALL UTILITIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF ALL UTILITY EQUIPMENT. THE CONTRACTOR SHALL COOPERATE WITH ALL UTILITY OWNERS AS PROVIDED FOR IN THE STANDARD SPECIFICATIONS IF UTILITY RELOCATION, ADJUSTMENT OR PROTECTION IS NECESSARY.
- THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES AND WATER SERVICE LINES IS APPROXIMATE AND THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER. THIS WORK SHALL BE THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS, PROPERTY CORNERS AND REFERENCE MARKERS UNTIL THE OWNER, HIS AGENT OR A PROFESSIONAL LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATIONS.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
- SEEDING WILL BE DONE BY THE COUNTY IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- ALL TREE REMOVAL WILL BE DONE BY THE COUNTY IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- EARTH AND FURNISHED EXCAVATION WILL BE DONE BY COUNTY**

### FOR INFORMATION ONLY - EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)	SHRINKAGE FACTOR	PERCENT USED	AVAILABLE EXCAVATION (CU YD)	EMBANKMENT REQUIRED (CU YD)	EARTHWORK BALANCE (CU YD)
STA. 7+75 TO STA. 9+34.25	80	25%	100%	60	177	-116
STA. 9+34.25 TO STA. 10+65.25	-	25%	100%	-	-	-
STA. 10+65.25 TO STA. 12+00	452	25%	100%	339	480	-144
CHANNEL EXCAVATION ENTRANCES	370	25%	70%	194	-	194
TOTAL	533			594	657	-63

\* AVAILABLE EXCAVATION = EXC. x (1-SHRINKAGE FACTOR) x % USED (FURN. EXC.)



SUGGESTED CUT SECTION  
CONSTRUCT AS SHOWN IN  
STATION CROSS SECTIONS

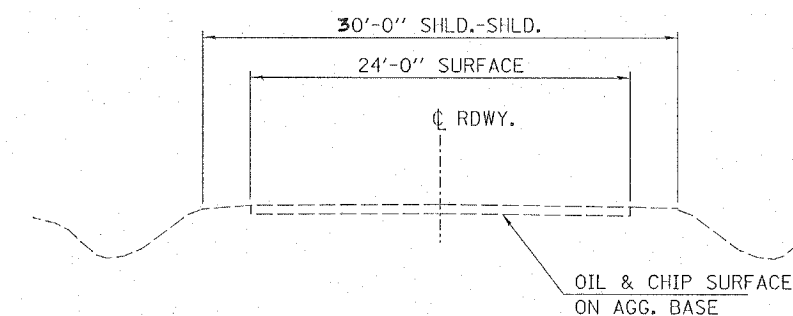
SUGGESTED FILL SECTION  
CONSTRUCT AS SHOWN IN  
STATION CROSS SECTIONS

ROAD CLASSIFICATION - COLLECTOR ADT 0-250  
CURRENT ADT 175  
DESIGN SPEED: 40 M.P.H.

### TYPICAL CROSS SECTION - (BY OTHERS)

STA. 7+75 TO 12+50

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 7+75 TO 8+25 AND STA. 12+00 TO 12+50. SEE SHEET 8 FOR TRANSITION AT BRIDGE. (TO BE CONSTRUCTED BY CLARK COUNTY)



### EXISTING CROSS SECTION

GUARDRAIL REMOVAL	
LOCATION	FOOT
16' RT. STA. 8+66.1 TO 11' RT. STA. 9+42.0	76
18' LT. STA. 8+78.1 TO 11' LT. STA. 9+53.7	76
11' RT. STA. 10+32.4 TO 18' RT. STA. 11+08.8	76
11' LT. STA. 10+44.2 TO 16' LT. STA. 11+20.4	76
TOTAL	304

TRAFFIC BARRIER TERMINAL, TYPE 5A	
LOCATION	EACH
RT. STA. 9+15.25 TO STA. 9+28.50	1
LT. STA. 9+25.08 TO STA. 9+38.33	1
RT. STA. 10+61.67 TO STA. 10+74.92	1
LT. STA. 10+71.50 TO STA. 10+84.75	1
TOTAL	4

STEEL PLATE BEAM GUARD RAIL, TYPE A	
LOCATION	FOOT
RT. STA. 8+90.25 TO STA. 9+15.25	25
LT. STA. 10+84.75 TO STA. 11+09.75	25
TOTAL	50

TRAFFIC BARRIER TERMINAL, TY 1, SPL (TANG)	
LOCATION	EACH
RT. STA. 8+40.25 TO STA. 8+90.25	1
LT. STA. 8+75.08 TO STA. 9+25.08	1
RT. STA. 10+74.92 TO STA. 11+24.92	1
LT. STA. 11+09.75 TO STA. 11+59.75	1
TOTAL	4

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS

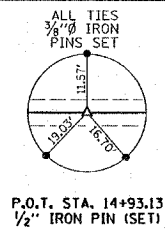
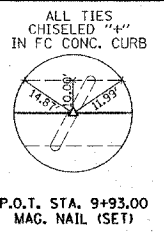
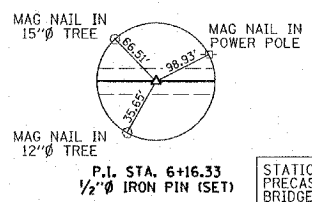
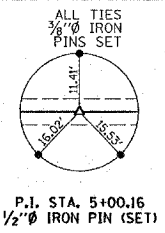
**HLR**  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

ELGIN • SPRINGFIELD • DUQUOIN

PROJECT NUMBER: 12-23-0026-1 DATE: 05/10/06  
DESIGNED: J.W.F. CHECKED: S.W.M. DRAWN: D.T.M.

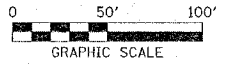
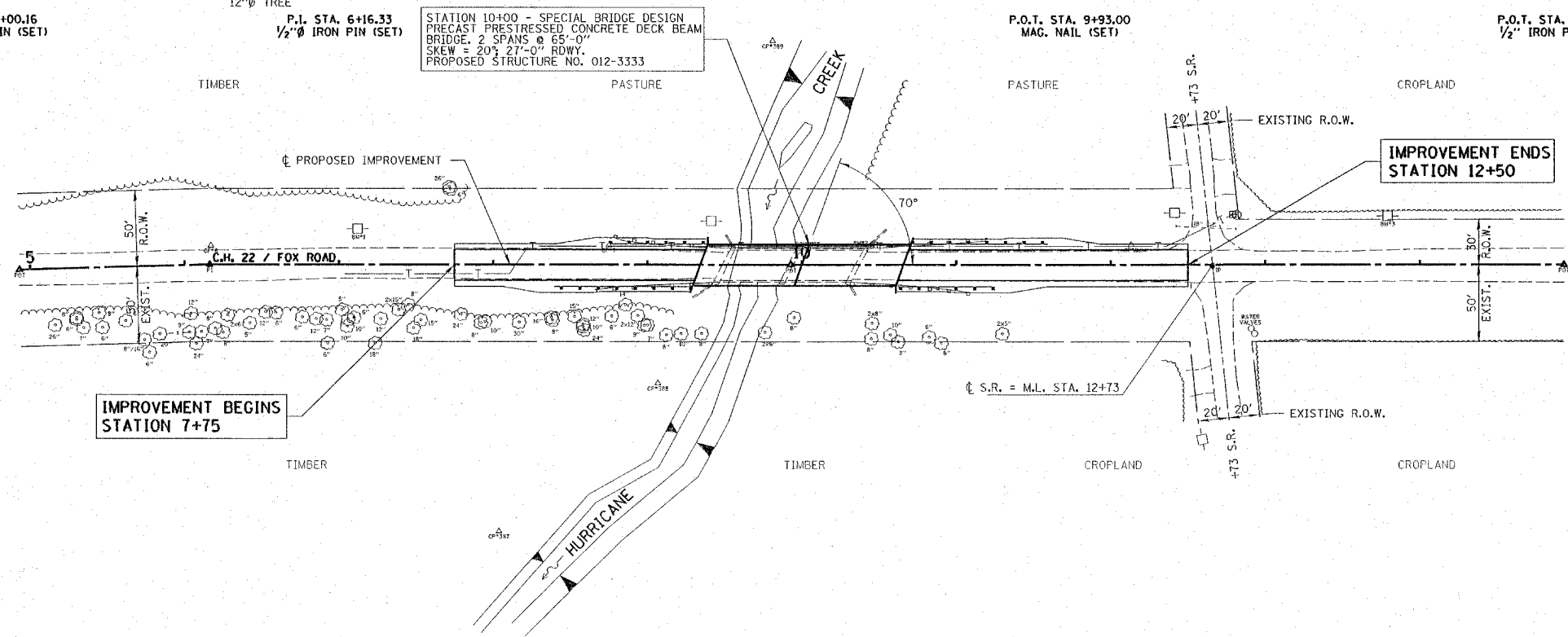
**SUMMARY OF QUANTITIES  
AND TYPICAL SECTIONS**  
SECTION 05-00261-00-BR  
C.H. 22 / F.A.S. 690 / FOX ROAD  
CLARK COUNTY

PLAN  
 SURVEYED  
 PLOTTED  
 CHECKED  
 DATE  
 NO. SHEETS  
 NO. THIS SHEET



STEPHEN TINGLEY  
 NE 1/4, NW 1/4, SEC 21, T. 10 N., R. 12 W., 3RD P.M.

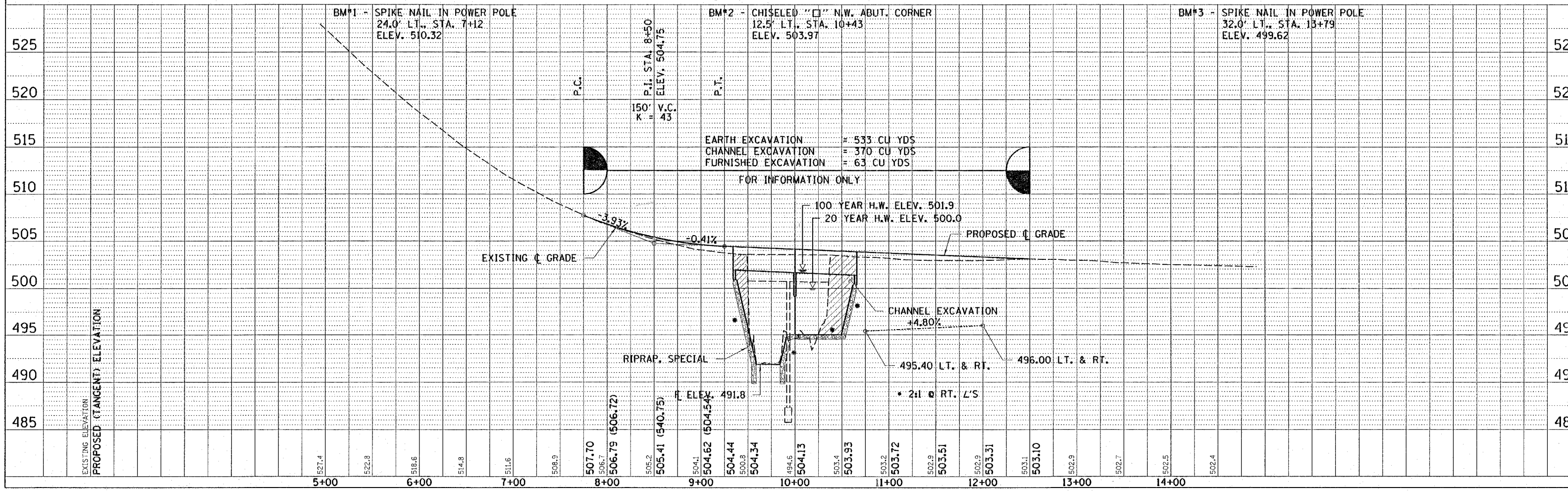
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
690	05-00261-00-BR	CLARK	14	3
STA. 5+00.16		TO STA. 14+93.13		
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 95480		



STEPHEN TINGLEY  
 N 1/2, NE 1/4, SEC 21, T. 10 N., R. 12 W., 3RD P.M.

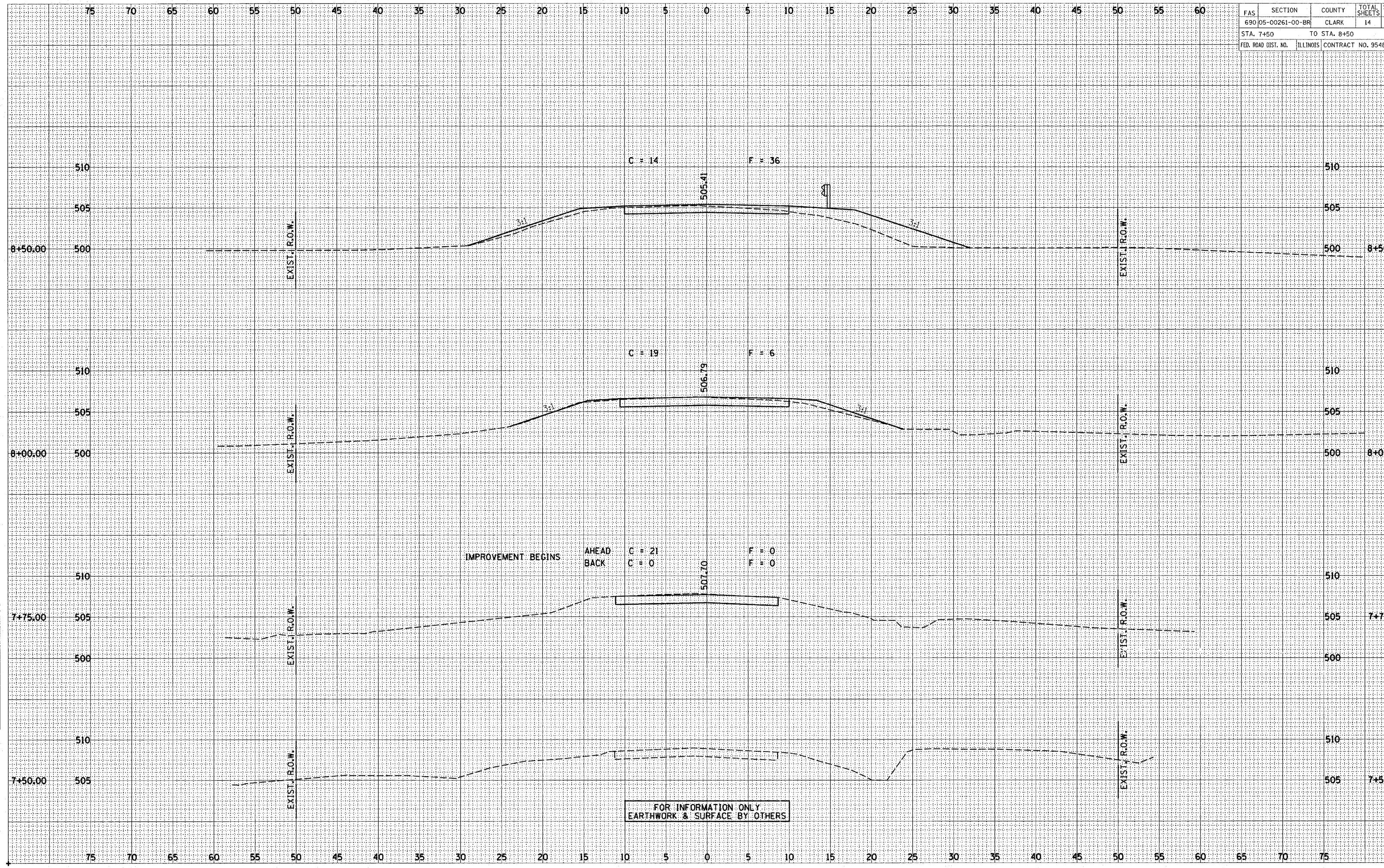
**CHANNEL EXCAVATION**  
 THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL SHALL BE DEPOSITED ON THE JOB SITE FOR USE BY THE COUNTY IN THE EMBANKMENT. UNSUITABLE MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE JOB SITE.

**EXISTING STRUCTURE NO. 012-3008**  
 STATION 9+93 - TWO SPAN STEEL I-BEAM BRIDGE WITH A CONCRETE DECK ON CLOSED CONCRETE ABUTS, AND A CONCRETE PIER.  
 83.0' FC-FC. ABUTS; 22.0' O.-O. DECK  
 REMOVAL OF EXISTING STRUCTURES = 1 EACH



PROFILE  
 SURVEYED  
 PLOTTED  
 CHECKED  
 DATE  
 NO. SHEETS  
 NO. THIS SHEET

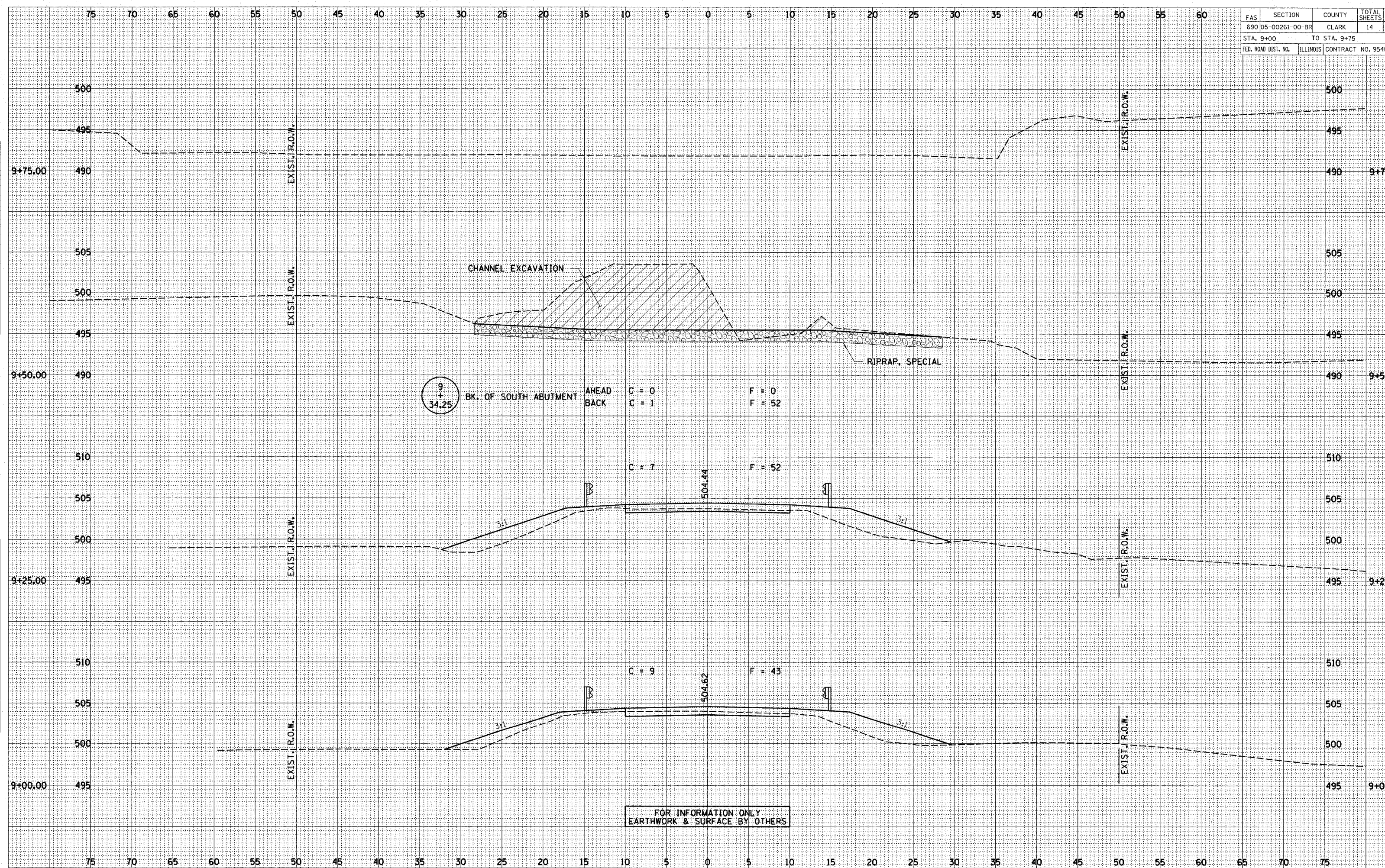
FAS	SECTION	COUNTY	TOTAL SHEETS	SH. N.
690 05-00261-00-BR	CLARK	14	4	
STA. 7+50		TO STA. 8+50		
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 95480		

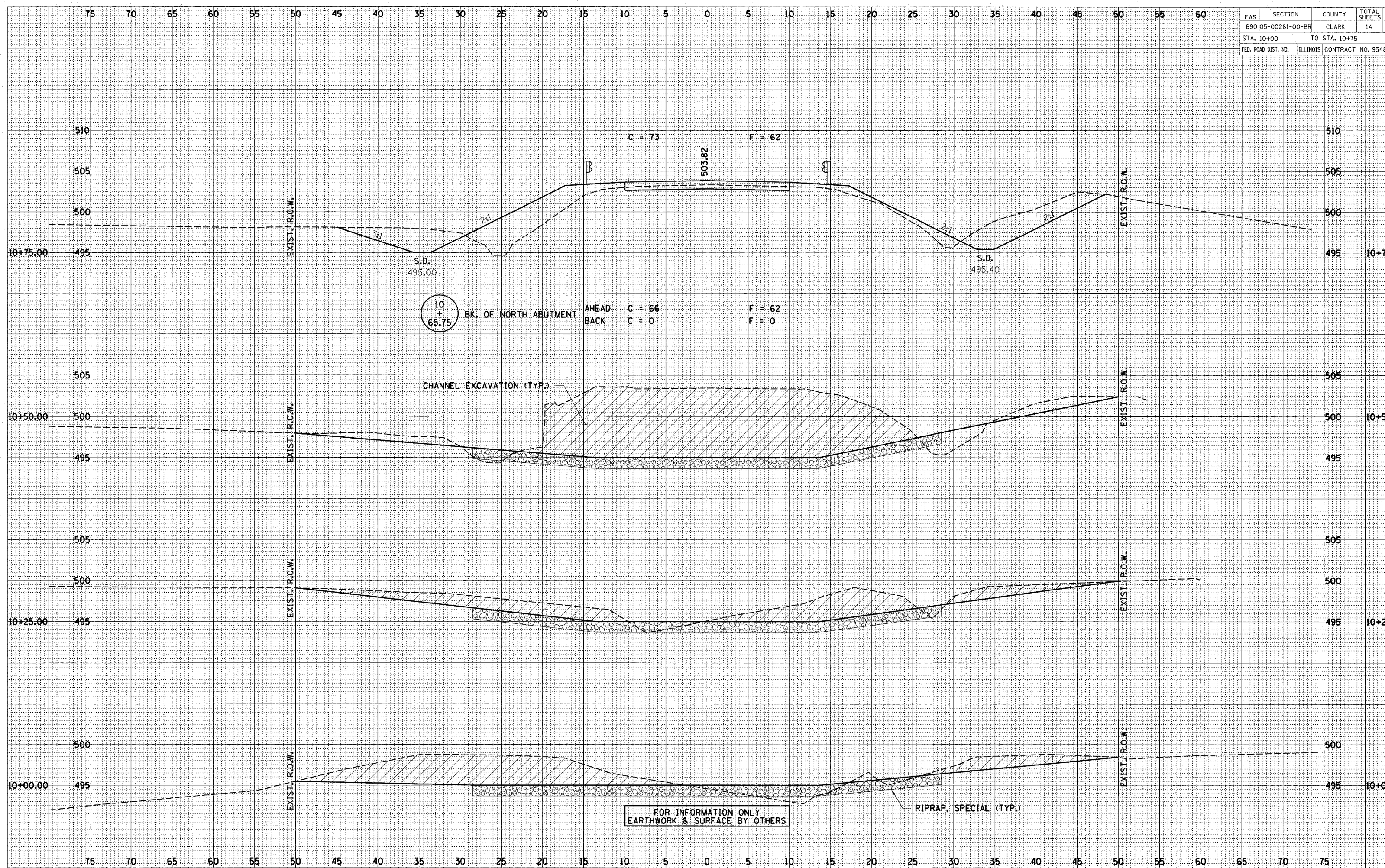


NOTE BOOK  
 TEMPLATE  
 AREAS CHECKED  
 NO.

NOTE BOOK  
 TEMPLATE  
 AREAS CHECKED  
 NO.

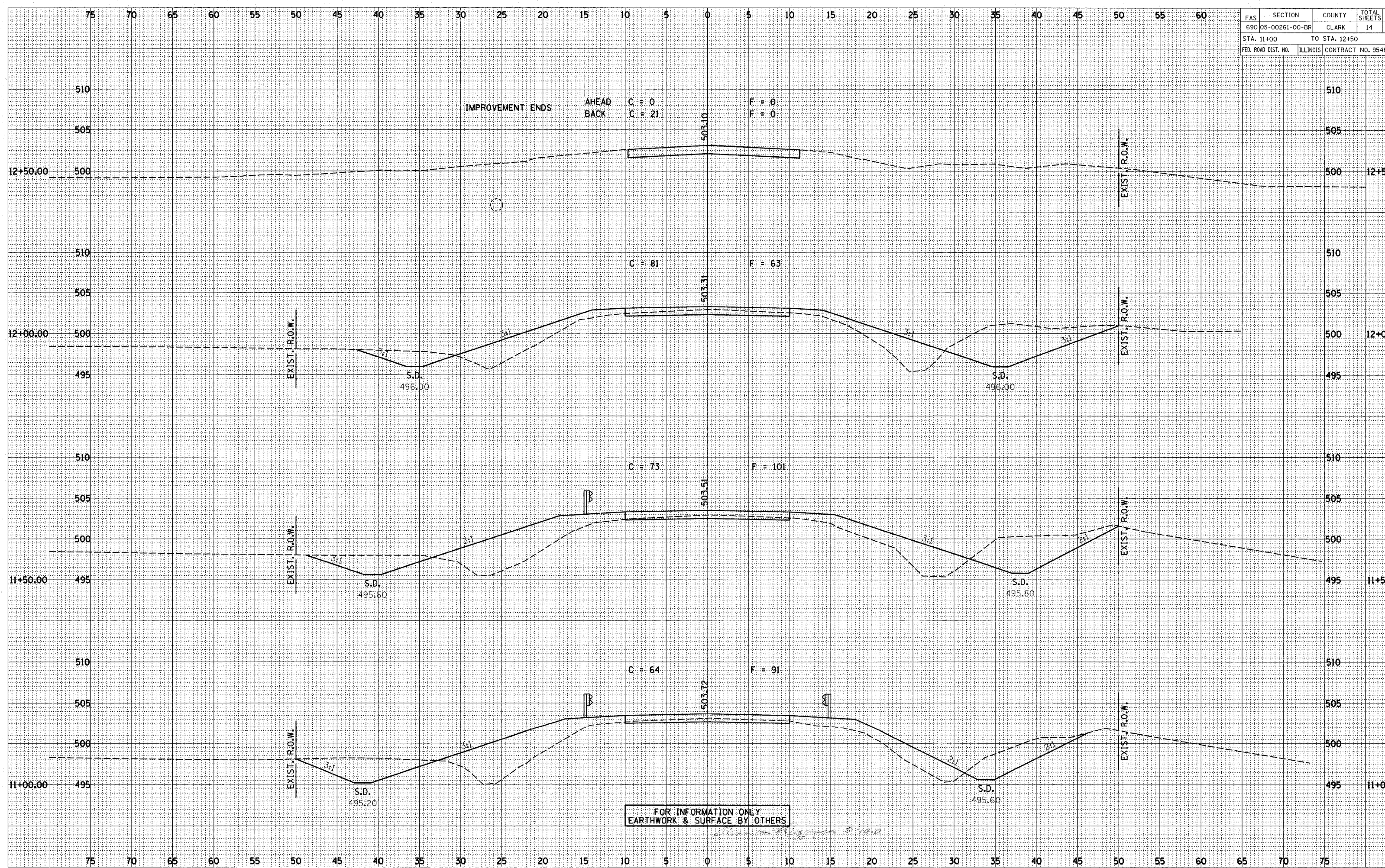
FAS	SECTION	COUNTY	TOTAL SHEETS
690 05-00261-00-BR	CLARK	14	
STA. 9+00		TO STA. 9+75	
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 95480	





NOTE BOOK  
 TEMPLATE  
 AREAS  
 AREAS CHECKED

NOTE BOOK  
 TEMPLATE  
 AREAS  
 AREAS CHECKED

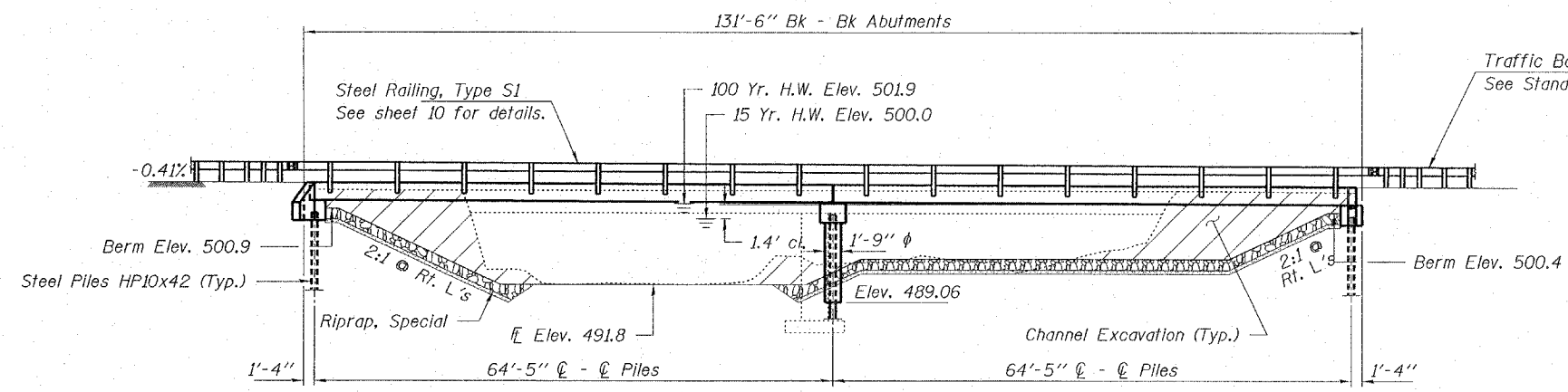


NOTE BOOK TEMPLATE AREAS CHECKED

NOTE BOOK TEMPLATE AREAS CHECKED

FOR INFORMATION ONLY  
EARTHWORK & SURFACE BY OTHERS

*Station 11+00.00*



**ELEVATION**

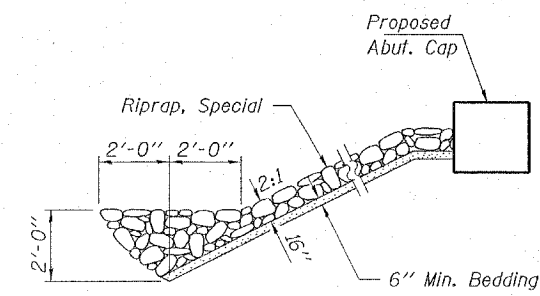
**GENERAL NOTES**

Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.  
 The Contractor shall drive one steel test pile in a permanent location at the North Abutment, as directed by the Engineer before ordering the remainder of the piles.  
 Excavation required to construct the Abutments shall be included in 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. See sheet 14 for Borings.

HURRICANE CREEK  
 BUILT 200\_ BY  
 CLARK COUNTY  
 SEC. 05-00261-00-BR  
 F.A. PROJ. RS-690(108)  
 STR. NO. 012-3333  
 LOADING HS 20

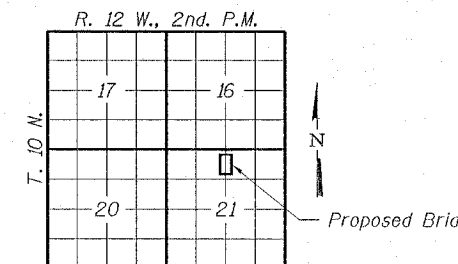
**NAME PLATE**

See Std. 515001

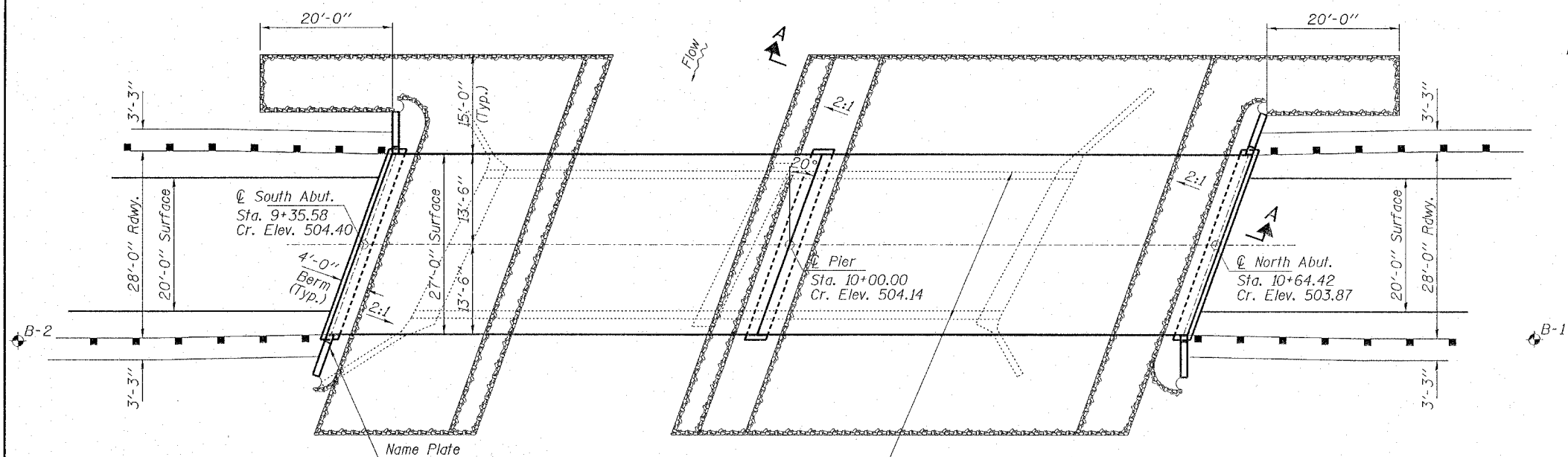


**SECTION A-A**

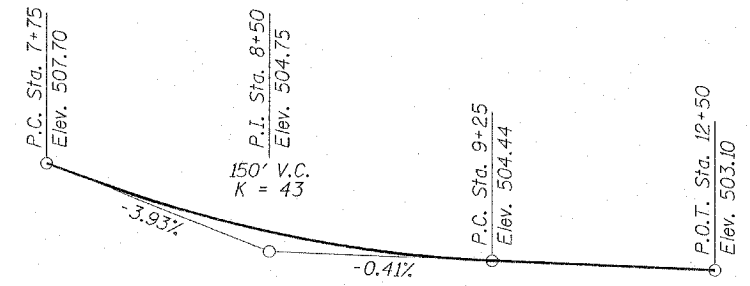
Note: See Special Provisions for Riprap, Special.



**LOCATION SKETCH**



**PLAN**



**PROFILE GRADE**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Riprap, Special	Ton			570
Concrete Structures	Cu. Yd.		27.2	27.2
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	3,510		3,510
Reinforcement Bars	Pound		4,200	4,200
Steel Railing, Type S1	Foot	266		266
Furnishing Steel Piles HP10x42	Foot		240	240
Driving Steel Piles	Foot		140	140
Test Pile Steel HP10x42	Each		1	1
Concrete Encasement	Cu. Yd.		5.2	5.2
Name Plates	Each		1	1
Setting Piles in Rock	Each		5	5

**DESIGN STRESSES**

**FIELD UNITS**

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

**PRECAST PRESTRESSED UNITS**

f'c = 5,000 psi  
 f'ci = 4,000 psi  
 f's = 270,000 psi (1/2" φ low lax. strands)  
 f'si = 201,960 psi (1/2" φ low lax. strands)  
 fy = 60,000 psi (Reinf.)

Loading HS 20-44  
 Design Specifications: 2002 AASHTO & all applicable Interims.  
 25#/Sq. Ft. included in dead load for future wearing surface.

**SEISMIC DATA**

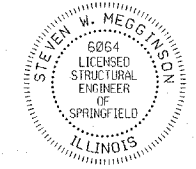
Seismic Performance Category (SPC) = A  
 Bedrock Acceleration Coefficient (A) = 0.07g  
 Site Coefficient (S) = 1.5

**WATERWAY INFORMATION**

Flood		Freq. Yr.	Q	Opening Sq. Ft.		Natural Head - Ft.		Headwater El.	
				Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	20	1,747	370	520	500.0	0.4	0.7	500.4	500.7
Base	100	2,860	410	660	501.9	2.0	1.5	503.9	503.4
Overtopping									
Max. Calc.	500	3,783	410	660	503.4	1.5	0.5	504.9	503.9

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".

Steven W. Megginson 5-10-06  
 ILLINOIS STRUCTURAL NO. 6064



Expires 11-30-06

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS

**HLR**  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
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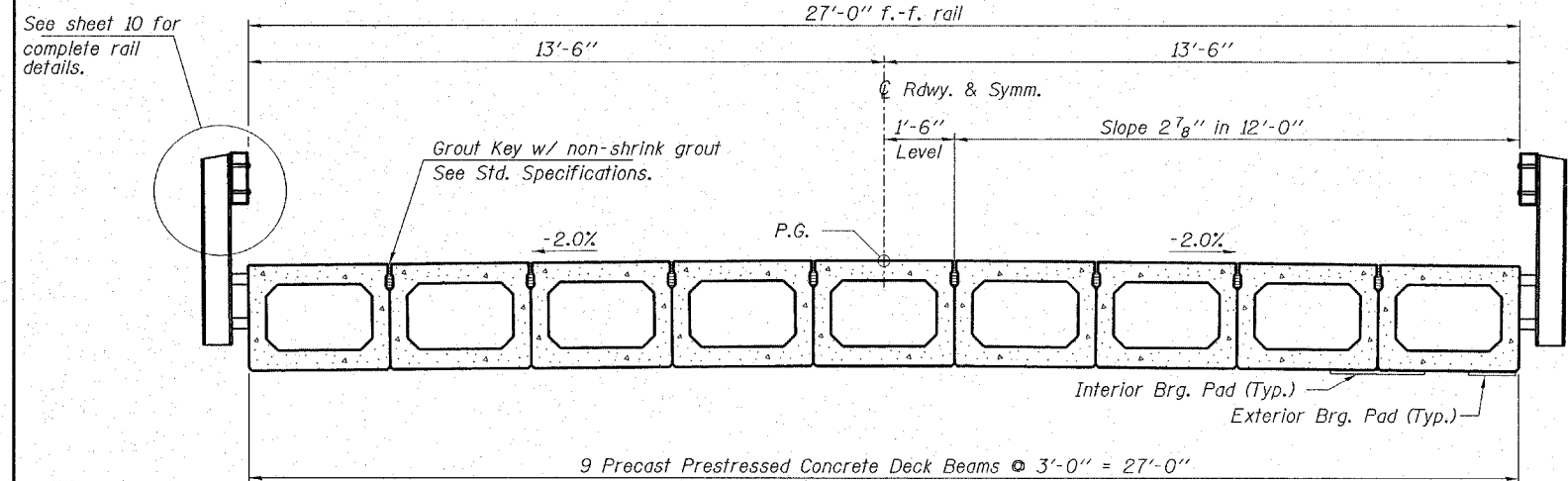
ELGIN • SPRINGFIELD • DUQUOIN

PROJECT NUMBER: 12-23-0025-1 DATE: 05/10/06  
 DESIGNED: J.W.F. CHECKED: S.W.M. DRAWN: D.T.M.

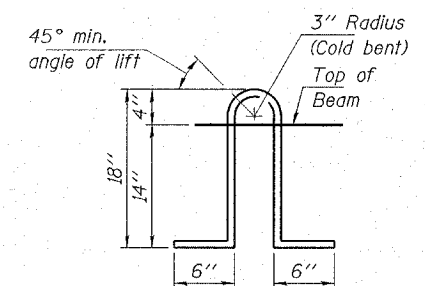
**GENERAL PLAN AND ELEVATION**  
 SECTION 05-00261-00-BR  
 F.A.S. 690 / C.H. 22 / FOX ROAD  
 CLARK COUNTY  
 STRUCTURE NO. 012-3333 / STATION 10+00



CONTRACT NO. 95480

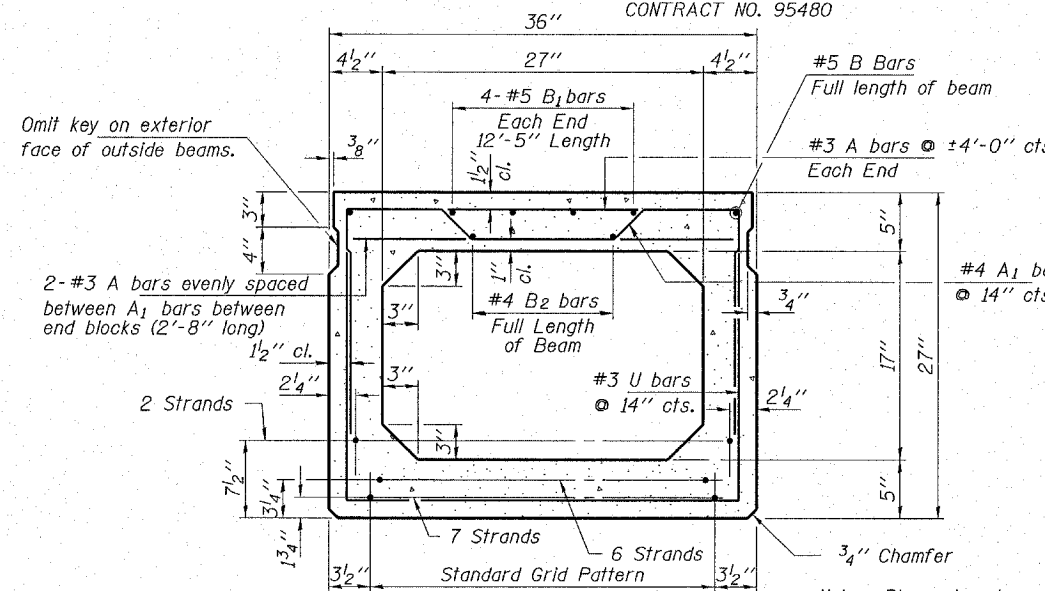


**CROSS SECTION**



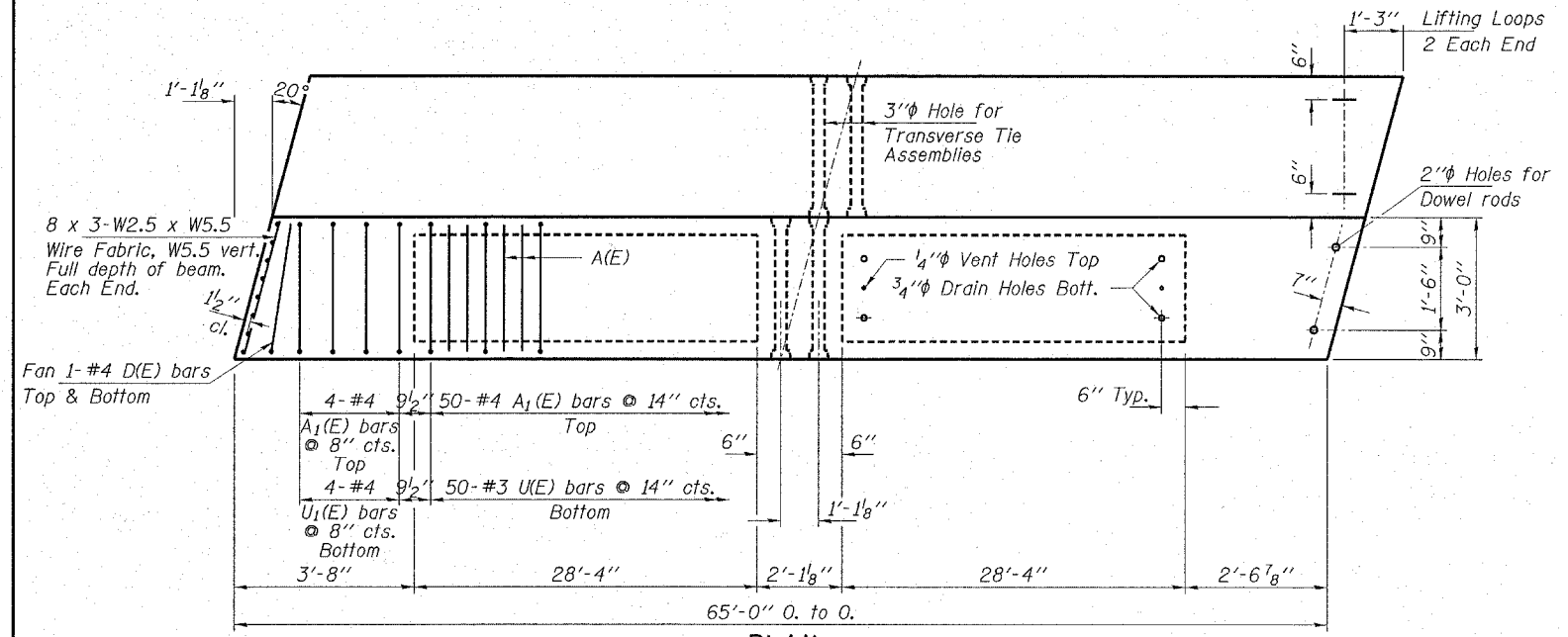
**LIFTING LOOP DETAIL**

Approved alternate may be substituted for the above detail.  
 Note: The loop shall be formed in a manner such that all strands are engaged during lifting. Loops shall be burned off after the beams have been erected.

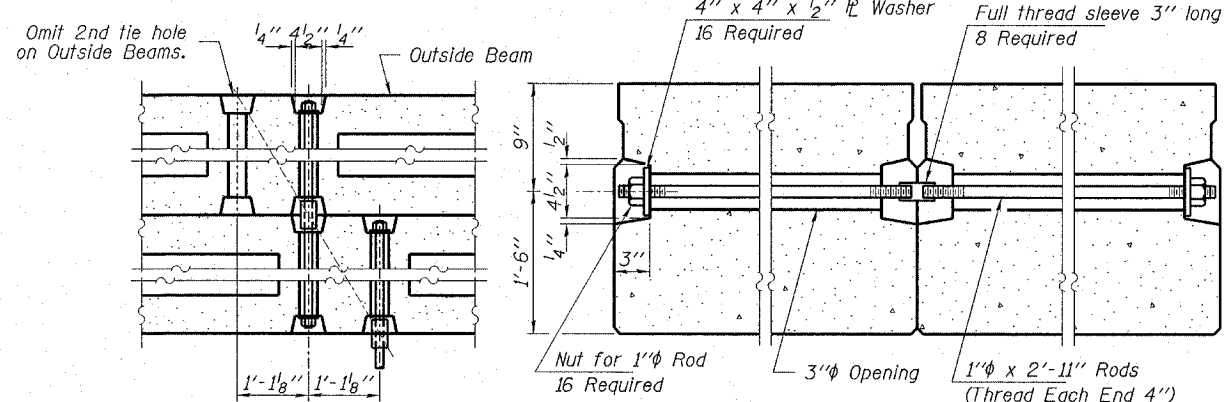


**TYPICAL SECTION**

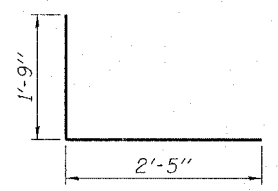
15-1/2" Strands Each Strand Stressed to 30,900 Lbs.  
 7-Strands 1 3/4" up, 6-Strands 3/4" up, 2-Strands 7/2" up



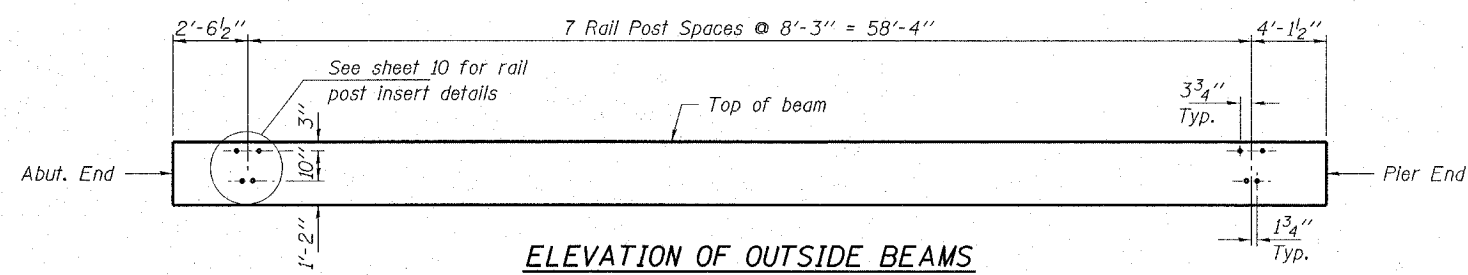
**PLAN**



**TYPICAL TRANSVERSE TIE ASSEMBLY**



**BARS D(E)**



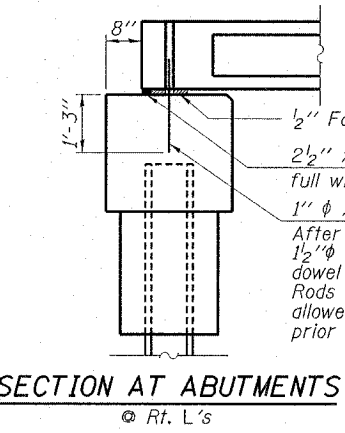
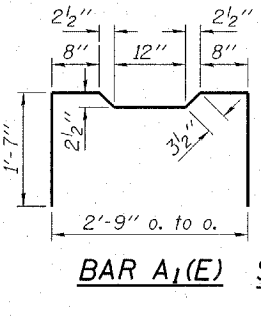
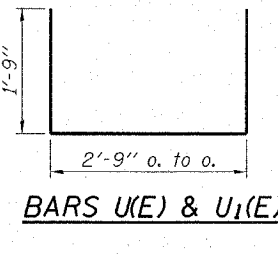
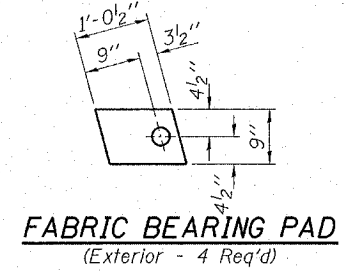
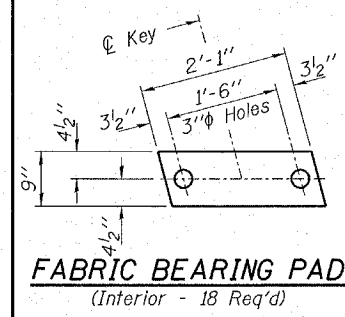
**ELEVATION OF OUTSIDE BEAMS**

Showing Rail Post Spacing

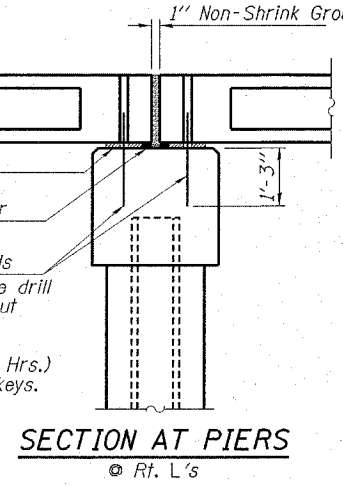
**NOTES**  
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-2"φ-270 ksi strands, as shown.  
 The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse assembly is in place.  
 Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.  
 Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.  
 Required Release Strength, f'ci, shall be 4,000 p.s.i.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	3,510

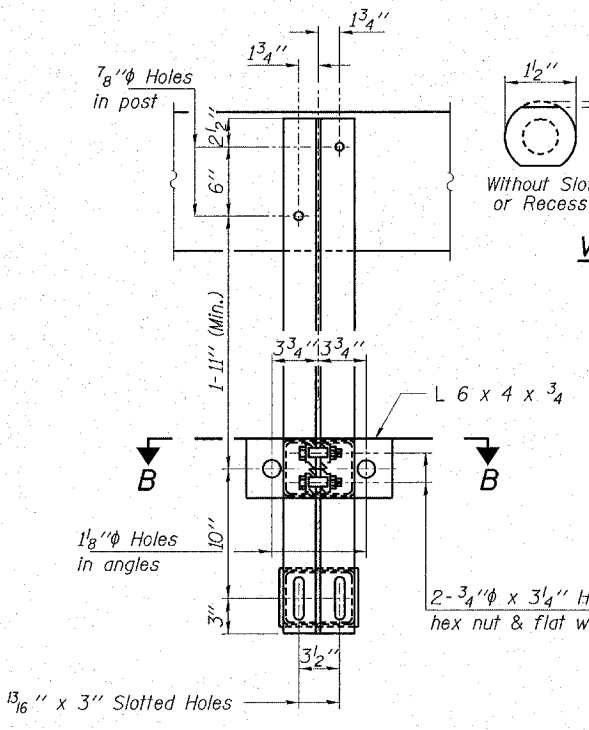
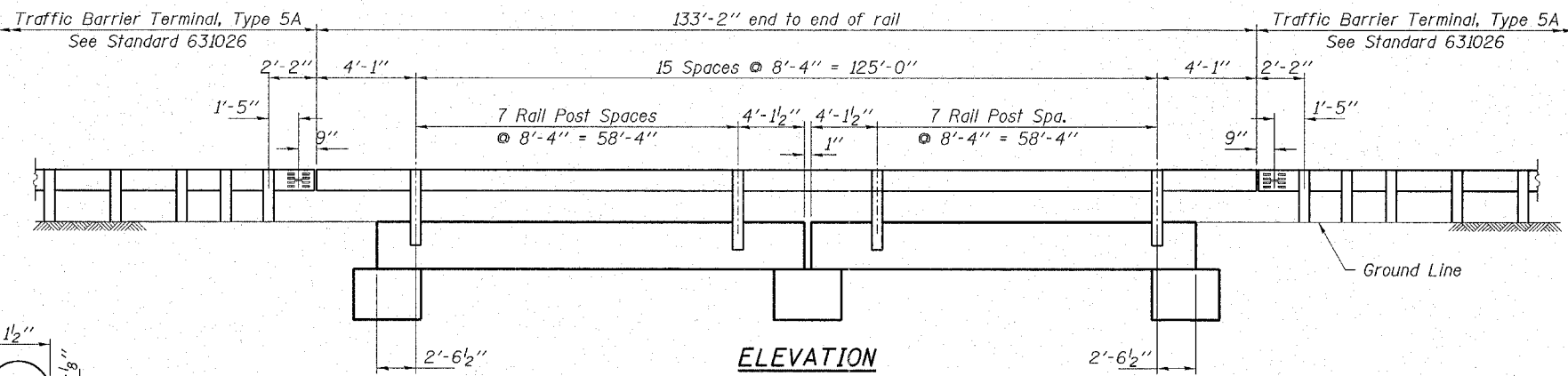
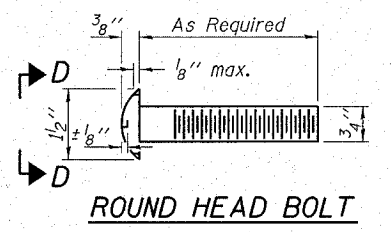


1/2" Fabric Brg. Pad  
 2 1/2" x 1 1/2" Prem. Jt. Filler full width of bridge.  
 1" φ x 2'-6" Dowel Rods  
 After beams are in place drill 1 1/2" φ holes in cap & grout dowel rods in place.  
 Rods to be grouted and allowed to cure (Min. 24 Hrs.) prior to grouting shear keys.



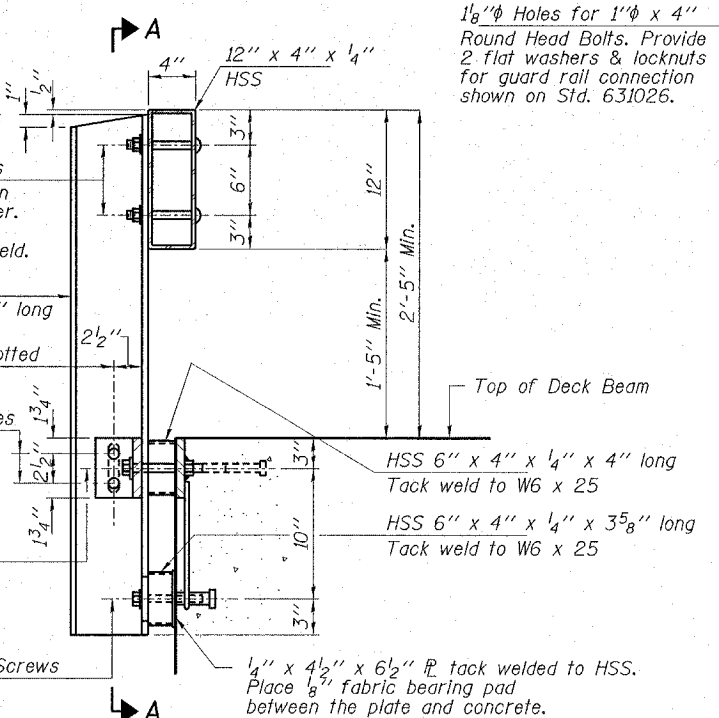
**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
**ELR**  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 546-3400  
 ELGIN • SPRINGFIELD • DUQUOIN  
 PROJECT NUMBER: 12-23-0025-1 DATE: 05/10/00  
 DESIGNED: J.W.F. CHECKED: S.W.M. DRAWN: D.T.M.

**SUPERSTRUCTURE**  
 SECTION 05-00261-00-BR  
 F.A.S. 690 / C.H. 22 / FOX ROAD  
 CLARK COUNTY  
 STRUCTURE NO. 012-3333 / STATION 10+00

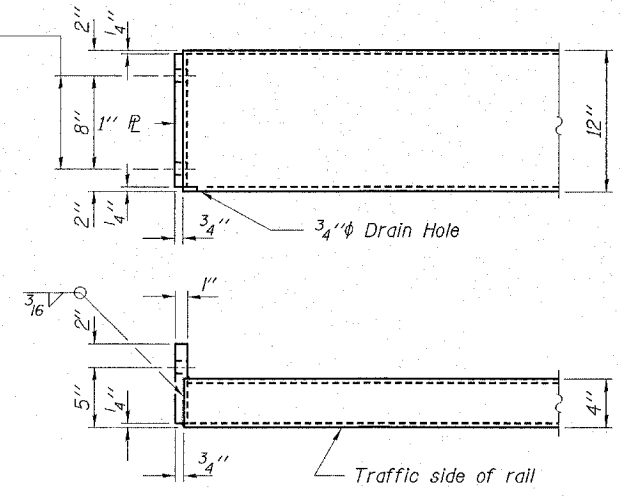


**VIEW D-D**

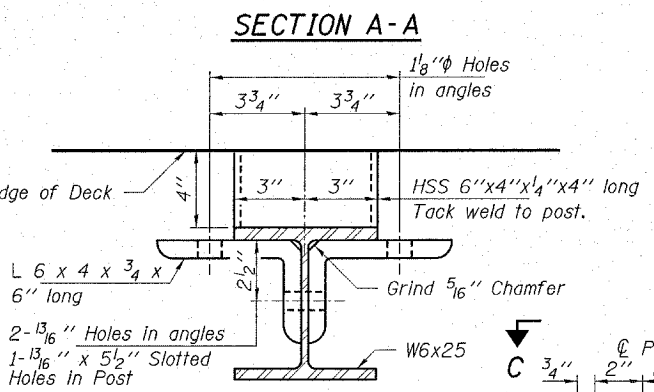
2-3/4" φ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" φ Holes in hollow structural section may be drilled in the field.



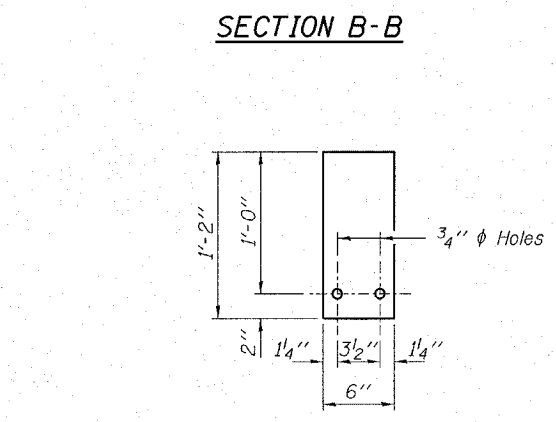
1 1/8" φ Holes for 1" φ x 4" Round Head Bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Std. 631026.



**END OF RAIL DETAILS**

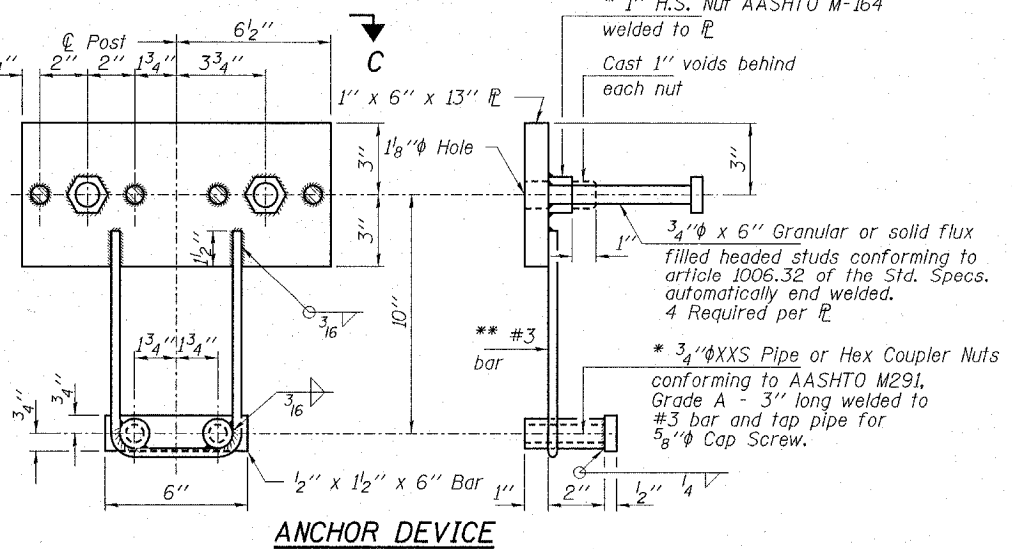


**SECTION A-A**

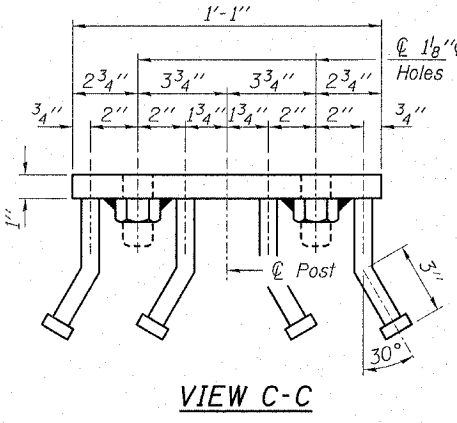


**SECTION B-B**

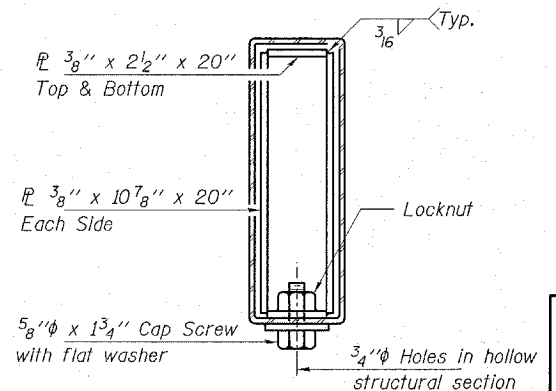
**1/4" SHIM PLATE**



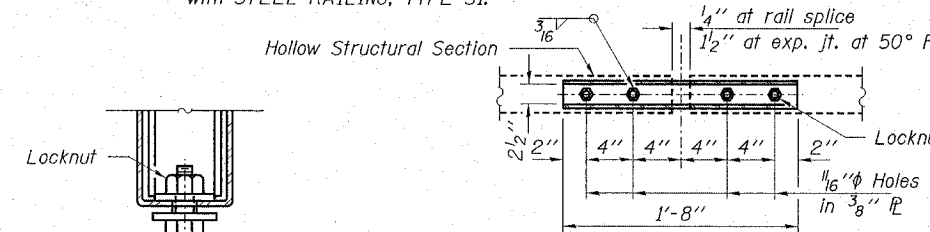
\* Threaded areas shall be plugged or blocked off during casting of beam.



**VIEW C-C**



**SECTION AT RAIL SPLICE**



**RAIL SPLICE CONNECTION AT EXPANSION JT.**

**NOTES**

Hollow structural sections shall conform to the requirements of A.S.T.M. designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.  
 All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. designation M-270 Grade 36 except posts and angles shall conform to A.A.S.H.T.O. M-270 Grade 50.  
 Bolts, cap screws, and nuts shall conform to the requirements of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. designation M-164.  
 All bolts, nuts, cap screws, washers and lockwashers shall be galvanized in accordance with A.A.S.H.T.O. designation M-232.  
 All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.S.T.M. A-385 and A.A.S.H.T.O. M-111. Galvanized rail shall not be painted.  
 Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per foot for STEEL RAILING, TYPE S1.  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 The 3/4" φ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Art. 505.04(f)(2) of the Standard Specifications. The 1" φ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/2 turn. The 5/8" φ cap screws in bottom of posts shall be tightened to a snug fit only.  
 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 S1.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S1	Foot	266

**RAILING DETAILS**

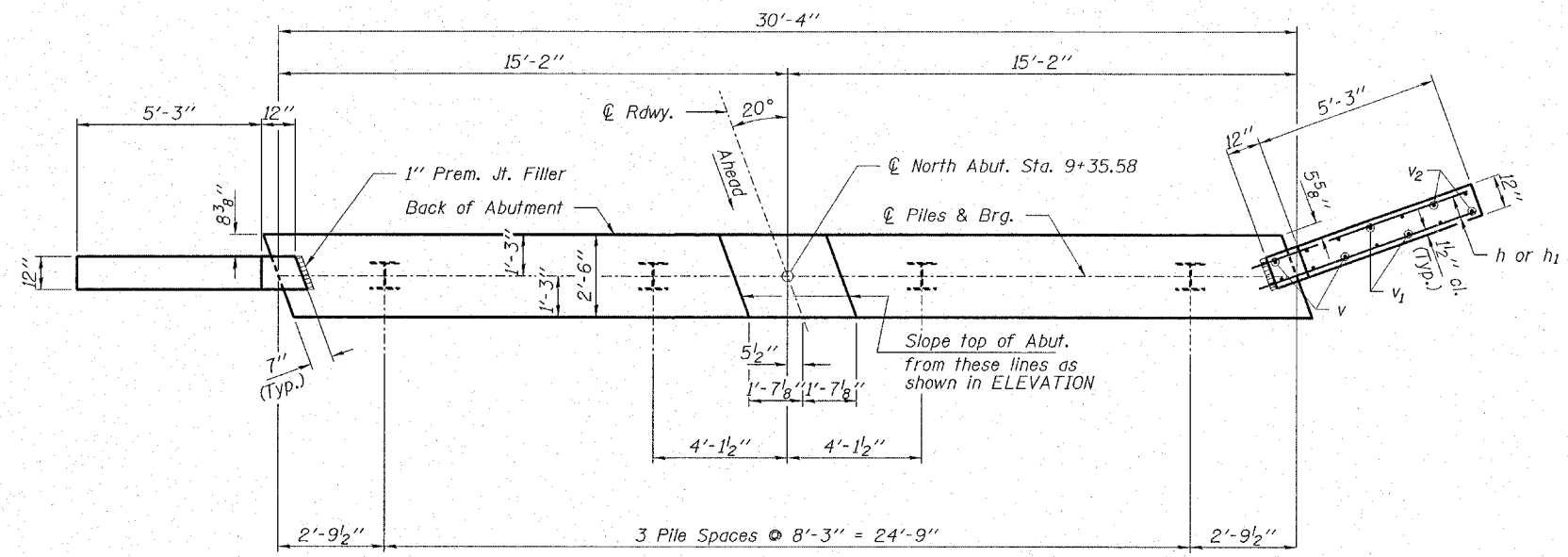
SECTION 05-00261-00-BR

F.A.S. 690 / C.H. 22 / FOX ROAD

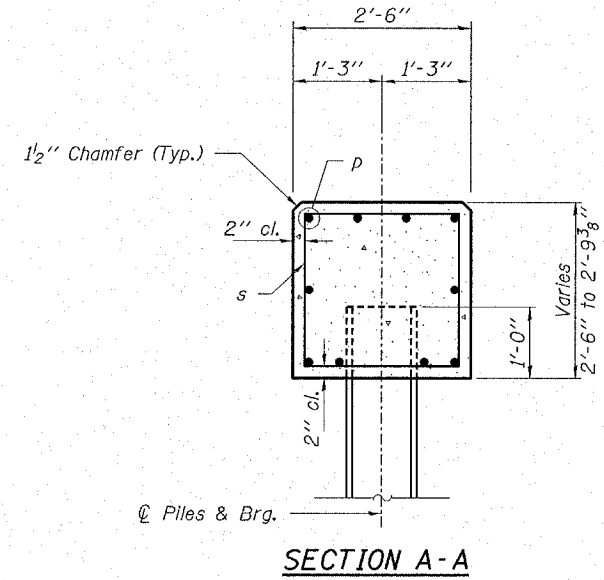
CLARK COUNTY

STRUCTURE NO. 012-3333 / STATION 10+00

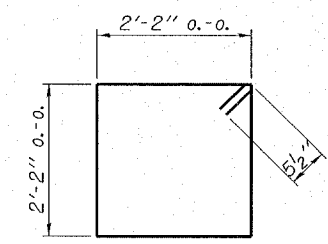
**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 548-3400  
 ELGIN • SPRINGFIELD • DUQUOIN  
 PROJECT NUMBER: 12-23-0025-1 DATE: 05/10/06  
 DESIGNED: J.W.F. CHECKED: S.W.M. DRAWN: D.T.M.



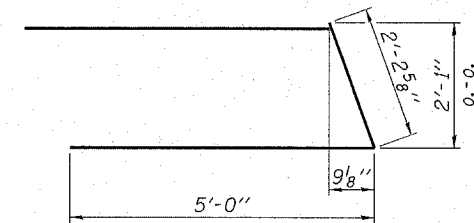
**PLAN**



**SECTION A-A**

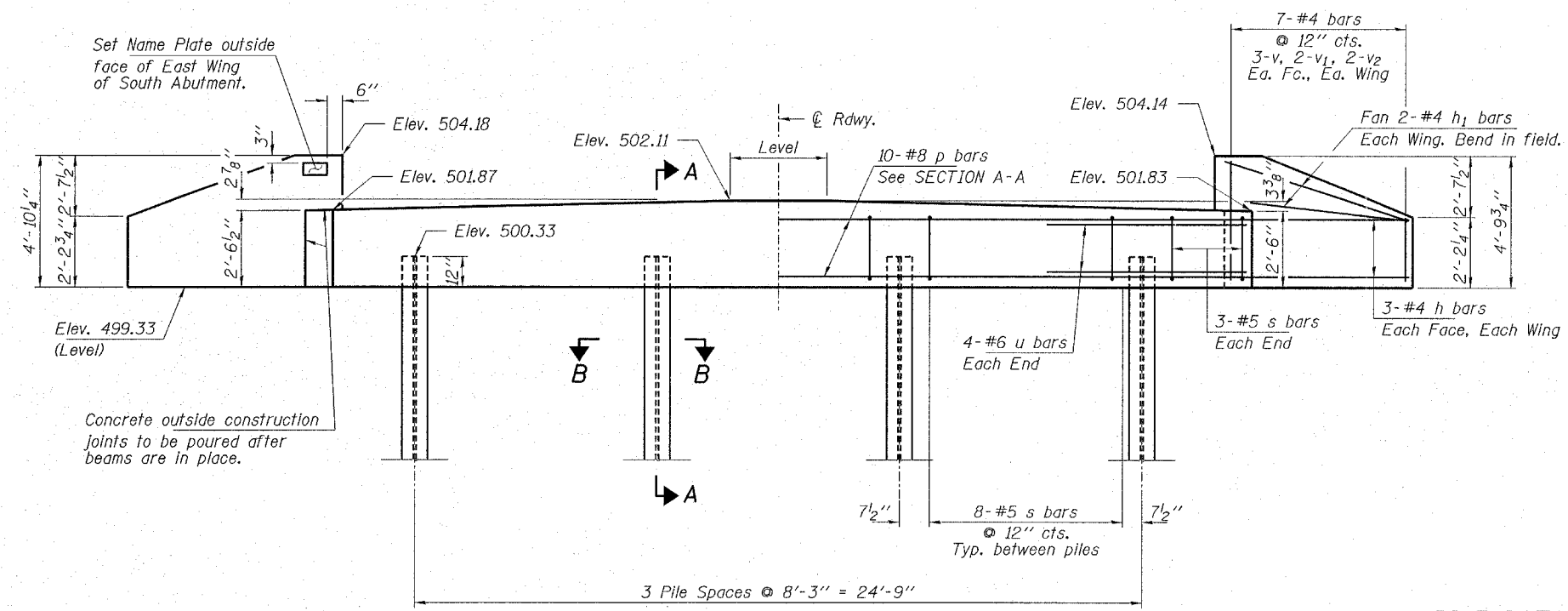


**BAR s**



**BAR u**

Note: Extend h bars into abut. cap.



**ELEVATION**  
(Looking South)

**PILE DATA**

Type.....Steel HP10x42  
 No. Req'd.....4  
 Capacity.....Drive To Refusal  
 Est. Length.....20 Feet/Pile

**BILL OF MATERIAL - S. ABUT.**

BAR	NO.	SIZE	LENGTH	SHAPE
h	12	#4	7'-0"	—
h <sub>1</sub>	8	#4	6'-0"	—
p	10	#8	30'-0"	—
s	30	#5	9'-7"	□
u	8	#6	12'-3"	▤
v	12	#4	4'-0"	—
v <sub>1</sub>	8	#4	3'-0"	—
v <sub>2</sub>	8	#4	2'-0"	—
Concrete Structures			Cu. Yd.	9.1
Reinforcement Bars			Pound	1,400
Furnishing Steel Piles HP10x42			Foot	80
Driving Steel Piles			Foot	80
Name Plates			Each	1

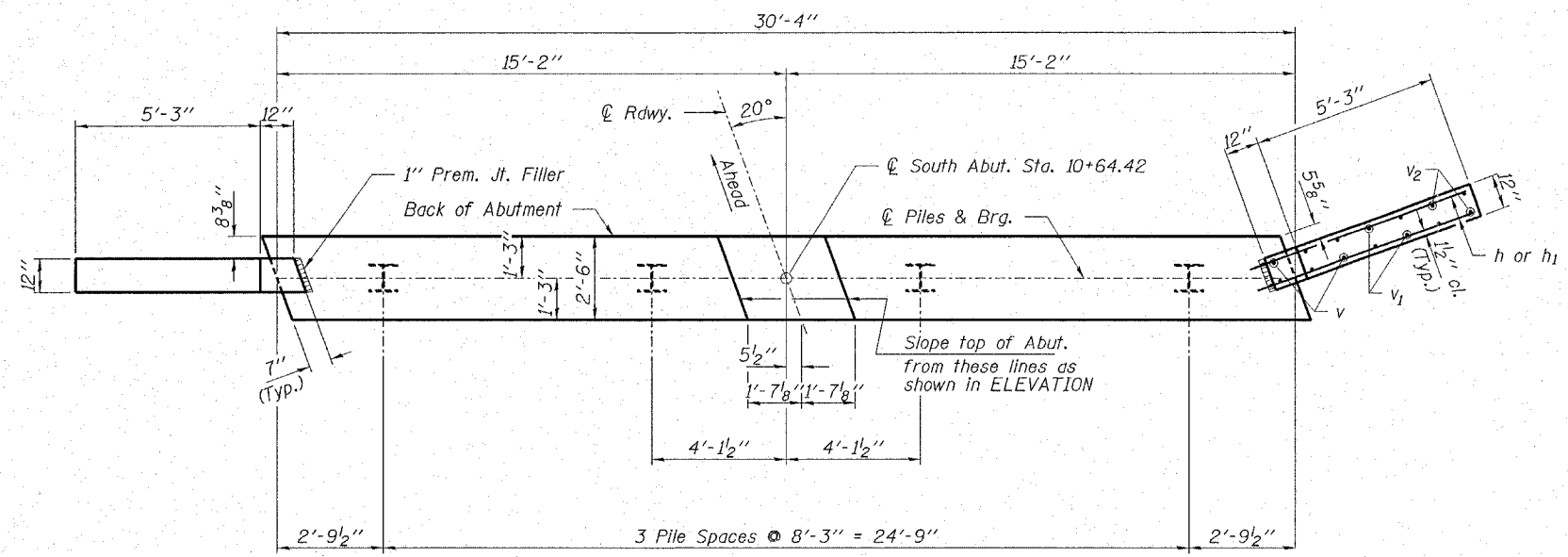
**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS

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

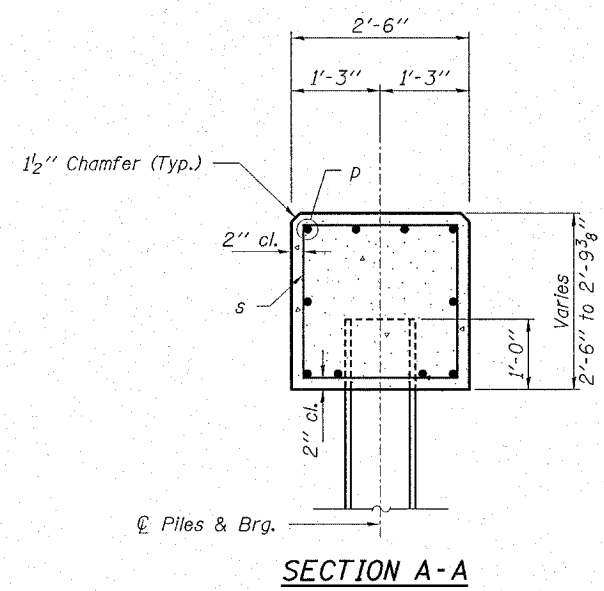
ELGIN • SPRINGFIELD • DUQUOIN

PROJECT NUMBER: 12-23-0025-1 DATE: 05/10/06  
 DESIGNED: J.W.F. CHECKED: S.W.M. DRAWN: D.T.M.

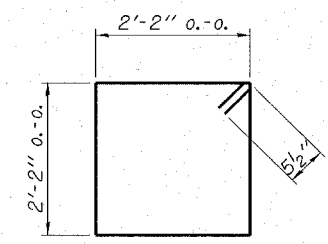
**SOUTH ABUTMENT**  
**SECTION 05-00261-00-BR**  
 F.A.S. 690 / C.H. 22 / FOX ROAD  
 CLARK COUNTY  
 STRUCTURE NO. 012-3333 / STATION 10+00



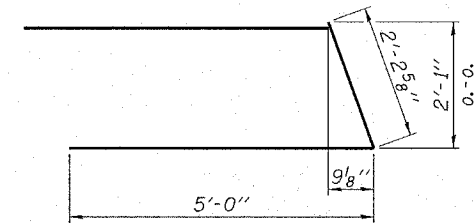
**PLAN**



**SECTION A-A**

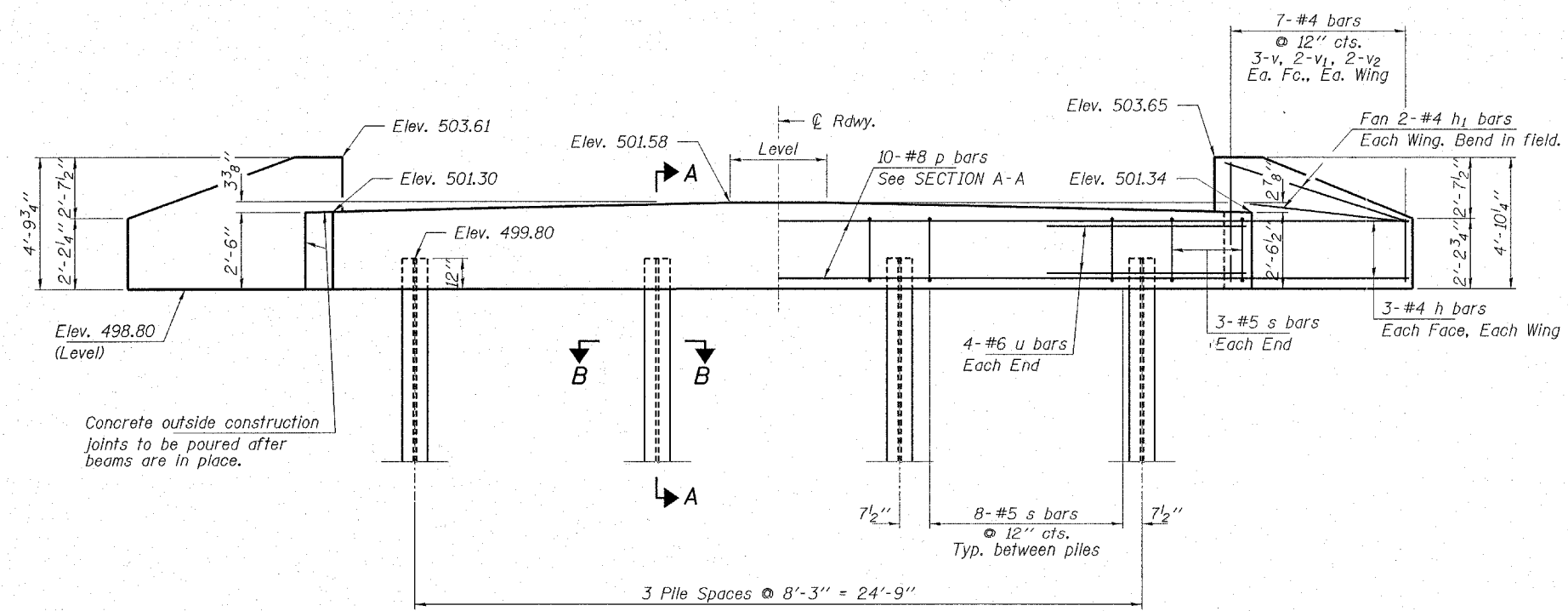


**BAR s**



**BAR u**

Note: Extend h bars into abut. cap.



**ELEVATION**  
(Looking North)

**PILE DATA**

Type.....Steel HP10x42  
 No. Req'd.....4\*  
 Capacity.....Drive To Refusal  
 Est. Length.....20 Feet/Pile

\* Includes one steel test pile to be driven in a permanent location at the North Abutment.

**BILL OF MATERIAL - N. ABUT.**

BAR	NO.	SIZE	LENGTH	SHAPE
h	12	#4	7'-0"	—
h <sub>1</sub>	8	#4	6'-0"	—
p	10	#8	30'-0"	—
s	30	#5	9'-7"	□
u	8	#6	12'-3"	▭
v	12	#4	4'-0"	—
v <sub>1</sub>	8	#4	3'-0"	—
v <sub>2</sub>	8	#4	2'-0"	—
Concrete Structures		Cu. Yd.	9.1	
Reinforcement Bars		Pound	1,400	
Furnishing Steel Piles HP10x42		Foot	60	
Driving Steel Piles		Foot	60	
Test Pile Steel HP10x42		Each	1	

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS

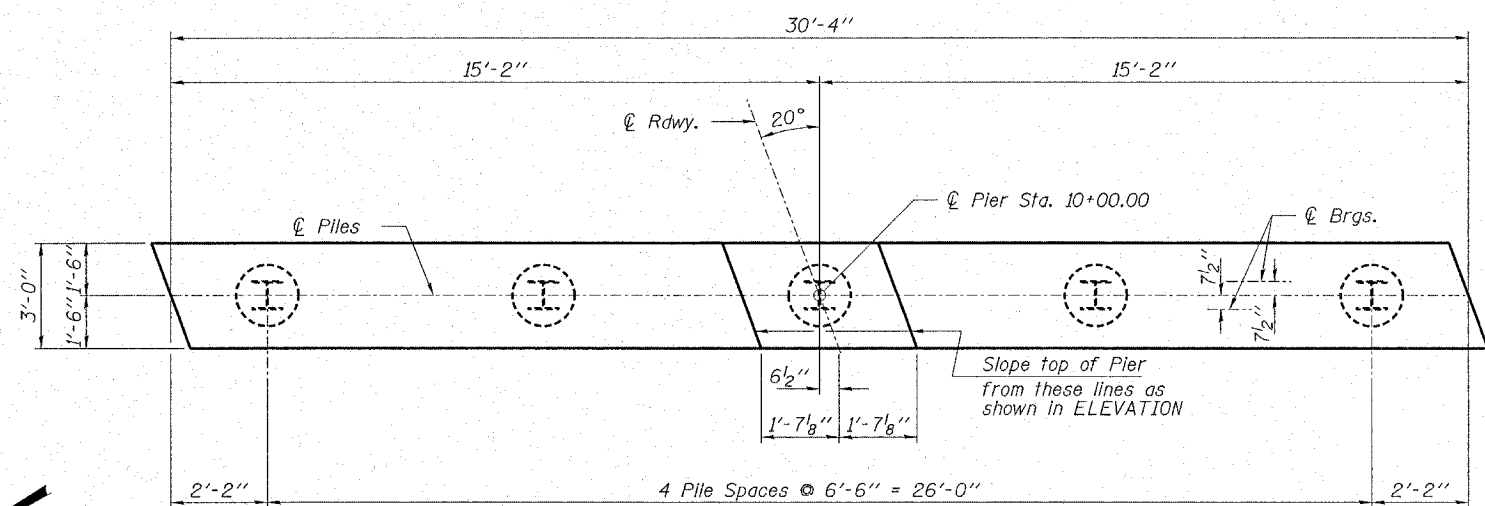
**HLR** 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 548-3400

ELGIN • SPRINGFIELD • DUQUOIN

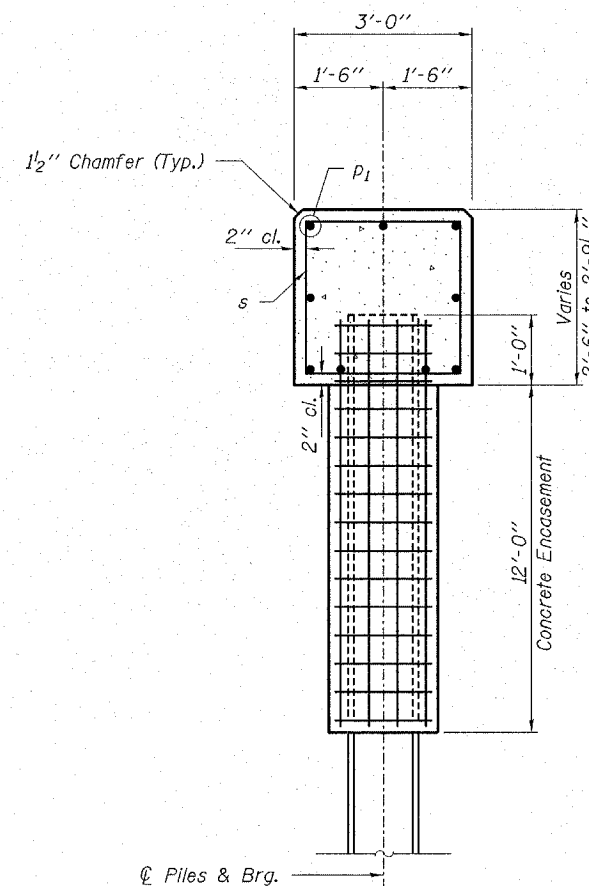
PROJECT NUMBER: 12-23-0025-1 DATE: 05/10/06  
 DESIGNED: J.W.F. CHECKED: S.W.M. DRAWN: D.T.M.

**NORTH ABUTMENT**  
**SECTION 05-00261-00-BR**  
 F.A.S. 690 / C.H. 22 / FOX ROAD  
 CLARK COUNTY  
 STRUCTURE NO. 012-3333 / STATION 10+00

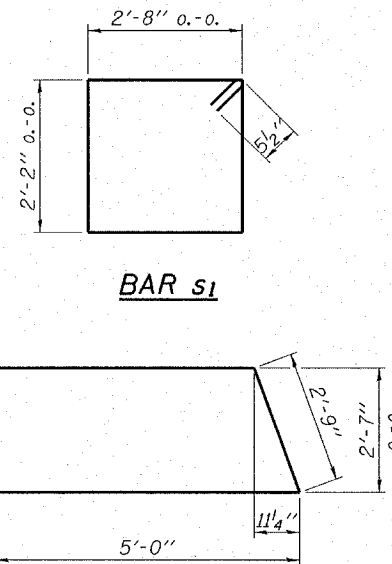
CONTRACT NO. 95480



**PLAN**

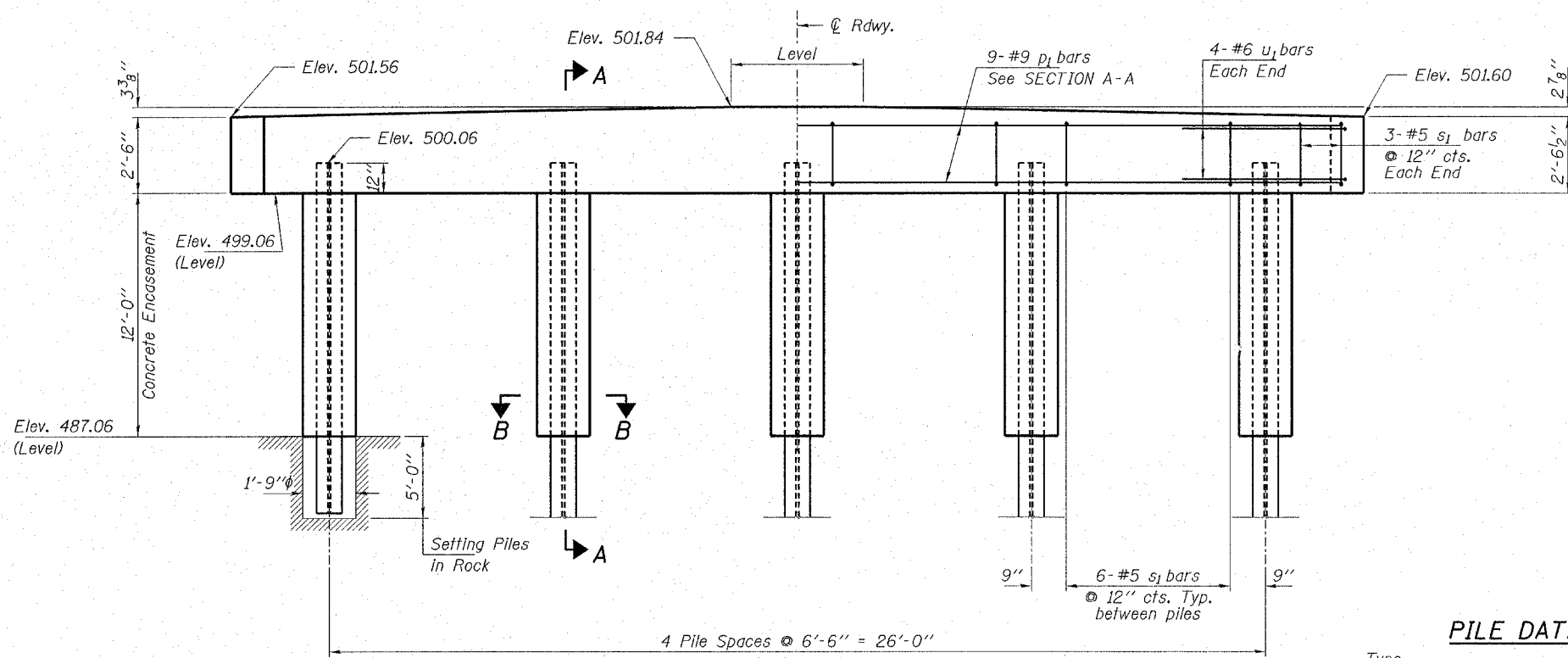


**SECTION A-A**

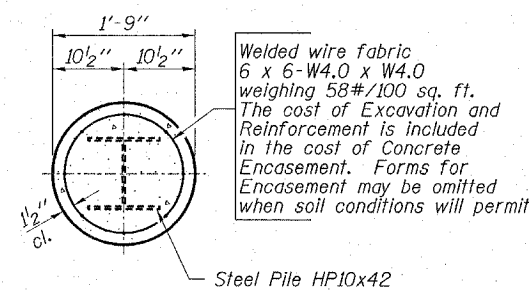


**BAR s1**

**BAR u1**



**ELEVATION**  
(Looking North)



**SECTION B-B**

Welded wire fabric  
6 x 6-W4.0 x W4.0  
weighing 58#/100 sq. ft.  
The cost of Excavation and  
Reinforcement is included  
in the cost of Concrete  
Encasement. Forms for  
Encasement may be omitted  
when soil conditions will permit.

Steel Pile HP10x42

**BILL OF MATERIAL - 1 PIER**

BAR	NO.	SIZE	LENGTH	SHAPE
p1	9	#9	30'-0"	—
s1	30	#5	10'-7"	□
u1	8	#6	12'-9"	U
Concrete Structures		Cu. Yd.	9.0	
Reinforcement Bars		Pound	1,400	
Furnishing Steel Piles HP10x42		Foot	100	
Concrete Encasement		Cu. Yd.	5.2	
Setting Piles in Rock		Each	5	

**PILE DATA**

Type.....Steel HP10x42  
No. Req'd.....5  
Design Capacity.....56 Tons/Pile  
Est. Length.....20 Feet/Pile

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS

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

ELGIN • SPRINGFIELD • DUQUOIN

PROJECT NUMBER: 12-23-0025-1 DATE: 05/10/06  
DESIGNED: J.W.F. CHECKED: S.W.M. DRAWN: D.T.M.

**PIER**

**SECTION 05-00261-00-BR**

F.A.S. 690 / C.H. 22 / FOX ROAD

CLARK COUNTY


STRUCTURE NO. 012-3333 / STATION 10+00

<b>NOBLE</b>		Structure #: 012-3333	<b>BORING No. B-1</b>		water level reading			
<b>ENGINEERING CONSULTANTS</b>		County: Clark, IL	Sheet No. 1 of 1		1st encounter: 9'			
Client: Clark County Highway Dept.		Weather: Sunny	Temperature: Low 30's		water level reading			
Driller: Noble Engineering Consultants		Date Start: 2-16-06	Surface Elevation: See Comments		@completion: cave 12'			
Location: 05-00261-00-BR		Date Finished: 2-16-06	Driller: Eric Seals		Backfill: soil cuttings			
Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qu (tsf)	Moisture (%)	Elev.
1								
2	SS-1	1.0'-2.5'	6	3-3-3	70		9.3	
3								
4	SS-2	3.5'-5.0'	9	2-3-6	100		16.8	
5								
6	SS-3	6.0'-7.5'	13	5-5-8	100		20.8	
7								
8								
9	SS-4	8.5'-10.0'	4	1-2-2	90		23.1	
10								
11								
12								
13								
14	SS-5	13.5'-15.0'	4	2-2-2	90		24.8	
15								
16								
17								
18								
19	SS-6	18.5'-20.0'	10	1-3-7	100		36.2	
20								
21	ST-1	20.0'-22.5'				0.34 Bulge		
22								
23								
24	SS-7	23.5'-25.0'	6	1-2-4	100		30.8	
25								
26	ST-2	25.0'-22.5'				see comments	21.5	
27								
28								
29								
30	SS-8	28.5'-30.0'	32	2-8-24	100		22.9	
Drilling Method: HSA (3-3/4" ID)		comments	Unconfined Compressive Strength is denoted as Qu			Hammer type: Cathead		
Depth: 0' to 30.0'			Elevation information was not available at the time of exploration			Route: Fox Road crossing		
Drill Rig: Mobile B-47			Refer to boring location plan			Hurricane Creek		
Sampling: split-spoon (SS)			*Sample contained frequent sand seams making sample unsuitable for unconfined test					
shelby tube (ST)								

BORING 1

<b>NOBLE</b>		Structure #: 012-3333	<b>BORING No. B-2</b>		water level reading				
<b>ENGINEERING CONSULTANTS</b>		County: Clark, IL	Sheet No. 1 of 1		1st encounter: 9'				
Client: Clark County Highway Dept.		Weather: Sunny	Temperature: Teens		water level reading				
Driller: Noble Engineering Consultants		Date Start: 2-17-06	Surface Elevation: See Comments		@completion: cave 11'				
Location: 05-00261-00-BR		Date Finished: 2-17-06	Driller: Eric Seals		Backfill: soil cuttings				
Depth:	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qu (tsf)	Soil Description	Moisture (%)	Elev.
1							0.0'-7.0' Sandy, bwn FILL		
2	SS-1	1.0'-2.5'	6	2-3-3	70		w/ pea gravel in upper 12"	16.6	
3									
4	SS-2	3.5'-5.0'	6	2-2-4	90			18.4	
5									
6	SS-3	6.0'-7.5'	8	3-4-4	90		7.0'-9.0' Silty POSSIBLE FILL, bwn	13	
7									
8									
9	SS-4	8.5'-10.0'	3	2-1-2	100		9.0'-16.0' SILTY FINE TO MEDIUM SAND, tr. gravel, v. Loose to loose, wet, bwn	23.8	
10									
11									
12									
13									
14	SS-5	13.5'-15.0'	7	3-4-3	100		16.0'-18.5' CLAYEY SILTY LOAM, w/ frequent wet sand seams, tr.-sm gravel, gy	27.6	
15									
16									
17									
18									
19	SS-6	18.5'-20.0'	50+	38-50/2"	100		18.5'-30.0' HIGHLY WEATHERED SHALE	6.7	
20	ST-1	20.0'-20.3'				see comments			
21									
22									
23									
24	SS-7	23.5'-25.0'	50+	14-50/5"	100			9.2	
25									
26									
27									
28									
29									
30	SS-8	28.5'-30.0'	50+	14-14-50/5.8"	100		EOB 30.0'	14.3	
Drilling Method: HSA (3-3/4" ID)		Comments	Unconfined Compression Strength is denoted as Qu			Hammer type: Cathead			
Depth: 0' to 30.0'			Elevation information was not available at the time of exploration			Route: Fox Road crossing			
Drill Rig: Mobile B-47			Refer to boring location plan			Hurricane Creek			
Sampling: split-spoon (SS)			*sample refusal with no recovery						
shelby tube (ST)									

BORING 2

 <b>HAMPTON, LENZINI &amp; RENWICK, INC.</b> CIVIL & STRUCTURAL ENGINEERS		
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 548-3400		
ELGIN	SPRINGFIELD	DUQUOIN
PROJECT NUMBER: 12-23-0025-1	DATE: 05/10/06	
DESIGNED: J.W.F.	CHECKED: S.W.M.	DRAWN: D.T.M.

**BORINGS**  
 SECTION 05-00261-00-BR  
 F.A.S. 690 / C.H. 22 / FOX ROAD  
 CLARK COUNTY  
 STRUCTURE NO. 012-3333 / STATION 10+00