

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	1

* - D-9 BSMART FY 07-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 885 (IL 146)
SECTION D-9 BSMART FY 07-1
PROJECT: F-0885(034)
POPE COUNTY
C-99-034-06

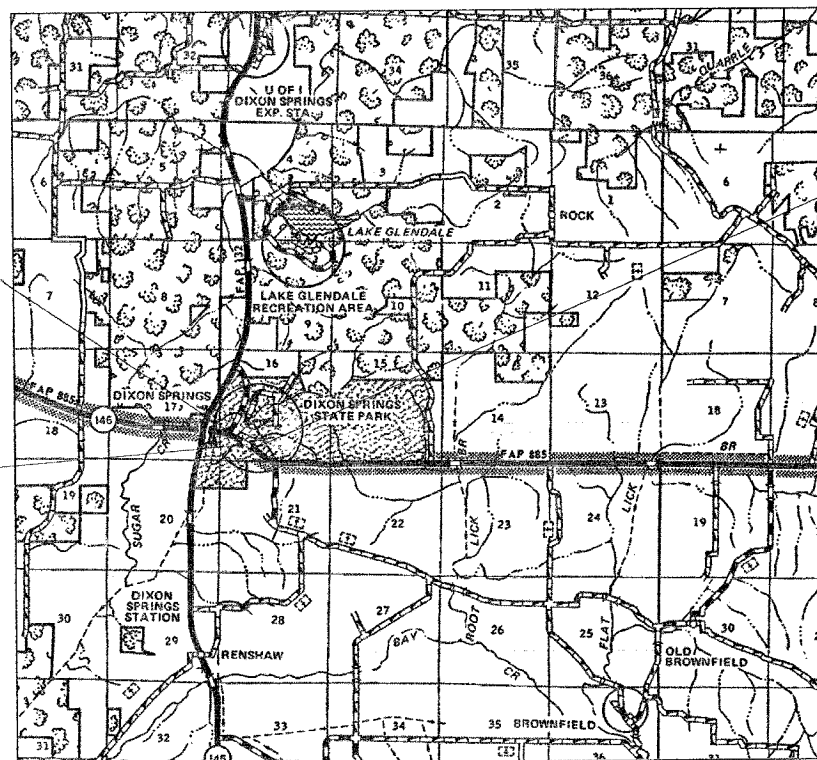
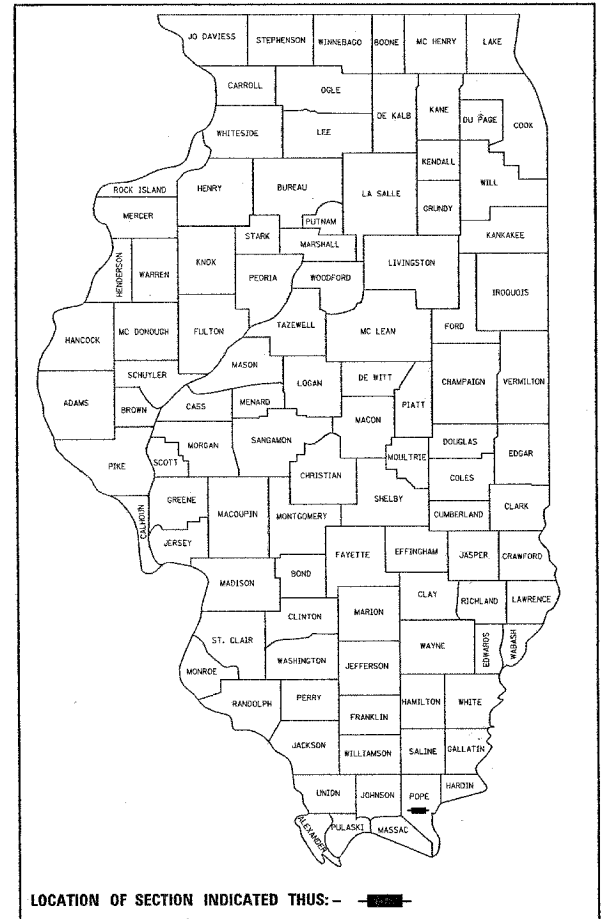
**MICROSILICA OVERLAY
AND MISC. REPAIRS OVER HILLS BRANCH**

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

2005 ADT = 2,100
15.7% TRUCKS

D-99-028-06



PROPOSED PROJECT BEGINS
STA 709+74.60

PROPOSED PROJECT ENDS
STA 714+62.27

PROPOSED MICROSILICA OVERLAY
AND MISC REPAIRS
OVER HILLS BRANCH
STRUCTURE NO. 076-0007
CENTERLINE STR STA 712+18.30



TOWNSHIP: WEBSTER

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. 98970

ROADWAY LENGTH = 140 FT
BRIDGE LENGTH = 347.7 FT

NET LENGTH OF PROJECT = 487.7 FT
GROSS LENGTH OF PROJECT = 487.7 FT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 16 2006
Mark C. Kinnin
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

August 18, 2006
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

August 18, 2006
Milton R. Sees, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

PROJECT ENGINEER = DAVID PICHE (618)-351-5227
DESIGNER = T. WAYNE HALSTEAD (618)-351-5228

F.A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	2
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

* - D-9 BSMART FY 07-1

GENERAL NOTES

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL BITUMINOUS CONCRETE 2.016 TONS/CU. YD.
 RIPRAP 1.5 TONS/CU. YD.

TRIM EDGES OF EXISTING BITUMINOUS CONCRETE SURFACE FLUSH WITH EXISTING PAVEMENT PRIOR TO CONSTRUCTING NEW BASE COURSE WIDENING.

IF THE CONTRACTOR ELECTS TO USE P.C.C. BASE COURSE WIDENING, SUCH WIDENING SHALL BE ACCORDING TO ARTICLE 406.02, EXCEPT THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WIDENING.

PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.

THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 300 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.

THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.

"NARROW BRIDGE" SIGNS WITH ADVISORY TAGS " 11 FT- 0 IN " OR " 11 FT- 6 IN " SHALL BE ERECTED BETWEEN "ROAD CONSTRUCTION AHEAD" AND THE "SIGNAL AHEAD" SIGNS.

ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE SET TO FLASH ALL RED.

COMMITMENTS: NONE

STANDARDS

- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 701006-02 OFF-ROAD OPERATIONS 2L, 2W, 15' TO PAVEMENT EDGE FOR SPEEDS \geq 45 MPH
- 701011-01 OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY FOR SPEEDS \geq 45 MPH
- 701201-02 LANE CLOSURE, 2L, 2W, DAY ONLY ON-ROAD TO 24" OFF-ROAD FOR SPEEDS \geq 45 MPH
- 701311-02 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701321-02 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 702001-06 TRAFFIC CONTROL DEVICES
- 704001-02 TEMPORARY CONCRETE BARRIER

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS; GENERAL NOTES; STANDARDS
- 3 SUMMARY OF QUANTITIES
- 4 DETOUR SIGNING
- 5 GENERAL PLAN AND ELEVATION
- 6 STAGE CONSTRUCTION
- 7 CONCRETE REMOVAL (WEST)
- 8 CONCRETE REMOVAL (EAST)
- 9 CONCRETE PLACEMENT (WEST)
- 10 CONCRETE PLACEMENT (EAST)
- 11 DRAIN & JOINT DETAILS
- 12 SPLICER BAR DETAILS
- 13 CONCRETE BARRIER DETAILS
- 14 CONCRETE REPAIRS (PIER 1)
- 15 CONCRETE REPAIRS (PIER 2)
- 16 CONCRETE REPAIRS (ABUTS.)

PLOT DATE = 7/7/2006
 FILE NAME = 06\Facemem
 PLOT SCALE = 49.9999 / IN.
 USER NAME = halstentw

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	3
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

* - D-9 BSMART FY 07-1

RURAL - POPE COUNTY
SN 076-0007

80% FED 20% STATE
SFTY-2A

CODE NUMBER	ITEM DESCRIPTION	CONSTRUCTION TYPE CODE	UNIT	QUANTITY
X0301245	SHOULDER REMOVAL		SQ YD	78
X0320887	POLYMER CONCRETE		CU FT	31.0
X0321468	PLUG EXISTING DECK DRAINS		EACH	56
X0321743	SILICONE JOINT SEALER, 1"		FOOT	198
X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR		SQ FT	8.5
X0325305	STRUCTURAL REPAIR OF CONCRETE (< 5')		SQ FT	226
X7015000	CHANGEABLE MESSAGE SIGN		CAL MO	1
XZ191205	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 3"		SQ YD	1148
Z0002600	BAR SPLICERS		EACH	34
Z0006204	BRIDGE DECK HYDRO-SCARIFICATION 1/2"		SQ YD	1146
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		SQ YD	0.4
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TL-3		EACH	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TL-3		EACH	2
Z0073400	TEMPORARY SUPPORT SYSTEM		EACH	12
28100205	STONE RIPRAP, CLASS A3		TON	48
28200200	FILTER FABRIC		SQ YD	95
35600500	BITUMINOUS CONCRETE BASE COURSE WIDENING 10 INCHES		SQ YD	78
44000910	BITUMINOUS CONCRETE REMOVAL (DECK)		SQ YD	1194
50102400	CONCRETE REMOVAL		CU YD	15.3
50300255	CONCRETE SUPERSTRUCTURE		CU YD	18.1
50300300	PROTECTIVE COAT		SQ YD	1403
50300260	BRIDGE DECK GROOVING		SQ YD	1121
50800205	REINFORCEMENT BARS, EPOXY COATED		POUND	1900
50900105	ALUMINUM RAILING, TYPE L		FOOT	80
67000400	ENGINEER'S FIELD OFFICE, TYPE A		CAL MO	4
67100100	MOBILIZATION		L SUM	1
70101205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)		EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201		L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS		EACH	1
70106700	TEMPORARY RUMBLE STRIP		EACH	33
70300100	SHORT-TERM PAVEMENT MARKING		FOOT	130
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"		FOOT	2040
70301000	WORK ZONE PAVEMENT MARKING REMOVAL		SQ FT	238
70400100	TEMPORARY CONCRETE BARRIER		FOOT	520
70400200	RELOCATE TEMPORARY CONCRETE BARRIER		FOOT	510
* 78001110	PAINT PAVEMENT MARKING - LINE 4"		FOOT	1149

© SFTY-3N
* SPECIALTY ITEMS

Prepared By: *Joe Zolman*
DISTRICT STUDIES & PLANS ENGINEER
Examined By: *James Lewis Emery*
DISTRICT LAND ACQUISITION ENGINEER
Examined By: *Candi Nelson*
DISTRICT PROGRAM DEVELOPMENT ENGINEER
Examined By: *Kevin Hamm*
DISTRICT OPERATIONS ENGINEER
Examined By: *James Lewis*
DISTRICT CONSTRUCTION ENGINEER
Examined By: *Bruce Doolittle*
DISTRICT MATERIALS ENGINEER
Examined By: *John Smith*
DISTRICT PROJECT SUPERVISION ENGINEER
Examined By: *James Lewis*
ASSISTANT REGIONAL ENGINEER
Approved By: *Mark C. Williams*
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
DATE: *July 2007*

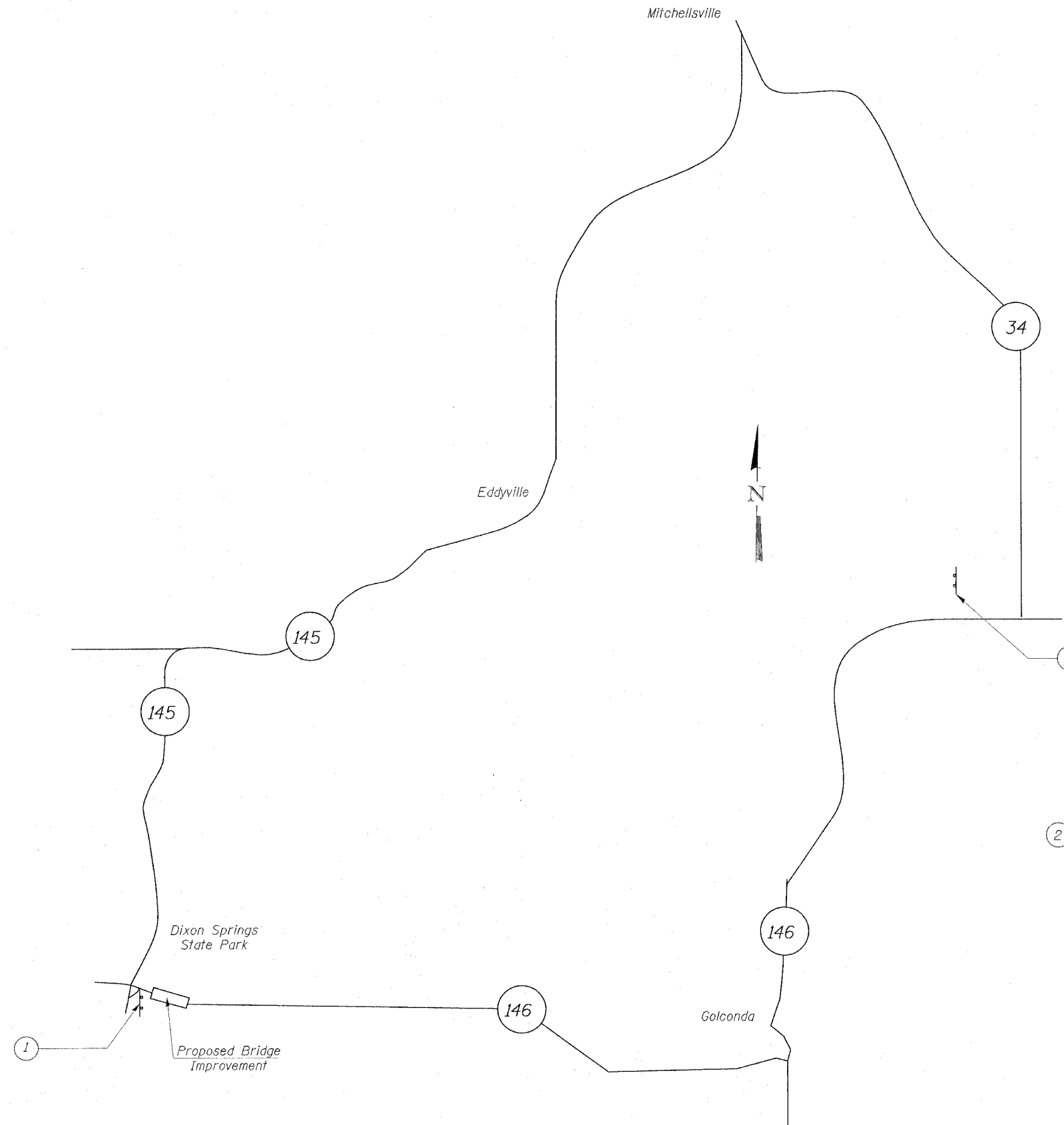
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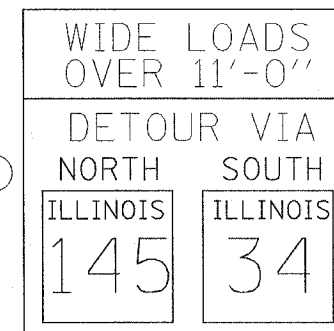
F. A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	4
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* - D-9 BSMART FY 07-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

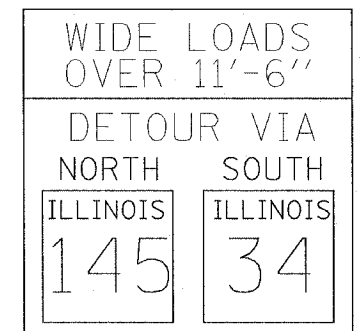


SIGN LEGEND
STAGE I

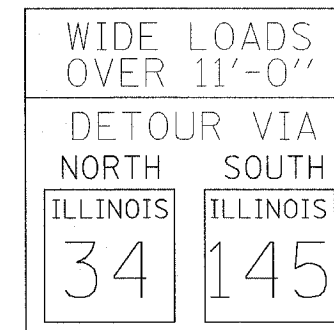


60" x 60"

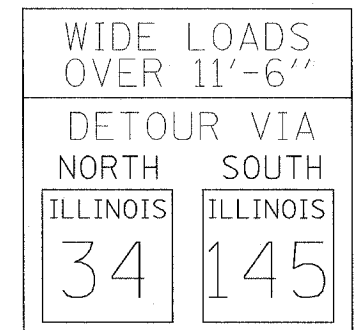
SIGN LEGEND
STAGE II



60" x 60"



60" x 60"



60" x 60"

DETOUR NOTES

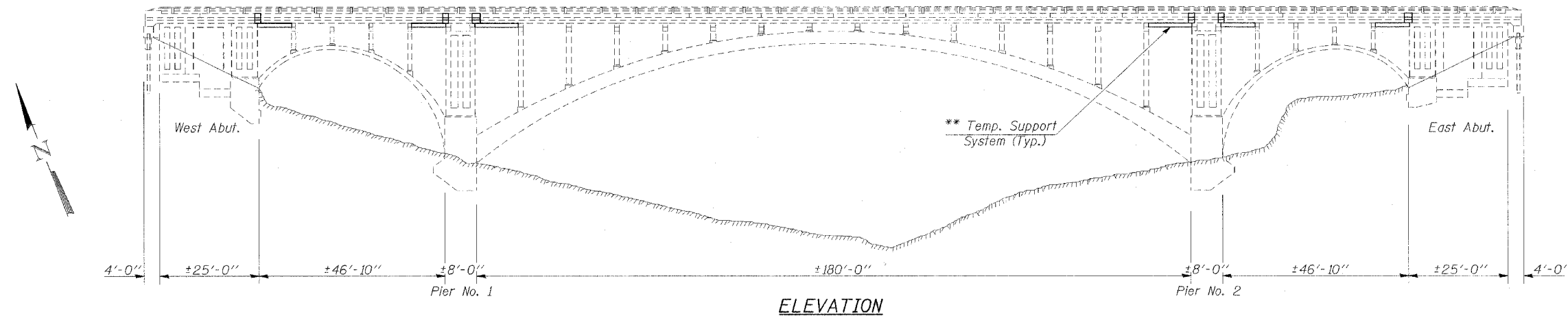
1. The Contractor shall furnish the posts and erect the signs at the locations, as directed by the Resident Engr./Tech. All signs shall be post mounted.
2. The above noted work, including signs posts, hardware, and labor shall be included in the contract unit price, each, for Traffic Control and Protection Std. 701321 (Special) and no other compensation will be allowed.
3. The Resident Engineer shall give I.D.O.T. Bureau of Operations, permits section two weeks notice before implementing any lane width restrictions

WIDTH RESTRICTION SIGNING

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. REC.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	5
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*- D-9 BSMART FY 07-1

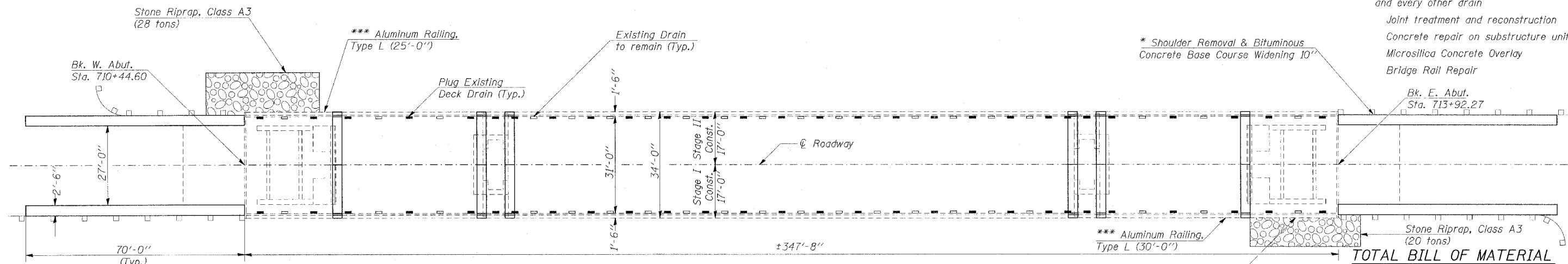


Sequence of Construction

1. Replace and widen Existing Shoulders
2. Install Temp. Support System (Stage I)
3. Remove Stage I Areas
4. Perform Stage I Repairs and Overlay
5. Install Temp. Support System (Stage II)
6. Remove Stage II Areas
7. Perform Stage II Repairs and Overlay

Scope of Work

- Replace and widen existing shoulders
- Remove existing bit. surface on deck
- Scarify existing deck
- Eliminate drains within 10' of abutments/piers and every other drain
- Joint treatment and reconstruction
- Concrete repair on substructure units
- Microsilica Concrete Overlay
- Bridge Rail Repair



GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

* The Contractor will be allowed the option of placing P.C.C. Pavement in lieu of the Bituminous Concrete used in preparing shoulders for staged traffic. There will be no additional compensation if the P.C.C. Pavement is used. Shoulder work must be completed before the barrier wall is erected.

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.

** Prior to Concrete Removal in each stage, the contractor shall submit details to the Bureau of Bridges and Structures for approval on a temporary support system for the areas of Concrete Removal. The details shall be signed and stamped by an Illinois Structural Engineer. The temporary support system shall remain in place according to Article 503.05 of the Standard Spec. unless directed otherwise by the Engineer.

*** Remove and replace existing Aluminum Railing, Type L & Support Pedestals called out in the above plan view as directed by the Engineer, cost included in Aluminum Railing, Type L.

DESIGN STRESSES

NEW CONSTRUCTION
fc = 3500 psi
fy = 60,000 psi (reinforcement)

EXISTING STRUCTURE
fc = 1400 psi
fs = 20,000 psi (reinforcement)

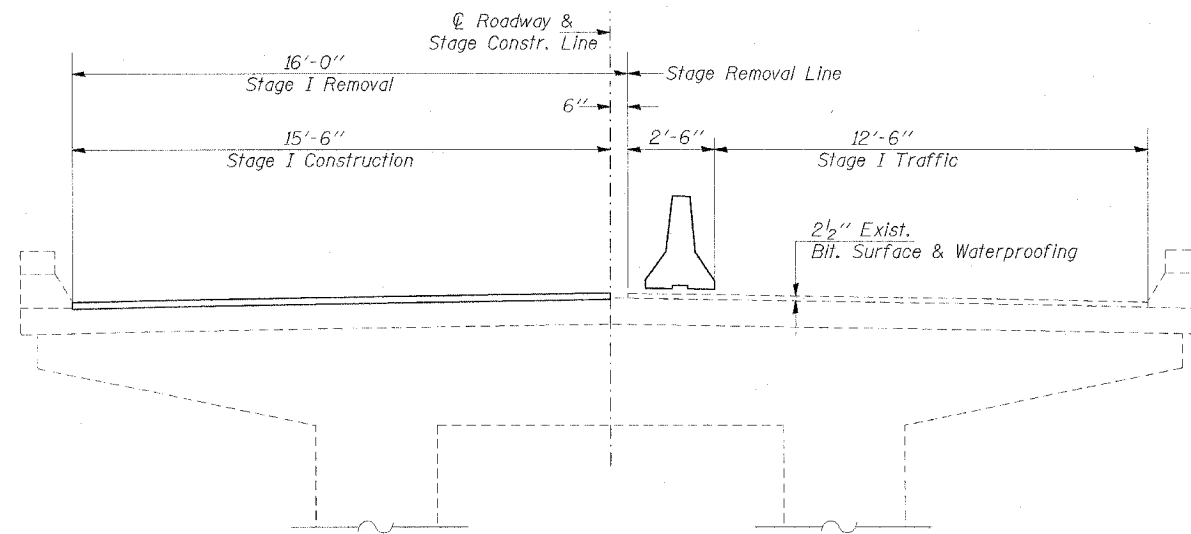
ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.4
Aluminum Railing, Type L	Foot	80
Concrete Superstructure	Cu. Yd.	18.1
Bridge Deck Hydro-Scarification 1/2"	Sq. Yd.	1146
Plug Existing Deck Drains	Each	56
Polymer Modified Portland Cement Mortar	Sq. Ft.	8.5
Reinforcement Bars, Epoxy Coated	Pound	1900
Structural Repair of Concrete (< 5')	Sq. Ft.	226
Bar Splicers	Each	34
Bridge Deck Microsilica Concrete Overlay 3"	Sq. Yd.	1148
Silicone Joint Sealer, 1"	Foot	198
Bridge Deck Grooving	Sq. Yd.	1121
Polymer Concrete	Cu. Ft.	31.0
Concrete Removal	Cu. Yd.	15.3
Bituminous Concrete Removal (Deck)	Sq. Yd.	1194
Stone Riprap, Class A3	Tons	48
Temporary Support System	Each	12
Protective Coat	Sq. Yd.	1403

GENERAL PLAN AND ELEVATION
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
S.N. 076-0007

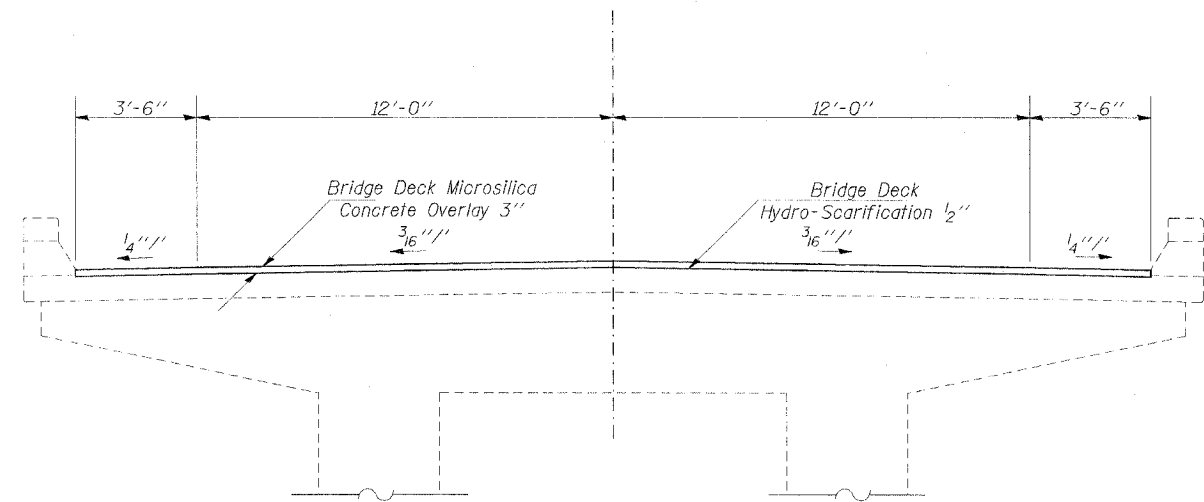
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. PTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	6
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* - D-9 BSMART FY 07-1



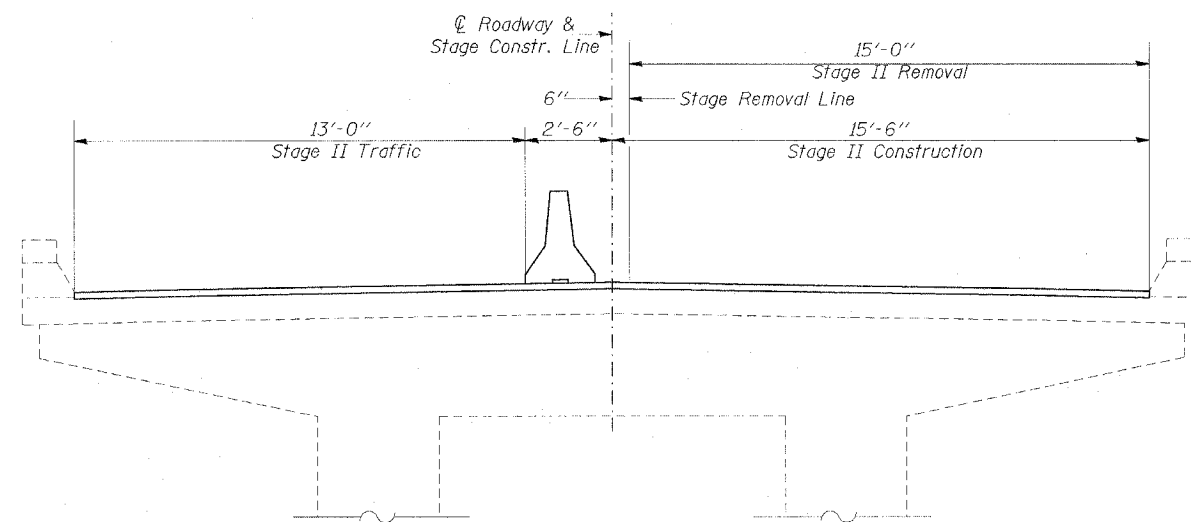
STAGE I



TYPICAL CROSS SECTION

(Proposed Cross Slope matches the Existing)

Notes: Cross sections are looking West



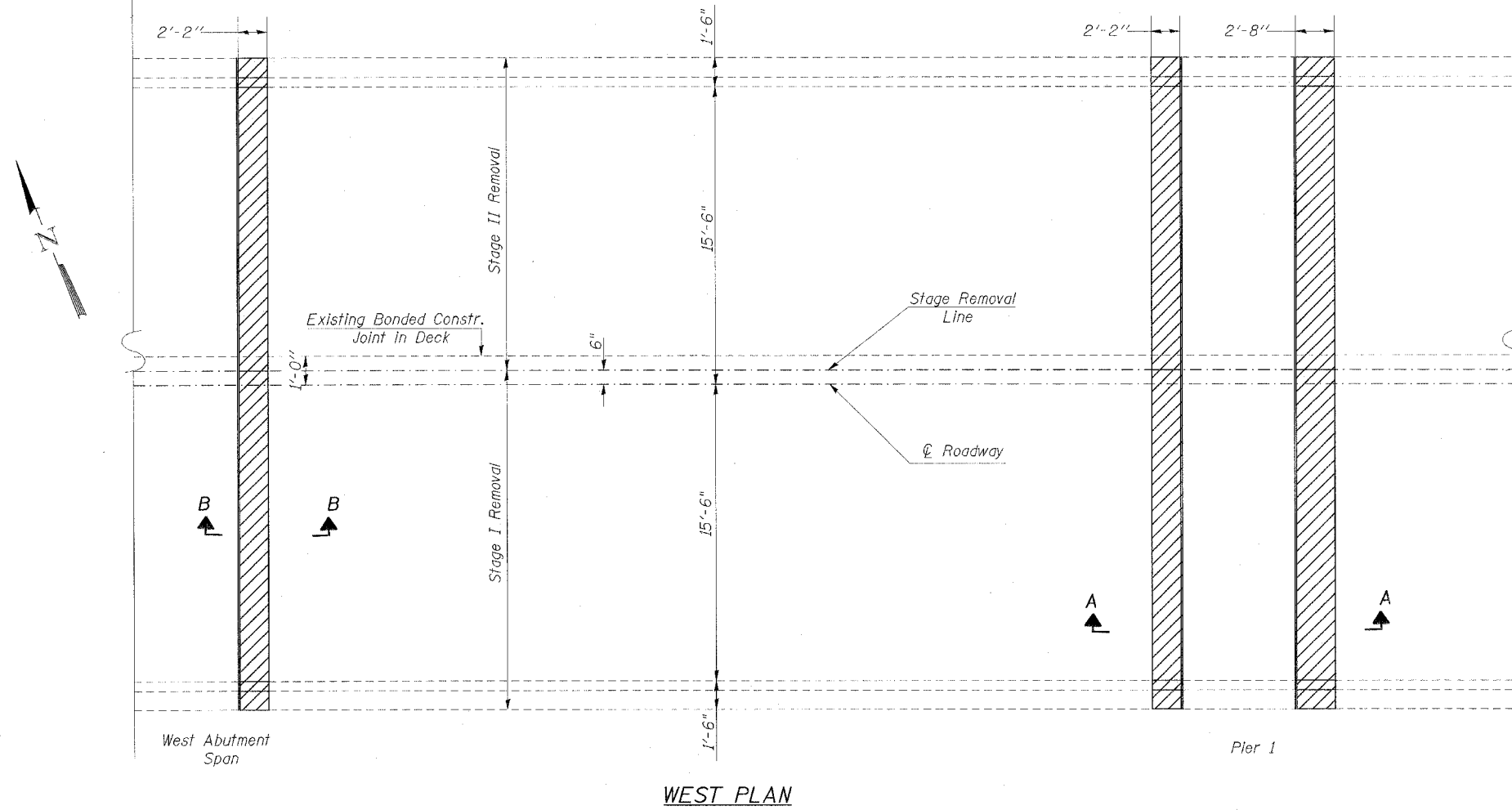
STAGE II

STAGE CONSTRUCTION
DETAILS
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007

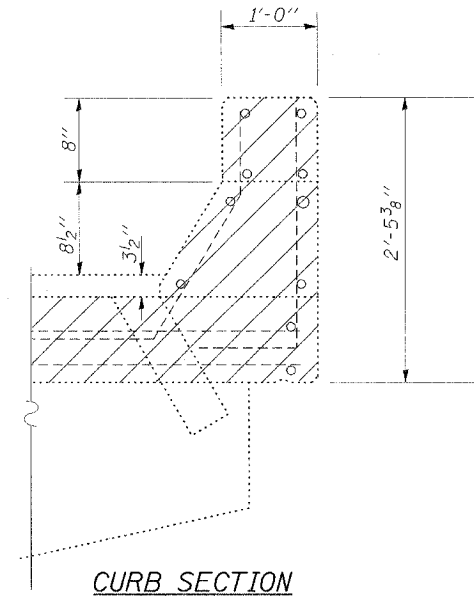
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885	*	POPE	16	7
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* - D-9 BSMART FY 07-1

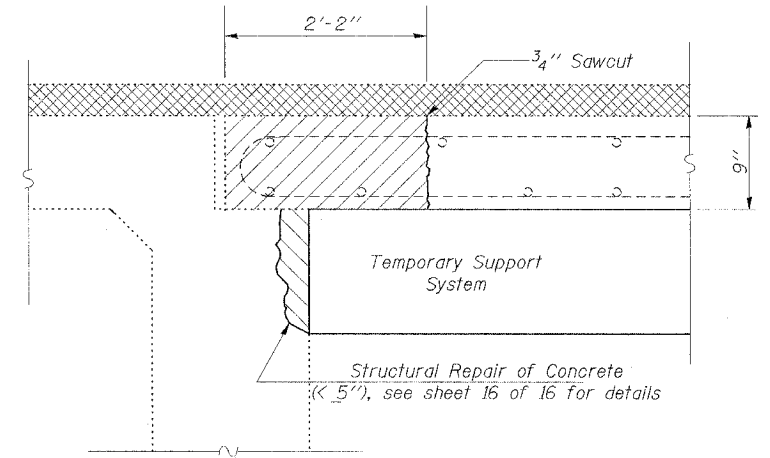
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



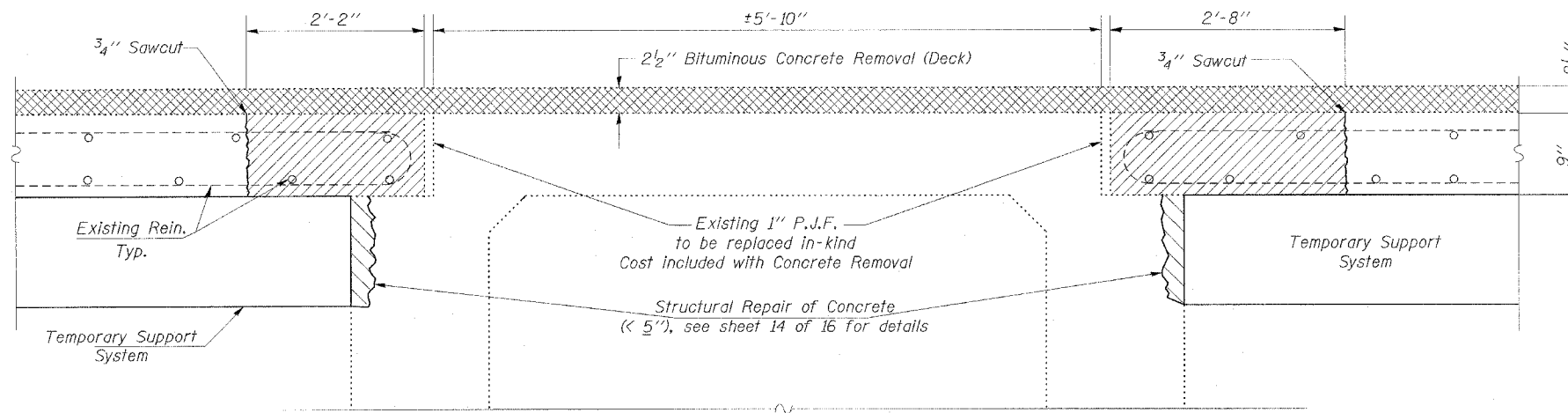
WEST PLAN



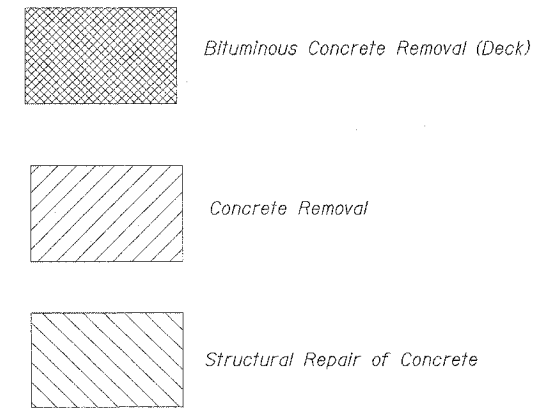
CURB SECTION



SECTION B-B
Existing West Abutment



SECTION A-A
Existing Pier 1



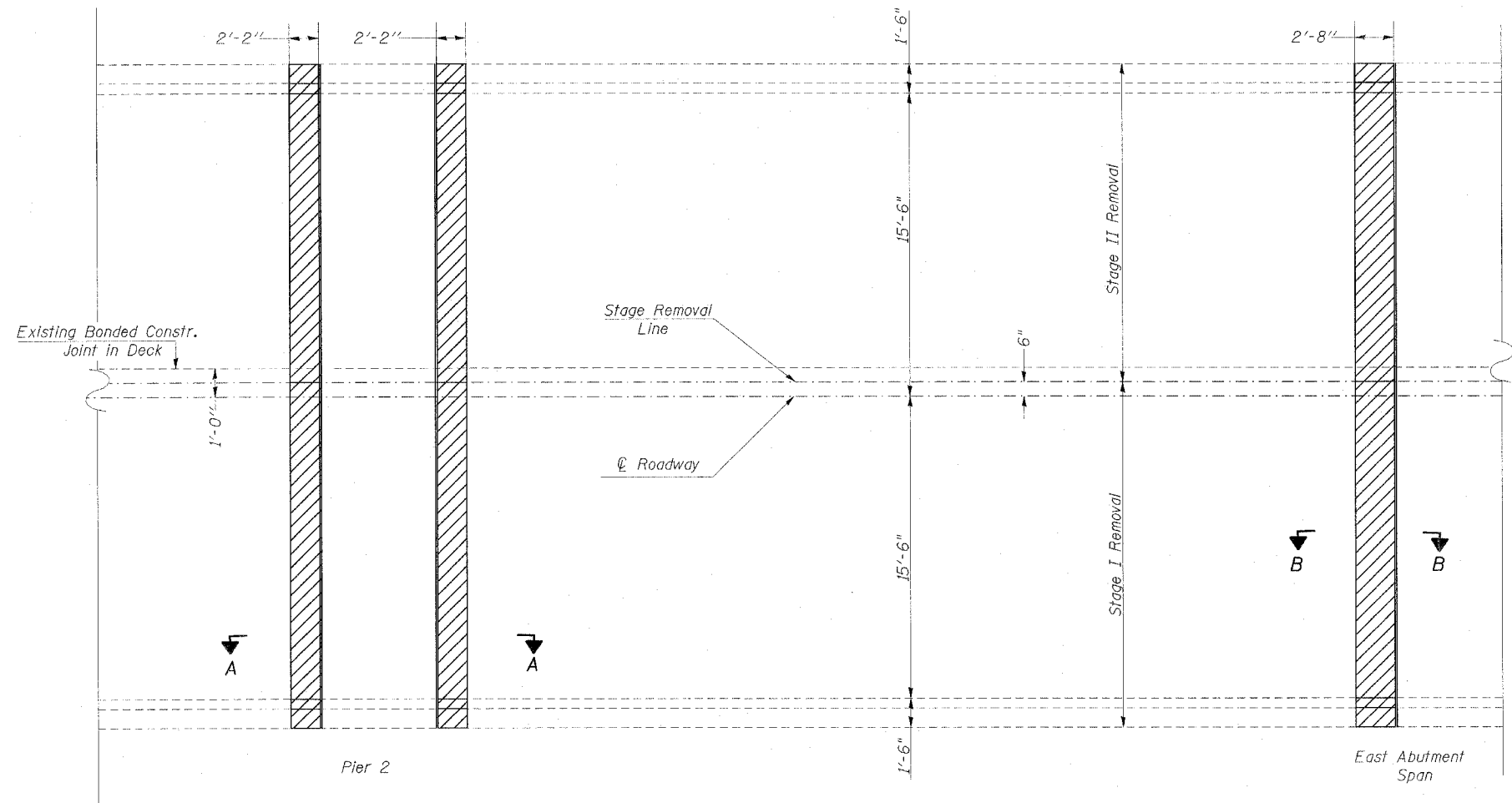
Notes:
Work this sheet with
sheet 9 of 16

CONCRETE REMOVAL
ILL 146 OVER HILLS BRANCH
WEST DETAILS
POPE COUNTY
STA. 712+18.3
SN 076-0007

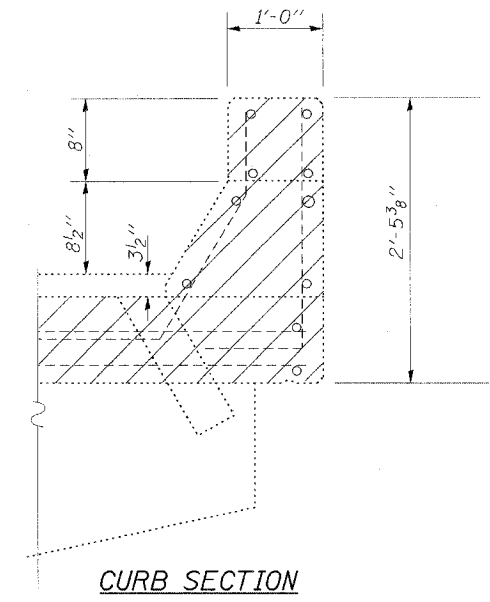
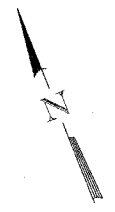
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONTRACT NO. 98970				
F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	8
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

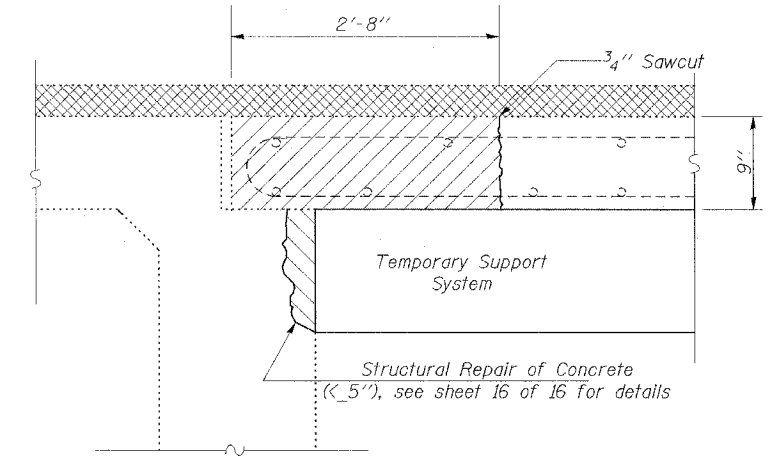
* - D-9 BSMART FY 07-1



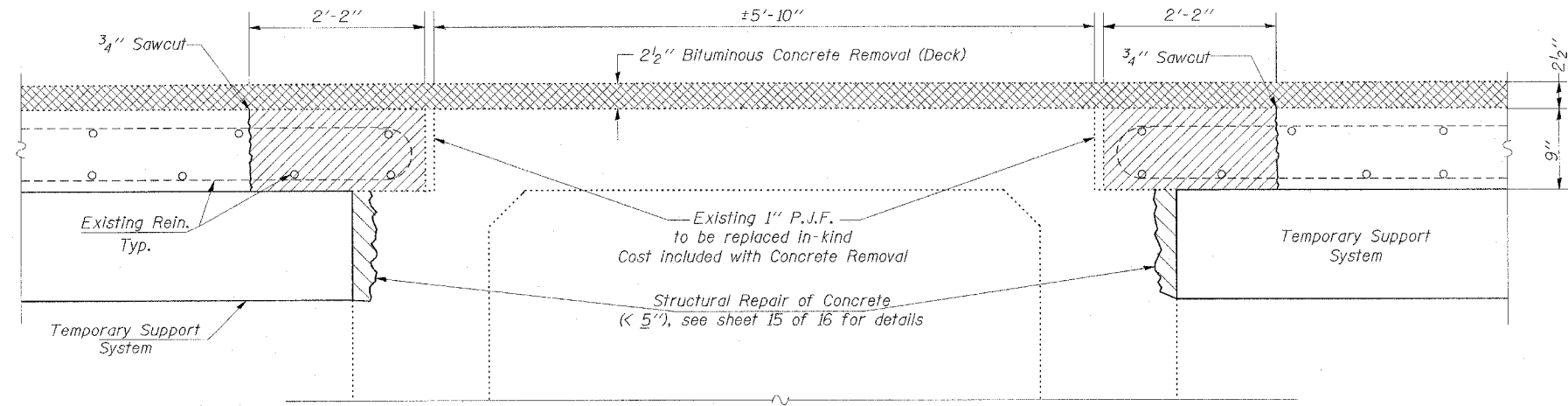
EAST PLAN



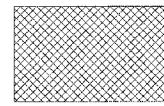
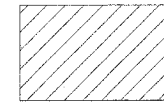
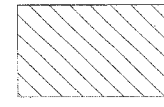
CURB SECTION



SECTION B-B
Existing East Abutment



SECTION A-A
Existing Pier 2

-  Bituminous Concrete Removal Deck
-  Concrete Removal
-  Structural Repair of Concrete

Notes:
Work this sheet with
sheet 10 of 16

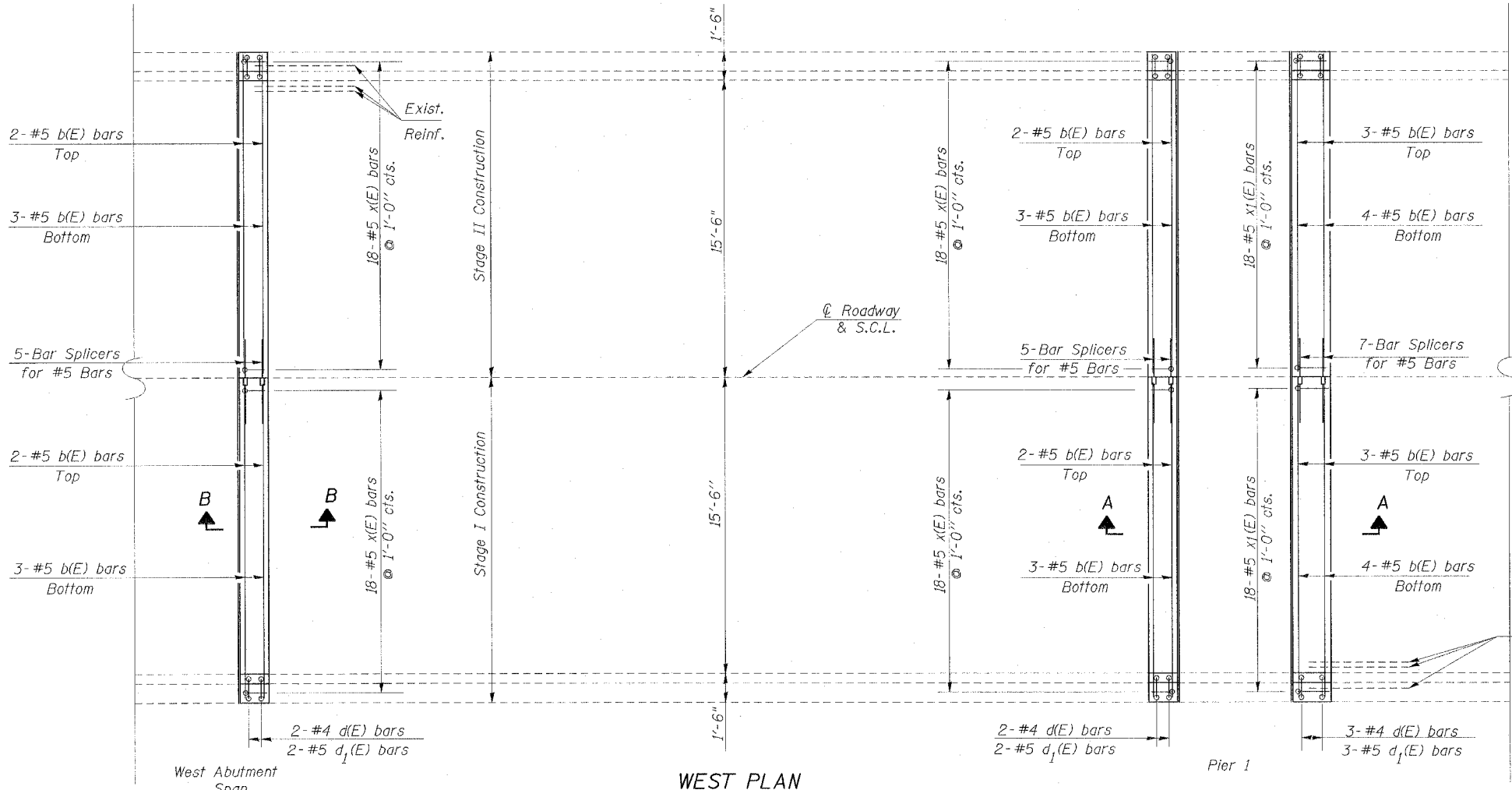
CONCRETE REMOVAL
ILL 146 OVER HILLS BRANCH
EAST DETAILS
POPE COUNTY
STA. 712+18.3
SN 076-0007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

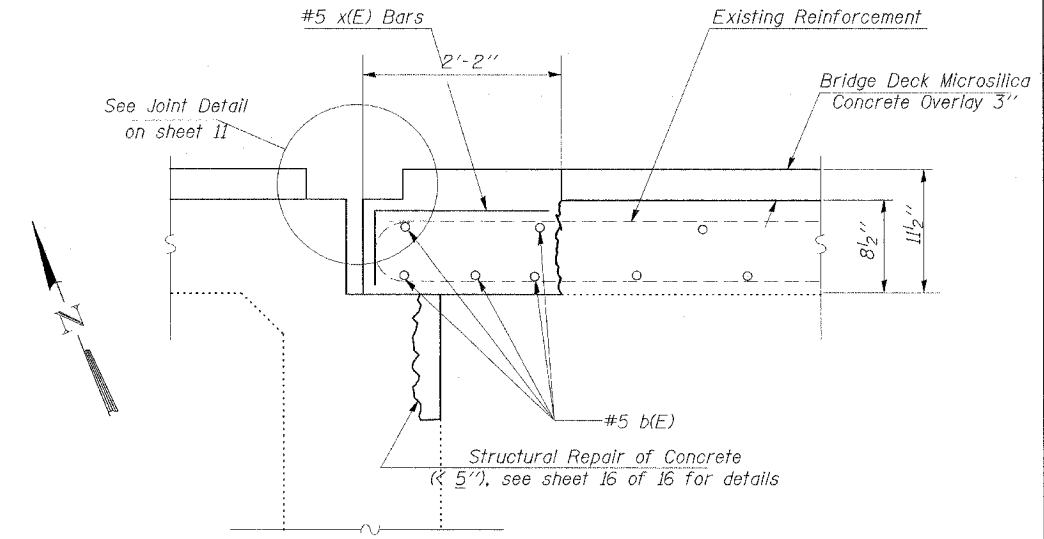
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885	*	POPE	16	9
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	BLINDS	FED. AID PROJECT		

*- D-9 BSMART FY 07-1

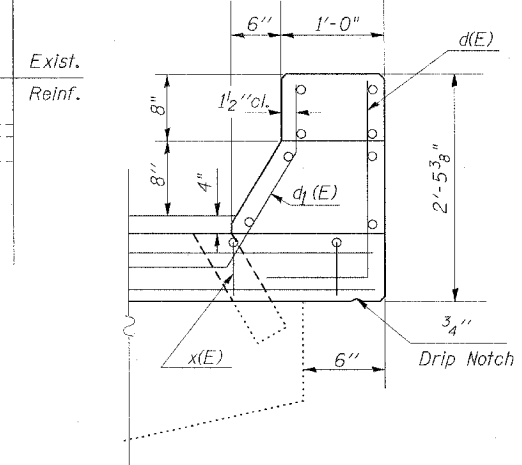
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WEST PLAN



SECTION B-B

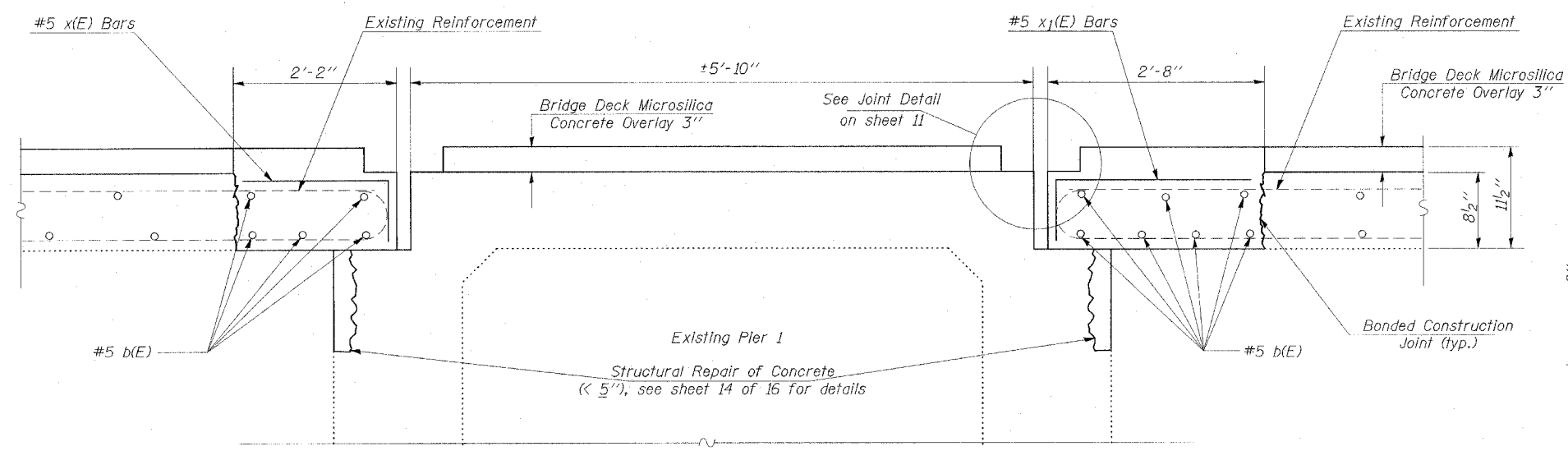


CURB SECTION

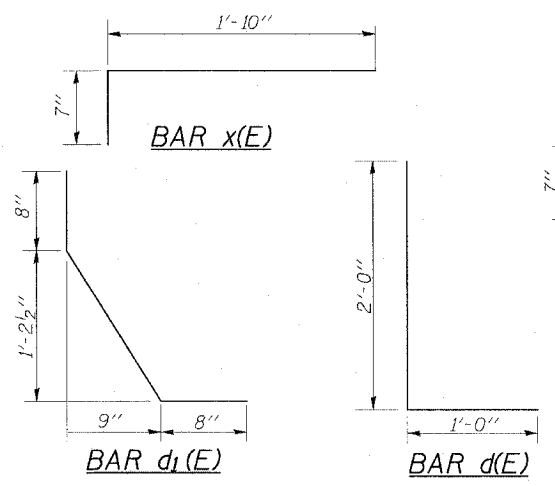
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b(E)	34	#5	16'-8"	—
d(E)	14	#4	3'-0"	L
d1(E)	14	#5	2'-9"	L
x(E)	72	#5	2'-5"	L
x1(E)	36	#5	2'-11"	L
Concrete Removal			Cu. Yd.	7.65
Concrete Superstructure			Cu. Yd.	9.05
Reinforcement Bars, Epoxy Coated			Lbs.	950

Reinforcement bars designated (E) shall be epoxy coated.



SECTION A-A



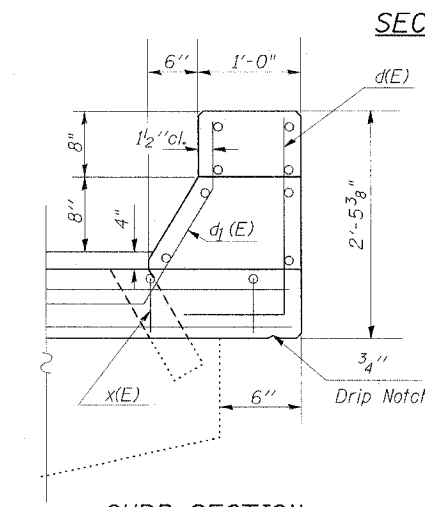
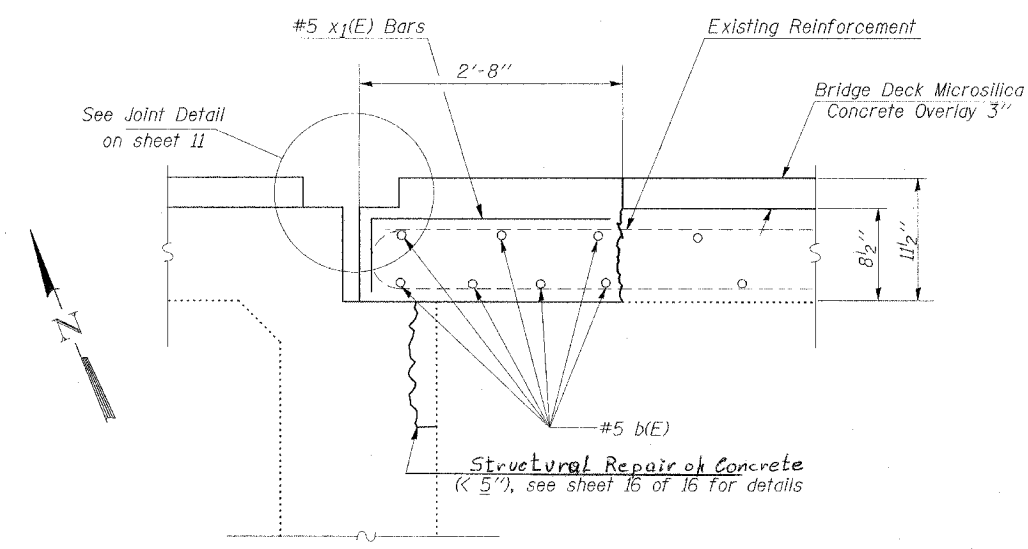
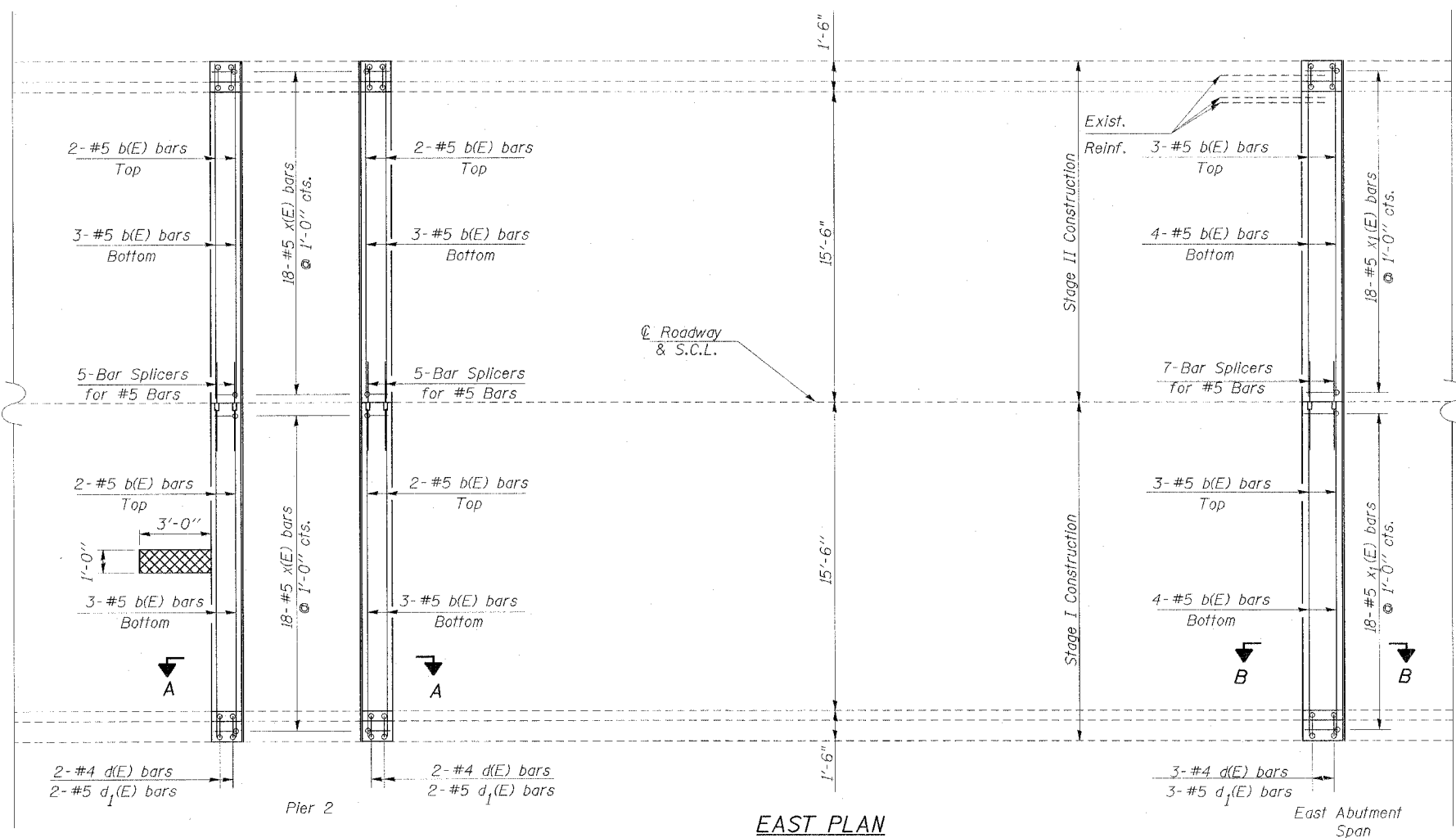
CONCRETE PLACEMENT
WEST DETAILS
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	10
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* - D-9 BSMART FY 07-1

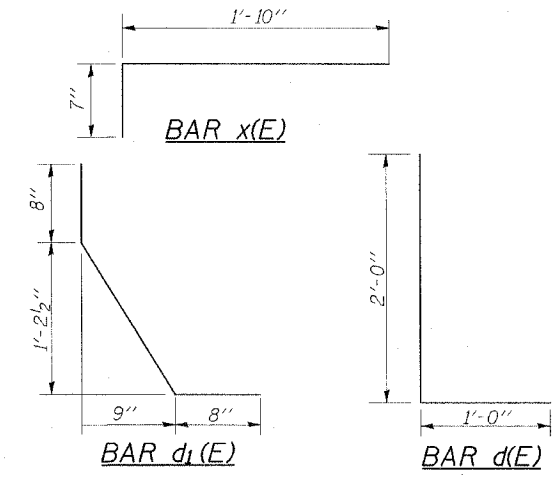
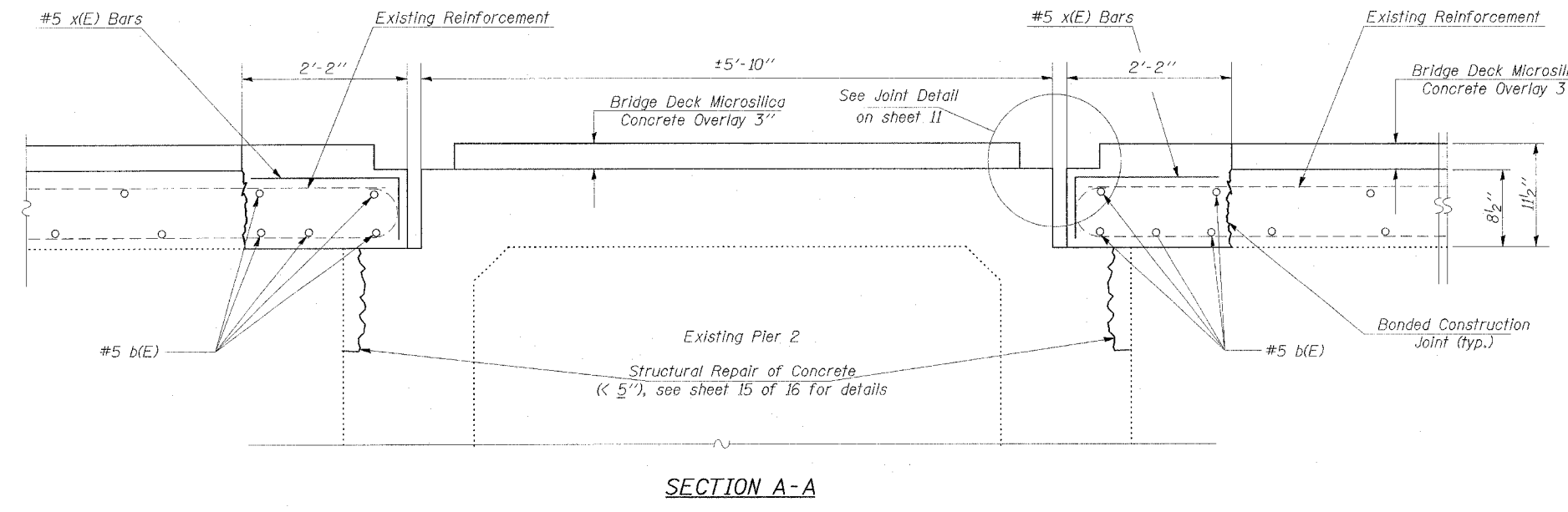
Notes:
Work this sheet with sheet 8 of 16



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b(E)	34	#5	16'-8"	—
d(E)	14	#4	3'-0"	L
d ₁ (E)	14	#5	2'-9"	U
x(E)	72	#5	2'-5"	L
x ₁ (E)	36	#5	2'-11"	—
Concrete Removal			Cu. Yd.	7.65
Concrete Superstructure			Cu. Yd.	9.05
Reinforcement Bars, Epoxy Coated			Lbs.	950
Deck Slab Repair (Full Depth, Type I)			Sq. Yd.	0.4

Reinforcement bars designated (E) shall be epoxy coated.

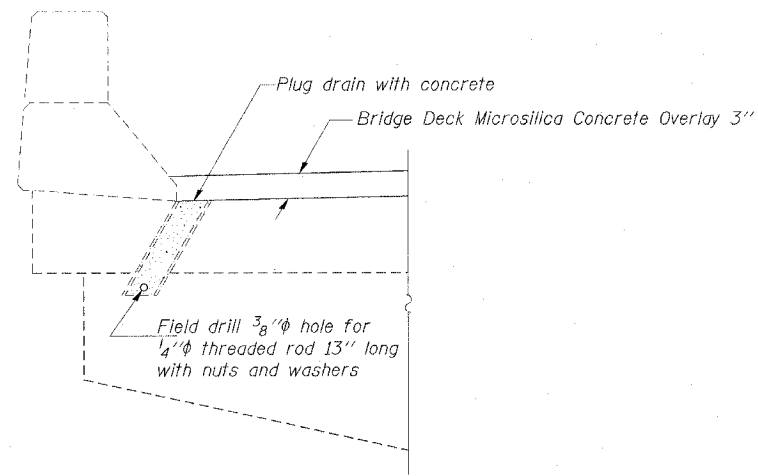


**CONCRETE PLACEMENT
EAST DETAILS
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

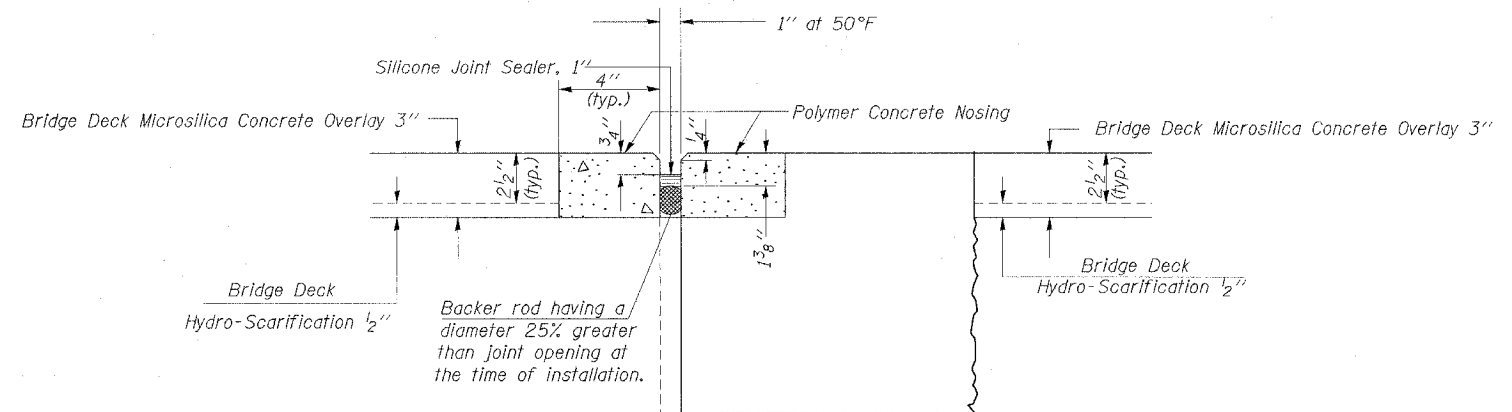
F. A. RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
B85	*	POPE	16	11
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* - D-9 BSMART FY 07-1

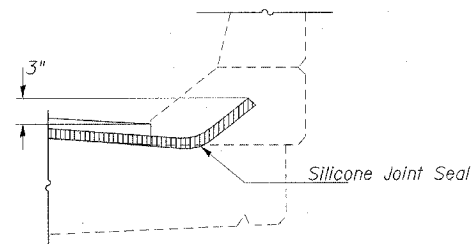


DRAIN ELIMINATION DETAIL

(56 Locations)



JOINT TREATMENT



TYPICAL END OF SEAL TREATMENT AT EXPANSION JOINT

BILL OF MATERIAL

Item	Unit	Total
Polymer Concrete	Cu. Ft.	31.0
Silicone Joint Sealer, 1"	Ft.	198

DRAIN & JOINT DETAILS
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007

F. A. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	12
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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:

- Minimum Capacity = $1.25 \times f_y \times A_l$
(Tension in kips)
- Minimum *Pull-out Strength = $1.25 \times f_{s_{allow}} \times A_l$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_l = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

* - D-9 BSMART FY 07-1

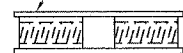
The diameter of this part is the same as the diameter of the bar spliced.
The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



** ONE PIECE

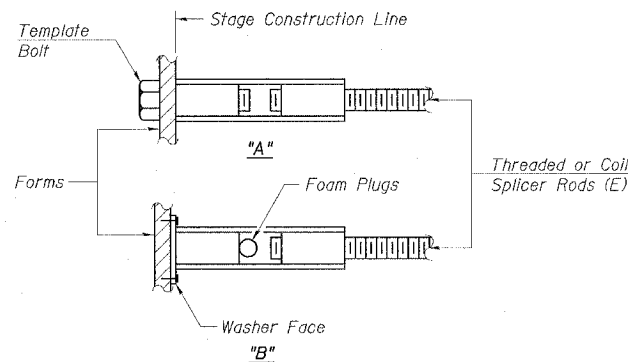
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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

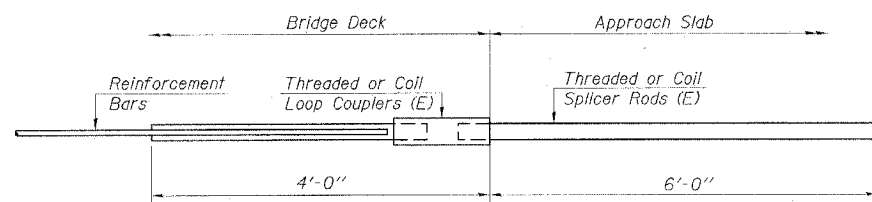


INSTALLATION AND SETTING METHODS

"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.

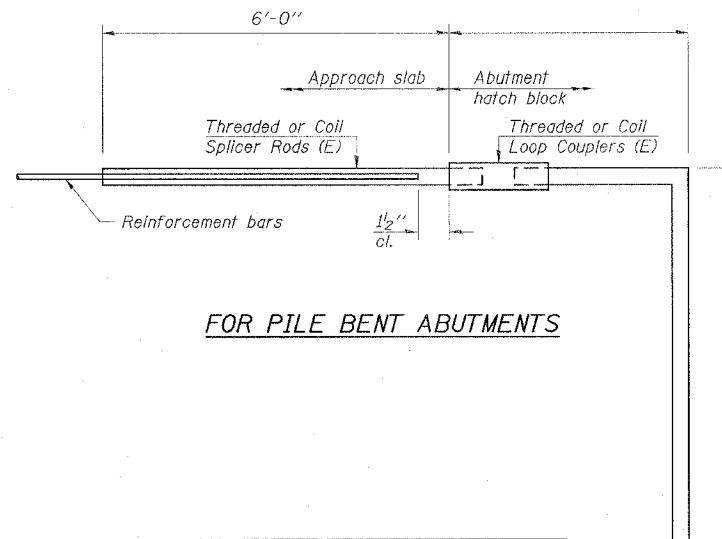
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



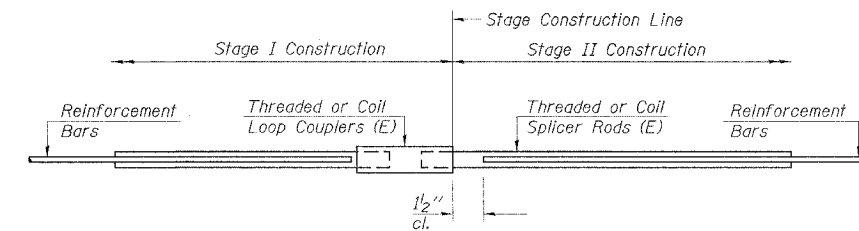
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



STANDARD

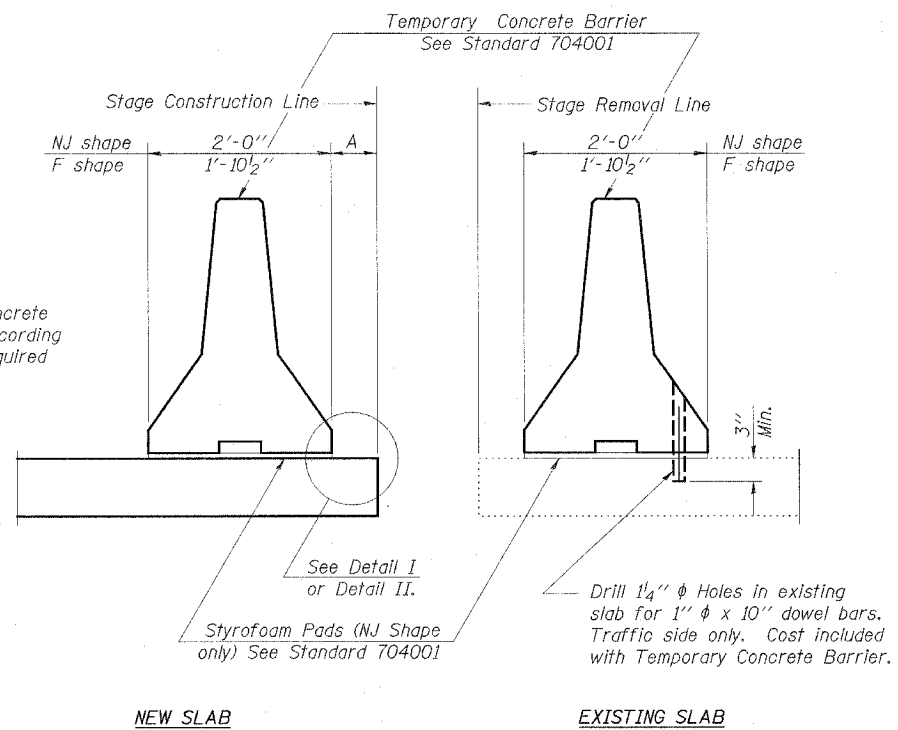
Bar Size	No. Assemblies Required	Location
#5	34	Superstructure

SPLICER BAR DETAILS
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007

F. A. R/L	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	13
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* - D-9 BSMART FY 07-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

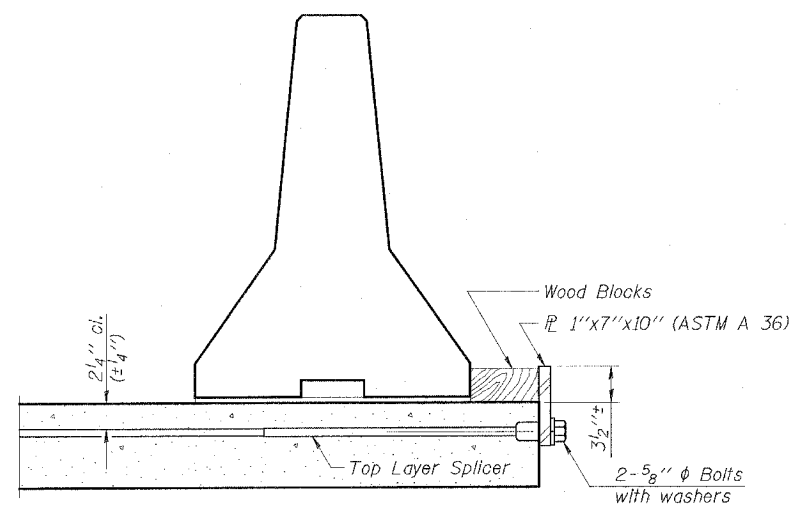


When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

NOTES

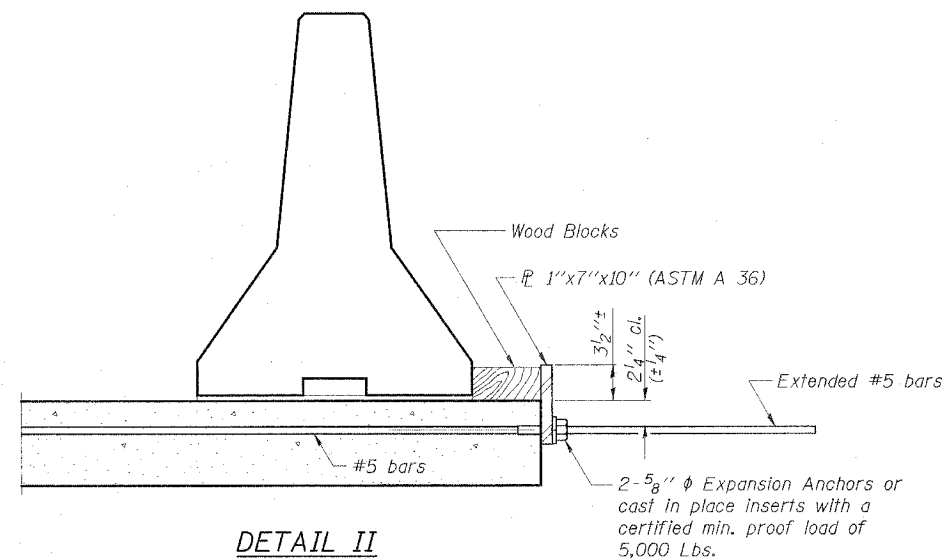
- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
 - Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete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

SECTIONS THRU SLAB



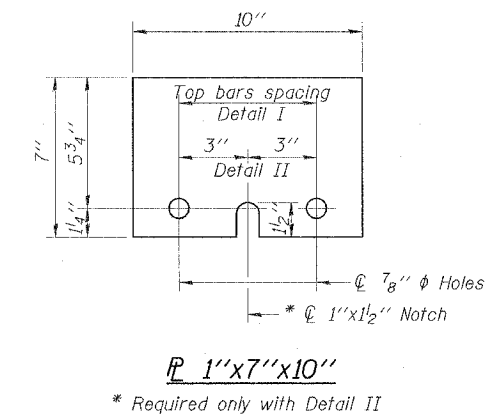
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" 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.

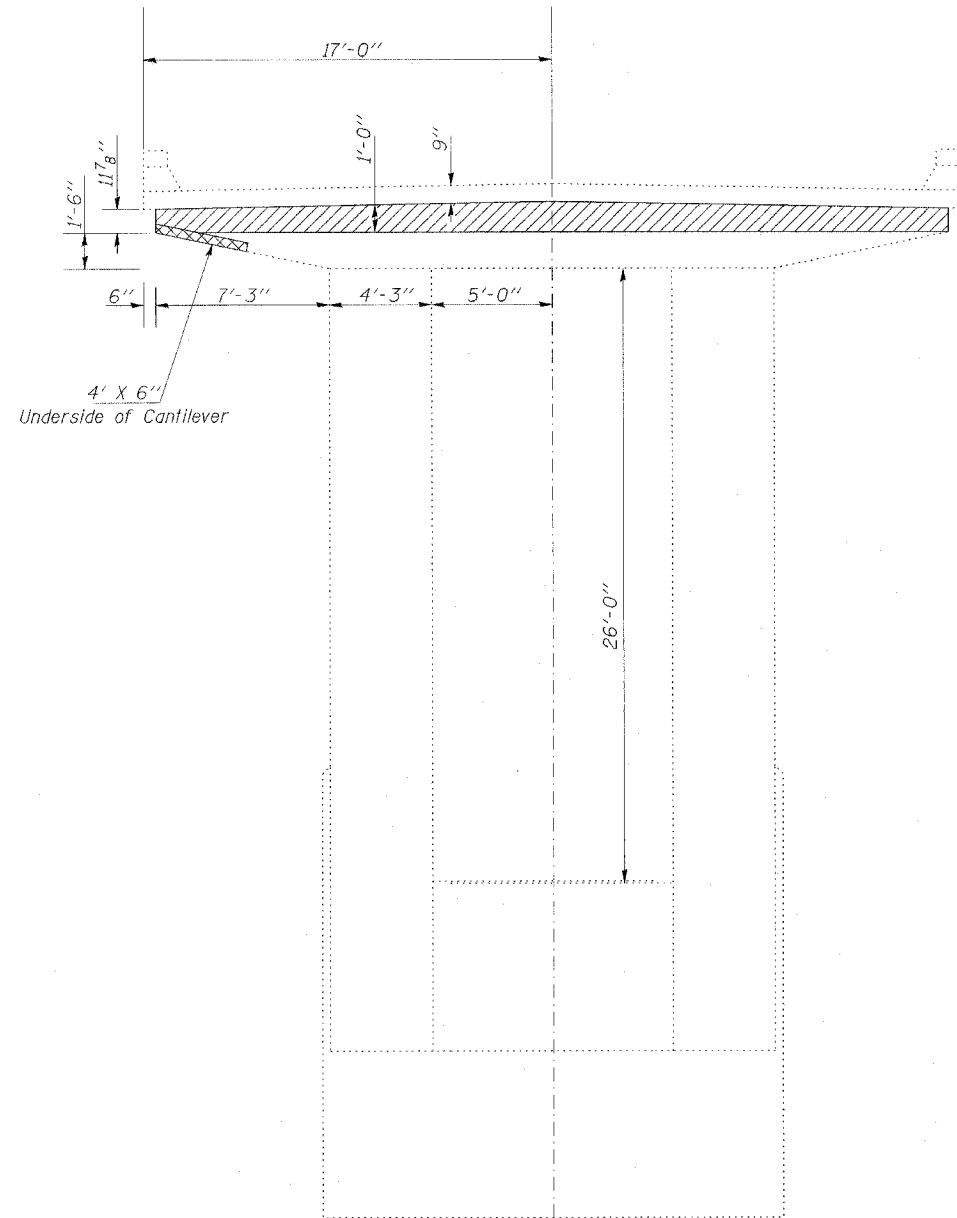


1" x 7" x 10"
* Required only with Detail II

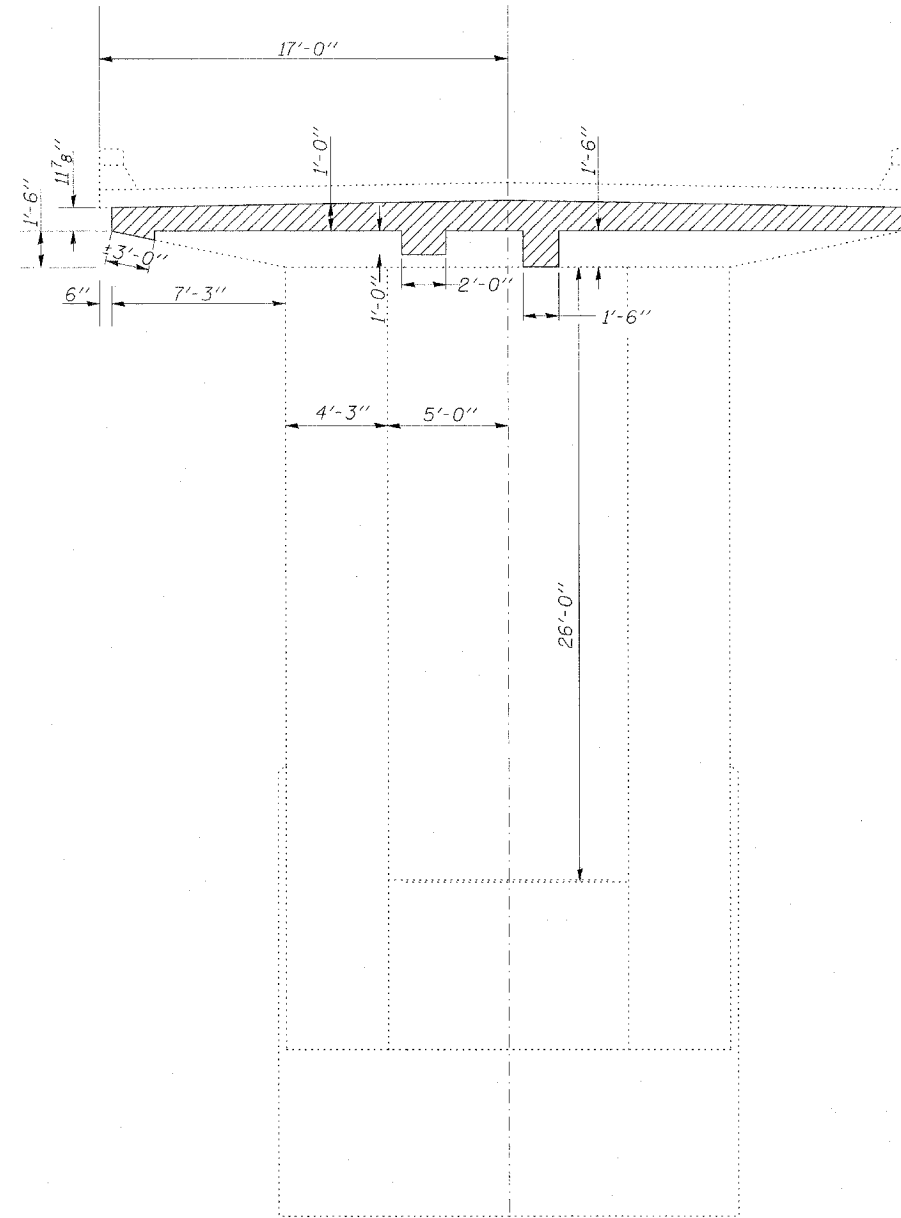
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F. A. REL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	14
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

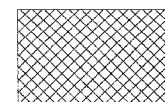
* - D-9 BSMART FY 07-1



Pier 1
(Looking East)



Pier 1
(Looking West)



Polymer Modified Portland
Cement Mortar



Structural Repair of Concrete

BILL OF MATERIAL

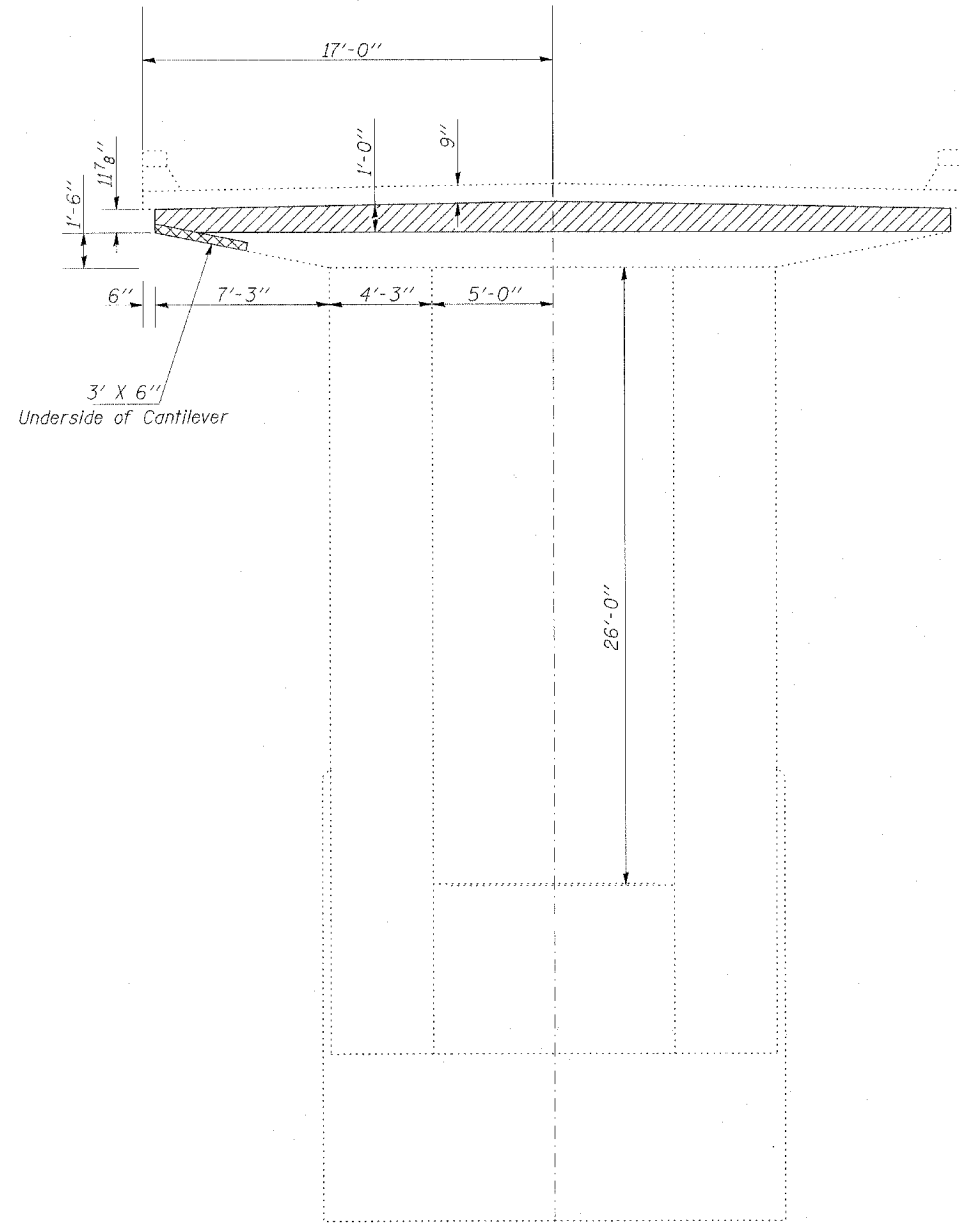
Item	Unit	Total
Polymer Modified Portland Cement Mortar	Sq. Ft.	2.0
Structural Repair of Concrete (< 5")	Sq. Ft.	72.0

CONCRETE REPAIRS (PIER 1)
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007

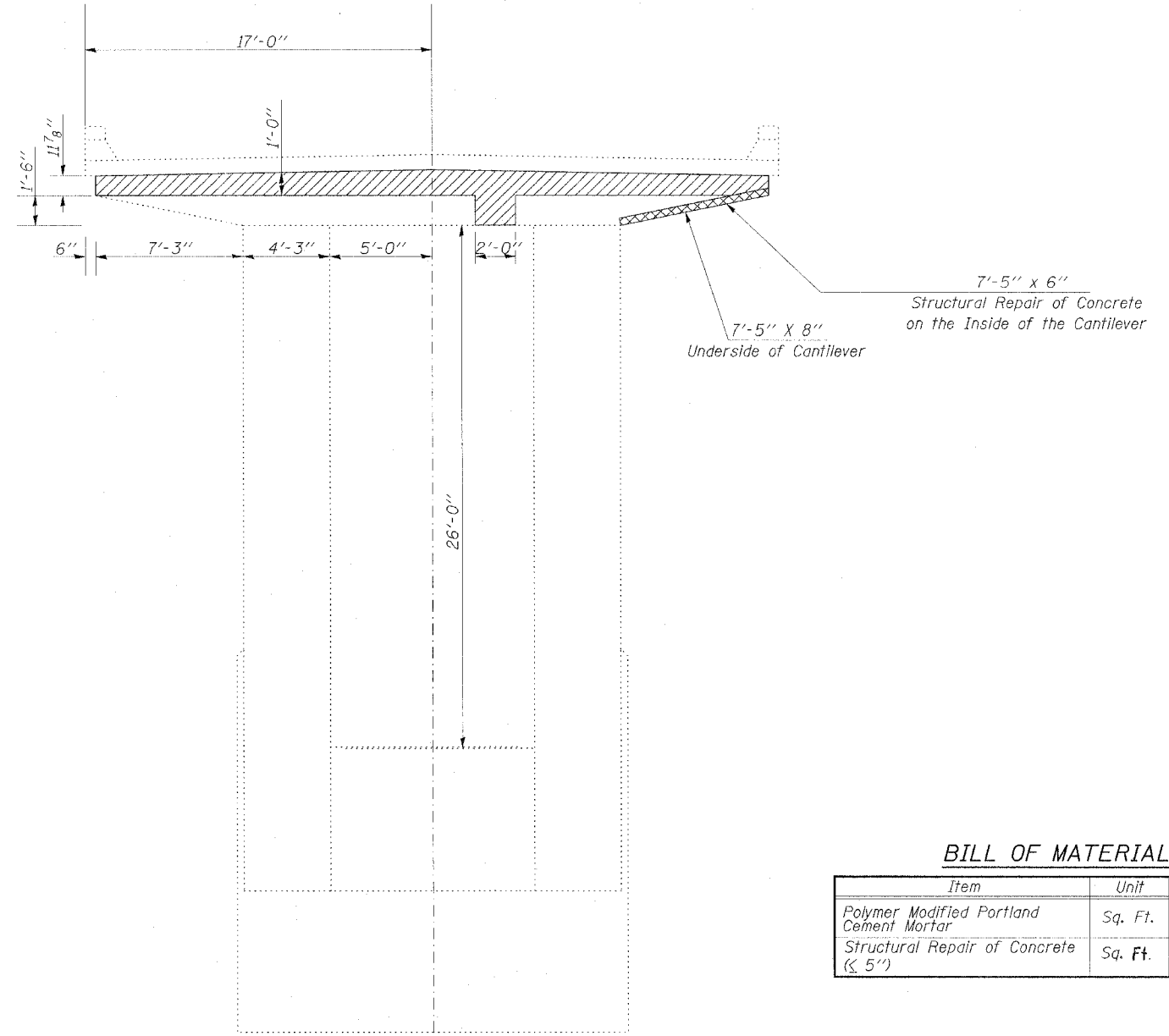
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	15
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* - D-9 BSMART FY 07-1



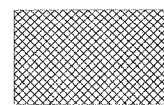
Pier 2
(Looking East)



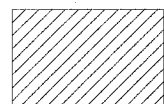
Pier 2
(Looking West)

BILL OF MATERIAL

Item	Unit	Total
Polymer Modified Portland Cement Mortar	Sq. Ft.	6.5
Structural Repair of Concrete (< 5")	Sq. Ft.	73



Polymer Modified Portland
Cement Mortar



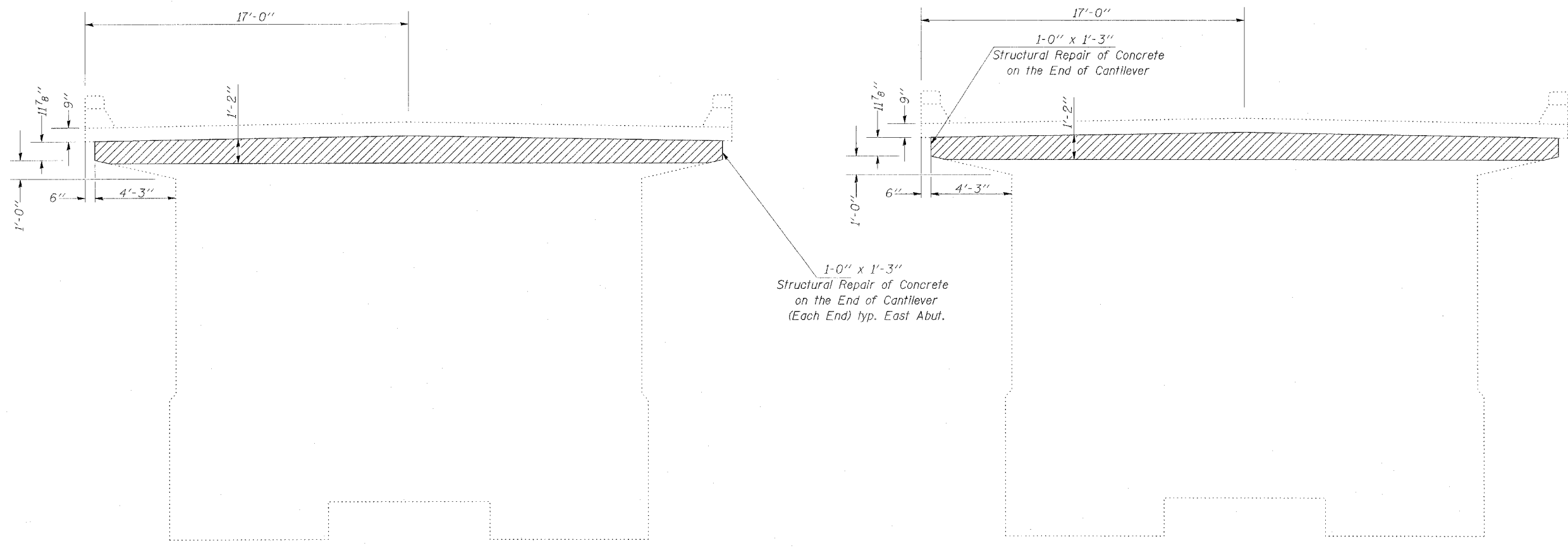
Structural Repair of Concrete

CONCRETE REPAIRS (PIER 2)
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F. A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	*	POPE	16	16
STA. 709+74.60		TO STA. 714+62.27		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

*- D-9 BSMART FY 07-1

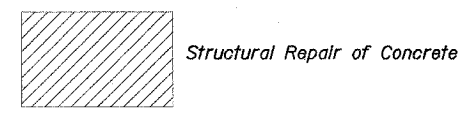


East Abutment
(Looking East)

West Abutment
(Looking West)

1'-0" x 1'-3"
Structural Repair of Concrete
on the End of Cantilever
(Each End) typ. East Abut.

1'-0" x 1'-3"
Structural Repair of Concrete
on the End of Cantilever



BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (< 5')	Sq. Ft.	81.0

CONCRETE REPAIRS (ABUTS.)
ILL 146 OVER HILLS BRANCH
POPE COUNTY
STA. 712+18.3
SN 076-0007