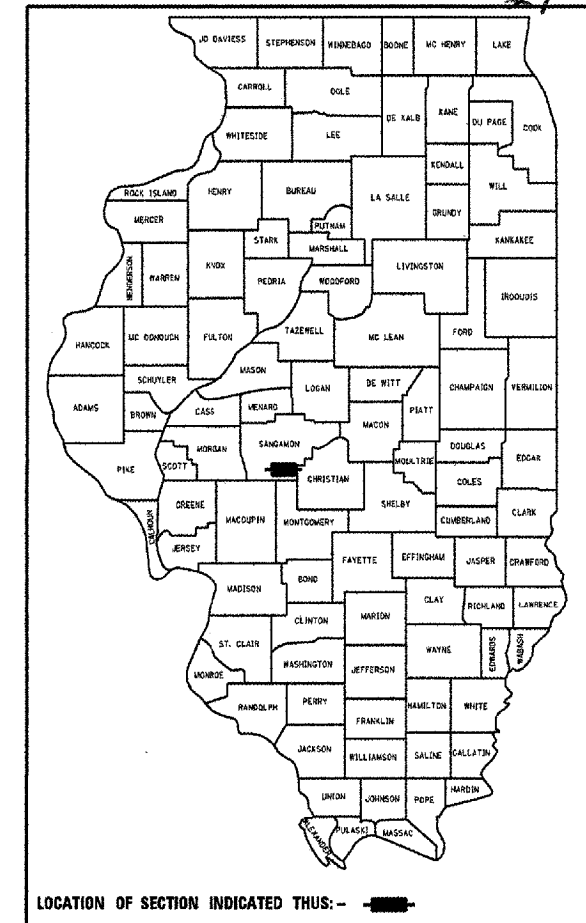


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
753	142 (BR-4)	SANGAMON	24	1

D - 96 - 510 - 07

+ 3
27



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP 753 ILLINOIS ROUTE 104
SECTION: 142 BR-4
SUPERSTRUCTURE OVER HORSE CREEK
EAST PAWNEE CITY LIMITS
SANGAMON COUNTY

C-96-569-07 PROJECT: ACBHF-0753(034)

INDEX OF SHEETS

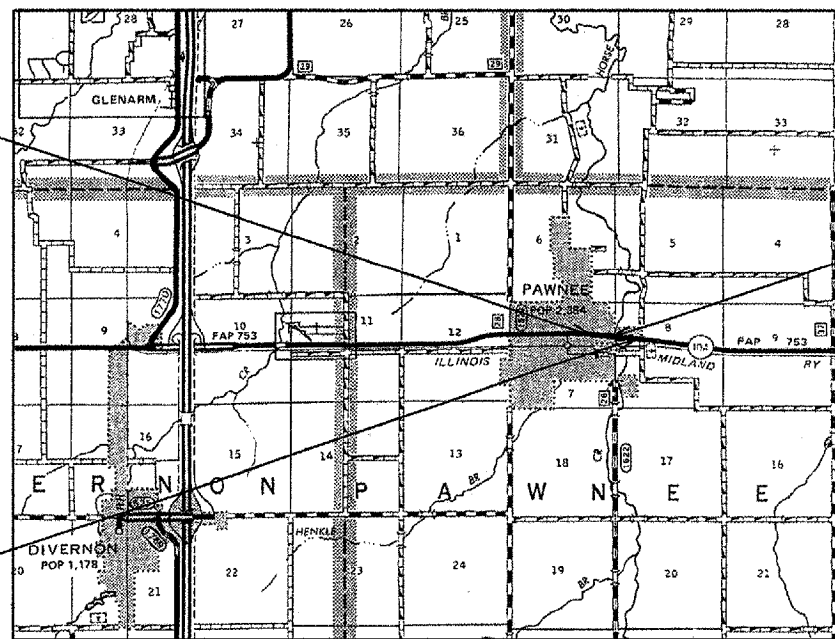
- 1 COVER SHEET
- 2 GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4 TYPICAL SECTIONS
- 5 SCHEDULE OF QUANTITIES
- 6 ALIGNMENT, BENCHMARKS AND TIES
- 7 PLAN AND PROFILE SHEETS
- 8-9 MAINTENANCE OF TRAFFIC AND STAGING
- 10 PAVEMENT MARKING
- 11-13 DETAILS
- 14-24 BRIDGES PLANS
- TEMPORARY BRIDGE SHORING
- HIGHWAY STANDARDS
- 24A.-24C. BRIDGE PLANS

HIGHWAY STANDARDS

000001-04	631011-03	701311-02
001001-01	631032-03	701321-08
001006	635006-02	702001-06
482001-01	635011-01	704001-03
482011-02	701006-02	720011
515001-02	701011-01	780001-01
630001-07	701201-02	781001-02
630301-04	701306-01	

PROJECT BEGINS
STA 986 + 75

PROJECT ENDS
STATION 991 + 05



LOCATION MAP

GROSS AND NET LENGTH OF PROJECT = 430 FEET = 0.081 MILES
HIGHWAY CLASSIFICATION = REGIONAL ARTERIAL
IL RTE. 104 ADT = 3800 (2005)
IL RTE. 104 ADT = 4420 (2020)

K+ K-Plus Engineering, Ltd.
755 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1500
WWW.K-PLUSENGINEERING.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003689

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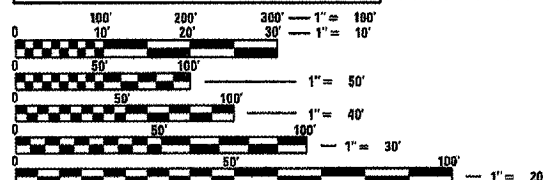
PROJECT ENGINEER: SAL MADONIA (217) 782-4761
SQUAD LEADER: MARCUS BRUCE (217) 785-5336

ENGINEERING PLAN SUBMITTAL

THESE ENGINEERING PLANS AND SUPPORTING DOCUMENTS ARE ISSUED FOR THE FOLLOWING PURPOSE ONLY

PRELIMINARY PLAN REVIEW NO.	
PRE FINAL PLAN REVIEW	
X FINAL PLAN REVIEW NO. 1	
PERMIT APPLICATION	
BIDDING	
CONSTRUCTION	

DATE: 08-01-07



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 72A81

PROP. SUPERSTRUCTURE
REPLACEMENT OVER
HORSE CREEK
STATION 988 + 90.00
SN: 084-0176

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 23, 2007

Eric E. Harrel, Jr.
Deputy Director of Highways, Region Engineer
October 12, 2007
Interim
October 12, 2007
Milton R. Sees, P.E.
Engineer of Design and Environment
Director of Highways, Chief Engineer



David L. Clark
Licensed Professional Engineer
State of Illinois No. 62-42199
Date 8/31/07

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

CONTRACT NO. 72AB1				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
753	142BR-4	SANGAMON	24	2
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

GENERAL CONSTRUCTION NOTES

- ALL ELEVATIONS SHOWN ON THE PLANS ARE ESTABLISHED FROM U.S.G.S. MEAN SEA LEVEL DATUM.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND/OR MONUMENTS UNTIL THE OWNER, AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED, OR REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
- THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT ARE NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THEIR EXACT LOCATIONS FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION. THE CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E. AT, 1-800-892-0123, PRIOR TO PROCEEDING WITH ANY EXCAVATION AND WORK ON THE PROJECT.
- THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH ALL UTILITIES WITHIN THE PROJECT LIMITS.
- ACCESS TO ALL ENTRANCES AND SIDE ROADS SHALL BE MAINTAINED AT ALL TIMES.
- ALL REFERENCES TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUB-NUMBERS LISTED IN THE INDEX OF SHEETS, OR THE COPY OF STANDARDS INCLUDED IN THESE PLANS.
- IN ADDITION TO FIELD SURVEYS, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS AND FIELD CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR QUANTITIES ACTUALLY FURNISHED AND PLACED AT THE CONTRACT UNIT BID PRICE FOR THE WORK.
- THE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION WILL BE REMOVED OR RELOCATED AS DIRECTED BY THE ENGINEER. AFTER THE CONSTRUCTION IS COMPLETED, THE CONTRACTOR WILL REPLACE THE SIGNS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID SEPARATELY, BUT BE CONSIDERED INCLUDED IN THE CONTRACT, AND NO COMPENSATION WILL BE ALLOWED.
- THE THICKNESS OF BITUMINOUS CONCRETE OVERLAY SHOWN ON THE PLANS IS THE NOMINAL THICKNESS FOR THE OVERLAY. DEVIATIONS FROM THE NOMINAL THICKNESS WILL ONLY BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE ON WHICH THE OVERLAY IS PLACED.
- SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. AREAS TO BE SEEDED SHALL BE DETERMINED BY THE ENGINEER AND SEEDED AS SOON AS POSSIBLE.
- ALL SAW CUTS, NECESSARY TO COMPLETE THE WORK DETAILED IN THESE PLANS, SHALL BE INCLUDED IN THE COST FOR THE VARIOUS PAY ITEMS INVOLVED. THE MINIMUM SAW CUT DEPTH IN THE PAVEMENT SHALL BE 1 1/2" UNLESS OTHERWISE SPECIFIED IN A DETAIL SHOWN IN THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY-PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 800-892-0123. A MINIMUM OF FORTY-EIGHT HOURS ADVANCE NOTICE IS REQUIRED.
- THE DISTRICT BUREAU OF OPERATIONS SHALL BE NOTIFIED AT LEAST 14 DAYS PRIOR TO PLACEMENT OF FINAL PAVEMENT MARKING (PH: 217-785-5312)
- NO COMMITMENTS MADE.

MIXTURE REQUIREMENTS

LOCATION(S): SURFACE
 MIXTURE USE(S): PG 64-22
 PG: PG 64-22
 DESIGN AIR VOIDS: 4.0% @ N DESIGN = 50
 MIXTURE COMPOSITION: IL 9.5 OR 12.5
 (GRADATION MIXTURE)
 FRICTION AGGREGATE: MIX "C"

APPLICATION RATES

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED TO CALCULATE THE PLAN QUANTITIES:

BITUMINOUS MATERIALS (PRIME COAT)	- 0.00038 TON/SOYD (ON PAVEMENT)
BITUMINOUS MATERIALS (PRIME COAT)	- 0.001425 TON/SOYD (ON AGGREGATE)
AGGREGATE PRIME COAT	- 0.002 TON/SOYD
HOT-MIX ASPHALT SURFACE / BINDER	- 0.056 TONS/SOYD/IN
AGGREGATE MATERIAL	- 2.05 TON/CIYD
MULCH METHOD	- 2.0 TON/ACRE
NITROGEN FERTILIZER NUTRIENT	- 90 LB/ACRE
PHOSPHOROUS FERTILIZER NUTRIENT	- 90 LB/ACRE
POTASSIUM FERTILIZER NUTRIENT	- 90 LB/ACRE

PLAN
 DATE: _____
 BY: _____
 CHECKED: _____
 DATE: _____

PROFILE
 DATE: _____
 BY: _____
 CHECKED: _____
 DATE: _____

NOT DATE * ADDED *
 FILE NAME * REVISED *
 FILE NAME * REVISED *
 FILE NAME * REVISED *

DISTRICT SIX		
EXAMINED	August 14	20 07
<i>Louis J. Hoorn</i>		
OPERATIONS ENGINEER		
EXAMINED	Aug 13	2007
<i>W.R. J.</i>		
PROGRAM IMPLEMENTATION ENGINEER		
EXAMINED	Aug 13	20 07
<i>W.R. J.</i>		
PROGRAM DEVELOPMENT ENGINEER		

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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		GENERAL NOTES
		FAP 753 (IL RTE. 104) OVER HORSE CREEK SECTION 142BR-4 SANGAMON COUNTY
		DRAWN BY: AOC CHECKED BY: OC
		DATE: 08-01-07

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
753	142BR-4	SANGAMON	24	3
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

PAY CODE	ITEM	UNITS	SN 084-0176 80% FEDERAL 20% STATE CONSTRUCTION CODE X080 2A
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.5
40600300	AGGREGATE (PRIME COAT)	TON	3
40600590	TEMPORARY RAMP	SQ YD	157
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", NS0	TON	94
42001300	PROTECTIVE COAT	SQ YD	1105
44000198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	1110
48101200	AGGREGATE SHOULDERS, TYPE B	TON	2
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50102400	CONCRETE REMOVAL	CU YD	31.4
50300225	CONCRETE STRUCTURES	CU YD	28.0
50300260	BRIDGE DECK GROOVING	SQ YD	1056
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	8945
50500495	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	30000
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	16670
50800515	BAR SPLICERS	EACH	223
50901050	STEEL RAILING, TYPE SM	FOOT	462
51500100	NAME PLATES	EACH	1
52000110	PREFORMED JOINT STRIP SEAL	FOOT	96
50000190	CONTROLLED LOW-STRENGTH MATERIAL	CUM YD	1
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	162.5
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)	EACH	3
63200310	GUARDRAIL REMOVAL	FOOT	486
* 63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	37.5
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	10
67100100	MOBILIZATION	LSUM	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	LSUM	1
70101205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	10
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	224
70300630	TEMPORARY PAINT PAVEMENT MARKING - LINE 5'	FOOT	1587
70301030	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	737

PAY CODE	ITEM	UNITS	SN 084-0176 80% FEDERAL 20% STATE CONSTRUCTION CODE X080 2A
70400100	TEMPORARY CONCRETE BARRIER	FOOT	519
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	444
* 78001120	PAINT PAVEMENT MARKING - LINE 5'	FOOT	1587
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	112
* 78201000	TERMINAL MARKER, DIRECT APPLIED	EACH	3
78300105	PAVEMENT MARKING REMOVAL	FOOT	1227
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	4
X5050305	CONCRETE WEARING SURFACE, 5'	SQ YD	1105
X7200201	WIDTH RESTRICTION SIGNING	LSUM	1
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	96
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2
Z0030280	IMPACT ATTENUATORS, TEMPORARY (FULLY-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2

* SPECIALTY ITEMS

PLAN	DATE
BY	
REVISIONS	
PLOTTED	
CHECKED	
DATE	
NOTE BOOK	
NO.	

PROFILE	DATE
BY	
REVISIONS	
PLOTTED	
CHECKED	
DATE	
NOTE BOOK	
NO.	

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 PLOT SCALE : 4:1
 USER NAME : laughtinr1

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 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1900
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REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SUMMARY OF QUANTITIES

FAP 753 (IL RTE. 104)
 OVER HORSE CREEK
 SECTION 142BR-4
 SANGAMON COUNTY

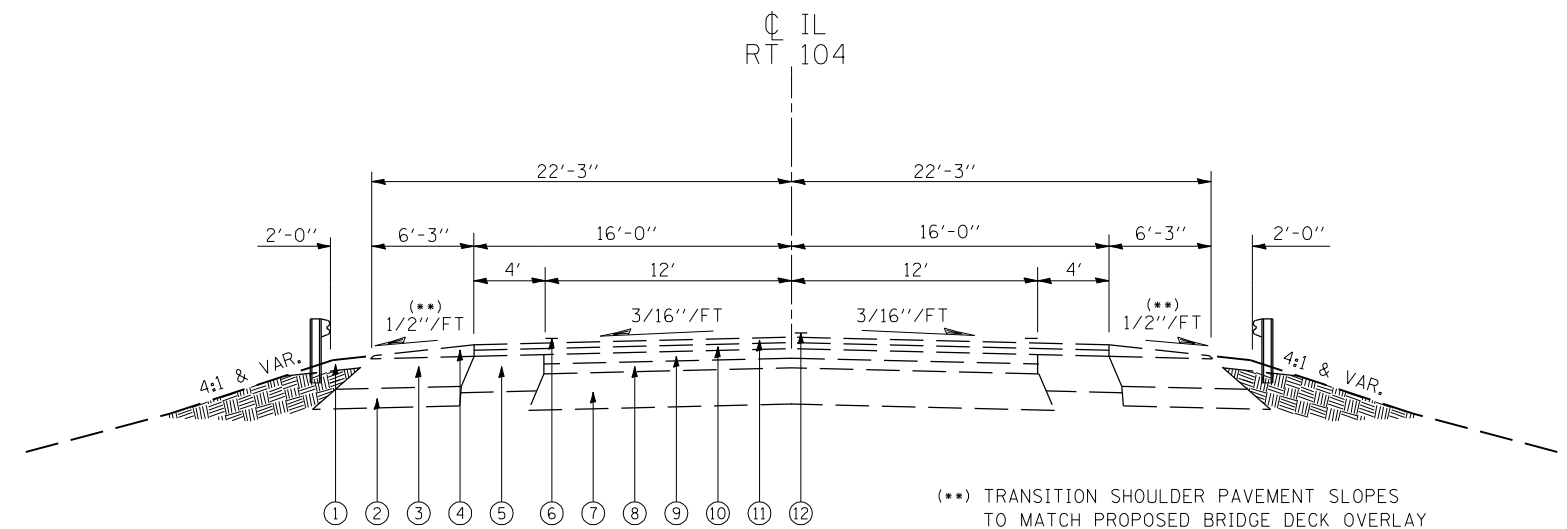
DATE: 08-01-07

DRAWN BY: ADG
 CHECKED BY: DC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
753	142BR-4	SANGAMON	24	4
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

DATE	
BY	
SURVEYED	
ALIGNED	
CHECKED	
RT. OF WAY CHECKED	
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NOTE BOOK NO.	
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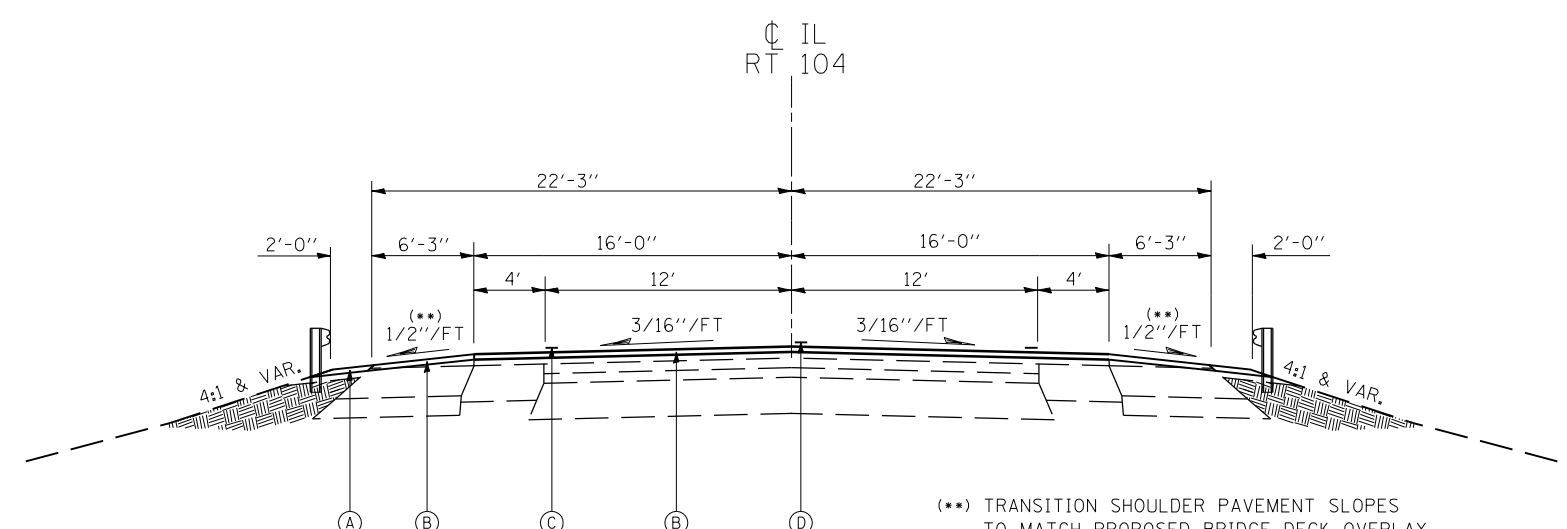
DATE	
BY	
SURVEYED	
GRADES CHECKED	
B.M. NOTED	
STRUCTURE NOTATIONS CTRD	



N.T.S.
EXISTING TYPICAL SECTION

STA. 986+75.00 TO STA. 987+86.25
BRIDGE OMISSION
STA. 989+93.75 TO STA. 991+05.00

(**) TRANSITION SHOULDER PAVEMENT SLOPES TO MATCH PROPOSED BRIDGE DECK OVERLAY



N.T.S.
PROPOSED TYPICAL SECTION

STA. 986+75.00 TO STA. 987+86.25
BRIDGE OMISSION
STA. 989+93.75 TO STA. 991+05.00

(**) TRANSITION SHOULDER PAVEMENT SLOPES TO MATCH PROPOSED BRIDGE DECK OVERLAY

LEGEND

- EXISTING**
- ① AGGREGATE SHOULDERS, TYPE B
 - ② SUB-BASE GRANULAR MATERIAL, TYPE B 4" (TYPICAL UNDER WIDENING)
 - ③ BITUMINOUS CONCRETE BASE COURSE WIDENING, 9"
 - ④ BITUMINOUS SHOULDERS SUPERPAVE (VARIABLE DEPTH)
 - ⑤ BITUMINOUS CONCRETE STABILIZED SHOULDER, 9 1/2"
 - ⑥ PAINT PAVEMENT MARKING LINE 5" (WHITE)
 - ⑦ BITUMINOUS CONCRETE BASE COURSE, 9"
 - ⑧ BITUMINOUS CONCRETE BINDER COURSE, 2 1/2"
 - ⑨ BITUMINOUS CONCRETE SURFACE COURSE, 2 1/4"
 - ⑩ BITUMINOUS CONCRETE BINDER COURSE, 3/4 " & VARIES
 - ⑪ BITUMINOUS CONCRETE SURFACE COURSE, 1 1/2"
 - ⑫ PAINT PAVEMENT MARKING LINE 5" (YELLOW)
- PROPOSED**
- (A) PROPOSED AGGREGATE SHOULDER, TYPE B
 - (B) PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
& PROPOSED 1 1/2" HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
 - (C) PAINT PAVEMENT MARKING LINE, 5" WHITE
 - (D) PAINT PAVEMENT MARKING LINE, 5" YELLOW

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USER NAME = laughtlin1

K+ K-Plus Engineering, Ltd.
753 WINDSOR ROAD
CHARLESTON, IL 61920
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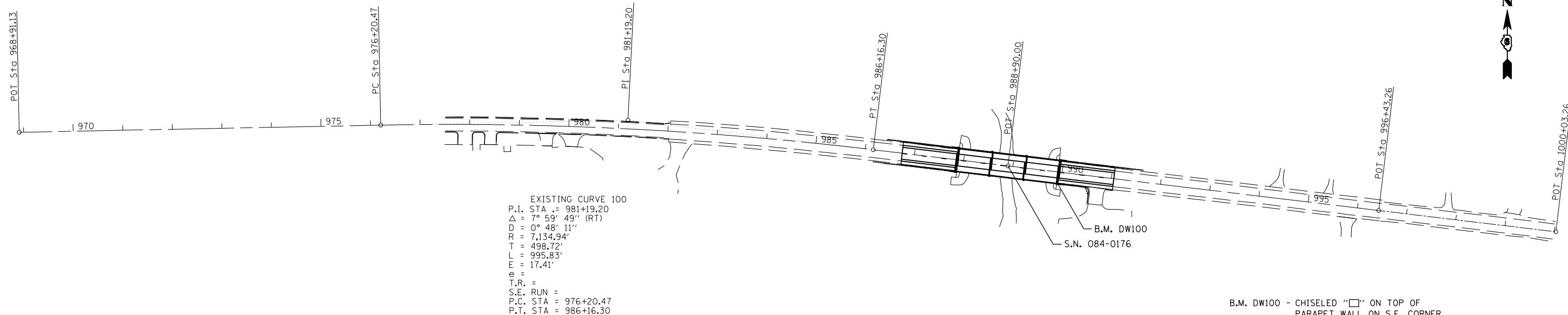
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION EXISTING / PROPOSED ROADWAY TYPICAL SECTIONS
NAME	DATE	
		FAP 753 (IL RTE. 104) OVER HORSE CREEK SECTION 142BR-4 SANGAMON COUNTY

DATE: 08-01-07
DRAWN BY: ADG
CHECKED BY: DC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
753	142BR-4	SANGAMON	24	6
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

PLAN	DATE
SURVEYED	
ALIGNED	
GRADES CHECKED	
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PAID FILE NAME	
NOTE BOOK NO.	
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PROFILE	DATE
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STRUCTURE NOTATIONS CIPRD	
NOTE BOOK NO.	
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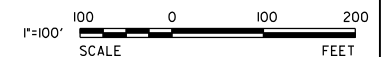
EXISTING CURVE 100
 P.I. STA = 981+19.20
 $\Delta = 7^\circ 59' 49''$ (RT)
 $D = 0^\circ 48' 11''$
 $R = 7,134.94'$
 $T = 498.72'$
 $L = 995.83'$
 $E = 17.41'$
 $\phi = 0$
 T.R. =
 S.E. RUN =
 P.C. STA = 976+20.47
 P.T. STA = 986+16.30

B.M. DW100 - CHISELED "□" ON TOP OF
 PARAPET WALL ON S.E. CORNER
 OF STRUCTURE #084-0176
 STA. 990+04, 24' RT.
 ELEV. 588.61
BENCHMARK

ALIGNMENT LAYOUT

TIE INFORMATION

<p>P.O.T. STA. 968 + 91.13 SET PK NAIL</p>	<p>P.C. STA. 976 + 20.47 SET PK NAIL</p>	<p>P.I. STA. 981 + 19.20 REBAR WITH CAP (FLUSH)</p>	<p>P.T. STA. 986 + 16.30 SET PK NAIL</p>	<p>P.O.T. STA. 996 + 43.26 SET PK NAIL</p>
---	---	--	---	---



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 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685
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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	ALIGNMENT, TIES & BENCHMARKS	
		FAP 753 (IL RTE. 104) OVER HORSE CREEK SECTION 142BR-4 SANGAMON COUNTY	
		DATE: 08-01-07	DRAWN BY: ADG CHECKED BY: DC

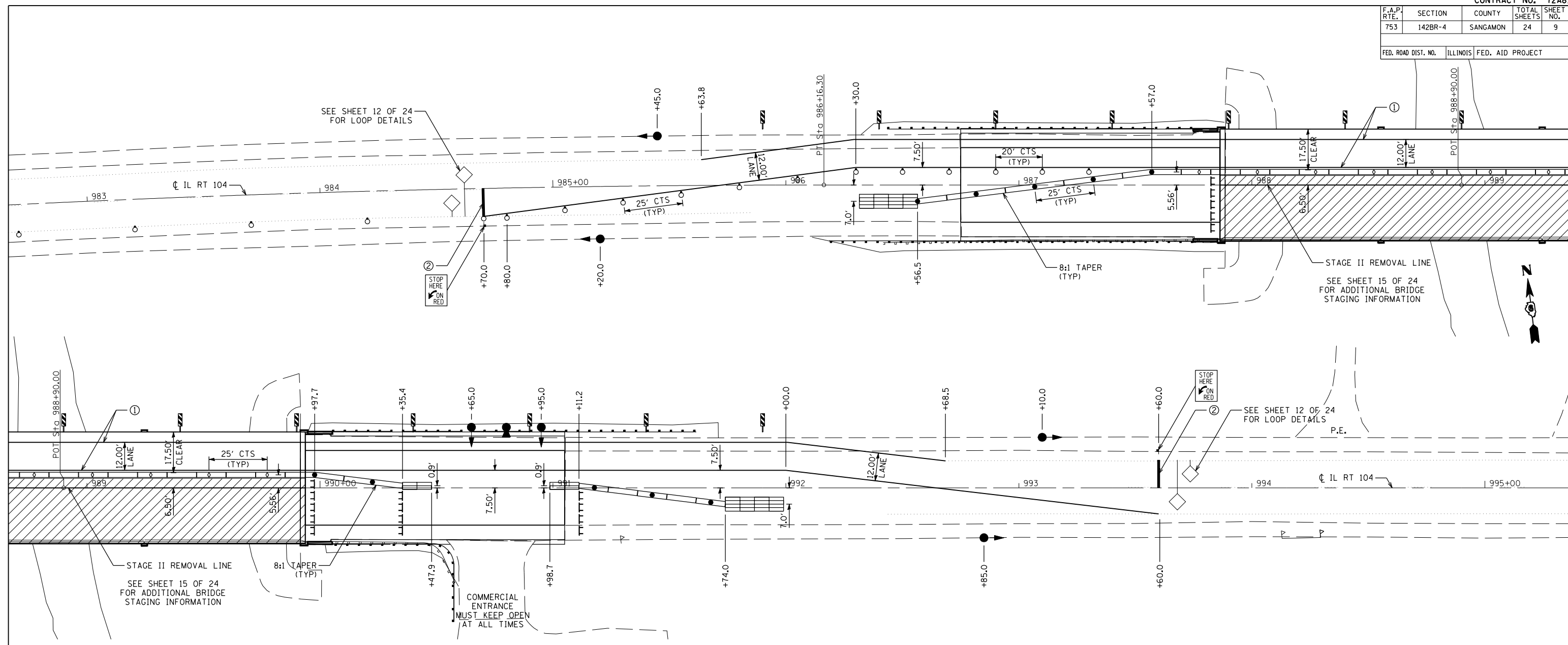
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 USER NAME = laughtlin1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
753	142BR-4	SANGAMON	24	9
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

PLAN	SURVEYED	DATE
	ALIGNED	
	RT. OF WAY CHECKED	
	PAID FILE NAME	
	NO.	

PROFILE	SURVEYED	DATE
	GRADES CHECKED	
	B.M. NOTED	
	STRUCTURE NOTATIONS CIPED	
	NO.	

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 USER NAME = laughlin1



STAGE II - SUGGESTED CONSTRUCTION SEQUENCE

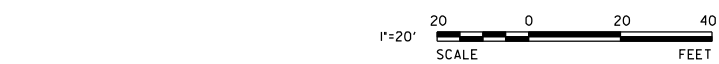
- FOLLOWING COMPLETION OF STAGE I CONSTRUCTION:
1. ADJUST MAXIMUM WIDTH SIGNING WIDTHS TO MATCH THE NEW WIDTH RESTRICTION FOR THIS STAGE.
 2. RELOCATE THE TEMPORARY CONCRETE BARRIER WALL AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH THESE PLANS.
 3. PERFORM STAGE II STRUCTURE AND GUARDRAIL REMOVAL FOR THE HORSE CREEK STRUCTURE (S.N. 084-0176).
 4. PERFORM ALL CONSTRUCTION WORK FOR STRUCTURE (S.N. 084-0176).
 5. INSTALL PERMANENT GUARDRAIL AS DETAILED IN THESE PLANS.
 6. INSTALL TEMPORARY RAMPS AT EACH END OF STRUCTURE (S.N. 084-0176) AS NEEDED.

STAGE III - SUGGESTED CONSTRUCTION SEQUENCE

1. FOLLOWING THE COMPLETION OF STAGE II CONSTRUCTION, REMOVE ALL TEMPORARY CONCRETE BARRIER, TEMPORARY SIGNALS AND OTHER TRAFFIC CONTROL DEVICES USED FOR STAGE CONSTRUCTION.
2. REMOVE TEMPORARY PAVEMENT MARKINGS FOR STAGE CONSTRUCTION AND PLACE TEMPORARY PAVEMENT MARKINGS FOR TWO-WAY TRAFFIC.
3. PERFORM ALL IL 104 ROADWAY WORK BY MILLING AND PAVING 1.5" BITUMINOUS CONCRETE SURFACE COURSE OVER THE EXISTING ROADWAY AND SHOULDERS AS SHOWN IN THESE PLANS.
4. UTILIZE ALL THE APPROPRIATE HIGHWAY TRAFFIC CONTROL STANDARDS WHEN PLACING THE PROPOSED SURFACE AND OTHER FINAL PAY ITEMS.

LEGEND

- ↑ SIGN
- T TYPE III BARRICADE
- DRUM WITH STEADY BURNING LIGHT
- ◇ TYPE C BIDIRECTIONAL REFLECTOR
- STEADY BURNING LIGHTS AND VERTICAL PANELS
- ▲ TEMPORARY TRAFFIC SIGNAL
- ⬮ MICROWAVE DETECTOR SYSTEM
- ⬮ DOUBLE VERTICAL PANEL
- ◇ INDUCTION LOOP DETECTOR
- ▬ TEMPORARY CONCRETE BARRIER
- ▬ IMPACT ATTENUATOR, TEMPORARY (FULLY REDIRECTIVE, NARROW)
- ▬ IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE)
- ① TEMPORARY PAVEMENT MARKING, LINE 5" WHITE
- ② TEMPORARY PAVEMENT MARKING, LINE 24" WHITE
- ▨ WORK ZONE



REVISIONS	NAME	DATE

K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1900
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 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685
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ILLINOIS DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC & STAGING PLANS
STAGE II & STAGE III
 FAP 753 (IL RTE. 104)
 OVER HORSE CREEK
 SECTION 142BR-4
 SANGAMON COUNTY

DATE: 08-01-07
 DRAWN BY: ADG
 CHECKED BY: DC

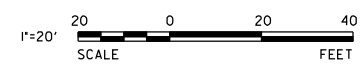
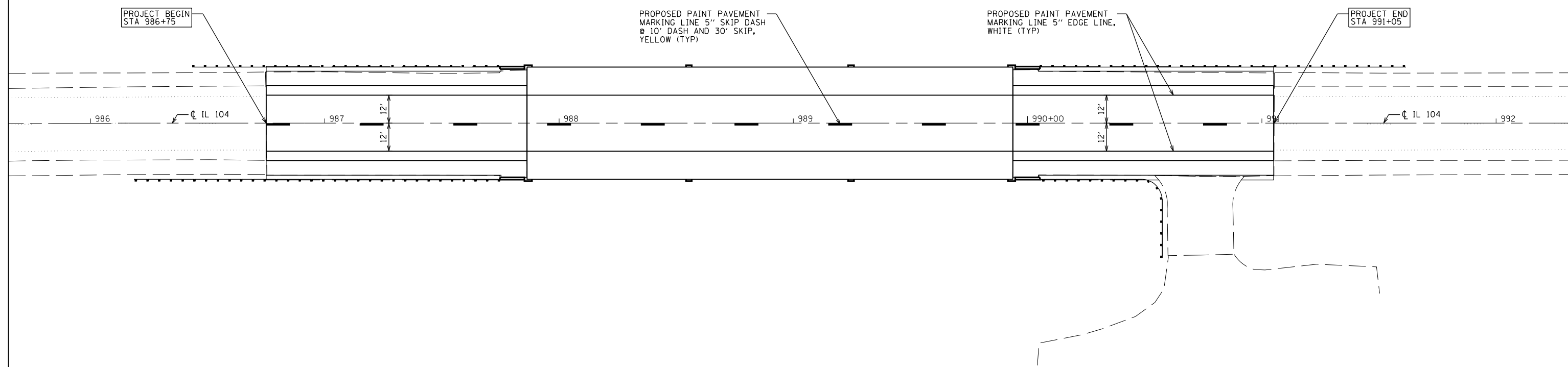
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753	142BR-4	SANGAMON	24	10
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



PLAN	DATE
SURVEYED	
ALIGNED	
GRADES CHECKED	
RT. OF WAY CHECKED	
NO. _____	
FILE NAME	

PROFILE	DATE
SURVEYED	
GRADES CHECKED	
B.M. NOTED	
STRUCTURE NOTATIONS CTRD	
NO. _____	

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 USER NAME = laughlin1



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REVISIONS	
NAME	DATE

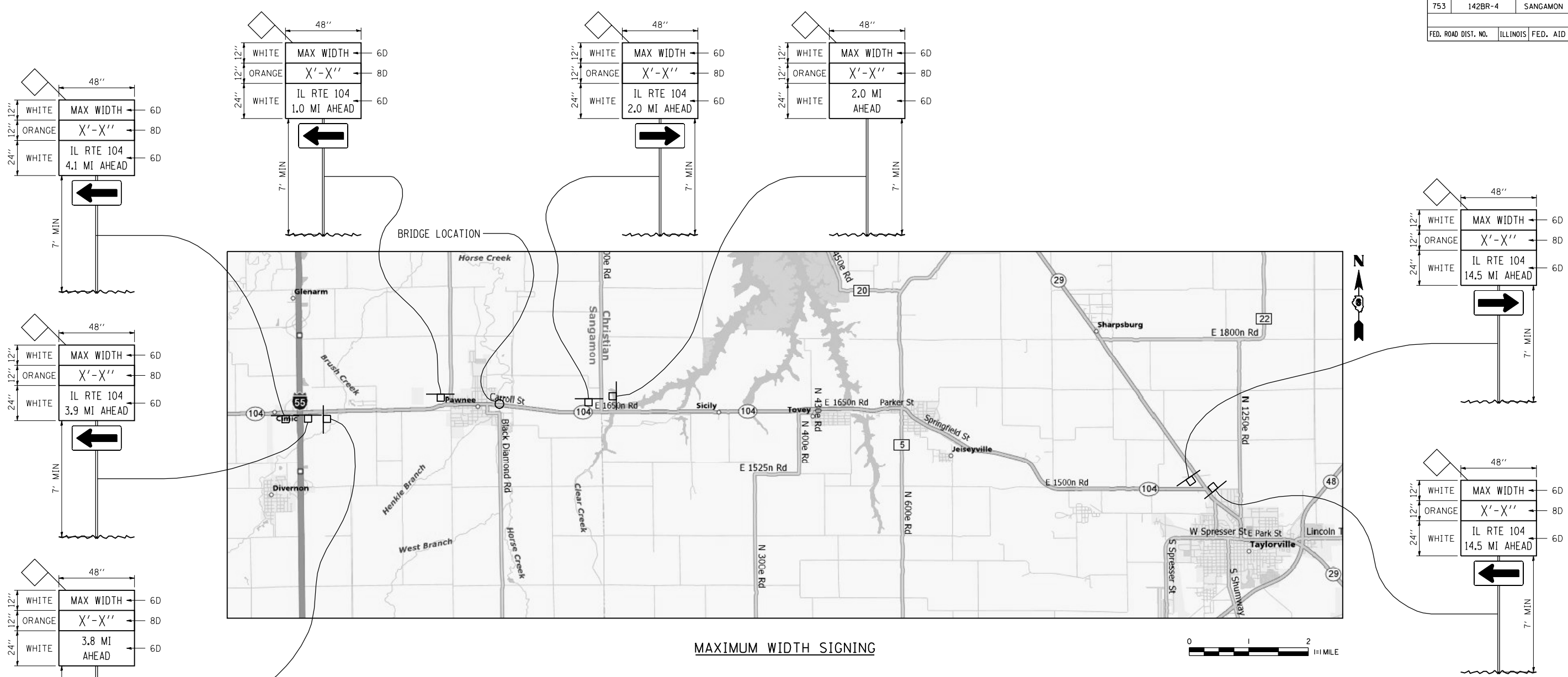
ILLINOIS DEPARTMENT OF TRANSPORTATION
PROPOSED PAVEMENT MARKING PLAN
 FAP 753 (IL RTE. 104)
 OVER HORSE CREEK
 SECTION 142BR-4
 SANGAMON COUNTY
 DATE: 08-01-07
 DRAWN BY: ADG
 CHECKED BY: DC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

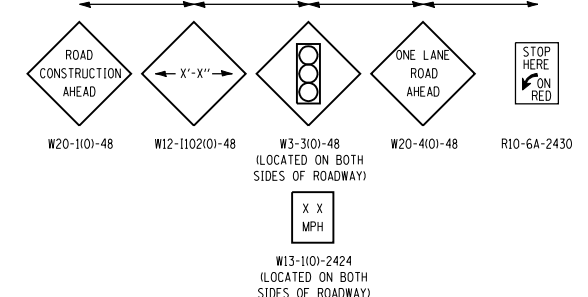
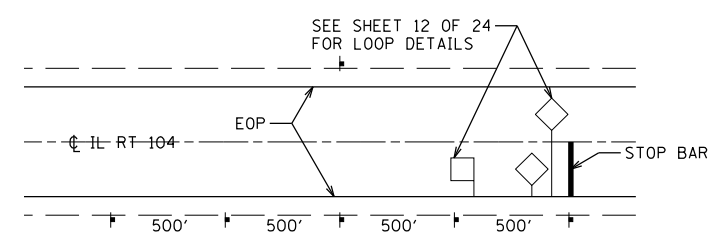
DATE	BY

DATE	BY

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 USER NAME = laughtlin1



MAXIMUM WIDTH SIGNING



MAXIMUM WIDTH SIGNING (TYP)

NOTE:
 ACTUAL MAX WIDTHS ARE TO BE MEASURED BY THE ENGINEER AFTER TEMPORARY CONCRETE BARRIER WALL IS PLACED FOR STAGE I. WIDTH SHALL BE REMEASURED AND SIGNS UPDATED FOR STAGE II.
 MAX WIDTH SIGNS SHALL BE PAID FOR AS ONE LUMP SUM UNDER "WIDTH RESTRICTION SIGNING" (PAY CODE = X7200201)

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

MAXIMUM WIDTH SIGNING DETAIL

FAP 753 (IL RTE. 104)
 OVER HORSE CREEK
 SECTION 142BR-4
 SANGAMON COUNTY

DATE: 08-01-07

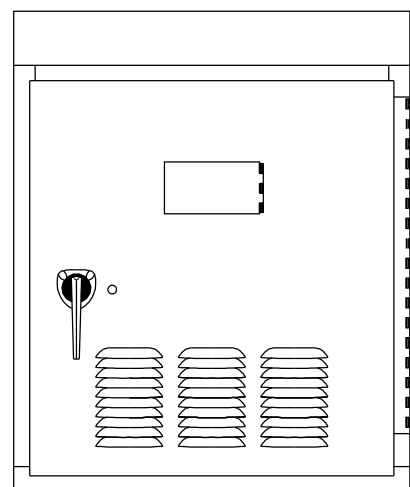
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753	142BR-4	SANGAMON	24	12
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

PLAN	SURVEYED	DATE
NOTE BOOK NO.	ALL DIMENSIONS CHECKED	
	RT. OF WAY CHECKED	
	FIELD FILE NAME	

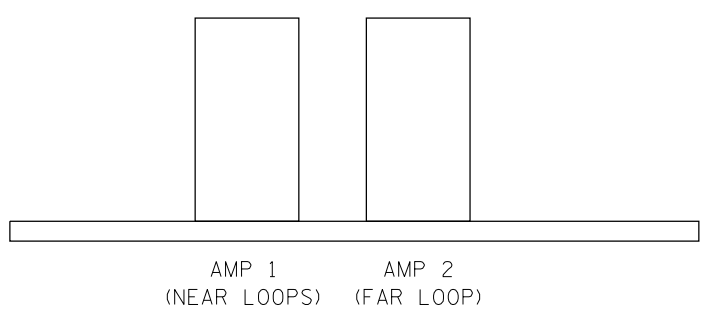
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NOTE BOOK NO.	GRADES CHECKED	
	B.M. NOTED	
	STRUCTURE NOTATIONS CIPRD	

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 USER NAME = laughtlin1



Temporary Controller Cabinet

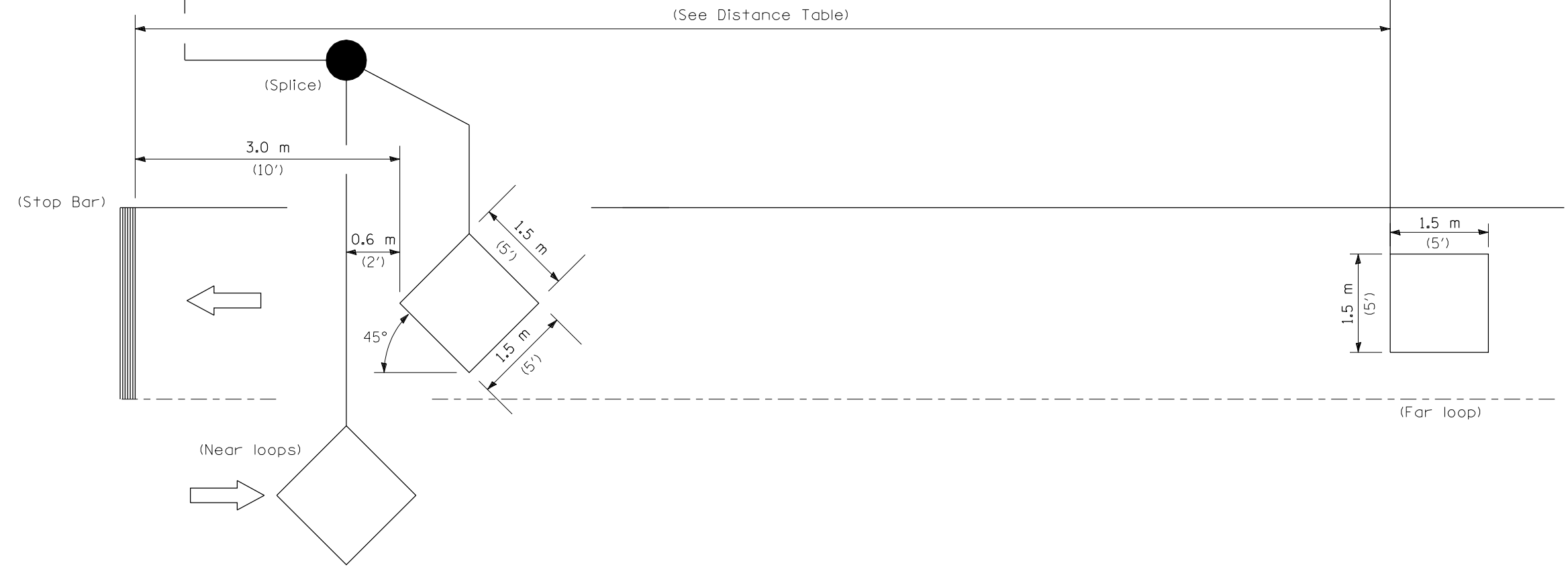
DETECTOR AMPLIFIER NOTES



AMP 1: DELAY = 8 SECONDS
 DELAY SHALL BE INHIBITED DURING GREEN

AMP 2: NO DELAY

ADVISORY SPEED (MPH)	DISTANCE FROM STOP BAR (FT.)
30 OR LESS	220
35	260
40	300
45	330
50	370
55	400



NOTE: All loops centered in lane.

INDUCTION LOOP DETECTOR

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REVISIONS	NAME	DATE

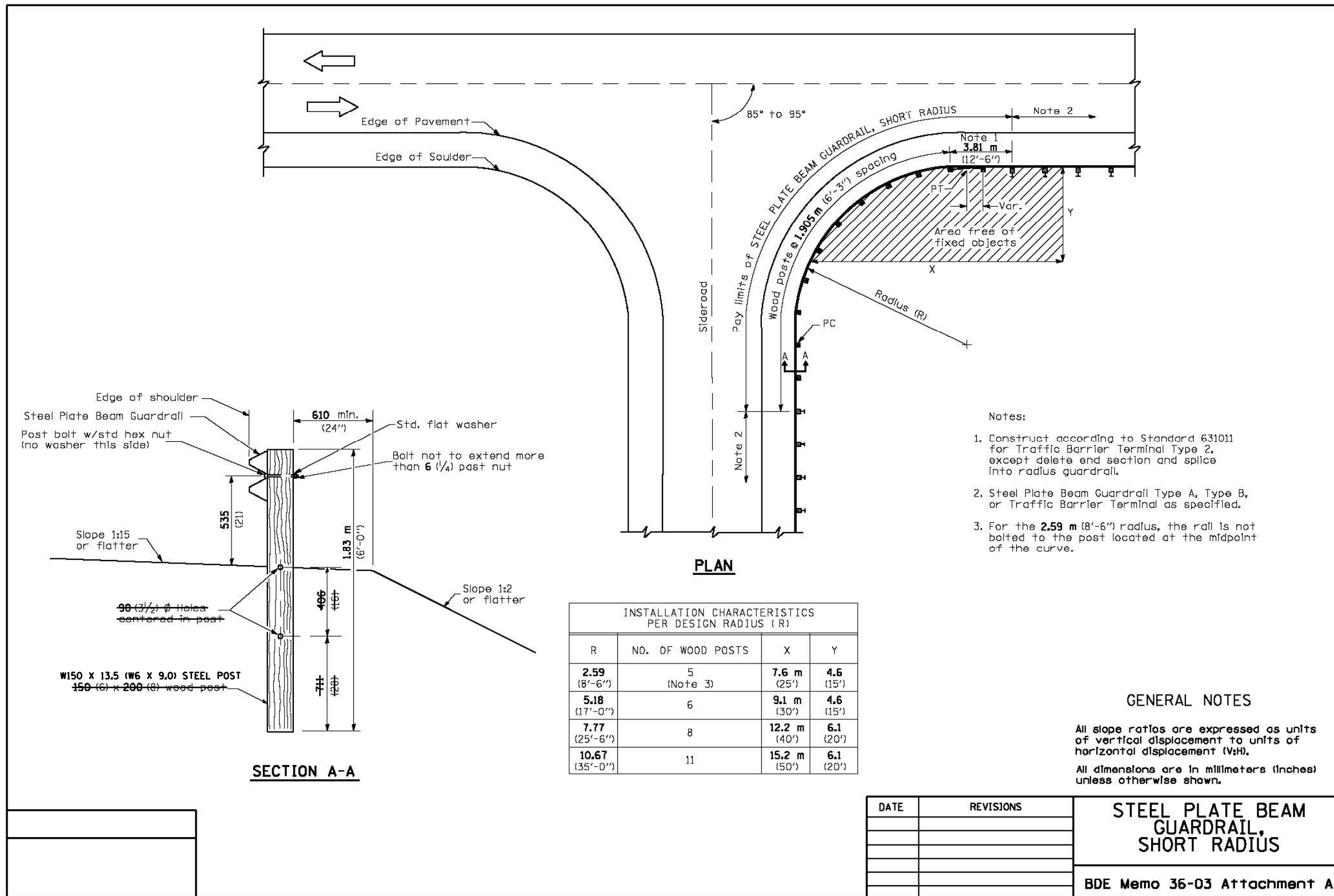
ILLINOIS DEPARTMENT OF TRANSPORTATION
 TEMPORARY BRIDGE TRAFFIC SIGNAL
 LOOP PLACEMENT DETAIL SHEET

FAP 753 (IL RTE. 104)
 OVER HORSE CREEK
 SECTION 142BR-4
 SANGAMON COUNTY

DATE: 08-01-07
 DRAWN BY: ADG
 CHECKED BY: DC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
753	142BR-4	SANGAMON	24	13
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

STEEL PLATE BEAM GUARDRAIL,
SHORT RADIUS TYPICAL DETAIL



- Notes:
1. Construct according to Standard 631011 for Traffic Barrier Terminal Type 2, except delete end section and splice into radius guardrail.
 2. Steel Plate Beam Guardrail Type A, Type B, or Traffic Barrier Terminal as specified.
 3. For the 2.59 m (8'-6") radius, the rail is not bolted to the post located at the midpoint of the curve.

INSTALLATION CHARACTERISTICS PER DESIGN RADIUS (R)

R	NO. OF WOOD POSTS	X	Y
2.59 (8'-6")	5 (Note 3)	7.6 m (25')	4.6 (15')
5.18 (17'-0")	6	9.1 m (30')	4.6 (15')
7.77 (25'-6")	8	12.2 m (40')	6.1 (20')
10.67 (35'-0")	11	15.2 m (50')	6.1 (20')

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS

STEEL PLATE BEAM GUARDRAIL,
SHORT RADIUS
BDE Memo 36-03 Attachment A

K+ K-Plus Engineering, Ltd.
753 WINDSOR ROAD
CHARLESTON, IL 61920
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ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

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REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL PLATE BEAM GUARDRAIL,
SHORT RADIUS
TYPICAL DETAIL
FAP 753 (IL RTE. 104)
OVER HORSE CREEK
SECTION 142BR-4
SANGAMON COUNTY
DATE: 08-01-07

DRAWN BY: ADG
CHECKED BY: DC

PLAN

DATE	
BY	
SURVEYED	
ALIGNED	
CHECKED	
RT. OF WAY CHECKED	
NO. OF WAY CHECKED	
PLD FILE NAME	
NO.	

PROFILE

DATE	
BY	
SURVEYED	
GRADES	
CHECKED	
B.M. NOTED	
STRUCTURE NOTATIONS	
CPRD	
NO.	

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USER NAME = laughtlin1

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 1 11 SHEETS
F.A.P. 753	142 BR-4	SANGAMON	24	14	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

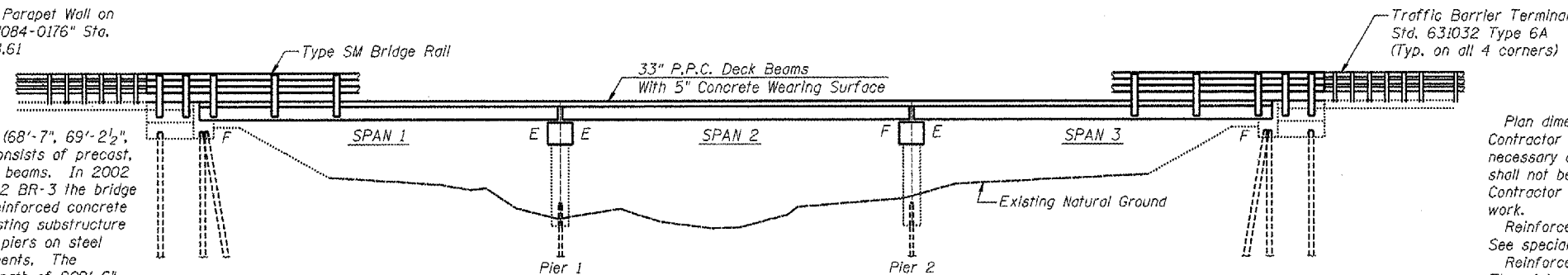
B.M. -
Chiseled "□" on Top of Parapet Wall on
S.E. Corner of Structure "084-0176" Sta.
990+04, 24' Rt. Elev. 588.61

Existing Structure -

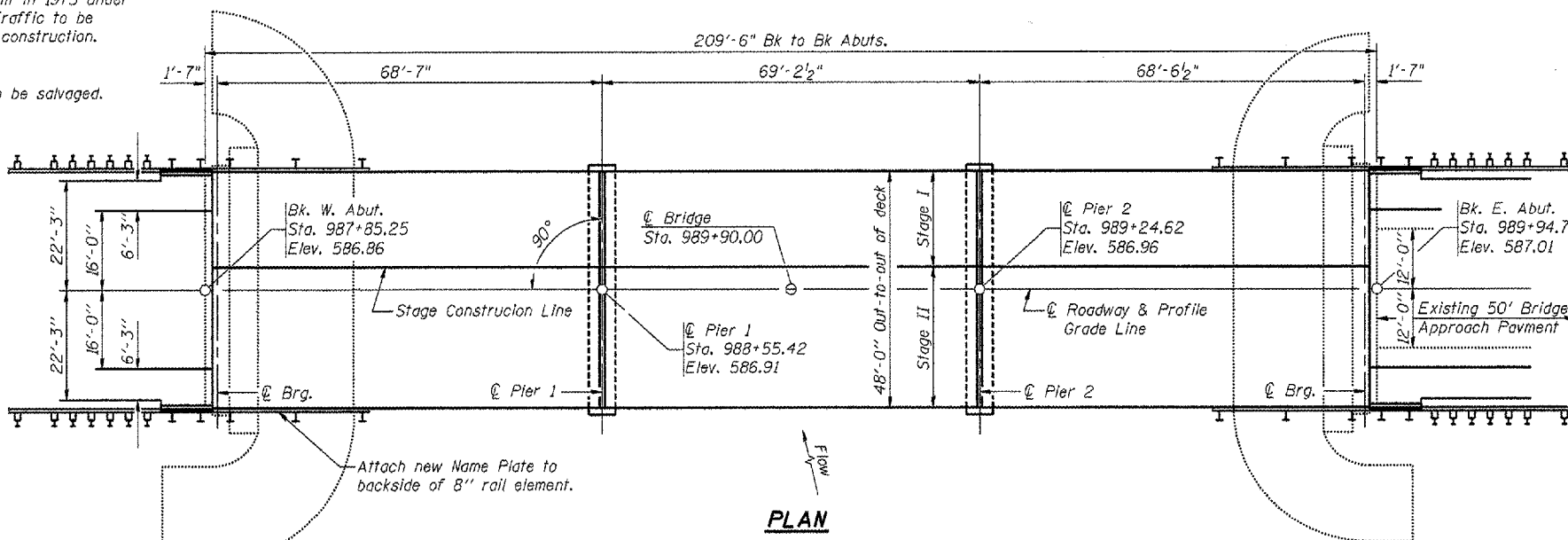
The existing three-span (68'-7", 69'-2 1/2", 68'-6 1/2") superstructure consists of precast, prestressed concrete deck beams. In 2002 under FAP 753 Section 142 BR-3 the bridge was overlaid with a 5" reinforced concrete wearing surface. The existing substructure consists of solid concrete piers on steel piling and open stub abutments. The structure has an overall length of 209'-6" measured from back-to-back of abutments and a measured bridge roadway width of 44'-6" with an out-to-out deck width of 48'-0". S.N. 084-0176, Built In 1975 under FA92, Section 142 BR. Traffic to be maintained utilizing staged construction.

Salvage -

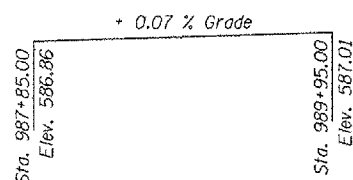
Deck drain extensions to be salvaged.



ELEVATION



PLAN



PROFILE GRADE

(Along @ Roadway)

DESIGN STRESSES

FIELD UNITS

Concrete Wearing Surface $f'c = 5,000$ psi
Substructure $f'c = 3,500$ psi
 $F_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'c = 5,000$ psi
 $f'ci = 4,000$ psi
 $F's = 270,000$ psi (1/2" low relax. strands)
 $F'si = 201,960$ psi (1/2" low relax. strands)

APPROVED
For Structural Adequacy Only

Ralph E. Anderson (TJD)
Engineer of Bridges & Structures

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO Standard Specifications - 17th ed.

LOADING HS20-44

(New Construction)
Allow 25# / sq. ft. for future wearing surface.

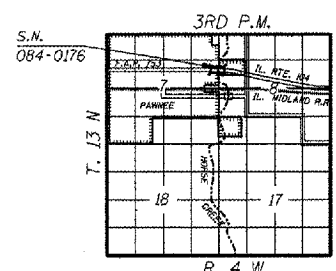
SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.05 g
Site Coefficient (S) = 1.2

STATION 988+90
REBUILT BY
STATE OF ILLINOIS
F.A.P. RT. 753 SEC. 142BR-4
LOADING HS20
STR. NO. 084-0176

LETTERING FOR NAME PLATE

(See Std. 515001)



LOCATION SKETCH

INDEX OF SHEETS

1. General Plan
2. Stage Construction Details
3. Temporary Concrete Barrier
4. Superstructure
5. Superstructure Details
6. Superstructure Details
7. Steel Railing, Type SM
8. Substructure Details
9. Concrete Removal - Piers
10. Pier Details
11. Bar Splicer Assembly Details

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60 (IL Modified). See special provisions.

Reinforcement bars designated (E) shall be epoxy coated. The minimum thickness of Concrete Overlay is 5" and varies as required to adjust for the profile grade and beam camber.

A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the fascia deck beam on the side exposed to view, and the adjacent side underneath for a distance extending 9 in. Cost included with PPC Deck Beams (33" Depth).

The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

If the Contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on new beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: Placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Protective Coat	Sq. Yd.	1105	-	-	1105
Removal of Existing Superstructures	Each	-	-	-	1
Concrete Removal	Cu. Yd.	-	28.0	3.4	31.4
Concrete Structures	Cu. Yd.	-	28.0	-	28.0
Bridge Deck Grooving	Sq. Yd.	1056	-	-	1056
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	9945	-	-	9945
Reinforcement Bars, Epoxy Coated	Pound	13760	2910	-	16670
Bar Splicers	Each	207	16	-	223
Steel Railing, Type SM	Foot	462	-	-	462
Name Plates	Each	1	-	-	1
Concrete Wearing Surface, 5"	Sq. Yd.	1105	-	-	1105
Preformed Joint Strip Seal	Foot	96	-	-	96
Asbestos Bearing Pad Removal	Each	96	-	-	96

K-Plus Engineering, Ltd.

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ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

IL RTE. 104 OVER HORSE CREEK
FAP 753 - SECTION 142BR-4
SANGAMON COUNTY
STA 989+90.00
SN 084-0176

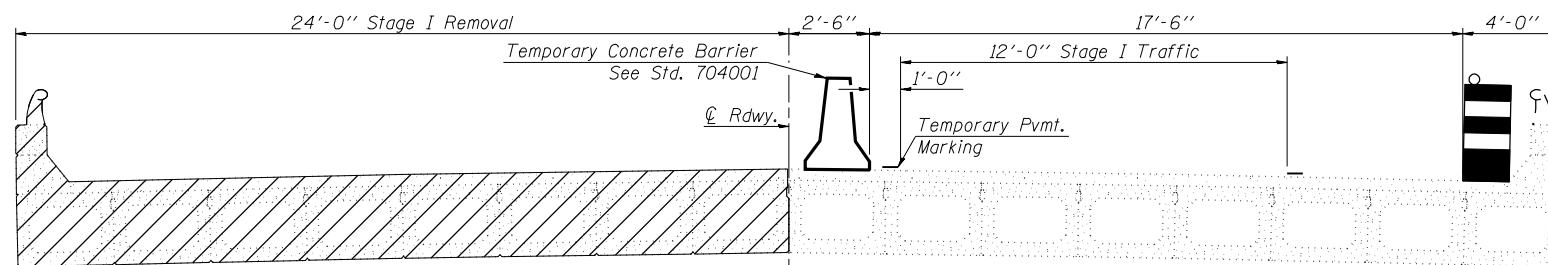
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DATE: 08-01-07



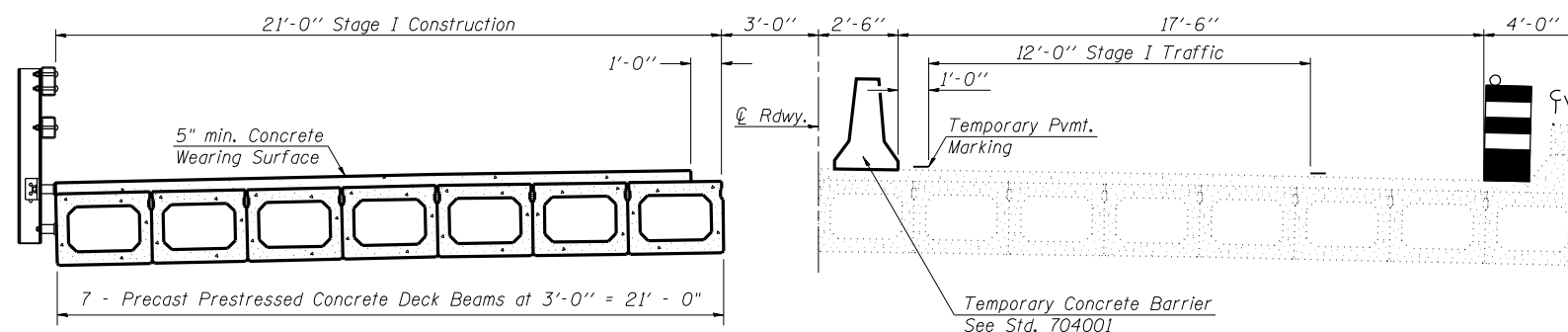
Daniel Feuerborn
Daniel Feuerborn
Licensed Structural Engineer
State of Illinois No. 81-5933
Date: 8.3.2007

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 753	142 BR-4	SANGAMON	24	15
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

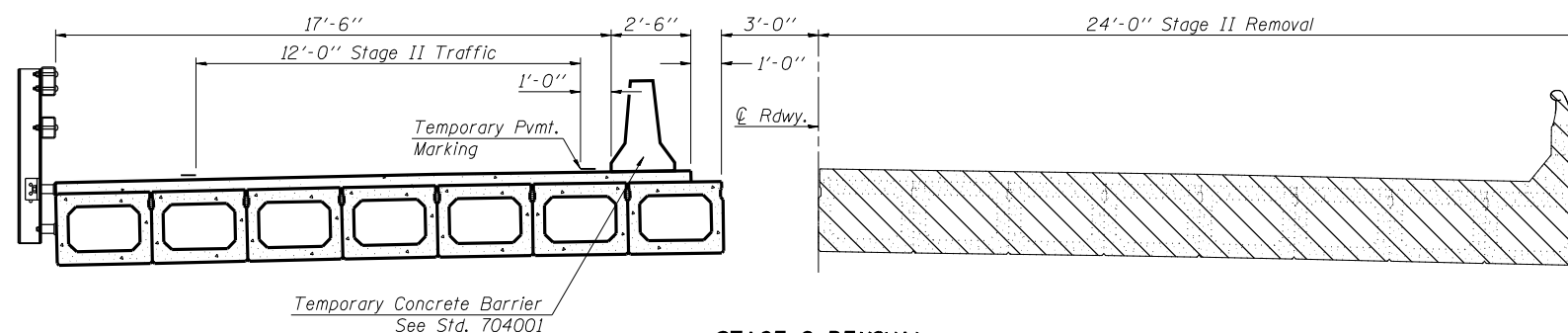


Notes:
 Temporary shoring system is required for the PPC Deck Beams carrying stage I Traffic, see Temporary Shoring plans for more information.
 Traffic Control Device is required to avoid wheel load contact over the south fascia beam. Device can be temporarily moved to permit wide vehicles to cross subject to approval by the Engineer. In no case should wheel loads be permitted over the beam.
 Hatched area indicates "Removal of Existing Superstructures".
 For details of Temporary Concrete Barrier, see sheet 3 of 11.
 For quantity of Temporary Concrete Barrier, See Roadway Plans.
 Reconnect and tighten remaining existing transverse tie rods after Stage I removal.

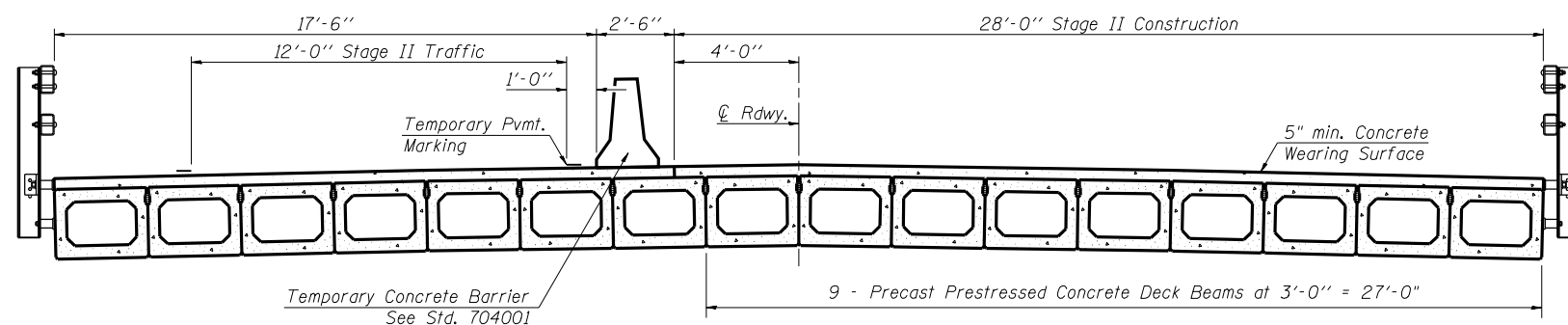
STAGE I REMOVAL
(Looking East)



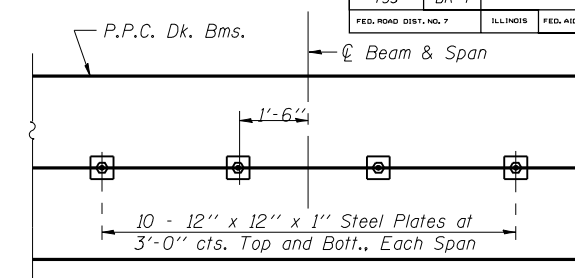
STAGE I CONSTRUCTION
(Looking East)



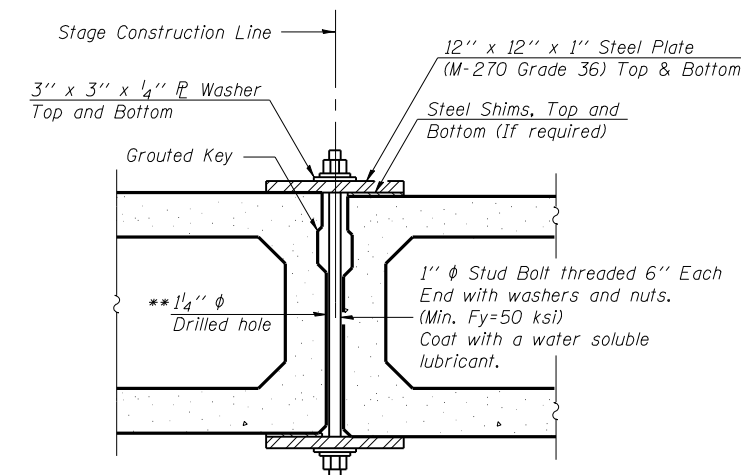
STAGE II REMOVAL
(Looking East)



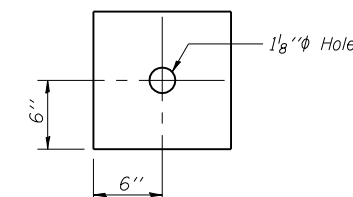
STAGE II CONSTRUCTION
(Looking East)



PLAN



SECTION



CLAMPING PLATE

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

Cost included with Precast Prestressed Concrete Deck Beams.
 See Stage Construction Details for traffic lanes.

** As an alternate to the drilled holes, the Contractor may request the Fabricator to cast 2" diameter semi-circular recesses in the sides of each beam adjacent to the stage construction line. These recesses should align to form a hole at the appropriate locations for the clamping device bolts. If the Contractor elects to use this alternate, the details shall be identified on the shop drawings.

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REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS

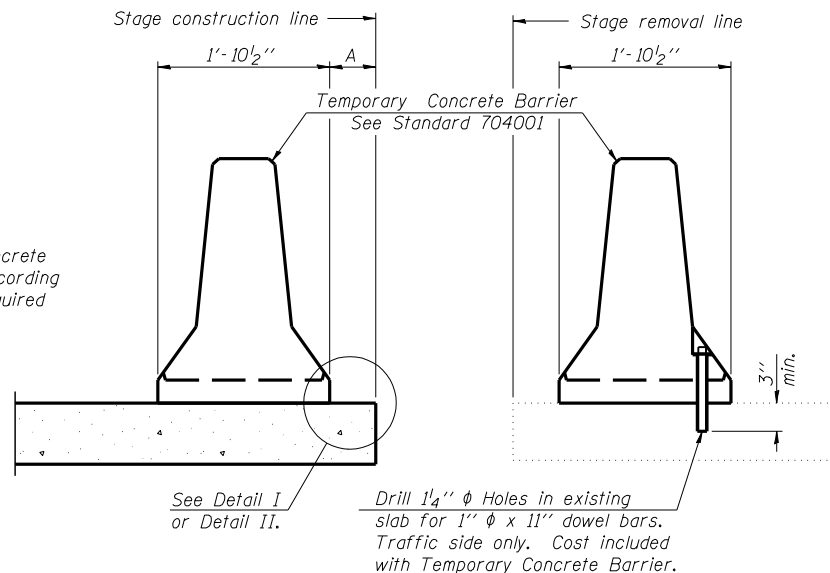
IL RTE. 104 OVER HORSE CREEK
 FAP 753 - SECTION 142BR-4
 SANGAMON COUNTY
 STA 989+90.00
 SN 084-0176

DATE: 08-01-07

DRAWN BY: ADG
 CHECKED BY: DF

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 753	142 BR-4	SANGAMON	24	16
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT	

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB

EXISTING SLAB

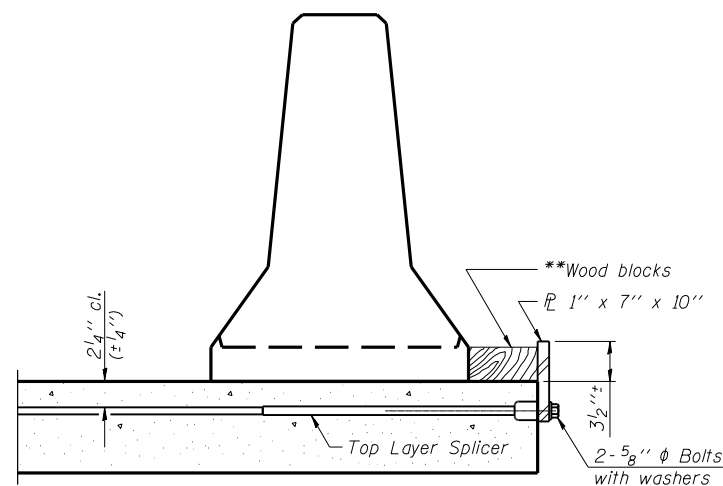
SECTIONS THRU SLAB

NOTES

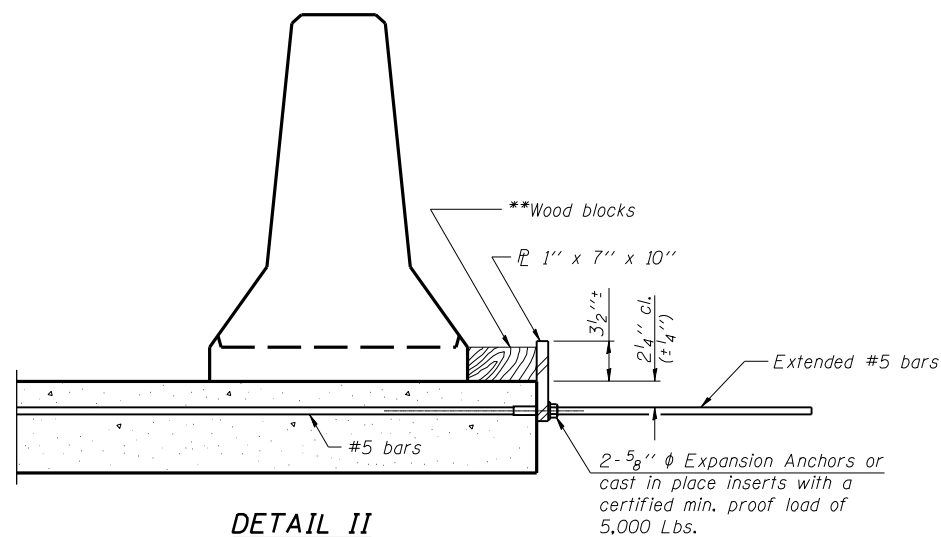
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{r} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{c} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{r} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{c} of each barrier panel.

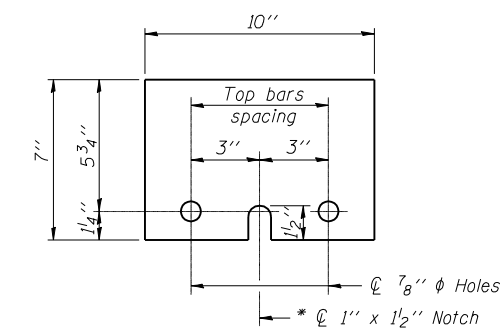
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



DETAIL I



DETAIL II



STEEL RETAINER \bar{r} 1" x 7" x 10"

* Required only with Detail II

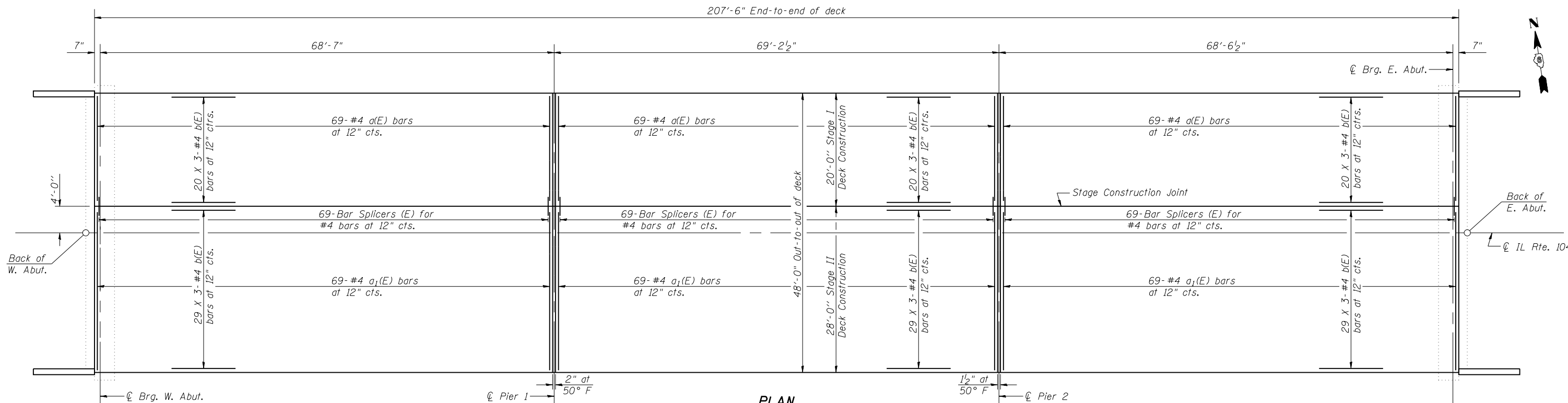
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

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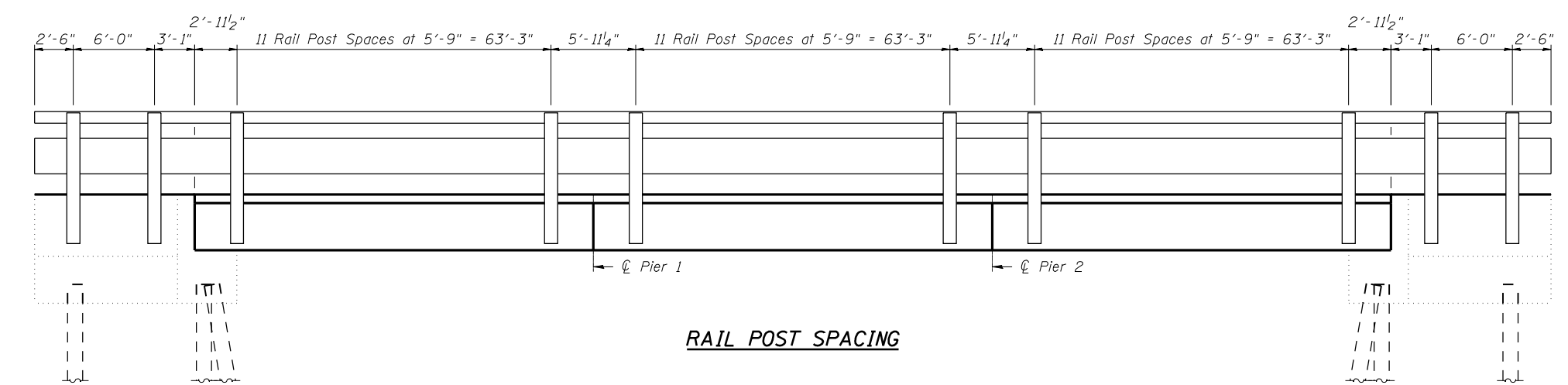
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
		IL RTE. 104 OVER HORSE CREEK
		FAP 753 - SECTION 142BR-4
		SANGAMON COUNTY
		STA 989+90.00
		SN 084-0176
		DATE: 08-01-07
		DRAWN BY: ADG
		CHECKED BY: DF

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET
F.A.P. 753	142 BR-4	SANGAMON	24	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

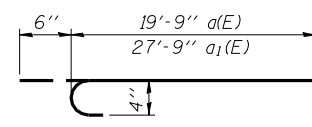


PLAN

Notes:
For remainder of superstructure details, see sheets 5 and 6 of 11.
Bars indicated thus 20 x 3-#4 etc. indicates 20 lines of bars with 3 lengths per line.
See sheet 8 of 11 for Rail Post attachment to wingwall detail.



RAIL POST SPACING

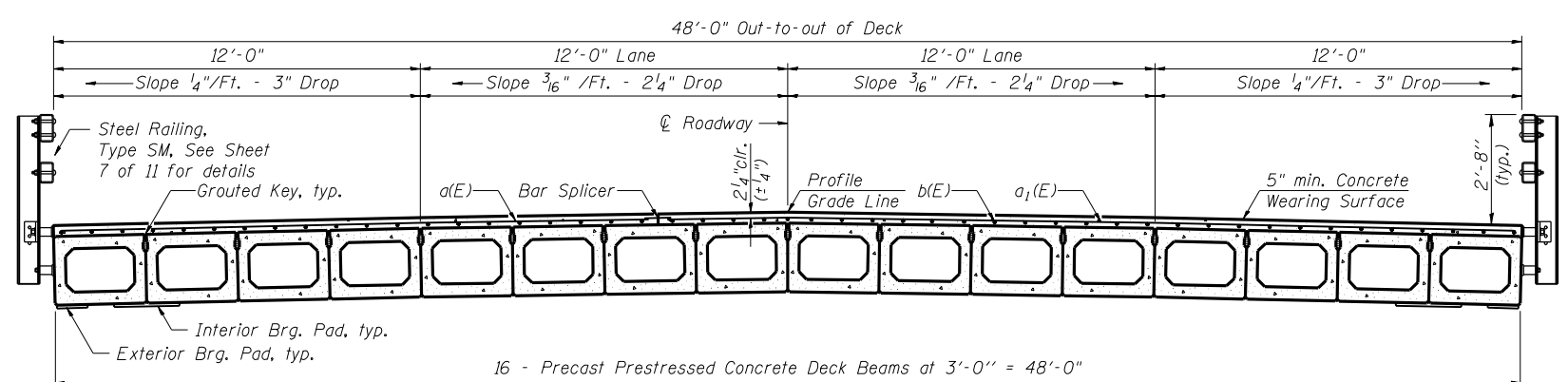


a(E) & a1(E) BAR

MIN. BAR LAP
#4 bar - 1' 8"

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	207	#4	20'-3"	C
a1(E)	207	#4	28'-3"	C
b(E)	441	#4	23'-11"	C
Reinforcement Bars, Epoxy Coated		Pound		13760
Concrete Wearing Surface, 5"		Sq. Yd.		1105
Preformed Joint Strip Seal		Foot		96
Bar Splicers		Each		207



CROSS SECTION
(Looking East)

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REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

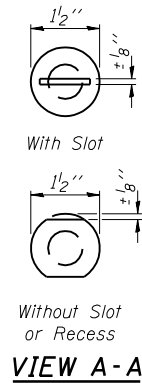
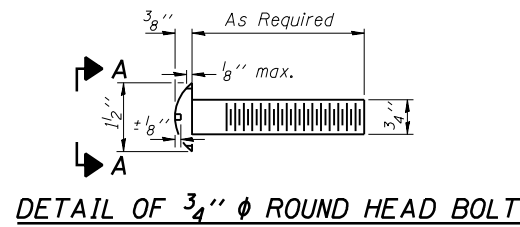
SUPERSTRUCTURE

IL RTE. 104 OVER HORSE CREEK
FAP 753 - SECTION 142BR-4
SANGAMON COUNTY
STA 989+90.00
SN 084-0176

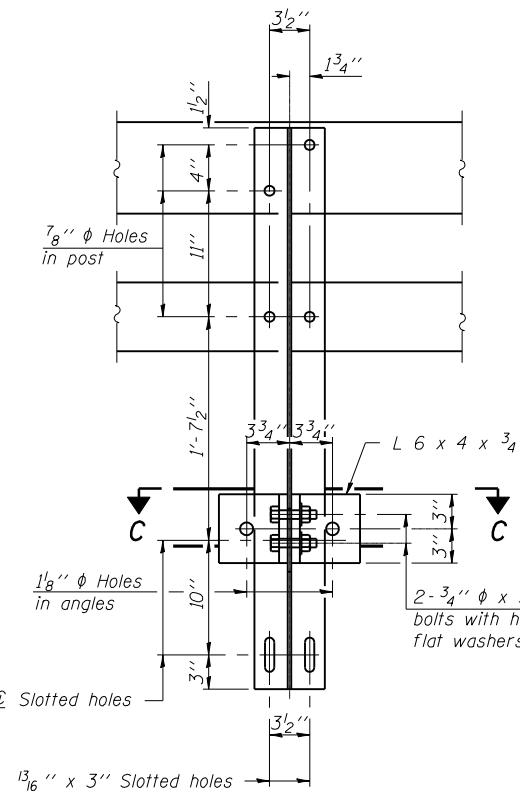
DATE: 08-01-07

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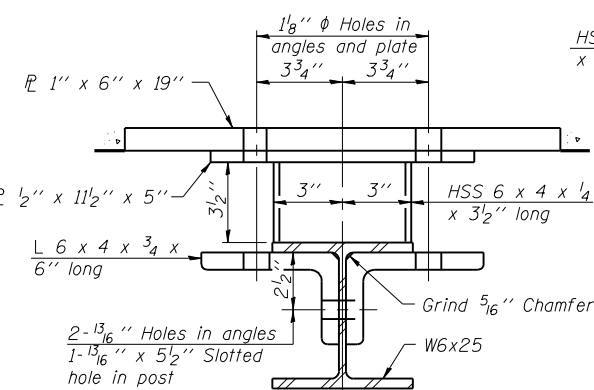
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 753	142 BR-4	SANGAMON	24	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		11 SHEETS



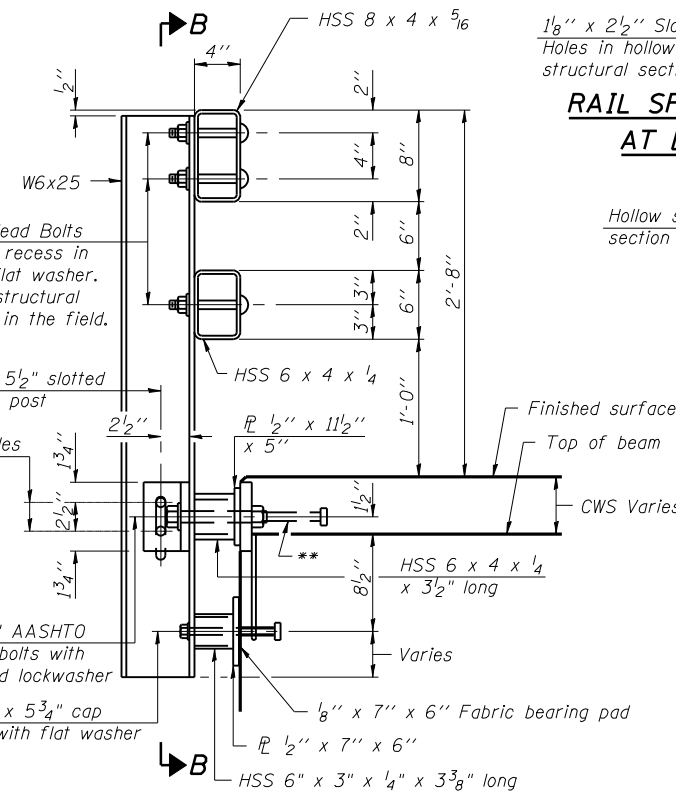
4- 3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



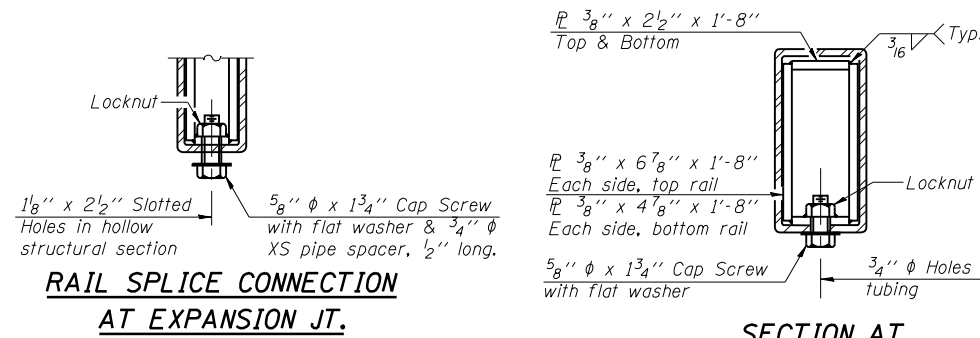
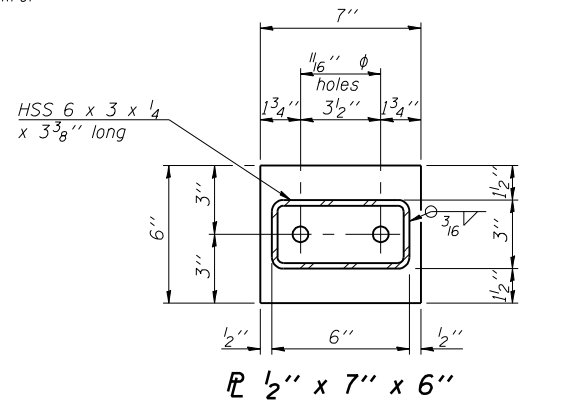
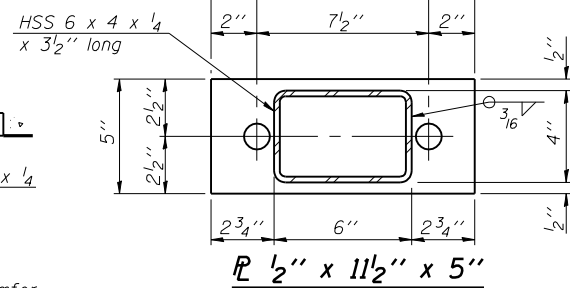
SECTION B-B



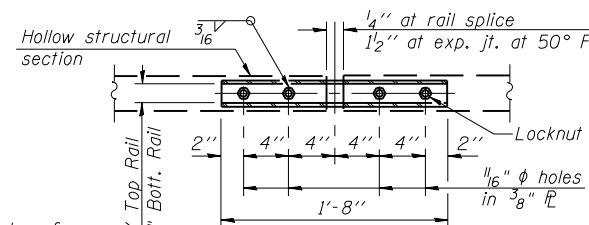
SECTION C-C



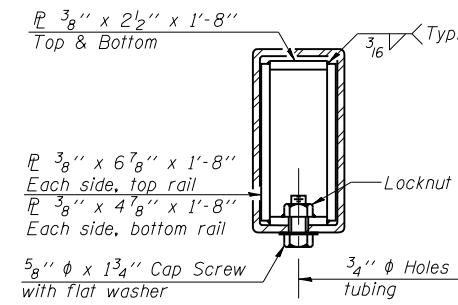
SECTION AT RAIL POST



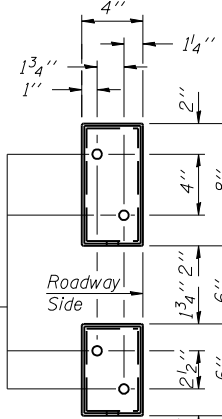
RAIL SPLICE CONNECTION AT EXPANSION JT.



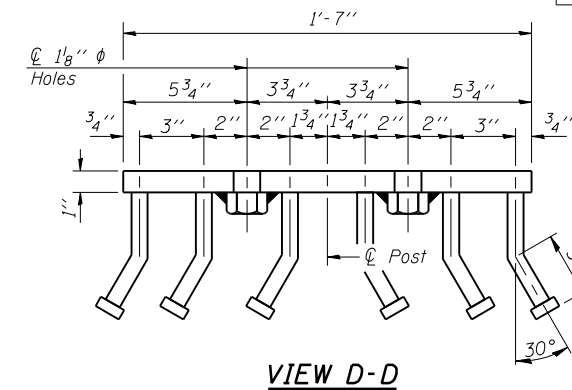
PLAN-BOTT. SPLICE P TYPICAL



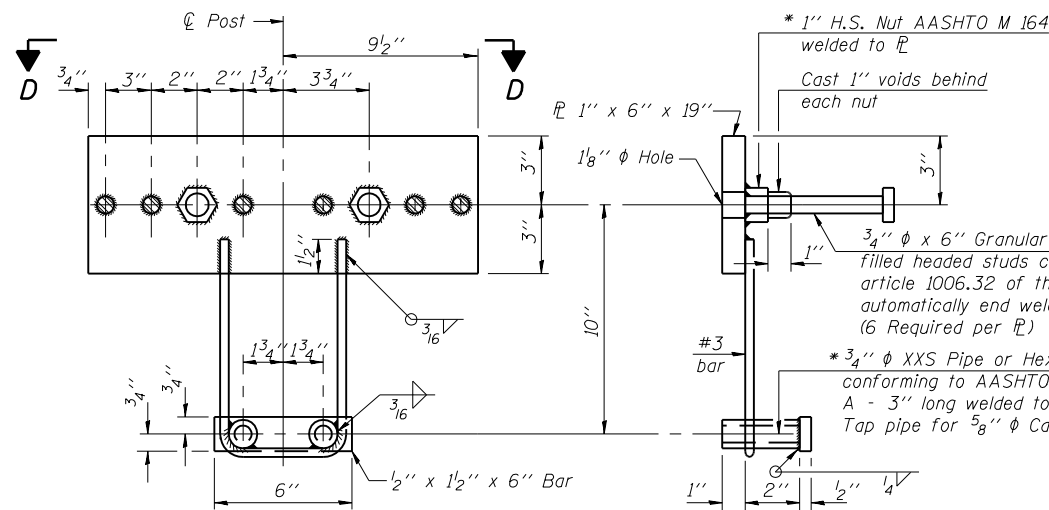
SECTION AT RAIL SPLICE



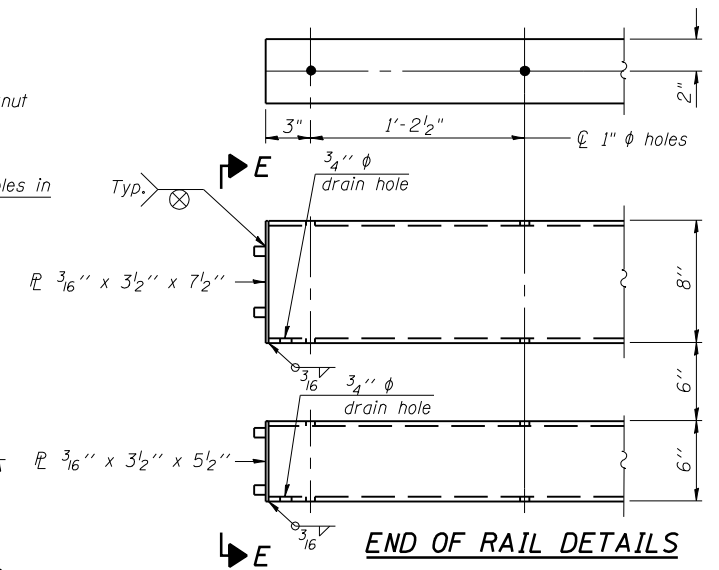
VIEW E-E



VIEW D-D



ANCHOR DEVICE



END OF RAIL DETAILS

Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.
 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.
 See sheet 4 of 11 for rail post spacing.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	462

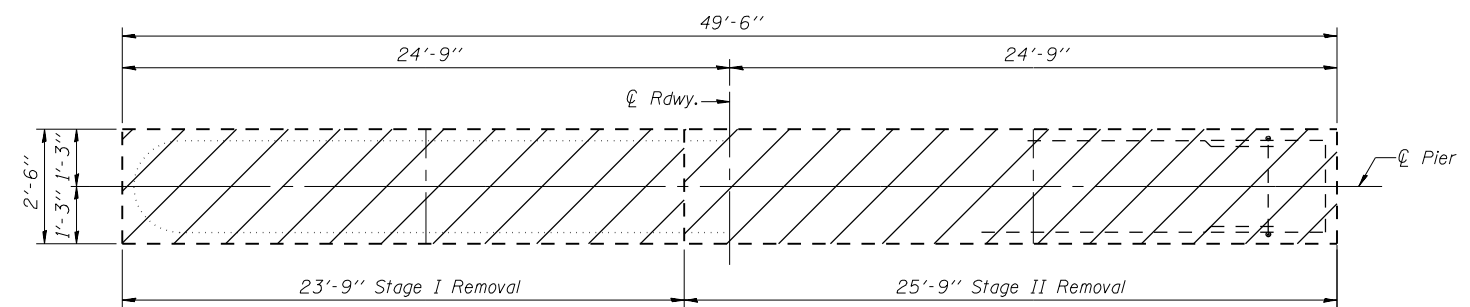
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ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL RAILING, TYPE SM WITH CONCRETE WEARING SURFACE
 IL RTE. 104 OVER HORSE CREEK
 FAP 753 - SECTION 142BR-4
 SANGAMON COUNTY
 STA 989+90.00
 SN 084-0176
 DATE: 08-01-07

REVISIONS	DATE
NAME	

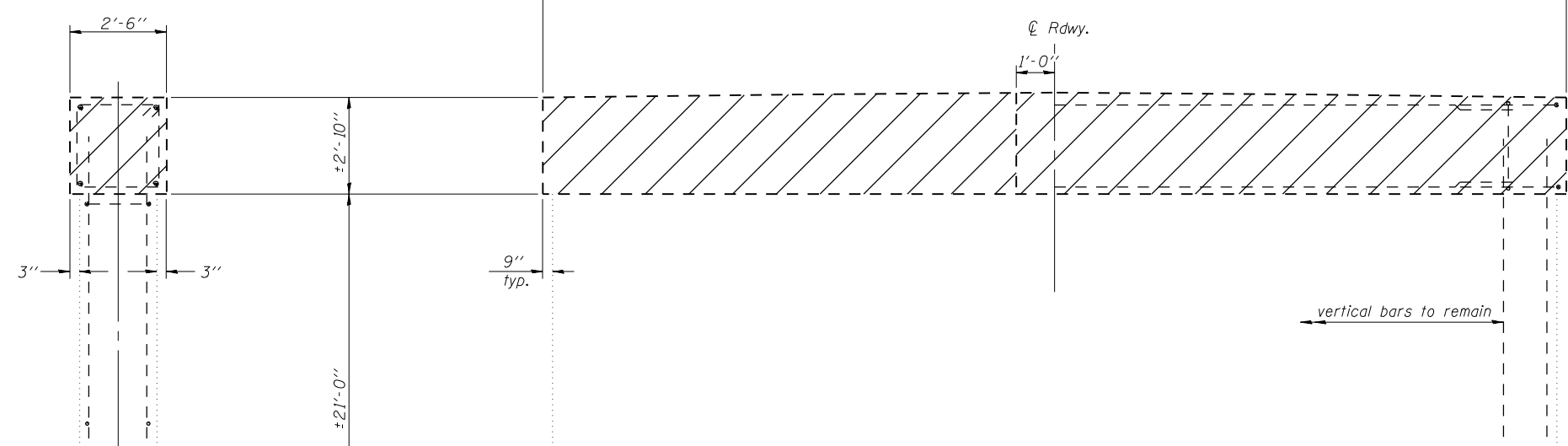
* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

ROUTE NO. F.A.P. 753	SECTION 142 BR-4	COUNTY SANGAMON	SHEET 24	SHEET 22
ILLINOIS		FED. AID PROJECT		



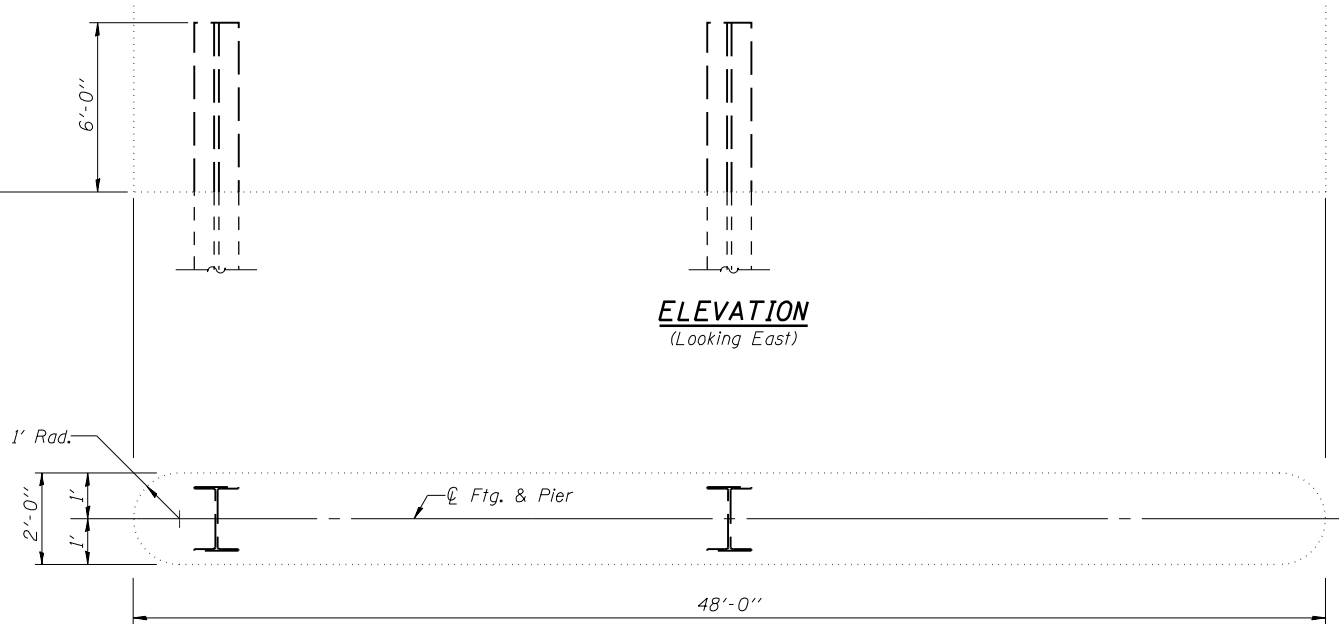
TOP PLAN

Existing reinforcement extending into removal area shall be cleaned, straightened and incorporated in new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".



ELEVATION
(Looking East)

END VIEW



FOOTING PLAN

BILL OF MATERIAL

Two Piers

Item	Unit	Total
Concrete Removal	Cu. Yd.	28

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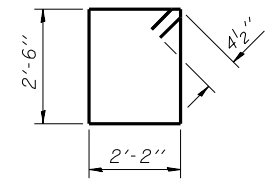
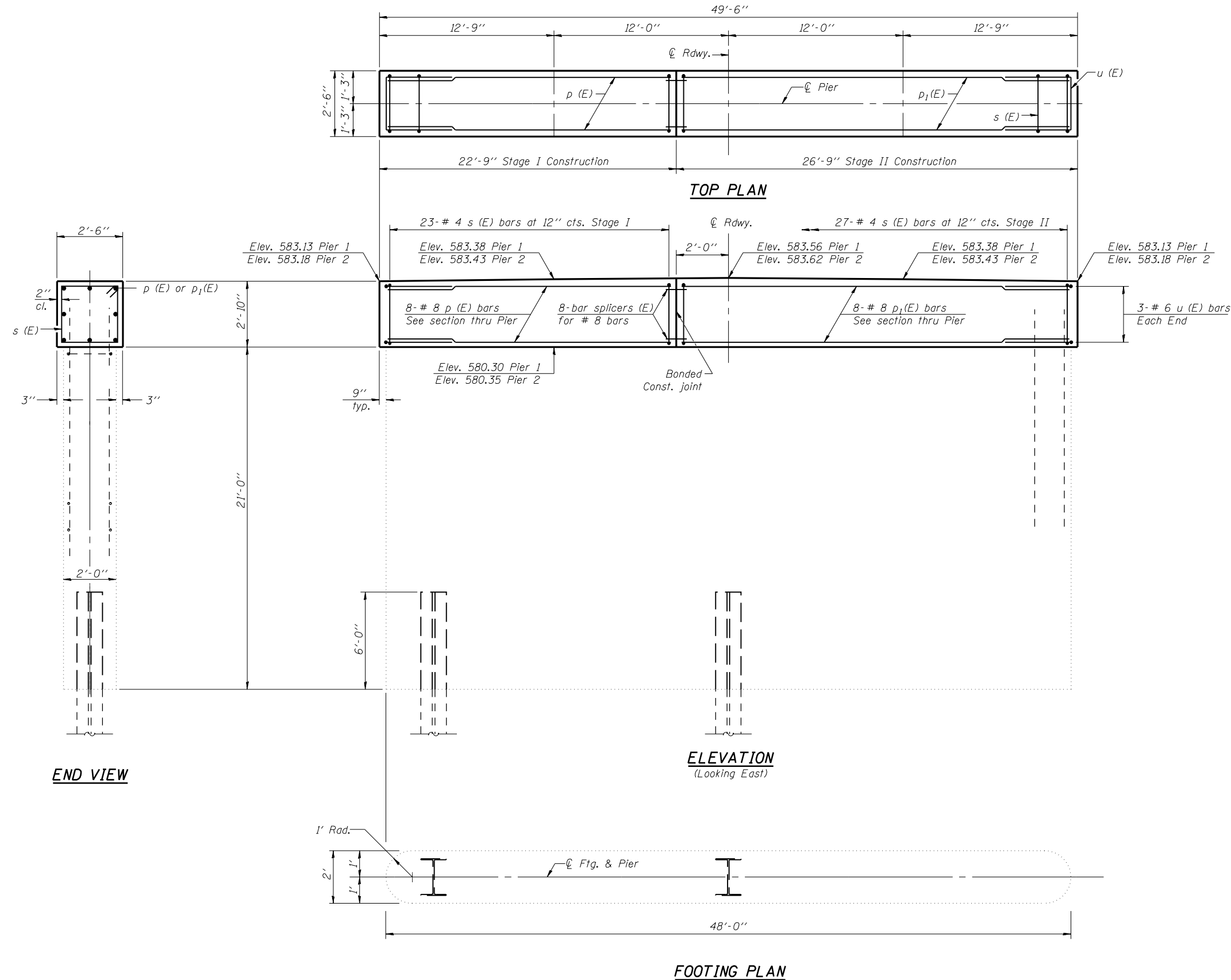
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CONCRETE REMOVAL - PIERS
IL RTE. 104 OVER HORSE CREEK
FAP 753 - SECTION 142BR-4
SANGAMON COUNTY
STA 989+90.00
SN 084-0176
DRAWN BY: ADG
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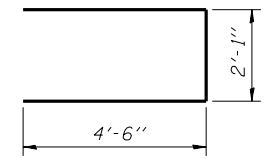
DATE: 08-01-07

ROUTE NO. F.A.P. 753	SECTION 142 BR-4	COUNTY SANGAMON	SHEETS 24	SHEET NO. 23
ILLINOIS		FED. AID PROJECT		

Notes:
Space reinforcement in cap to miss anchor bolts.



BAR s (E)



BAR u (E)

BILL OF MATERIAL

Two Piers

Bar	No.	Size	Length	Shape
p (E)	16	#8	21'-9"	—
p ₁ (E)	16	#8	25'-9"	—
s (E)	100	#4	10'-1"	□
u (E)	12	#6	11'-1"	⊏
Concrete Structures			Cu. Yd.	28.0
Reinforcement Bars, Epoxy Coated			Pound	2910
Bar Splicers			Each	16

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REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER DETAILS

IL RTE. 104 OVER HORSE CREEK
FAP 753 - SECTION 142BR-4
SANGAMON COUNTY
STA 989+90.00
SN 084-0176

DATE: 08-01-07

DRAWN BY: ADG
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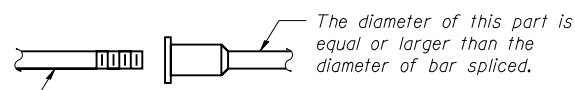
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 753	142 BR-4	SANGAMON	24	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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

The diameter of this part is the same as the diameter of the bar spliced.



The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

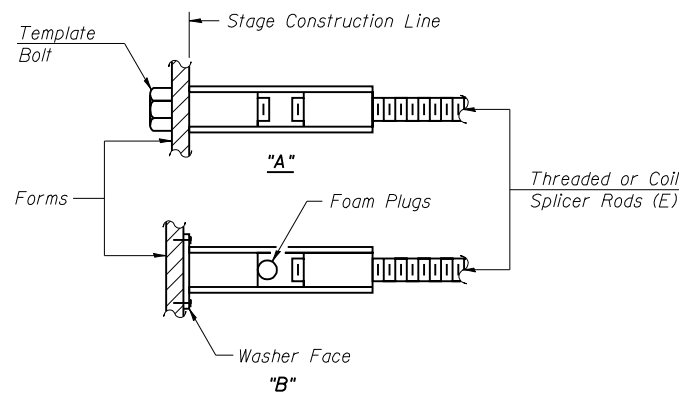
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

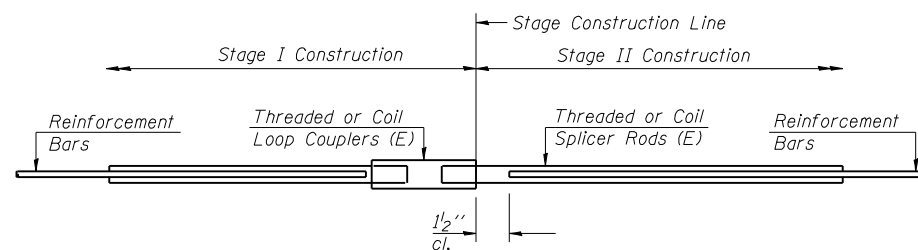
** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



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.

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



STANDARD

Bar Size	No. Assemblies Required	Location
#4	207	Superstructure
#8	16	Piers

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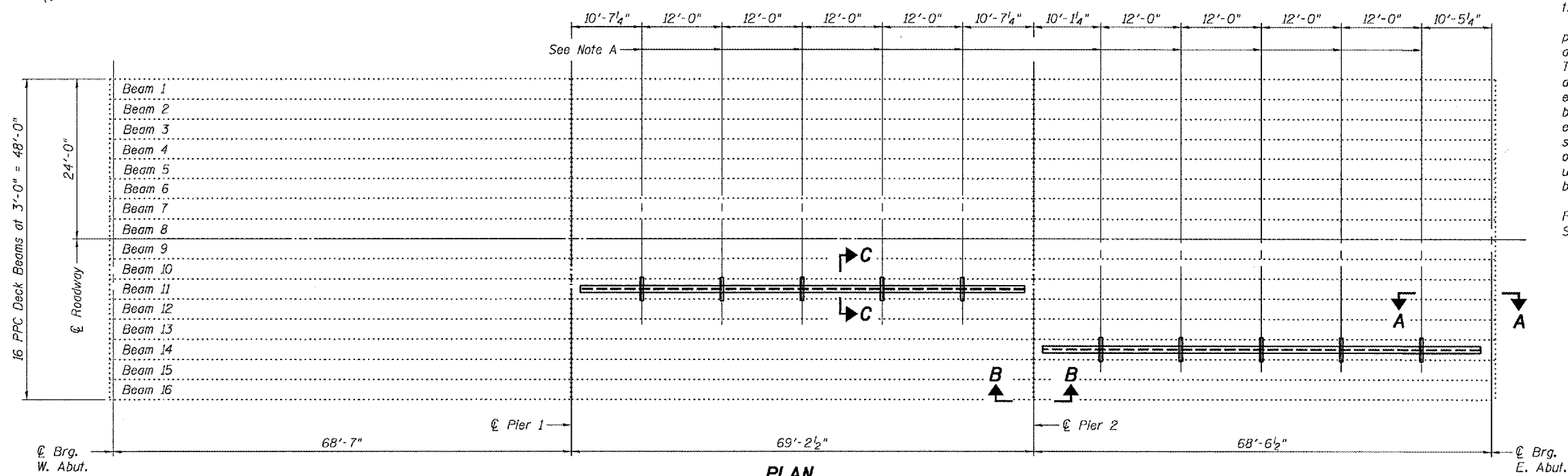
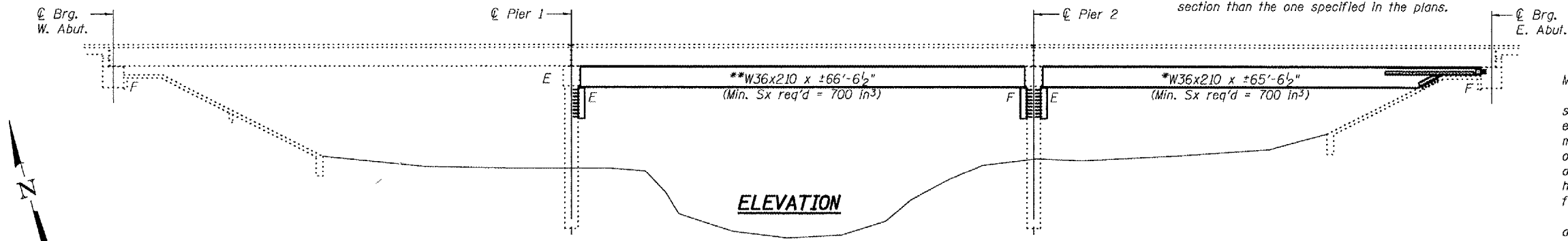
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		BAR SPLICER ASSEMBLY DETAILS IL RTE. 104 OVER HORSE CREEK FAP 753 - SECTION 142BR-4 SANGAMON COUNTY STA 989+90.00 SN 084-0176 DATE: 08-01-07

DRAWN BY: ADG
 CHECKED BY: DF

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

*Contractor is to verify beam length prior to ordering material. Also verify abutment notch dimensions prior to fabrication. Other sections meeting the section modulus requirements shown may be allowed subject to approval by the Bureau of Bridges and Structures however, no additional payment will be allowed if the contractor chooses a heavier steel section than the one specified in the plans.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 2 SHEETS
		Sangamon	24	24A	
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	
Contract Number: 72A81					



Note A:
 ☉ Transverse Tie P (5 per span).
 Place additional shims at midpoints between tie plates. Securely weld shims to top flange of support beam. Min shim size is 6" x flange width.

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

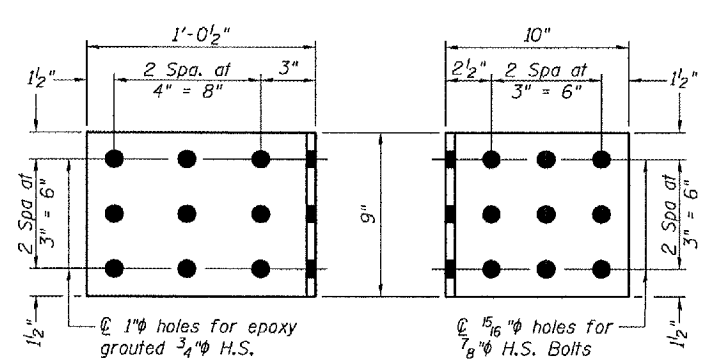
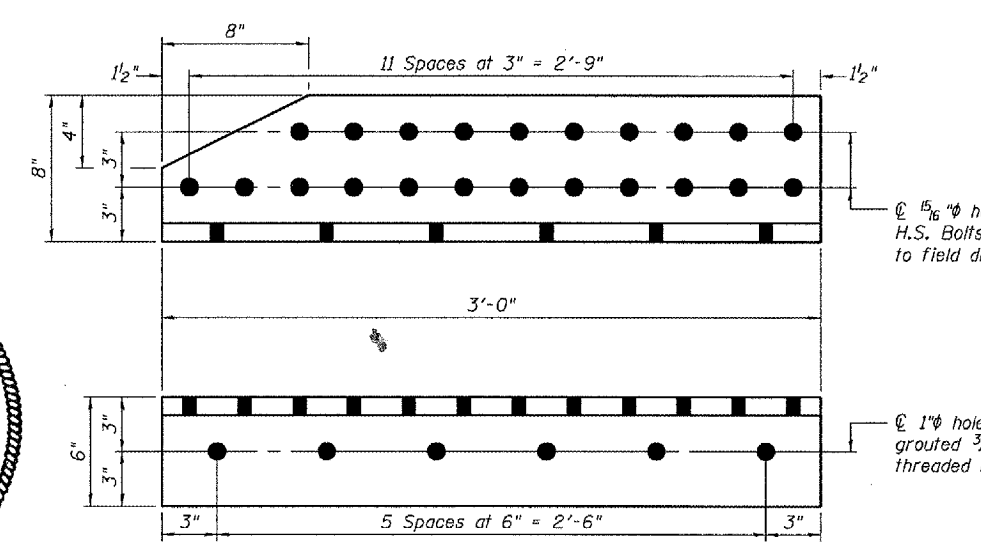
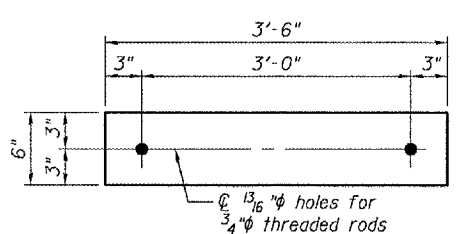
Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for placement of beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams.

The cost of epoxy grouting threaded rods shall be included with Furnishing and Erecting Structural Steel. See Section 584 of the Standard Specifications for epoxy grouting the threaded rods. For sections see sheet 2 of 2.

The Contractor has the option of using used steel.



TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	31,320
** Controlled Low Strength Material	Cu. Yd.	1.0

** Assumed quantity used for establishing item only.



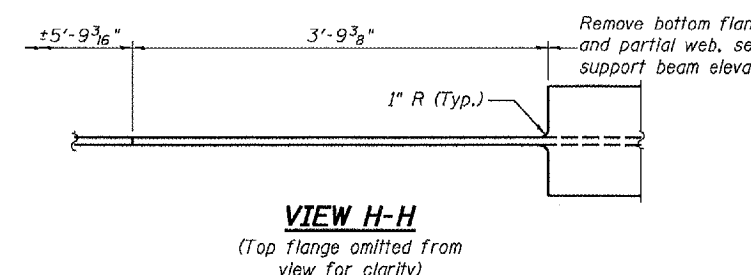
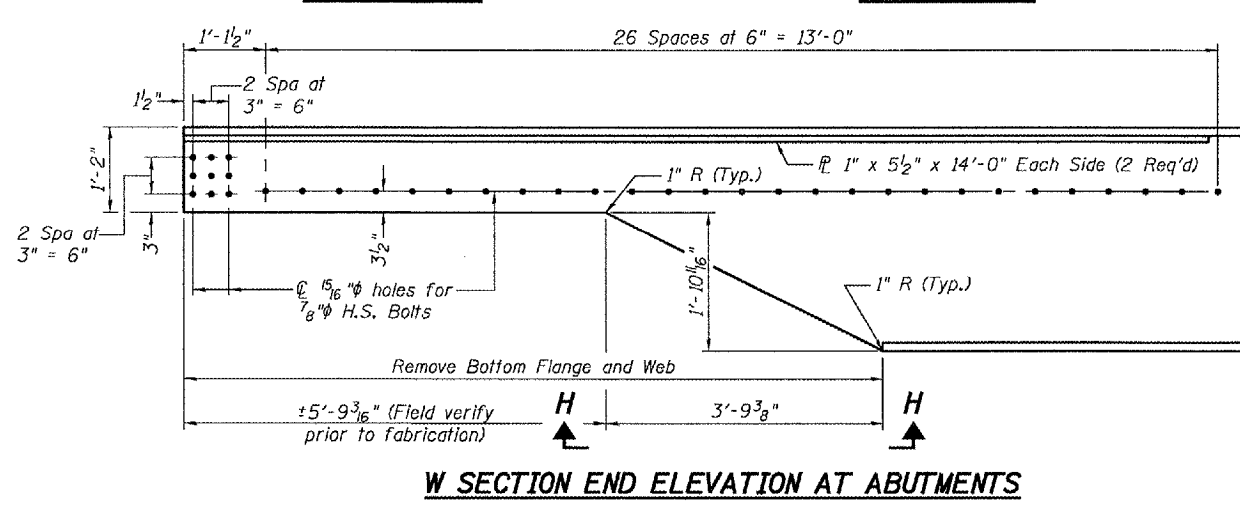
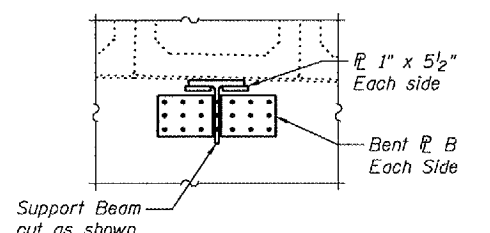
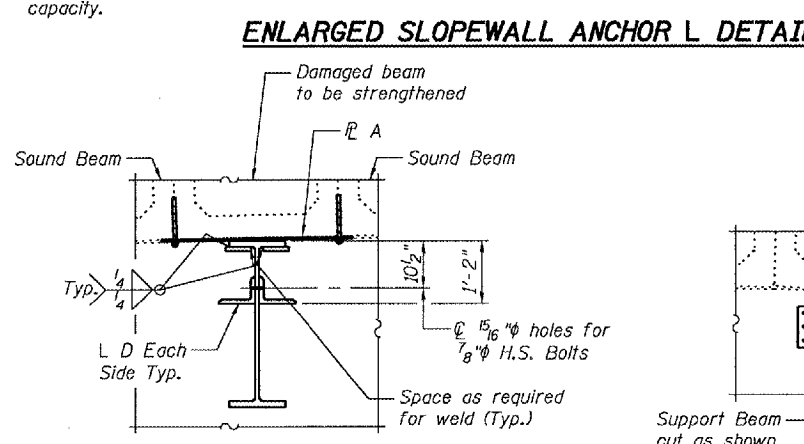
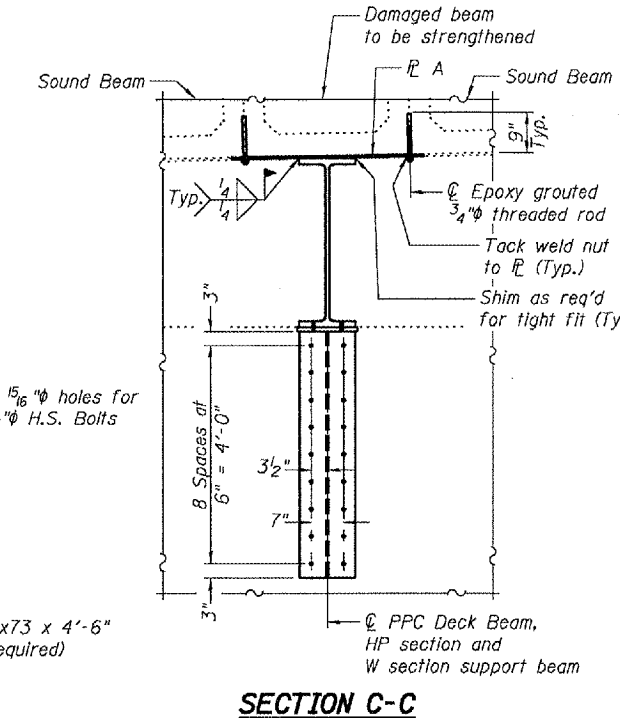
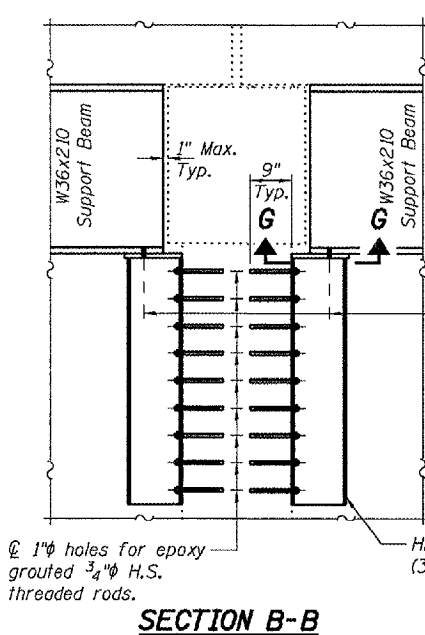
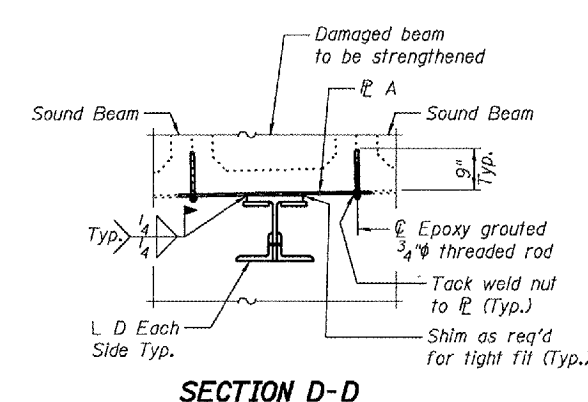
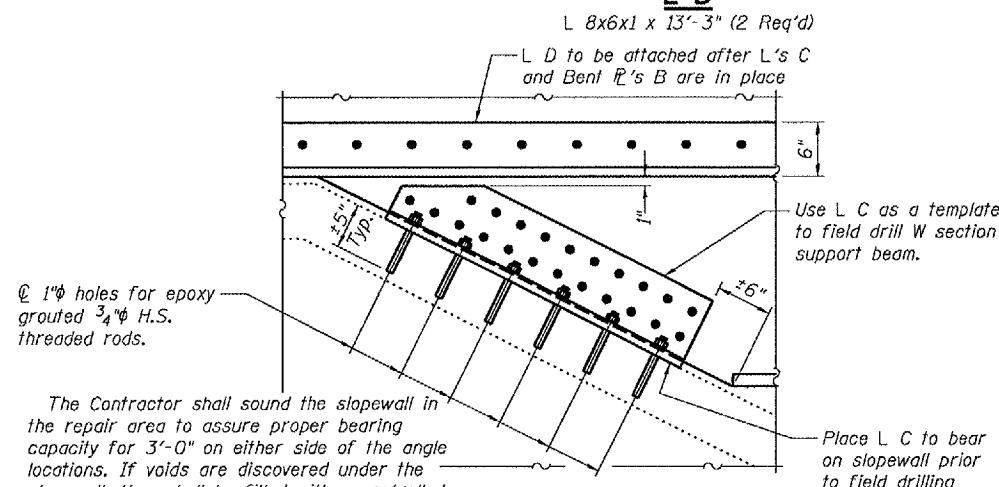
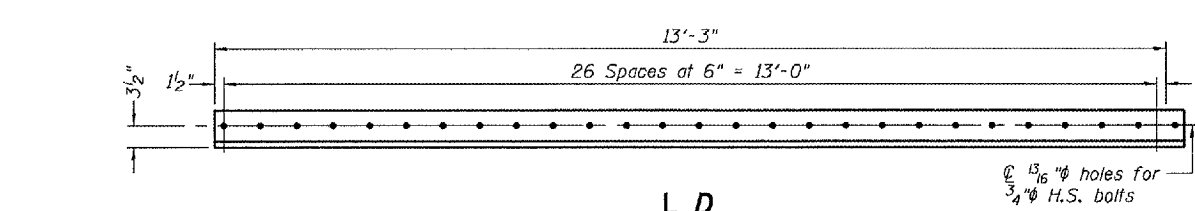
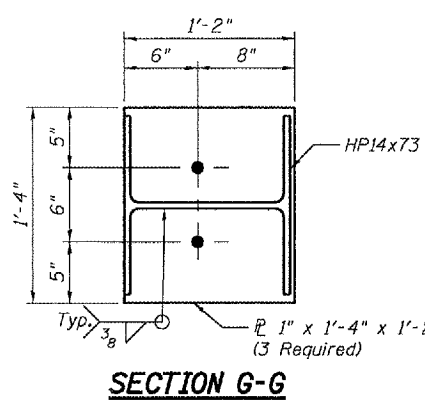
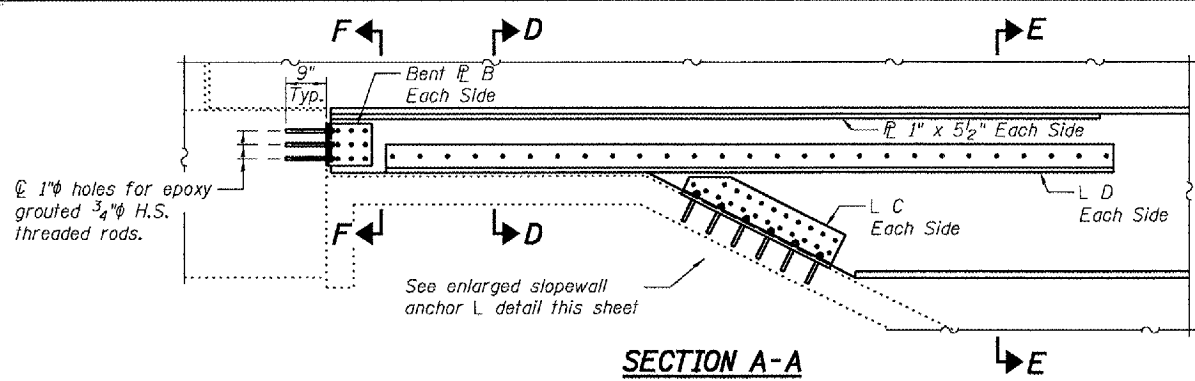
DESIGNED: Dominic Bolino
 CHECKED: Adrian I. Hallaway
 DRAWN: [Signature]
 CHECKED: ATH

September 14, 2007
 EXAMINED: [Signature]
 PASSED: [Signature]
 ENGINEER OF BRIDGES AND STRUCTURES

PLAN AND ELEVATION
 F.A.P. RT. 753 RT. 104
 SANGAMON COUNTY
 SN 084-0176

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	JOB SHEETS	SHEET NO.	SHEET NO. 2 2 SHEETS
		Sangamon	24	24B	
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	
Contract Number: 72A81					

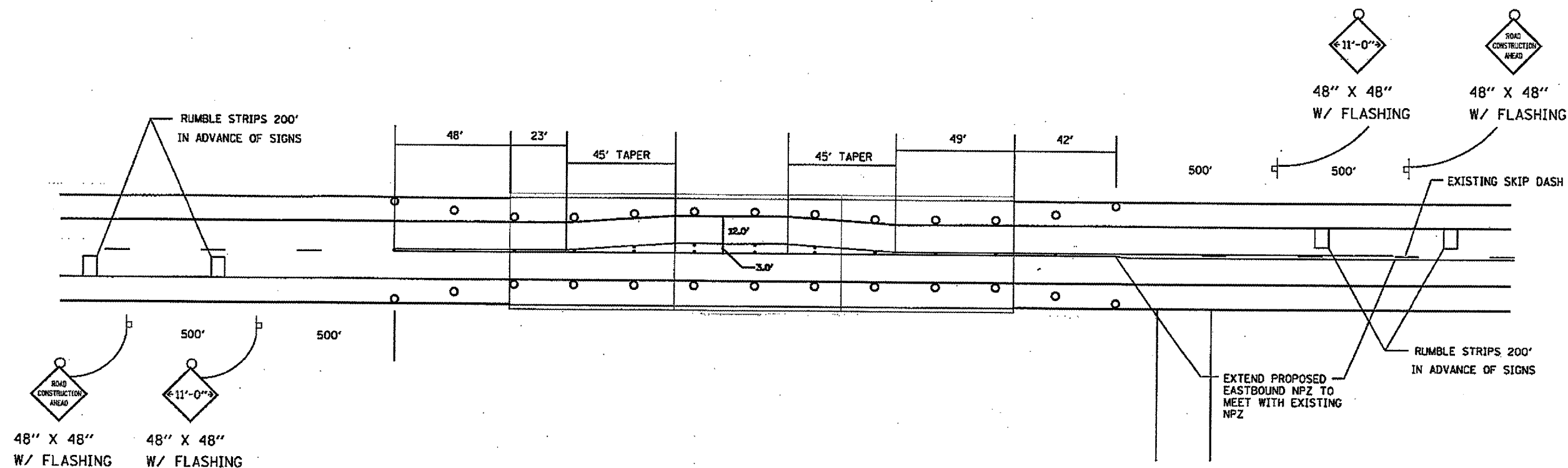


DESIGNED	D.A.B.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	D.A.B. A.T.H.

September 14, 2007	
EXAMINED	<i>Carl Hoyer</i> REPAIR PLANS UNIT CHIEF
PASSED	<i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES

SUPPORT DETAILS
F.A.P. RT. 753 RT. 104
SANGAMON COUNTY
SN 084-0176

CONTRACT NO. T2AB1			
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
753	142 BR-4	SANGAMON	24/240
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		



- FLEXIBLE DELINEATOR LOCATIONS ARE MARKED ON PAVEMENT

PLOT DATE = 08/27/08
 FILE NAME = 081108
 PLOT SCALE = 1/8"=1'-0"
 USER NAME = RUSSELL

REVISIONS		DATE
NAME		

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC CONTROL PLAN

SCALE: VERT. _____
 HORIZ. _____
 DATE _____

DRAWN BY _____
 CHECKED BY _____