

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	1
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 97334	

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

## PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

**PROJECT NO. BROS-0083(041)**  
**T.R. 50 OVER TRIBUTARY OF PHILS CREEK**  
**SECTION 05-03104-00-BR**  
**FIDELITY TOWNSHIP**  
**JERSEY COUNTY**  
**JOB NO. C-98-358-06**

- INDEX OF SHEETS**
- 1 - TITLE SHEET
  - 2 - SUMMARY OF QUANTITIES, GENERAL NOTES, DETAILS, & TYPICAL SECTIONS
  - 3 - PLAN & PROFILE
  - 4 - GENERAL PLAN & ELEVATION
  - 5 - SUPERSTRUCTURE
  - 6 - RAILING
  - 7 - SOUTH ABUTMENT
  - 8 - NORTH ABUTMENT
  - 9 - ABUTMENT DETAILS
  - 10 - 12 - CROSS SECTIONS

**STANDARDS**

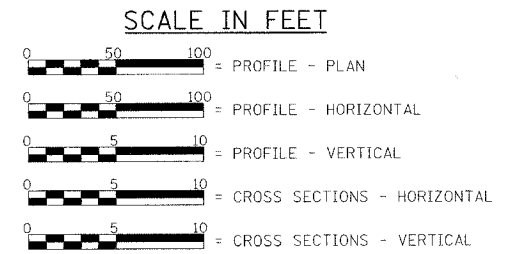
STANDARD 515001-02  
STANDARD 701901  
STANDARD BLR 21-7

**LIST OF UTILITIES**

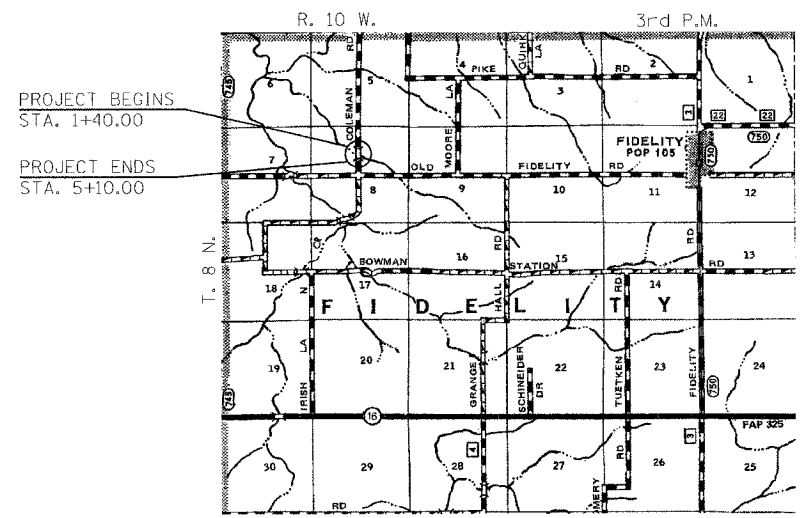
Frontier Communications  
225 N. Broad Street  
Carlinville, Illinois 62626  
1-217-854-4013

M.J.M. Electric Cooperative, Inc.  
P.O. Box 80  
Carlinville, Illinois 62626  
1-217-854-3137

Jersey County Rural Water  
1009 E. Shipman Road  
Jerseyville, Illinois 62052  
1-618-498-9534

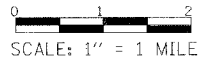


LAND SECTION - 8  
LAND QUARTER SECTION - N.E.  
FUNCTIONAL CLASSIFICATION: LOCAL ROAD (NON-URBAN)  
A.D.T. - 75 (2002)  
A.D.T. - 120 (2021)  
30 M.P.H. DESIGN SPEED



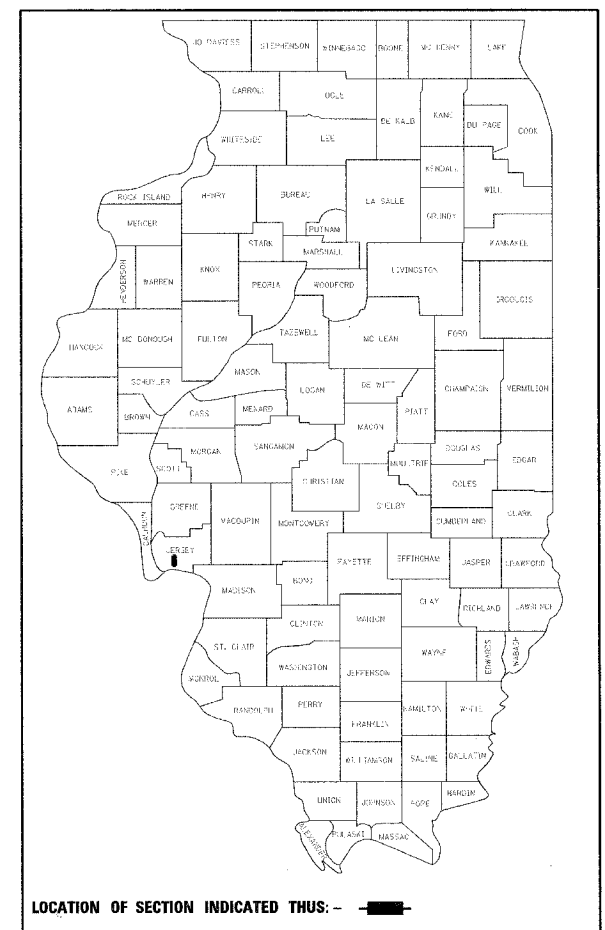
**LOCATION PLAN**

LENGTH OF SECTION - 370.00 FEET = 0.070 MILES



**EXISTING STRUCTURE:**  
SINGLE SPAN POURED CONCRETE DECK ON STEEL STRINGERS FOUNDED ON CLOSED CONCRETE ABUTMENTS. ±20'-0" OUT.-OUT. DECK, ±20'-6" BK.-BK. ABUTMENTS. STEEL CHANNEL RAIL POSTS WITH NO RAILING. 0° SKEW.  
EXISTING STRUCTURE NO. 042-3049.

**PROPOSED STRUCTURE:**  
SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM (21") BRIDGE ON CLOSED CONCRETE ABUTMENTS. 24'-0" OUT. TO OUT. DECK, 48'-0" BK.-BK. ABUTMENTS. STEEL RAILING TYPE S1. 25° SKEW LT. FORWARD.  
PROPOSED STRUCTURE NO. 042-3144.



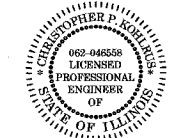
APPROVED: 2/15 2008  
*Randy Williams*  
TOWNSHIP HIGHWAY COMMISSIONER

APPROVED: 2/15 2008  
*Thomas I. Wines*  
COUNTY ENGINEER

PASSED: 4/9 2008  
*[Signature]*  
DISTRICT EIGHT ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review: 4/9 2008  
*Wayne Lewis*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION FIVE ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



*Christopher P. Kohlman* 2/19/08  
EXPIRATION: 11/30/2009

TOLL FREE  
"JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"  
(A.U.L.I.E.) TELEPHONE NUMBER  
1-800-892-0123

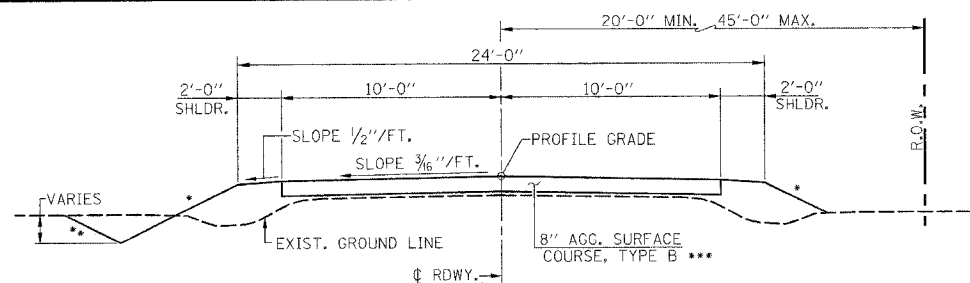
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PROJECT =	PROJECT =	DRAWN -	REVISED -
PLC1 SCALE =	PLC1 SCALE =	CHECKED -	REVISED -
PLC1 DATE =	PLC1 DATE =	DATE -	REVISED -

**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

**TITLE SHEET**

SCALE: 1" = 1 MILE SHEET NO. 1 OF 12 SHEETS STA. 1+40.00 TO STA. 5+10.00

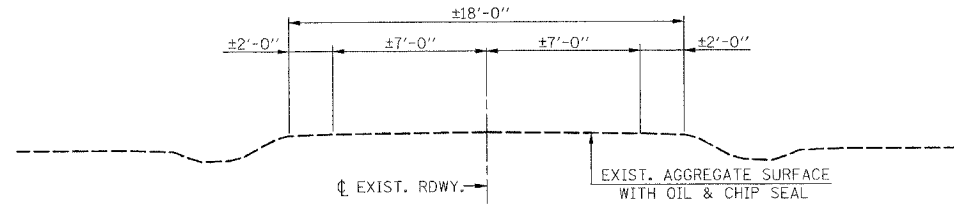
T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	1
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 97334	



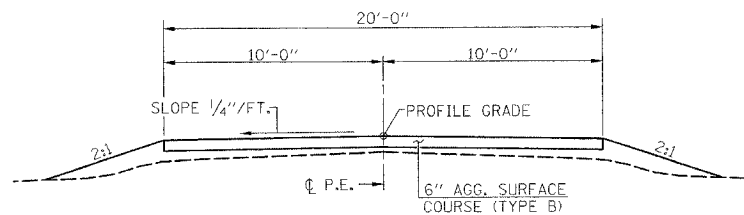
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- 2:1 Fill > 6'
- \*\* 3:1 Cut ≤ 6'
- 2:1 Cut > 6'

**PROPOSED CROSS SECTION**

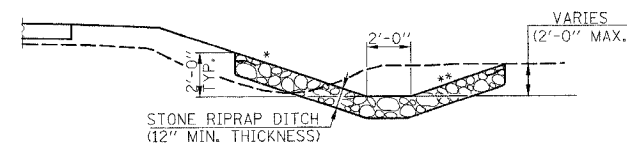
\*\*\* - WORK TO BE PERFORMED BY COUNTY FORCES  
ESTIMATED AGGREGATE SURFACE COURSE, TYPE B - 338 TON



**EXISTING CROSS SECTION**

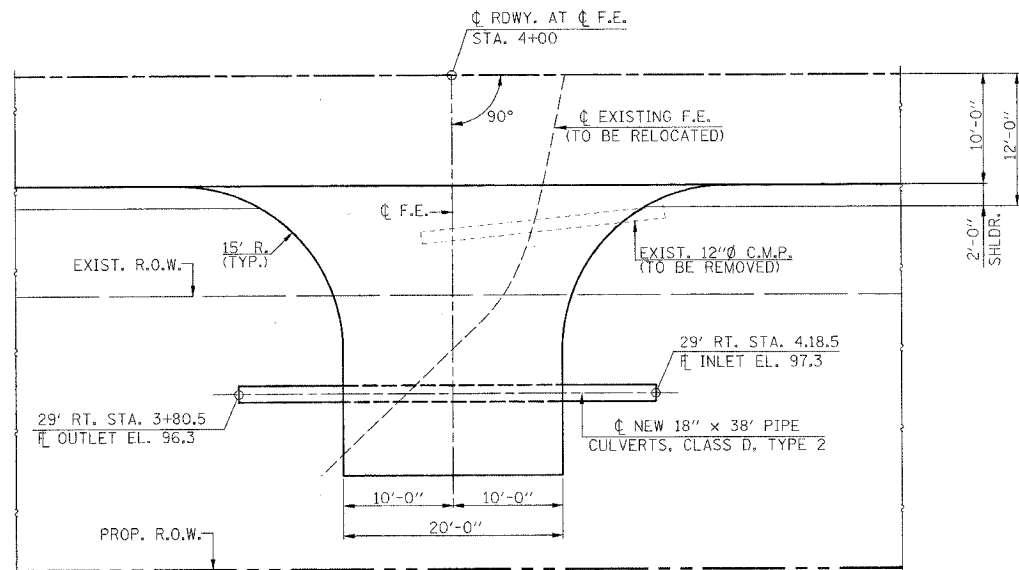


**TYPICAL FIELD ENTRANCE**  
(STA. 4+00 RT.)



**STONE RIPRAP DITCH DETAIL**  
(STA. 1+40 TO STA. 2+60 RT. & STA. 1+40 TO STA. 2+76 LT.)

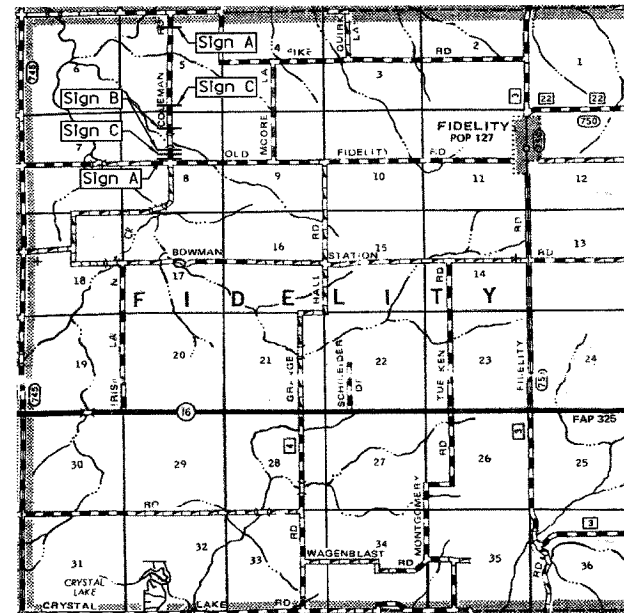
- \* 3:1 Fill ≤ 6'
- 2:1 Fill > 6'
- \*\* 3:1 Cut ≤ 6'
- 2:1 Cut > 6'



**PLAN**  
**EARTHWORK SCHEDULE**

LOCATION	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU. YD.	CU. YD.	CU. YD.	CU. YD.
STA. 1+40 TO STA. 1+50	29	22	0	22
STA. 1+50 TO STA. 2+00	374	280	4	276
STA. 2+00 TO STA. 2+50	425	319	26	293
STA. 2+50 TO STA. 2+83.50	263	197	31	166
BRIDGE OMISSION STA. 2+83.50 TO STA. 3+31.50				
STA. 3+31.50 TO STA. 3+50	2	1	99	-98
STA. 3+50 TO STA. 4+00	26	20	184	-164
STA. 4+00 TO STA. 4+50	34	26	115	-89
STA. 4+50 TO STA. 5+00	24	18	20	-2
STA. 5+00 TO STA. 5+10	3	2	1	1
<b>TOTAL</b>	<b>1180</b>	<b>885</b>	<b>480</b>	<b>405</b>

NO FURNISHED EXCAVATION WILL BE REQUIRED.  
JERSEY COUNTY AND FIDELITY TOWNSHIP WILL PROVIDE TRUCKS TO DISPOSE OF EXCESS EARTH EXCAVATION & CHANNEL EXCAVATION. CONTRACTOR WILL BE RESPONSIBLE FOR LOADING THE TRUCKS.



**BARRICADE LOCATION**  
(Not to Scale)

SUMMARY OF QUANTITIES				
CODE NO.	ITEM	UNIT	QUANTITY	
20100500	TREE REMOVAL, ACRES	ACRE	0.5	
20200100	EARTH EXCAVATION	CU. YD.	1180	
20300100	CHANNEL EXCAVATION	CU. YD.	984	
25001000	SEEDING CLASS 2, SPECIAL	ACRE	0.5	
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	421	
28102600	STONE RIPRAP DITCH	TON	77	
28200200	FILTER FABRIC	SO. YD.	632	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	
50200100	STRUCTURE EXCAVATION	CU. YD.	262	
50300225	CONCRETE STRUCTURES	CU. YD.	104.4	
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SO. FT.	1117	
50800105	REINFORCEMENT BARS	POUND	15260	
50900205	STEEL RAILING, TYPE S1	FOOT	96	
51201400	FURNISHING STEEL PILES HP 10X42	FOOT	696	
51202305	DRIVING PILES	FOOT	696	
51203400	TEST PILE, STEEL HP 10X42	EACH	2	
51500100	NAME PLATES	EACH	1	
542D1063	PIPE CULVERTS, CLASS D, TYPE 2 18"	FOOT	38	
67100100	MOBILIZATION	L. SUM	1	
70101830	TRAFFIC CONTROL AND PROTECTION STANDARD BLR 21	L. SUM	1	
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	
X5020501	UNDERGROUND STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1	
X5020502	UNDERGROUND STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1	

**GENERAL NOTES**

MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE.  
AREAS TO BE SEEDDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY AS DIRECTED BY THE ENGINEER.  
NO COMMITMENTS.

**LEGEND**

SIGN A - "ROAD CLOSED AHEAD"  
W20-3(0) 4848  
SIGN B - BLR STANDARD 21  
SIGN C - "ROAD CLOSED 500 FEET"  
W20-3(0) 4848

FILE NAME =	USER NAME = AUGER#	DESIGNED	REVISED
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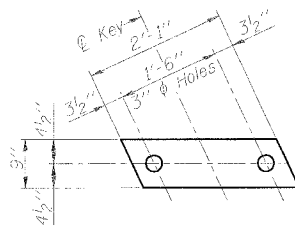
**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

<b>SUMMARY OF QUANTITIES, GENERAL NOTES, DETAILS &amp; TYPICAL SECTIONS</b>				
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			12	2

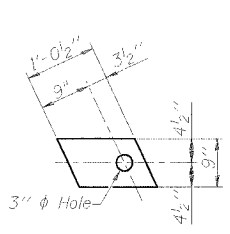




T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	5
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FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

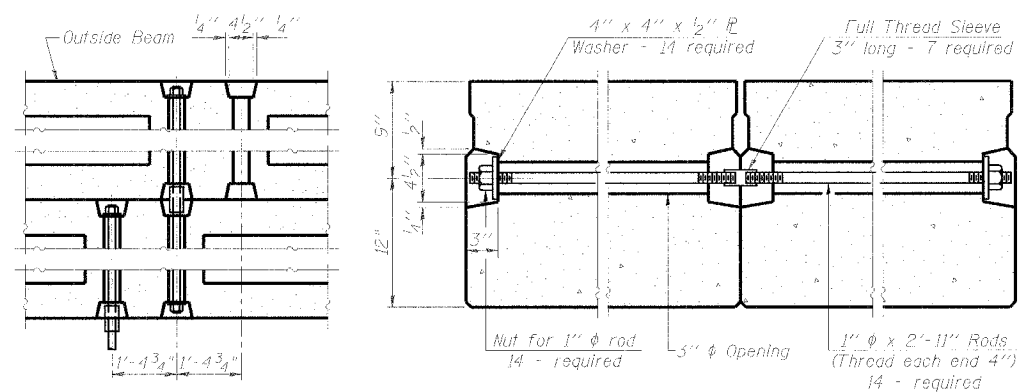


**FABRIC BEARING PAD**  
(Interior)  
(12 Required)

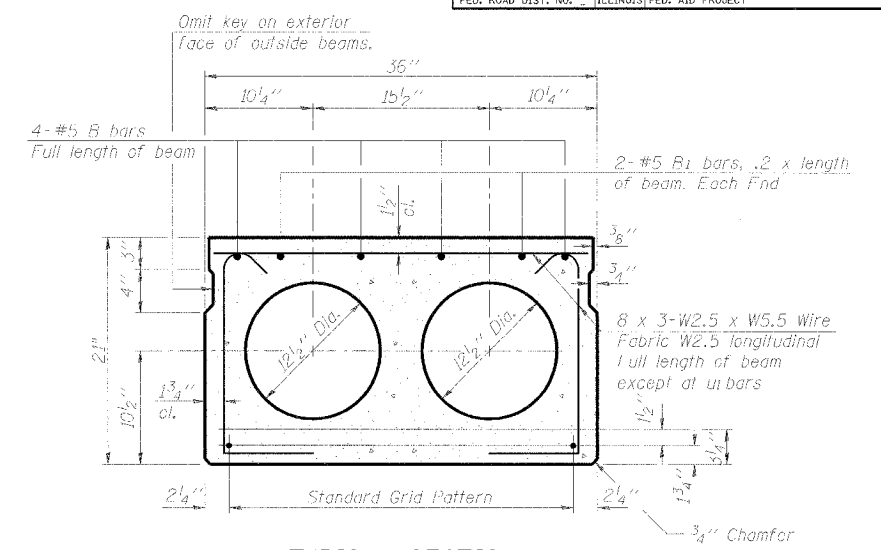


**FABRIC BEARING PAD**  
(Exterior)  
(8 Required)

**FIXED**

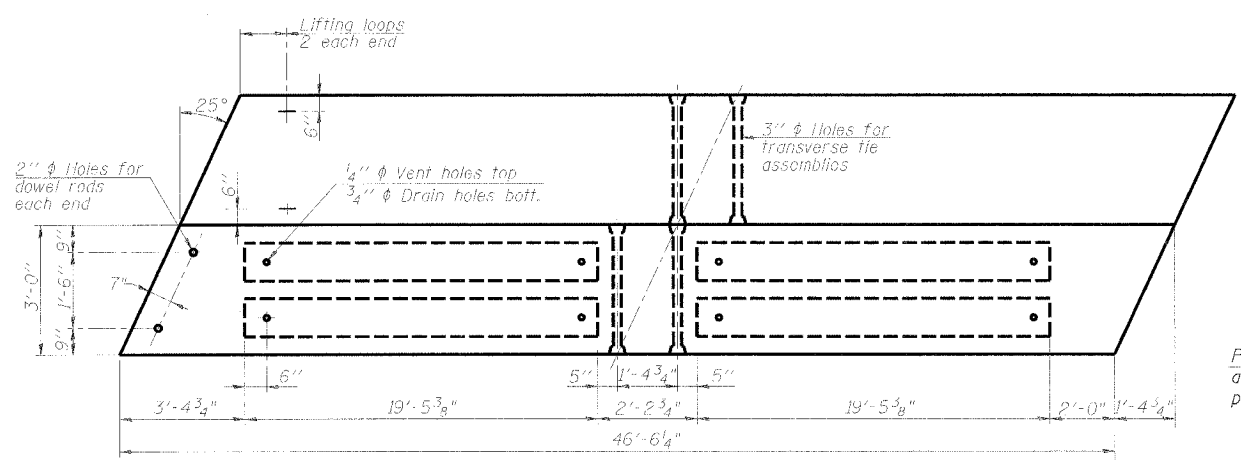


**TYPICAL TRANSVERSE TIE ASSEMBLY**

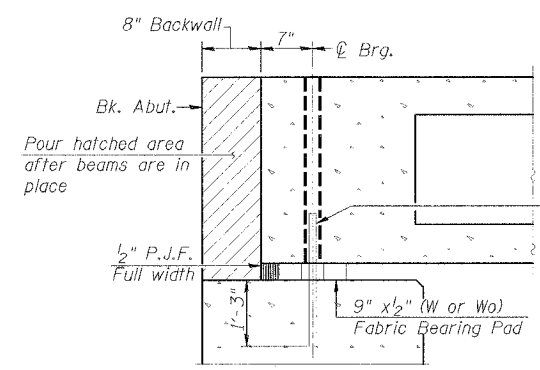


**TYPICAL SECTION**

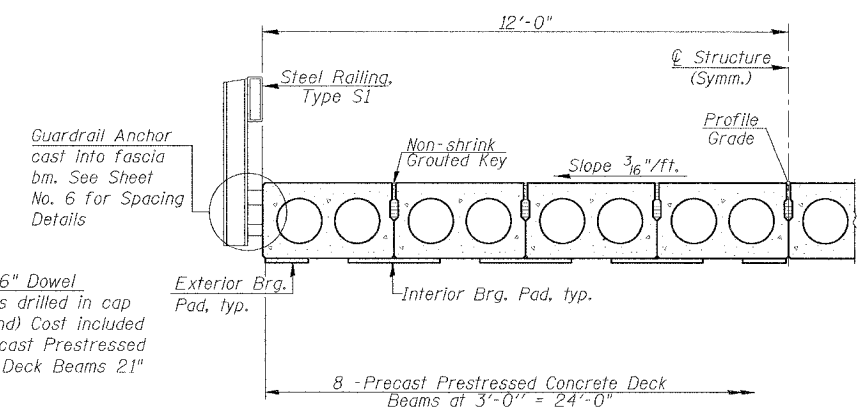
14-1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
8-Strands 1 3/4" up, 4-Strands 3/4" up, 2-Strands 9" up  
Notes:  
Place strands symmetrically about  $\phi$  of beam.



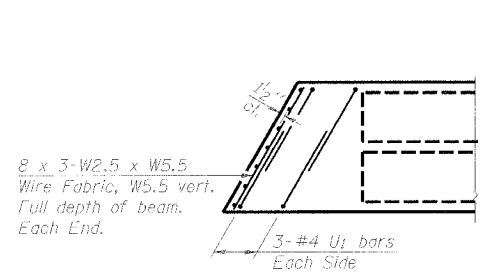
**PLAN**



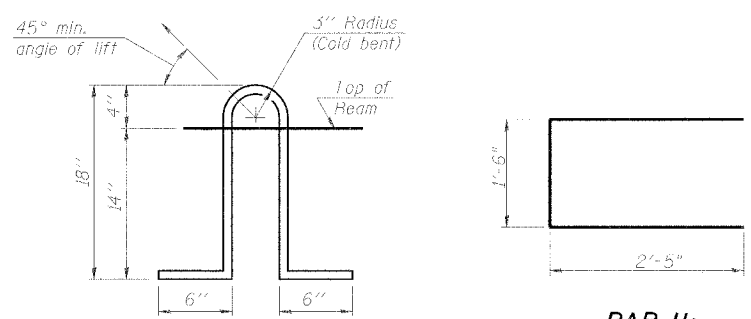
**SECTION THRU ABUTMENT**  
(At Right Angles)



**HALF CROSS SECTION**



**END PLAN**



**LIFTING LOOP DETAIL**

**BAR U1**

**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"  $\phi$  270 ksi strands, as shown. The 1"  $\phi$  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. Non prestressing steel shall conform to ASTM A 706 (IL MOD), 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 bonding 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. Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'cl, shall be 4000 p.s.i.

**BILL OF MATERIAL**

Material	Sq. Ft.	1117
Precast Prestressed Conc. Deck Bms. (21" Depth)		

PD-3-L

11-1-06

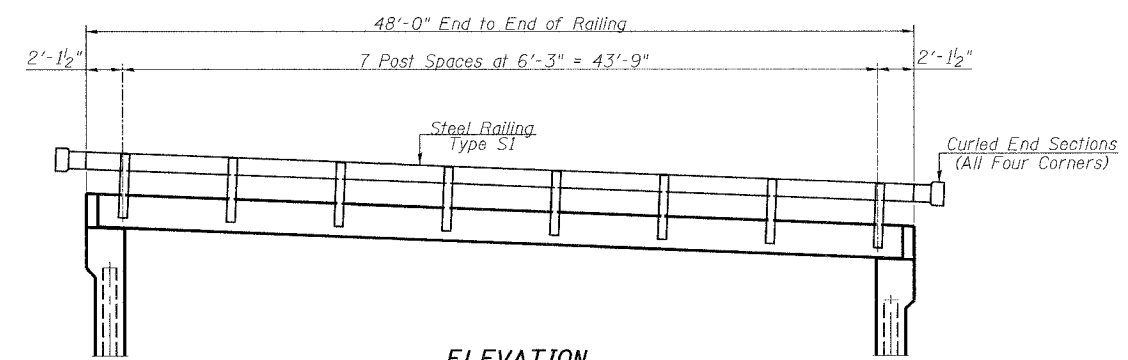
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**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

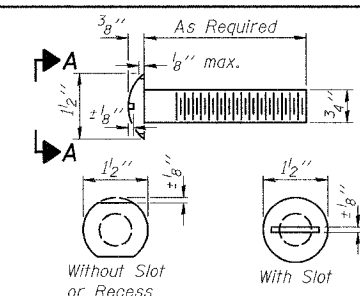
<b>SUPERSTRUCTURE</b>		
SCALE: VARIES	SHEET NO. 5 OF 12 SHEETS	STA. 1+40.00 TO STA. 5+10.00

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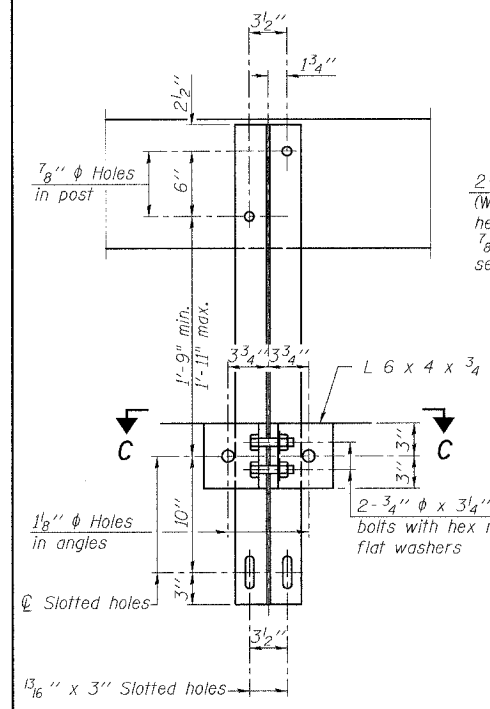
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50	05-03104-00-BR	JERSEY	12	6
CONTRACT NO. 97334				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



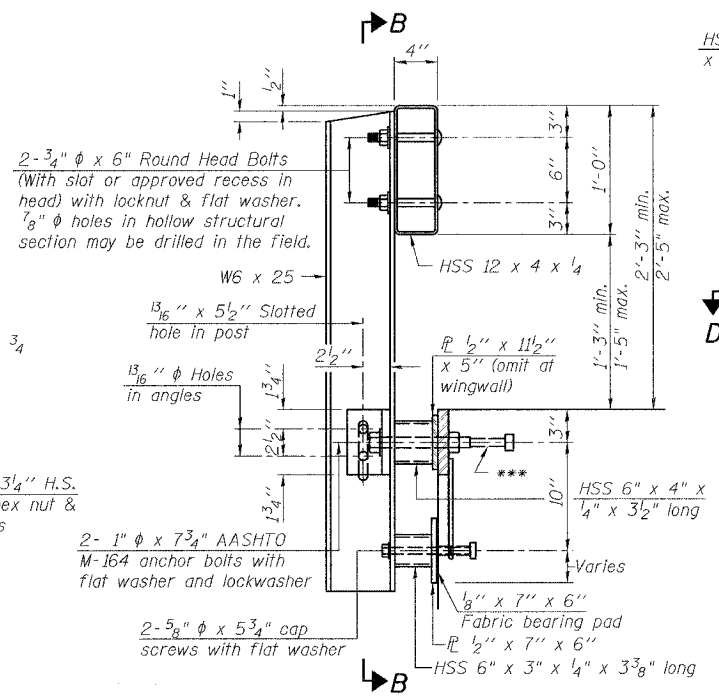
**ELEVATION**  
(Showing Outside Face)



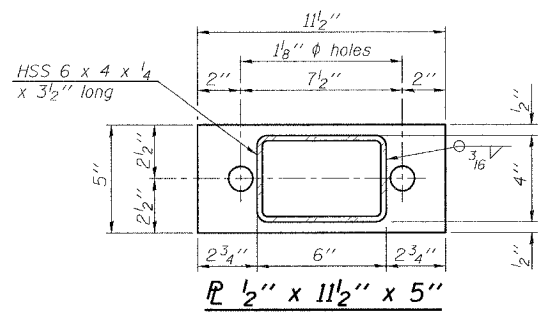
**VIEW A-A**  
**ROUND HEAD BOLT**



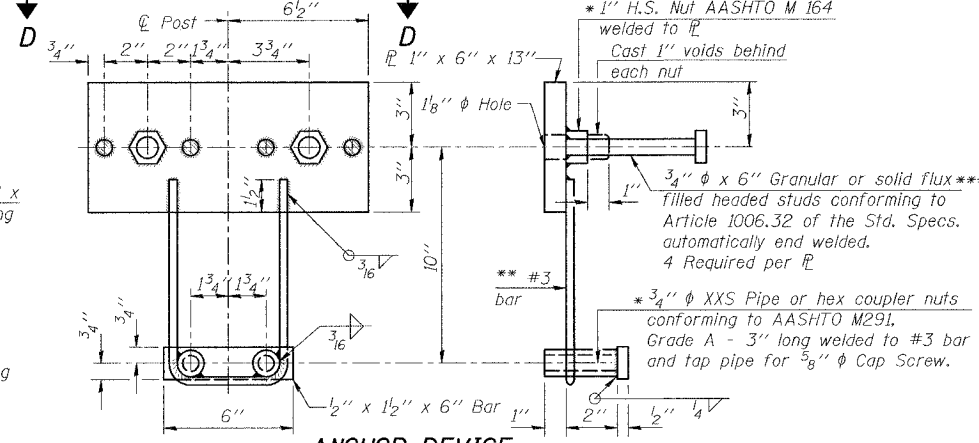
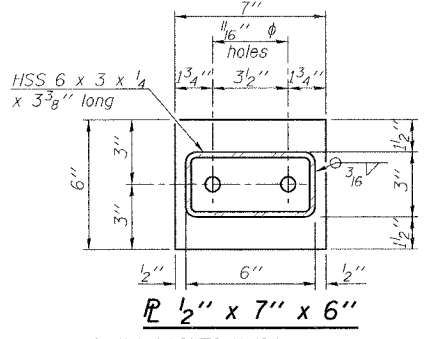
**SECTION B-B**



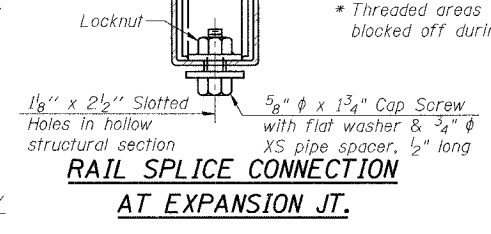
**SECTION AT RAILING POST**



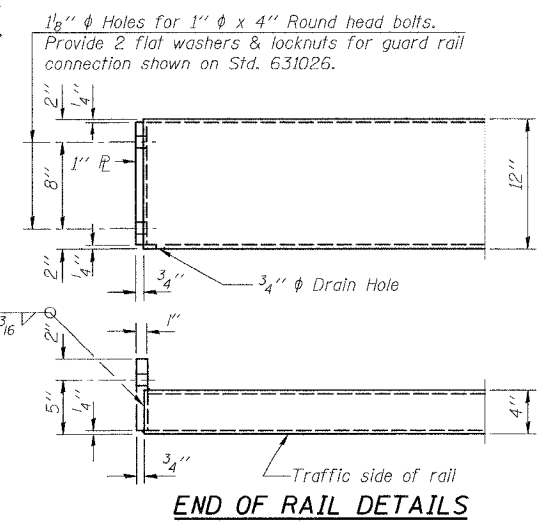
**ANCHOR DEVICE**



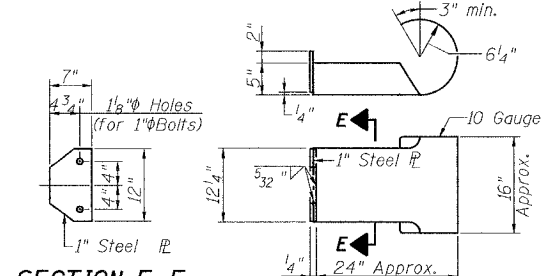
**PLAN-BOTT. SPLICE AT EXPANSION JT. TYPICAL**



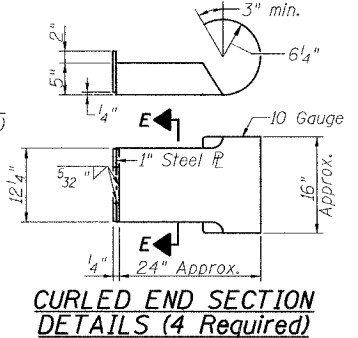
**RAIL SPLICE CONNECTION AT EXPANSION JT.**



**END OF RAIL DETAILS**

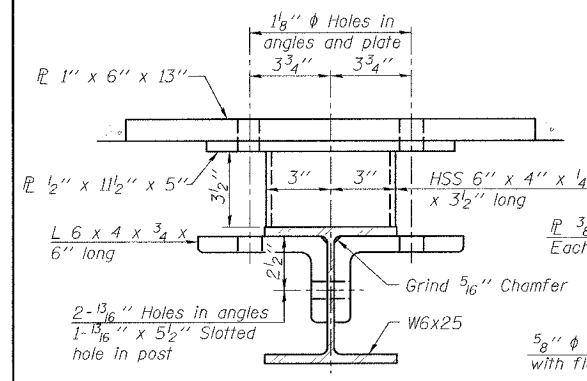


**SECTION E-E**

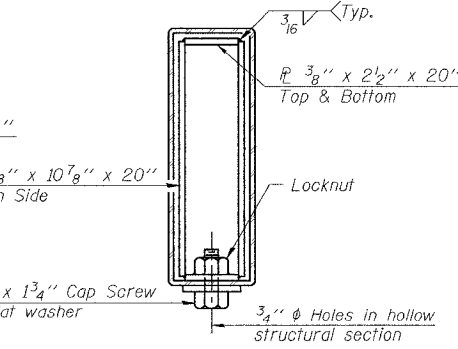


**CURLED END SECTION DETAILS (4 Required)**

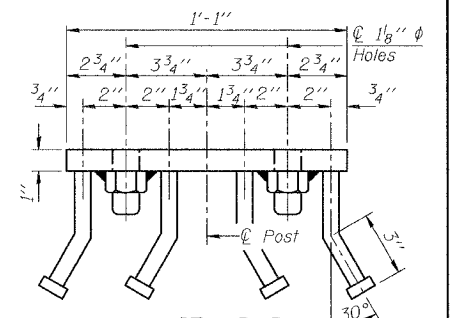
Notes:  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
\*\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.  
Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Railing, Type S-1.  
The cost of curled end sections shall be included in the cost of Steel Railing, Type S1.



**SECTION C-C**



**SECTIONS AT RAIL SPLICE**



**VIEW D-D**  
**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S1	Foot	96

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	PLOT DATE = #DATE#	DATE	REVISED

**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL  
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<b>RAILING</b>		
SCALE: VARIES	SHEET NO. 6 OF 12 SHEETS	STA. 1+40.00 TO STA. 5+10.00

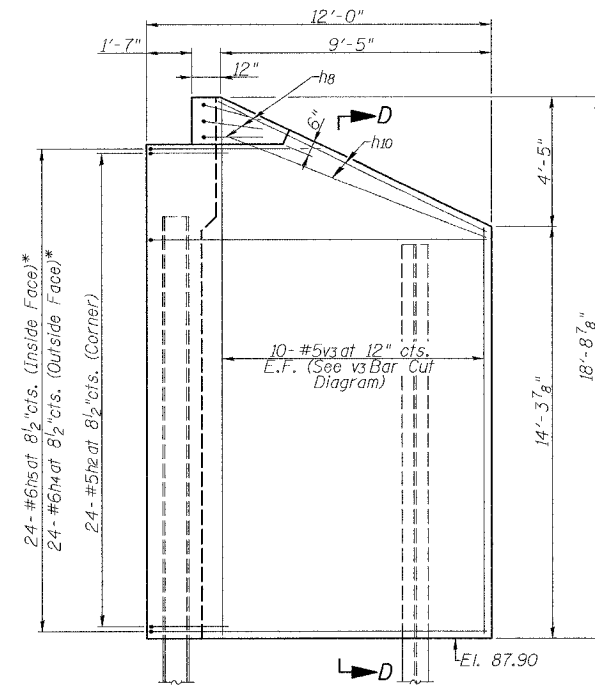
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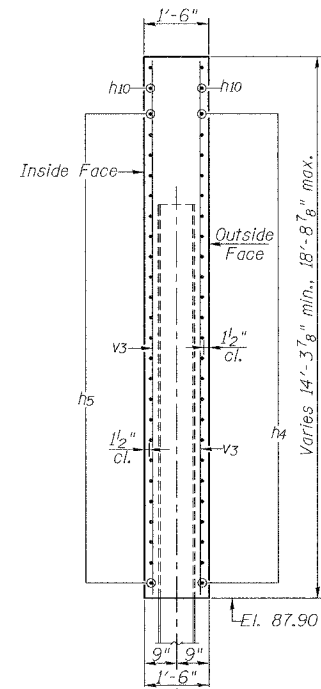




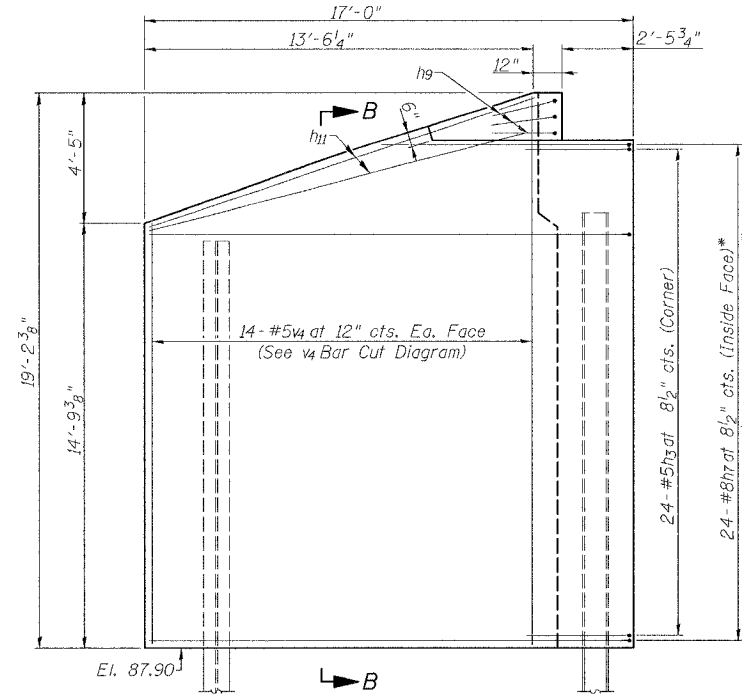
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CONTRACT NO. 97334				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



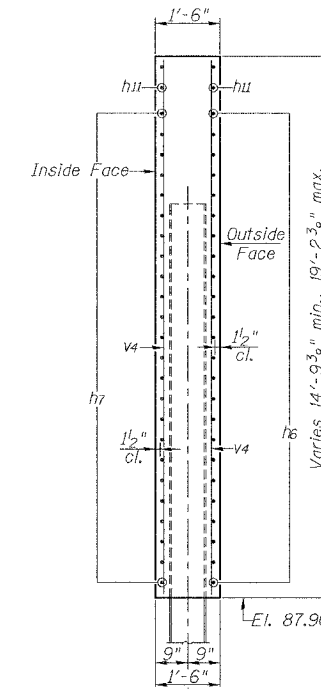
**WINGWALL ELEVATION**  
(South Abut. - West Wingwall)  
\* Field Cut as required



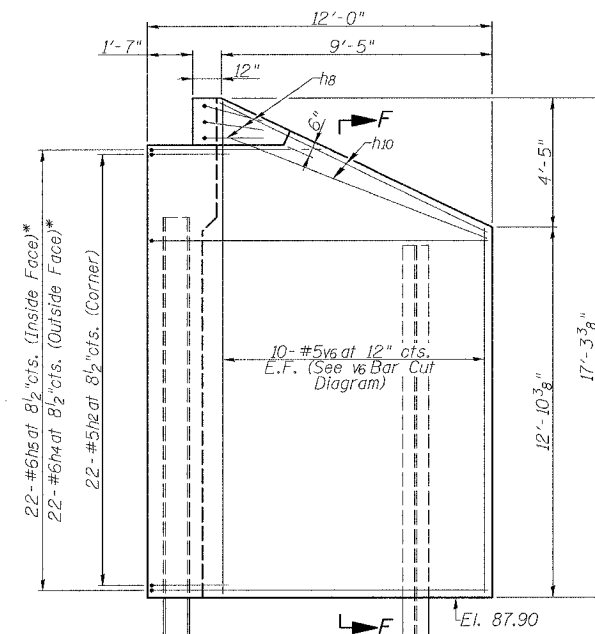
**SECTION D-D**



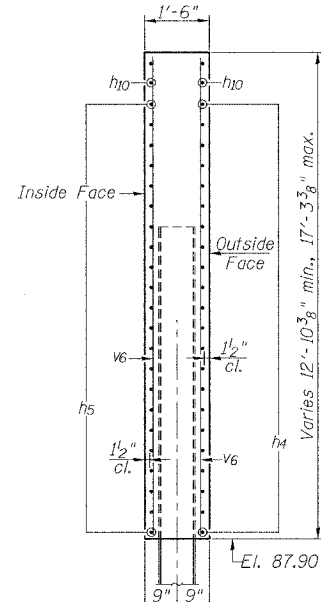
**WINGWALL ELEVATION**  
(South Abut. - East Wingwall)  
\* Field Cut as required



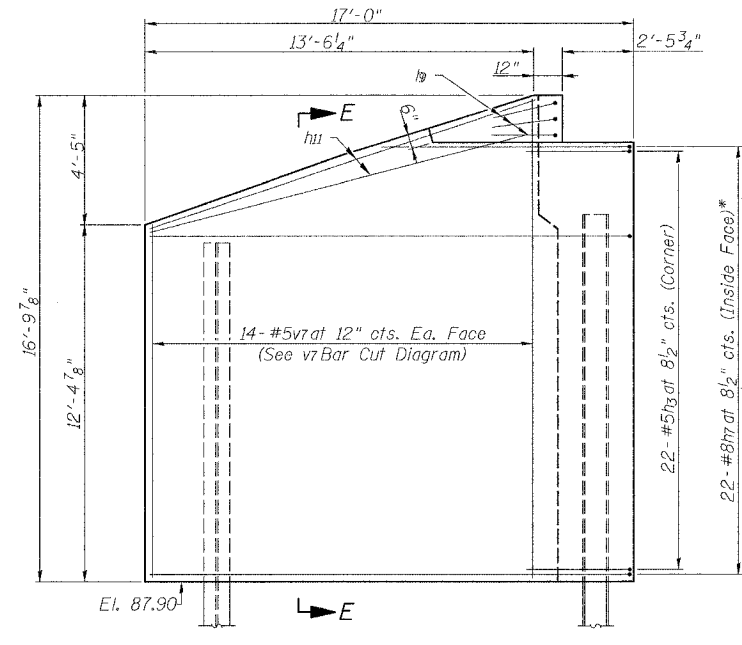
**SECTION B-B**



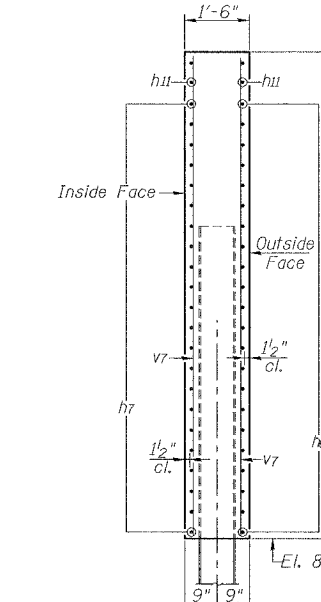
**WINGWALL ELEVATION**  
(North Abut. - East Wingwall)  
\* Field Cut as required



**SECTION F-F**



**WINGWALL ELEVATION**  
(North Abut. - West Wingwall)  
\* Field Cut as required



**SECTION E-E**

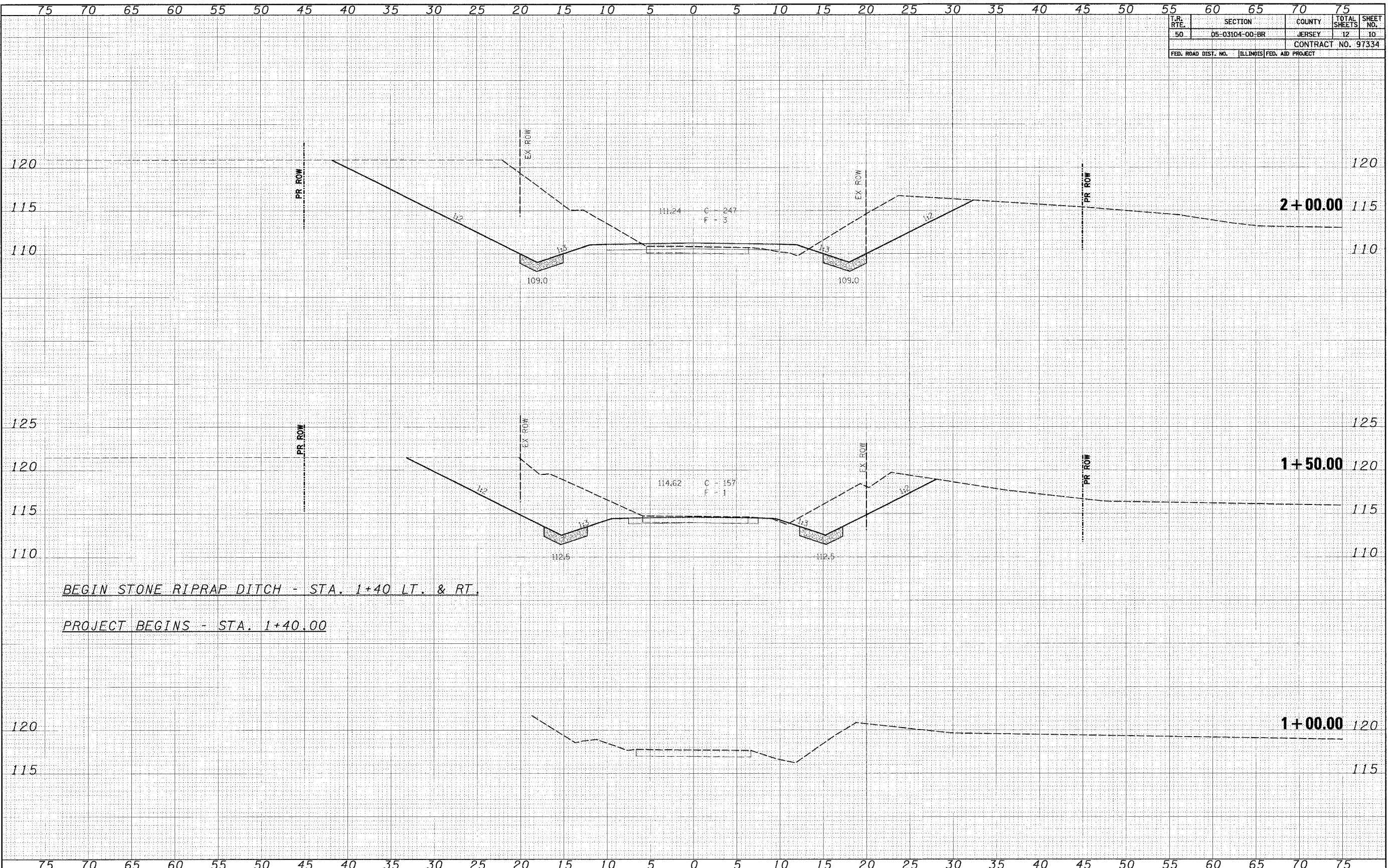
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	PLOT DATE = #DATE#	DATE	REVISED



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62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

<b>ABUTMENT DETAILS</b>		T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: _____		50	05-03104-00-BR	JERSEY	12	9
SHEET NO. 9 OF 12 SHEETS		STA. 1+40 TO STA. 5+10		CONTRACT NO. 97334		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						

F.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	10
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 97334	



DESIGNED	BY	DATE
DRAWN		
CHECKED		
DATE		

DESIGNED	BY	DATE
DRAWN		
CHECKED		
DATE		

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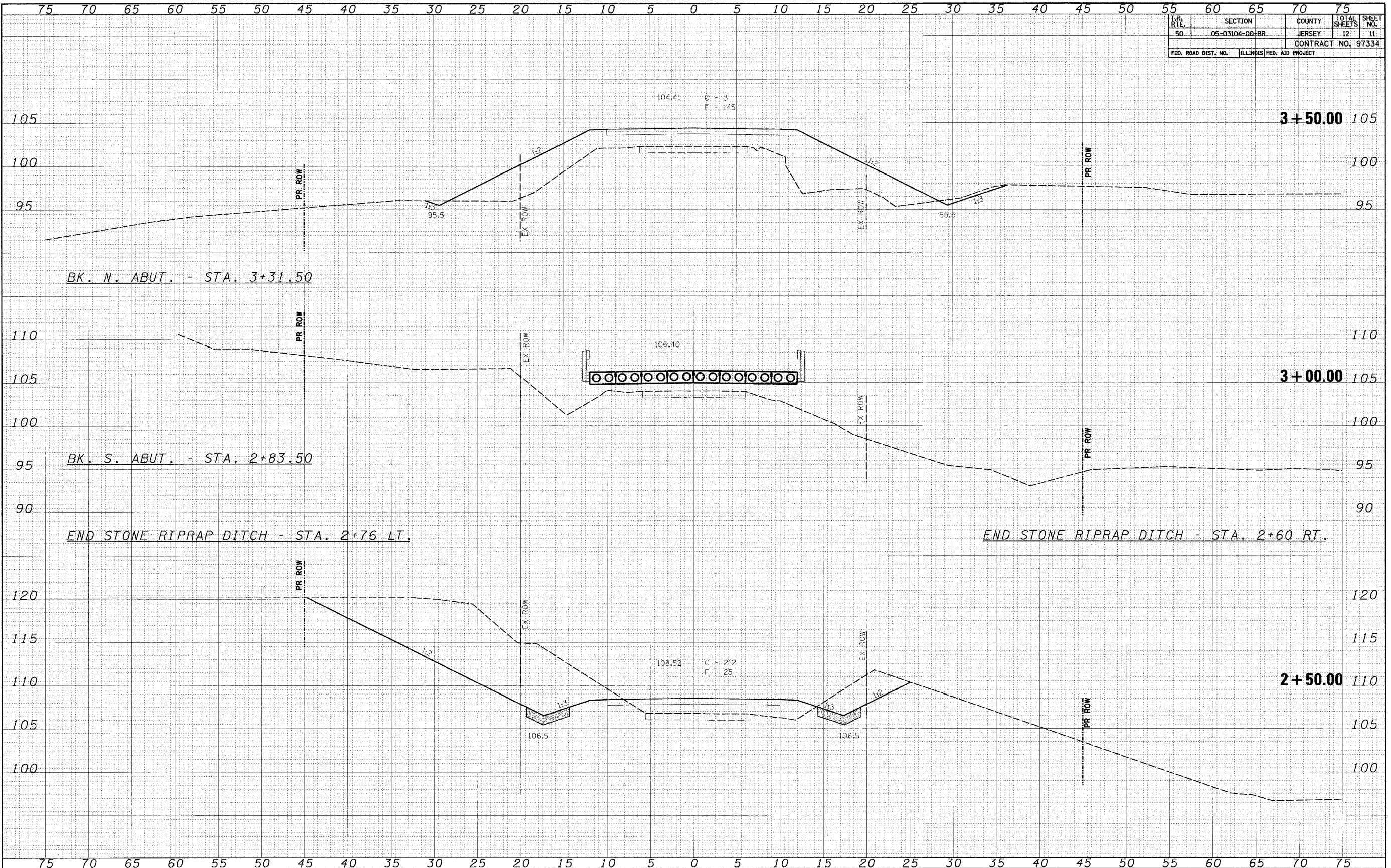
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CHECKED -	REVISED -
DATE -	REVISED -

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 62703 Phone: (217)544-8033 IL Design Firm  
 No. 184-001907

<b>CROSS SECTIONS</b>			
SCALE:	SHEET NO.	OF SHEETS	STA. 1+00.00 TO STA. 2+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	10
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO.	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	11
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 97334	



DATE	BY
REVIEWED	DATE
NOTE BOOK	NO.

DATE	BY
REVIEWED	DATE
NOTE BOOK	NO.

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DESIGNED -	REVISOR -
DRAWN -	REVISOR -
CHECKED -	REVISOR -
DATE -	REVISOR -

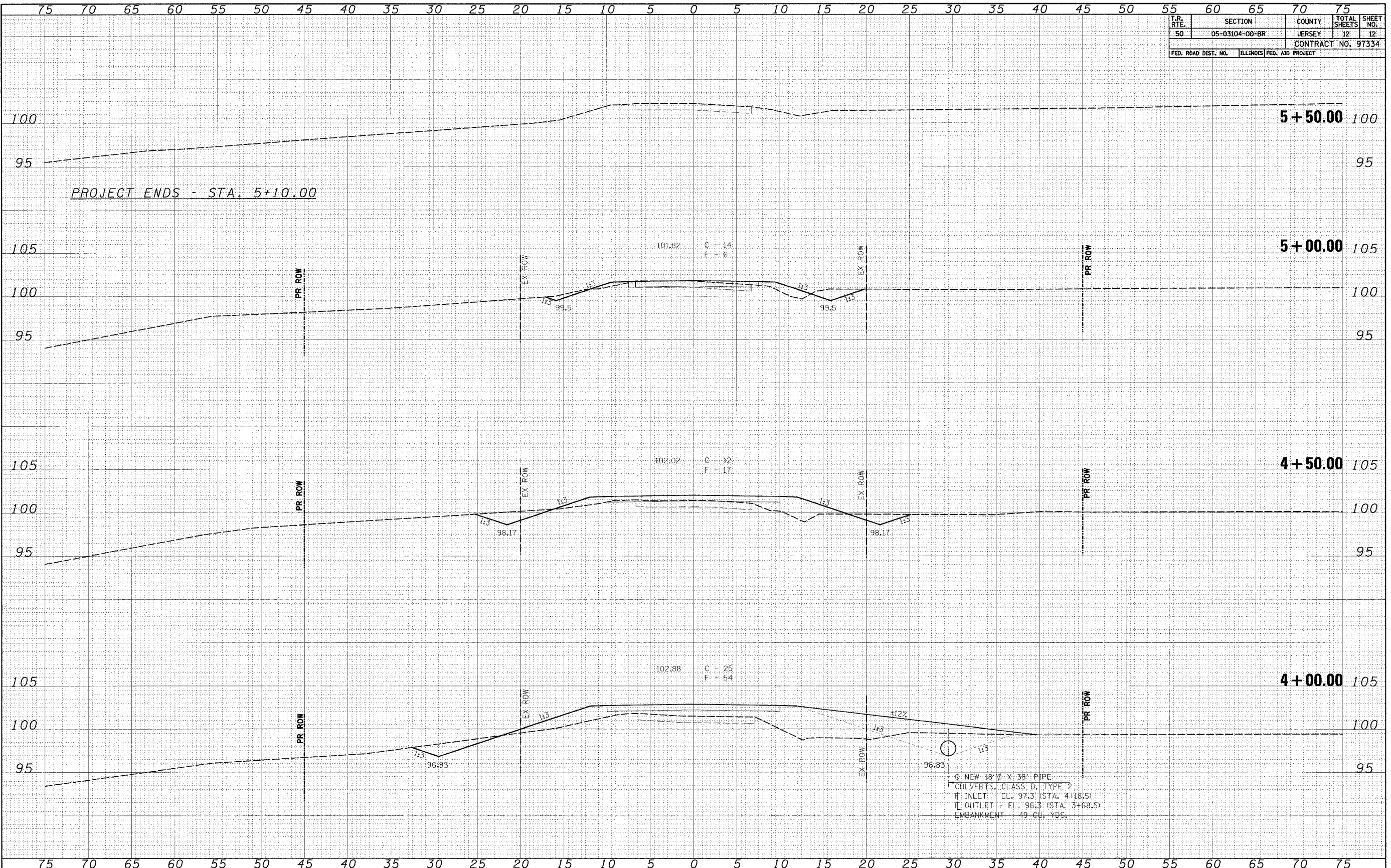


**Allen Henderson & Associates, Inc.**  
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 No. 184-001907

<b>CROSS SECTIONS</b>			
SCALE:	SHEET NO.	OF SHEETS	STA. 2+50.00 TO STA. 3+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	11
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO.	

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	12
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 97334	



PROJECT ENDS - STA. 5+10.00

DATE	BY
DATE	BY
DATE	BY
DATE	BY
DATE	BY

DATE	BY
DATE	BY
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DATE	BY
DATE	BY

FILE NAME	USER NAME
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PLOT SCALE	8/SCALE8
PLOT DATE	8DATE8

DESIGNED	REVISOR
DRAWN	REVISOR
CHECKED	REVISOR
DATE	REVISOR

DESIGNED	REVISOR
DRAWN	REVISOR
CHECKED	REVISOR
DATE	REVISOR



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 No. 184-001907

CROSS SECTIONS			
SCALE:	SHEET NO.	OF SHEETS	STA. 4+00.00 TO STA. 5+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
50	05-03104-00-BR	JERSEY	12	12
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO.	