04-27-12 LETTING ITEM 171

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	1
	ILLINOIS	CONTRACT NO. 76F07		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

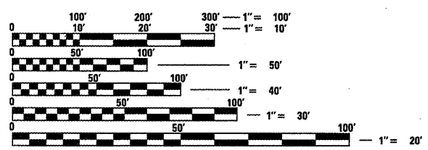
FAP ROUTE 861 (IL 4 /150)
SECTION 110BR–1
BRIDGE REHAB
RANDOLPH COUNTY

C–98–073–11

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STRUCTURE NUMBER 079–0007
STA. 932+00 TO STA. 933+88

LOCATION OF SECTION INDICATED THUS: –



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
OR 811

TRAFFIC DATA
ADT: 5600 (2011)
6800 (2031)
SU: 5.5%
MU: 10.9%

LAYOUT
0 MI 1 MI 2 MI 3 MI
1" = 1 MILE

GROSS LENGTH = 188.00 FT. = 0.036MILE
NET LENGTH = 188.00 FT. = 0.036MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED February 9 20 12
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER
March 23 20 12
John D. Baranzelli, P.E. /BR
acting ENGINEER OF DESIGN AND ENVIRONMENT
March 23 20 12
William R. Frey /BR
actng DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

PROJECT ENGINEER – PATTI LEBEAU (618)346–3179
PROJECT MANAGER – HERVE GELIN (618)346–3323

CONTRACT NO. 76F07

LATITUDE 38.0068 LONGITUDE 89.6797

INDEX OF SHEETS

HIGHWAY STANDARDS

000001-06
001001-02
001006
701006-03
701011-02
701306-03
701311-03
701321-12
701901-02
704001-07
780001-03
781001-03

COMMITMENTS

NONE

GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.

2. THE CONTRACTOR AND THE ENGINEER SHALL BE AWARE THAT NO SURVEY WAS PERFORMED FOR THIS PROJECT. THE STATIONING AND TOPOGRAPHY SHOWN IN THE PLANS WAS CREATED USING MICROFILM AND FIELD MEASUREMENTS. BOTH SHALL BE ASSUMED TO BE APPROXIMATE. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

3. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

   - EGYPTIAN TELEPHONE COOP. ASSN.
   - FRONTIER NORTH, INC.
   - VILLAGE OF STEELEVILLE

   MEMBERS OF J.U.L.I.E. CALL TOLL FREE (800) 892-0123 OR 811 AND ARE INDICATED BY *. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

4. ALL TURF AREAS DISTURBED BY THE CONTRACTOR SHALL BE SEEDED WITH THE APPROPRIATE EROSION CONTROL AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

6. TWO CHANGEABLE MESSAGE BOARDS SHALL BE REQUIRED FOR THIS PROJECT. THEY SHALL BE PLACED ONE WEEK PRIOR TO ANY LANE CLOSURE. THE CHANGEABLE MESSAGE BOARDS SHALL BE PLACED ALONG IL 150 AS DIRECTED OF THE ENGINEER.

7. OVERNIGHT DROP-OFFS WILL NOT BE PERMITTED NEXT TO AN OPEN LANE OF TRAFFIC.

8. THE PROPOSED PAVEMENT MARKING SHALL MATCH THE LOCATIONS OF THE EXISTING PAVEMENT MARKING, AS DIRECTED BY THE ENGINEER.

9. THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS CONTRACT:

MIXTURE USE	SURFACE	BINDER/WIDENING
AC/PG	PG 64-22	PG 64-22
RAP % (MAX)	SEE SPEC.	SEE SPEC.
DESIGN AIR VOIDS	4.0% @ Ndes=90	4.0% @ Ndes=90
MIX COMPOSITION	IL 12.5/9.5	IL 19.0
(GRADATION MIXTURE)		FINE GRADED BIND
FRICTION AGG	MIXTURE "D"	MIXTURE "B"

PLAN QUANTITIES FOR HOT-MIX ASPHALT SURFACE COURSE ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/SQ YD/IN (59.8 KG/SQ M/25 MM THICKNESS).

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		DRAWN - ___	REVISED - ___
	PLOT SCALE = 100.0000 ' / in.	CHECKED - ___	REVISED - ___
	PLOT DATE = 2/7/2012	DATE - _____	REVISED - ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, HIGHWAY STANDARDS
GENERAL NOTES, COMMITMENTS

SCALE: _____ | SHEET NO. __ OF __ SHEETS | STA. _____ TO STA. _____

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	2
		CONTRACT NO. 76F07		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		100% STATE 0014		
20200500	EARTH EXCAVATION (WIDENING)	CU YD	10	10		
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD	178	178		
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.1	0.1		
40600300	AGGREGATE (PRIME COAT)	TON	1	1		
40600990	TEMPORARY RAMP	SQ YD	95	95		
40603345	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	TON	86	86		
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	1095	1095		
44004250	PAVED SHOULDER REMOVAL	SQ YD	178	178		
50102400	CONCRETE REMOVAL	CU YD	14	14		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	15.5	15.5		
50300300	PROTECTIVE COAT	SQ YD	191	191		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2400	2400		
50800515	BAR SPLICERS	EACH	32	32		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		100% STATE 0014		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	89	89		
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	852	852		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6		
67100100	MOBILIZATION	L SUM	1	1		
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1		
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1		
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6		
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2	2		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	562.5	562.5		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	562.5	562.5		
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2378	2378		
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	10	10		

* SPECIALTY ITEM

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		DRAWN -	REVISED -
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	PLOT DATE = 2/7/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: _____ | SHEET NO. __ OF ___ SHEETS | STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	3
		CONTRACT NO. 76F07		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0014 100% STATE		
78300100	PAVEMENT MARKING REMOVAL	SQ FT	529	529		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	10	10		
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1		
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1		
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		

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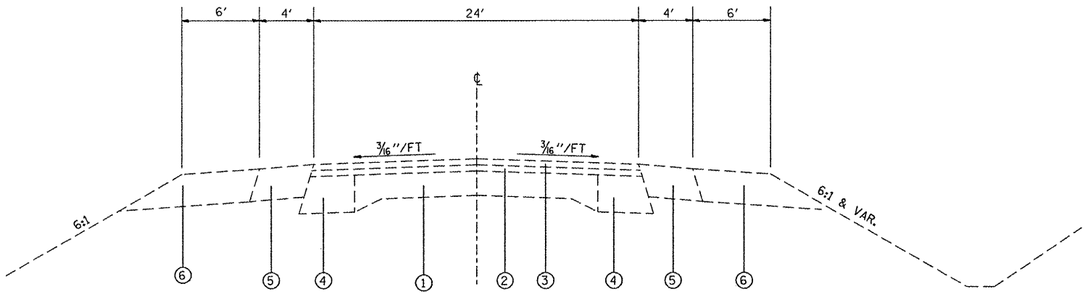
	PLOT SCALE = 100.0000 ' / in.	CHECKED - ___	REVISED - ___		SCALE: _____ SHEET NO. __ OF __ SHEETS STA. _____ TO STA. _____	861	110BR-1	RANDOLPH	14	4
	PLOT DATE = 2/7/2012	DATE - _____	REVISED - ___					CONTRACT NO. 76F07		
						FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		



EXISTING TYPICAL SECTION

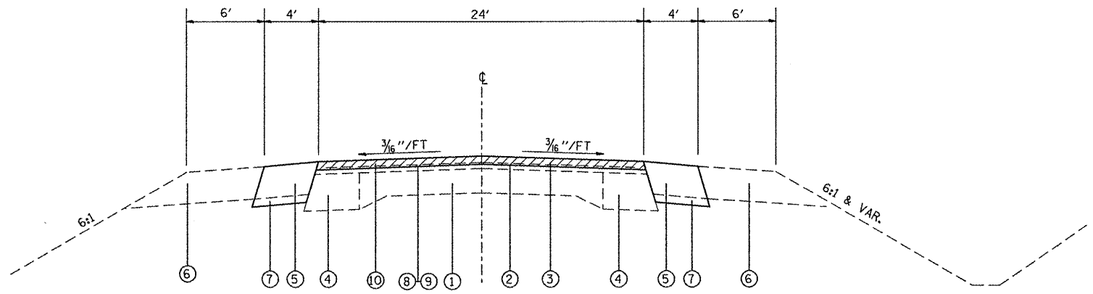
STA. 929+00.00 TO STA. 931+20.68•
STA. 933+08.53 TO STA. 935+50.00•

•BRIDGE APPROACH PAVEMENT
STA. 931+00.68 TO STA. 931+20.68
STA. 933+08.53 TO STA. 933+28.53

LEGEND

1. EXISTING PAVEMENT (9-6-9)
2. EXISTING HOT-MIX ASPHALT BINDER, 1½"
3. EXISTING HOT-MIX ASPHALT SURFACE COURSE, 1½"
4. EXISTING HOT-MIX ASPHALT BASE COURSE WIDENING, 8"
5. EXISTING STABILIZED SHOULDERS, 8"
6. EXISTING AGGREGATE SHOULDER, TY A
7. PROPOSED HOT-MIX ASPHALT WIDENING, 10"
8. PROPOSED BITUMINOUS MATERIAL (PRIME COAT)
9. PROPOSED AGGREGATE (PRIME COAT)
10. PROPOSED HOT-MIX ASPHALT SURFACE COURSE, 2"•

•OVER THE BRIDGE
1½" HOT-MIX ASPHALT
½" WATERPROOFING



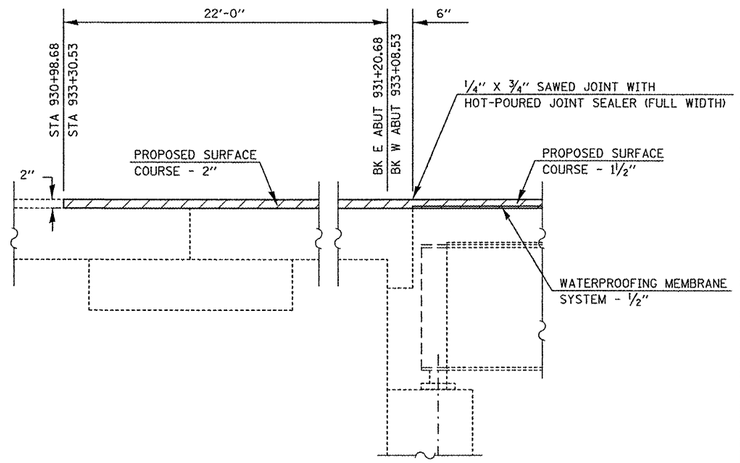
EXISTING TYPICAL SECTION

STA. 930+90.68 TO STA. 933+38.53

▨ HMA SURFACE REMOVAL, 2"

MILLING JOINT DETAIL

DRAWING NOT TO SCALE



NOTE: SAW CUT IS INCLUDED IN THE MILLING

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	PLOT DATE = 2/7/2012	DATE - ___	REVISED - ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
MILLING DETAILS

SCALE: ___ | SHEET NO. __ OF __ SHEETS | STA. ___ TO STA. ___

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	5
		CONTRACT NO. 76F07		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

RESURFACING SCHEDULE

STATION	HMA BASE COURSE WIDENING 10" (SQ YD)	AGG. PRIME COAT (TON)	BIT. MAT'L PRIME COAT (TON)	WATERPROOFING MEMBRANE SYSTEM (SQ YD)	HMA SURF. CSE., MIX "D", N90 (TON)
930+00.68 RT/LT TO 931+00.68 RT/LT	88.89				
930+98.68 RT/LT TO 931+21.18 RT/LT		0.09	0.02		6.72
931+21.18 RT/LT TO 933+08.03 RT/LT				852.00	72.00
933+08.03 RT/LT TO 933+30.53 RT/LT		0.09	0.02		6.64
933+28.53 RT/LT TO 934+28.53 RT/LT	88.89				
TOTAL	177.78	0.18	0.04	852.00	85.36

PAVEMENT MARKING SCHEDULE

STATION		THERMOPLASTIC PVMT MKG			RSD REFL PMVT MKRS TWO-WAY (EA)
		4" WHITE LINE (FT)	YELLOW SKIP DASH LINE (FT)	4" YELLOW LINE (FT)	
927+80.85 RT/LT TO 935+98.35 RT/LT	EDGE LINES	1635.00			
927+80.85 TO 930+60.68	CENTER LINE		69.96		3
930+60.68 TO 935+98.35	CENTER LINE		134.42	537.67	7
SUB TOTAL		1635.00	204.38	537.67	
TOTAL			2377.05		10

REMOVAL SCHEDULE

STATION				HMA SURF REMOVAL 2" (SQ YD)	PAVED SHOULDER REMOVAL (SQ YD)	RAISED REFL. PVMT. MRK REMOVAL (EA)	PAVEMENT MARKING REMOVAL (SQ YD)
927+80.85	TO	930+98.68	RT/LT				211.89
927+80.85	TO	930+98.68	CL				26.49
927+80.85	TO	935+98.35	CL			10	
930+98.68	TO	933+30.53	RT/LT	1094.85			
930+00.68	TO	931+00.68	RT/LT		88.89		
933+28.53	TO	934+28.53	RT/LT		88.89		
933+30.53	TO	935+98.35	RT/LT				178.55
933+30.53	TO	935+98.35	CL				111.59
TOTAL				1094.85 *	177.78	10	528.52

* QUANTITY INCLUDES BRIDGE AND APPROACHES

EARTHWORK (WIDENING) SCHEDULE

LOCATION				LENGTH (FT)	EARTH EXCAVATION (CU YD)	EARTH EXCAVATION ADJTD FOR SHRINKAGE (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
STA 930+00.68	TO	STA	931+00.68	200.00	4.9	3.7	0.0	3.7
STA 933+28.53	TO	STA	934+28.53	200.00	4.9	3.7	0.0	3.7
TOTAL				400.00	9.8	7.4	0.0	7.4

TEMP. CONCRETE BARRIER SCHEDULE

LOCATION				TEMPORARY CONCRETE BARRIER (FOOT)	
				STAGE I	STAGE II
929+18.75	TO	930+56.25	RT/LT	137.50	137.50
930+56.25	TO	933+43.75	RT/LT	287.50	287.50
933+43.75	TO	934+81.25	RT/LT	137.50	137.50
TOTAL				562.50	562.50

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	PLOT DATE = 2/7/2012	DATE - _____	REVISED - ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULES OF QUANTITIES

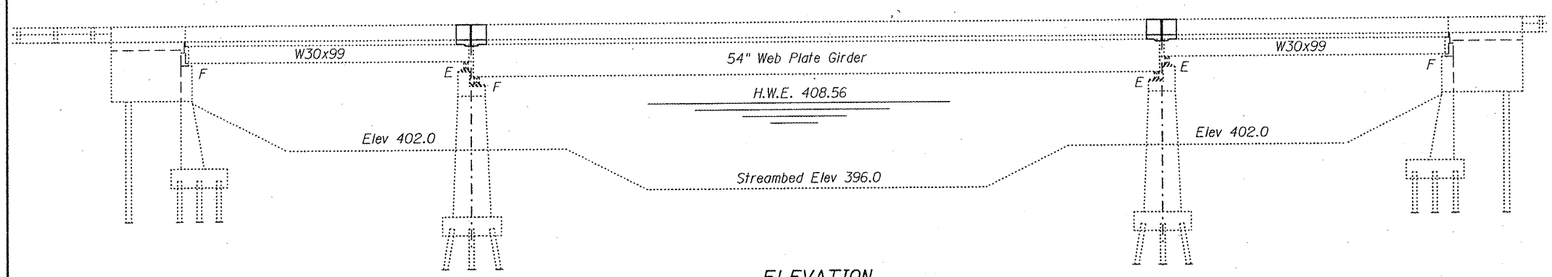
SCALE: _____ | SHEET NO. __ OF __ SHEETS | STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	6
		CONTRACT NO. 76F07		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

Existing Structure: Built 1927 with a truss center span, concrete T girder side spans, spill-thru abutments, and solid piers.

In 1977 the substructure was widened with a new plate girder center span, WF side spans. The abutments were made integral, with joints at the piers.

The pier joints, HMA overlay, & waterproofing shall be replaced.



ELEVATION

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction 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 at the unit price bid for the work.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

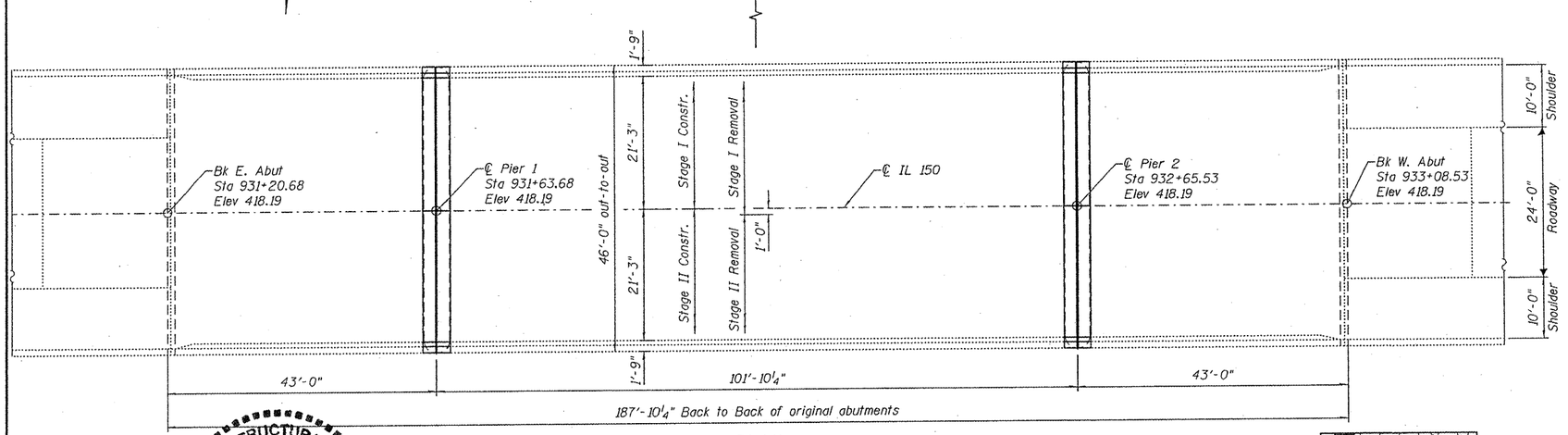
The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with "Concrete Superstructure".

Cleaning and Painting of the existing structural steel and bearings shall be as specified in the Special Provision for "Cleaning and Painting Existing Steel Surfaces". All beams, bearings, deck drains and other structural steel within 5 feet (measured along the beam) of either side of the deck joints shall be cleaned per Near White Blast Cleaning-SSPC-SP10.

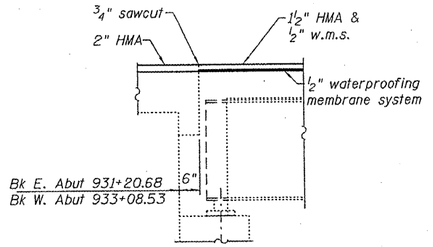
The designated areas cleaned per near white blast cleaning SSPC-SP10 shall be painted according to the requirements of paint system 1- OZ/E/U. The color of the final finish coat for all cleaned surfaces shall match the existing steel.

Containment of cleaning residue is required to control nuisance dust. See special provisions.

The existing coating does not contain lead. By specification, a Class 2A containment is required to contain nuisance dust from escaping into the environment.



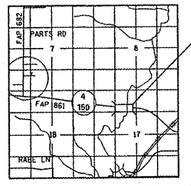
PLAN



ABUTMENT SECTION

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
HMA Surface Removal, 2"	Sq. Yd.	881
HMA Surface Course, Mix "D", N90	Ton	72
Concrete Removal	Cu. Yd.	14.0
Concrete Superstructure	Cu. Yd.	15.5
Protective Coat	Sq. Yd.	191
Reinforcement Bars, Epoxy Coated	Pound	2400
Bar Splicers	Each	32
Preformed Joint Strip Seal	Foot	89.0
Waterproofing Membrane System	Sq. Yd.	852
Containment and Disposal of Non-Lead Paint Cleaning Residues No. 1	L. Sum	1
Cleaning and Painting Steel Bridge No. 1	L. Sum	1

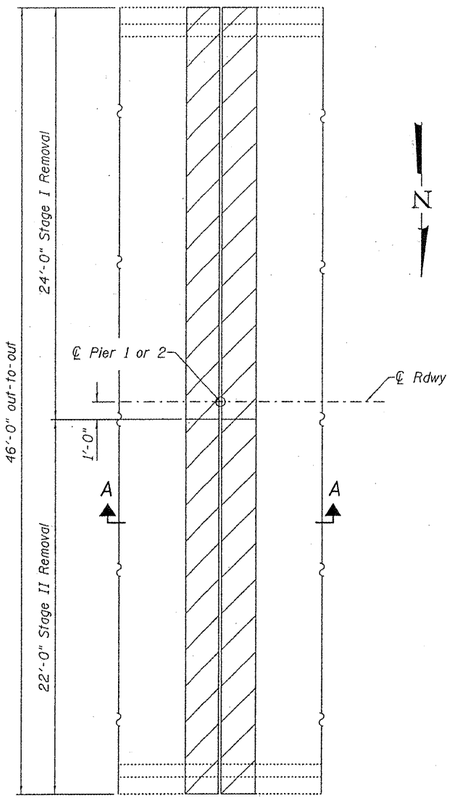


LOCATION SKETCH

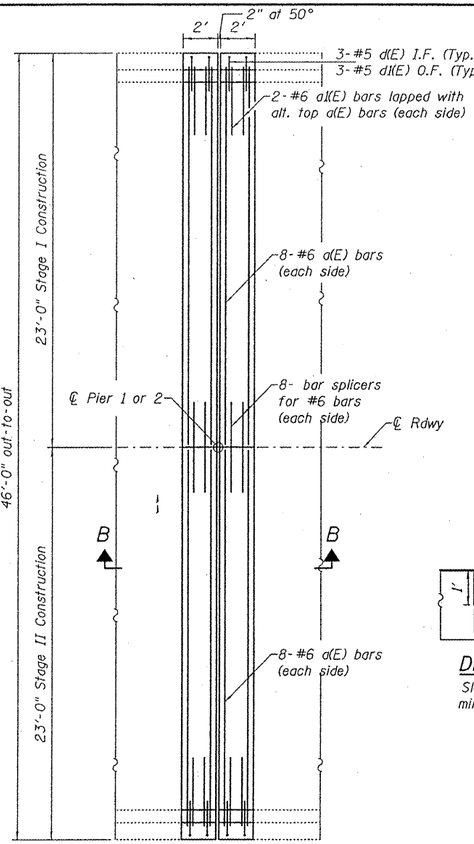
LICENSED STRUCTURAL ENGINEER
DAVID CARL PUZEY
081-005470
SPRINGFIELD
ILLINOIS
STATE OF ILLINOIS

Expires 11/30/12

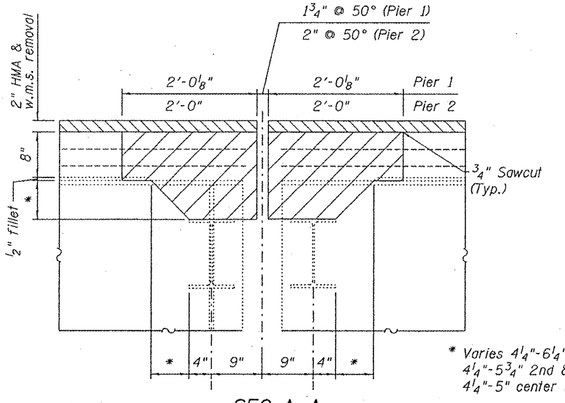
DESIGNED - J. Uehle	EXAMINED		DATE - 3/15/12	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION SN 079-0007 SHEET NO. 1 OF 8 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - B. Williams	PASSED	ENGINEER OF STRUCTURAL SERVICES	REVISED			861	110BR-1	Randolph	14	7
DRAWN - J. Uehle		ENGINEER OF BRIDGES AND STRUCTURES	REVISED					CONTRACT NO. 76F07		
CHECKED - B. Williams								ILLINOIS FED. AID PROJECT		



CONRETE REMOVAL

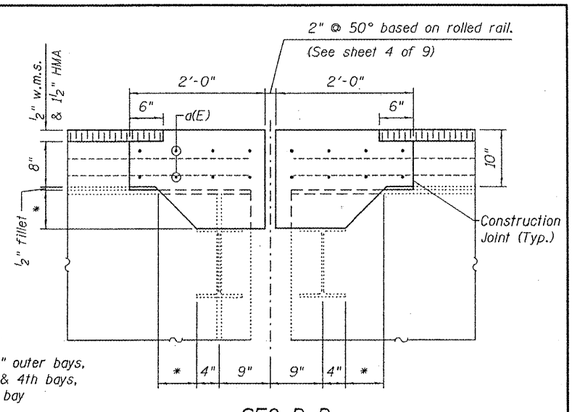


CONRETE REPLACEMENT



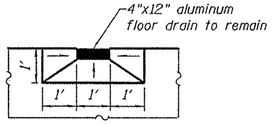
SEC A-A

Pier 1 shown
Pier 2 opposite hand



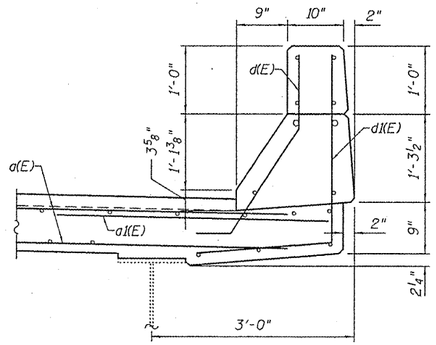
SEC B-B

Pier 1 shown
Pier 2 opposite hand

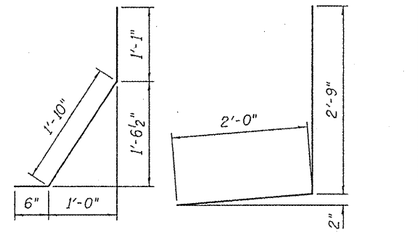


DRAIN DETAIL

Slope to drain with 1" minimum HMA at drains

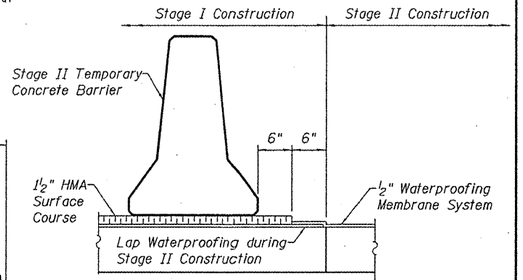


PARAPET SECTION



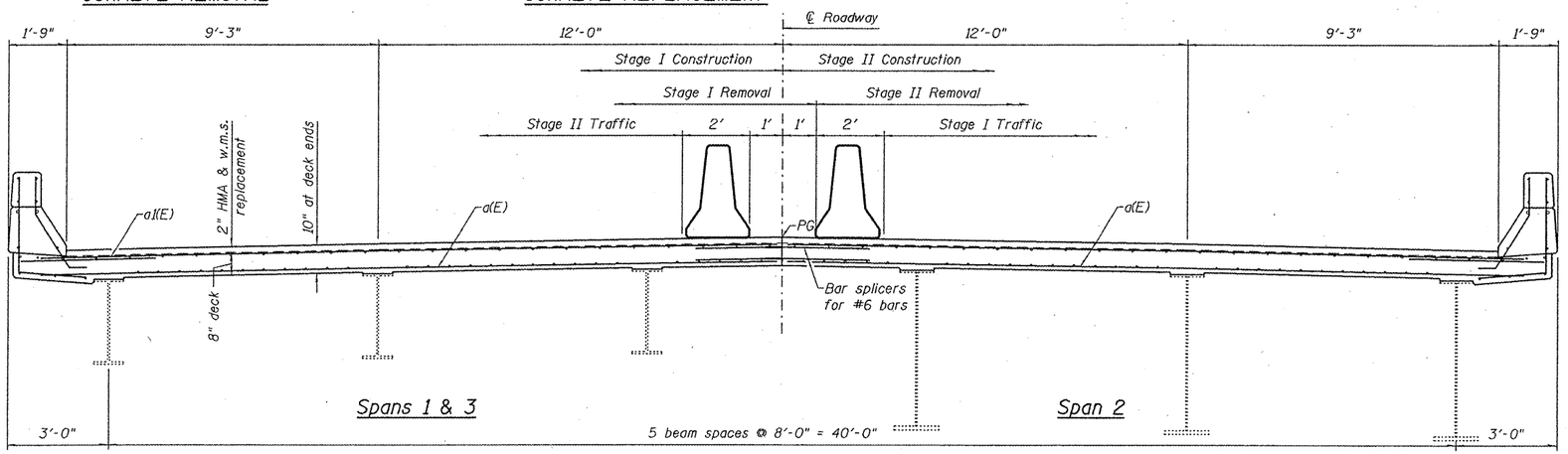
BAR d

BAR d1



WATERPROOFING STAGING

Looking West



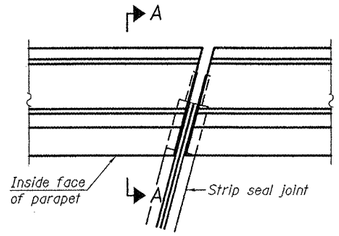
DECK CROSS SECTION

Looking West

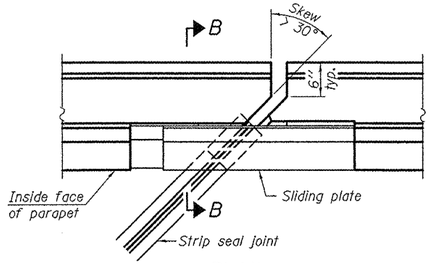
PIERS 1 & 2
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	64	#6	21'-10"	
a1(E)	16	#6	4'-0"	
d(E)	24	#5	3'-5"	
d1(E)	24	#5	4'-9"	
Reinforcement Bars, Epoxy Coated			Pound	2400
Concrete Superstructure			Cu. Yds.	15.5
Concrete Removal			Cu. Yds.	14.0

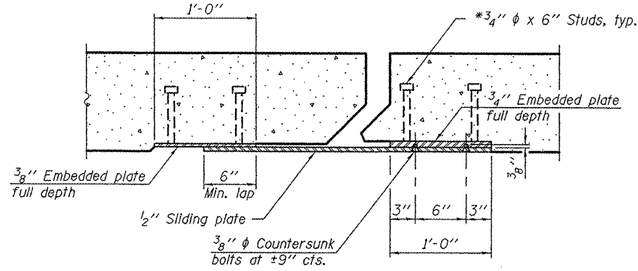
DESIGNED - J. Uehle	EXAMINED		DATE - April 27, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE REPLACEMENT AT PIERS SN 079-0007	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - B. Williams		ENGINEER OF STRUCTURAL SERVICES				861	110BR-1	RANDOLPH	14	8
DRAWN - J. Uehle	PASSED		REVISED					CONTRACT NO. 76F07		
CHECKED - B. Williams		ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 2 OF 8 SHEETS			ILLINOIS FED. AID PROJECT		



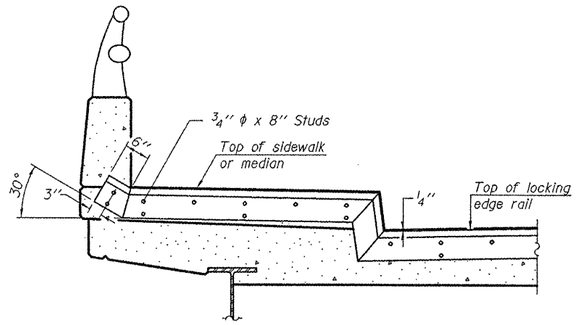
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

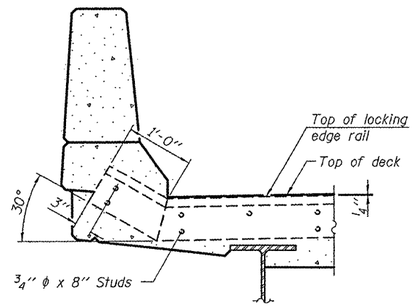


SECTION C-C

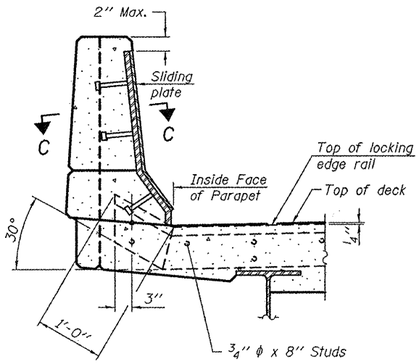


TYPICAL END TREATMENT
AT SIDEWALK OR MEDIAN

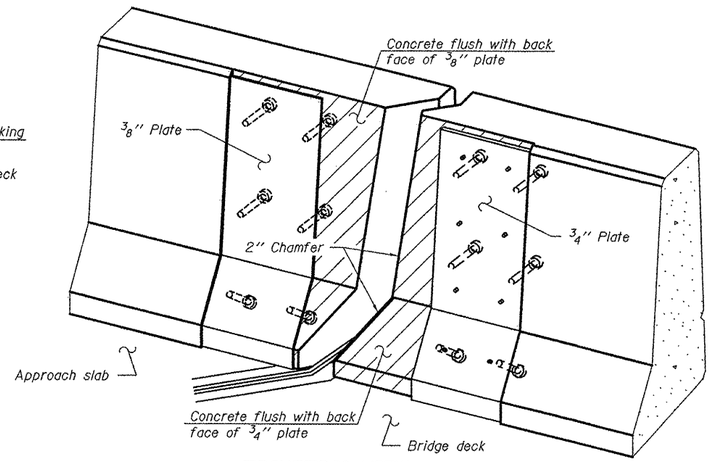
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



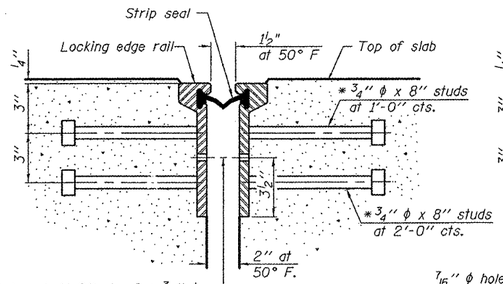
SECTION A-A



SECTION B-B

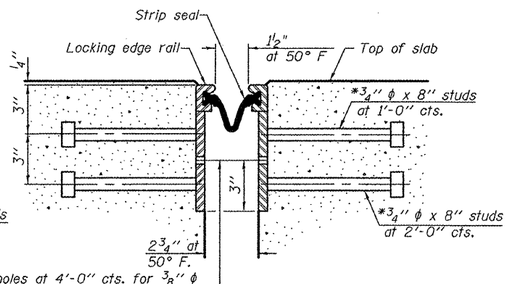


TRIMETRIC VIEW
(Showing back plates only)



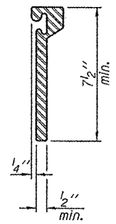
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU
ROLLED RAIL JOINT

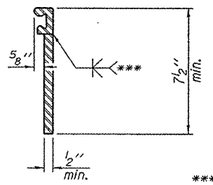


7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

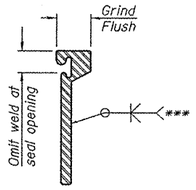
SECTION THRU
WELDED RAIL JOINT



ROLLED
EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE
RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	89.0

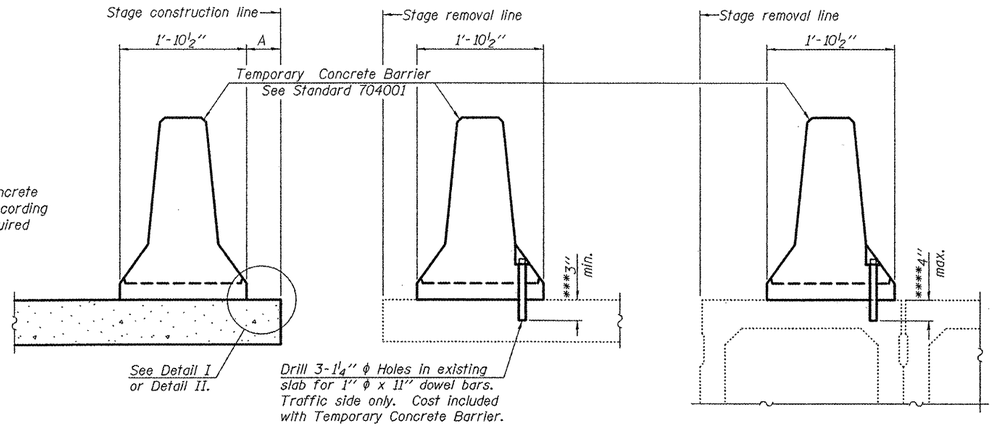
EJ-SSJ 7-1-10

DESIGNED - J. Uehle	EXAMINED	DATE - April 27, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - B. Williams	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - J. Uehle	PASSED	REVISED	
CHECKED - B. Williams	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

PREFORMED JOINT STRIP SEAL
SN 079-0007
SHEET NO. 3 OF 8 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	9
		CONTRACT NO. 76F07		
		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 | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7' 'x "W" steel ℄ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel ℄ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

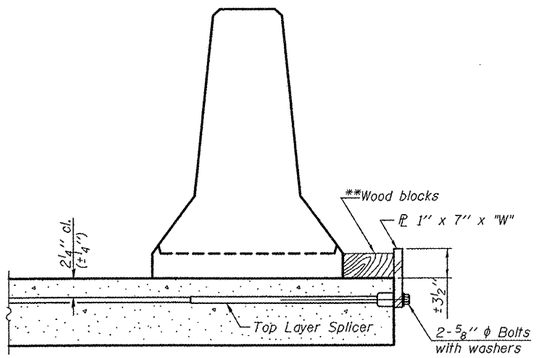
Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x "W" 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.

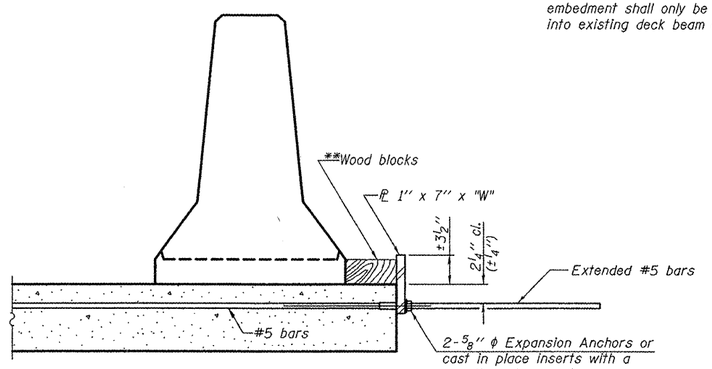
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



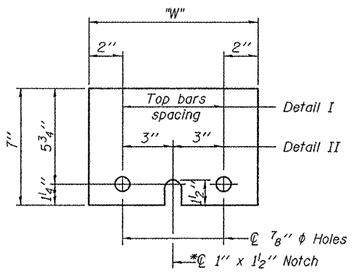
DETAIL I



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.

"W" = Top bars spacing + 4"



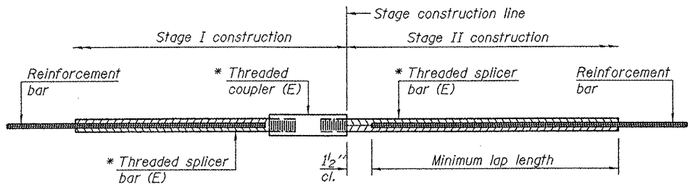
STEEL RETAINER ℄ 1" x 7" x "W"

* Required only with Detail II

R-27 7-1-10

DESIGNED - J. Uehle	EXAMINED		DATE - April 27, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION SN 079-0007
CHECKED - B. Williams		ENGINEER OF STRUCTURAL SERVICES			SHEET NO. 4 OF 8 SHEETS
DRAWN - J. Uehle	PASSED		REVISED		
CHECKED - B. Williams		ENGINEER OF BRIDGES AND STRUCTURES	REVISED		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	10
		CONTRACT NO. 76F07		
		ILLINOIS FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

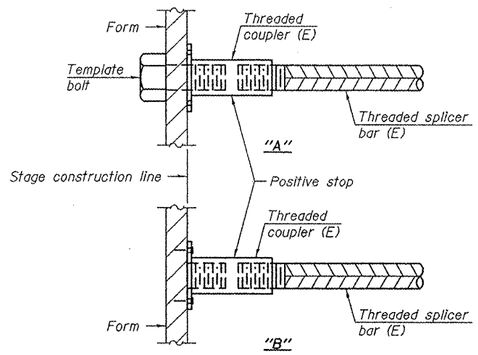
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

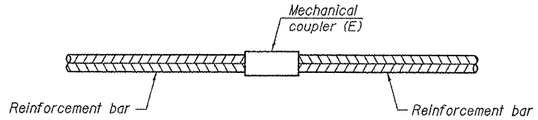
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck Ends at Piers	#6	32	3'-1"



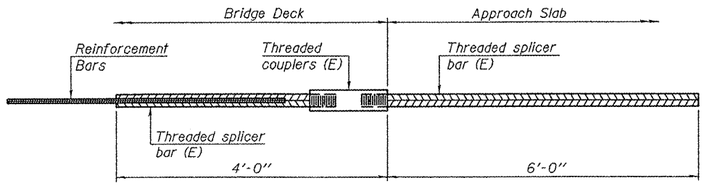
INSTALLATION AND SETTING METHODS

"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.



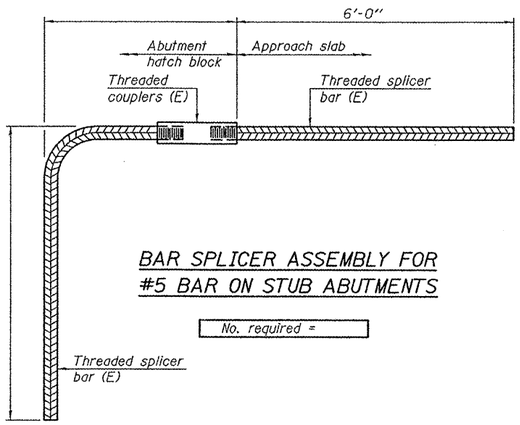
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

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

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 7-1-10

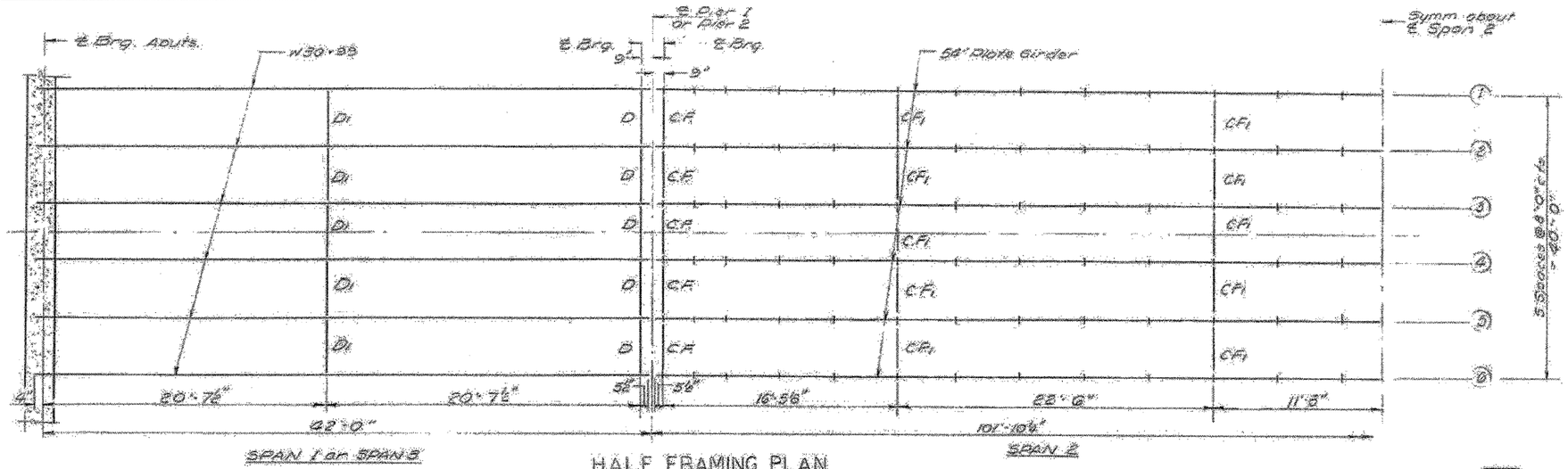
DESIGNED - J. Uehle	EXAMINED		DATE - April 27, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS SN 079-0007	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - B. Williams	ENGINEER OF STRUCTURAL SERVICES					861	110BR-1	RANDOLPH	14	11
DRAWN - J. Uehle	PASSED		REVISED					CONTRACT NO. 76F07		
CHECKED - B. Williams	ENGINEER OF BRIDGES AND STRUCTURES		REVISED		SHEET NO. 5 OF 8 SHEETS			ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

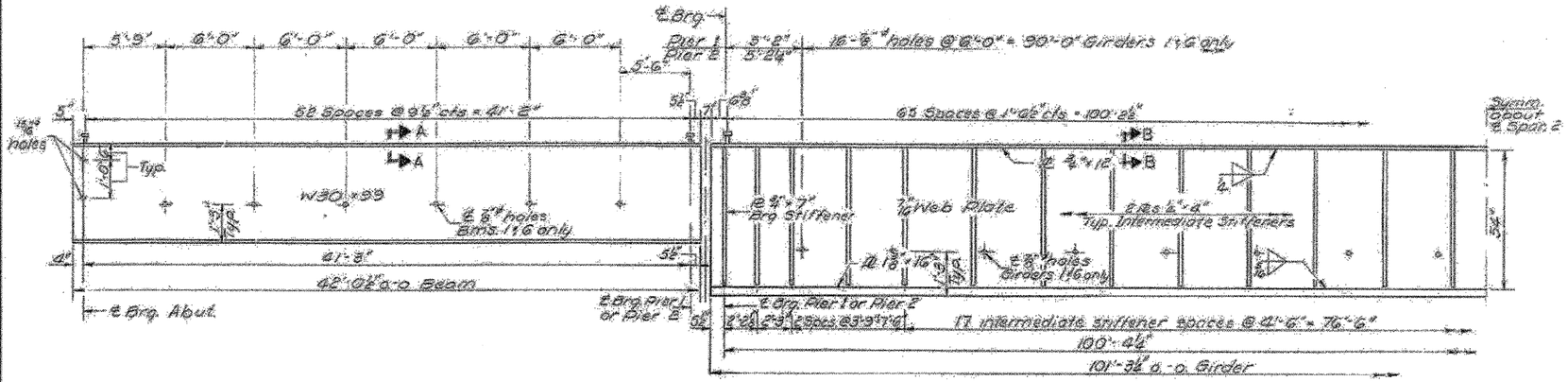
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 861	110 BC-2	Randolph	14	13

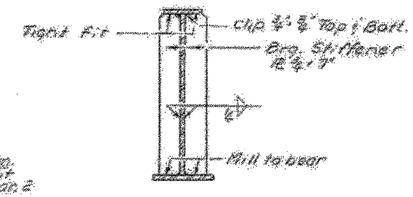
SHEET NO. 6
12 SHEETS



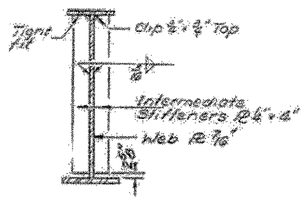
HALF FRAMING PLAN



HALF ELEVATION



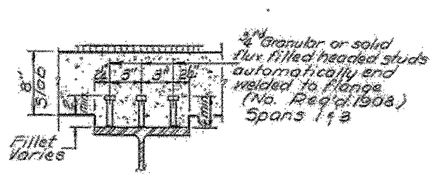
BRG. STIFFENERS



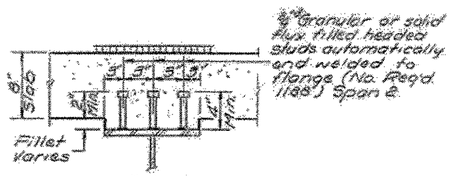
INTERMEDIATE STIFFENERS

DESIGNED	A. J. Khayyat
CHECKED	G.E. Ozyurt
DRAWN	F. Mercado
CHECKED	G.E.O.

EXAMINED Feb 20 19 14
PASSED W.E. Baumann
APPROVED Troy R. Hanley
DIRECTOR OF HIGHWAYS



SEC. A-A



SEC. B-B

STRUCTURAL STEEL
F.A.RT. 14 SEC. 110BC-2
RANDOLPH COUNTY
STA. 932+00.00

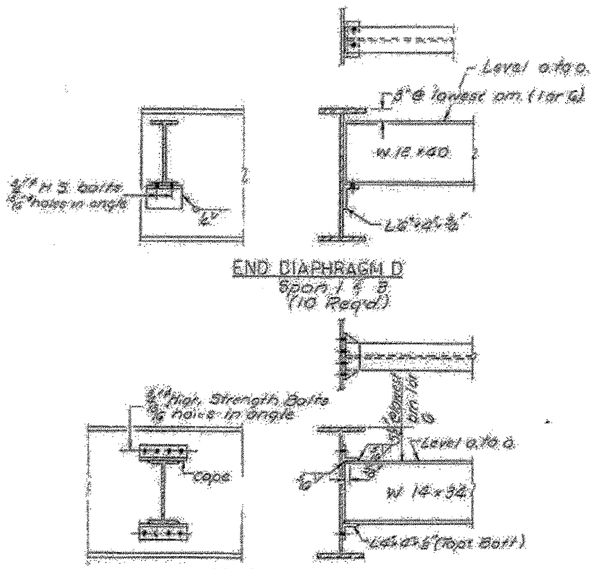
DESIGNED - J. Uehle	EXAMINED		DATE - April 27, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FOR INFORMATION ONLY – FRAMING SN 079-0007	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - B. Williams		ENGINEER OF STRUCTURAL SERVICES				861	110BR-1	RANDOLPH	14	12
DRAWN - J. Uehle	PASSED		REVISED						CONTRACT NO. 76F07	
CHECKED - B. Williams		ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 6 OF 8 SHEETS			ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

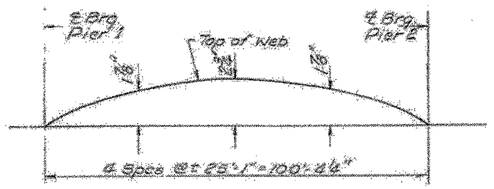
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 861	110 BC-2	Randolph	25	18

SHEET NO. 7
12 SHEETS

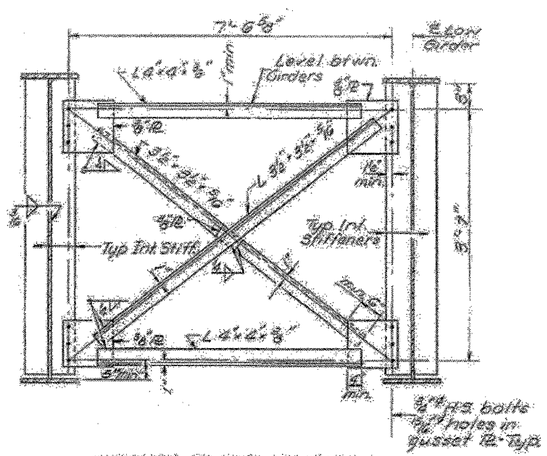


END DIAPHRAGM D
Span 1 & 5
(10 Req'd.)

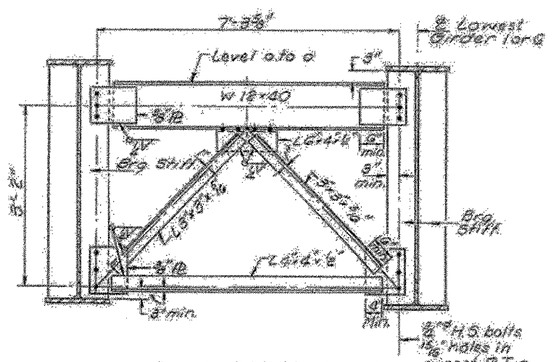
INTERIOR DIAPHRAGM D1
Span 1 & 5
(10 Req'd.)



CAMBER DIAGRAM
Span 2



INTERIOR CROSS FRAME CF
(20 Req'd.)
Span 2



END CROSS FRAME CE
(10 Req'd.)
Span 2

Note: Hardened washers shall be required over 15/16" ø holes in angles & gussets PL's

MOMENT TABLE

INTERIOR GIRDER OR BEAM	0.5 Sp. for 3	0.5 Sp. E
Is (in⁴)	4000.0	269447
Ic (in⁴)	11711.1	72.941.6
Ss (in³)	270.0	1239.7
Sc (in³)	416.1	1675.8
D (k/i)	.939	1044
M@ (k')	1997	1513.0
FS @ Ess.	8.88	1271
S.D. (k')	446	606
M.L @ (k')	909	561.5
M.L. (k')	343.3	111.30
Nom Impact	103.0	22.71
Total (k')	521.2	1921.0
fs Str. (k')	13.61	13.74
fs Total (ksi)	24.89	20.45
VR (k)	52.66	55.02

REACTION TABLE

INTERIOR GIRDER OR BEAM	Abut. 1 for Sp. 2	Pier 2
D.L. (k)	28.57	74.71
L.L. (k)	40.81	47.28
Imp. (k)	12.15	10.54
R Total (k)	81.28	132.73

Note:
Is and Ss are the moment of inertia and section modulus of the steel section.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs.
VR is the maximum L.L. + Impact shear range in span used to determine shear connector spacing.

*TOP OF BEAM ELEVATIONS (SPANS 1 & 2)

	Bms. 1 & 6	Bms. 2 & 5	Bms. 3 & 4
℄ Brg. E. Abut.	417.00	417.17	417.29
℄ Brg. Pier 1	417.00	417.17	417.29
℄ Brg. Pier 2	417.00	417.17	417.29
℄ Brg. W. Abut.	417.00	417.17	417.29

*TOP OF WEB ELEVATIONS (SPAN 2)

	Girder 1 & 6	Girder 2 & 5	Girder 3 & 4
℄ Brg. Pier 1	416.94	417.11	417.23
℄ Brg. Pier 2	416.94	417.11	417.23

* For fabrication only.

DESIGNED	J. Y. Khayyat
CHECKED	G. E. Ozyurt
DRAWN	F. Mercado
CHECKED	G. E. O.

EXAMINED Feb. 29, 1974
PASSED H. E. Baumann
APPROVED Harry R. Hanley
DIRECTOR OF HIGHWAYS

STRUCTURAL STEEL DETAILS
F.A.RT. 14 SEC. 110 BC-2
RANDOLPH COUNTY
STA. 932+00.00

DESIGNED - J. Uehle	EXAMINED	DATE - April 27, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - B. Williams	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - J. Uehle	PASSED	REVISED	
CHECKED - B. Williams	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

FOR INFORMATION ONLY – STEEL DETAILS
SN 079-0007
SHEET NO. 7 OF 8 SHEETS

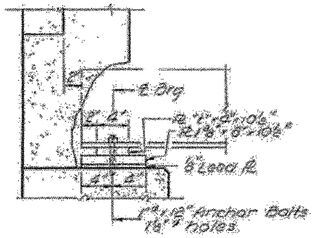
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	13
		CONTRACT NO. 76F07		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

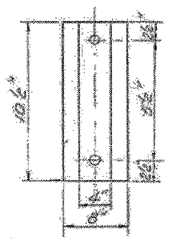
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 861	110 BC-2	Randolph	25	15

SHEET NO. 8
12 SHEETS



ELEVATION



"A" Values	
8ms. 1:6	2"
8ms. 2:5	2½"
8ms. 3:4	4½"

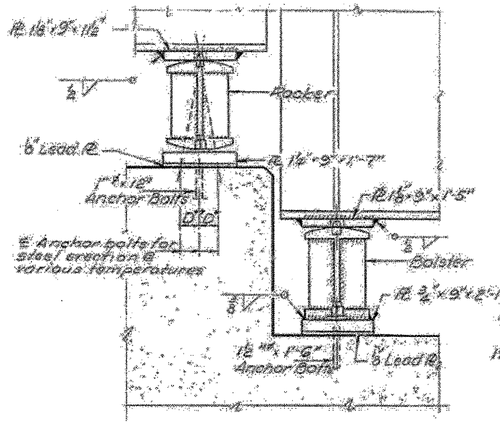
PLAN
ABUTMENTS

NOTES ON SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS

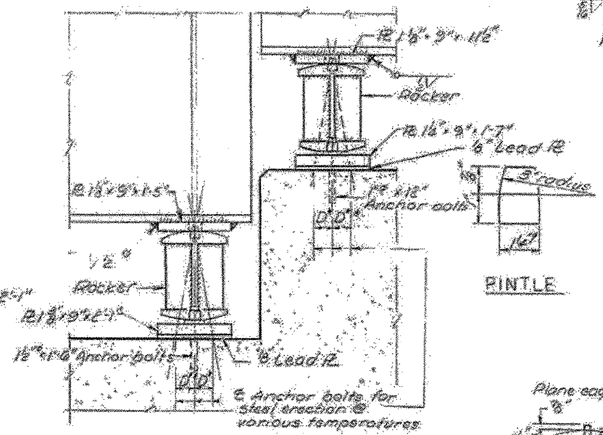
a) D* (Side of Brg. away from Fixed brg.)
D* = 8" per each 100° of expansion for every 15° fall below the normal temperature of 50°F

D** (Side Brg. toward Fixed brg.)
D** = 8" per 100° of expansion for every 15° rise above the normal temperature of 50°F

b) After bms. have been erected and dimensions D* or D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

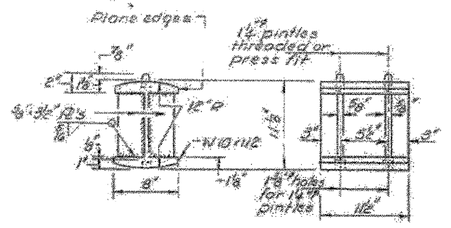


ELEVATION

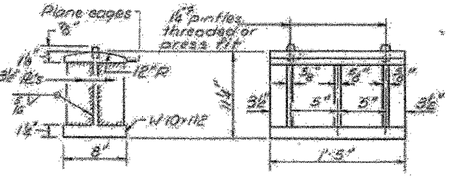


ELEVATION

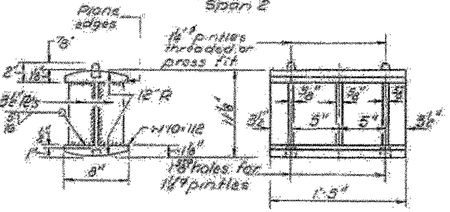
PINTLE



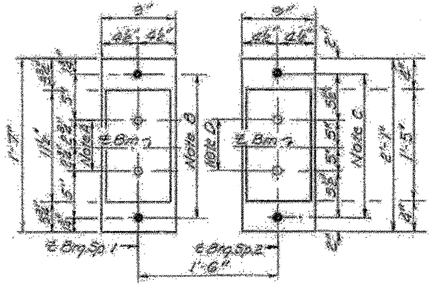
ROCKER EXP. BRG. PIER #1 & PIER #2
Spans 1 & 2



BOLSTER FIXED BRG.
PIER # 1
Span 2



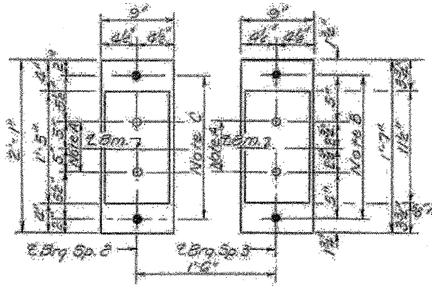
ROCKER EXP. BRGS
PIER # 2
SPAN # 2



PLAN

EXP. BRG. FIXED BRG.

PIER # 1



PLAN

EXP. BRG. EXP. BRG.

PIER # 2

NOTE A
1⅝"ø holes 1" deep in top Pl. for pintles. Thread or press fit pintles into bottom Pl.

NOTE B
1½"ø holes for 1"ø Anchor bolts 5/16" x 2½" x 2½" Pl. Washers under nut.

NOTE C
2"ø holes for 1¼"ø Anchor bolts 5/16" x 3½" x 3½" Pl. Washers under nut.

NOTE D
1⅝"ø holes 1" deep in top Pl. only to 1¼"ø pintles.

DESIGNED	J. Uehle
CHECKED	G.E. Ozuirt
DRAWN	F. Mercado
CHECKED	G.E.O.

Feb. 20 1924
EXAMINED
PASSED W. A. Bauman
APPROVED Harry P. Hanley
DIRECTOR OF HIGHWAYS

BEARING DETAILS
F.A.RT.14 SEC.110 BC-2
RANDOLPH COUNTY
STA. 932+00.00

DESIGNED	J. Uehle	EXAMINED	
CHECKED	B. Williams		ENGINEER OF STRUCTURAL SERVICES
DRAWN	J. Uehle	PASSED	
CHECKED	B. Williams		ENGINEER OF BRIDGES AND STRUCTURES

DATE - April 27, 2012
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY – BEARINGS
SN 079-0007
SHEET NO. 8 OF 8 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
861	110BR-1	RANDOLPH	14	14
		CONTRACT NO. 76F07		
	ILLINOIS	FED. AID PROJECT		