

04-27-12 LETTING ITEM 146

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

F.A.I. ROUTE 70 (I-70)
SECTION D7 BRIDGE REPAIRS 2012-1

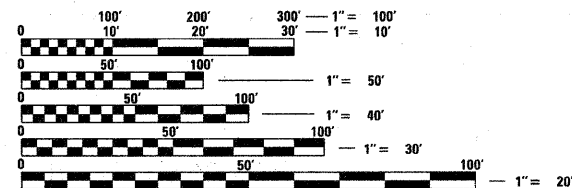
BRIDGE JOINT REPAIR
FAYETTE COUNTY

C-97-076-11

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2012-1	FAYETTE	16	1
		ILLINOIS	CONTRACT NO. 74527	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

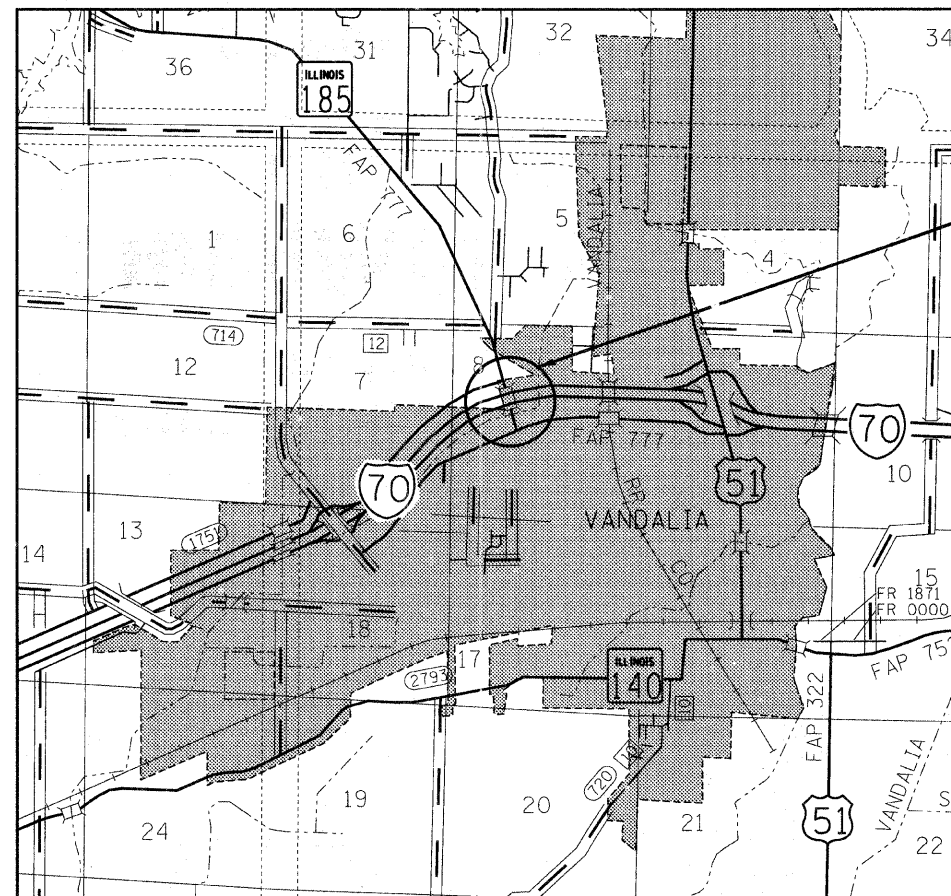
ADT = 20,200 (2010)



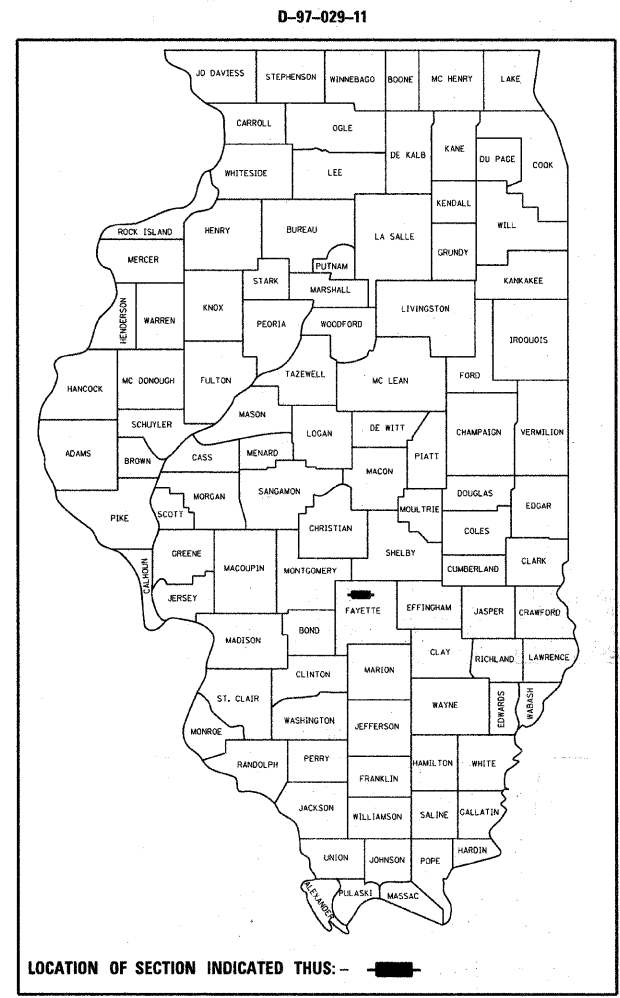
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: MARK DAUGHERTY
PROJECT MANAGER: BRIAN BIERMAN
PHONE: (217)-342-8313
CONTRACT NO. 74527



SN 026-0014
STA 456 + 36.07



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Feb 16 2012
Roger J. [Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 23 2012
John D. Baranzelli, P.E. Jr.
acting ENGINEER OF DESIGN AND ENVIRONMENT

March 23 2012
William B. Freeman Jr.
acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION OR FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.

THE TOTAL QUANTITY OF POLYUREA PAVEMENT MARKING TYPE II - LINE 4" CONSISTS OF 555 FEET OF YELLOW AND 555 FEET OF WHITE.

THE TOTAL QUANTITY OF REPLACEMENT REFLECTOR SHALL CONSIST OF 25 ONE-WAY CRYSTAL MARKERS.

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESS TO THE HOT-MIX ASPHALT PLANT QUALITY CONTROL LAB SO THAT HOT-MIX ASPHALT PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL HOT-MIX ASPHALT ITEMS.

THE CONTRACTOR SHALL USE EITHER RC-70 OR AN EMULSIFIED POLYMER PRIME SS-1HP OR SS-1H FOR THE PAY ITEM BITUMINOUS MATERIALS (PRIME COAT).

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATION AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 800-892-0123. A MINIMUM OF 96 HOURS ADVANCE NOTICE IS REQUESTED.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:

APPLICATION	AC/PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE
SURFACE COURSE	PG 64-22	4.0% @ N=105	IL - 9.5	MIXTURE D

INDEX OF SHEETS

SHEET NO.	TITLE
1	COVER SHEET
2	INDEX OF SHEETS AND GENERAL NOTES
3-4	SUMMARY OF QUANTITIES
5	SCHEDULE OF QUANTITIES
6-7	TRAFFIC CONTROL STAGING
8-16	BRIDGE JOINT REPAIR PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

STD. NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
642001-02	SHOULDER RUMBLE STRIPS, 16 in.
701101-02	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701400-05	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-09	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701406-06	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701426-04	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS >= 45 MPH
701901-02	TRAFFIC CONTROL DEVICES
704001-07	TEMPORARY CONCRETE BARRIER
780001-03	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

FILE NAME =	USER NAME = teasleyck	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES AND INDEX OF SHEETS				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\pwwork\teasleyck\d0269434\07	4527-sht-index.dgn	DRAWN -	REVISED -		TO	D7 BRIDGE REPAIRS 2012-1	FAYETTE	16	2				
	PLOT SCALE = 100.0000' / 1" =	CHECKED -	REVISED -						CONTRACT NO. 74527				
	PLOT DATE = 2/16/2012	DATE -	REVISED -		SCALE: NA	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0014 100% STATE	
35300500	PORTLAND CEMENT CONCRETE BASE COURSE 10"	SO YD	101	101	
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	34	34	
40603350	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N105	TON	48	48	
44000159	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	SO YD	340	340	
44004250	PAVED SHOULDER REMOVAL	SO YD	101	101	
50102400	CONCRETE REMOVAL	CU YD	16.8	16.8	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	16.8	16.8	
50300300	PROTECTIVE COAT	SO YD	50	50	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	1530	1530	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2120	2120	
50800515	BAR SPLICERS	EACH	36	36	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	86	86	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	7	7	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	7	7	

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0014 100% STATE	
52100520	ANCHOR BOLTS, 1"	EACH	28	28	
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	794	794	
67100100	MOBILIZATION	L SUM	1	1	
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	1	1	
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	1	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	1740	1740	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	400	400	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	400	400	
* 78008310	POLYUREA PAVEMENT MARKING TYPE II - LINE 4"	FOOT	1110	1110	
* 78100300	REPLACEMENT REFLECTOR	EACH	25	25	
78300100	PAVEMENT MARKING REMOVAL	SO FT	370	370	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	25	25	
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	14	14	

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0014 100% STATE		
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1		
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1		

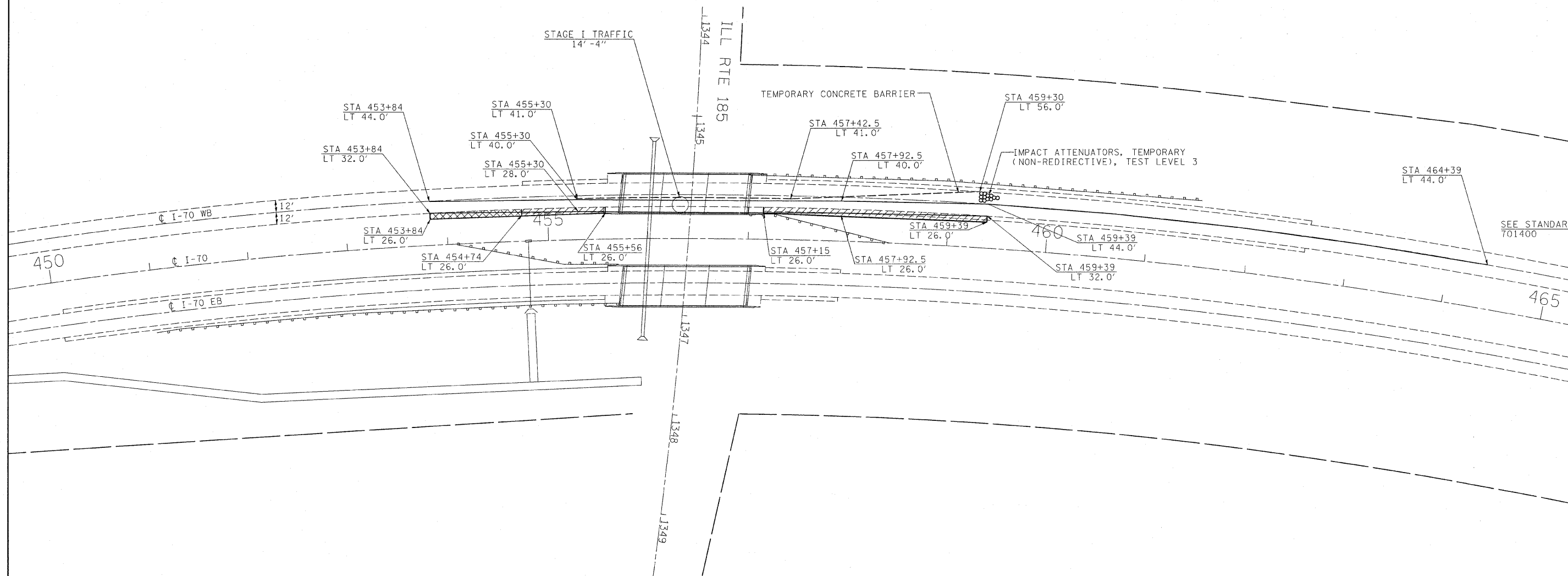
PAVEMENT MARKING SCHEDULE

LOCATION					WORK ZONE PAVEMENT MARKING REMOVAL	POLYUREA PAVEMENT MARKING TYPE 11 - LINE 4"	REPLACEMENT REFLECTOR	PAVEMENT MARKING REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL
STATION	OFFSET	TO	STATION	OFFSET	SQ FT	FOOT	EACH	SQ FT	EACH
STAGE 1									
453+84	LT 32.0'	TO	459+39	LT 32.0'	185	555	-	185	-
453+84	LT 44.0'	TO	474+39	LT 56.0'	685	-	-	-	-
464+39	LT 44.0'	TO	474+39	LT 44.0'	-	-	25	-	-
STAGE 2									
453+84	LT 56.0'	TO	459+39	LT 56.0'	185	555	-	185	-
453+84	LT 44.0'	TO	474+39	LT 32.0'	685	-	-	-	-
464+39	LT 44.0'	TO	474+39	LT 44.0'	-	-	-	-	25
TOTAL:					1740	1110	25	370	25

SHOULDER SCHEDULE

LOCATION				WIDTH	PAVED SHOULDER REMOVAL	PCC BASE COURSE WIDENING 10"	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N105	BITUMINOUS MATERIALS (PRIME COAT)
STATION	TO	STATION	LANE	FT	SQ YD	SQ YD	SQ YD	TON	GAL
453+84	TO	454+76	DRIVING	4	41	41	-	-	-
454+76	TO	455+60	DRIVING	4	-	-	37	5	4
457+17	TO	459+39	DRIVING	4	-	-	99	14	10
453+84	TO	454+74	PASSING	6	60	60	-	-	-
454+74	TO	455+56	PASSING	6	-	-	55	8	5
457+15	TO	459+39	PASSING	6	-	-	149	21	15
TOTAL:					101	101	340	48	34

FILE NAME =	USER NAME = teasleyck	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULE OF QUANTITIES				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca\pw\work\p\dot\teasleyck\d8269434\ND7	4527-sht-sch.dgn	DRAWN -	REVISED -						70	D7 BRIDGE REPAIRS 2012-1	FAYETTE	16	5
	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -		SCALE: NA SHEET OF SHEETS STA. TO STA.				CONTRACT NO. 74527				
	PLOT DATE = 2/16/2012	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



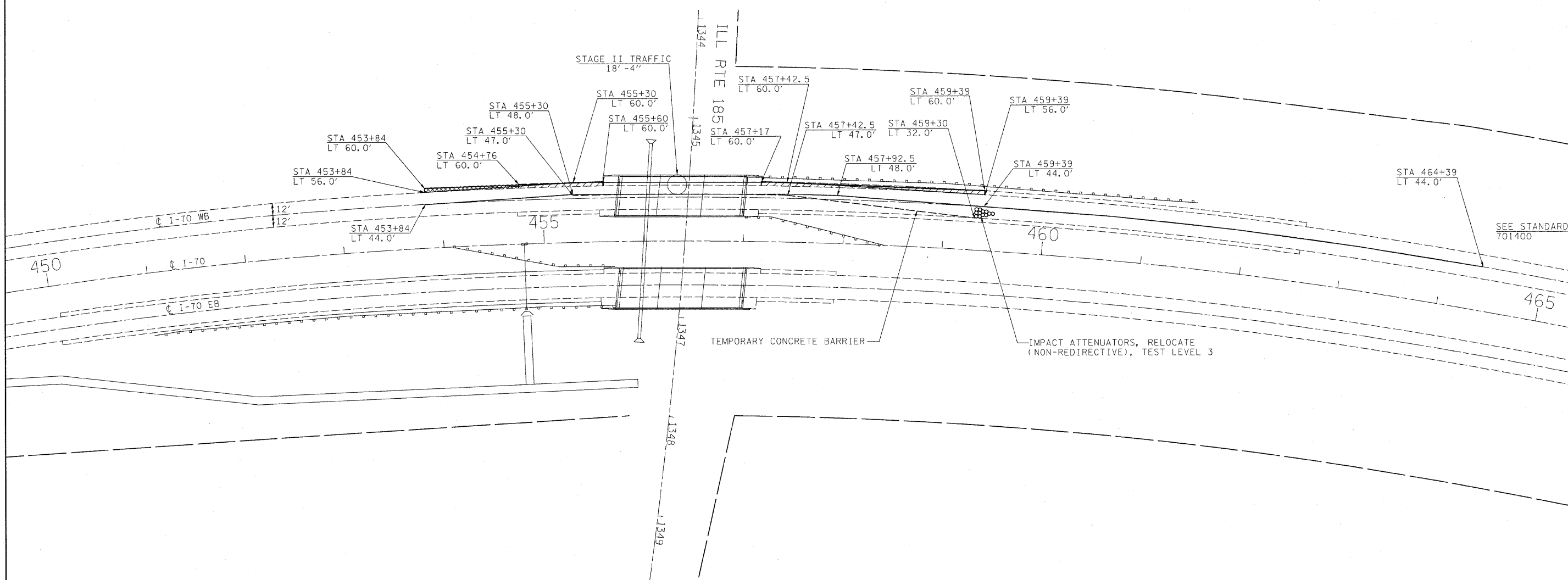
TEMPORARY CONCRETE BARRIER
 STA 455+30/LT 41.0' TO STA 459+30/LT 56.0' = 400 FT

SHOULDER RUMBLE STRIPS, 16 INCH
 STA 453+84 TO STA 455+56 = 172 FT
 STA 457+15 TO STA 459+39 = 224 FT
 TOTAL: 396 FT

NOTE: HIGHWAY STANDARD 701406 SHALL BE USED TO COMPLETE THE NECESSARY WIDENING AND HMA SURFACE OPERATION PRIOR TO STAGE I TRAFFIC CONTROL SETUP. SEE HIGHWAY STANDARDS 701400 AND 701402 FOR FULL STAGE I TRAFFIC CONTROL.

- HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
 HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N105 (2 1/2")
- PAVED SHOULDER REMOVAL
 PCC BASE COURSE WIDENING 10"

FILE NAME = c:\pwork\pwork\dot\teasleyok\0269434\07	USER NAME = teasleyok 4527-ah- staging.dgn	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL STAGE 1				F.A.I. RTE. 70	SECTION •	COUNTY Fayette	TOTAL SHEETS 16	SHEET NO. 6
	PLOT SCALE = 50.0000' / 1" =	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 74527		
	PLOT DATE = 2/16/2012	CHECKED -	REVISED -								ILLINOIS FED. AID PROJECT		
		DATE -	REVISED -								• D7 BRIDGE REPAIRS 2012-1		



RELOCATE TEMPORARY CONCRETE BARRIER
 STA 455+30/LT 47.0' TO STA 459+30/LT 32.0' = 400 FT

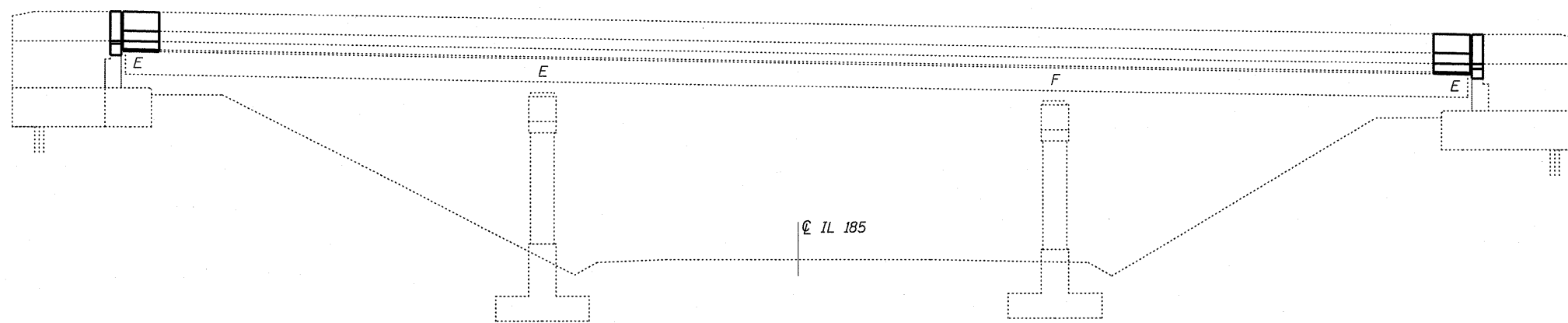
SHOULDER RUMBLE STRIPS, 16 INCH
 STA 453+84 TO STA 455+60 = 176 FT
 STA 457+17 TO STA 459+39 = 222 FT
 TOTAL: 398 FT

NOTE: SEE HIGHWAY STANDARDS 701400 AND 701402 FOR FULL STAGE II TRAFFIC CONTROL. WIDENING AND HMA SURFACE FOR STAGE II TRAFFIC SHALL BE COMPLETED EITHER PRIOR TO OR DURING STAGE I CONSTRUCTION.

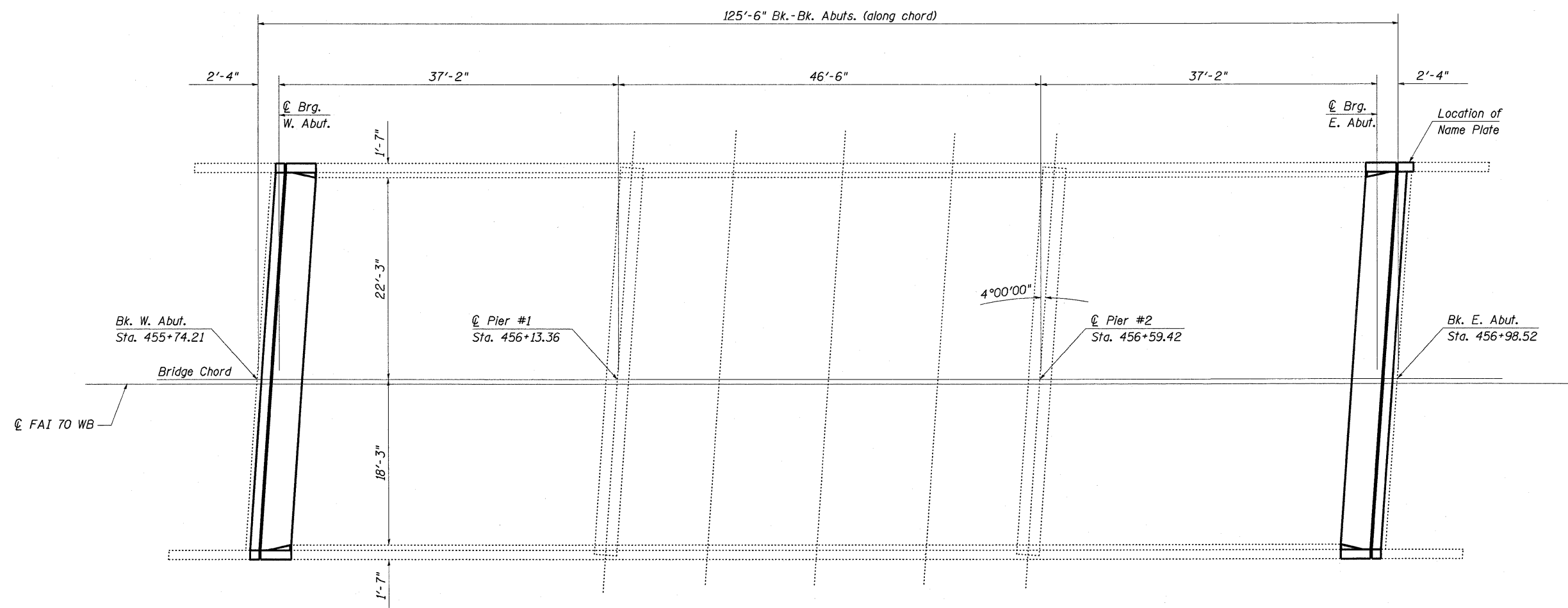
- HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N105 (2 1/2")
- PAVED SHOULDER REMOVAL PCC BASE COURSE WIDENING 10"

FILE NAME = c:\pw_work\pwwdot\teesleyck\d0269434\07	USER NAME = teesleyck 4527-shit-staging.dgn	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL STAGE 2				F.A.I. RTE. 70	SECTION •	COUNTY Fayette	TOTAL SHEETS 16	SHEET NO. 7
PLOT SCALE = 50.0000' / in.		CHECKED -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	CONTRACT NO. 74527	
PLOT DATE = 2/16/2012		DATE -	REVISED -		ILLINOIS FED. AID PROJECT								
• 07 BRIDGE REPAIRS 2012-1													

The existing three span steel I-beam structure was constructed in 1965 as FAI 70 section 26-2HBR-2 at Sta. 456+36.07 and reconstructed in 1979 as FAI 70 section 26-2HBR-2 at Sta. 456+36.07. SN. 026-0014 carries I-70 Westbound over IL 185. The proposed project consist of new expansion joints and new elastomeric bearings.



ELEVATION



PLAN

DESIGN STRESSES

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)
 $f_y = 36,000$ psi (Steel)



David Carl Puzey 3/16/12
 Expires 11/30/12

FILE NAME = ca:\pwork\pwork\dot\teasleyk\d269434\07	USER NAME = teasleyk	DESIGNED - KLB	REVISED - -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION SN. 026-0014			F.A.I. RTE. 70	SECTION .	COUNTY Fayette	TOTAL SHEETS 8	SHEET NO. 8
	PLOT SCALE = 20,0000' / in.	CHECKED - MEA	REVISED - -		SCALE:	SHEET NO. 1 OF 9 SHEETS	STA.	TO STA.	CONTRACT NO. 74527			
	PLOT DATE = 2/16/2012	DATE - 08/08/11	REVISED - -		ILLINOIS FED. AID PROJECT							
• D7 BRIDGE REPAIRS 2012-1												

GENERAL NOTES

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 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.

Reinforcement Bars designated (E) shall be epoxy coated.

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 operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

Removal and reinstallation of guardrail sections and the name plate attached to the structure will be necessary for construction of the expansion joints. All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated into the new construction or new approved alternates shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

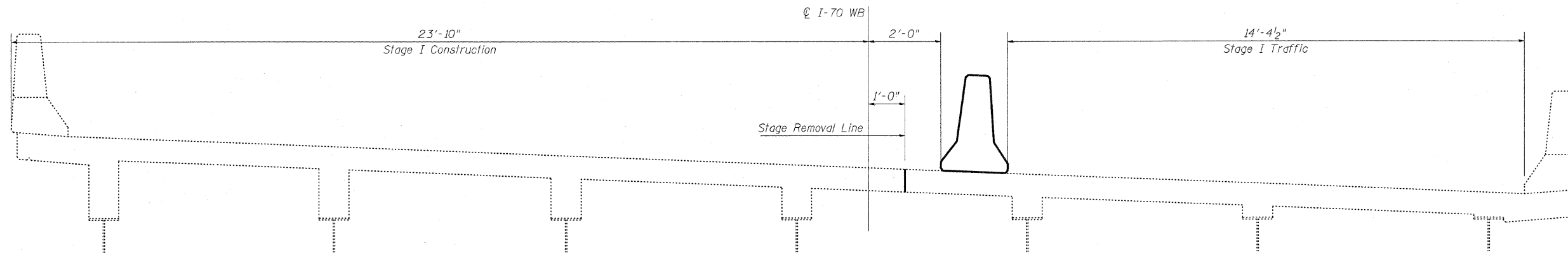
Prior to pouring the new concrete deck, all heavy and loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

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

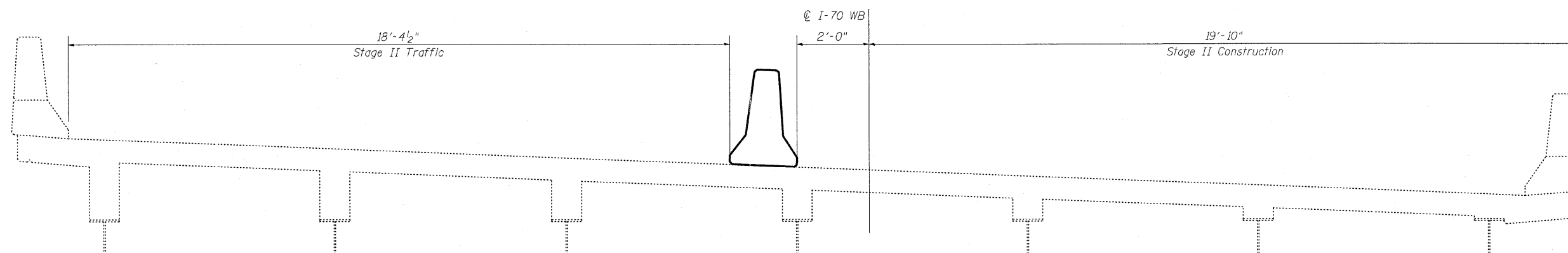
All structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300 Type 1. Cost included with Furnishing and Erecting Structural Steel.

TOTAL BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	16.8
Concrete Superstructure	Cu. Yd.	16.8
Reinforcement Bars, Epoxy Coated	Pound	2120
Bar Splicers	Each	36
Protective Coat	Sq Yd	50
Preformed Joint Strip Seal	Foot	86.0
Elastomeric Bearing Assembly, Type I	Each	7
Elastomeric Bearing Assembly, Type II	Each	7
Jack and Remove Existing Bearings	Each	14
Furnishing and Erecting Structural Steel	Pound	1530
Anchor Bolts 1"φ	Each	28

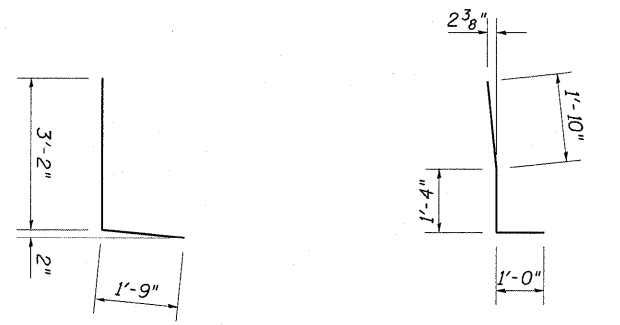


STAGE I LOOKING EAST



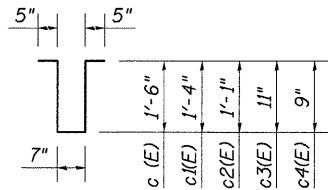
STAGE II LOOKING EAST

FILE NAME =	USER NAME = teasleyk	DESIGNED - KLB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES & BILL OF MATERIALS SN. 026-0014			F.A.I. RTE. 70	SECTION •	COUNTY Fayette	TOTAL SHEETS	SHEET NO. 9
c:\pw\work\pwl\dot\teasleyk\08269434\07	4527-sht-brgennote-0260014.dgn	DRAWN - KLB	REVISED -		SCALE:	SHEET NO. 2 OF 9 SHEETS	STA.	TO STA.	CONTRACT NO. 74527			
	PLOT SCALE = 28.0000' / in.	CHECKED - MEA	REVISED -		ILLINOIS FED. AID PROJECT							
	PLOT DATE = 2/16/2012	DATE - 08/08/11	REVISED -		• D7 BRIDGE REPAIRS 2012-1							



Bar d(E)

Bar d1(E)



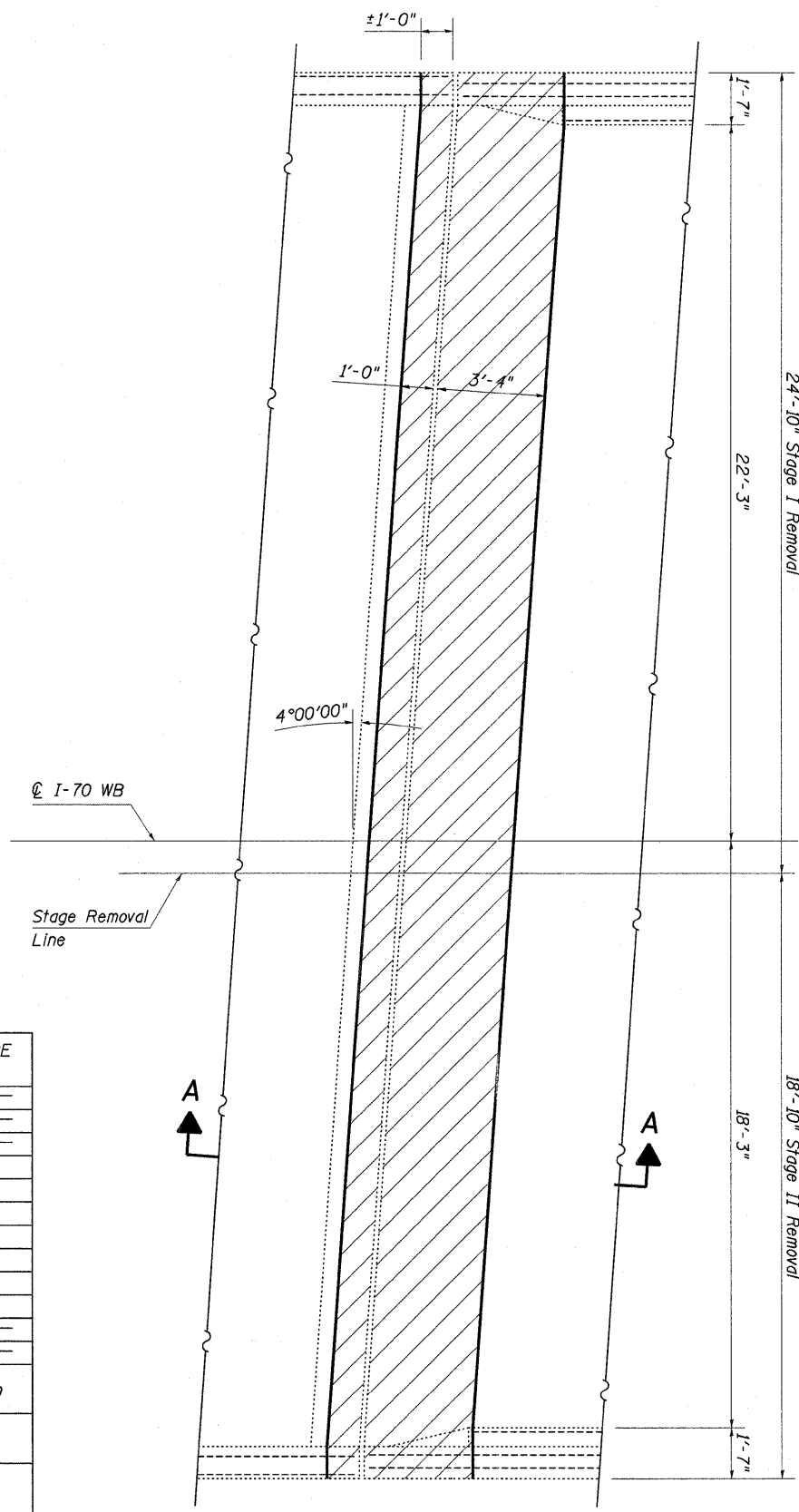
Bars c(E) thru c4(E)

BILL OF MATERIAL

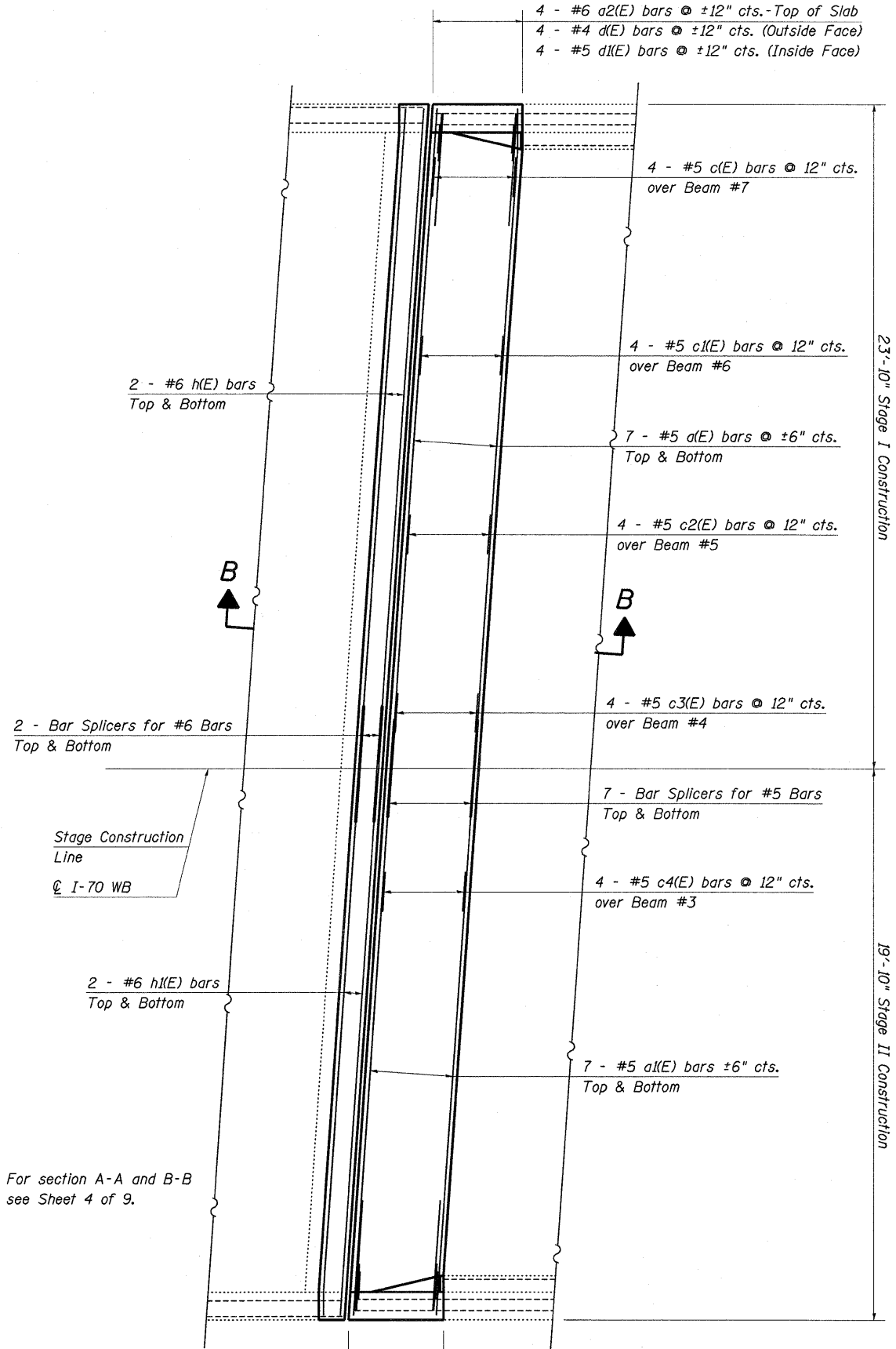
PER ABUTMENT

BAR	NUMBER OF BARS		TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II				
a (E)	14		14	#5	23'-6"	—
a1(E)		14	14	#5	19'-6"	—
a2(E)	4	4	8	#6	4'-0"	—
c (E)	4		4	#5	4'-5"	U
c1(E)	4		4	#5	4'-1"	U
c2(E)	4		4	#5	3'-7"	U
c3(E)	4		4	#5	3'-3"	U
c4(E)		4	4	#5	2'-11"	U
d (E)	4	4	8	#4	4'-11"	U
d1(E)	4	4	8	#5	4'-2"	L
h (E)	4		4	#6	23'-6"	—
h1(E)		4	4	#6	19'-6"	—
REINFORCEMENT BARS (EPOXY COATED)					POUND	1060
CONCRETE REMOVAL					CU YD	8.4
CONCRETE SUPERSTRUCTURE					CU YD	8.4

Hatching indicates removal.



EXISTING PARTIAL PLAN
(West Abutment shown; East Abutment similar)



PROPOSED PARTIAL PLAN
(West Abutment shown; East Abutment similar)

FILE NAME =	USER NAME = teasleyck	DESIGNED - KLB	REVISED -
ca:\pw_work\pwidot\teasleyck\08269434\07	4527-eh-t-brd-detai-026014.dgn	DRAWN - KLB	REVISED -
	PLOT SCALE = 20.0000' / 1"	CHECKED - MEA	REVISED -
	PLOT DATE = 2/16/2012	DATE - 08/08/11	REVISED -

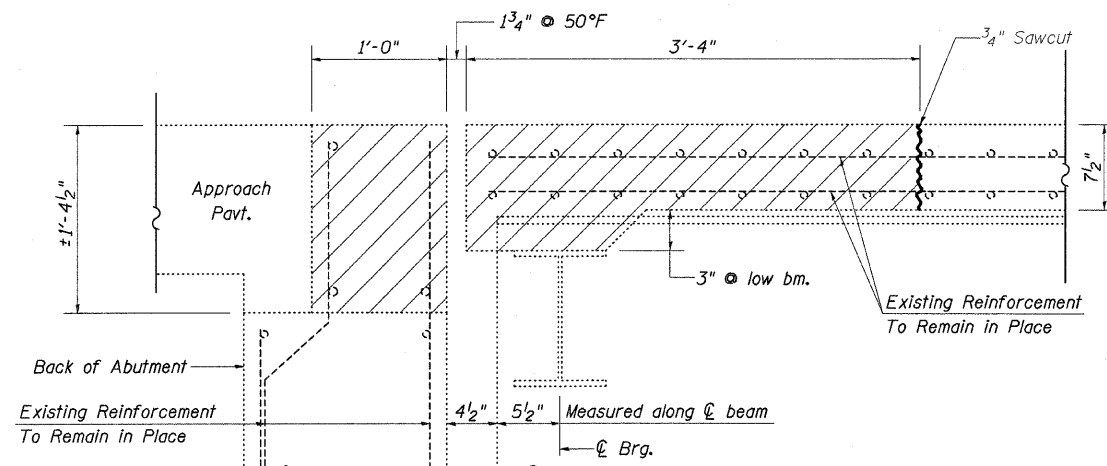
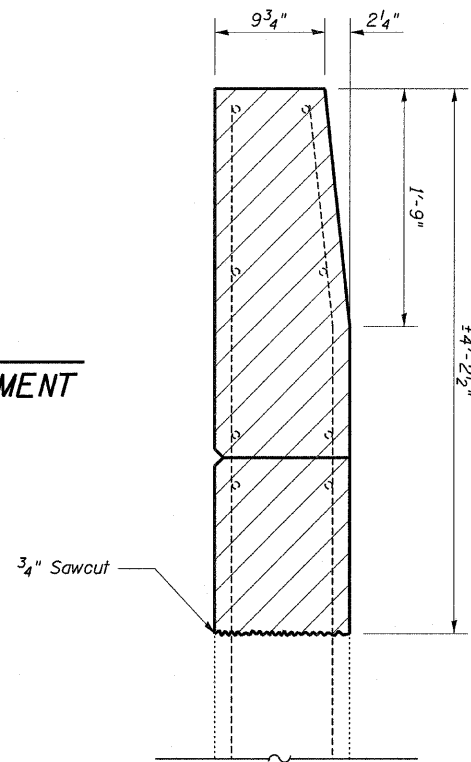
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS
SN. 026-0014

SCALE: SHEET NO. 3 OF 9 SHEETS STA. TO STA.

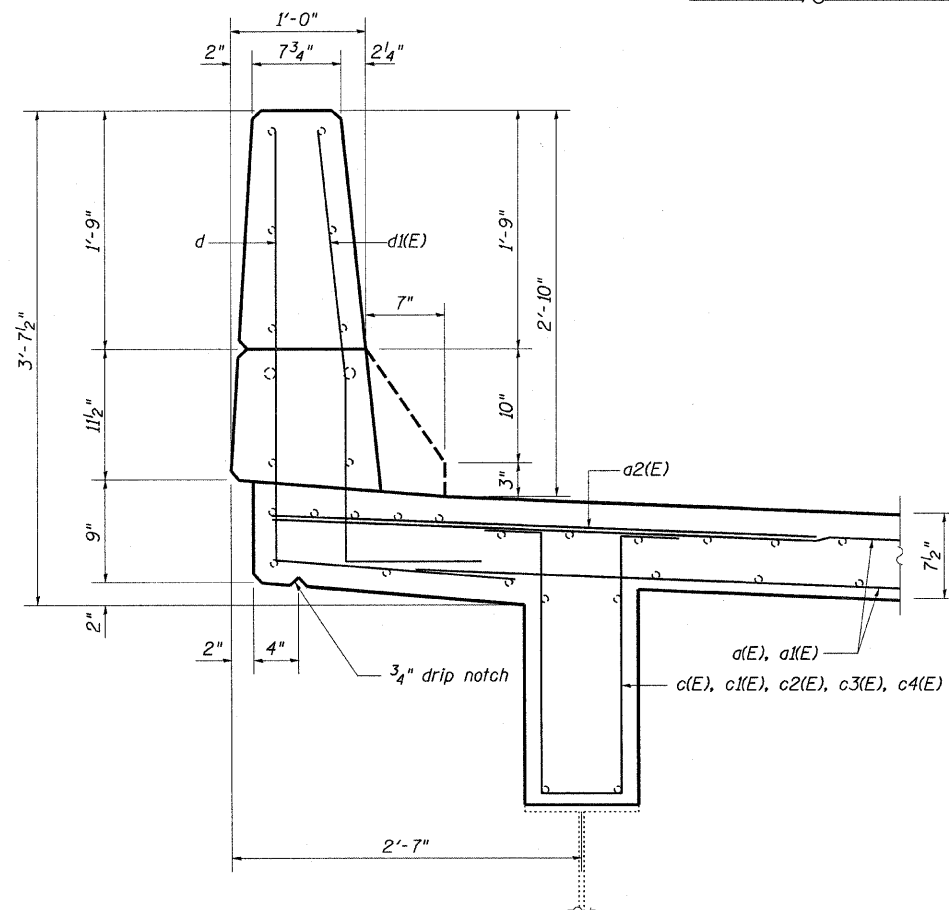
F.A.I. RTE. 70	SECTION	COUNTY Fayette	TOTAL SHEETS 10	SHEET NO. 10
CONTRACT NO. 74527			ILLINOIS FED. AID PROJECT	

**TYPICAL WINGWALL
REMOVAL AND REPLACEMENT**

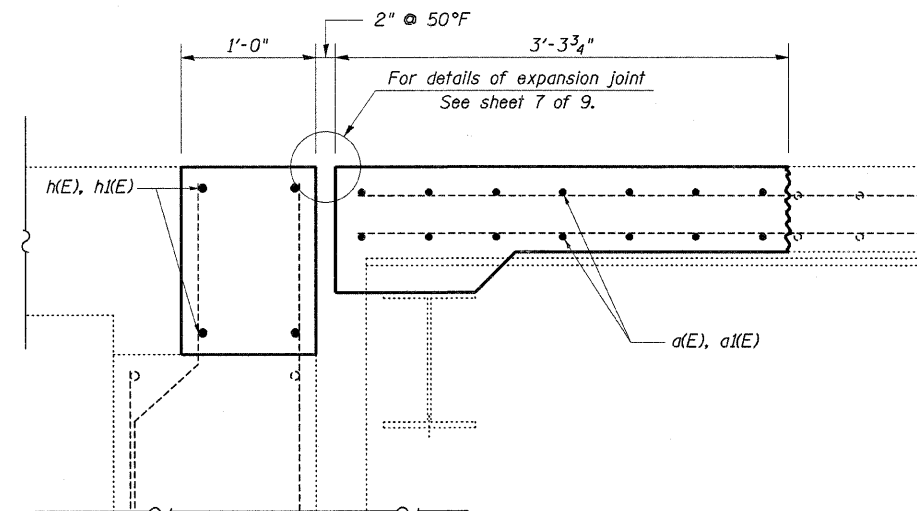


SECTION A-A
(Dimensions at Rt. L's to end of deck)

○ Existing Reinforcement
● Proposed Reinforcement

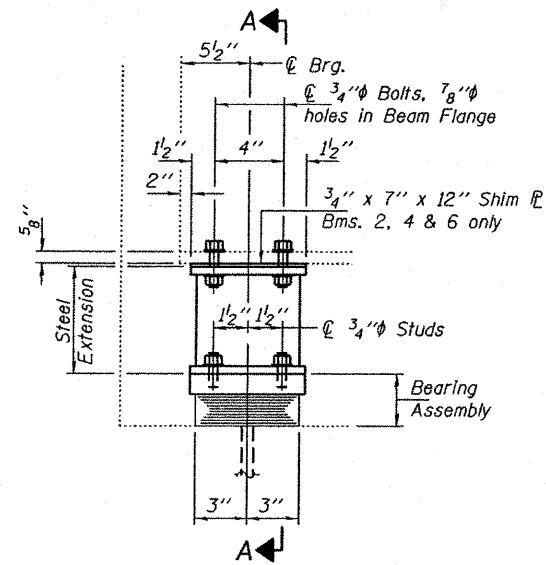


SECTION THRU PARAPET

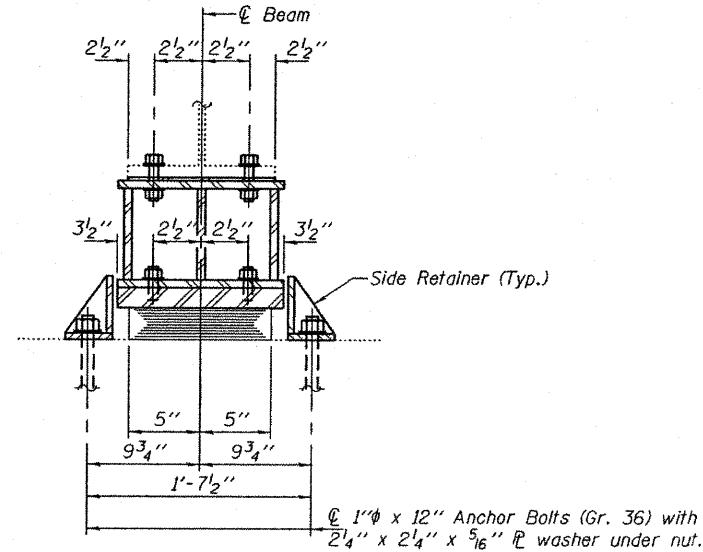


SECTION B-B
(Dimensions at Rt. L's to end of deck)

FILE NAME =	USER NAME = teasleyck	DESIGNED KLB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXPANSION JOINT REPLACEMENT DETAILS SN. 026-0014			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ci:\pw_work\pwidot\teasleyck\d0269434\07	4527-shr-br-details-0260014.dgn	DRAWN KLB	REVISED -		SCALE:	SHEET NO. 4 OF 9 SHEETS	STA.	TO STA.	TO	Fayette	ILLINOIS FED. AID PROJECT	74527	//
	PLOT SCALE = 20.0000' / in.	CHECKED MEA	REVISED -										
	PLOT DATE = 2/16/2012	DATE 08/08/11	REVISED -										

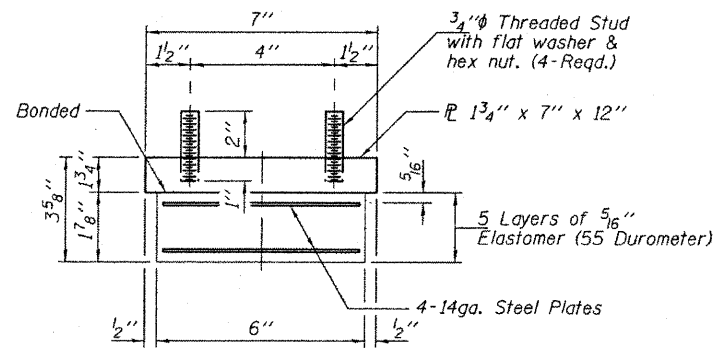


ELEVATION AT ABUTMENT



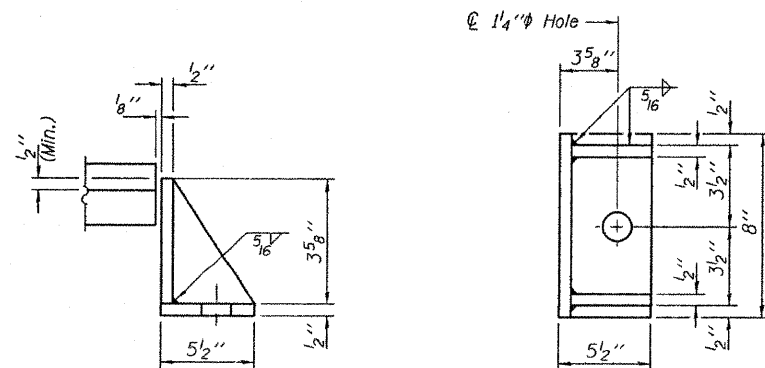
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BEAM REACTIONS

RP	(K)	14.7
RL	(K)	30.7
Imp.	(K)	9.2
R (Total)	(K)	54.6

Notes:

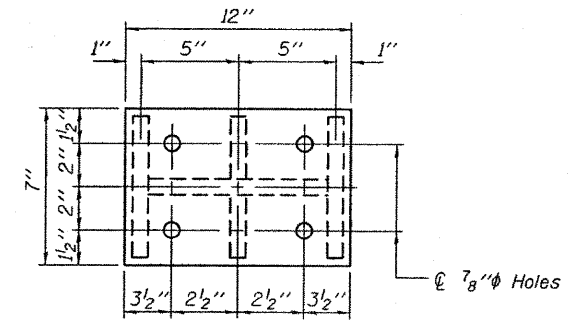
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel. Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. Jack capacity = 30 Tons.

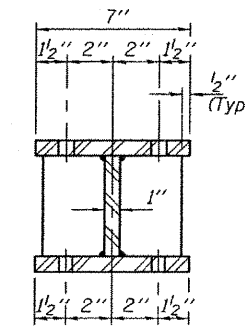
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

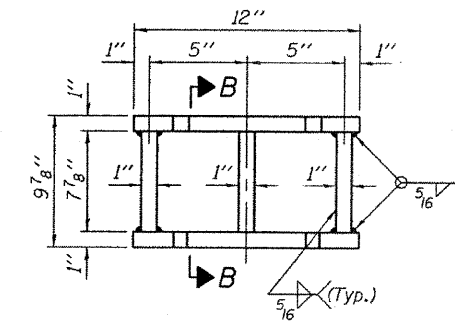
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications. Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.



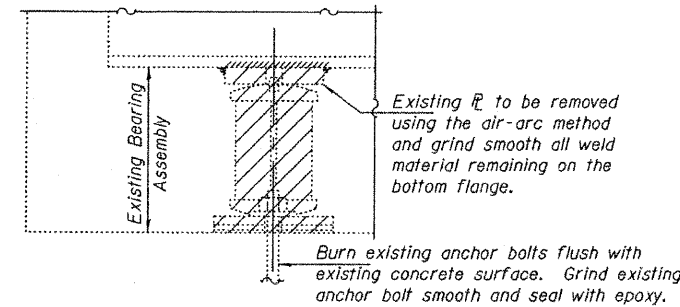
PLAN TOP AND BOTTOM PLATE



SECTION B-B



STEEL EXTENSION DETAIL



EXISTING BEARING REMOVAL DETAIL

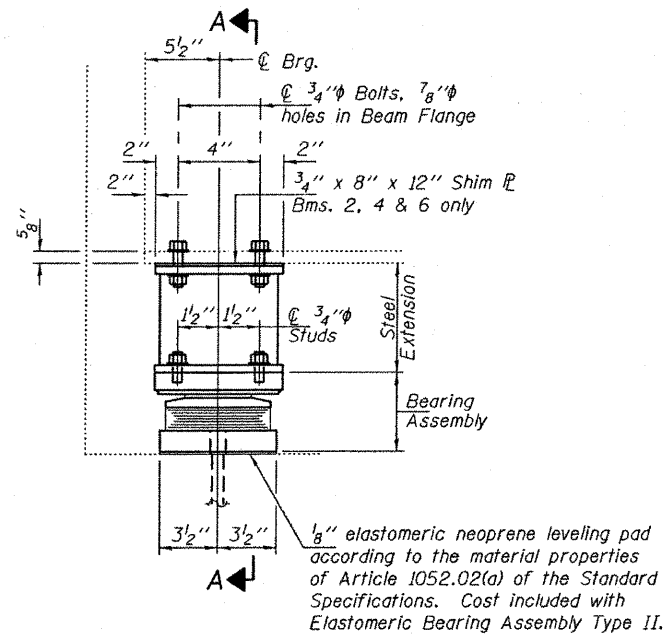
Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
Jack and Remove Existing Bearings	Each	7
Furnishing and Erecting Structural Steel	Pound	780
Anchor Bolts 1"φ	Each	14

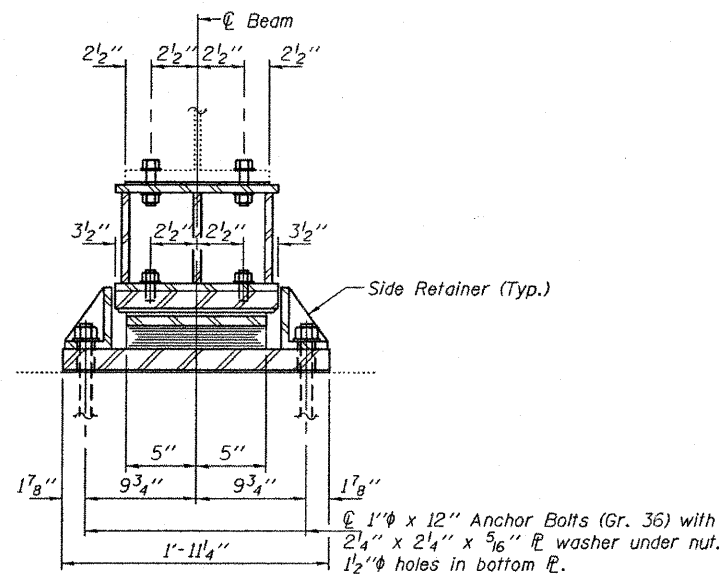
TYI/REPS 12-03-2008

DESIGNED IJL	EXAMINED <i>James F. J...</i>	DATE - AUGUST 12, 2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	E. ABUTMENT BEARING REPLACEMENT DETAILS SN 026-0014	F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
CHECKED -DAB	ACTING ENGINEER OF STRUCTURAL SERVICES				TO	FAYETTE	-	12		
DRAWN balva	PASSED <i>Carl...</i>				CONTRACT NO.					
CHECKED IJL	ACTING ENGINEER OF BRIDGES AND STRUCTURES				ILLINOIS FED. AID PROJECT					



ELEVATION AT ABUTMENT

TYPE II TFE ELASTOMERIC EXP. BRG.

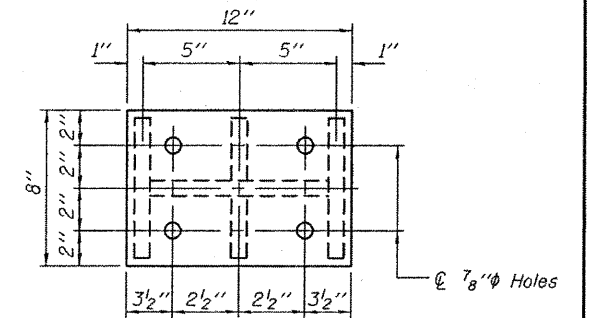


SECTION A-A

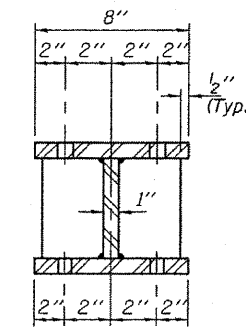
BEAM REACTIONS

R _P	(K)	14.7
R _L	(K)	30.7
Imp.	(K)	9.2
R (Total)	(K)	54.6

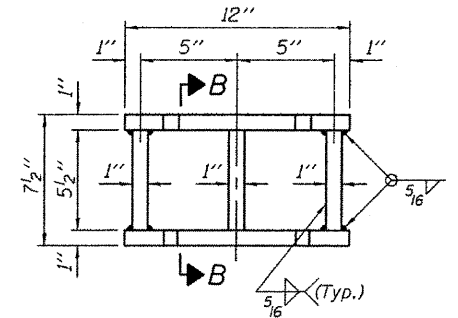
Notes:
 Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 30 Tons.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.
 The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
 Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



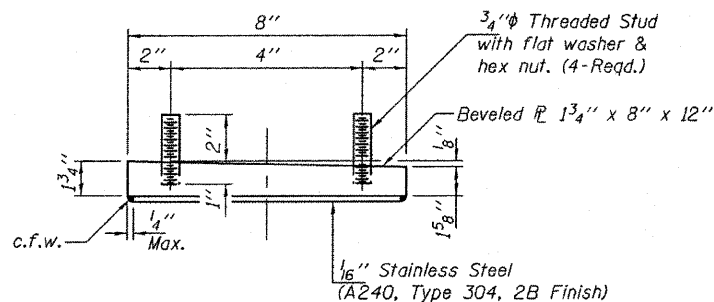
PLAN TOP AND BOTTOM PLATE



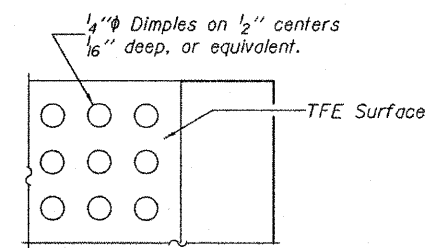
SECTION B-B



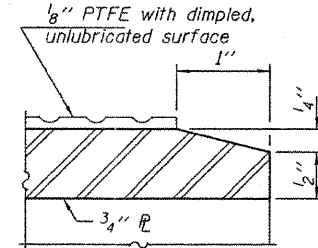
STEEL EXTENSION DETAIL



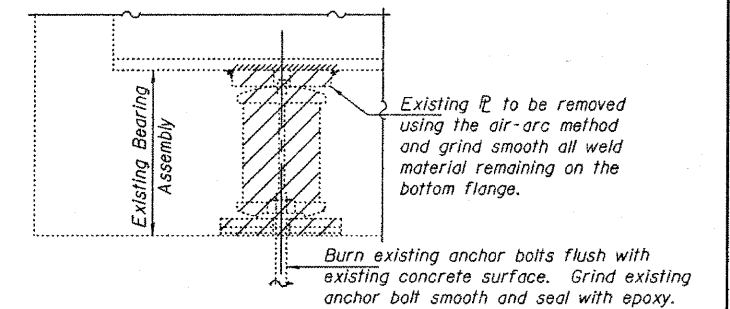
TOP BEARING ASSEMBLY (Looking North)



PLAN-TFE SURFACE

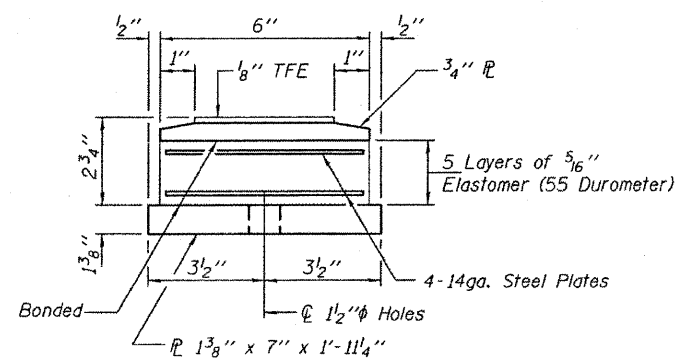


SECTION THRU TFE

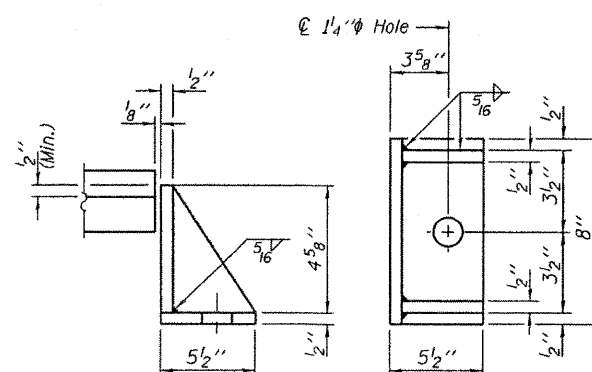


EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

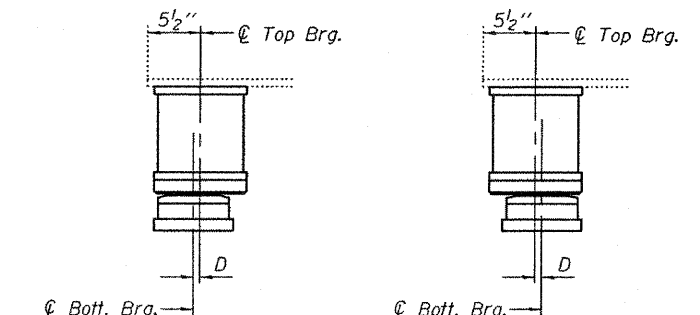


BOTTOM BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

BELOW 50° F. ABOVE 50° F.
 (Move bott. brg. away from fixed brg.) (Move bott. brg. toward fixed brg.)
 D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	7
Jack and Remove Existing Bearings	Each	7
Furnishing and Erecting Structural Steel	Pound	750
Anchor Bolts 1" ϕ	Each	14

TYII/REPS 12-03-2008

DESIGNED IJL
 CHECKED -DAB
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 CHECKED IJL

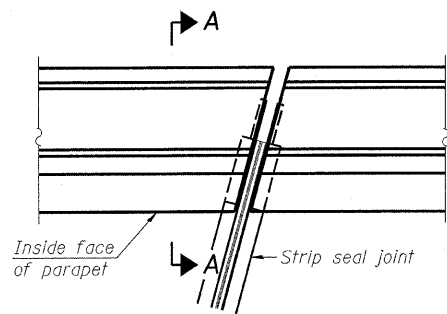
EXAMINED
 ACTING ENGINEER OF STRUCTURAL SERVICES
 DATE - AUGUST 12, 2011
 PASSED
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

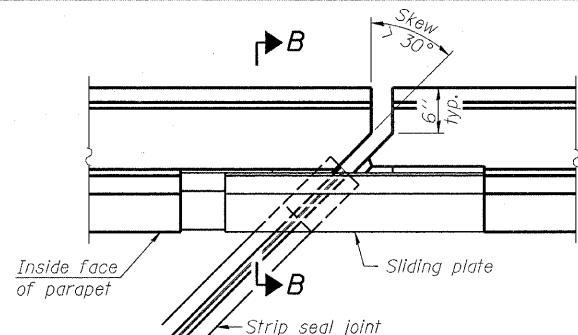
W. ABUTMENT BEARING REPLACEMENT DETAILS
 SN 026-0014

SHEET NO. 6 OF 9 SHEETS

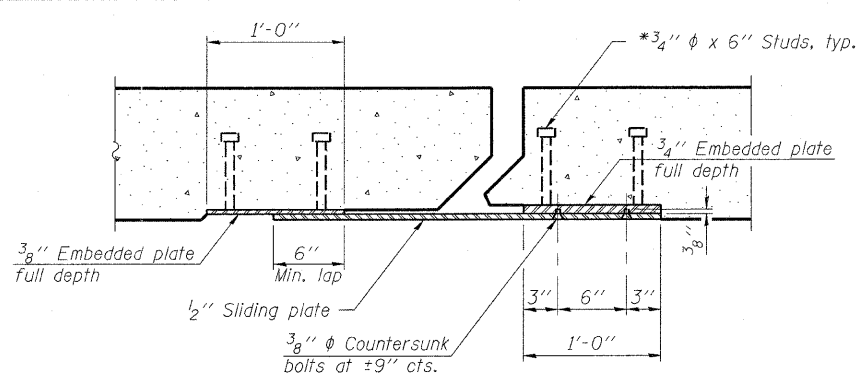
F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.
 RTE. TO FAYETTE 13
 CONTRACT NO.
 ILLINOIS FED. AID PROJECT



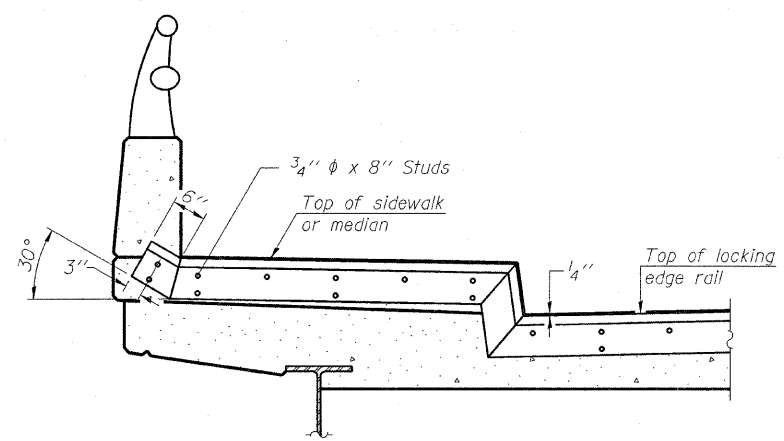
PLAN
(For skews $\leq 30^\circ$)



PLAN
(For skews $> 30^\circ$)
Showing point block

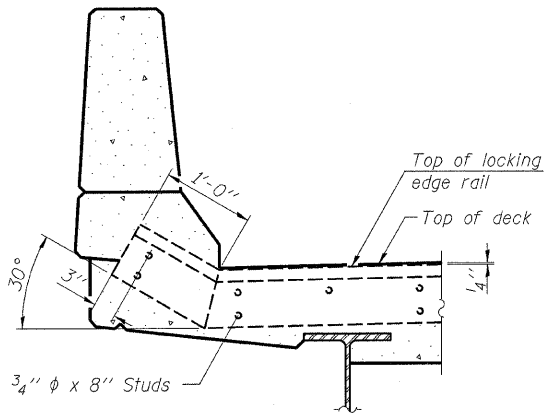


SECTION C-C

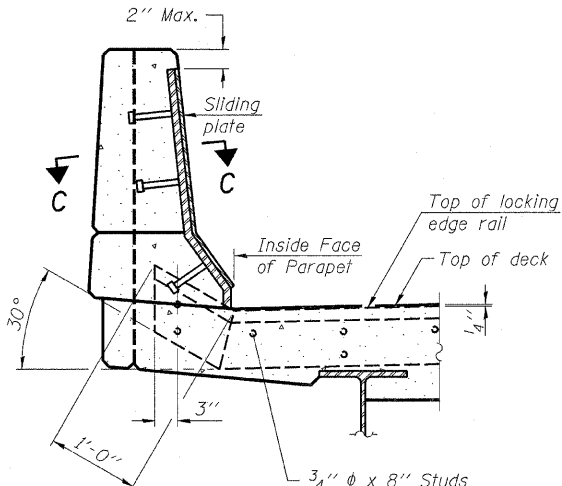


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

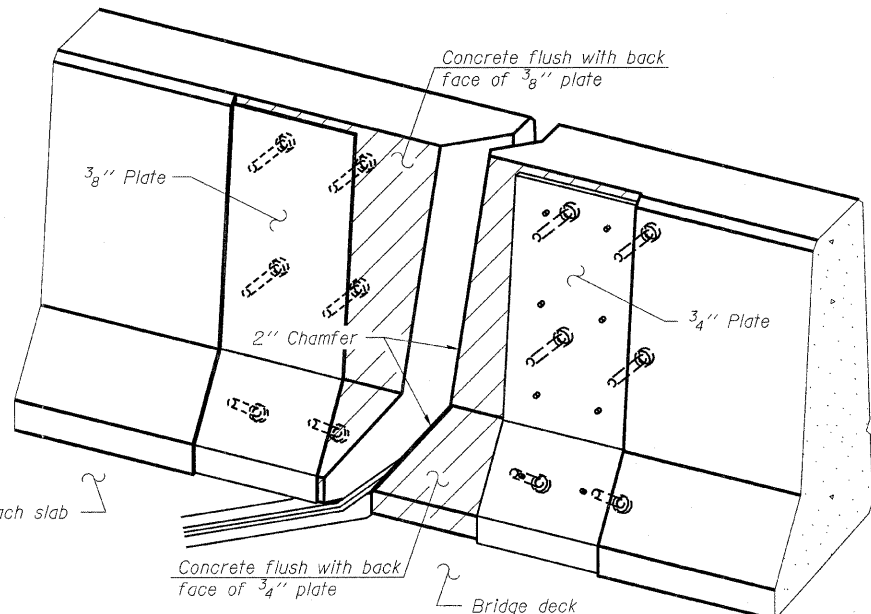
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

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.

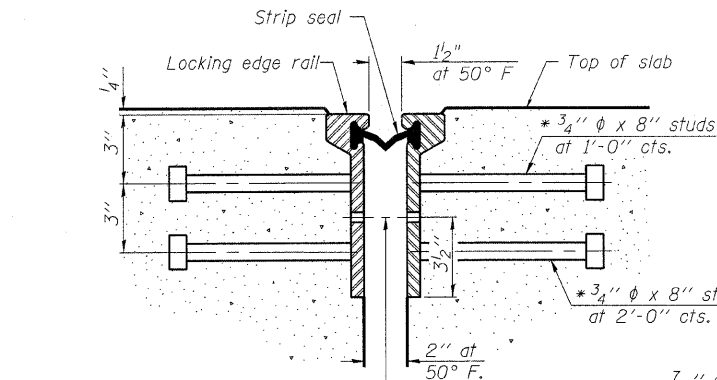
The manufacturer's recommended installation methods shall be followed.

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.

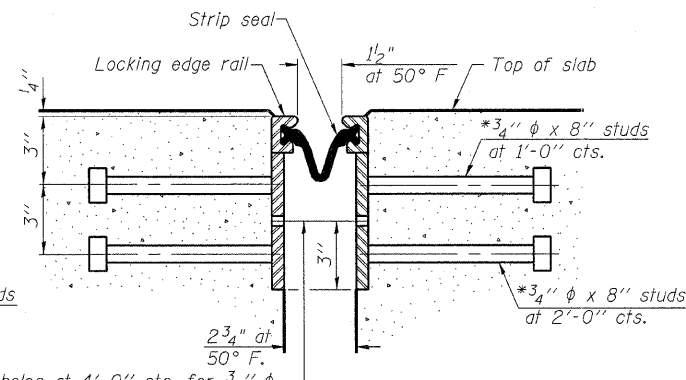
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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

Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.



SECTION THRU ROLLED RAIL JOINT



SECTION THRU WELDED RAIL JOINT

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

ROLLED EXTRUDED RAIL WELDED RAIL

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

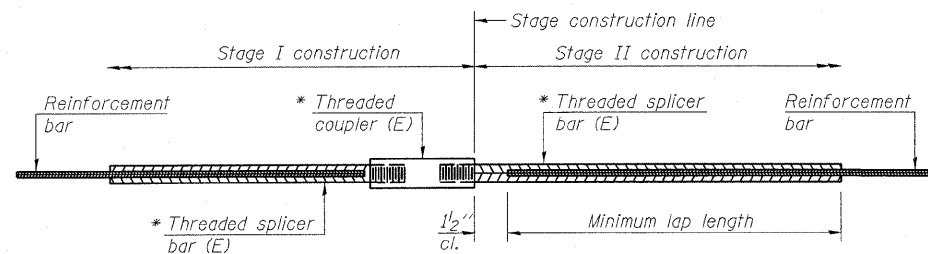
Item	Unit	Total
Preformed Joint Strip Seal	Foot	86.0

LOCKING EDGE RAILS

EJ-SSJ

7-1-10

FILE NAME =	USER NAME = teasleyck	DESIGNED - KLB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL STRUCTURE NO. 026-0014	F.A.I. RTE. 70	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cr:\pw_work\p\dot\teasleyck\d0269434\07	4527-ent-br-details-0260014.dgn	DRAWN - KLB	REVISED -					Fayette	14	
	PLOT SCALE = 20.0000' / in.	CHECKED - MEA	REVISED -			SCALE:	SHEET NO. 7 OF 9 SHEETS	STA.	TO STA.	CONTRACT NO. 74527
	PLOT DATE = 2/16/2012	DATE - 08/08/11	REVISED -			ILLINOIS FED. AID PROJECT				



STANDARD BAR SPLICER ASSEMBLY

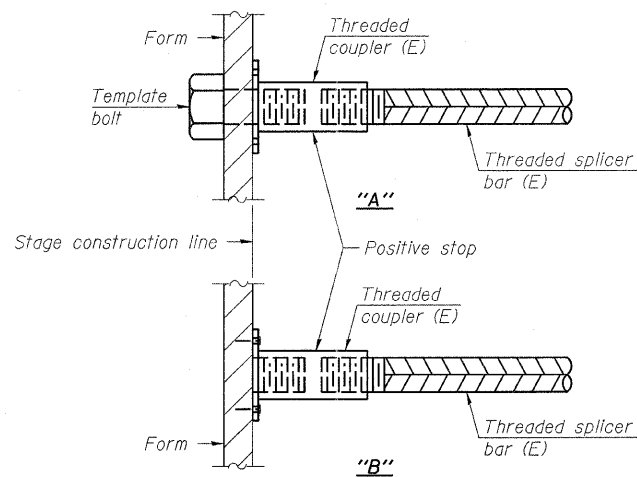
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

- 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 + 1 1/2" + thread length

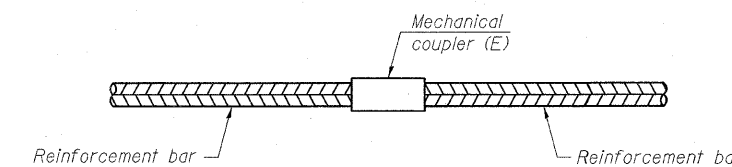
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
026-0014	#5	28	Table 3
026-0014	#6	8	Table 3



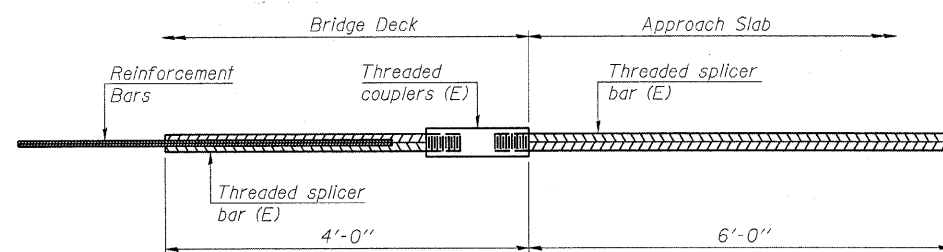
INSTALLATION AND SETTING METHODS

"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.



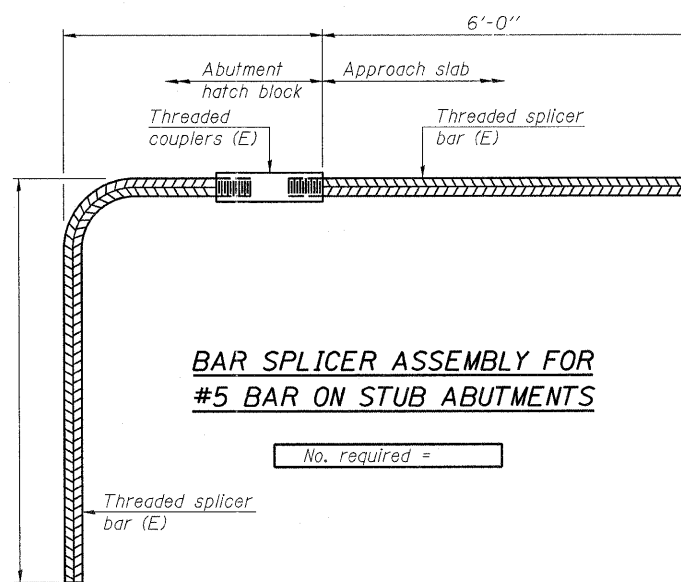
STANDARD MECHANICAL SPLICER

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

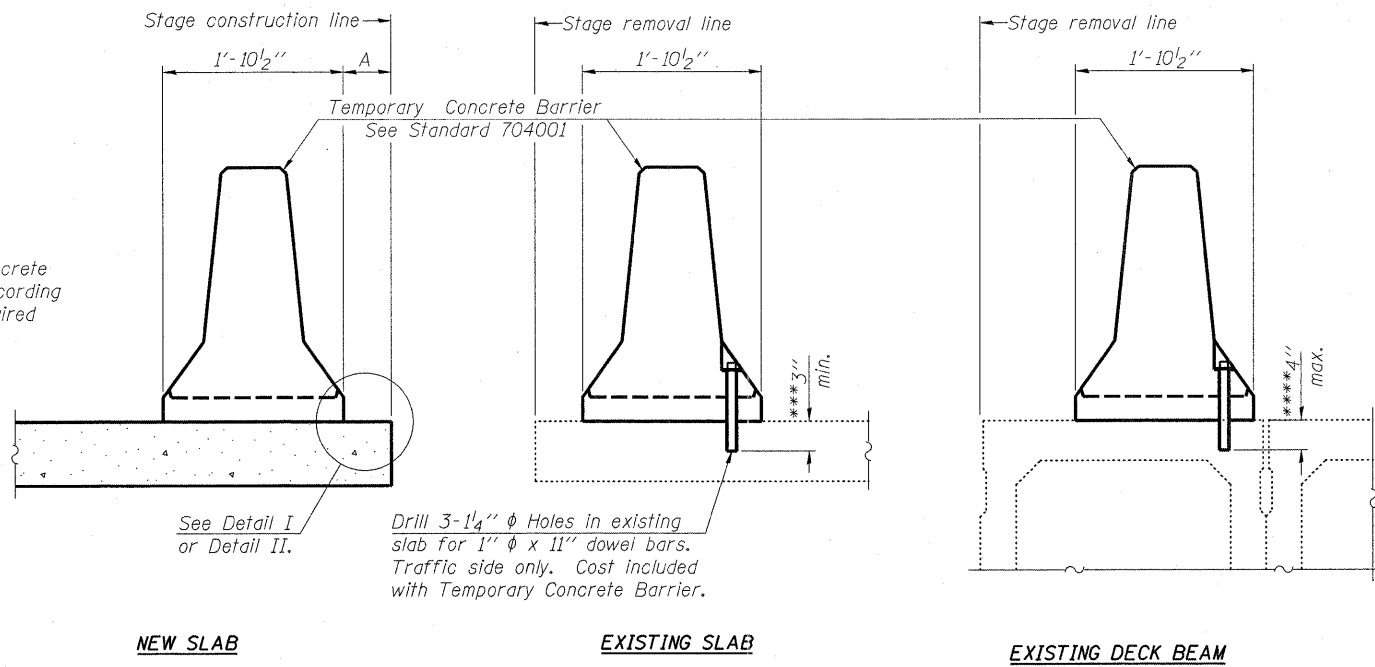
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See special provision for Mechanical Splicers.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

7-1-10

FILE NAME =	USER NAME = teasleyck	DESIGNED - KLB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 026-0014	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pw_work\pwwdot\teasleyck\d8269434\07	4527-shr-brdetaile-9260014.dgn	DRAWN - KLB	REVISED -			70		Fayette	1/5	
	PLOT SCALE = 28,0000' / in.	CHECKED - MEA	REVISED -							CONTRACT NO. 74527
	PLOT DATE = 2/16/2012	DATE - 08/08/11	REVISED -			SCALE:	SHEET NO. 8 OF 9 SHEETS	STA.	TO STA.	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".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

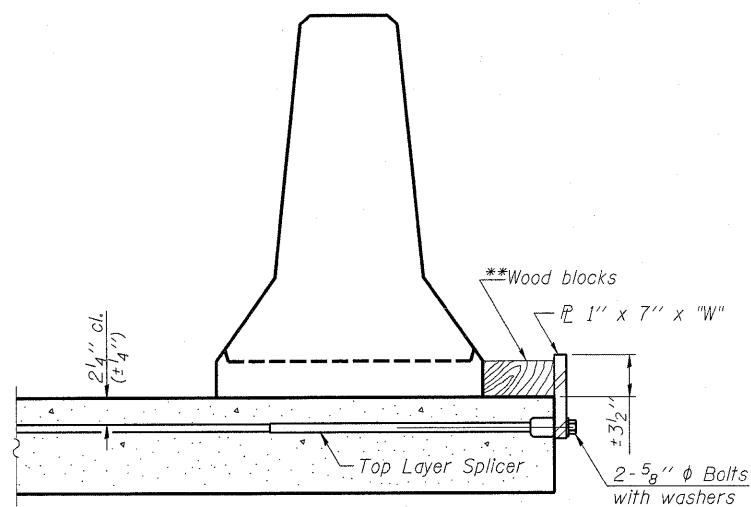
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

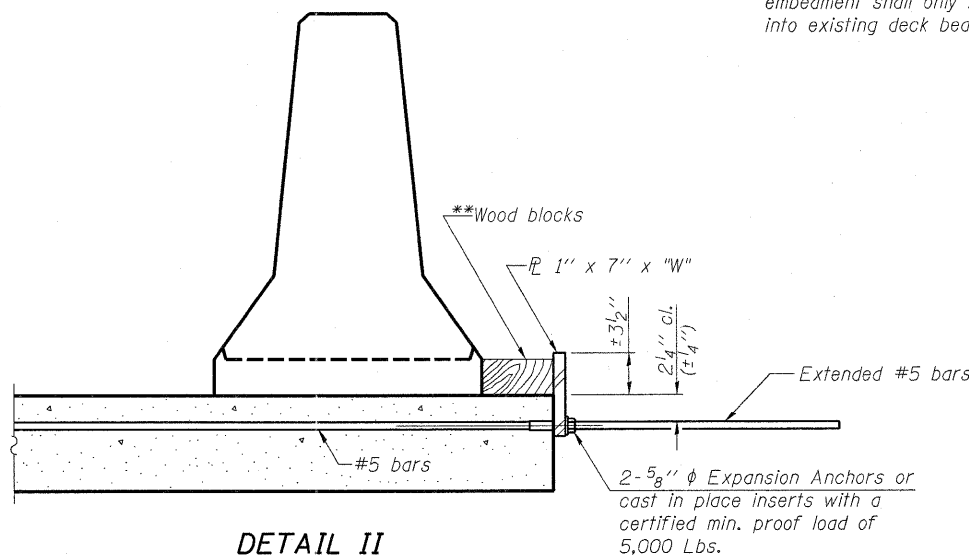
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.

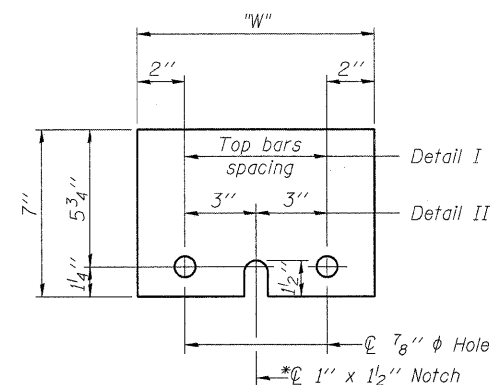
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x "W"

* 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.

"W" = Top bars spacing + 4"

R-27

7-1-10

FILE NAME =	USER NAME = teasleyck	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 026-0014			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\pwwork\teasleyck\d0269434\07	4527-shit-brd-detai1s-0260014.dgn	DRAWN -	REVISED -		70	.	Fayette	16	16			
	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -		SCALE: SHEET NO. 9 OF 9 SHEETS STA. TO STA.			CONTRACT NO. 74527				
	PLOT DATE = 2/16/2012	DATE -	REVISED -					ILLINOIS FED. AID PROJECT				