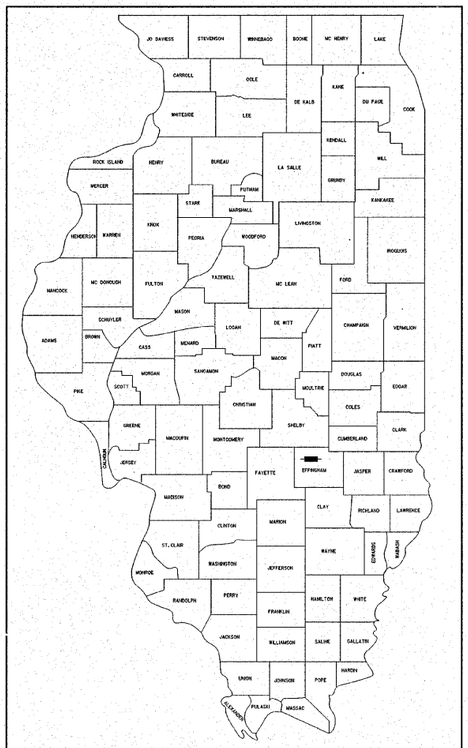
1-18-08 Letting, Item 085

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM

SCALES
- PLAN 0′ 50′
- PROFILE HORIZ. 0′ 50′
- PROFILE VERT. 0′ 5′
- CROSS SECTIONS 0′ 5′

PROJECT BRS-1706(104)
SECTION 00-00080-00-BR
F.A.S. 1706 /C.H. 6
EFFINGHAM COUNTY
STRUCTURE NO. 025-3222
C-97-063-06



LOCATION OF SECTION INDICATED THUS: -

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND GENERAL NOTES
3. TYPICAL CROSS SECTIONS
4. PLAN AND PROFILE
5.-6. DETOUR PLAN
7.-10. STATION CROSS SECTIONS
11.-16. BRIDGE PLANS
17. BORINGS

HIGHWAY STANDARDS:

000001-05	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
515001-02	NAME PLATE FOR BRIDGES
701006-02	OFF-RD OPERATIONS, 2L, 2W, 4.5m (15′) TO 600mm (24″) FROM PAVEMENT EDGE
701101-01	OFF-ROAD OPERATIONS, MULTILANE, 4.5 m (15′) TO 600 mm (24″) FROM PAVEMENT EDGE
701901	TRAFFIC CONTROL DEVICES
BLR 21-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 26	STEEL PLATE BEAM GUARDRAIL
BLR 27	TRAFFIC BARRIER TERMINAL, TYPE 5A

UTILITIES

AMEREN CIPS
711 SOUTH 9TH STREET
MATTOON. IL 61938

BUCKEYE PARTNERS, L.P.
940 BUCKEYE ROAD
P.O. BOX 90
LIMA, OH 45802

CITIZENS COMMUNICATIONS
801 WEST JACKSON
ALTAMONT. IL 62411

LAKE SARA AREA WATER COOPERATIVE
114 W. WASHINGTON
EFFINGHAM, IL 62401

NORRIS ELECTRIC
8543 N. STATE HIGHWAY 130
NEWTON, IL 62448

MEDIACOM
107 W. SOUTH CENTRAL
TUSCOLA, IL 61953

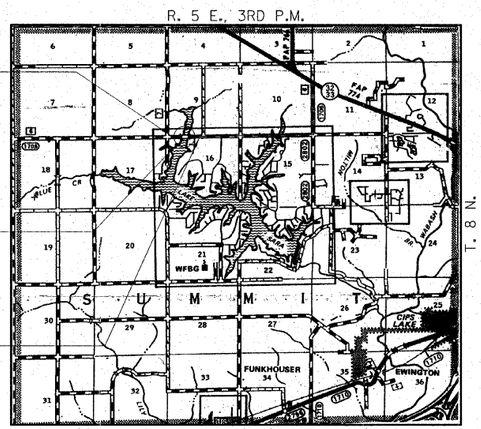
MEDIACOM
107 SOUTH HENRIETTA
EFFINGHAM, IL 62401

IMPROVEMENT BEGINS STATION 8+00

STA. 10+00 - SPECIAL BRIDGE DESIGN
CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE. THREE SPANS: 22′-0″, 27′-6″, 22′-0″
30′-0″ RDWY.; SKEW = 0°
EXISTING STRUCTURE NO. 025-3013
PROPOSED STRUCTURE NO. 025-3222

IMPROVEMENT ENDS STATION 11+50

R. 5 E., 3RD P.M.



LAYOUT

0 1 MILE
APPROXIMATE SCALE:

NET LENGTH OF SECTION = 350 FEET = 0.066 MILES

DESIGN FUNCTIONAL CLASSIFICATION:
RURAL COLLECTOR
CURRENT ADT 1400
DESIGN TRAFFIC: 1930 ADT
DESIGN SPEED: 50 M.P.H.

CONTRACT NO. 95524

WARNING
CALL J.U.L.I.E. TOLL FREE 1-800-892-0123
CALL BEFORE YOU DIG

AGENCY RESPONSIBLE FOR LETTING

APPROVED 11/13 2007
COUNTY ENGINEER

PASSED 11-15 2007
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review 11-15 2007
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: November 9, 2007
BY: Steven W. Megginson
LICENSE EXPIRES: NOVEMBER 30, 2009
SEAL: LICENSED PROFESSIONAL ENGINEER STEVEN W. MEGGINSON 062-50051 STATE OF ILLINOIS

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-1 DATE: 11/07/07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	2
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

SUMMARY OF QUANTITIES

			CONSTRUCTION CODE X020-2A	
	CODE NO	ITEM	UNIT	QUANTITY
	20200100	EARTH EXCAVATION	CU YD	25
	20300100	CHANNEL EXCAVATION	CU YD	140
	20400800	FURNISHED EXCAVATION	CU YD	140
	20700110	POROUS GRANULAR EMBANKMENT	TON	50
>	25001000	SEEDING, CLASS 2 SPECIAL	ACRE	0.1
>	28100807	STONE DUMPED RIPRAP, CLASS A4	TON	550
	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	38
	40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	147
	40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	47
	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	58
	48101200	AGGREGATE SHOULDERS, TYPE B	TON	148
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50104650	SLOPE WALL REMOVAL	SQ YD	645
	50300225	CONCRETE STRUCTURES	CU YD	29.1
	50300255	CONCRETE SUPERSTRUCTURE	CU YD	93.1
	50300260	BRIDGE DECK GROOVING	SQ YD	247
	50300280	CONCRETE ENCASEMENT	CU YD	25.8
	50300300	PROTECTIVE COAT	SQ YD	290
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	29,520
	50800515	BAR SPLICERS	EACH	40
	50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	156
	51201400	FURNISHING STEEL PILES HP10X42	FOOT	820
	51202305	DRIVING PILES	FOOT	820
	51203400	TEST PILE STEEL HP10X42	EACH	2
	51500100	NAME PLATES	EACH	1
*	63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	100
*	63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
	63200310	GUARDRAIL REMOVAL	FOOT	188
*	63301210	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	392
>	67100100	MOBILIZATION	L SUM	1
>	70102550	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	EACH	1
>	X5020501	UNDERWATER STRUCTION EXCAVATION PROTECTION - LOCATION 1	EACH	1
>	X5020502	UNDERWATER STRUCTION EXCAVATION PROTECTION - LOCATION 2	EACH	1

> SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

ROADWAY QUANTITY SCHEDULE

LOCATION	HOT-MIX ASPHALT SURF. CSE. MIX "C", N50	LEVELING BINDER (MACHINE METHOD), N50	AGGREGATE SHOULDERS, TYPE B	HOT-MIX ASPHALT SURFACE REMOVAL BUTT JOINT	BITUMINOUS MATERIAL PRIME COAT
	TON	TON	TON	SQ YD	GAL
STA. 8+00.00 TO STA. 9+63.00	34.5	25	88	98	20
STA. 9+63.00 TO STA. 10+37.00					
STA. 10+37.00 TO STA. 11+50.00	23.5		60	49	18
		22			
TOTAL	58	47	148	147	38

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)	SHRINKAGE FACTOR	PERCENT USED	AVAILABLE* EXCAVATION (CU YD)	EMBANKMENT REQUIRED (CU YD)	EARTHWORK BALANCE (CU YD)
STA. 8+00 TO STA. 9+63	10	25%	0%	0	73	-73
STA. 9+63 TO STA. 10+37	0	25%	0%	0	0	0
STA.10+37 TO STA. 11+50	15	25%	0%		63	-63
CHANNEL EXCAVATION	(140)	25%	0%	0		0
ENTRANCES					0	0
TOTAL	25			0	136	-136
USE:	25					140

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

GENERAL NOTES

SPECIFICATIONS, STANDARDS AND SPECIAL PROVISIONS

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED AS THE LATEST STANDARD OF THE DEPARTMENT.

UTILITIES

THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES AND WATER SERVICE LINES IS APPROXIMATE AND THEIR EXACT LOCATION IS TO BE DETERMINED IN THE FIELD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

HOT MIX ASPHALT	112 LB/IN/SQ YD
POROUS GRANULAR EMBANKMENT	2.00 TON/CU YD
AGGREGATE SHOULDERS	2.00 TON/CU YD
BIT. MATERIALS (PRIME COAT	0.10 GAL/SQ YD
RIPRAP	1.75 TON/CU YD

REMOVE AND RE-ERECT GUARDRAIL

LOCATION	FOOT
RT. STA. 8+00.0 TO STA. 9+22.7	123
LT. STA. 8+00.0 TO STA. 9+22.7	123
RT. STA. 10+77.3 TO STA. 11+50.0	73
LT. STA. 10+77.3 TO STA. 11+50.0	73
TOTAL	392

TRAFFIC BARRIER TERMINAL, TYPE 5A

LOCATION	EACH
RT. STA. 9+47.7 TO STA. 9+60.9	1
LT. STA. 9+47.7 TO STA. 9+60.9	1
RT. STA. 10+39.1 TO STA. 10+52.3	1
LT. STA. 10+39.1 TO STA. 10+52.3	1
TOTAL	4

STEEL PLATE BEAM GUARD RAIL, TYPE A

LOCATION	FOOT
RT. STA. 9+22.7 TO STA. 9+47.7	25
LT. STA. 9+22.7 TO STA. 9+47.7	25
RT. STA. 10+52.3 TO STA. 10+77.3	25
LT. STA. 10+52.3 TO STA. 10+77.3	25
TOTAL	100

GUARDRAIL REMOVAL

LOCATION	FOOT
RT. STA. 9+22.7 TO STA. 9+69.8	47
LT. STA. 9+22.7 TO STA. 9+69.8	47
RT. STA. 10+30.3 TO STA. 10+77.3	47
LT. STA. 10+30.3 TO STA. 10+77.3	47
TOTAL	188

MIXTURE REQUIREMENTS

LOCATION(S):	F.A.S. 1706 / C.H. 6
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE
AC/PG:	PG 64-22
RAP % (MAX):	0%
DESIGN AIR VOIDS:	4.0% @ N_{DES} = 50
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL-9.5 mm OR IL-12.5 mm
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS	112 LBS./SQ. YD./INCH

MIXTURE REQUIREMENTS

LOCATION(S):	F.A.S. 1706 / C.H. 6
MIXTURE USE(S):	LEVELING BINDER (MACHINE METHOD)
AC/PG:	PG 64-22
RAP % (MAX):	25%
DESIGN AIR VOIDS:	4.0% @ N_{DES} = 50
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL-9.5mm
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS	112 LBS./SQ. YD./INCH

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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-1	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: W.J.S.

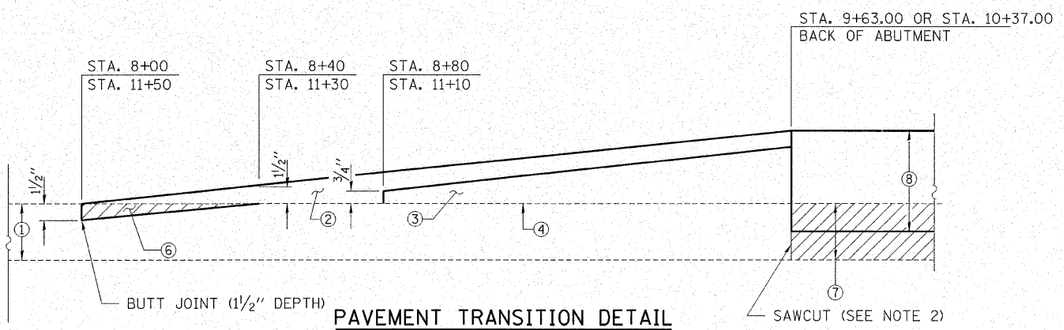
SUMMARY OF QUANTITIES AND GENERAL NOTES

F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

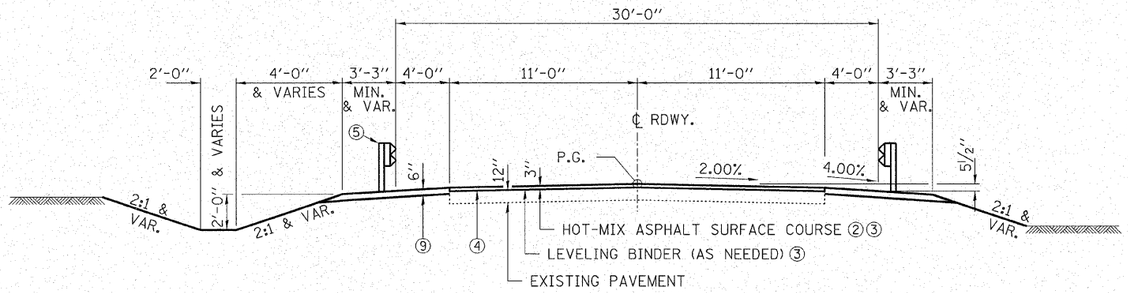
EFFINGHAM COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	3
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	



PAVEMENT TRANSITION DETAIL

AS DIRECTED BY THE ENGINEER



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

ROAD CLASSIFICATION - RURAL COLLECTOR
CURRENT ADT 1400
DESIGN SPEED: 50 M.P.H.

TYPICAL CROSS SECTION

STA. 8+00 TO 11+50

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 8+00 TO 8+50 AND STA. 11+00 TO 11+50. SEE SHEET 11 FOR TRANSITION AT BRIDGE.

NOTES

1) HOT-MIX ASPHALT SURFACE REMOVAL SHALL ONLY BE USED AT THE DIRECTION OF THE ENGINEER TO TRANSITION TO EXISTING GRADE.

2) COST OF SAWCUT SHALL BE INCLUDED IN THE UNIT COST BID FOR EARTH EXCAVATION.

LEGEND

① EXISTING OIL SURFACE ON AGGREGATE BASE (12" MIN.)

② HOT-MIX ASPHALT SURFACE COURSE, MIX C, N50 (1½" THICKNESS).

③ LEVELING BINDER (MACHINE METHOD), N50

④ BITUMINOUS MATERIALS (PRIME COAT)

⑤ STEEL PLATE BEAM GUARD RAIL. SEE SCHEDULE OF QUANTITIES FOR STATIONING

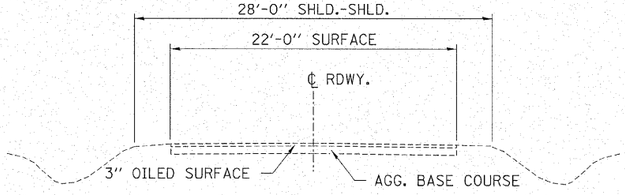
⑥ HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT

⑦ EARTH EXCAVATION

⑧ BRIDGE DECK

⑨ AGGREGATE SHOULDERS, TYPE B (6" DEPTH)

EARTH EXCAVATION



EXISTING CROSS SECTION

HAMPTON, LENZINI & RENWICK, INC.
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LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
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HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-i	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: W.J.S.

TYPICAL CROSS SECTIONS

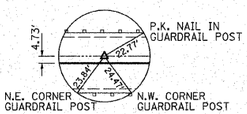
F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

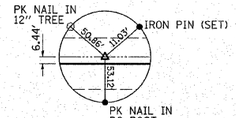
EFFINGHAM COUNTY

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1706	00-00080-00-BR	EFFINGHAM	17	4
STA. 5+00		TO STA. 15+00		
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 95524		

SW¼, SEC 9, T. 8 N., R. 5 E., 3RD P.M.



P.O.T. 4.73' LT. STA. 5+00.19
½"Ø IRON PIN (SET)
N. 1000.00
E. 499.99



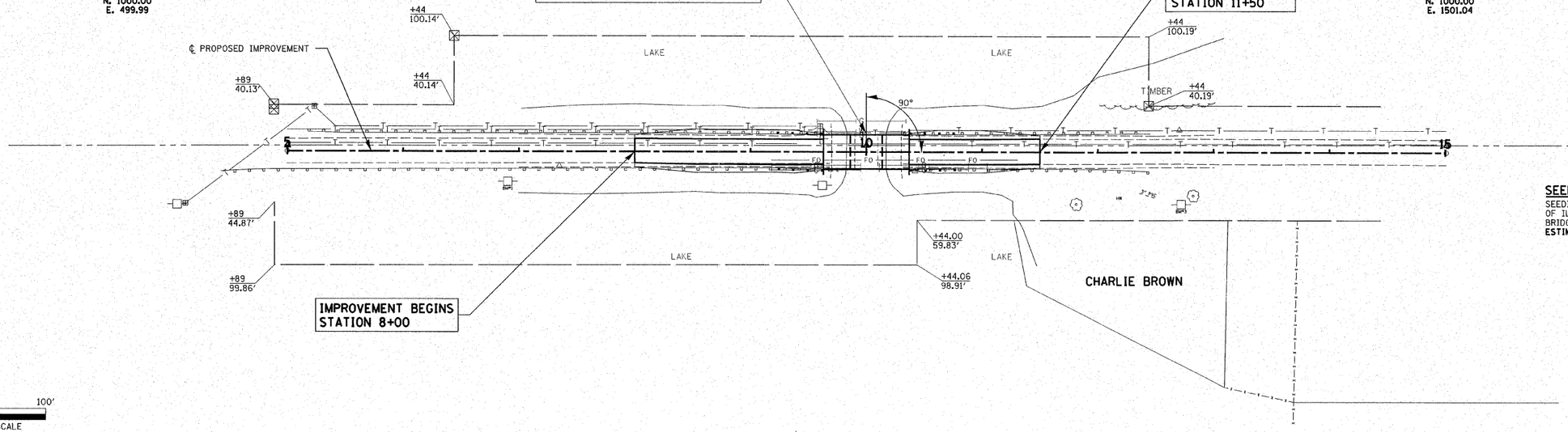
P.O.T. 6.44' LT. STA. 15+00.86
½"Ø IRON PIN (SET)
N. 1000.00
E. 1501.04

N

STATION 10+00 - SPECIAL BRIDGE DESIGN
CONTINOUS REINFORCED CONCRETE SLAB BRIDGE
3 SPANS; 22'-00", 27'-6", 22'-0"
30'-0" ROWY.; SKEW = 0°
PROPOSED STRUCTURE NO. 025-3222

IMPROVEMENT ENDS STATION 11+50

IMPROVEMENT BEGINS STATION 8+00



0 50' 100'
GRAPHIC SCALE

SEEDING, CLASS 2 SPECIAL

SEEDING WILL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2007."
ESTIMATED QUANTITY = SEEDING CLASS 2, SPECIAL = 0.1 ACRE

CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.

EXISTING STRUCTURE NO. 025-3013

STATION 10+00 - THREE SPAN PRECAST CONCRETE DECK BEAM BRIDGE ON CONCRETE ABUT. & PIER CAPS WITH CONCRETE ENCASED PILES, CONCRETE WINGS & CONCRETE SLOPEWALLS. BITUMINOUS SURFACE.
56.81' FC.-FC. ABUTS; 29.88' o.-o. DECK
REMOVAL OF EXISTING STRUCTURES = 1 EACH

NW¼, SEC 16, T. 8 N., R. 5 E., 3RD P.M.

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
PT. OF TAN. CHECKED
NOTE BOOK
NO. MRS MRTS
DGN FILE NAME
BY
DATE
K.K. 07/20/22
S. MASON 12/15/22
330SM-SHT-PLAN

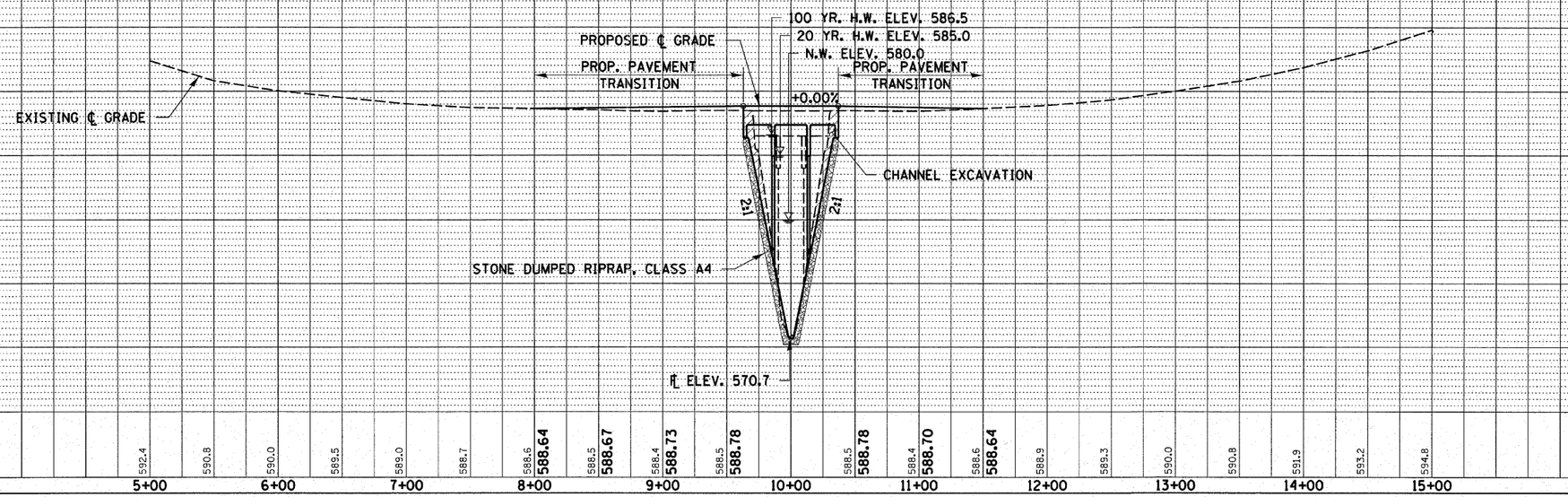
PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO. _____

BM#1 - SPIKE NAIL IN POWER POLE
31.5' RT., STA. 6+90
ELEV. 587.27

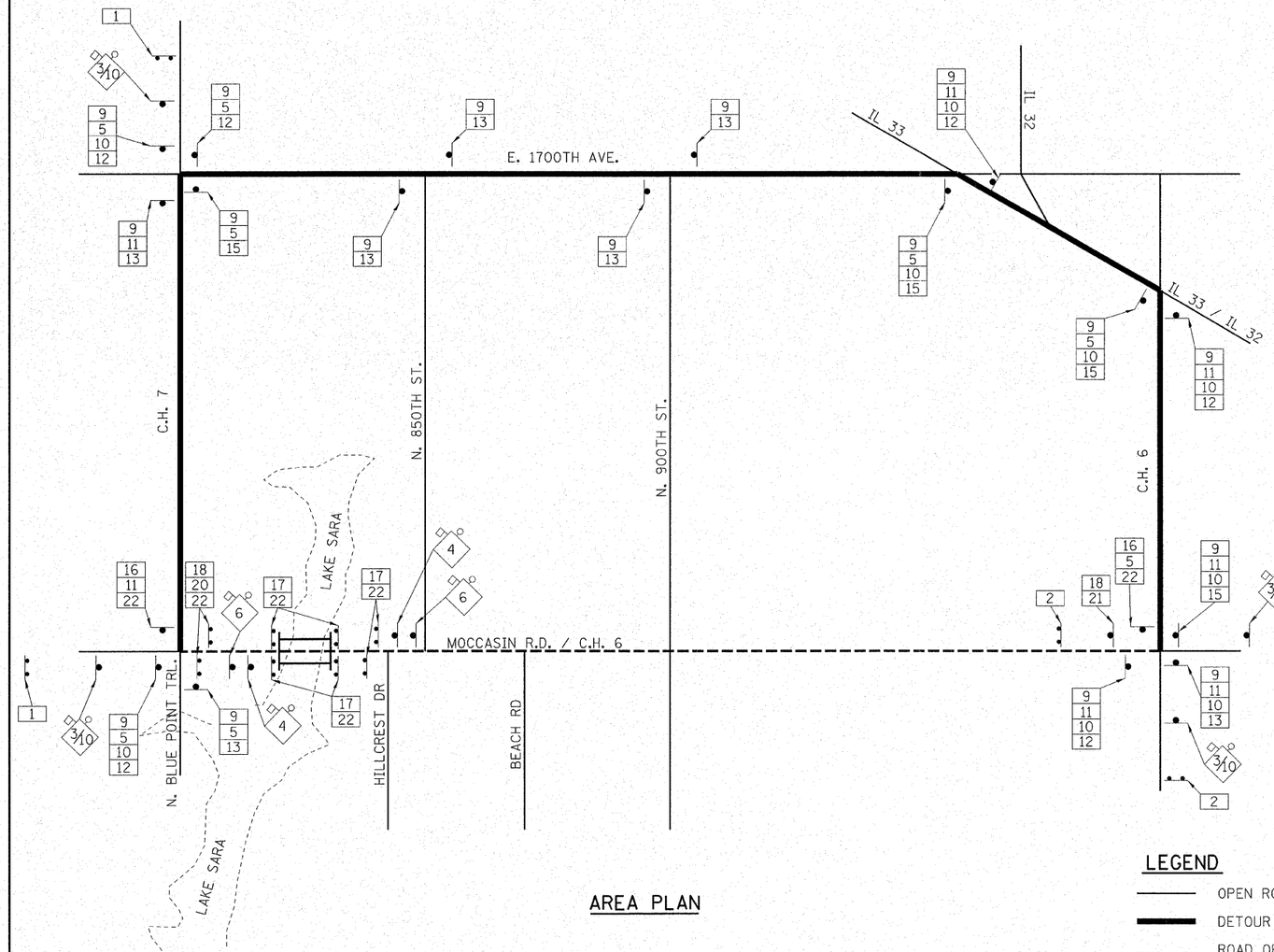
BM#2 - CHISELED "□" ON S.W. BRG. SEAT
20' RT., STA. 9+71
ELEV. 586.50

BM#3 - SPIKE NAIL IN POWERPOLE
52' RT., STA. 12+72
ELEV. 594.32

EARTH EXCAVATION = 25 CU YD
CHANNEL EXCAVATION = 140 CU YD
FURNISHED EXCAVATION = 140 CU YD



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	5
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	



AREA PLAN

SPECIAL DETOUR NOTES

1. THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO THE DETOUR GENERAL NOTES.
2. TEN (10) TYPE III BARRICADES WILL BE NEEDED FOR THIS DETOUR AND ROAD CLOSURE.
3. THE TOTAL LENGTH OF THE DETOUR IS 4.6 MILES.
4. ALL DETOUR SIGNS, SHALL BE COMPLETELY COVERED AT ALL TIMES THE ROADWAY IS NOT CLOSED TO TRAFFIC.

N

0 500' 1000'

GRAPHIC SCALE

SIGN LEGEND

①	MOCCASIN RD (C.H. 6 EAST) CLOSED TO THRU TRAFFIC USE 1700N	R11-3 WITH 2 AMBER FLASHING LIGHTS. (2 REQ'D)	⑪	WEST	M3-1 24"x12" (7 REQ'D)
②	MOCCASIN RD (C.H. 6 WEST) CLOSED TO THRU TRAFFIC USE 1700N	R11-3 WITH 2 AMBER FLASHING LIGHTS. (3 REQ'D)	⑫	←	M6-1 21"x15" (6 REQ'D)
③	DETOUR 500 FT.	W20-2, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (4 REQ'D)	⑬	↑	M6-3 21"x15" (7 REQ'D)
④	ROAD CLOSED 500 FT	W20-3, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (2 REQ'D)	⑮	→	M6-1 21"x15" (4 REQ'D)
⑤	EAST	M3-3 24"x12" (8 REQ'D)	⑯	END DETOUR	M4-8A 24"x48" (2 REQ'D)
⑥	ROAD CLOSED AHEAD	W20-3, 48" x 48" WITH AMBER FLASHING LIGHT AND FLAG. (2 REQ'D)	⑰	ROAD CLOSED	R11-2 48"x30" (6 REQ'D)
⑨	DETOUR	M4-8 24"x12" (17 REQ'D)	⑱	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	R11-3 60"x30" (1 REQ'D)
⑩	C.H. 6	M1-1100 24"x12" (13 REQ'D)	⑳	DETOUR	M4-10L 48"x18" (2 REQ'D)
			㉑	DETOUR	M4-10R 48"x18" (1 REQ'D)
			㉒	TYPE III BARRICADES WITH TWO FLASHING LIGHTS EACH. (10 REQ'D) STD 702001	

LEGEND

- OPEN ROAD
- 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
- SERIES OF DETOUR SIGNS WITH DIRECTION AND ROAD NAME PLATES NUMBER DENOTES TYPE
- SINGLE DETOUR SIGNS, NUMBER DENOTES TYPE

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HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-i	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.B.

DETOUR PLAN

F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

EFFINGHAM COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	6
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

NOTES

1. 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, 2007", "THE QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES ADOPTED 2004", THE DETAILS IN THESE PLANS, AND THE LATEST EDITION OF THE STATE OF ILLINOIS "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
2. THE CONTRACTOR SHALL SCHEDULE ALL WORK IN AN EXPEDIENT MANNER TO REDUCE THE LENGTH OF TIME THAT THE DETOUR NEEDS TO BE IN EFFECT.
3. 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 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.
4. 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.
5. LONGITUDINAL DIMENSIONS SHOWN ON THESE PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
6. THE ROAD SHALL NOT BE CLOSED UNTIL ALL SIGNING IS ERECTED IN ACCORDANCE WITH THE DETOUR PLAN AND INSPECTED AND APPROVED BY THE ENGINEER.
7. 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.
8. THE CONTRACTOR SHALL MAKE ALL CHANGES IN SIGNING THAT ARE DEEMED NECESSARY BY THE ENGINEER.
9. 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.
10. ALL DETOUR SIGNING SHALL BE POST MOUNTED IF THE ROAD CLOSURE IS TO EXCEED FOUR (4) CALENDAR DAYS.
11. THE SIZES OF ALL SIGNS NOT SPECIFIED IN THESE PLANS SHALL BE AS REQUIRED BY THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
12. 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.
13. 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.
14. 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.
15. 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 RESTRAINT CHOSEN METHOD SHALL BE APPROVED BY THE ENGINEER.
16. CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IMMEDIATELY BEHIND THE TYPE III BARRICADES DURING NON-WORKING HOURS. IN ANY EVENT ARTICLE 701.11 OF THE STANDARD SPECIFICATIONS SHALL APPLY.
17. 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.
18. 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.

HAMPTON, LENZINI & RENWICK, INC.
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LAND SURVEYORS
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SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-i		DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.B.

DETOUR PLAN GENERAL NOTES

F.A.S. 1706 / C.H. 6 OVER LAKE SARA

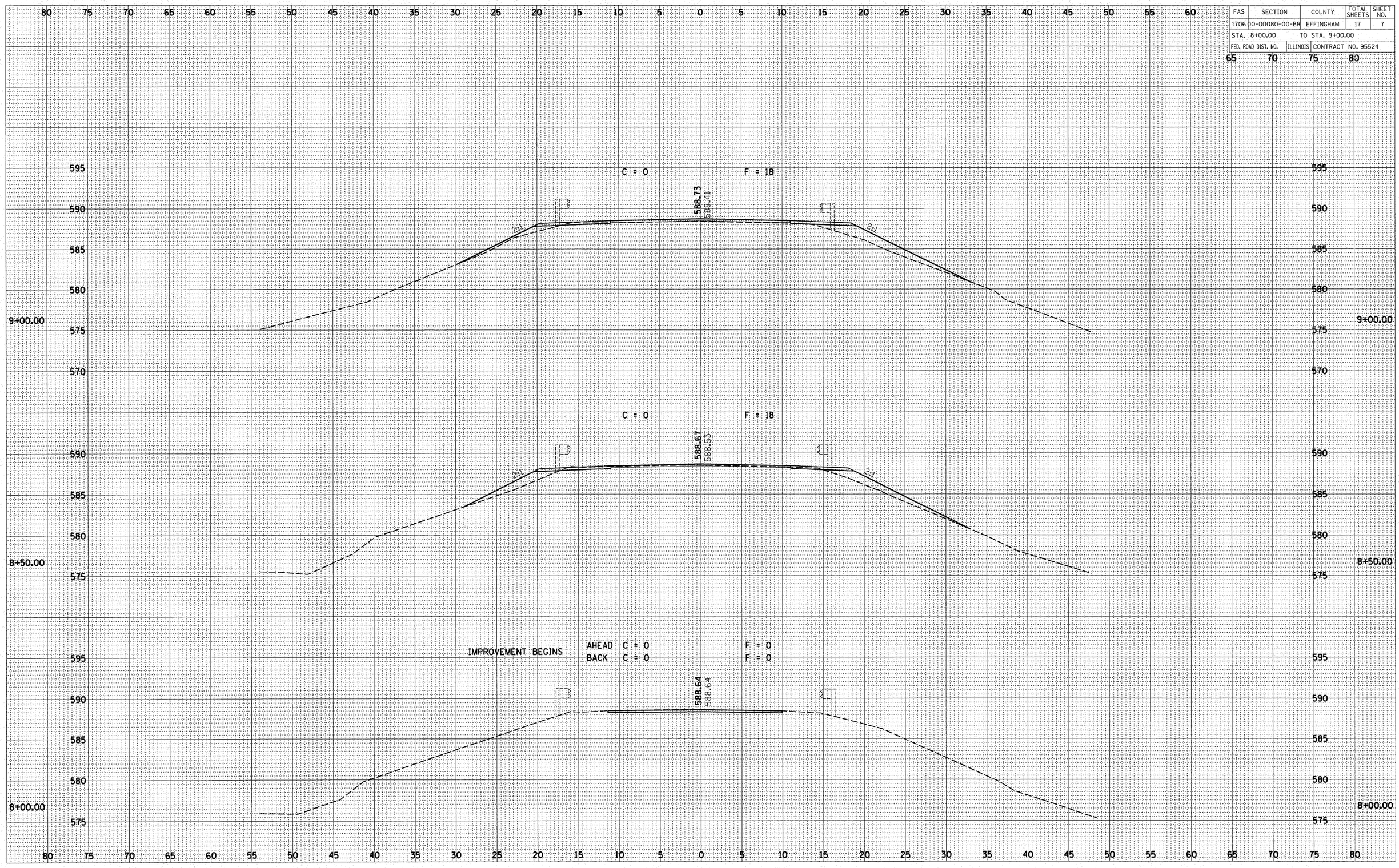
SECTION 00-00080-00-BR

EFFINGHAM COUNTY

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1706	00-00080-00-BR	EFFINGHAM	17	7
STA. 8+00.00		TO STA. 9+00.00		
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 95524		

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

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



FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1706	00-00080-00-BR	EFFINGHAM	17	8
STA. 9+25.00		TO STA. 9+50.00		
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

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

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

10 + 37.00 BACK OF EAST ABUTMENT
AHEAD C = 0 F = 28
BACK C = 0 F = 0

9 + 63.00 BACK OF WEST ABUTMENT
AHEAD C = 0 F = 0
BACK C = 0 F = 3

C = 0 F = 3

588.78
588.48

2:1 2:1

C = 0 F = 13

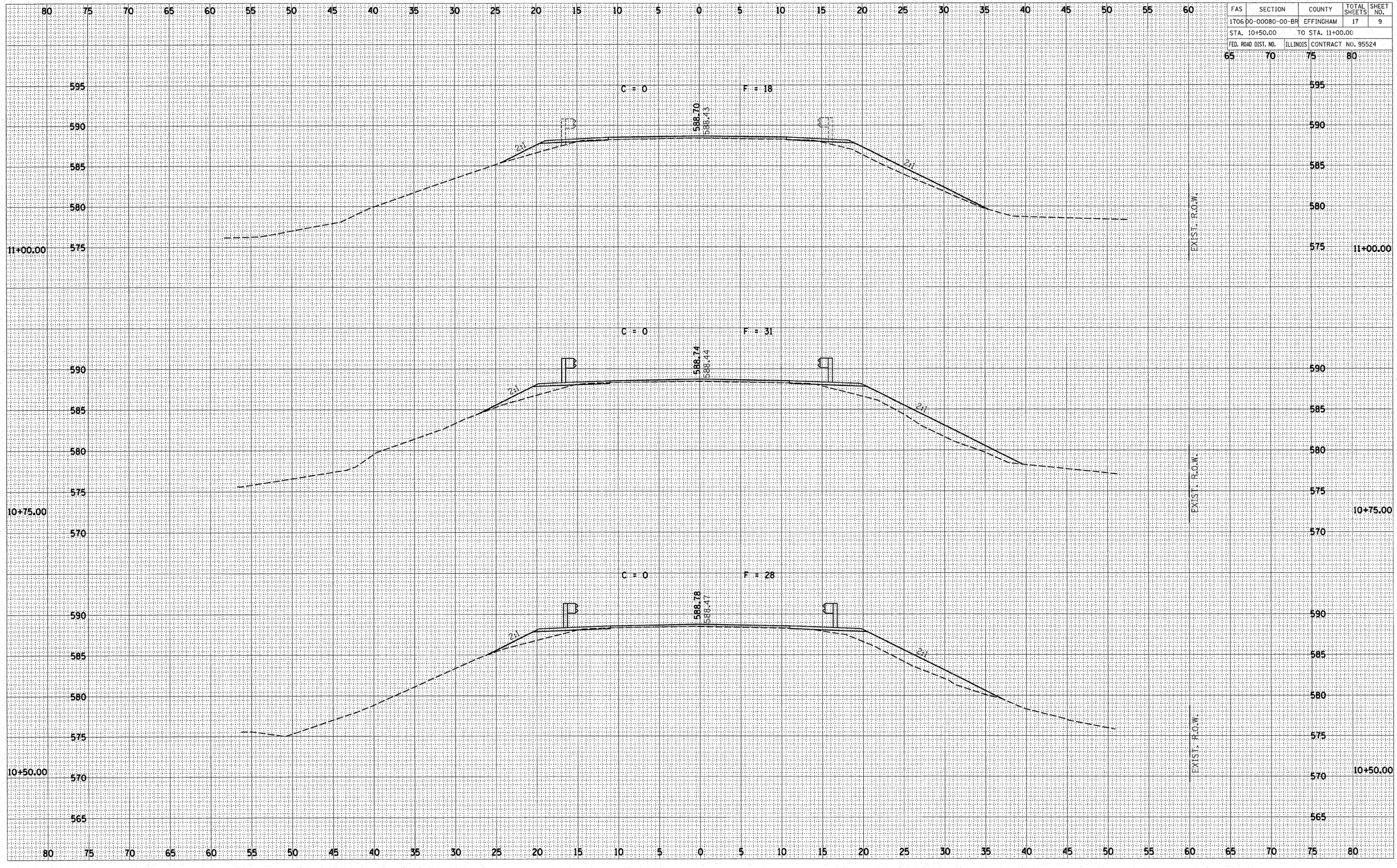
588.76
588.47

2:1 2:1

9+50.00

9+25.00

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1706	00-00080-00-BR	EFFINGHAM	17	9
STA. 10+50.00		TO STA. 11+00.00		
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

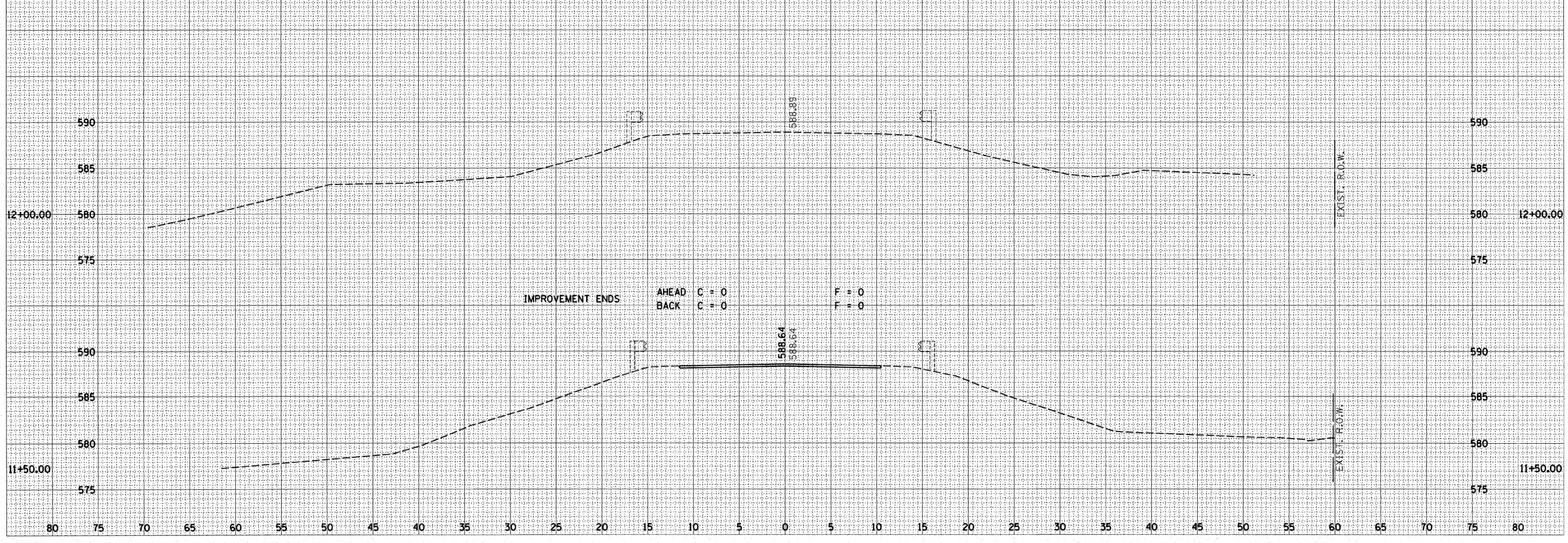


FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
NOTE BOOK		
AREAS		
NO.	AREAS CHECKED	

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

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1706	00-00080-00-BR	EFFINGHAM	17	10
STA. 11+50.00		TO STA. 12+00.00		
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 95524		

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



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	11
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

LAKE SARA
BUILT 200_ BY
EFFINGHAM COUNTY
SEC. 00-00080-00-BR
COUNTY HIGHWAY 6
F.A. PROJ. BRS-1706(104)
STR. NO. 025-3222 LOADING HS 20

GENERAL NOTES

Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at West Abutment and Pier 1 or approved by the Engineer before ordering the remainder of piles.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.

All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

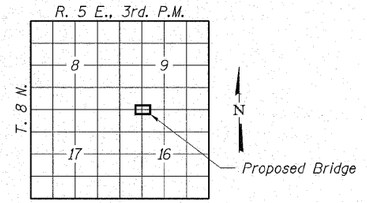
The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework in addition to allowance for dead load deflection.

Protective Coat shall be applied to the entire top surface and edges of the bridge deck, extended pier & abutment caps, and front face of wingwalls.

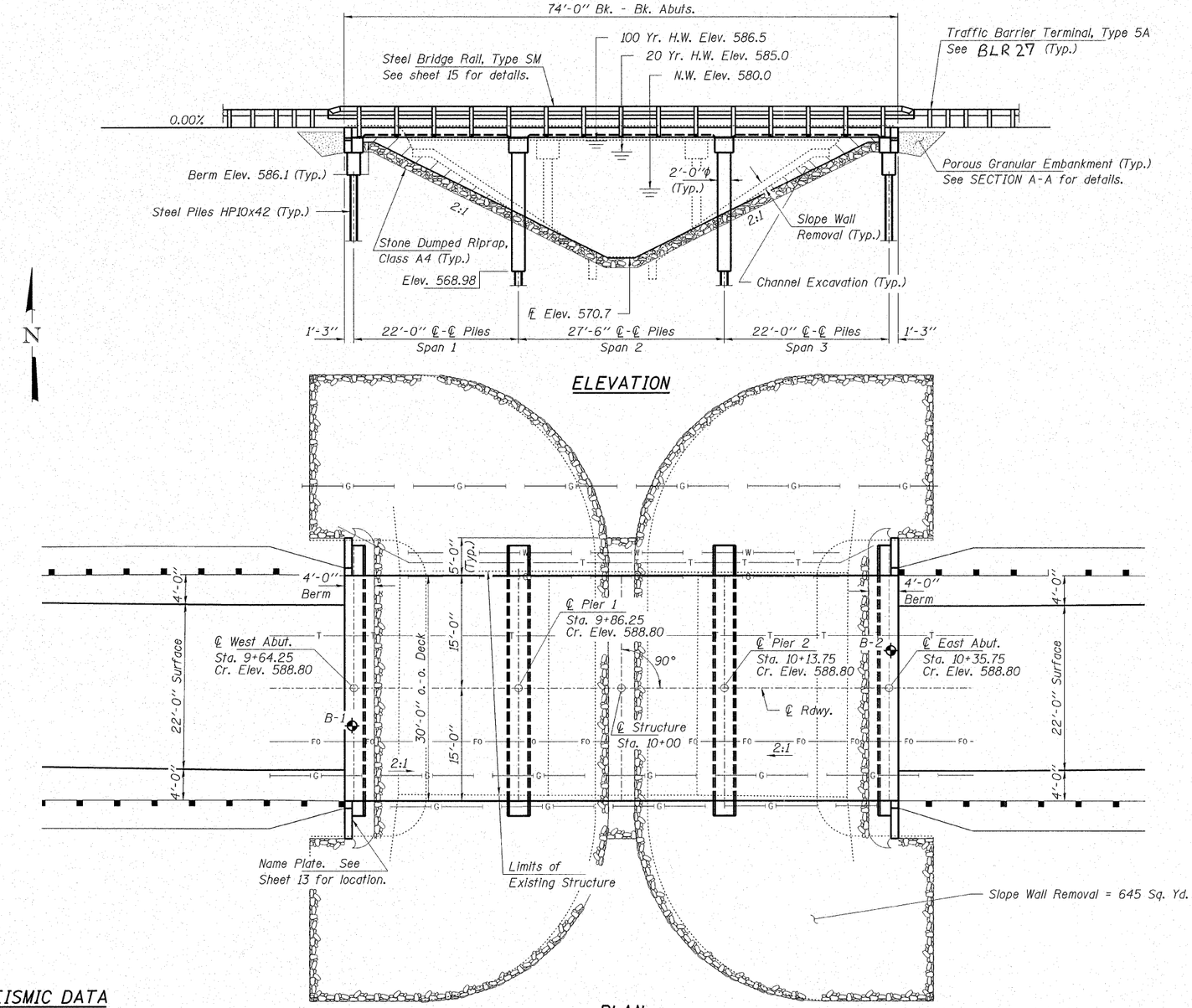
See Sheet 17 for Borings.

NAME PLATE

See Std. 515001

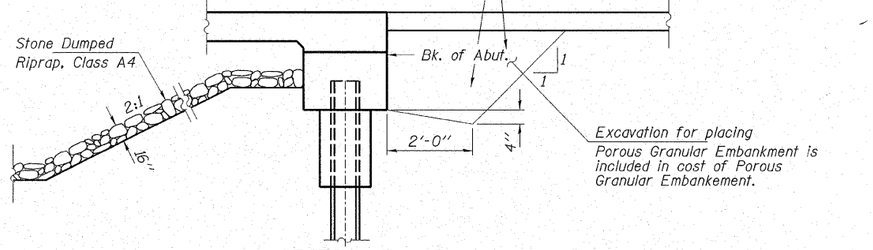


LOCATION SKETCH



ELEVATION

PLAN



SECTION A-A

Note: See Special Provisions for Stone Dumped Ripap, Class A4.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Ton		50	50
Stone Dumped Riprap, Class A4	Ton			550
Slope Wall Removal	Sq. Yd.			645
Concrete Structures	Cu. Yd.		29.1	29.1
Concrete Superstructures	Cu. Yd.	93.1		93.1
Bridge Deck Grooving	Sq. Yd.	247		247
Concrete Encasement	Cu. Yd.		25.8	25.8
Protective Coat	Sq. Yd.	290		290
Reinforcement Bars, Epoxy Coated	Pound	23,350	6,170	29,520
Bar Splicers	Each		40	40
Steel Bridge Rail, Type SM	Foot	156		156
Steel Piles HP10x42	Foot		820	820
Test Pile Steel HP10x42	Each		2	2
Name Plates	Each		1	1
Underwater Structure Excavation Protection - Loc. 1	Each		1	1
Underwater Structure Excavation Protection - Loc. 2	Each		1	1

SEISMIC DATA

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

DESIGN STRESSES

f'c = 3,500 psi — Load Factor
fy = 60,000 psi (Reinf.) — Design

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

WATERWAY INFORMATION

Drainage Area = 3.3 Sq. Mi. Low Grade Elev. 588.4 @ Sta. 9+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	1,100	370	450	585.0 ①	0.0	0.0	585.0	585.0
Base									
Overtopping									
Max. Calc.	100	1,640	440	540	586.5 ①	0.0	0.0	586.5	586.5

① Water level of the lake is controlled by the dam spillway.

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".

Steven W. Megginson 11/12/07
ILLINOIS STRUCTURAL NO. 081-6064 Expires 11-30-08

LICENSED STRUCTURAL ENGINEER — STEVEN W. MEGGINSON 081-6064 SPRINGFIELD, IL — STATE OF ILLINOIS

HAMPTON, LENZINI & RENWICK, INC.
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(217) 546-3400
HLR ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-i	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

GENERAL PLAN AND ELEVATION

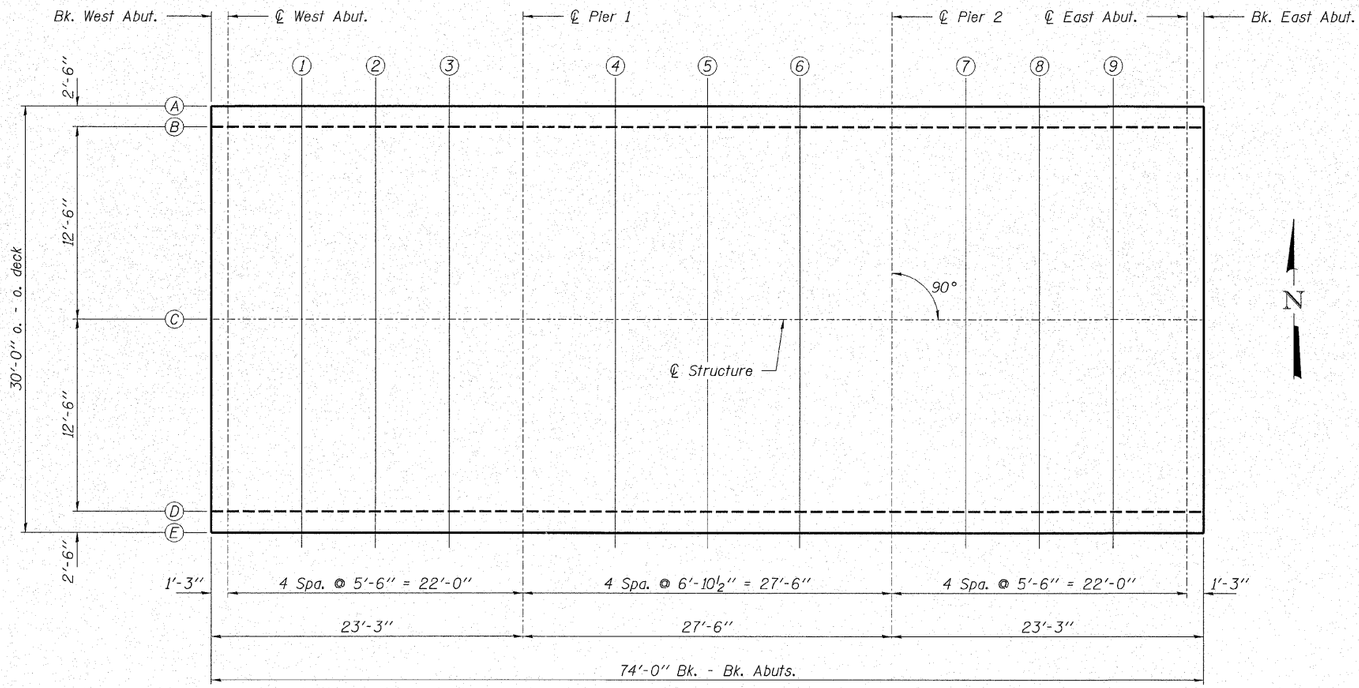
F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

EFFINGHAM COUNTY

STRUCTURE NO. 025-3222 / STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	12
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	



PLAN

TABLE OF ELEVATIONS

LOCATION		BK. OF W. ABUT.	C.L. OF W. ABUT.	SPAN 1			C.L. OF PIER 1	SPAN 2			C.L. OF PIER 2	SPAN 3			C.L. OF E. ABUT.	BK. OF E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500
A	ADJ.	588.500	588.500	588.520	588.523	588.510	588.500	588.518	588.533	588.518	588.500	588.510	588.523	588.520	588.500	588.500
** Bott. Of Slab		587.167	587.167	587.187	587.190	587.177	587.167	587.185	587.200	587.185	587.167	587.177	587.190	587.187	587.167	587.167

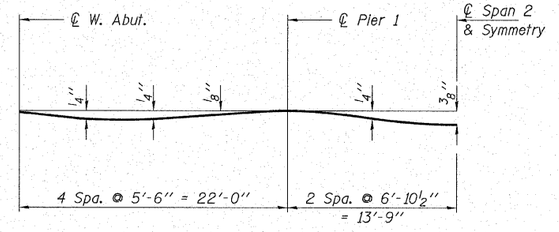
LOCATION		BK. OF W. ABUT.	C.L. OF W. ABUT.	SPAN 1			C.L. OF PIER 1	SPAN 2			C.L. OF PIER 2	SPAN 3			C.L. OF E. ABUT.	BK. OF E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550
A	ADJ.	588.550	588.550	588.570	588.573	588.560	588.550	588.568	588.583	588.568	588.550	588.560	588.573	588.570	588.550	588.550
Bott. Of Slab		587.550	587.550	587.570	587.573	587.560	587.550	587.568	587.583	587.568	587.550	587.560	587.573	587.570	587.550	587.550

LOCATION		BK. OF W. ABUT.	C.L. OF W. ABUT.	SPAN 1			C.L. OF PIER 1	SPAN 2			C.L. OF PIER 2	SPAN 3			C.L. OF E. ABUT.	BK. OF E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800	588.800
A	ADJ.	588.800	588.800	588.820	588.823	588.810	588.800	588.818	588.833	588.818	588.800	588.810	588.823	588.820	588.800	588.800
Bott. Of Slab		587.800	587.800	587.820	587.823	587.810	587.800	587.818	587.833	587.818	587.800	587.810	587.823	587.820	587.800	587.800

LOCATION		BK. OF W. ABUT.	C.L. OF W. ABUT.	SPAN 1			C.L. OF PIER 1	SPAN 2			C.L. OF PIER 2	SPAN 3			C.L. OF E. ABUT.	BK. OF E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550	588.550
A	ADJ.	588.550	588.550	588.570	588.573	588.560	588.550	588.568	588.583	588.568	588.550	588.560	588.573	588.570	588.550	588.550
Bott. Of Slab		587.550	587.550	587.570	587.573	587.560	587.550	587.568	587.583	587.568	587.550	587.560	587.573	587.570	587.550	587.550

LOCATION		BK. OF W. ABUT.	C.L. OF W. ABUT.	SPAN 1			C.L. OF PIER 1	SPAN 2			C.L. OF PIER 2	SPAN 3			C.L. OF E. ABUT.	BK. OF E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500	588.500
A	ADJ.	588.500	588.500	588.520	588.523	588.510	588.500	588.518	588.533	588.518	588.500	588.510	588.523	588.520	588.500	588.500
** Bott. Of Slab		587.167	587.167	587.187	587.190	587.177	587.167	587.185	587.200	587.185	587.167	587.177	587.190	587.187	587.167	587.167

T. - Theoretical elevation at top of slab
Adj. - T adjusted for dead load deflection
*** Bottom of slab elevation equals bottom of edge beam.*



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes: *The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown.*

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework in addition to allowance for dead load deflection.

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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-1	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.B.

SLAB ELEVATIONS

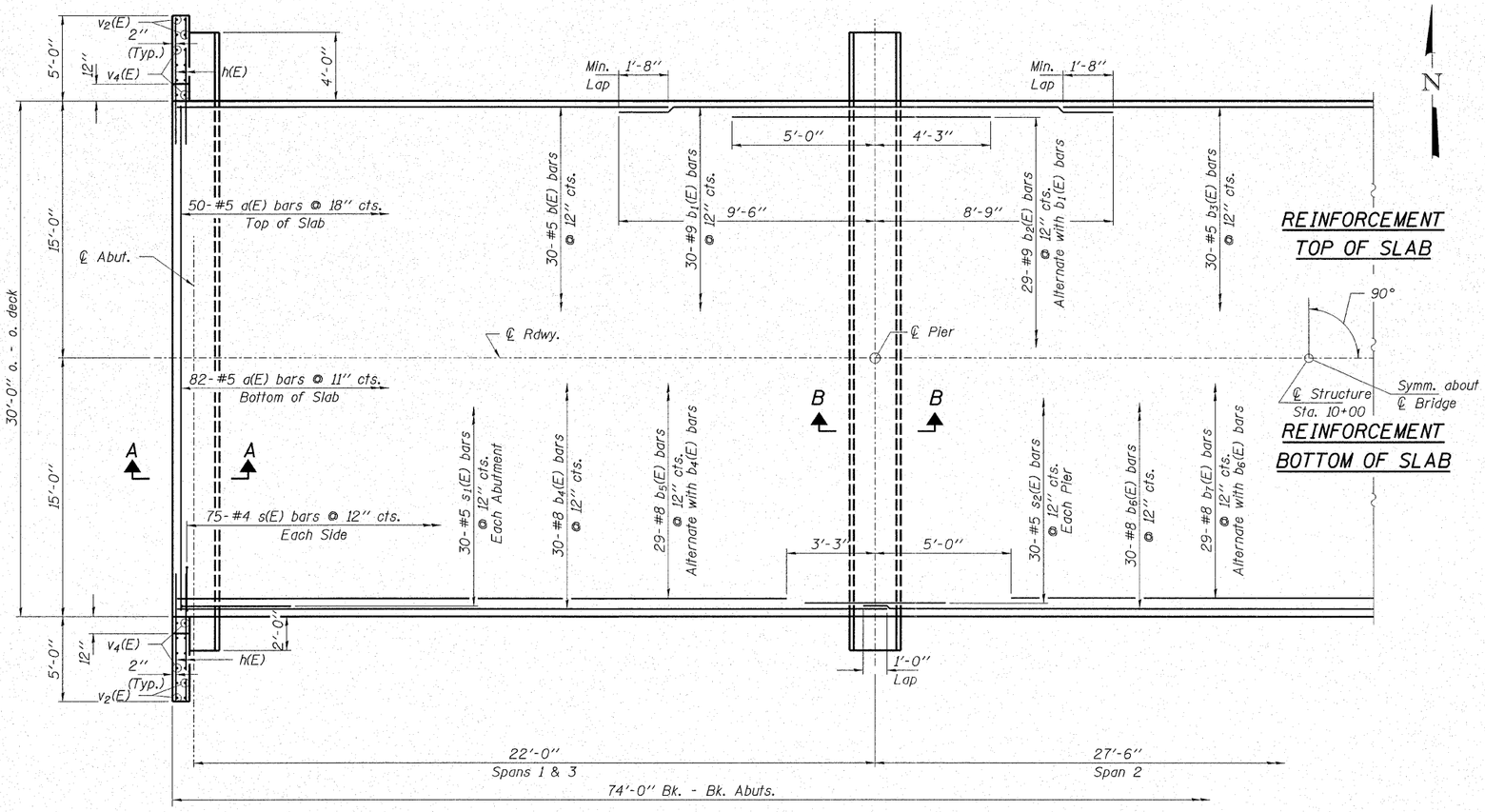
F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

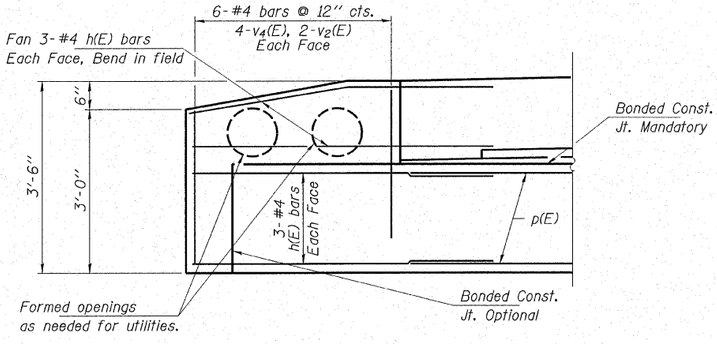
EFFINGHAM COUNTY

STRUCTURE NO. 025-3222 / STATION 10+00

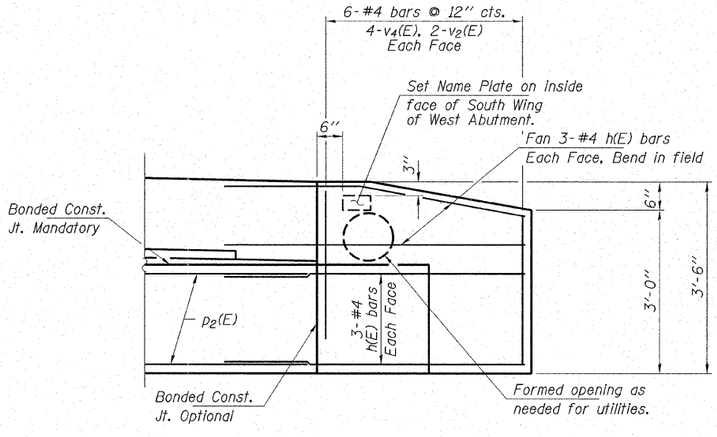
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	13
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	



HALF PLAN

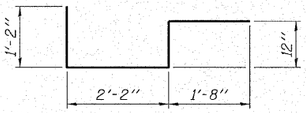


DETAIL - NORTH WINGWALLS
(Looking East)

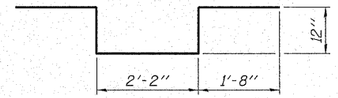


DETAIL - SOUTH WINGWALLS
(Looking East)

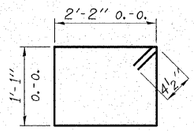
Notes:
See Sheet 14 for Superstructure Details.
Reinforcement bars designated (E) shall be epoxy coated.
For Elevations, Sections A-A, and B-B see sheet 14.



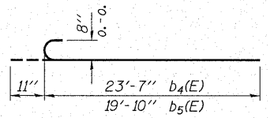
BAR s_1(E)



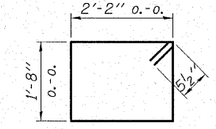
BAR s_2(E)



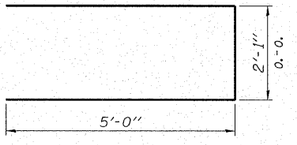
BAR s(E)



BAR b_4(E) & BAR b_5(E)



BAR s_3(E)



BAR u(E)

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	132	#5	29'-8"	
b(E)	60	#5	15'-3"	
b_1(E)	60	#9	18'-3"	
b_2(E)	58	#9	9'-3"	
b_3(E)	30	#5	13'-4"	
b_4(E)	60	#8	24'-6"	
b_5(E)	58	#8	20'-9"	
b_6(E)	30	#8	28'-6"	
b_7(E)	29	#8	17'-6"	
h(E)	48	#4	6'-0"	
p(E)	20	#7	28'-8"	
p_1(E)	20	#8	28'-8"	
p_2(E)	20	#7	6'-8"	
p_3(E)	20	#8	6'-8"	
s(E)	150	#4	7'-3"	
s_1(E)	60	#5	6'-0"	
s_2(E)	60	#5	7'-6"	
s_3(E)	148	#5	8'-7"	
u(E)	24	#6	12'-1"	
v_2(E)	16	#4	3'-3"	
v_3(E)	240	#5	3'-2"	
v_4(E)	32	#4	2'-9"	
Concrete Structures		Cu. Yd.	29.1	
Concrete Superstructure		Cu. Yd.	93.1	
Bridge Deck Grooving		Sq. Yd.	247	
Concrete Encasement		Cu. Yd.	25.8	
Protective Coat		Sq. Yd.	290	
Reinforcement Bars, Epoxy Coated		Pound	29,520	
Bar Splicers		Each	40	
Steel Piles HP10x42		Foot	820	
Test Pile Steel HP10x42		Each	2	
Name Plates		Each	1	

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-1	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.
	DRAWN: D.A.B.

SUPERSTRUCTURE

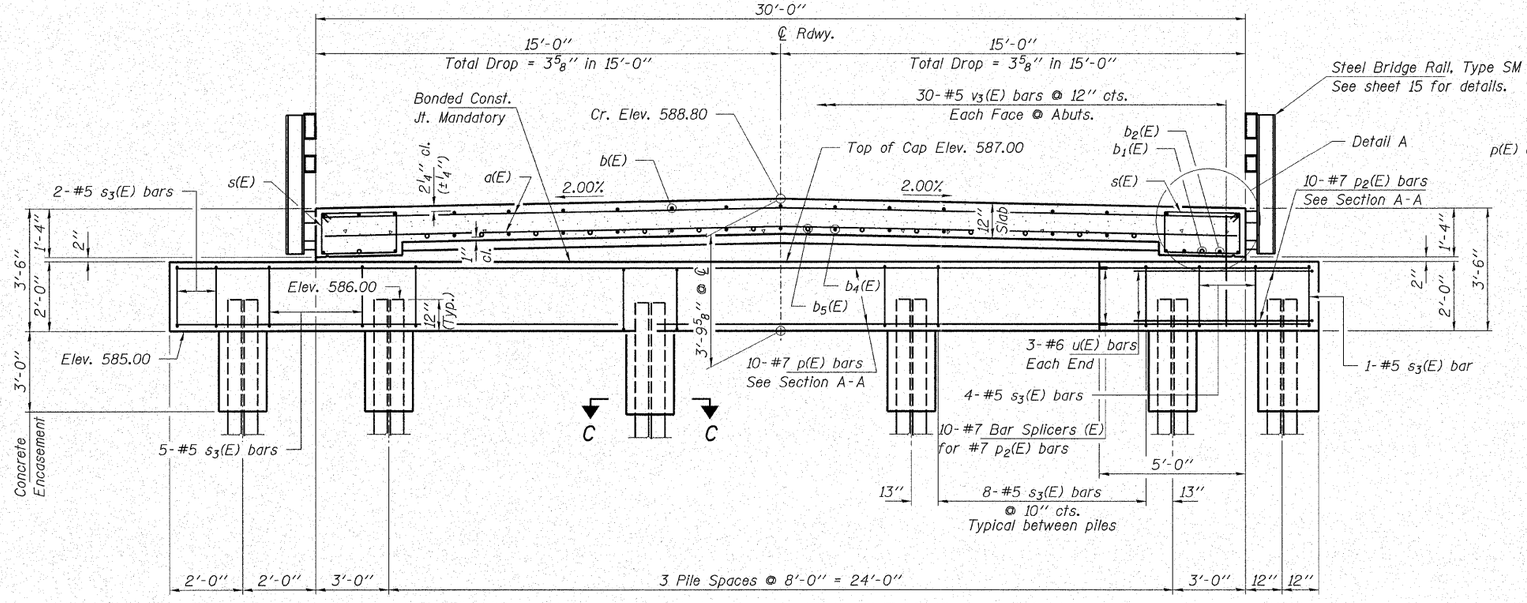
F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

EFFINGHAM COUNTY

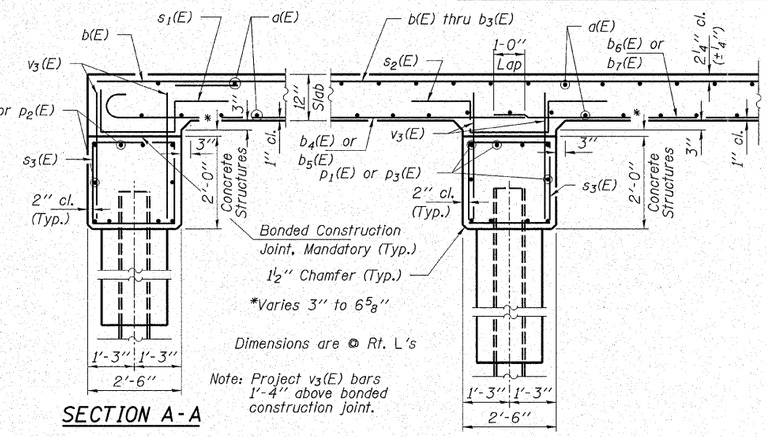
STRUCTURE NO. 025-3222 / STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	14
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	



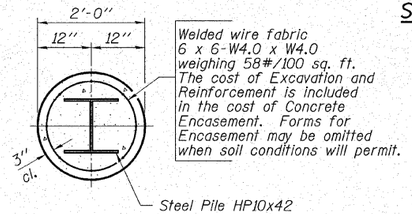
CROSS SECTION NEAR ABUTMENTS

(Looking East)

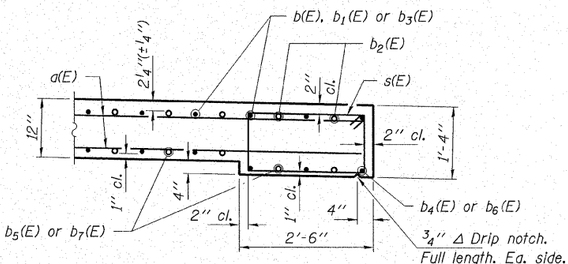


SECTION A-A

SECTION B-B



SECTION C-C



DETAIL A

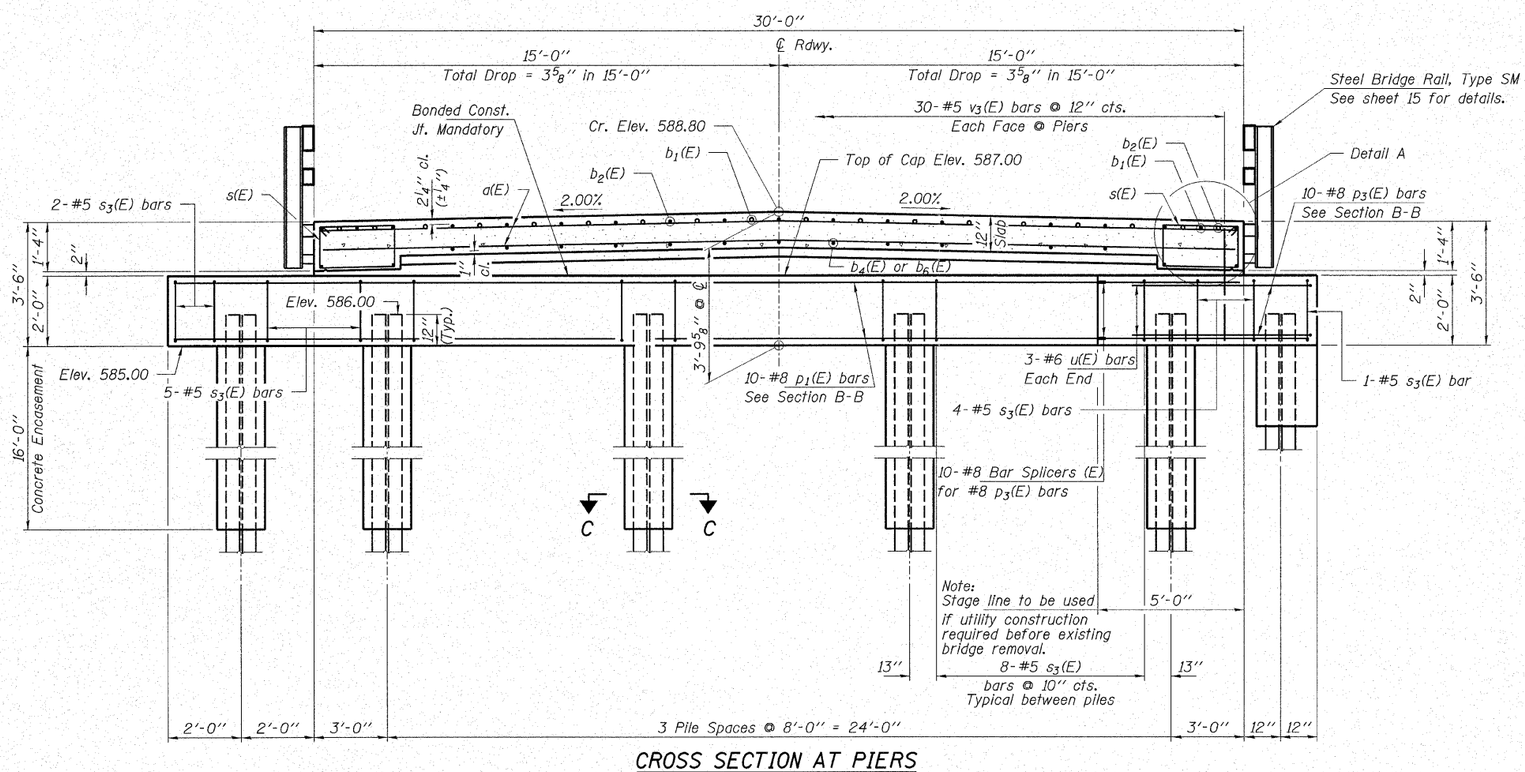
PILE DATA

Type and Size	Steel HP10x42
No. Req'd.	*24
Allowable Resistance Available	52 Kips/Pile @ Abuts. 100 Kips/Pile @ Piers
Nominal Req'd Bearing	156 Kips/Pile @ Abuts. 300 Kips/Pile @ Piers
Est. Lengths	30 Ft/Pile @ Abuts. 40 Ft/Pile @ Pier 1 50 Ft/Pile @ Pier 2

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information

* Includes two test piles to be driven in permanent locations, one at the West Abutment and one at Pier 2.



CROSS SECTION AT PIERS

(Looking East)

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-i	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.B.

SUPERSTRUCTURE DETAILS

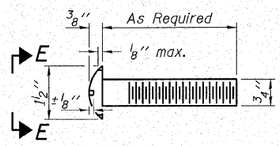
F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

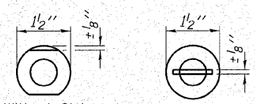
EFFINGHAM COUNTY

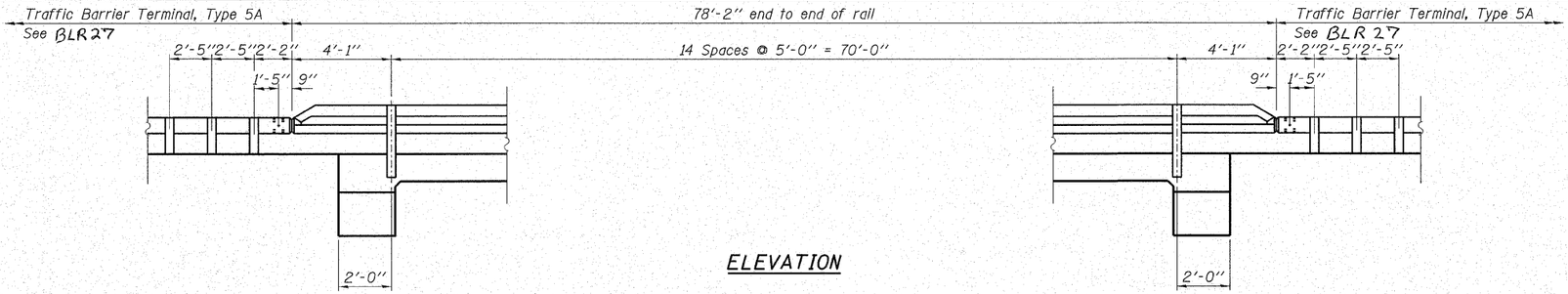
STRUCTURE NO. 025-3222 / STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	15
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

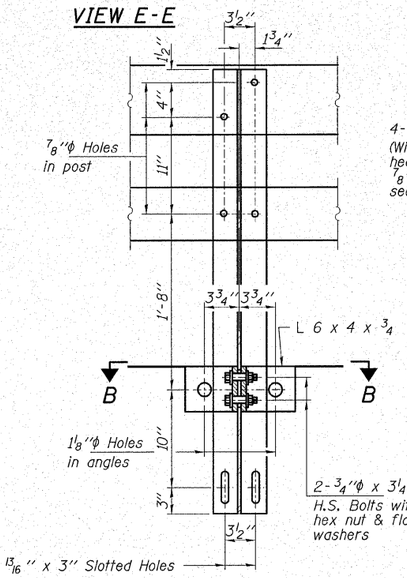


ROUND HEAD BOLT

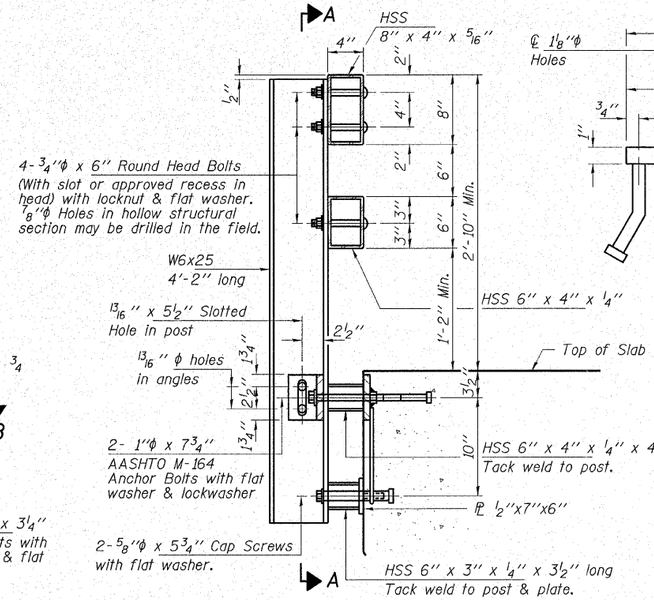




ELEVATION

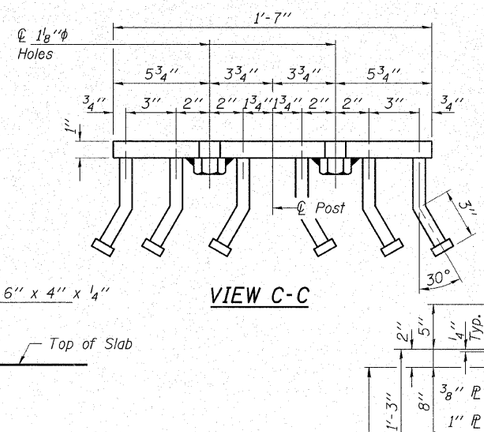


SECTION A-A

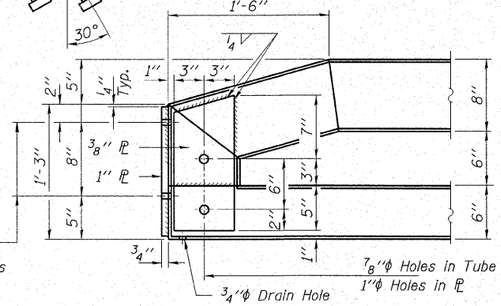


SECTION AT RAIL POST

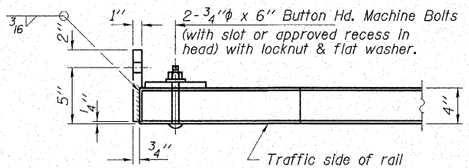
Reinforcement bars in the top of the deck may be placed with a 1 1/2" minimum clearance in the area of the rail post anchor devices. The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



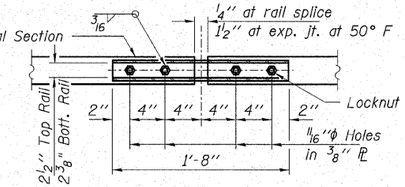
VIEW C-C



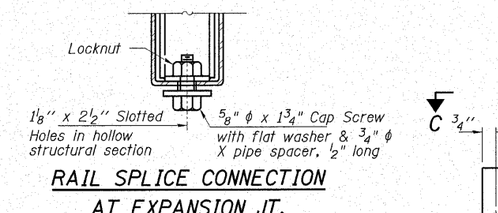
1 1/8" ϕ Holes for 1" ϕ x 4" Round Head Bolts. Provide two flat washers & locknuts for guard rail connection shown on Std. 631026.



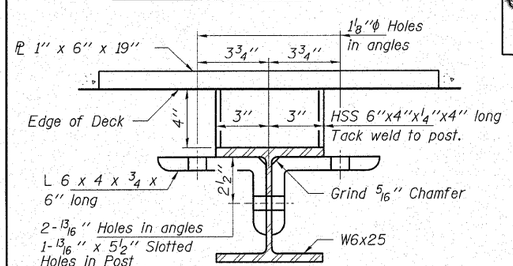
END OF RAIL DETAILS



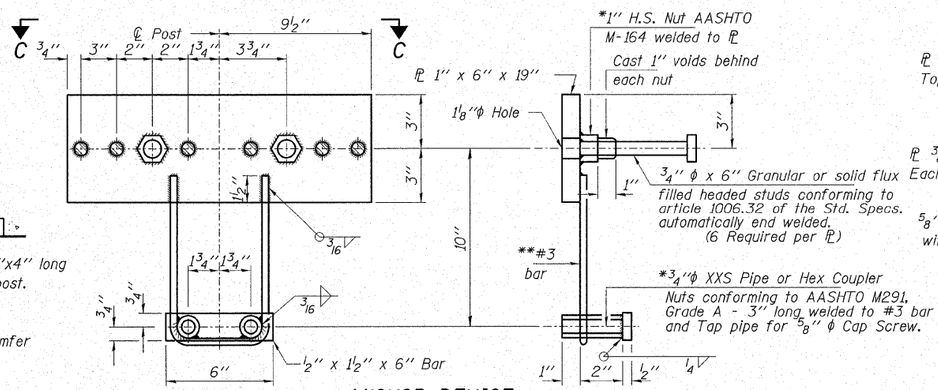
PLAN-BOTT. SPLICE PL TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

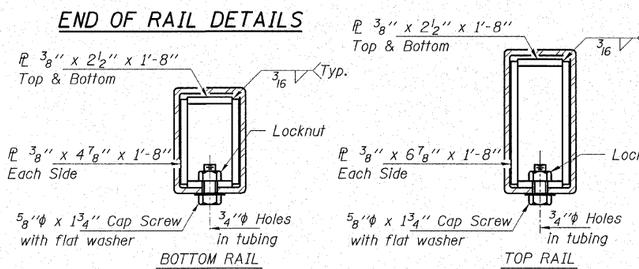


SECTION B-B



ANCHOR DEVICE

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



SECTION AT RAIL SPLICE

NOTES

Hollow structural sections shall conform to the requirements of ASTM 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 AASHTO M 270, Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lockwashers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will 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 1/2" 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 1/8" fabric bearing pads between the plates and concrete.

The 3/4" ϕ 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)(2) of the Standard Specifications. The 1" ϕ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" ϕ cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	156

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-i	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.B.

RAILING DETAILS

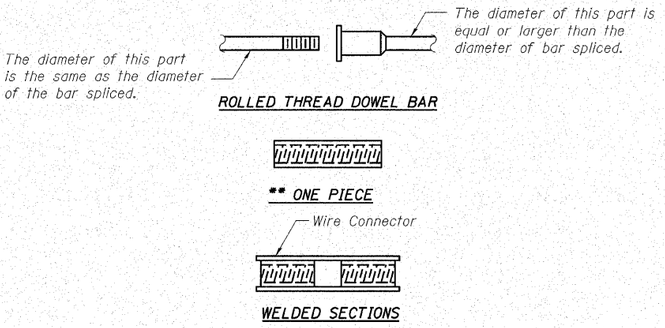
F.A.S. 1706 / C.H. 6 OVER LAKE SARA

SECTION 00-00080-00-BR

EFFINGHAM COUNTY

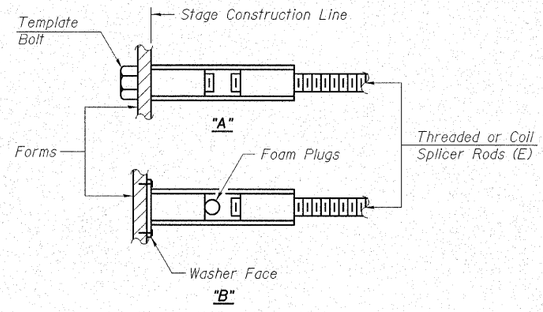
STRUCTURE NO. 025-3222 / STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	16
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	



BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

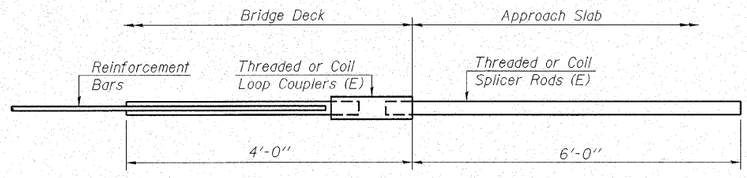
① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$

② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

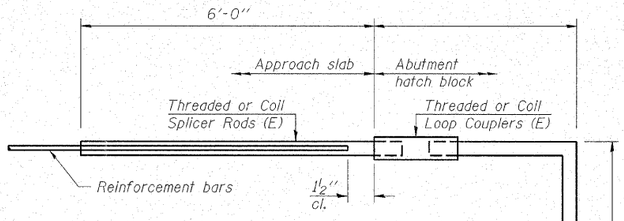
BAR SPLICER ASSEMBLIES

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



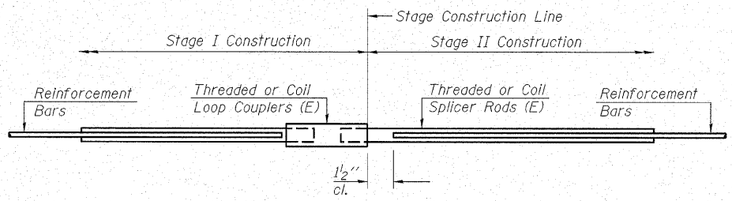
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#7	10	W. Abut.
#7	10	E. Abut.
#8	10	Pier 1
#8	10	Pier 2

HAMPTON, LENZINI & RENWICK, INC.
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(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-1	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.H.

BAR SPLICER ASSEMBLY DETAILS

F.A.S. 1706 / C.H. 6 OVER LAKE SARA
SECTION 00-00080-00-BR
EFFINGHAM COUNTY
STRUCTURE NO. 025-3222 / STATION 10+00

BSD-1 11-1-06

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 1706	00-00080 -00-BR	EFFINGHAM	17	17
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95524	

TEST BORING LOG

REYNOLDS DRILLING CORPORATION
RIVERTON, ILLINOIS
(217) 629-7860 FAX: (217) 629-7870

PROJECT NO. IO-6631-2A
DATE 8/10/06
WEATHER Sunny 80.0
INITIAL GWL@ 16.0 FT.
DELAYED GWL@ ___@___ HRS.
CAVE-IN 31.0
DRILLER T.S. HELPER EM

PROJECT Effingham Co./Lake
Sara Sect.9,R5E,Twp 8N
CLIENT
CITY Lake Sara, Illinois

BORING B-1 SHT 1 OF 1
LOCATION Sta. 0+34.0/5.0Rt
SURFACE ELEV. 99.58

SAMPLE TYPE: DISTURBED / SHELBY TUBE / SPT SAMPLE / CONT.CME / NO RECOVERY / CORE

DEPTH (ft)	SAMPLE NO	SOIL DESCRIPTION	USC	ELEV (ft)
	1	FILL-ASPHALT		
	2	-Sand and gravel		
5	3	SILTY CLAY LOAM- Gray brown, moist, stiff, little to some sand, trace gravel, trace organic		
	4	-Brown, some sand		
10	5	SILTY CLAY LOAM- Dark gray, moist, stiff, little sand		
	6			
15	7	SAND- Gray, very moist to saturated, fine		
	8	SILTY CLAY LOAM- Dark gray, very moist, trace sand		
20	9	LOAM- Dark gray, saturated, fine		
	10	SILTY CLAY LOAM- Gray, moist, very stiff to hard, some sand, trace gravel		
25	11			
	12			
30	13			
	14			
35	15			
	16			
40	17			
	18			
45	19			
	20	SANDY LOAM- moist, dense, fine to coarse, trace gravel, trace silty clay		
50	21	SILTY CLAY LOAM- Gray, moist, hard, some sand, trace gravel		
	22	SAND- Gray, moist, fine to coarse, trace gravel		
55	23	SILTY CLAY LOAM- Dark gray, moist, trace sand, trace organic		
	24			
60	25			
	26	SILTY CLAY LOAM- Brown gray, moist, stiff, trace sand		
65	27			
	28			
70	29			
	30	End of Boring 76.0 ft. Backfilled with spoil and capped with gravel mixed with concrete		
75				

BLOW COUNT / Qu (tsf) / PPR (tsf) / Torvane (tsf)
PERCENT CLAY / PERCENT SILT / PLASTIC M.C. LIQUID

BORING 1

TEST BORING LOG

REYNOLDS DRILLING CORPORATION
RIVERTON, ILLINOIS
(217) 629-7860 FAX: (217) 629-7870

PROJECT NO. IO-6631-2A
DATE 8/11/06
WEATHER Cloudy 80.0
INITIAL GWL@ 14.5 FT.
DELAYED GWL@ ___@___ HRS.
CAVE-IN 24.5
DRILLER T.S. HELPER EM

PROJECT Effingham Co./Lake
Sara Sect.9,R5E,Twp 8N
CLIENT
CITY Lake Sara, Illinois

BORING B-2 SHT 1 OF 1
LOCATION Sta.1+06.70/5.20Lt
SURFACE ELEV. 99.56

SAMPLE TYPE: DISTURBED / SHELBY TUBE / SPT SAMPLE / CONT.CME / NO RECOVERY / CORE

DEPTH (ft)	SAMPLE NO	SOIL DESCRIPTION	USC	ELEV (ft)
	1	FILL- 2" ASPHALT		
	2	-SAND & GRAVEL		
5	3	SILTY CLAY LOAM- Brown, moist, stiff, little sand, trace gravel, trace organic		
	4	SILTY CLAY LOAM, brown, moist, stiff, little sand		
10	5	-Dark gray, moist, stiff, trace sand		
	6	SILTY CLAY LOAM- Dark gray, moist, little to some sand, trace gravel		
15	7	SILTY CLAY LOAM- Black/dark gray, very moist, firm. trace sand		
	8			
20	9	-Brown, very stiff		
	10	SILTY CLAY LOAM- Gray, moist, very stiff, little sand, trace gravel		
25	11			
	12			
30	13			
	14			
35	15			
	16			
40	17			
	18			
45	19			
	20	End of Boring 51.0 ft. Borehole backfilled with spoil and capped with gravel mix concrete		
50				

BLOW COUNT / Qu (tsf) / PPR (tsf) / Torvane (tsf)
PERCENT CLAY / PERCENT SILT / PLASTIC M.C. LIQUID

BORING 2

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
HLR
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-33-0004-1	DATE: 11/07/07
DESIGNED: R.J.P.	CHECKED: S.W.M.	DRAWN: D.A.B.

BORING LOGS

F.A.S. 1706 / C.H. 6 OVER LAKE SARA
SECTION 00-00080-00-BR
EFFINGHAM COUNTY
STRUCTURE NO. 025-3222 / STATION 10+00