

# STATE OF ILLINOIS

## DEPARTMENT OF TRANSPORTATION

### DIVISION OF HIGHWAYS

# PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

ROUTE NO. F.A.S. 712	SECTION 02-00104 -00-BR	COUNTY FAYETTE	TOTAL SHEETS 21	SHEET NO. 1
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	
CONTRACT NO. 95469				

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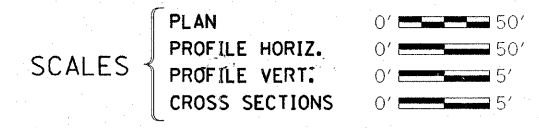
**UTILITIES**

SOUTHWESTERN COOPERATIVE  
525 US ROUTE 40  
GREENVILLE, IL 62446  
(618)664-1025

FRONTIER COMMUNICATION  
801 WEST JACKSON  
ALTAMONT, IL 62411

FAYETTE CO. WATER CO.  
R.R.#1 BOX 714  
BROWNSTOWN, IL 62418

DESIGN FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR  
DESIGN TRAFFIC: 1550 ADT (2005) 2100 ADT (2025)  
DESIGN POLICIES: 3R  
DESIGN SPEED: 50 M.P.H.  
CONTRACT NO. 95469



## PROJECT BRS-712(105)

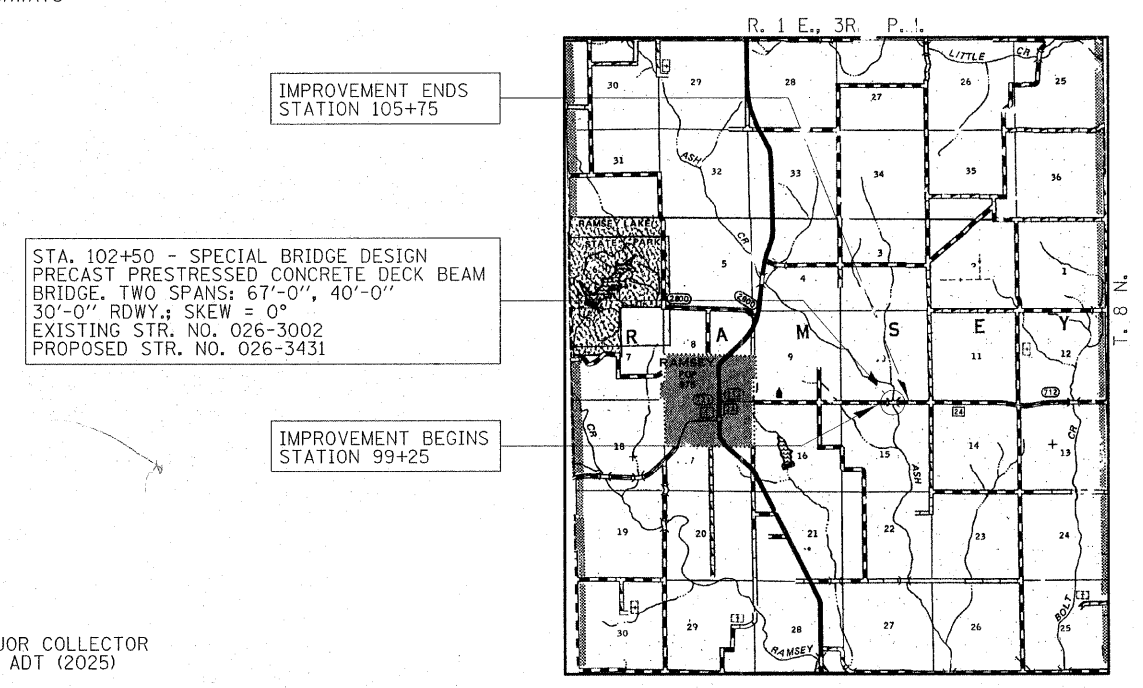
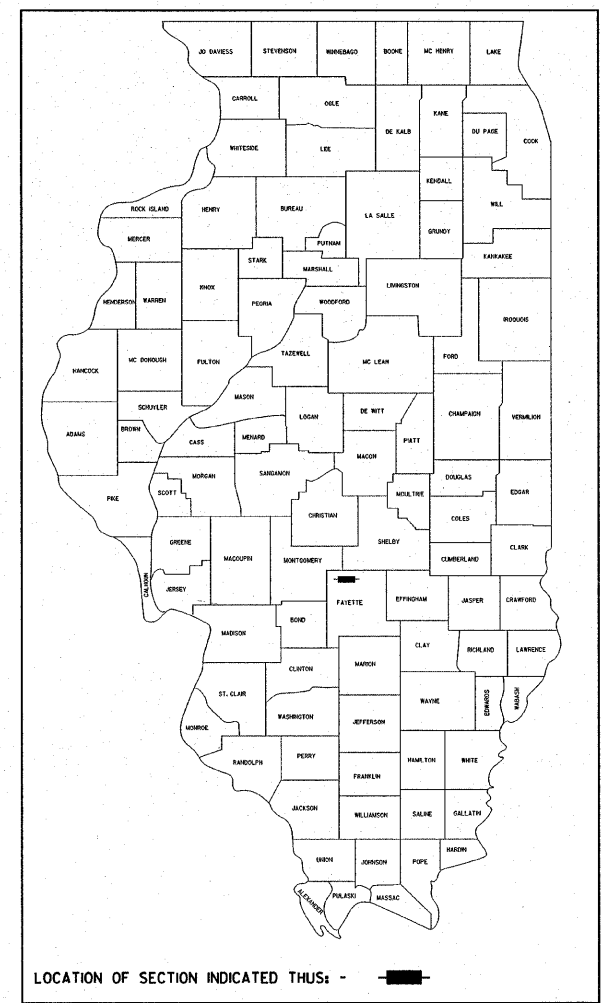
### SECTION 02-00104-00-BR

### FAYETTE COUNTY

## F.A.S. 712 / C.H. 24 OVER ASH CREEK

### C-97-090-02

## PROPOSED STRUCTURE NO. 026-3431



IMPROVEMENT ENDS  
STATION 105+75

STA. 102+50 - SPECIAL BRIDGE DESIGN  
PRECAST PRESTRESSED CONCRETE DECK BEAM  
BRIDGE. TWO SPANS: 67'-0", 40'-0"  
30'-0" RDWY.; SKEW = 0°  
EXISTING STR. NO. 026-3002  
PROPOSED STR. NO. 026-3431

IMPROVEMENT BEGINS  
STATION 99+25

**LAYOUT**

APPROXIMATE SCALE: 0 1 MILE

NET LENGTH OF SECTION = 650 FEET = 0.123 MILES



APPROVED 3-21 20 06  
*Michael A. May*  
COUNTY ENGINEER

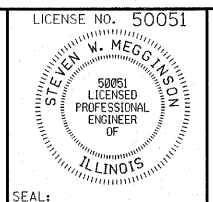
PASSED 4-7 20 06  
*Maureen E. Keast*  
DISTRICT SEVEN ENGINEER OF  
LOCAL ROADS & STREETS

Releasing For  
Bid Based on  
Limited Review 4-7 20 06  
*Christine M. Reed*  
DEPUTY DIRECTOR OF HIGHWAYS,  
REGION FOUR ENGINEER  
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DATE: March 14 2006

BY: *Steven W. Megginson*

LICENSE EXPIRES: NOVEMBER 30, 2007



**HLR**

Rice, Berry and Associates  
A Division of Hampton,  
Lenzini and Renwick, Inc.  
Civil & Structural Engineers  
3085 Stevenson Drive  
Suite 201  
Springfield, Illinois 62703  
217-546-3400  
P.O. Box 1036  
DuQuoin, Illinois 62832  
618-790-4637

### SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	QUANTITY		TOTAL
			CONSTRUCTION CODE		
			I000	X081-2A	
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	48		48
20200100	EARTH EXCAVATION	CU YD	670		670
20300100	CHANNEL EXCAVATION	CU YD	75		75
> 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.65		0.65
28000300	TEMPORARY DITCH CHECKS	EACH	9		9
28100807	STONE DUMPED RIPRAP, CLASS A4	TON		740	740
> 28102600	STONE RIPRAP DITCH	TON	300		300
35100100	AGGREGATE BASE COURSE, TYPE A	TON	904		904
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	6		6
48101200	AGGREGATE SHOULDERS, TYPE B	TON	282		282
> 50100100	REMOVAL OF EXISTING STRUCTURES	EACH		1	1
50300225	CONCRETE STRUCTURES	CU YD		32.4	32.4
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT		1,200	1,200
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT		2,010	2,010
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND		4,470	4,470
50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT		220	220
51201400	FURNISHING STEEL PILES HP10X42	FOOT		<del>301</del>	<del>301</del>
51202700	DRIVING STEEL PILES.	FOOT		163	163
51203400	TEST PILE STEEL HP10X42	EACH		1	1
51204315	CONCRETE ENCASEMENT	CU YD		10.8	10.8
51500100	NAME PLATES	EACH		1	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	50		50
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD		366	366
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT		241	241
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	425		425
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4		4
* > 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4		4
> 63200310	GUARDRAIL REMOVAL	FOOT	48		48
> 67100100	MOBILIZATION	L SUM	1		1
> 70102550	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	EACH	1		1
* > 78200400	GUARDRAIL REFLECTORS	EACH	11		11
* > 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4		4
> X0321317	GRANULAR BACKFILL	CU YD		45	45
> X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N50	TON		30	30
> X4066765	LEVELING BINDER (MACHINE METHOD), SUPERPAVE N50	TON		8	8
> X4073016	BITUMINOUS CONCRETE PAVEMENT (FULL-DEPTH), SUPERPAVE, 6 3/4"	SQ YD	<del>1324</del>		<del>1324</del>
> Z0005600	BREAKING PAVED DITCH	FOOT	472		472
> Z0065000	SETTING PILES IN ROCK	EACH		6	6

### GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2002," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL CLEARING AND GRUBBING AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE LOCATIONS OF EXISTING ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS UNTIL THE OWNER, HIS AGENT, PROFESSIONAL LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTION.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES  
 AGGREGATE SURFACE CSE. 2.05 TON/CU YD  
 STONE DUMPED RIPRAP, CL. A4 1.75 TON/CU YD  
 GRANULAR BACKFILL 2.02 TON/CU YD  
 BITUMINOUS SUPERPAVE 112 LBS /SY/INCH DEPTH  
 AGGREGATE BASE COURSE TY. A 2.05 TON/CU YD
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. **ESTIMATED QUANTITY = 0.65 ACRES.**
- TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.

### MIXTURE REQUIREMENTS

LOCATION(S):	CH 24 FULL DEPTH PAVEMENT & BRIDGE SURFACING
MIXTURE USE(S):	BITUMINOUS CONCRETE SURFACE SUPERPAVE
AC/PG:	PG 64-22
RAP % (MAX):	15%
DESIGN AIR VOIDS:	4% @ Ndes 50
MIXTURE COMPOSITION:	IL 9.5
(GRADATION MIXTURE):	
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS / SY / INCH THICKNESS

### MIXTURE REQUIREMENTS

LOCATION(S):	CH 24 BRIDGE SURFACING
MIXTURE USE(S):	LEVELING BINDER (MACHINE METHOD) SUPERPAVE
AC/PG:	PG 64-22
RAP % (MAX):	25%
DESIGN AIR VOIDS:	4% @ Ndes 50
MIXTURE COMPOSITION:	IL-9.5
(GRADATION MIXTURE):	
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS / SY / INCH THICKNESS

### MIXTURE REQUIREMENTS

LOCATION(S):	CH 24 FULL DEPTH PAVEMENT
MIXTURE USE(S):	BITUMINOUS CONCRETE BINDER SUPERPAVE
AC/PG:	PG 64-22
RAP % (MAX):	25%
DESIGN AIR VOIDS:	4% @ Ndes 50
MIXTURE COMPOSITION:	IL-19.0
(GRADATION MIXTURE):	
FRICTION AGGREGATE:	
MIXTURE WEIGHTS:	112 LBS / SY / INCH THICKNESS

> SEE SPECIAL PROVISIONS

\* SPECIALTY ITEMS

### TREE REMOVAL (6-15 UNITS)

LOCATION	UNITS
CH 24	
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
34' RT. STA. 102+75	6
TOTAL	48

### PAVEMENT DESIGN

DESIGN PERIOD: 20 YEARS 73,200 LB. LOAD LIMIT  
 STRUCTURAL DESIGN TRAFFIC (S.D.T.) = 1804 YEAR 2015  
 P.V. = 1588 S.U. = 126 M.U. = 90  
 ROAD/STREET CLASSIFICATION: CLASS III ROAD  
 PERCENT OF S.D.T. IN DESIGN LANE  
 P = 50 S = 50 M = 50  
 TRAFFIC FACTOR = ACTUAL TF 0.39 AC TYPE 64-22  
 MINIMUM TF  
 PG GRADE: BINDER = 64-22 SURFACE = 64-22  
 SUPERGRADE SUPPORT RATING:  
 SSR= FAIR (STA. 99+25 TO STA. 105+75)

**HLR**  
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 3085 Stevenson Drive  
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 217-546-3400  
 Account Number:  
 12-34-0002-1  
 Date: 03/09/06  
 P.O. Box 1036  
 DuQuoin, Illinois 62832  
 618-790-4637  
 DESIGNED: L.F.S. CHECKED: S.W.M. DRAWN: D.T.M.

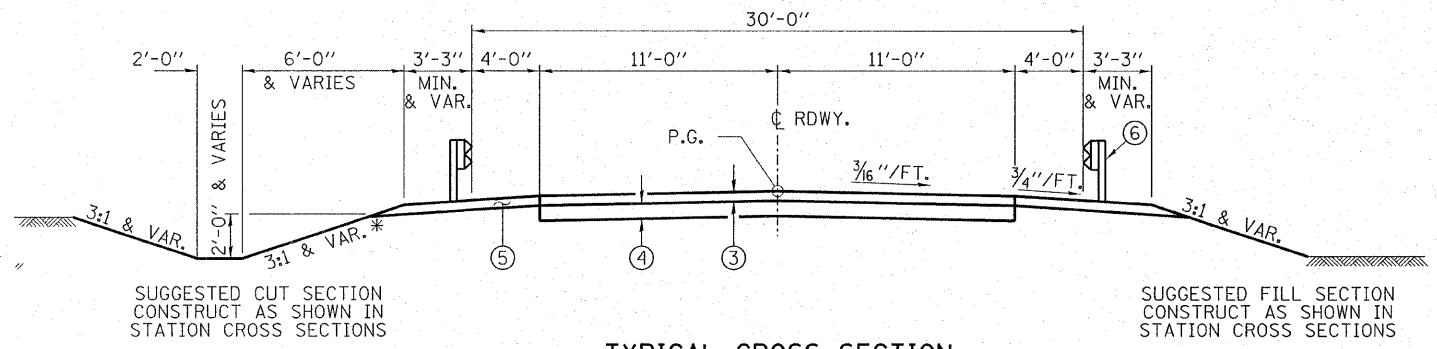
### SUMMARY OF QUANTITIES AND GENERAL NOTES

SECTION 02-00104-00-BR

F.A.S. 712 / C.H. 24

FAYETTE COUNTY

LOCATION	STEEL PLATE BEAM GUARDRAIL TYPE A	TRAFFIC BARRIER TERMINAL		TERMINAL MARKER DIRECT APPLIED	GUARDRAIL REFLECTORS EACH	GUARDRAIL REMOVAL FOOT
		TYPE 1 SPECIAL (TANGENT)	TYPE 5A			
RT. STA. 99+56.9 TO RT. STA. 101+95.2	175	1	1	1		
LT. STA. 100+56.9 TO LT. STA. 101+95.2	75	1	1	1		
RT. STA. 103+04.8 TO RT. STA. 103+68.1	0	1	1	1		
LT. STA. 103+04.8 TO LT. STA. 105+43.1	175	1	1	1		
RT. STA. 101+98 TO RT. STA. 102+10						12
LT. STA. 101+98 TO LT. STA. 102+10						12
RT. STA. 102+98 TO RT. STA. 103+10						12
LT. STA. 102+98 TO LT. STA. 103+10						12
RT. STA. 99+84.04 TO RT. STA. 104+42.46					6	
LT. STA. 100+84.01 TO LT. STA. 105+42.46					5	
TOTAL	425	4	4	4	11	48

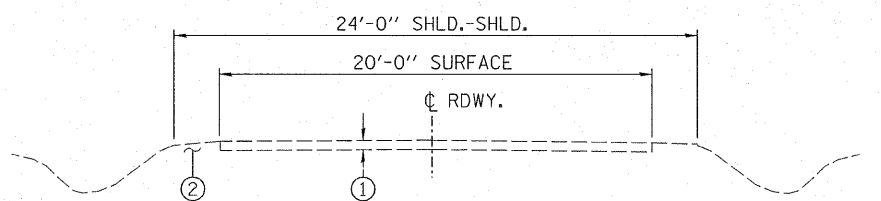


**TYPICAL CROSS SECTION**

STA. 99+50 TO 101+95.79  
 STA. 103+04.21 TO 105+55  
 TRANSITION FROM EXISTING ROADWAY TO PROPOSED SHALL BE CONSTRUCTED FROM STA. 99+25 TO 99+50 AND FROM 105+50 TO 105+75 SEE SHEET 14 FOR TRANSITION AT BRIDGE.

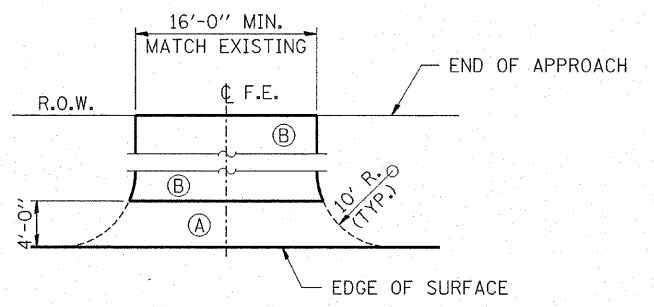
LOCATION	ROADWAY SCHEDULE			
	BITUM. CONC. PAVEMENT FULL-DEPTH SUPERPAVE	AGGREGATE BASE COURSE TYPE A	AGGREGATE SHOULDER TYPE B	AGGREGATE SURFACE COURSE TYPE B
	6.75"	12"		
	SQ YD	TON	TON	TON
STA 99+25 TO STA 101+95.79	662	452	141	
STA 103+04.21 TO STA 105+75	662	452	141	
ENTRANCES				6
TOTAL	1324	904	282	6

LOCATION	BREAKING PAVED DITCH	STONE RIPRAP DITCH
	FOOT	TON
RT. STA. 103+04 TO RT. STA. 103+63	59	34
LT. STA. 103+00 TO LT. STA. 103+42		24
LT. STA. 103+42 TO LT. STA. 105+73	231	135
RT. STA. 103+91 TO RT. STA. 105+73	182	107
TOTAL	472	300



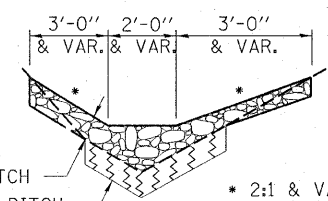
**EXISTING CROSS SECTION**

STA. 99+75 TO 105+75



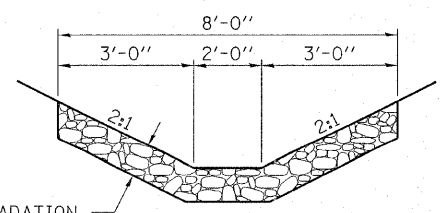
**FIELD ENTRANCE DETAIL**

- (A) AGGREGATE SHOULDERS TYPE B
- (B) AGGREGATE SURFACE COURSE TYPE B



12" STONE RIPRAP DITCH  
 EXISTING PAVED DITCH \* 2:1 & VARIES

**BREAKING PAVED DITCH**



12" RR3 GRADATION

**STONE RIPRAP DITCH**

**LEGEND**

- (1) EXISTING OIL & CHIP PAVEMENT
- (2) EXISTING EARTH SHOULDERS
- (3) BITUMINOUS CONCRETE PAVEMENT (FULL-DEPTH), SUPERPAVE, 6 3/4"
- (4) AGGREGATE BASE COURSE TYPE A 12"
- (5) AGGREGATE SHOULDERS TYPE B
- (6) STEEL PLATE BEAM GUARDRAIL TYPE A

LOCATION	EARTHWORK SCHEDULE					
	EARTH EXCAVATION (CU YD)	SHRINKAGE FACTOR	PERCENT USED	AVAILABLE* EXCAVATION (CU YD)	EMBANKMENT REQUIRED (CU YD)	EARTHWORK BALANCE (CU YD)
STA. 99+25 TO STA. 101+95.8	350	25%	100%	263	309	-47
STA. 101+95.8 TO STA. 103+04.1	-	25%	100%	-	-	-
STA. 103+04.1 TO STA. 105+75	319	25%	100%	239	32	207
CHANNEL EXCAVATION	75	25%	70%	39		39
ENTRANCES					8	-8
TOTAL	669			541	349	192
USE:	670					192

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

**ILR**  
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 A Division of Hampton, Lenzini and Renwick, Inc.  
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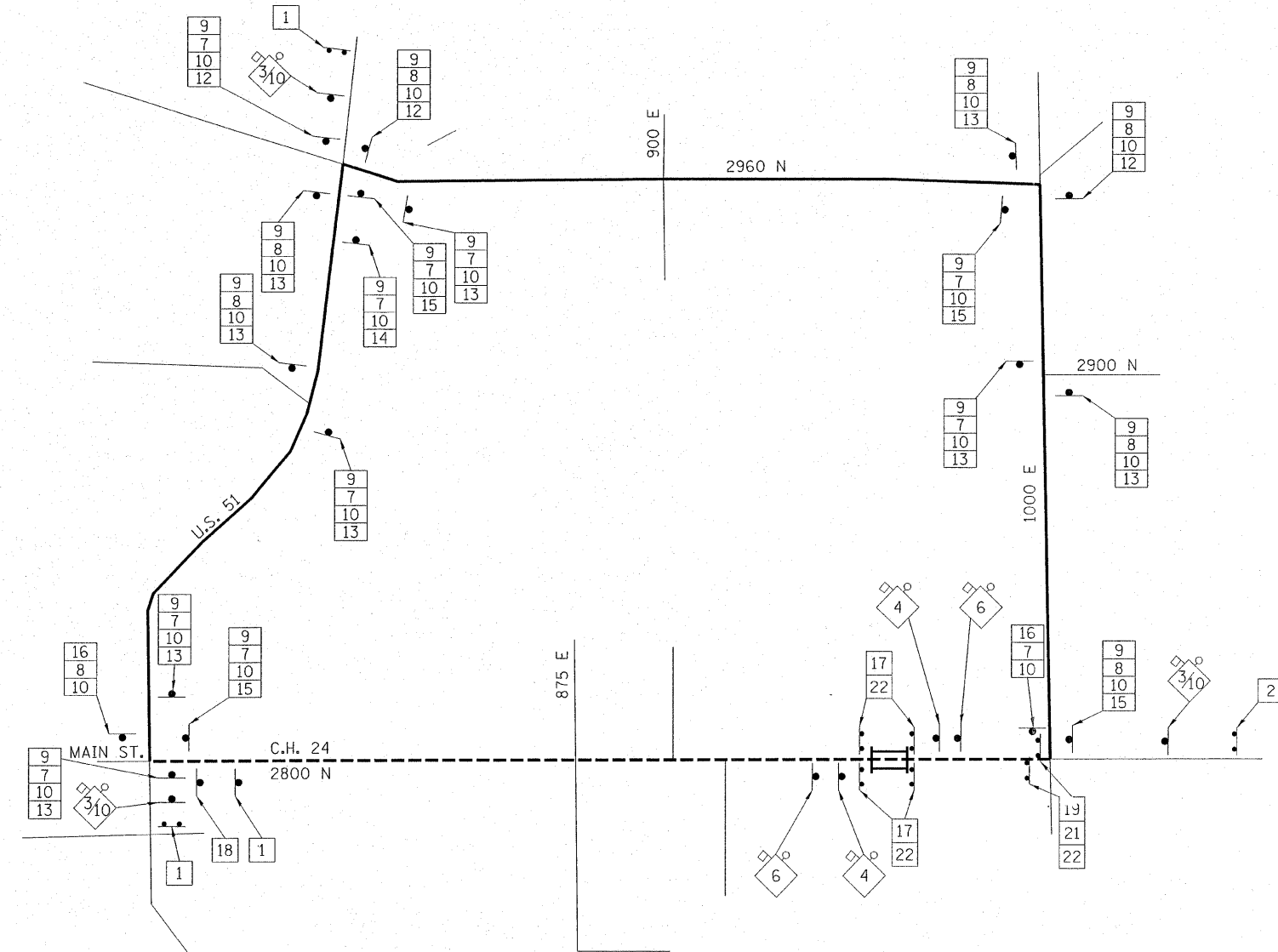
**TYPICAL CROSS SECTIONS AND QUANTITY SCHEDULES**  
 SECTION 02-00104-00-BR  
 F.A.S. 712 / C.H. 24  
 FAYETTE COUNTY





ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 712	02-00104-00-BR	FAYETTE	21	5
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

CONTRACT NO. 95469



**SIGN LEGEND**

1		R11-3 WITH 2 AMBER FLASHING LIGHTS. (3 REQ'D)	
2		R11-3 WITH 2 AMBER FLASHING LIGHTS. (1 REQ'D)	
3		W20-2, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (3 REQ'D)	12
4		W20-3, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (2 REQ'D)	13
6		W20-3, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (2 REQ'D)	14
7		M3-2 24"x12" (11 REQ'D)	15
8		M3-4 24"x12" (8 REQ'D)	16
9		M4-8 24"x12" (17 REQ'D)	17
10		M1-1100 24"x12" (22 REQ'D)	18
			19
			21
			22

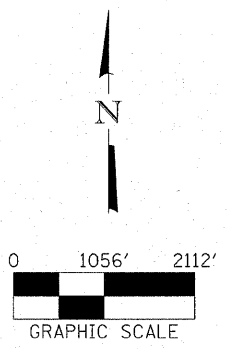
**LEGEND**

— DETOUR ROUTE  
 — ROAD OPEN TO LOCAL TRAFFIC ONLY

48" x 48" CONSTRUCTION SIGN, WITH AMBER FLASHING LIGHT AND ORANGE WARNING FLAG (OPTIONAL). NUMBER DENOTES SIGN TYPE

M4-9 SERIES DETOUR SIGN WITH DIRECTION AND ROAD NAME PLATES. NUMBER DENOTES TYPE

OTHER DETOUR SIGNS, NUMBER DENOTES TYPE



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**DETOUR PLAN**  
 SECTION 02-00104-00-BR  
 F.A.S. 712 / C.H. 24  
 FAYETTE COUNTY

**DETOUR GENERAL NOTES**

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
F.A.S. 712	02-00104 -00-BR	FAYETTE	21	6
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

CONTRACT NO. 95469


- ALL SIGNING SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JAN. 1, 2002", "THE QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES ADOPTED 1990", THE DETAILS IN THESE PLANS, AND THE LATEST EDITION OF THE STATE OF ILLINOIS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
- THE CONTRACTOR SHALL SCHEDULE ALL WORK IN AN EXPEDIENT MANNER TO REDUCE THE LENGTH OF TIME THAT THE DETOUR NEEDS TO BE IN EFFECT.
- THE ENGINEER SHALL BE NOTIFIED IN WRITING AT LEAST THREE WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT. THE ENGINEER WILL CONTACT THE APPROPRIATE LOCAL AGENCIES AND INTERESTED PARTIES FOR APPROVAL OF SUCH DATE.
- IF DEEMED NECESSARY BY THE ENGINEER A PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR SHALL BE HELD AT LEAST TWO WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT.
- THE CONTRACTOR SHALL SUPPLY TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF HIS REPRESENTATIVES ON THE CONSTRUCTION SITE AND HIS REPRESENTATIVE RESPONSIBLE FOR THE DETOUR SIGNING PRIOR TO THE START OF THE WORK. THE FAYETTE COUNTY HIGHWAY DEPARTMENT REPRESENTATIVE FOR THE DETOUR IS:

MR. MICHAEL A. MAXEY  
FAYETTE COUNTY HIGHWAY DEPARTMENT  
P.O. BOX 297  
VANDALIA, ILLINOIS 62471  
(618) 283-5025

- IF REQUESTED BY THE CONTRACTOR IN WRITING AT LEAST THREE WEEKS PRIOR TO THE DAY THE DETOUR IS TO BE IN EFFECT THE ENGINEER WILL FIELD LOCATE THE POSITIONS OF ANY SIGNS.
- LONGITUDINAL DIMENSIONS SHOWN ON THESE PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
- THE ROAD SHALL NOT BE CLOSED UNTIL ALL SIGNING IS ERECTED IN ACCORDANCE WITH THE DETOUR PLAN AND INSPECTED AND APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL BARRICADES, SIGNS, LIGHTS, AND OTHER DEVICES INSTALLED BY HIM ARE IN PLACE AND OPERATING 24 HOURS EACH DAY INCLUDING SUNDAYS AND HOLIDAYS DURING THE TIME THE DETOUR IS IN EFFECT.
- THE CONTRACTOR SHALL MAKE ALL CHANGES IN SIGNING THAT ARE DEEMED NECESSARY BY THE ENGINEER.
- ALL EXISTING SIGNING THAT IS NOT APPLICABLE WHILE THE DETOUR IS IN EFFECT SHALL BE COMPLETELY COVERED BY THE CONTRACTOR, IN A MANNER APPROVED BY THE ENGINEER.
- ALL DETOUR SIGNING SHALL BE POST MOUNTED IF THE ROAD CLOSURE IS TO EXCEED FOUR (4) CALENDAR DAYS.
- ALL DETOUR SIGNING EXCEPT REGULATORY SIGNS SHALL HAVE BLACK LEGENDS ON FLUORESCENT ORANGE SHEETING AND STANDARD BLACK BORDERS. THE FLUORESCENT ORANGE REFLECTIVE SHEETING SHALL MEET THE REQUIREMENTS OF ARTICLE 1084.02 OF THE STANDARD SPECIFICATIONS. ALL DETOUR SIGNING SHALL BE NEW OR LIKE NEW CONDITION. THE ENGINEER SHALL BE THE SOLE JUDGE OF THE CONDITION AND ACCEPTANCE OF THE SIGNS.
- THE SIZES OF ALL SIGNS NOT SPECIFIED IN THESE PLANS SHALL BE AS REQUIRED BY THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- AS A MINIMUM, ALL AMBER FLASHING LIGHTS THAT ARE REQUIRED FOR THIS DETOUR SHALL MEET THE REQUIREMENTS FOR TYPE A-LOW INTENSITY FLASHING LIGHTS IN ARTICLE 1084.01 OF THE STANDARD SPECIFICATIONS. ALL LIGHTS SHALL OPERATE DURING THE HOURS OF DARKNESS. ONLY LIGHTS THAT HAVE BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION SHALL BE USED.
- THE MINIMUM DIMENSIONS OF THE ORANGE WARNING FLAGS SHOWN IN THE PLANS ARE 18" BY 18".
- ALL BARRICADES SHALL HAVE REFLECTORIZED STRIPING ON BOTH SIDES OF THE BARRICADES. THE TYPE III BARRICADES USED AT THE POINT OF CLOSURE TO THRU TRAFFIC SHALL NOT EXCEED 8'-0" IN WIDTH EACH, FOR A SINGLE APPROACH LANE.
- THE "ROAD CLOSED" (R11-2), THE "ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY" (R11-3), AND THE "ROAD CLOSED TO THRU TRAFFIC" (R11-4) SIGNS SHALL BE MOUNTED ABOVE THE TOP OF THE BARRICADE. ALL TYPE III BARRICADES SHALL HAVE TWO (2) AMBER TYPE A-LOW INTENSITY FLASHING LIGHTS SPACED NEAR THE CENTERLINE OF THE SUPPORTS.
- THE ROAD NAME SIGN SHALL HAVE A BLACK LEGEND ON FLUORESCENT ORANGE REFLECTIVE SHEETING. THE SIGN BLANK SHALL BE A 9" BY VARIABLE OR A 12" BY VARIABLE WITH DESIGN SERIES C LETTERS. THE CAPITAL LETTERS SHALL BE 6" WITH 5" LOWER CASE.
- DURING NON-WORKING HOURS AT THE POINT OF ROAD CLOSURE TO ALL TRAFFIC THE CONTRACTOR SHALL PROVIDE A MEANS TO RESTRAIN THE BARRICADES FROM EASY MOVEMENT BY VANDALS. THE CHOSEN METHOD SHALL BE APPROVED BY THE ENGINEER.
- CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IMMEDIATELY BEHIND THE TYPE III BARRICADES DURING NON-WORKING HOURS. IN ANY EVENT ARTICLE 701.04 OF THE STANDARD SPECIFICATIONS SHALL APPLY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VISIBILITY OF ALL DETOUR AND CONSTRUCTION SIGNING, INCLUDING BRUSHING BACK VEGETATION IF DEEMED NECESSARY BY THE ENGINEER.
- THE FOLLOWING ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD IS APPLICABLE FOR THIS WORK: STANDARD 702001
- THE ENGINEER SHALL BE NOTIFIED AT LEAST TWENTY FOUR (24) HOURS BEFORE THE ROAD IS TO BE OPENED TO TRAFFIC. THE ENGINEER WILL CONTACT THE APPROPRIATE LOCAL AGENCIES AND INTERESTED PARTIES.

**SPECIAL DETOUR NOTES**

- THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO THE DETOUR GENERAL NOTES.
- SEE SHEET 5 FOR INFORMATION ON THE DESIGN AND LOCATION OF THE DETOUR INFORMATION SIGNS.
- SIX (6) TYPE III BARRICADES WILL BE NEEDED FOR THIS DETOUR AND ROAD CLOSURE.
- THE TOTAL LENGTH OF THE DETOUR IS 7 MILES.
- ALL DETOUR SIGNS, SHALL BE COMPLETELY COVERED AT ALL TIMES THE ROADWAY IS NOT CLOSED TO TRAFFIC.

	Rice, Berry and Associates A Division of Hampton, Lenzini and Renwick, Inc. Civil & Structural Engineers 3085 Stevenson Drive Suite 201 Springfield, Illinois 62703 217-546-3400
	P.O. Box 1036 DuQuoin, Illinois 62832 618-790-4637
Account Number 12-34-0002-1 Date: 03/09/06	DESIGNED: L.F.S.   CHECKED: S.W.M.   DRAWN: D.T.M.

**DETOUR PLAN**  
**SECTION 02-00104-00-BR**  
**F.A.S. 712 / C.H. 24**  
**FAYETTE COUNTY**

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	02-00104-00-BR	FAYETTE	21	7
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO.: 95469				

BY \_\_\_\_\_ DATE \_\_\_\_\_

ORIGINAL SURVEYED SURVEY PLOTTED TEMPLATE NO. \_\_\_\_\_

FINAL SURVEYED SURVEY PLOTTED TEMPLATE NO. \_\_\_\_\_

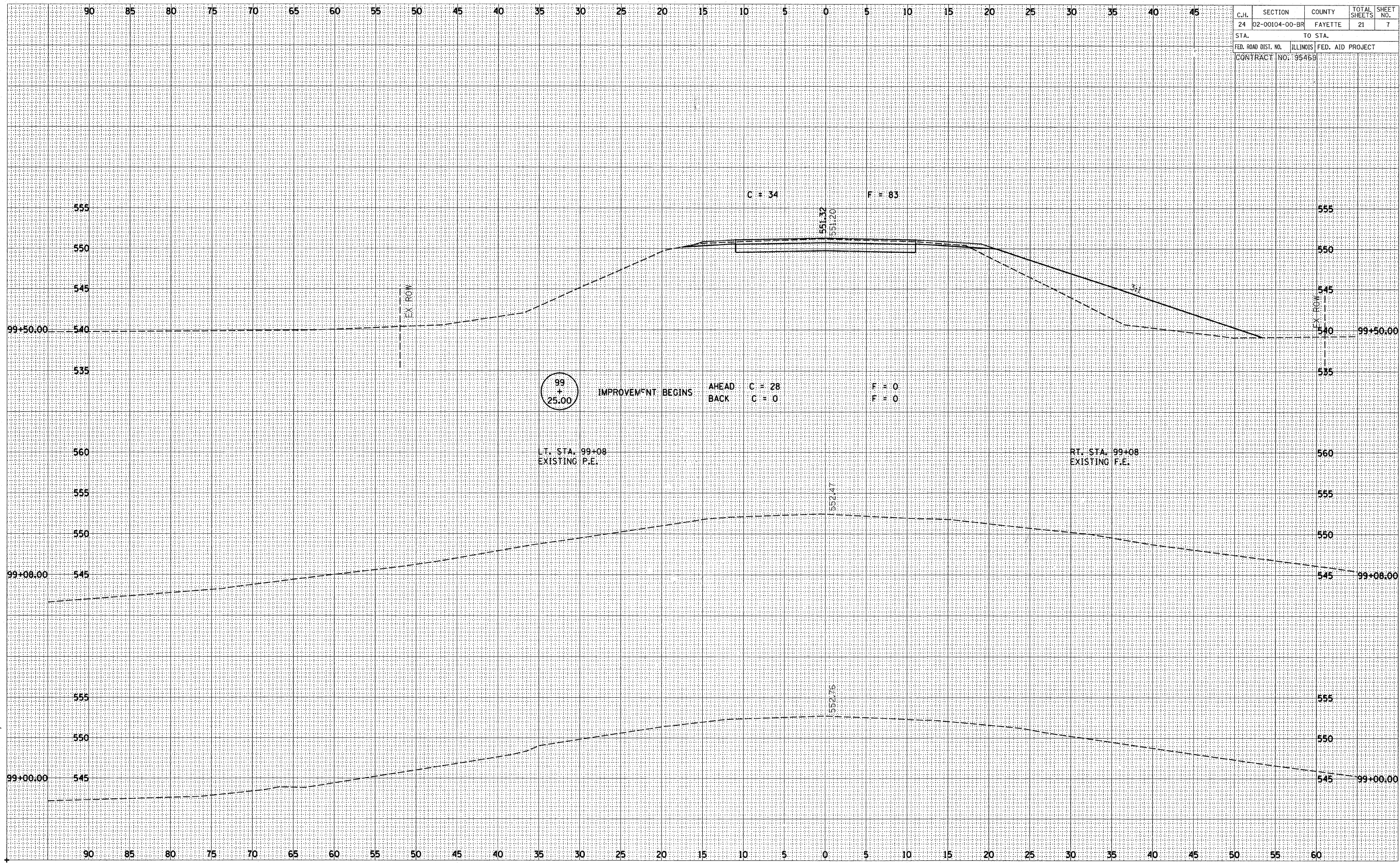
AREAS CHECKED \_\_\_\_\_

BY \_\_\_\_\_ DATE \_\_\_\_\_

ORIGINAL SURVEYED SURVEY PLOTTED TEMPLATE NO. \_\_\_\_\_

FINAL SURVEYED SURVEY PLOTTED TEMPLATE NO. \_\_\_\_\_

AREAS CHECKED \_\_\_\_\_

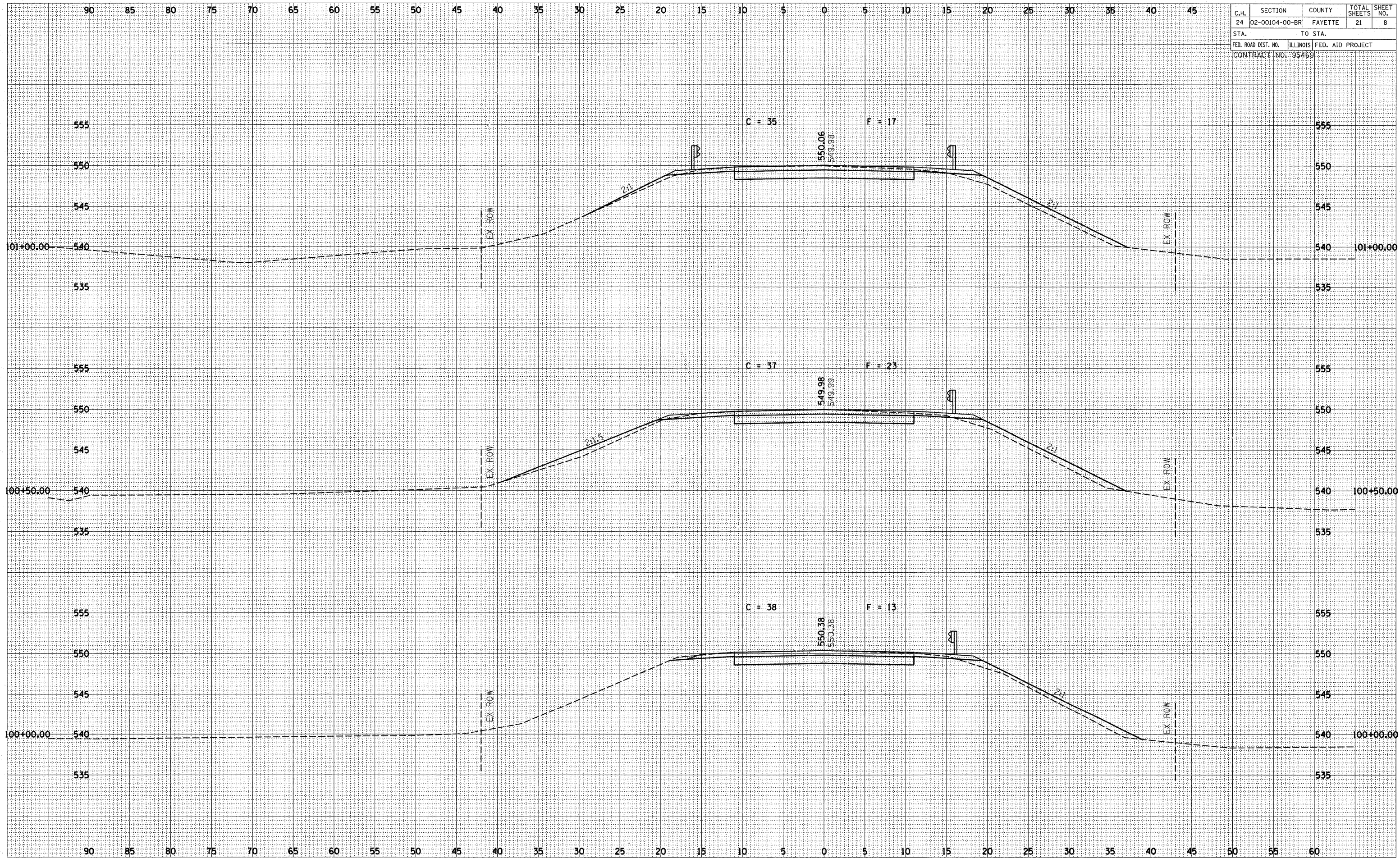




C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	02-00104-00-BR	FAYETTE	21	8
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 95469				

DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_

DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_





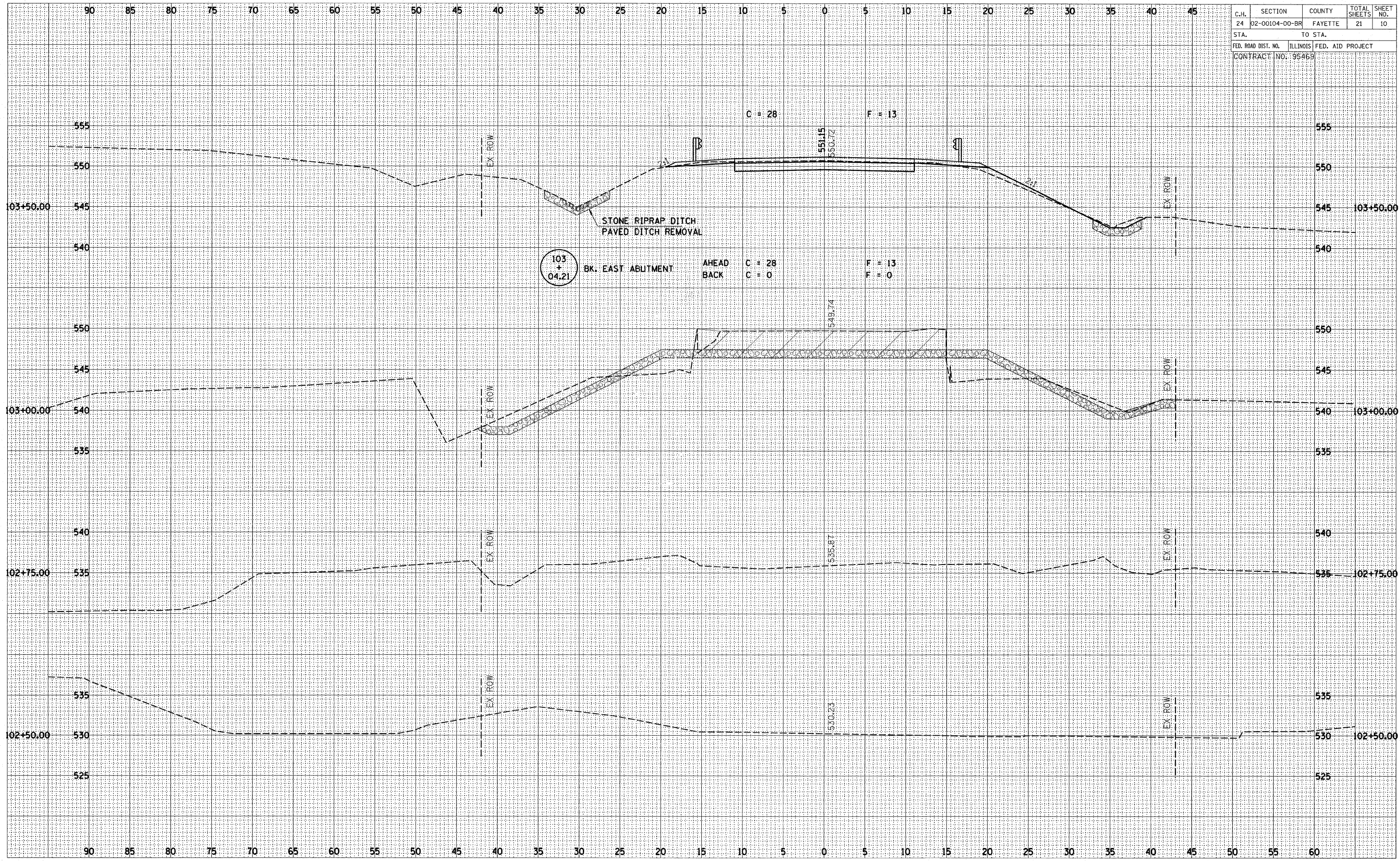




C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	02-00104-00-BR	FAYETTE	21	10
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 95469				

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

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

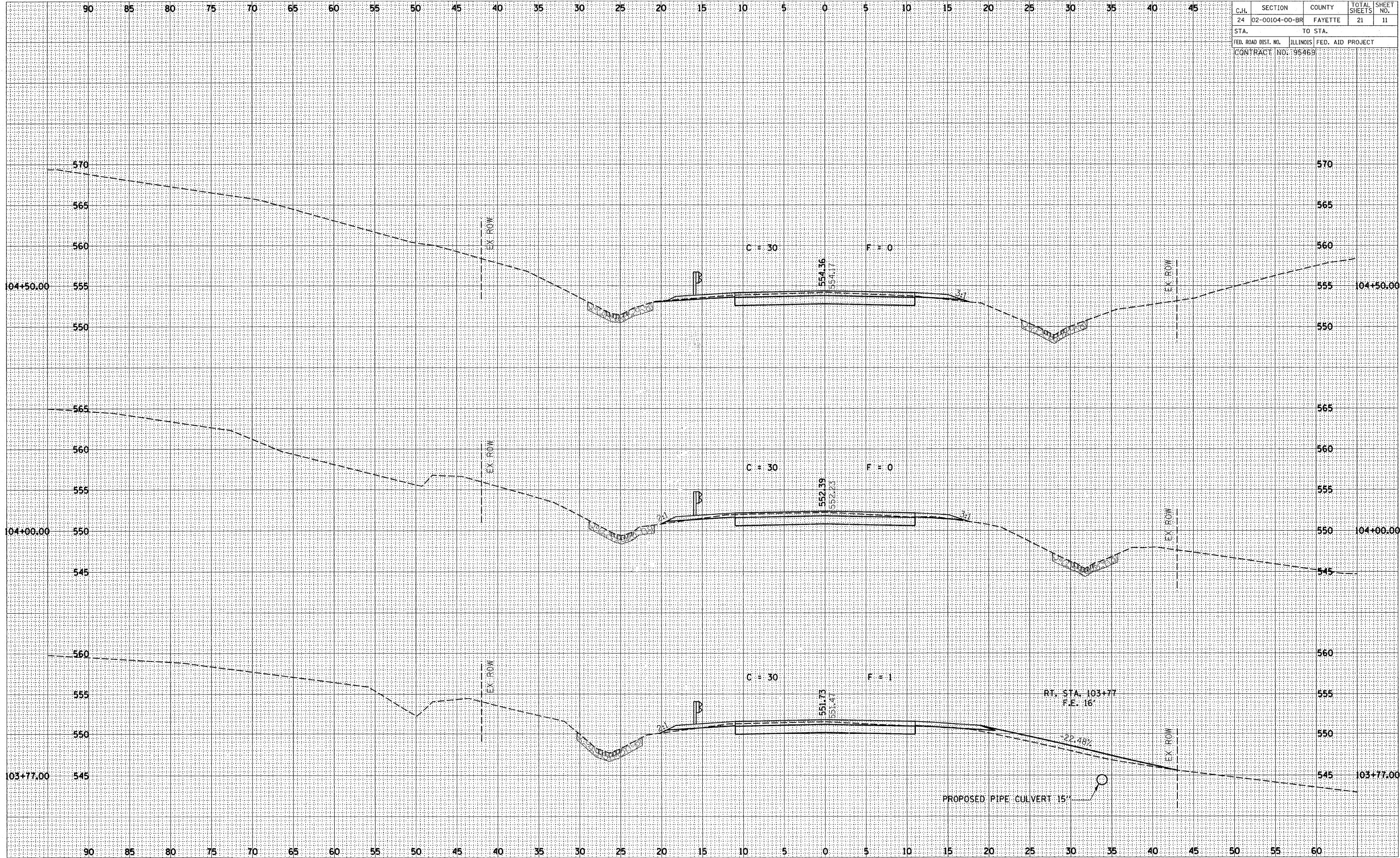




C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	02-00104-00-BR	FAYETTE	21	11
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO.: 95469				

BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_

BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_  
 NO. \_\_\_\_\_

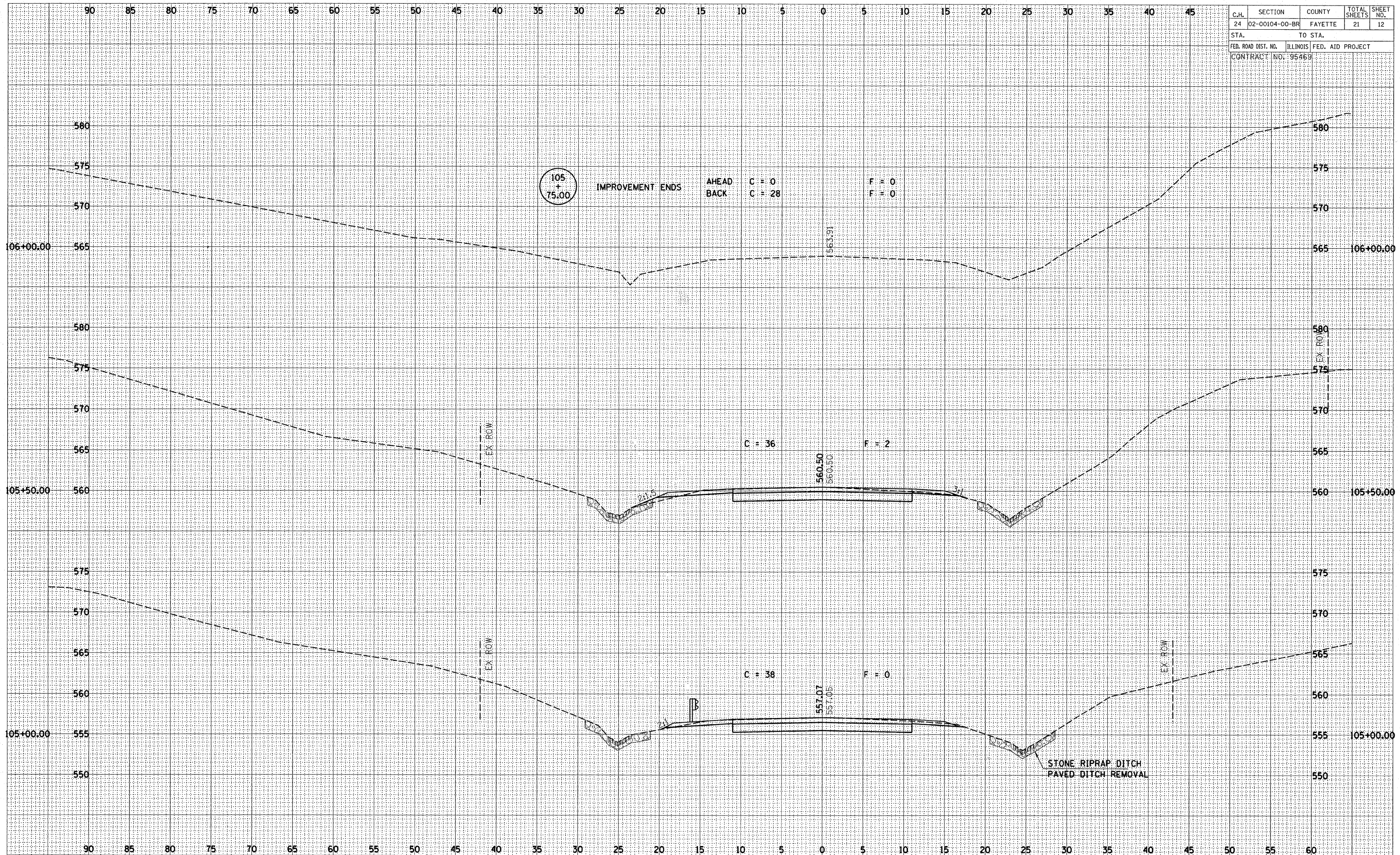




C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	02-00104-00-BR	FAYETTE	21	12
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO.: 95469				

DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_

DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 PLOTTED \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_





C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	02-00104-00-BR	FAYETTE	21	13
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO.: 95469				

BY \_\_\_\_\_ DATE \_\_\_\_\_

FINAL SURVEY SURVEYED \_\_\_\_\_

NOTE BOOK PLOTTED \_\_\_\_\_

NO. TEMPLATE \_\_\_\_\_

AREAS CHECKED \_\_\_\_\_

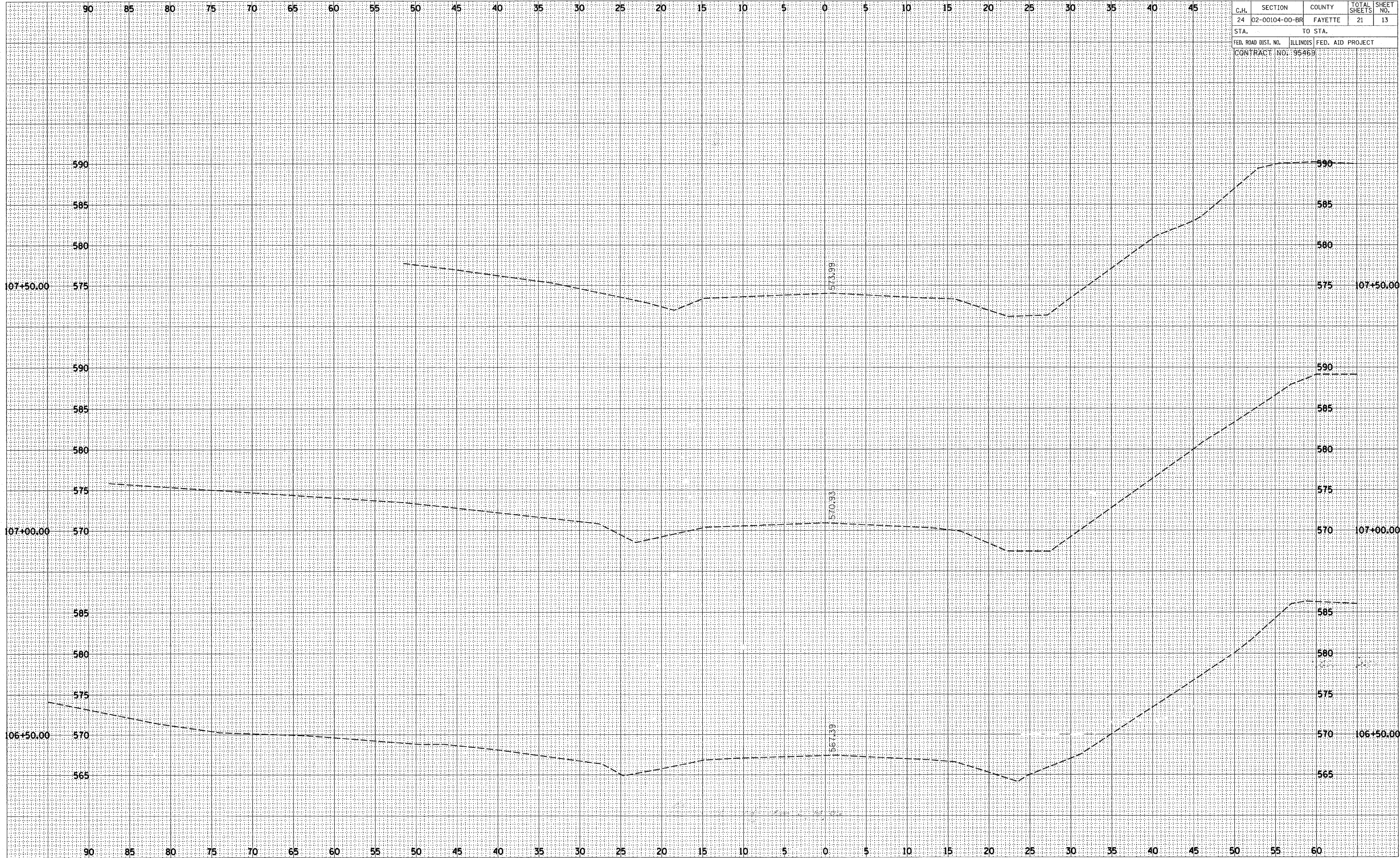
BY \_\_\_\_\_ DATE \_\_\_\_\_

ORIGINAL SURVEY SURVEYED \_\_\_\_\_

NOTE BOOK PLOTTED \_\_\_\_\_

NO. TEMPLATE \_\_\_\_\_

AREAS CHECKED \_\_\_\_\_

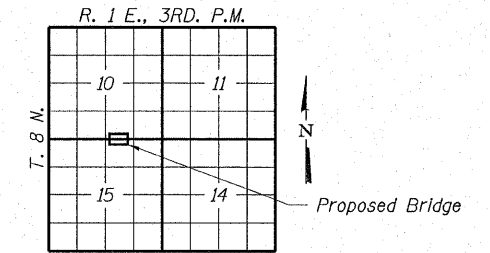


ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.S. 712	02-00104-00-BR	FAYETTE	21	14
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	

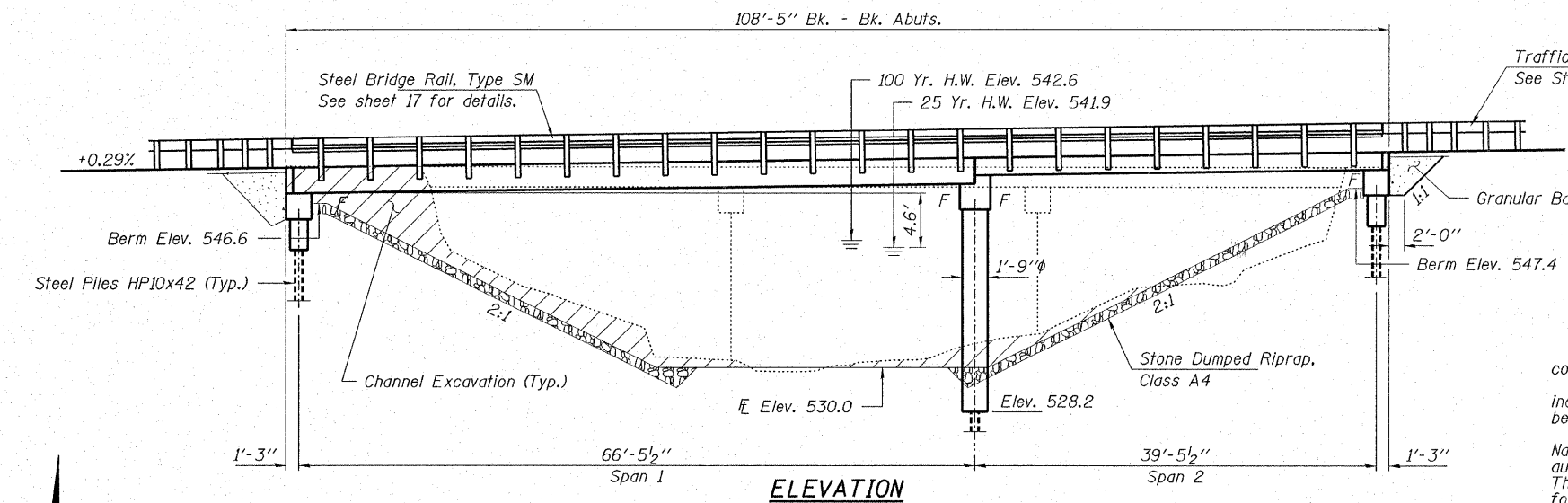
CONTRACT NO. 95469

ASH CREEK  
 BUILT 200\_ BY  
 F.A.S. 712 / C.H. 24  
 FAYETTE COUNTY  
 SEC. 02-00104-00-BR  
 F.A. PROJ. BRS-712(105)  
 STR. NO. 026-3431 LOADING HS 20

**NAME PLATE**  
 See Std. 515001

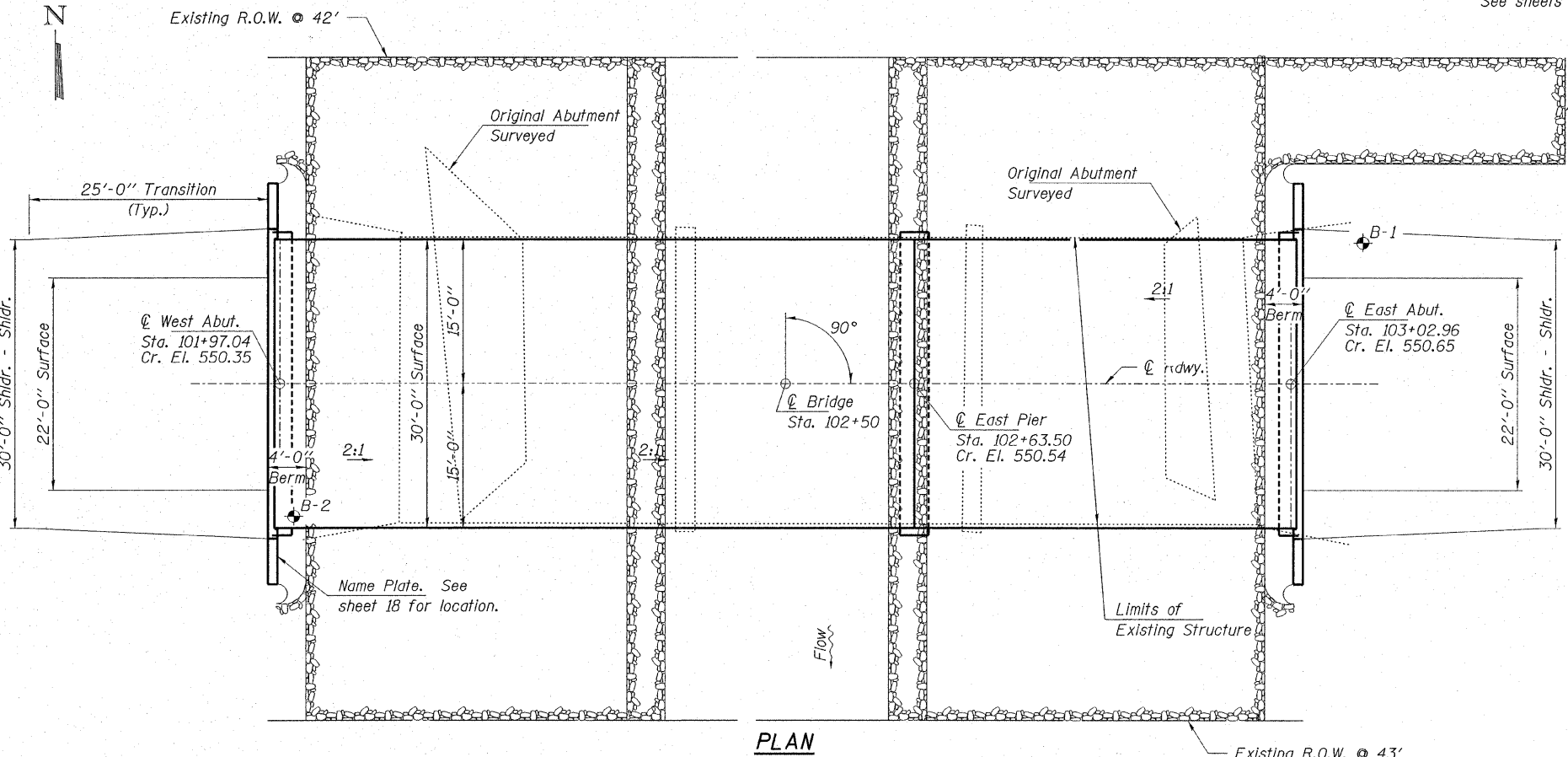


**LOCATION SKETCH**

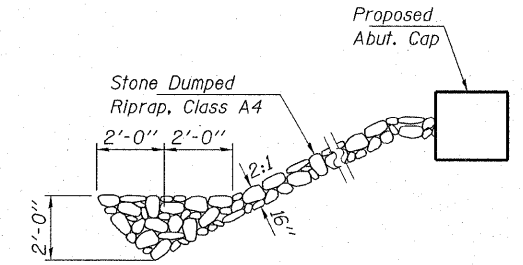


**GENERAL NOTES**

Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.  
 Excavation required to construct the Abutments shall be considered incidental to Concrete Structures. No additional compensation will be allowed for Structure Excavations.  
 All proposed construction activity 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 sheets 21 for Borings.



100 tons Stone Dumped Riprap-Grade and Shape as directed by the Engineer.



**SECTION A-A**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,200		1,200
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	2,010		2,010
Concrete Structures	Cu. Yd.		32.4	32.4
Reinforcement Bars, Epoxy Coated	Pound		4,470	4,470
Steel Bridge Rail, Type SM	Foot	220		220
Name Plates	Each		1	1
Stone Dumped Riprap, Class A4	Ton		740	740
Steel Piles HP10x42	Foot		301	301
Setting Piles in Rock	Each		6	6
Driving Steel Piles	Foot		163	163
Test Pile Steel HP10x42	Each		1	1
Granular Backfill	Cu. Yd.		45	45
Concrete Encasement	Cu. Yd.		10.8	10.8
Waterproofing Membrane System	Sq. Yd.	366		366
Leveling Binder (MM) Superpave	Ton	8		8
P.C. Mortar Fairing Course	Foot	241		241
Bituminous Concrete Surface Course Superpave	Ton	30		30

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)

**PRECAST PRESTRESSED UNITS**

$f'_c = 5,000$  psi  
 $f'_ci = 4,000$  psi  
 $f'_s = 270,000$  psi ( $1/2"$  low lax. strands)  
 $f'_{si} = 201,960$  psi ( $1/2"$  low lax. strands)  
 $f_y = 60,000$  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**

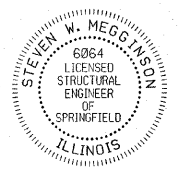
Seismic Performance Category (SPC) = B  
 Bedrock Acceleration Coefficient (A) = 0.075g  
 Site Coefficient (S) = 1.5

**WATERWAY INFORMATION**

Drainage Area = 12.8 Sq. Mi.		Low Grade Elev. 550.1 @ Sta. 101+00								
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural H.W.E.	Head - Ft.	Headwater El.	Exist.	Prop.	Exist.	Prop.
Temporary	5	1,870	310	540.7	NA	NA	NA	NA	NA	NA
Design	25	3,230	580	541.9	0.3	0.6	542.2	542.5		
Base	100	4,400	640	542.6	0.7	1.0	543.3	543.6		
Overtopping										
Max. Calc.	500	5,791	700	543.3	1.3	1.6	544.6	544.9		

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".

*Stan Morrison*  
 ILLINOIS STRUCTURAL NO. 6064 12-06



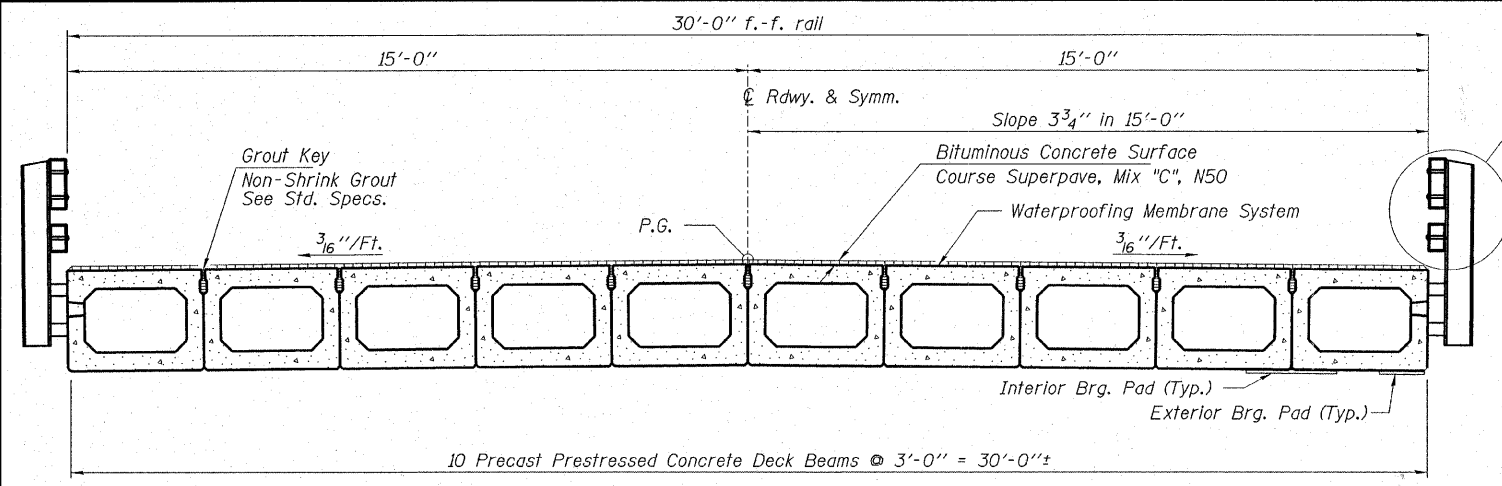
Expires 11-30-06

**HLR**  
 Rice, Barry and Associates  
 A Division of Hampton, Lenzini and Renwick, Inc.  
 Civil & Structural Engineers  
 3085 Stevenson Drive  
 Suite 201  
 Springfield, Illinois 62703  
 217-546-3400  
 P.O. Box 1036  
 DuQuoin, Illinois 62832  
 618-790-4637  
 Account Number: 12-34-0002-1  
 Date: 03/13/06  
 DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: D.T.M.

**GENERAL PLAN AND ELEVATION**  
**SECTION 02-00104-00-BR**  
 F.A.S. 712 / C.H. 24  
 FAYETTE COUNTY  
 STR. NO. 026-3431 / STATION 102+50



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 712	02-00104-00-BR	FAYETTE	21	15
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	
CONTRACT NO. 95469				



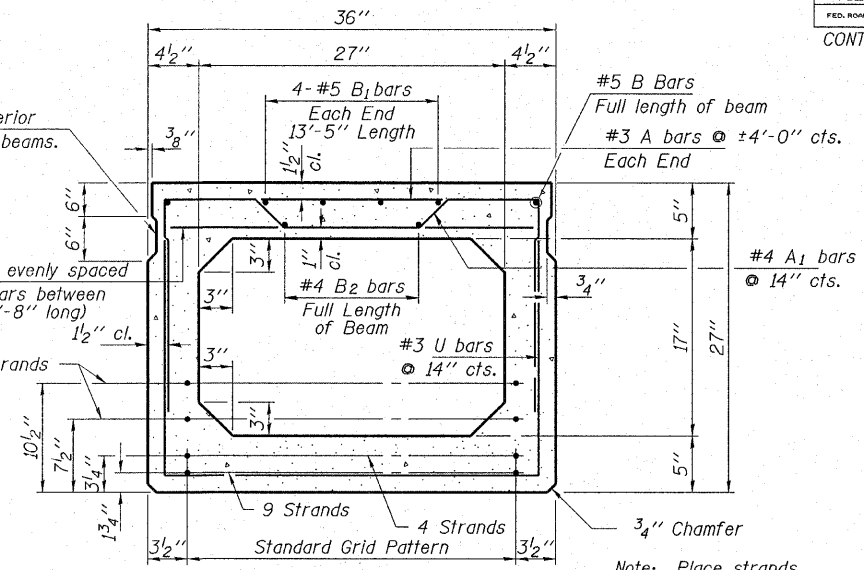
**CROSS SECTION**

See sheet 17 for complete rail details.

Omit key on exterior face of outside beams.

2-#3 A bars evenly spaced between A<sub>1</sub> bars between end blocks (2'-8" long)

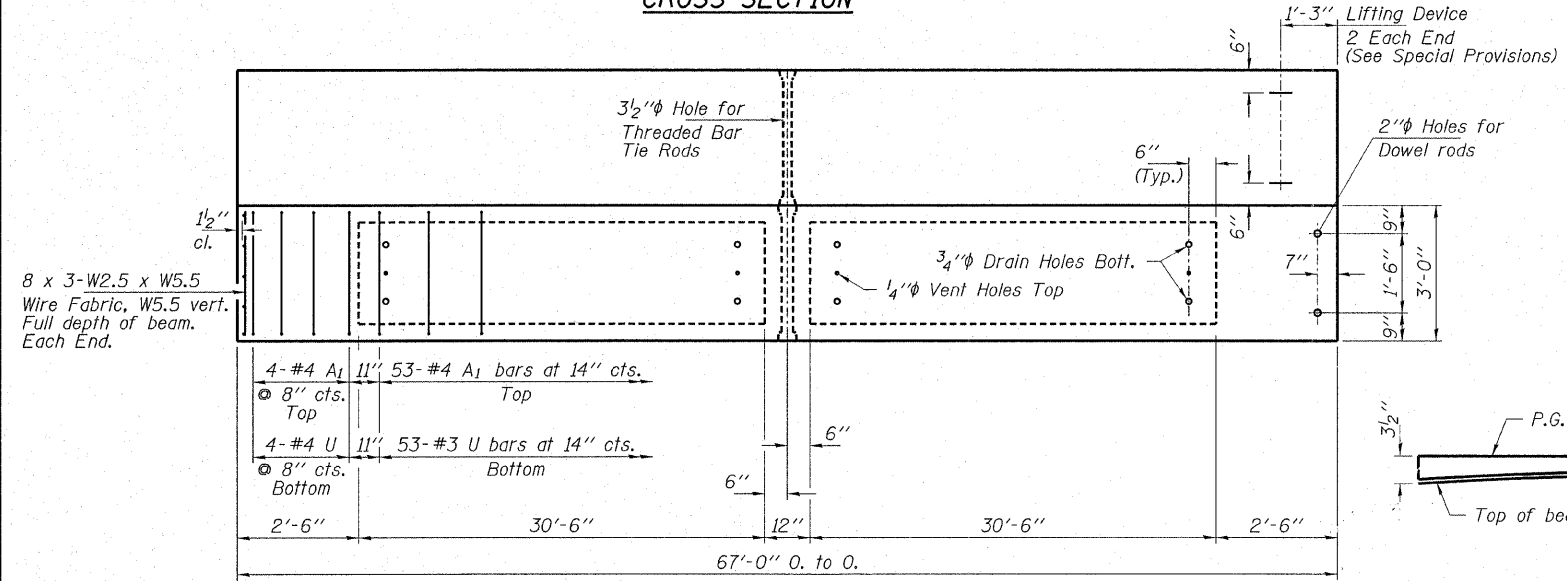
2 Strands



**TYPICAL SECTION**

17-1/2"φ Strands Each Strand Stressed to 30,900 Lbs.  
9-Strands 1 3/4" up, 4-Strands 3/4" up, 2-Strands 7/2" up,  
2-Strands 10 1/2" up. Expected Camber = 1 1/2"

Note: Place strands symmetrically about C of beam.

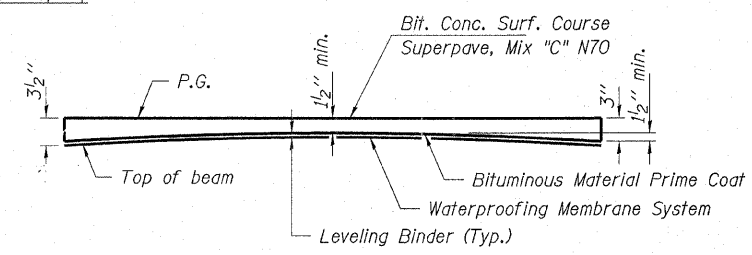


**PLAN**

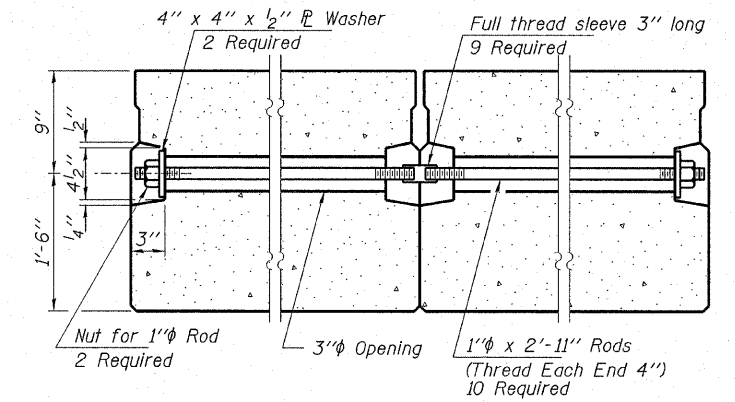
1'-3" Lifting Device  
2 Each End  
(See Special Provisions)

2"φ Holes for Dowel rods

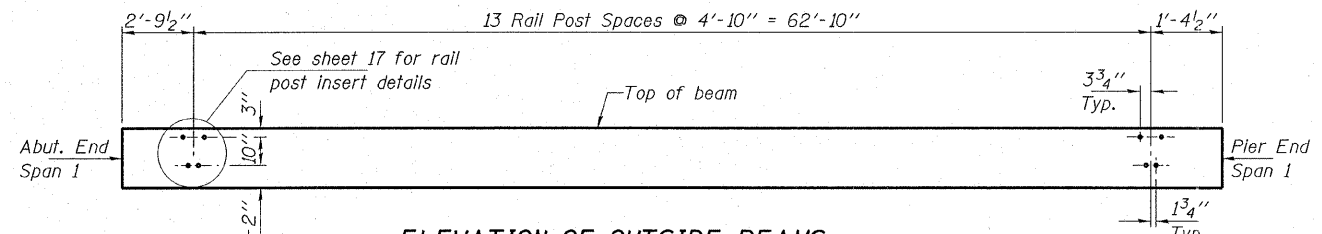
8 x 3-W2.5 x W5.5 Wire Fabric, W5.5 vert. Full depth of beam. Each End.



**ANTICIPATED CAMBER DIAGRAM**



**TYPICAL TRANSVERSE TIE ASSEMBLY**



**ELEVATION OF OUTSIDE BEAMS**

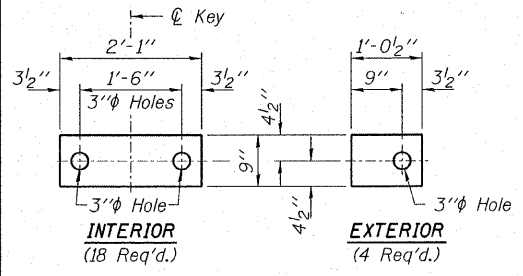
Showing Rail Post Spacing

**NOTES**

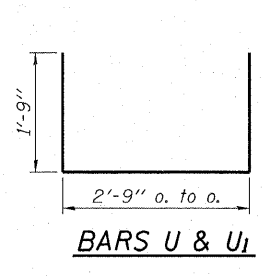
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2"φ-270 ksi strands, as shown. The 1"φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 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. An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

**BILL OF MATERIAL**

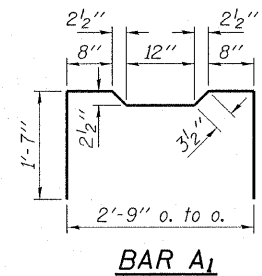
ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	2,010
Waterproofing Membrane System	Sq. Yd.	228
PC Mortar Fairing Course	Foot	151
Bituminous Concrete Surface Cse, Superpave Mix C, N50	Ton	19
Leveling Binac (MM) Binder	Ton	6



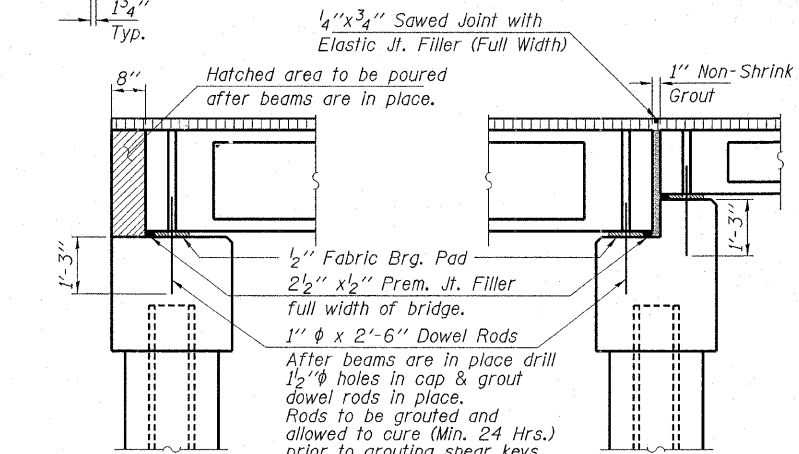
**FABRIC BEARING PAD DETAILS**



**BARS U & U1**



**BAR A1**



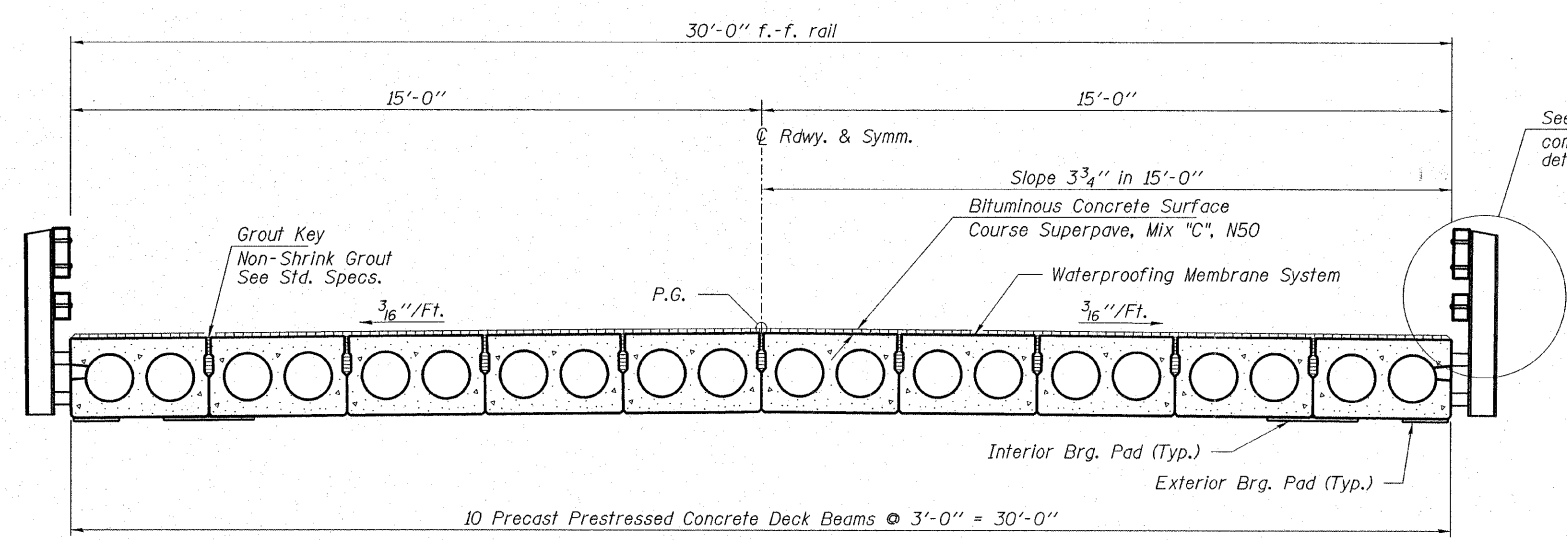
**SECTION AT ABUTMENTS**

**SECTION AT PIERS**

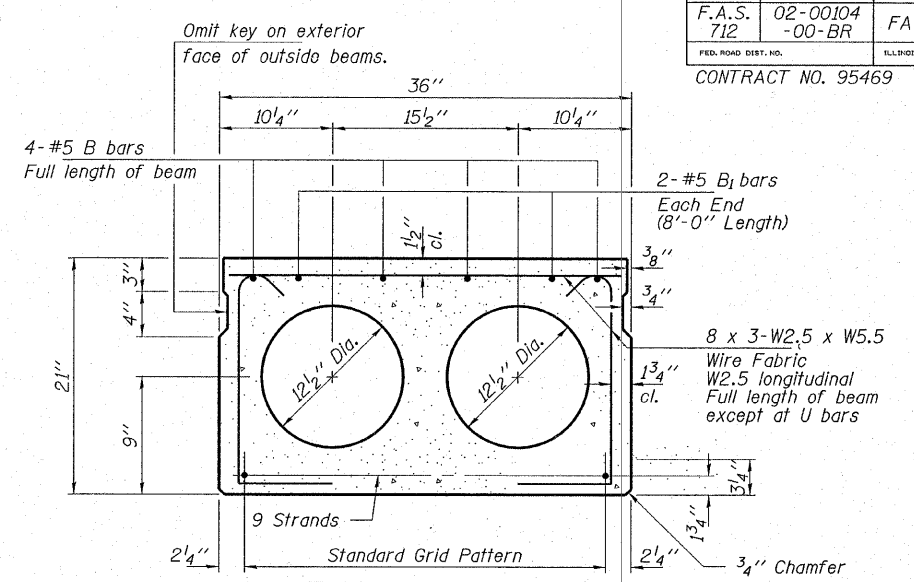
**HLR**  
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 A Division of Hampton,  
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 618-790-4637  
 Account Number  
 12-34-0002-1  
 Date: 03/13/06  
 DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: S.L.M.

**SUPERSTRUCTURE SPAN 1**  
**SECTION 02-00104-00-BR**  
**F.A.S. 712 / C.H. 24**  
**FAYETTE COUNTY**  
**STR. NO. 026-3431 / STATION 102+50**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 712	02-00104-00-BR	FAYETTE	21	16
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 95469				



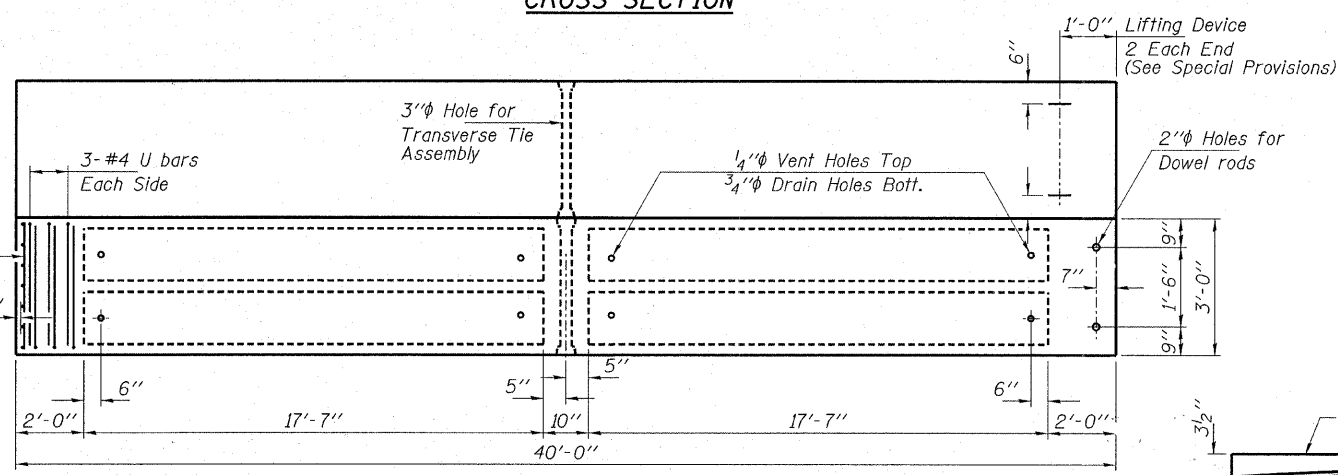
**CROSS SECTION**



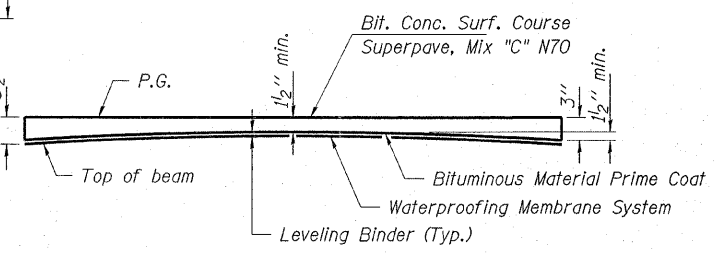
**TYPICAL SECTION**

9-1/2"φ Strands, Each Strand Stressed to 30,900 Lbs.  
9-Strands 1 3/4" up  
Expected Camber = 1/2"

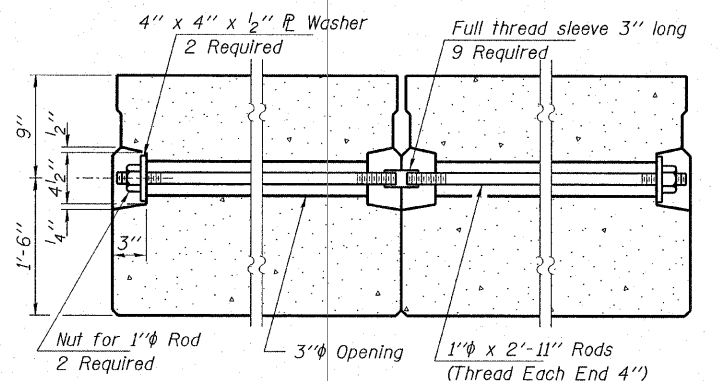
Note: Place strands symmetrically about center of beam.



**PLAN**



**ANTICIPATED CAMBER DIAGRAM**



**TYPICAL TRANSVERSE TIE ASSEMBLY**

**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.

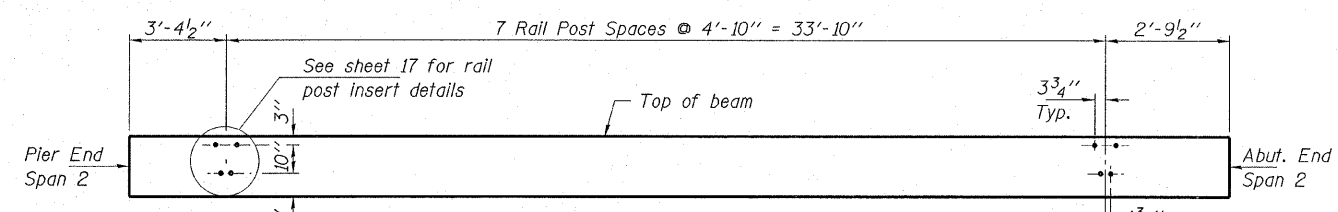
The 1"φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 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.

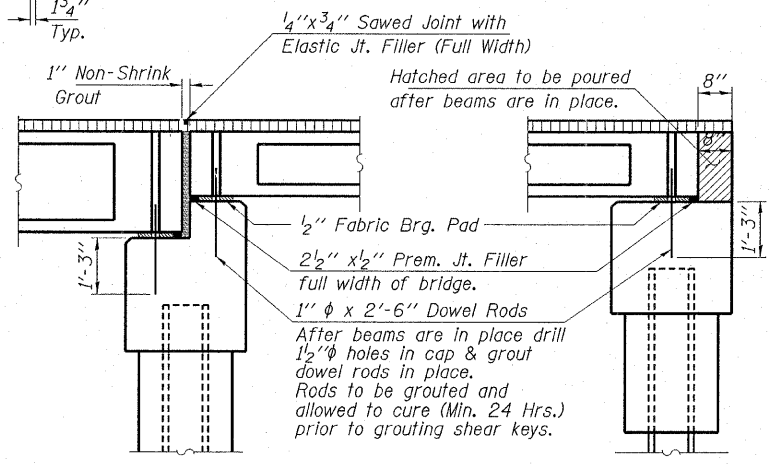
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

Required Release Strength, f'cl, shall be 4,000 p.s.i.

An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

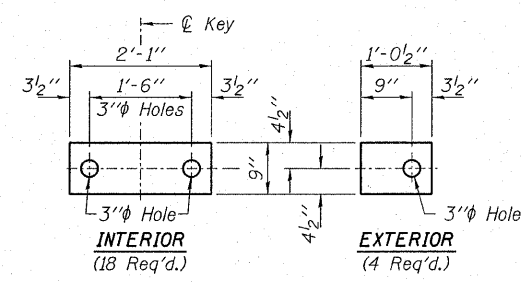


**ELEVATION OF OUTSIDE BEAMS**  
Showing Rail Post Spacing

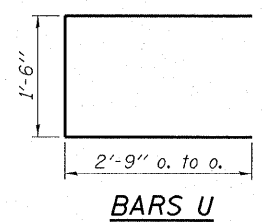


**SECTION AT PIERS**

**SECTION AT ABUTMENTS**



**FABRIC BEARING PAD DETAILS**



**BARS U**

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,200
Waterproofing Membrane System	Sq. Yd.	138
PC Mortar Fairing Course	Foot	90
Bituminous Concrete Surface Cse, Superpave Mix C, N50	Ton	11
Leveling Binder (MM) Binder	Ton	2

**HLR**

Rice, Berry and Associates  
A Division of Hampton,  
Lenzini and Renwick, Inc.  
Civil & Structural Engineers  
3085 Stevenson Drive  
Suite 201  
Springfield, Illinois 62703  
217-546-3400

Account Number  
12-34-0002-1  
Date: 03/13/06

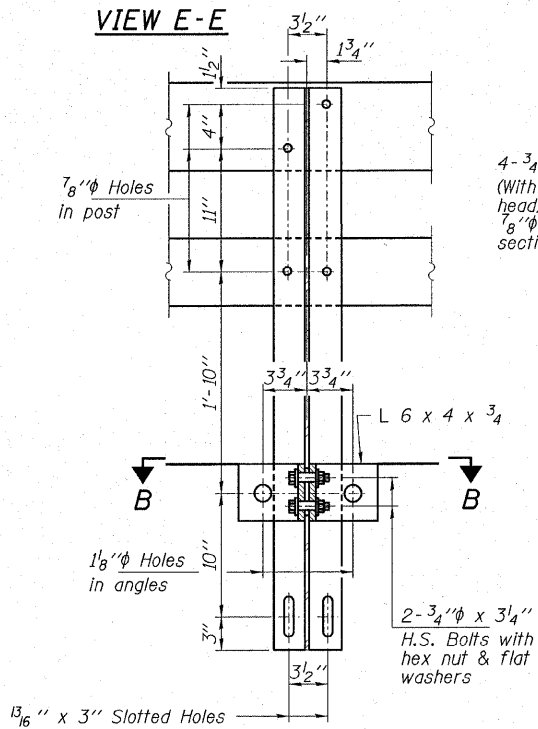
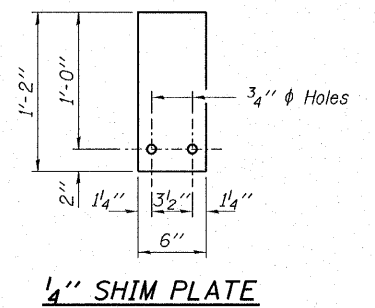
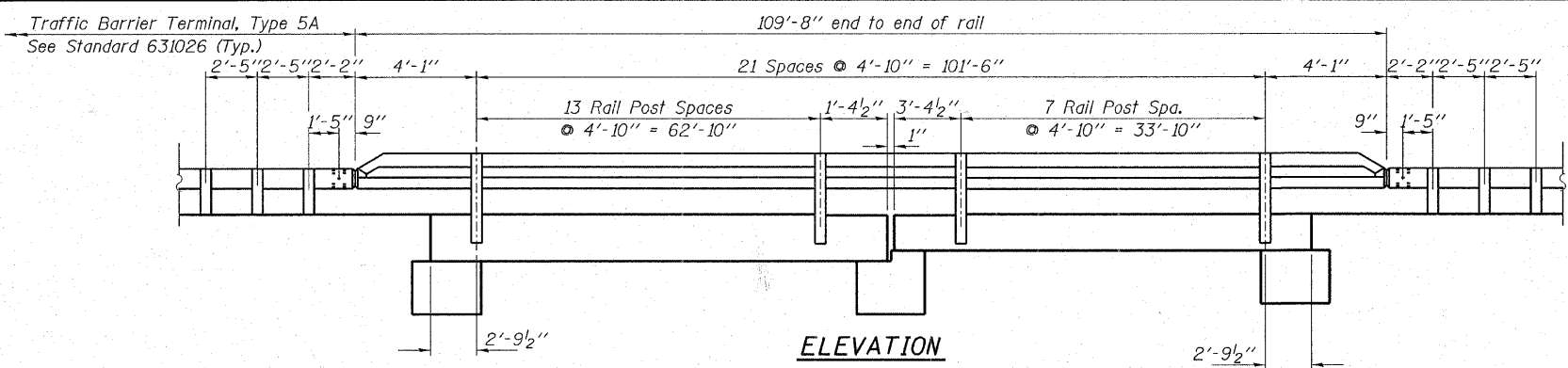
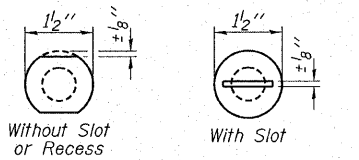
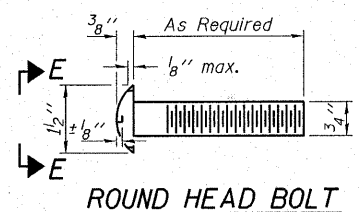
P.O. Box 1036  
DuQuoin, Illinois 62832  
618-790-4637

DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: D.T.M.

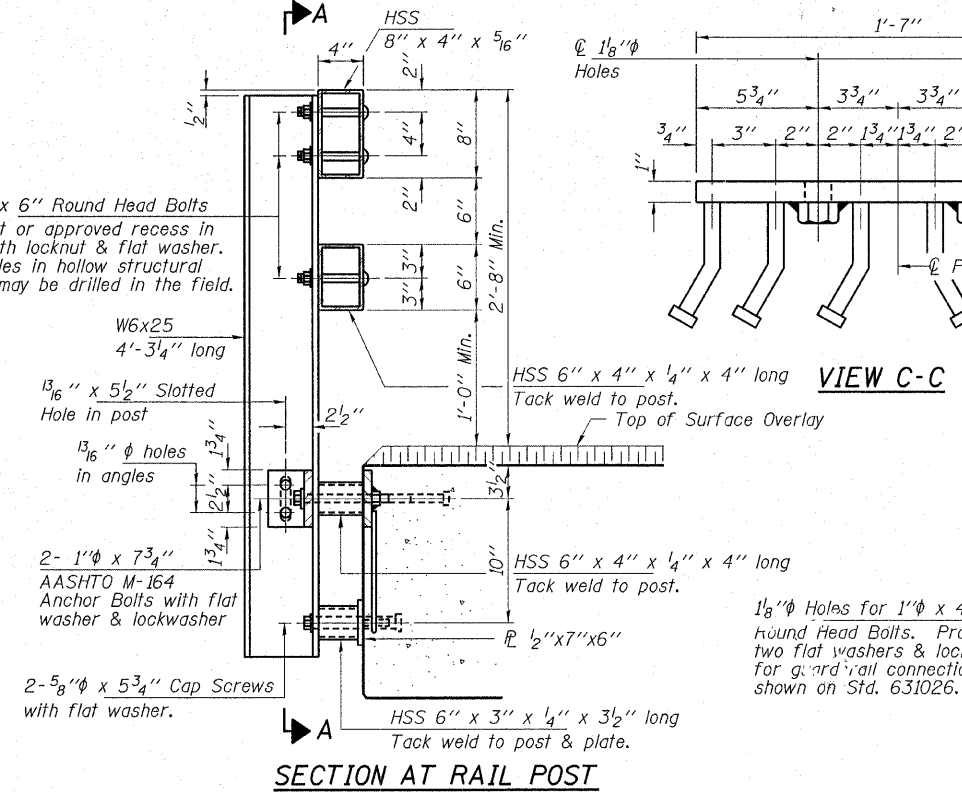
**SUPERSTRUCTURE SPAN 2**  
**SECTION 02-00104-00-BR**  
**F.A.S. 712 / C.H. 24**  
**FAYETTE COUNTY**  
**STR. NO. 026-3431 / STATION 102+50**

ROUTE NO.	SECTION	COUNTY	SCALE	SHEET
F.A.S. 712	02-00104-00-BR	FAYETTE	21	17
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

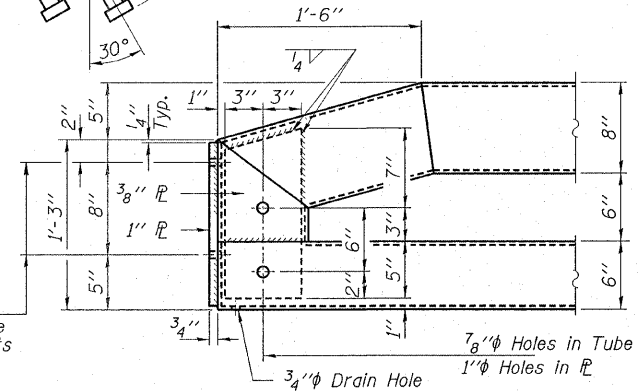
CONTRACT NO. 95469



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



**VIEW C-C**



**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. 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. M-164.

All bolts, nuts, cap screws, washers and lockwashers shall be galvanized according to A.A.S.H.T.O. 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-111 and A.A.S.H.T.O. M-385. Galvanized rail shall not be painted.

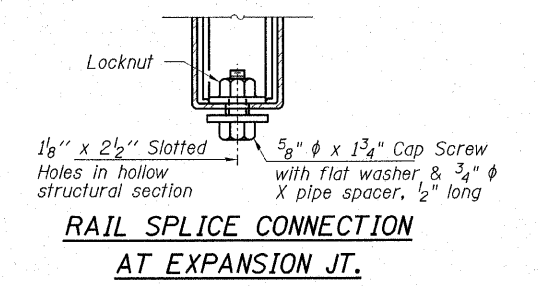
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per foot for STEEL BRIDGE RAIL, TYPE SM.

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

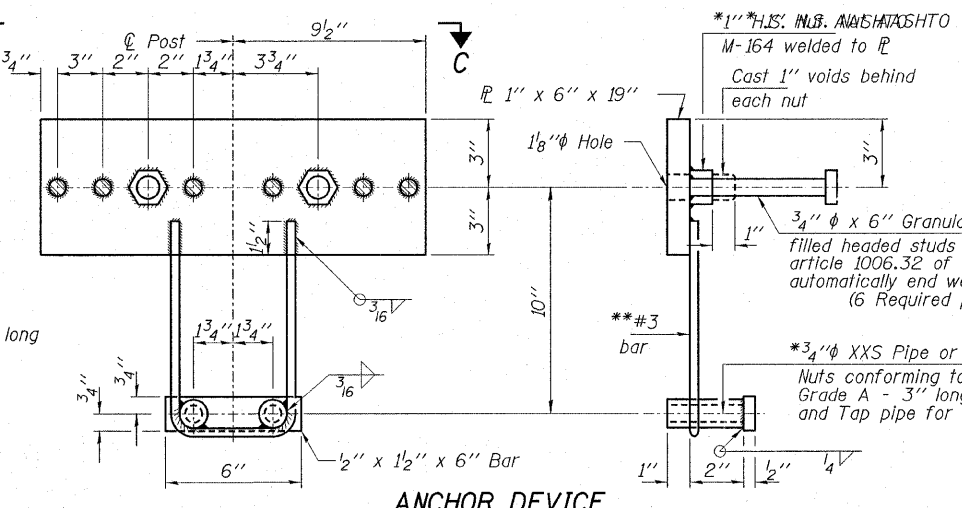
The 2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 6" fabric bearing pads between the plates and concrete.

The 3/4"  $\phi$  high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Art. 505.04(f)(3) of the Standard Specifications. The 1"  $\phi$  high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/2 turn. The 3/8"  $\phi$  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.

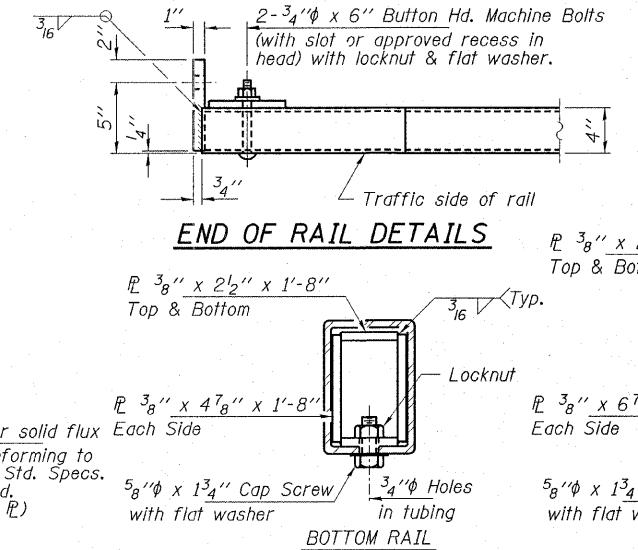
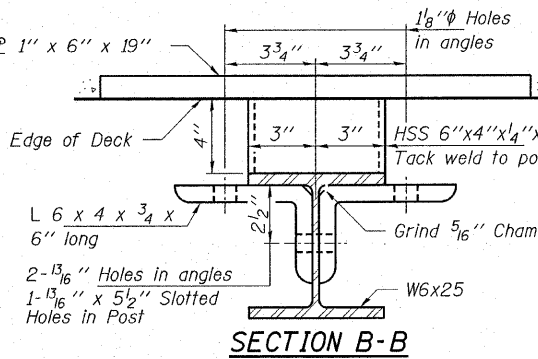


\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

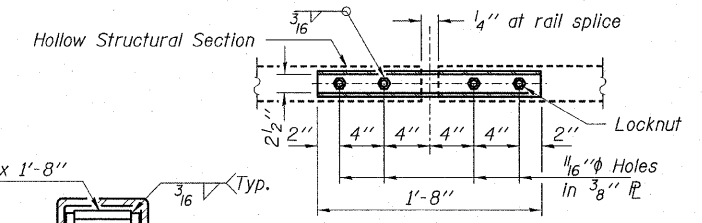


**ANCHOR DEVICE**

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



**SECTION AT RAIL SPLICE**



**PLAN-BOTT. SPLICE R TYPICAL**

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	220

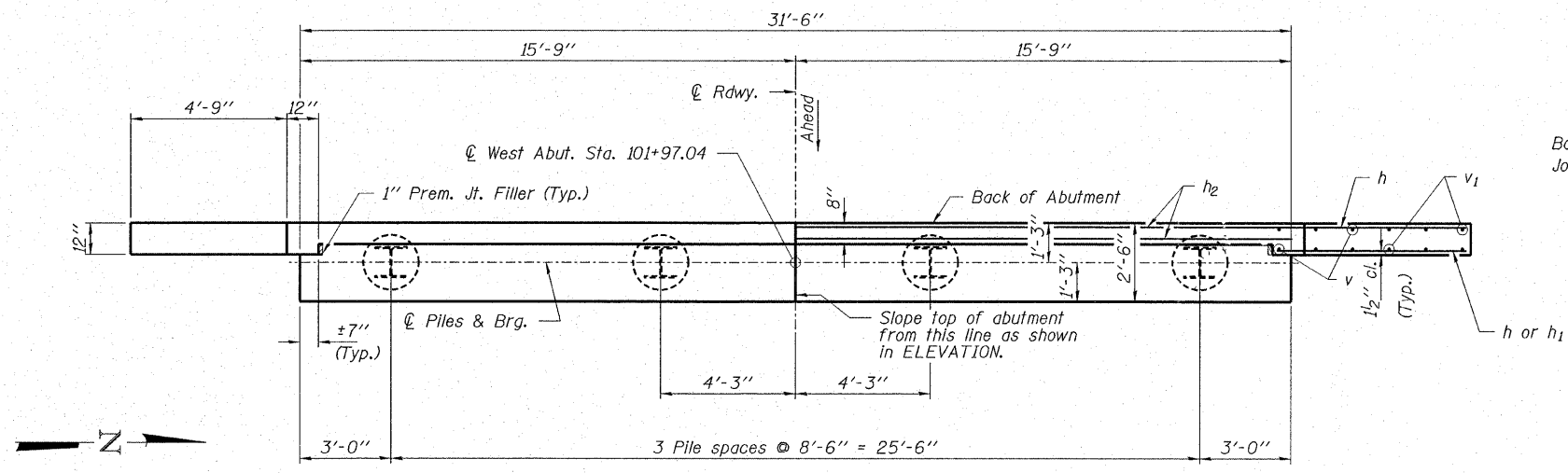
**HLR**

Rice, Berry and Associates  
A Division of Hampton, Lenzini and Renwick, Inc.  
Civil & Structural Engineers  
3085 Stevenson Drive  
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Springfield, Illinois 62703  
217-546-3400

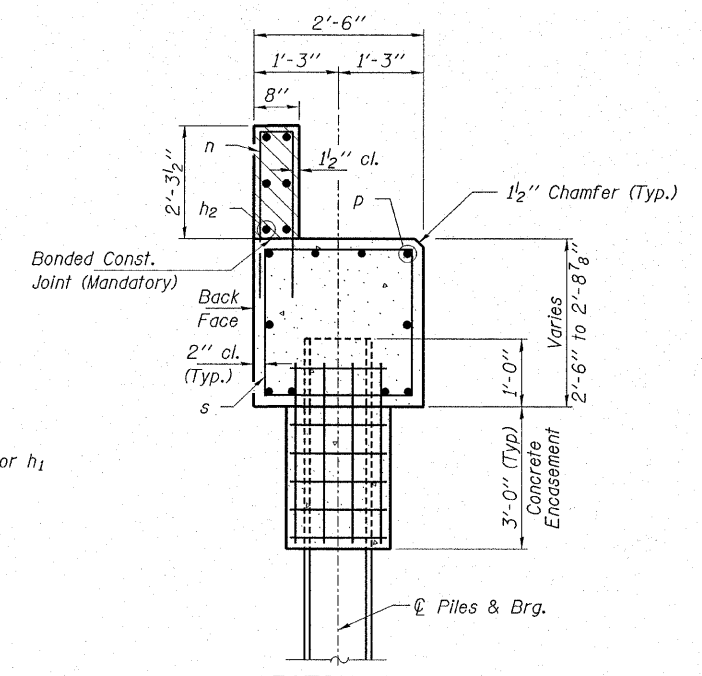
Account Number: 12-34-0002-1  
Date: 03/13/06  
DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: D.T.M.

**RAILING DETAILS**  
SECTION 02-00104-00-BR  
F.A.S. 712 / C.H. 24  
FAYETTE COUNTY  
STR. NO. 026-3431 / STATION 102+50

CONTRACT NO. 95469

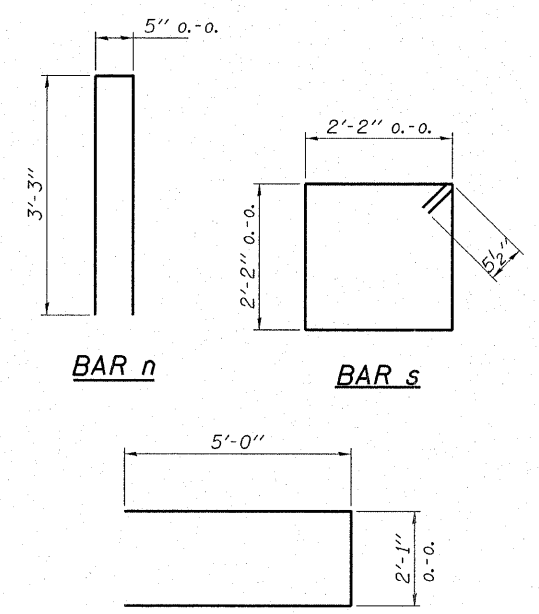


**PLAN**



**SECTION A-A**

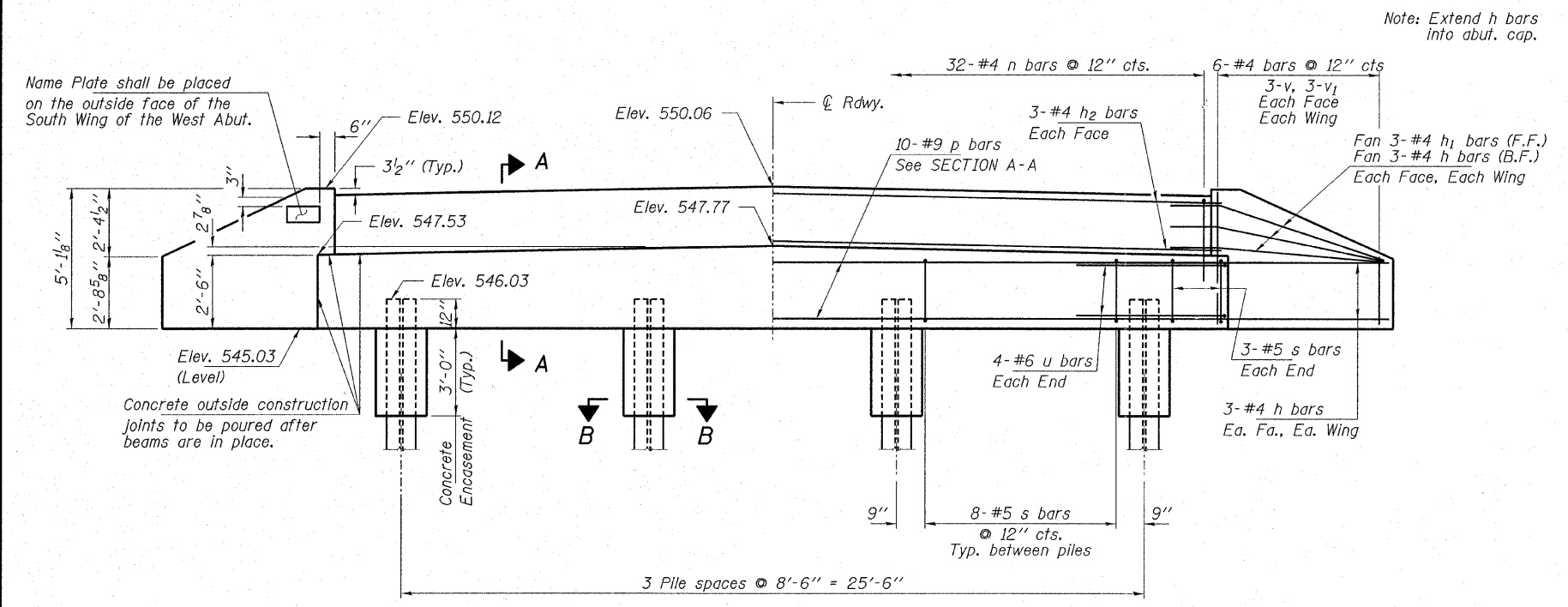
Hatched area to be poured after beams are in place.



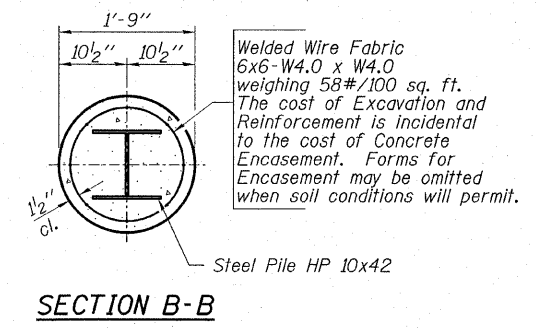
**BAR n**

**BAR s**

**BAR u**



**ELEVATION**  
(Looking West)



**SECTION B-B**

Welded Wire Fabric  
6x6-W4.0 x W4.0  
weighing 58#/100 sq. ft.  
The cost of Excavation and  
Reinforcement is incidental  
to the cost of Concrete  
Encasement. Forms for  
Encasement may be omitted  
when soil conditions will permit.

Steel Pile HP 10x42

**BILL OF MATERIAL - W. ABUT.**

BAR	NO.	SIZE	LENGTH	SHAPE
h	18	#4	6'-6"	—
h1	6	#4	5'-6"	—
h2	6	#4	31'-6"	—
n	32	#4	6'-11"	□
p	10	#9	31'-2"	—
s	30	#5	9'-7"	□
u	8	#6	12'-1"	—
v	12	#4	4'-0"	—
v1	12	#4	2'-6"	—
Concrete Structures			Cu. Yd.	11.0
Reinf. Bars, Epoxy Coated			Pound	1,930
Name Plates			Each	1
Steel Piles HP10x42			Foot	100
Driving Steel Piles			Foot	100
Concrete Encasement			Cu. Yd.	1.0

All bars shall be Epoxy Coated.

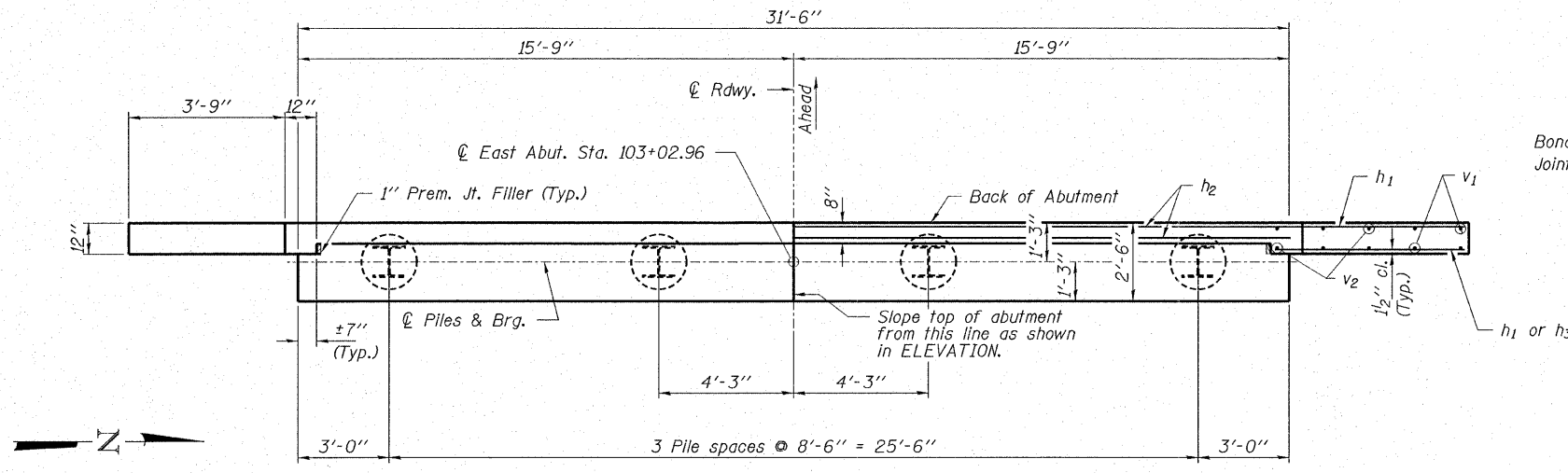
**PILE DATA**

Type \_\_\_\_\_ Steel HP 10x42  
No. Req'd. \_\_\_\_\_ 4  
Capacity \_\_\_\_\_ Drive to Refusal  
Est. Length \_\_\_\_\_ 25 Feet/Pile

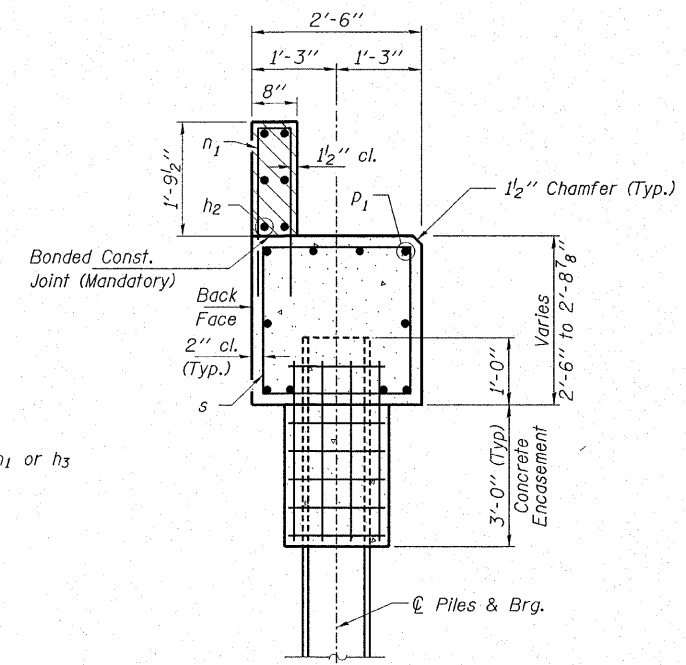
**HLR**  
Rice, Berry and Associates  
A Division of Hampton,  
Lenzini and Renwick, Inc.  
Civil & Structural Engineers  
3085 Stevenson Drive  
Suite 201  
Springfield, Illinois 62703  
217-546-3400  
P.O. Box 1036  
DuQuoin, Illinois 62832  
618-790-4637  
Date: 03/17/06  
Account Number  
12-34-0002-1  
DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: D.T.M.

**WEST ABUTMENT**  
**SECTION 02-00104-00-BR**  
**F.A.S. 712 / C.H. 24**  
**FAYETTE COUNTY**  
**STR. NO. 026-3431 / STATION 102+50**

CONTRACT NO. 95469

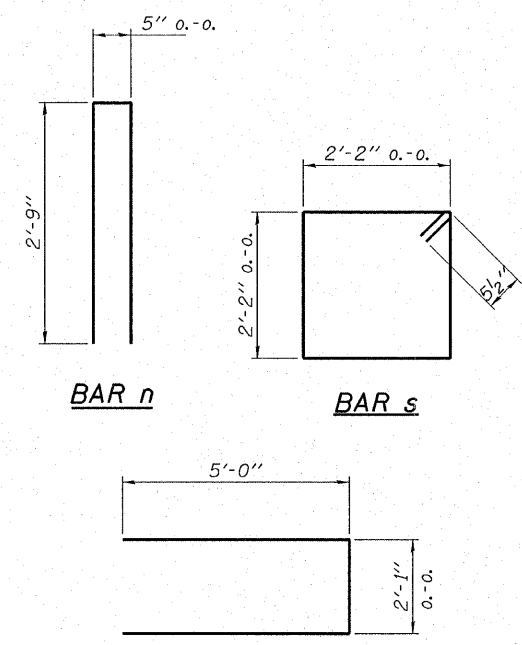


**PLAN**



**SECTION C-C**

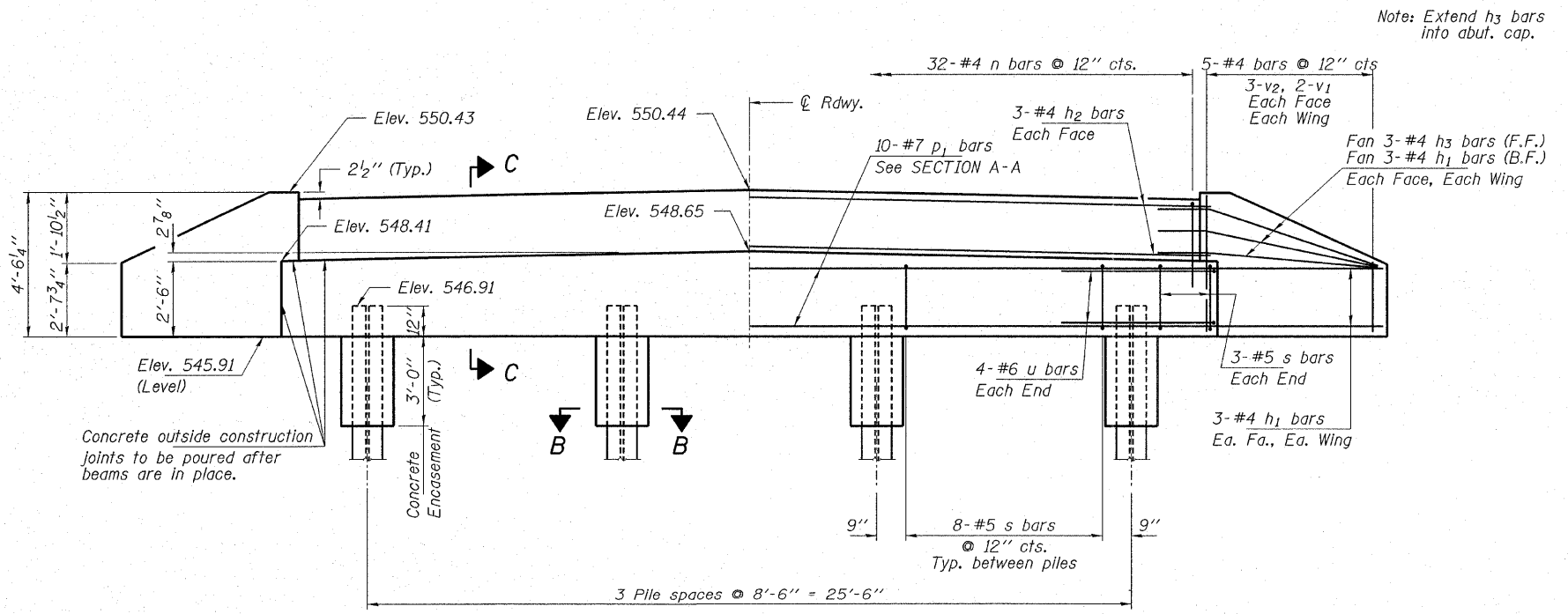
Hatched area to be poured after beams are in place.



**BAR n**

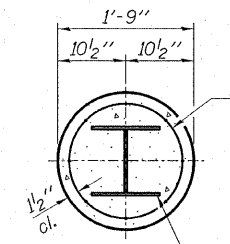
**BAR s**

**BAR u**



**ELEVATION**  
(Looking East)

Note: Extend h3 bars into abut. cap.



**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 incidental  
to the cost of Concrete  
Encasement. Forms for  
Encasement may be omitted  
when soil conditions will permit.

Steel Pile HP10x42

**BILL OF MATERIAL - E. ABUT.**

BAR	NO.	SIZE	LENGTH	SHAPE
h1	18	#4	5'-6"	—
h2	6	#4	31'-6"	—
h3	6	#4	4'-6"	—
n1	32	#4	5'-11"	□
p1	10	#7	31'-2"	—
s	30	#5	9'-7"	□
u	8	#6	12'-1"	—
v1	8	#4	2'-6"	—
v2	12	#4	3'-6"	—
Concrete Structures			Cu. Yd.	10.2
Reinf. Bars, Epoxy Coated			Pound	1,460
Steel Piles HP10x42			Foot	63
Driving Steel Piles			Foot	63
Test Pile Steel HP10x42			Each	1
Concrete Encasement			Cu. Yd.	1.0

All bars shall be Epoxy Coated.

**PILE DATA**

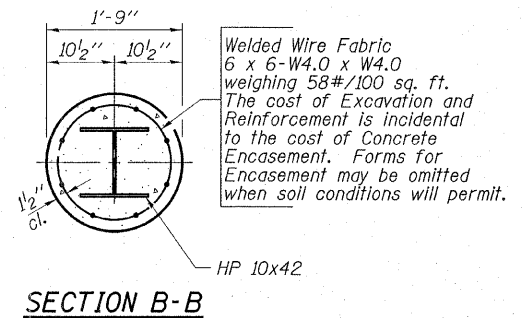
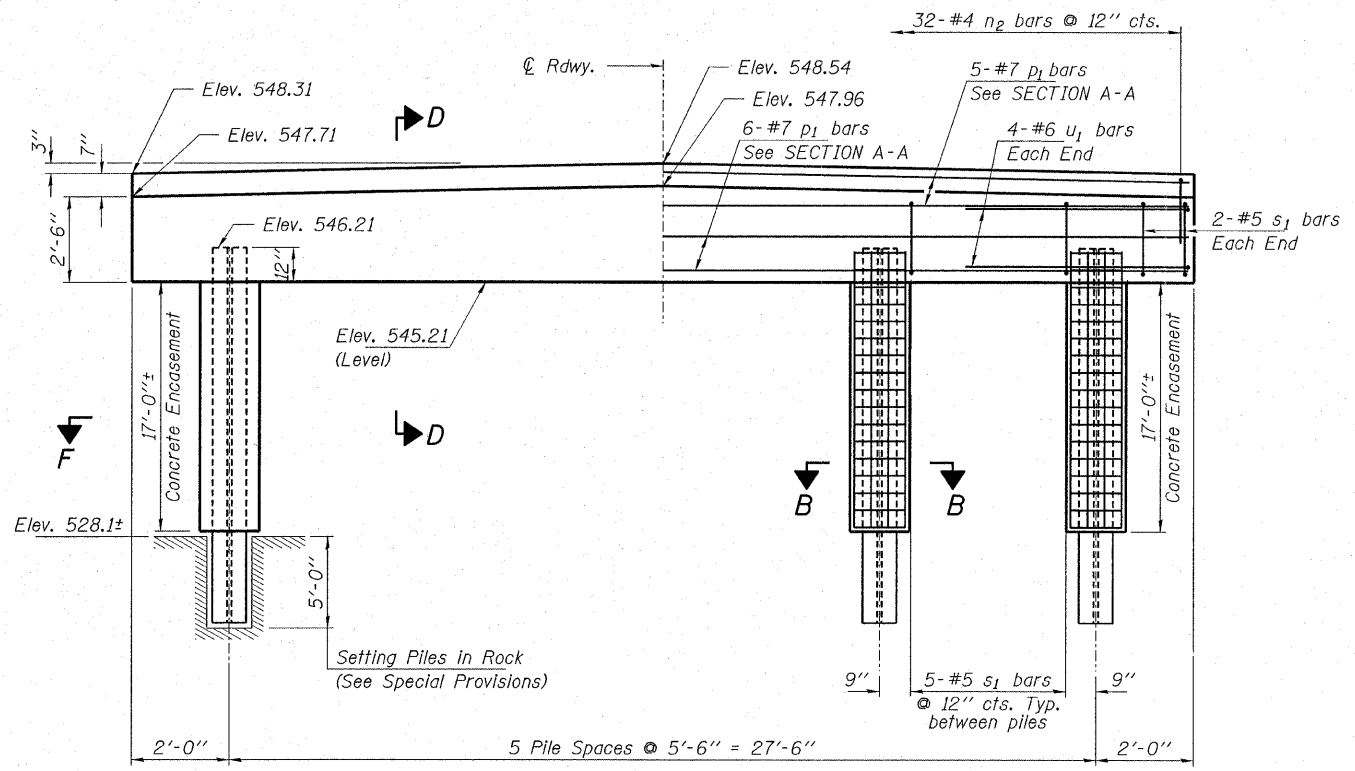
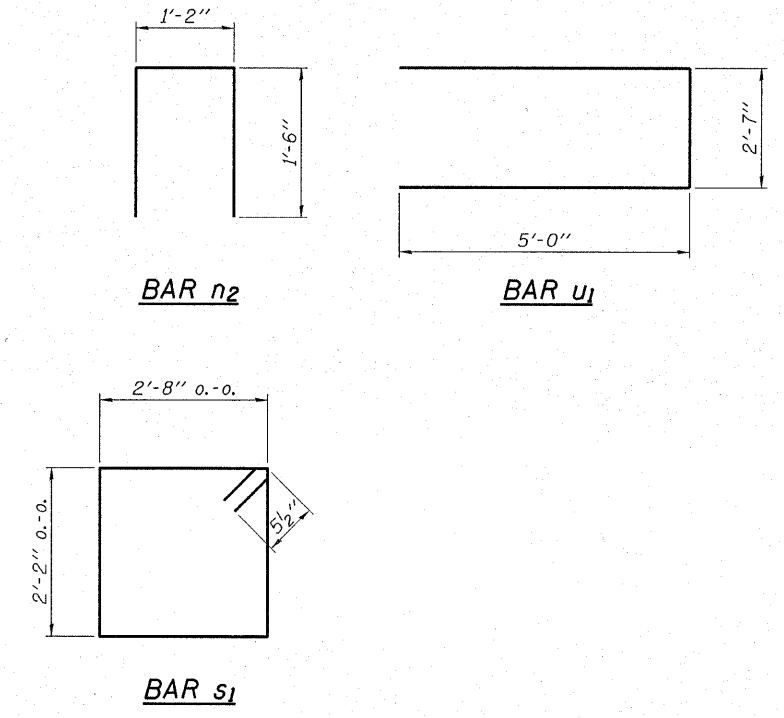
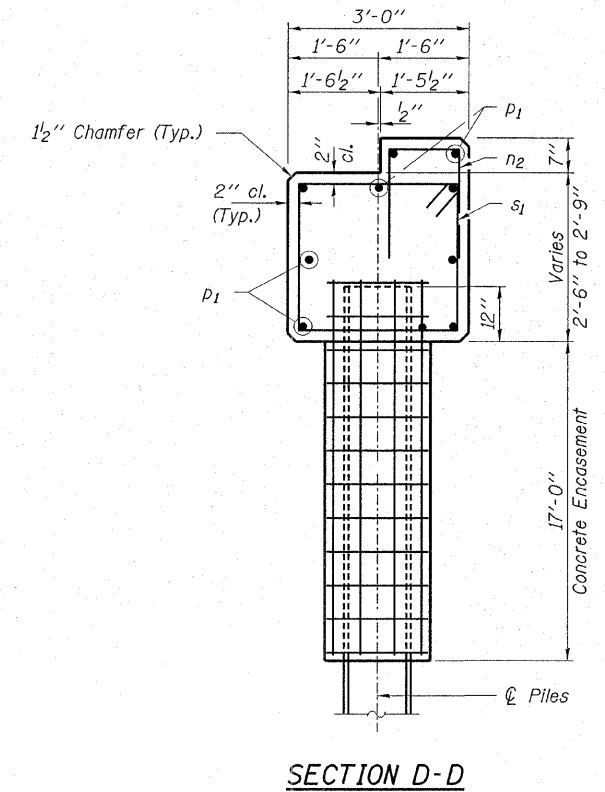
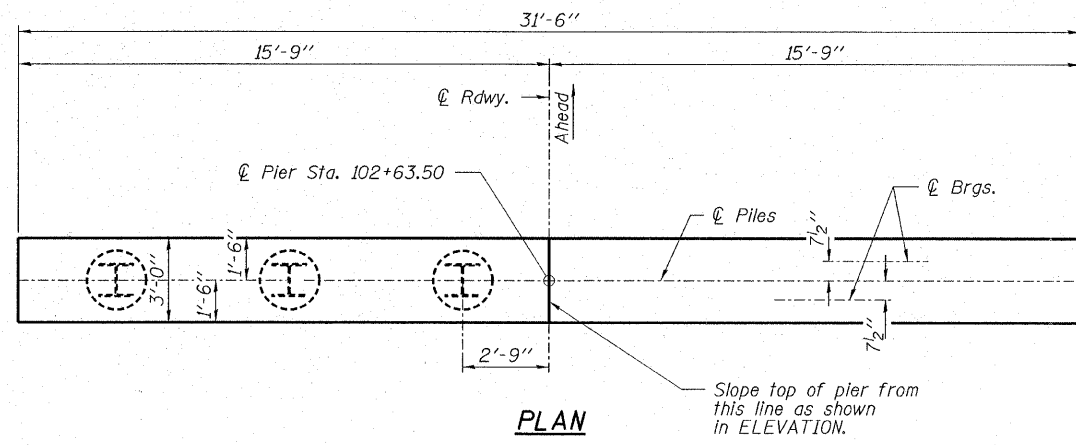
Type \_\_\_\_\_ Steel HP 10x42  
No. Req'd. \_\_\_\_\_ 4\*  
Capacity \_\_\_\_\_ Drive to Refusal  
Est. Length \_\_\_\_\_ 21 Feet/Pile

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

**HLR**  
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Lenzini and Renwick, Inc.  
Civil & Structural Engineers  
3085 Stevenson Drive  
Suite 201  
Springfield, Illinois 62703  
217-546-3400  
P.O. Box 1036  
DuQuoin, Illinois 62832  
618-790-4637  
Account Number  
12-34-0002-1  
Date: 03/17/06  
DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: D.T.M.

**EAST ABUTMENT**  
**SECTION 02-00104-00-BR**  
**F.A.S. 712 / C.H. 24**  
**FAYETTE COUNTY**  
**STR. NO. 026-3431 / STATION 102+50**





**PILE DATA**

Type.....Steel Pile HP 10x42  
No. Req'd.....5  
Capacity.....49 Tons/Pile  
Estimated Lengths.....23 Feet/Pile

**BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
n <sub>2</sub>	32	#4	4'-2"	□
p <sub>1</sub>	11	#7	31'-2"	—
s <sub>1</sub>	29	#5	10'-7"	□
u <sub>1</sub>	8	#6	12'-7"	—
Concrete Structures			Cu. Yd.	11.2
Reinf. Bars, Epoxy Coated			Pound	1,080
Steel Piles HP10x42			Foot	138
Setting Piles in Rock			Each	6
Concrete Encasement			Cu. Yd.	8.8

All bars shall be Epoxy Coated.

**HLR**  
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3085 Stevenson Drive  
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217-546-3400  
P.O. Box 1036  
DuQuoin, Illinois 62832  
618-790-4637  
Date: 03/13/06  
DESIGNED: S.M.S. | CHECKED: S.W.M. | DRAWN: D.T.M.

**PIER**  
**SECTION 02-00104-00-BR**  
**F.A.S. 712 / C.H. 24**  
**FAYETTE COUNTY**  
**STR. NO. 026-3431 / STATION 102+50**

HOLCOMB FOUNDATION ENGINEERING INC.  
P.O. Box 88 618-529-5262  
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-05004 Bridge STR. No. 026-3002 Date: 01/12/05  
Section: 02-00104-00-BR Station 102+54.5  
Route: Bored by: S. Marcec  
County: Fayette Checked By: T. Holcomb

Boring No. 1	Station	Offset	Elevation	N	Qu tsf	w %	Surface Water Elev.	Ground Water Elev. During Drilling	Upon Completion	Elevation	N	Qu tsf	w %
100.0 = 550.0 U.S.G.S.													
Ground Surface 549.9 99.9 0 shale continued													
Brown Silty CLAY (CL)													
525.9 75.9 100/5' 3.7S 14													
End of Boring @ -24.0'													
4 0.7B 23													
544.9 94.9 -5 5 1.1B 28													
Brown Sandy CLAY (A-6) with thin sand lenses													
5 0.9B 15													
-10 6 0.5B 20													
538.9 88.9													
Brown Sandy CLAY to Clayey SAND (A-2-4)													
1 0.5B 18													
535.4 85.4													
Brown Medium SAND (A-2-4)													
-15 5 -- 19													
532.9 82.9													
Brown Mottled Gray SHALE													
63 -- 14													
530.9 80.9													
Gray SHALE													
100/4' -- 11													
-20 100/4' -- 11													

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"  
Qu - Unconfined Compressive Strength in tons/sq.ft.  
w - Water Content - percentage of oven dry weight-%  
B = Bulge Failure  
S = Shear Failure  
E = Estimated Value  
P = Penetrometer

BORING 1

HOLCOMB FOUNDATION ENGINEERING INC.  
P.O. Box 88 618-529-5262  
Carbondale, Il. 62903 618-457-8991 fax


Bridge Foundation Boring Log

Project: H-05004 Bridge STR. No. 026-3002 Date: 01/12/05  
Section: 02-00104-00-BR Station 102+54.5  
Route: Bored by: S. Marcec  
County: Fayette Checked By: T. Holcomb

Boring No. 2	Station	Offset	Elevation	N	Qu tsf	w %	Surface Water Elev.	Ground Water Elev. During Drilling	Upon Completion	Elevation	N	Qu tsf	w %
100.0 = 550.0 U.S.G.S.													
Ground Surface 549.5 99.5 0 sand continued													
Brown Silty CLAY (CL)													
526.0 76.0 100/4' -- 10													
Gray Shale													
7 1.1B 14													
-5 6 0.7S 19													
520.0 70.0 100/5' -- 9													
End of Boring @ -29.5'													
-10 5 0.8S 15													
538.5 88.5													
Dark Brown Sandy CLAY (A-6)													
4 0.8B 23													
535.5 85.5													
Dark Brown Clayey SAND (A-2-4)													
-15 wh 0.1B 25													
533.0 83.0													
Brown Mottled Gray Clayey SAND (A-2-4)													
wh 0.4S 22													
531.0 81.0													
Brown SAND (A-2-4)													
3 -- 21													
-20													
528.5 78.5													
Gray Medium SAND (A-2-4)													
3 -- 19													

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"  
Qu - Unconfined Compressive Strength in tons/sq.ft.  
w - Water Content - percentage of oven dry weight-%  
B = Bulge Failure  
S = Shear Failure  
E = Estimated Value  
P = Penetrometer

BORING 2



Rice, Berry and Associates  
A Division of Hampton, Lenzini and Renwick, Inc.  
Civil & Structural Engineers  
3085 Stevenson Drive  
Suite 201  
Springfield, Illinois 62703  
217-546-3400  
P.O. Box 1036  
DuQuoin, Illinois 62832  
618-790-4637  
Date: 03/13/06  
DESIGNED: S.M.S. | CHECKED: S.W.M. | DRAWN: D.T.M.

**BORINGS**  
SECTION 02-00104-00-BR  
F.A.S. 712 / C.H. 24  
FAYETTE COUNTY  
STR. NO. 026-3431 / STATION 102+50