

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-324	*	MORGAN	10	1
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

* 05-01117-00-BR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
BRIDGE REPLACEMENT AND
REHABILITATION PROGRAM
MORGAN COUNTY-ROAD DISTRICT #1
TR-324/FARMER ROAD OVER INDIAN CREEK
STRUCTURE NUMBER 069-3259
SECTION 05-01117-00-BR
PROJECT BROS-137 (25)
JOB NUMBER C-96-215-06

INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTION, GENERAL NOTES AND SUMMARY OF QUANTITIES	2
PLAN AND PROFILE	3
STRUCTURE PLANS	4 - 7
TRAFFIC CONTROL PLAN	8
CROSS SECTIONS	9 - 10

STANDARDS

000001-04	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-02	TEMPORARY EROSION CONTROL SYSTEMS
515001-02	NAME PLATE FOR BRIDGES
702001-06	TRAFFIC CONTROL DEVICES
B.L.R. 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SCALES

PLAN	0 10
PROFILE HORIZONTAL	0 10
PROFILE VERTICAL	0 5
CROSS SECTIONS HORIZONTAL	0 5
CROSS SECTIONS VERTICAL	0 5

EXISTING STRUCTURE

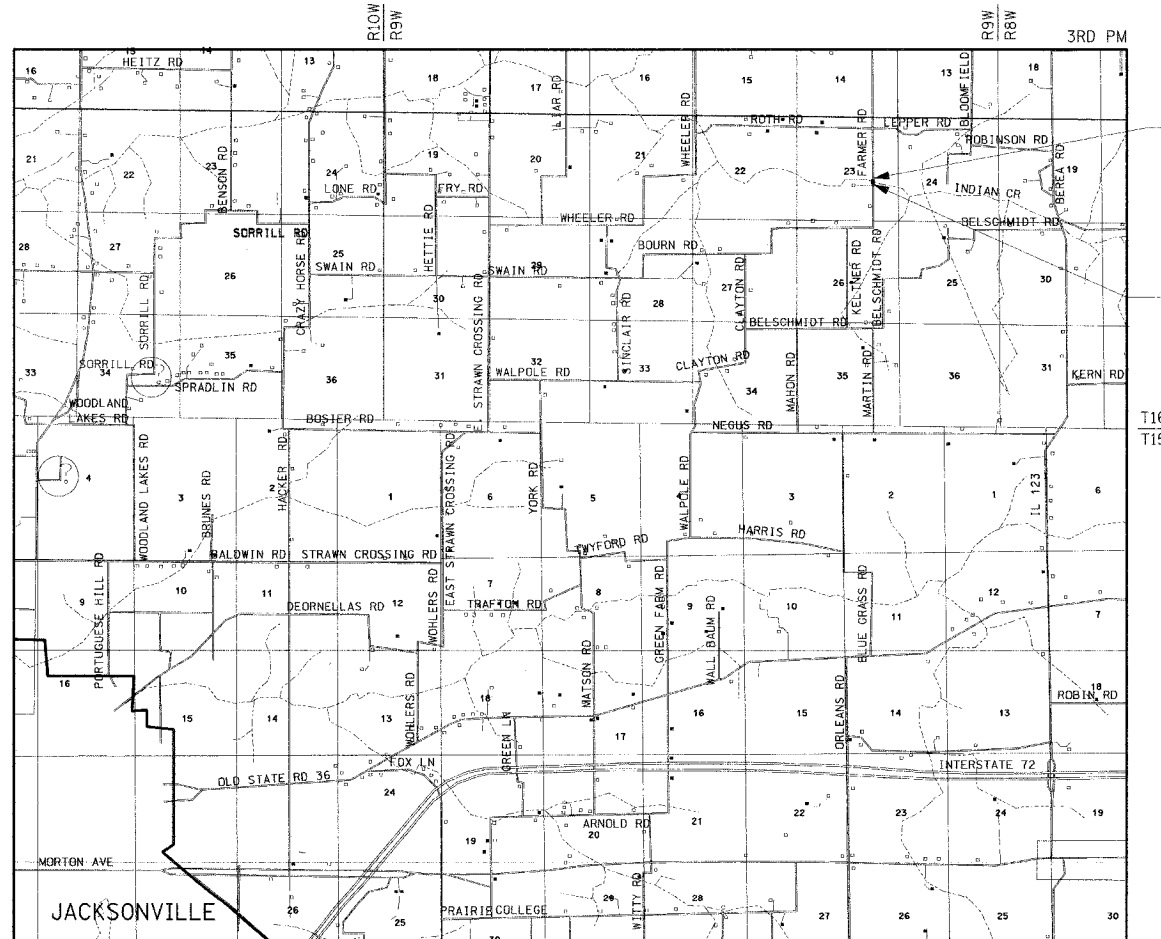
STRUCTURE NO. 069-3127 IS A THREE SPAN BRIDGE,
WITH 8" CONCRETE DECK ON FOUR 16" DEEP STEEL
BEAMS. ABUTMENTS AND PIERS CONSISTS OF FIVE
12" DIAMETER TIMBER PILING WITH A 2.5'x2.5'
CONCRETE CAP.
64.6' BACK TO BACK ABUTMENTS
BRIDGE WIDTH = 21.2' OUT TO OUT OF DECK

NO SALVAGE

UTILITIES

AMEREN IP (POWER)
JACKSONVILLE, ILLINOIS

TOLL FREE:
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS
J.U.L.I.E. 1-800-892-0123



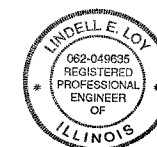
LOCATION MAP-MORGAN COUNTY

0 0.5 1 MILES

LENGTH OF IMPROVEMENT = 140.00 FT = 0.027 MILES
NET LENGTH OF IMPROVEMENT = 140.00 FT = 0.027 MILES
LOCAL ROAD: ADT < 150
DESIGN CLASS: LOCAL ROAD
DESIGN SPEED: 30 MPH

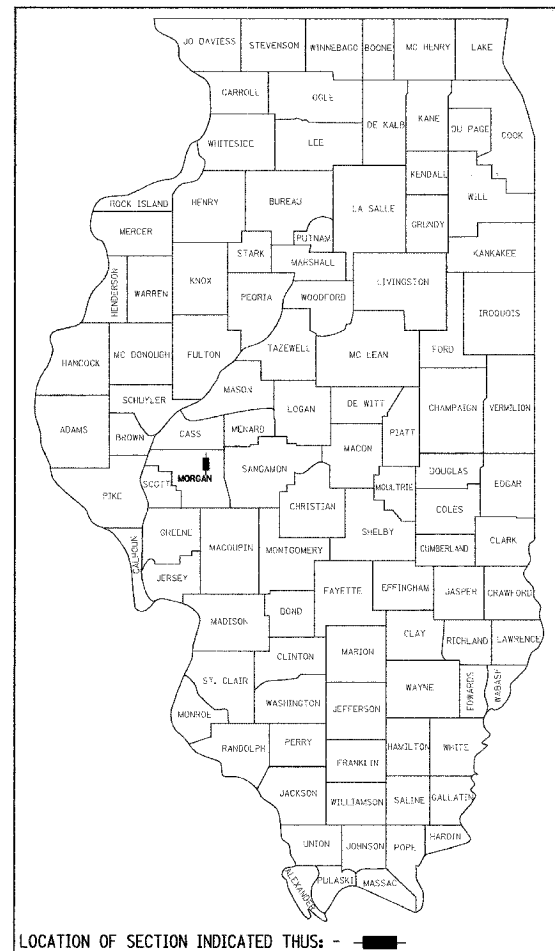
END IMPROVEMENTS
SECTION 05-01117-00-BR
STA 5+70.00

BEGIN IMPROVEMENTS
SECTION 05-01117-00-BR
STA 4+30.00



BY Lindell E. Loy
DATE FEB 23, 2006
EXPIRATION DATE: 11-30-2007

Benton & Associates, Inc.
Consulting Engineers
Jacksonville, Illinois



LOCATION OF SECTION INDICATED THUS: - ■ -

PROPOSED STRUCTURE

SINGLE SPAN PRECAST PRESTRESSED CONCRETE
DECK BEAMS WITH REINFORCED CONCRETE
OPEN ABUTMENTS ON STEEL H-PILES
70'-2" BACK TO BACK ABUTMENTS
24'-0" OUT-TO-OUT OF BRIDGE DECK
NO SKEW
PROPOSED STRUCTURE NO. 069-3259

APPROVED Feb. 23 2006

Calvin W. Genco
COUNTY ENGINEER

APPROVED Feb. 23 2006

Joe S. Lee
ROAD COMMISSIONER

PASSED 3-29 2006

Tommy F. Lee
DISTRICT SIX ENGINEER OF
LOCAL ROADS & STREETS

PASSED March 30 2006

W.R. Freeman
DISTRICT SIX ENGINEER OF
CONSTRUCTION

Releasing For
Bid Based on
Limited Review

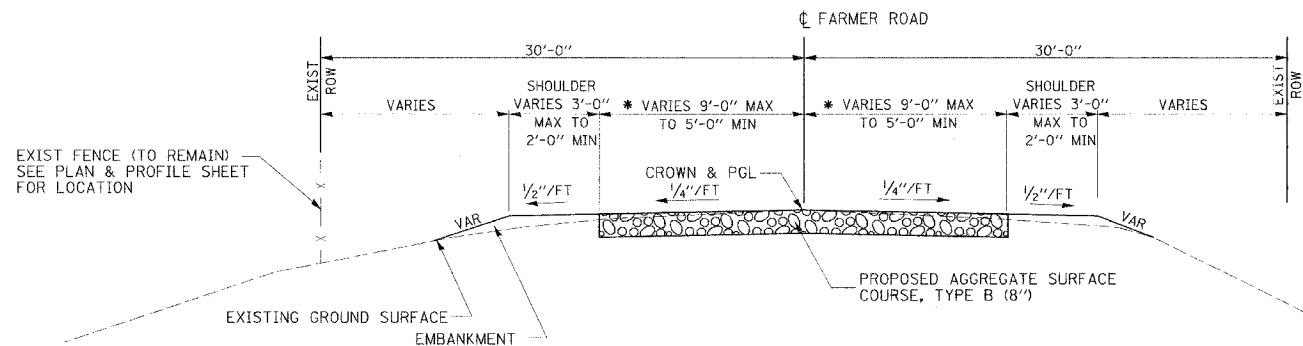
3-29 2006

Christine M. Reed
DEPUTY DIRECTOR OF HIGHWAYS,
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-324	*	MORGAN	10	2
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	

* 05-0117-00-BR



TYPICAL SECTION
STA 4+30.00 TO STA 5+70.00
BRIDGE OMISSION STA 4+64.92 TO STA 5+35.08

PROPOSED STRUCTURE NO 069-3259 FROM STA 4+64.92 TO STA 5+35.08

* VARIES 5.0' TO 9.0' FROM STA 4+30.00 TO STA 4+64.92 AND
VARIES 9.0' TO 5.0' FROM STA 5+35.08 TO STA 5+70.00

BITUMINOUS CONCRETE MIXTURE REQUIREMENTS

ITEM	AGGREGATE COMPOSITION	ASPHALT GRADE	ALLOWABLE RAP	VOIDS
SURFACE COURSE	IL-9.5 OR 12.5 MIX C	PG 64-22	15%	4.0%

APPLICATION RATE TABLE

AGGREGATE SURFACE COURSE, TYPE B	2.05 TON / CU YD
STONE DUMPED RIPRAP, CLASS A5	1.5 TON / CU YD
BITUMINOUS CONCRETE SURFACE COURSE	112 LBS / SQ YD / IN

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)	EARTH EXCAVATION ADJUSTED FOR 25% SHRINKAGE (CU YD)	CHANNEL & RIPRAP EXCAVATION (CU YD)	** CHANNEL & RIPRAP EXCAVATION (CU YD)	CHANNEL & RIPRAP EXCAVATION ADJUSTED FOR 25% SHRINKAGE (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) SHORTAGE (-) (CU YD)
STA. 4+30.00 TO 4+50.00	2.8	2.1				5.0	-2.9
STA. 4+50.00 TO 4+64.92	3.5	2.6				17.2	-14.6
CHANNEL EXCAVATION			575.0	287.5	215.6		+215.6
STA. 5+35.08 TO 5+50.00	5.1	3.8				4.8	-1.0
STA. 5+50.00 TO 5+70.00	3.4	2.6				3.7	-1.1
TOTALS	14.8	11.1	575.0	287.5	215.6	30.7	+195.5 *

* (195.5/0.75 = 261 CU YD OF ACTUAL WASTE)

** 50% OF THE CHANNEL & RIPRAP EXCAVATION IS CONSIDERED UNSUITABLE MATERIAL.

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	15
20300100	CHANNEL EXCAVATION	CU YD	100
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1
25100630	EROSION CONTROL BLANKET	SQ YD	73
28000300	TEMPORARY DITCH CHECKS	EACH	4
28100809	STONE DUMPED RIPRAP, CLASS A5	TON	194
* 28101100	DUMPED RIPRAP, SPECIAL	SQ YD	380
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	50
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	100
50300225	CONCRETE STRUCTURES	CU YD	20.6
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	1,646.0
50800105	REINFORCEMENT BARS	POUND	2,760
50900205	STEEL RAILING, TYPE S1	FOOT	140
51201000	FURNISHING METAL PILE SHELLS 12"	FOOT	430
51202600	DRIVING AN FILLING SHELLS	FOOT	430
51203200	TEST PILE METAL SHELLS	EACH	1
51500100	NAME PLATES	EACH	1
67100100	MOBILIZATION	L SUM	1
* 70103700	TRAFFIC CONTROL COMPLETE	L SUM	1
* X4066414	BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE, MIX "C", N50	TON	28

* SEE SPECIAL PROVISIONS

CONSTRUCTION TYPE CODE: X081-2A

GENERAL NOTES

- ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED UNLESS OTHERWISE NOTED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENT ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OF INCONVENIENCES CAUSED BY SAID UTILITY ADJUSTMENTS.
- WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATIONS.
- DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHALL COMPLY WITH THE LEGAL LOADING LIMITS ESTABLISHED BY THE COUNTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY LUGS OR CLEATS ON TREADS OR WHEELS OR EQUIPMENT OR BY EXCESSIVE WEIGHTS AND LOADS.
- THE NOMINAL THICKNESS FOR SURFACE COURSES ARE SHOWN ON THE TYPICAL SECTIONS, STANDARDS, SCHEDULES OR SPECIAL DETAILS. THE CONSTRUCTED THICKNESS OF THE ABOVE ITEMS SHALL NOT BE LESS THAN 90 PERCENT OF THE NOMINAL THICKNESS AT ANY LOCATION.
- STOCKPILING OF MATERIALS WILL BE ALLOWED ON COUNTY PROPERTY AT MUTUALLY AGREEABLE LOCATIONS. NO STOCKPILING OF MATERIALS SHALL BE ALLOWED ON THE TRAVELED SURFACE OF EXISTING ROADS AND HIGHWAYS THAT ARE OPEN TO TRAFFIC.
- THE CONTRACTOR MAY BE REQUIRED TO WORK AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF THE PAY ITEM FOR THE EARTHWORK INVOLVED.
- THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE OWNER AND THE INDICATED ADJUSTMENTS ARE CONSIDERED TO BE REASONABLY ACCURATE. IT SHALL BE THE CONTACTOR'S RESPONSIBILITY, AS DETAILED IN SECTION 563 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, ITS OFFICERS, AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.
- NO BEDDING AND NO FILTER FABRIC ARE REQUIRED UNDER THE STONE RIPRAP.

DRAWN BY LLQ
CHECKED BY LEL
APPROVED BY REG
DATE FEBRUARY, 2006

REVISIONS

DATE BY

TYPICAL SECTION
& GENERAL NOTES
FARMER ROAD (TR-324)
OVER INDIAN CREEK

MORGAN COUNTY, ILLINOIS



BENTON & ASSOCIATES, INC.
Consulting Engineers / Land Surveyors
1970 West Lafayette Ave. Jacksonville, IL 62650
Phone: 217-245-4146 Fax: 217-245-4149
IL Design Firm Registration No. 184-000852

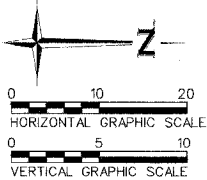
FIELD BOOK:

SCALE:

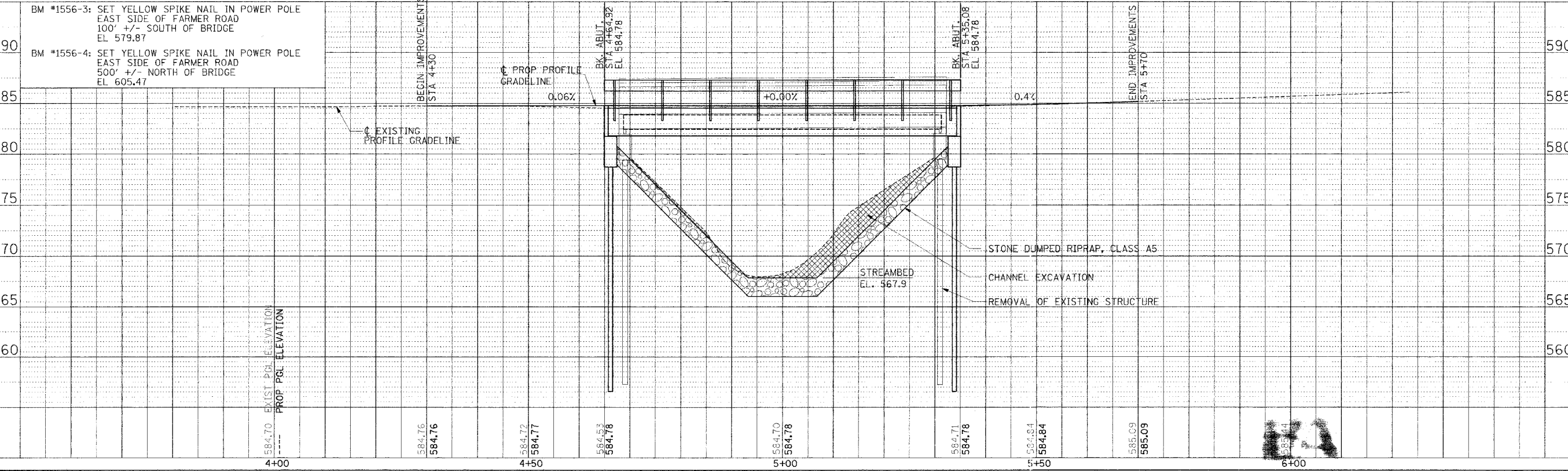
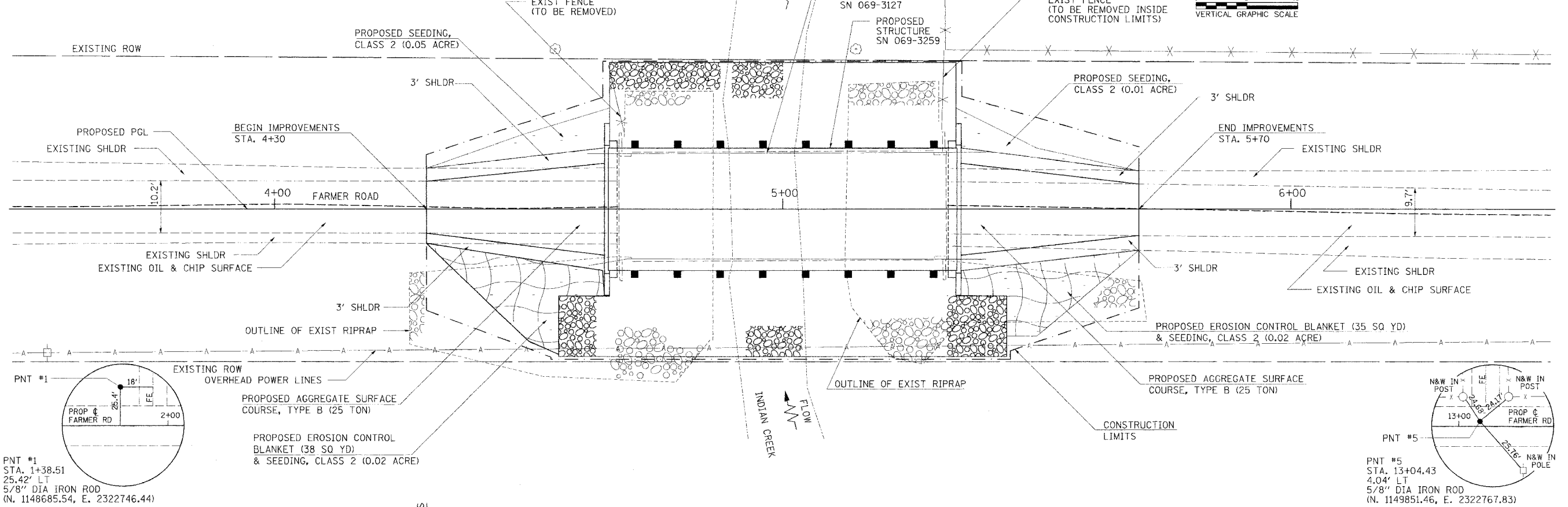
JOB NO. 05E/556

SHEET OF

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-324	*	MORGAN	10	3
ILLINOIS FED. AID PROJECT				
* 05-01117-00-BR				



NOTES
1. THE REMOVAL OF THE EXISTING FENCE SHALL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE COST OF CLEARING.



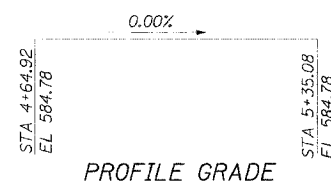
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SURVEYED
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CHECKED
NOTE BOOK
NO. OF MAY
CADD FILE NAME

PROFILE
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PLOTTED
CHECKED
NOTE BOOK
NO. OF MAY
CADD FILE NAME

BM #1556-3: YELLOW SPIKE NAIL IN POWER POLE,
EAST SIDE OF FARMER ROAD,
100 (+/-) FEET SOUTH OF BRIDGE.
EL 579.87

BM #1556-4: YELLOW SPIKE NAIL IN POWER POLE,
EAST SIDE OF FARMER ROAD,
500 FEET (+/-) NORTH OF BRIDGE.
El. 605.47

Existing Structure No. 069-3127
Three span bridge with 8" concrete deck with steel guardrail
on four steel beams 16" deep. Abutments and piers consists
of five 12" diameter timber piles with a 2.5'x2.5'
concrete cap and wingwalls.
Structure Length = 64.6 Ft.
Structure Width = 21.2 Ft. Out to Out
Structure and appurtenances shall be removed.
No Salvage



AASHTO 2002

Future Wearing Surface = 50 p.s.f.
25 p.s.f. Wearing Surface
Seismic Performance Category = A

FIELD UNITS

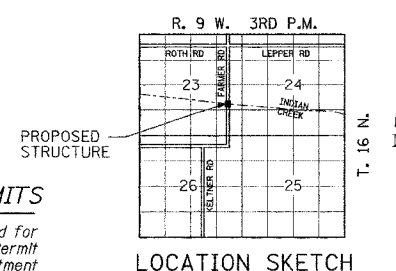
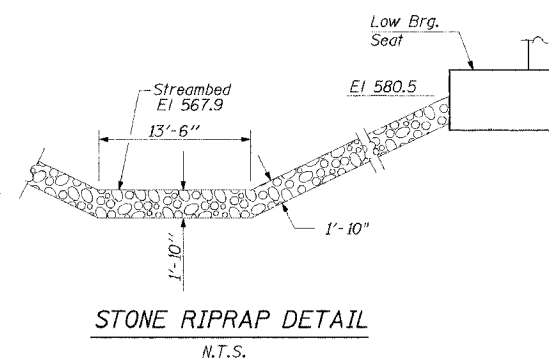
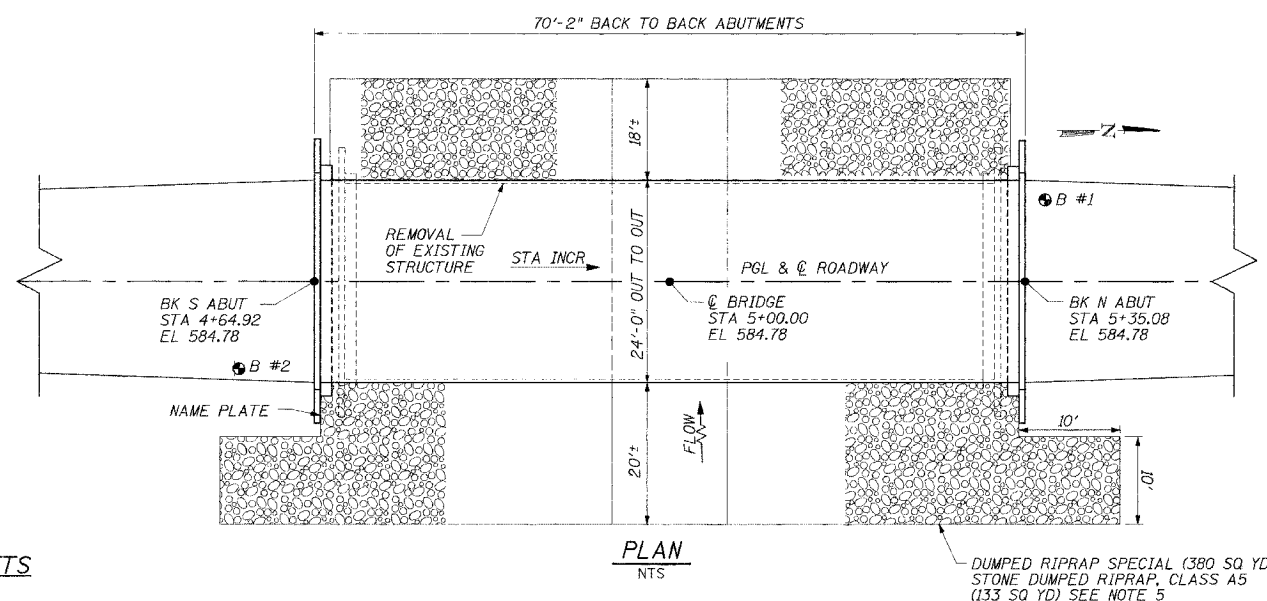
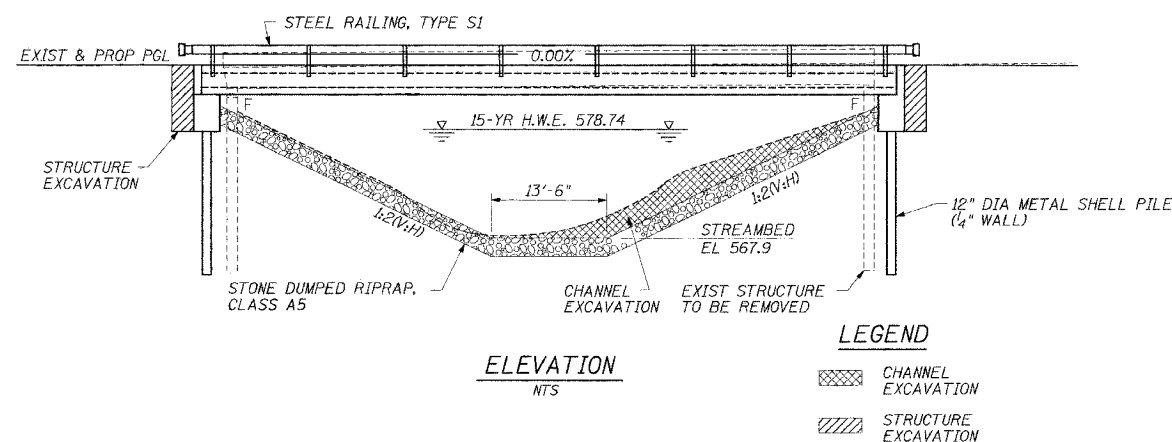
$f'_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi (Reinforcement)}$

$f'_c = 5,000 \text{ psi}$
 $f'_{ci} = 4,000 \text{ psi}$
 $f'_s = 270,000 \text{ psi } (\frac{1}{2}'' \phi \text{ strands})$
 $f'_{si} = 201,960 \text{ psi}$

INDIAN CREEK
BUILT 20__ BY
MORGAN COUNTY/ROAD DISTRICT #1
SECTION 05-01117-00-BR
F.A. PROJ. BROS-137 (25)
STA 5+00
STR. NO. 069-3259 LOADING HS20

See Std. 515001
(Locate at S.E. Wing)

DRAINAGE AREA = 15.20 SQ MI				PROPOSED LOW GRADE ELEVATION = 584.78					
EXISTING LOW STEEL ELEVATION = 582.40				PROPOSED LOW BEAM ELEVATION = 581.78					
FLOOD DESIGN	FREQ. YR	Q C.F.S.	OPENING SQ FT		NATURAL H.W.E.	HEAD - FT		HEADWATER EL	
			EXIST	PROP	EXIST	PROP	EXIST	PROP	
15	2672	361.0	381.4	578.65	0.73	0.09	579.39	578.74	
BASE	100	4292	462.3	484.4	579.50	1.59	0.95	581.10	580.45



This project has been approved for construction under Statewide Permit No. 12 as issued by the Department of Natural Resources' / Office of Water Resources.

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 the structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".

1. *The Contractor shall drive a test pile as specified in a permanent location in the North abutment as directed by the Engineer prior to ordering the remainder of the piles.*
2. *See Special Provisions for Boring Logs.*
3. *Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.*
4. *A Corrosion Inhibitor, as covered in the Special Provisions shall be used in the concrete for Precast Prestressed Concrete Deck Beams.*
5. *No bedding material and no filter fabric material are required under the Stone Dumped Riprap.*
6. *Road shall be closed to traffic at all times during construction.*

	ITEM	UNIT	SUPER	SUB	TOTAL
*	Stone Dumped Riprap, Class A5	Ton		194	194
*	Dumped Riprap, Special	Sq Yd		380	380
	Removal of Existing Structures	Each			1
	Channel Excavation	Cu Yd		100	100
	Structure Excavation	Cu Yd		100	100
	Concrete Structures	Cu Yd		20.6	20.6
	Precast Prestressed Concrete Deck Beams (33" Depth)	Sq Ft	1,646.0		1,646.0
	Reinforcement Bars	Pound		2,760	2,760
	Steel Railing, Type S1	Foot	140.0		140.0
	Furnishing Metal Pile Shells 12"	Foot		430	430
	Driving and Filling Shells	Foot		430	430
	Test Pile Metal Shells	Each		1	1
	Name Plates	Each		1	1
	Bituminous Concrete Surface Course, Superpave, Mix "C", N50	Ton	28		28

* See Special Provisions

DRAWN BY LEL
CHECKED BY LEL
APPROVED BY REG
DATE FEBRUARY, 2006

REVISIONS	
DATE	

[illegible]

GENERAL PLAN AND ELEVATION
S.N. 069-3259
FARMER ROAD (TR-324)
OVER INDIAN CREEK
MORGAN COUNTY, ILLINOIS

BA
BENTON & ASSOCIATES, INC.
Consulting Engineers / Land Surveyors
1970 West Lafayette Ave., Jacksonville, IL 62656
Phone: 217-245-4146 Fax: 217-245-4149
IL Design Firm Registration No. 184-000852

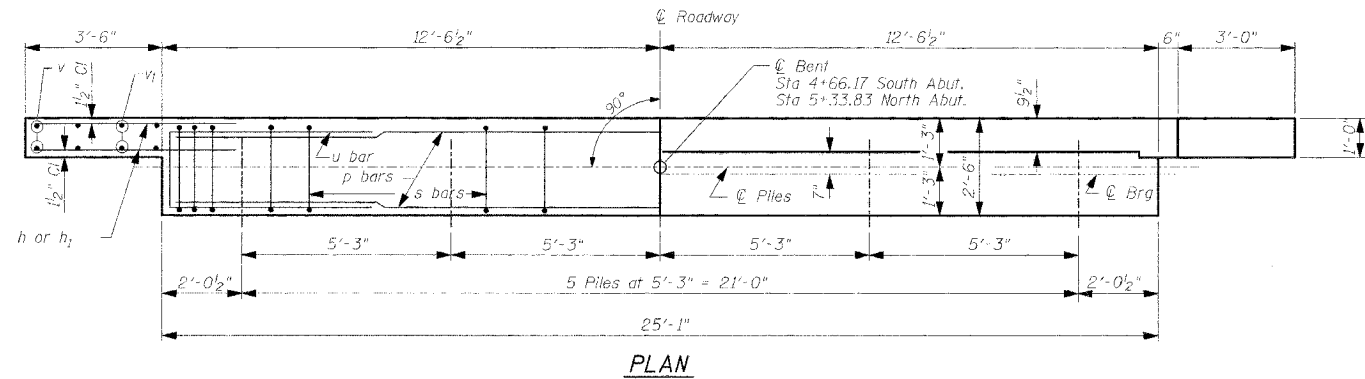
SCALE:	JOB NO.	05E556	SHEET	4 OF
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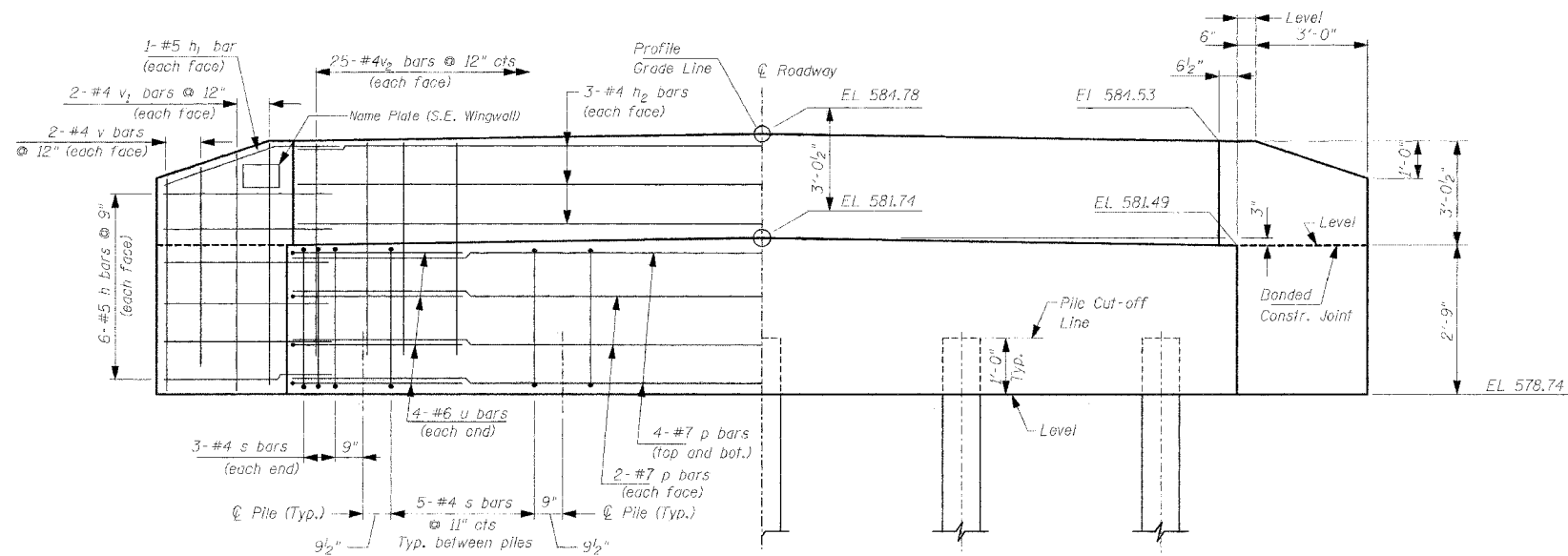
PD-5-S 1-16-04

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-324	*	MORGAN	10	7
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		

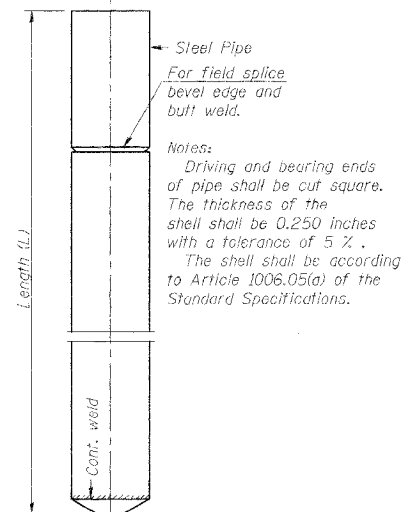
* 05-01117-00-BR



PLAN



ELEVATION



DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

PILE DATA (South Abut.)

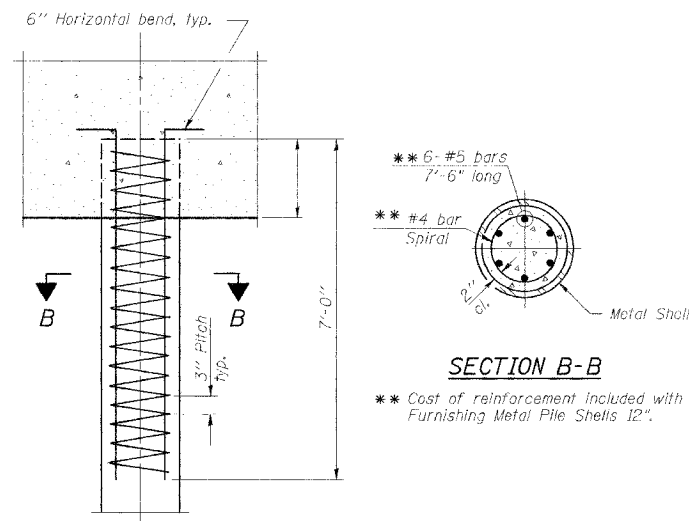
Type: Metal Pile Shell 12" W/ 1/4" Wall
Capacity: 43 Ton
Est. Length: 50 Ft
Number Required: 5

PILE DATA (North Abut.)

Type: Metal Pile Shell 12" W/ 1/4" Wall
Capacity: 43 Ton
Est. Length: 45 Ft
Number Required: 5 (Includes 1 Test Pile)

DESIGN STRESSES

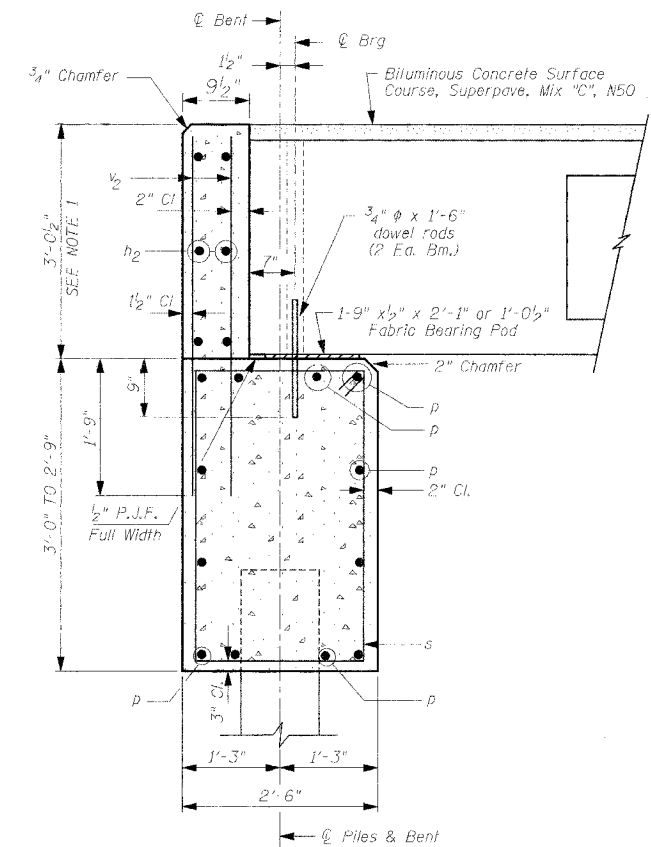
$f'_c = 3500$ psi
 $f_y = 60000$ psi



DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS

SECTION B-B

** Cost of reinforcement included with
Furnishing Metal Pile Shells 12".



SECTION THRU ABUTMENT

QUANTITIES FOR ONE ABUTMENT

Concrete Structures	10.31 Cu Yd
Reinforcement Bars	1,380 Pound

	South	North
Furnishing Metal Pile Shells 12"	250 Ft	180 Ft
Driving and Filling Shells	250 Ft	180 Ft
Test Pile Metal Shells	1 Each	1 Each
Name Plates	1 Each	1 Each

BAR LIST FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	24	#5	5'-6"	—
h1	4	#5	5'-6"	—
h2	6	#4	24'-9"	—
p	12	#7	24'-9"	—
s	26	#4	9'-10"	□
u	8	#6	11'-1"	—
v	8	#4	4'-10"	—
v1	8	#4	5'-6"	—
v2	50	#4	4'-8"	—

NOTES

- The backwall and the portion of the wingwalls above the bonded construction joint shall be cast against the in place beams.
- Reinforcement bars shall conform to AASHTO M-31, or M-322, Grade 60.

DRAWN BY: LEL
CHECKED BY: LEL
APPROVED BY: REG
DATE: FEBRUARY, 2006

REVISIONS
DATE BY

FIELD BOOK:

ABUTMENT DETAILS
S.N. 069-3259
FARMER ROAD (TR-324)
OVER INDIAN CREEK
MORGAN COUNTY, ILLINOIS



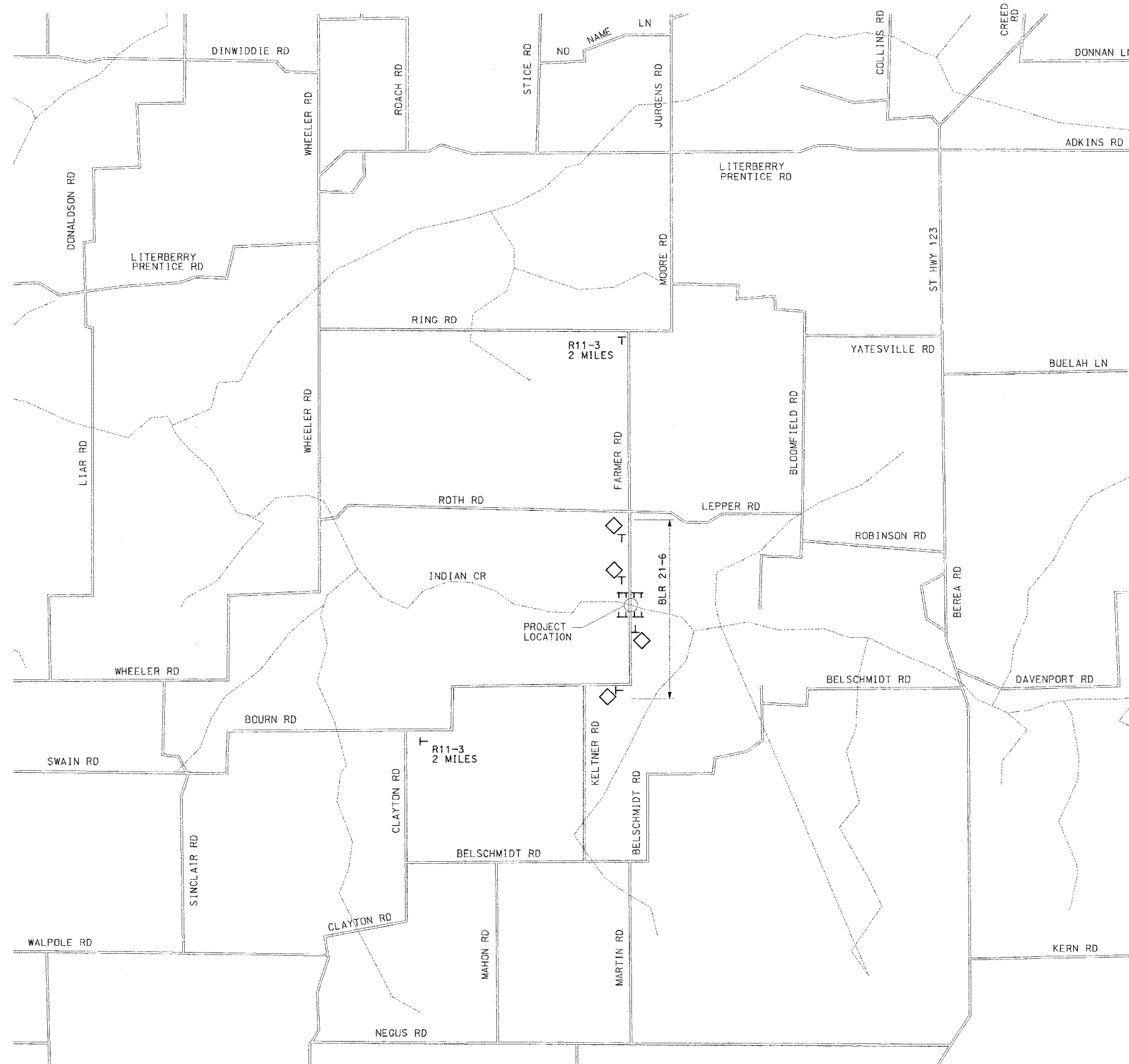
BENTON & ASSOCIATES, INC.
Consulting Engineers / Land Surveyors
1970 West Lafayette Ave. Jacksonville, IL 62650
Phone: 217-245-4146 Fax: 217-245-4149
IL Design Firm Registration No. 184-000852

SCALE:

JOB NO. 05E1556

SHEET OF

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR-324	*	MORGAN	10	8
FED. RD. DIST. NO.		ILLINOIS	FED. AID PROJECT	
* 05-01117-00-BR				



DRAWN BY LEL
 CHECKED BY LEL
 APPROVED BY REG
 DATE FEBRUARY, 2006

REVISIONS	
DATE	BY

FIELD BOOK:



TRAFFIC CONTROL PLAN
 FARMER ROAD (TR-324)
 OVER INDIAN CREEK
 MORGAN COUNTY, ILLINOIS

BENTON & ASSOCIATES, INC.
 Consulting Engineers / Land Surveyors
 1970 West Lafayette Ave. Jacksonville, IL 62650
 Phone: 217-245-4146 Fax: 217-245-4149
 IL Design Firm Registration No. 184-000852

SCALE:

JOB NO. 05E156

SHEET OF

