

FILE NAME : G:\Projects\ILLINOIS Department of Transportation\116 B2 - Item 7 - Various Various Work - Ebar No. 18 Item 03 - 18' 20' at E, 47' 8" II - 7\1\14\116B2\116 B2\116 B2.dgn
 SMT_PLAN

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE						
				0004 80% FEDERAL 20% STATE ROADWAY	0021 80% FEDERAL 20% STATE TRAFFIC SIGNALS	0021 80% FEDERAL 20% STATE INTERCONNECT	0021 100% VILLAGE OF PINGREE GROVE FIRE PROT. DIST. SAFETY (EVP)	0021 80% FEDERAL 20% STATE LIGHTING		
△ 25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	506	506						
△ 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	506	506						
△ 25100135	MULCH, METHOD 4	ACRE	5.40	5.40						
△ 25100630	EROSION CONTROL BLANKET	SQ YD	26,955	26,955						
28000305	TEMPORARY DITCH CHECKS	FOOT	1341	1,341						
28000315	AGGREGATE DITCH CHECKS	TON	5.0	5.0						
28000400	PERIMETER EROSION BARRIER	FOOT	8,688	8,688						
28000510	INLET FILTERS	EACH	67	67						
28001100	TEMPORARY EROSION CONTROL BLANKET	SQ YD	6188	6,188						
28100101	STONE RIPRAP, CLASS A1	SQ YD	160	160						
28100107	STONE RIPRAP, CLASS A4	SQ YD	321	321						
28200200	FILTER FABRIC	SQ YD	332	332	△					
30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	112	112						
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	4,027	4,027						

△ Rev. 7-17-14

△ Specialty Items Rev.

USER NAME : achrifish PLOT SCALE : 100,000 / 1" PLOT DATE : 4/1/2014	DESIGNED - MTM DRAWN - MTM CHECKED - BA DATE - 3/31/14	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES SCALE: N.T.S. SHEET 2 OF 15 SHEETS STA. TO STA.			F.A.P. R.T.E. 345	SECTION 106-S-N-1	COUNTY KANE	TOTAL SHEETS 167 SHEET NO. 5
	ILLINOIS F.B.O. AID PROJECT CONTRACT NO. 60T10									

I:\Projects\LEI\BIS\Department of Transportation\116 152 - Item 7 - Various Vertical Work - Order No. 10 - 10-09-15 - 20 at I. 47 & I. 22-Civil\Drawings\Sheets\116152\116 152.dgn
 FILE NAME: C:\Programs\LEI\BIS\Department of Transportation\116 152 - Item 7 - Various Vertical Work - Order No. 10 - 10-09-15 - 20 at I. 47 & I. 22-Civil\Drawings\Sheets\116152\116 152.dgn
 SMT_Plan

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE								
				0004 80% FEDERAL 20% STATE ROADWAY	0021 80% FEDERAL 20% STATE TRAFFIC SIGNALS	0021 80% FEDERAL 20% STATE INTERCONNECT	0021 100% VILLAGE OF PINGREE GROVE FIRE PROT. DIST. SAFETY (EVP)	0021 80% FEDERAL 20% STATE LIGHTING				
50200450	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIALS FOR STRUCTURES	CU YD	495	495								
50200100	STRUCTURE EXCAVATION	CU YD	1119	1119								
50300225	CONCRETE STRUCTURES	CU YD	4.4	4.4								
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	207,500	207,500								
50300300	PROTECTIVE COAT	SQ YD	15	15								
50800515	BAR SPLICERS	EACH	276	276								
51500100	NAME PLATES	EACH	2	2								
54003000	CONCRETE BOX CULVERTS	CU YD	787.7	787.7								
542A0217	PIPE CULVERTS, CLASS A, TYPE 1 12"	FOOT	58	58								
542A0220	PIPE CULVERTS, CLASS A, TYPE 1 15"	FOOT	80	80								
54213657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	2	2								
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	1	1								
54213666	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 21"	EACH	2	2								
54213669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	1	1								
54213681	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 36"	EACH	2	2								
550A0340	STORM SEWERS, CLASS A, TYPE 2 12"	FOOT	1,018	1,018								
550A0360	STORM SEWERS, CLASS A, TYPE 2 15"	FOOT	182	182								

URBAN

△ Rev. 7-17-14

Rev.

USER NAME: gshufish	DESIGNED -	MTM	REVISED -		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE. 345	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	MTM	REVISED -							106-S-N-1	KANE	167	8
PLOT SCALE: 1/8" = 1'-0"	CHECKED -	BA	REVISED -		SCALE: N.T.S.	SHEET 5	OF 15	SHEETS	STA.	TO STA.	CONTRACT NO. 60T10		
PLOT DATE: 4/1/2014	DATE -	3/31/14	REVISED -		ILLINOIS FED. AID PROJECT								

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE					
				0004 80% FEDERAL 20% STATE ROADWAY	0021 80% FEDERAL 20% STATE TRAFFIC SIGNALS	0021 80% FEDERAL 20% STATE INTERCONNECT	0021 100% VILLAGE OF PINGREE GROVE FIRE PROT. DIST. SAFETY (EVP)	0021 80% FEDERAL 20% STATE LIGHTING	
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1					
Z0054446	ROCK FILL - FOUNDATION	CU YD	475	475					
Z0055905	TEMPORARY CONSTRUCTION FENCE	FOOT	1,990	1,990					
Z0054577	ROCK FILL - FOUNDATION	TON	972	972					
Z0062456	TEMPORARY PAVEMENT	SO YD	2,630	2,630					
Z0064800	SELECTIVE CLEARING	UNIT	5	5					
Δ Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1		1				
∅ Z0076600	TRAINEES	HOUR	1000	1000					
∅ Z0076604	TRAINEES - TRAINING PROGRAM GRADUATE	HOUR	1000	1000					
X0323261	TEMPORARY SEDIMENT BASIN	EACH	6	6					
Z0073002	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	460	460					
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	370	370					
* 66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1					
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1					
* 67201100	SEALING ABANDONED MONITORING WELLS	EACH	2	2					

URBAN

∅0042

Δ Rev. 7-17-14

Bench Mark: BM #6 Set at Sta. 28+97.8, Elev 922.00. Square cut on light pole foundation +35' north of the north gas pump of "BP" gas station at the southwest corner of U.S. route 20 and IL Route 72.

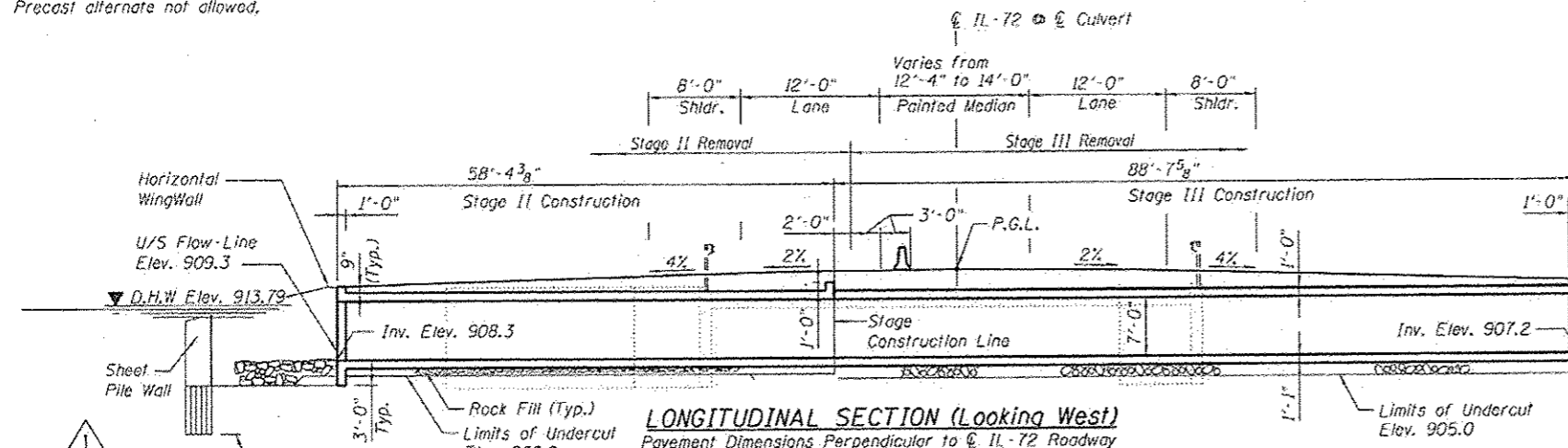
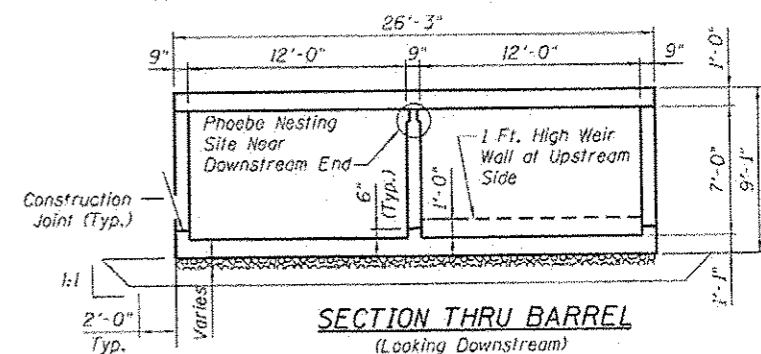
Existing Structure: SN 045-2028 was built in 1935 as part of S.B.I. Illinois Route 72. Section 109-NRS. A low flow profile was cut into the West barrel. The structure is a 2-cell cast-in-place concrete box culvert approximately 26.9 feet in width and 43 feet in length. The structure is skewed 42 degrees 15 minutes from the roadway centerline and carries two 13-foot traffic lanes (one Eastbound and Westbound) and two variable width shoulders. Traffic to be maintained utilizing stage construction. Structure to be removed and replaced with a double-cell cast-in-place concrete box culvert.

No Salvage.

Precast alternate not allowed.

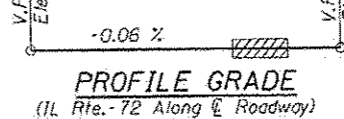
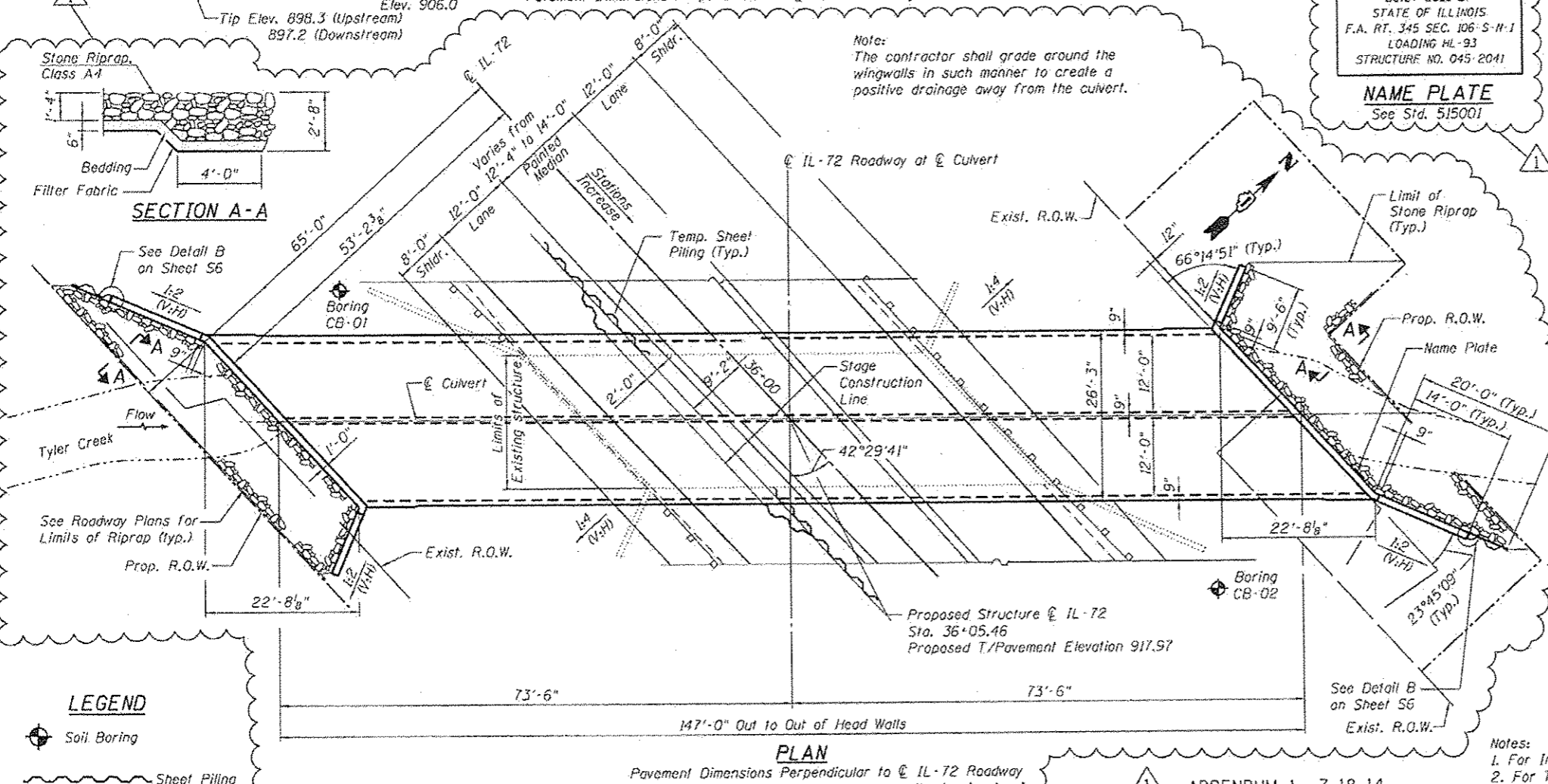
WATERWAY INFORMATION

Drainage Area = 0.95 Sq. Mi.		Existing Low Grade Elev. = 917.78 ft. @ Sta. 37+37		Proposed Low Grade Elev. = 917.78 ft. @ Sta. 37.78						
Flood	Freq. Yr.	O.C.F.S.	Opening Sq. Ft.		Natural H.W.E.		Head - Ft.		Headwater E.I.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	127	58.14	65.50	912.56	0	0	912.56	912.56	
Base	50	245	80.28	95.00	913.79	0	0	913.79	913.79	
Overlapping	100	335	90.72	109.2	914.38	0	0	914.38	914.38	
Max. Calc.	500	498	98.10	118.56	914.77	0.44	0.49	915.21	915.26	



STATION 36+05.46
BUILT 20... BY
STATE OF ILLINOIS
F.A. RT. 345 SEC. 106-S-N-1
LOADING HL-93
STRUCTURE NO. 045-2041

NAME PLATE
See Std. 515001

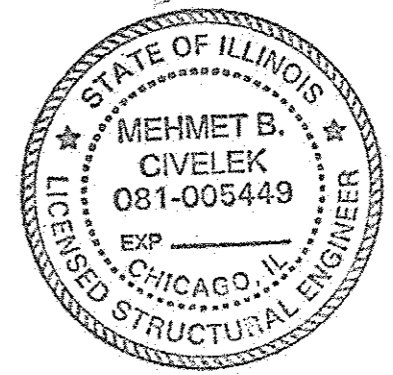


LOADING HL-93
Allow 50#/Sq ft. Future Wearing Surface

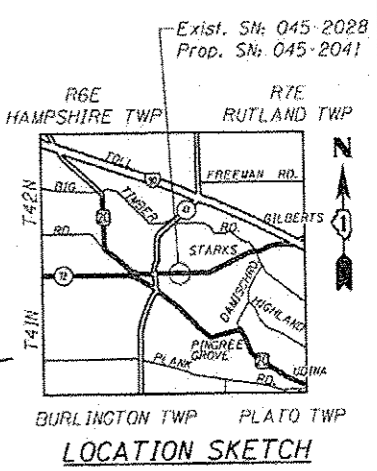
DESIGN SPECIFICATIONS
IDOT Bridge Manual January 2012,
IDOT Culvert Manual, All Bridge Design
Memoranda, and 2012 AASHTO LRFD
Bridge Design Specifications, 6th
Edition with 2013 Interims

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

APPROVED
For Structural Adequacy Only
M. Basar Civelek
Engineer of Bridges & Structures



Signed *M. Basar Civelek*
Mehmet Basar Civelek, P.E., S.E.
Il. Lic. No. 081-005449
Expires 11-30-2014
Date 7-18-2014

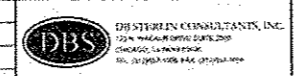


GENERAL PLAN
ILLINOIS ROUTE 72 OVER TYLER CREEK
F.A.P. ROUTE 345 - SECTION 106-S-N-1
KANE COUNTY
STATION 36+05.46
STRUCTURE NO. 045-2041

Notes:
1. For Index of Sheets, See Sheet S2.
2. For Total Bill of Materials, See Sheet S2.

PLOT DATE = 8/20/14
FILE NAME = 8/14/14

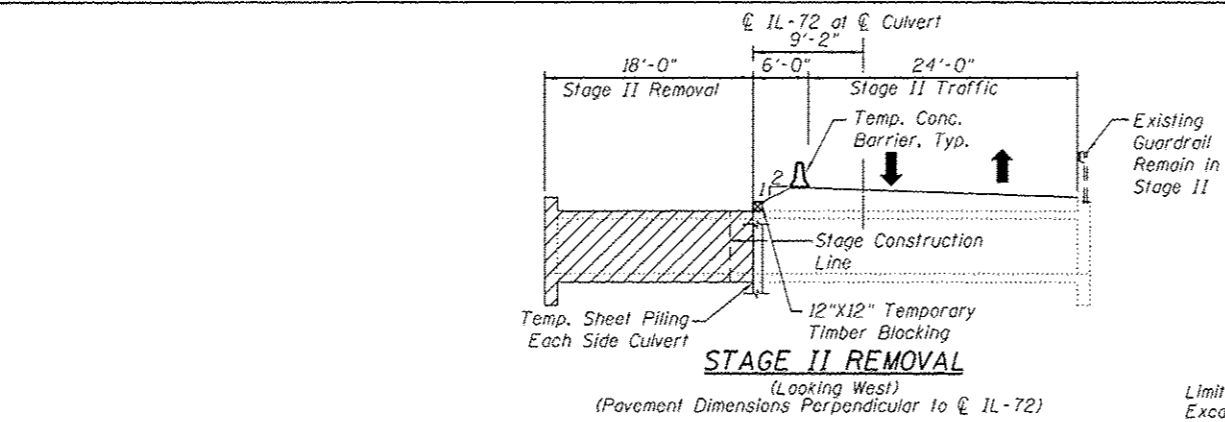
DESIGNED - MBC	REVISIONS - 6/12/14 BA
DRAWN - SSR	REVISIONS -
CHECKED - WPR	REVISIONS -
DATE - 7/7/14	REVISIONS -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

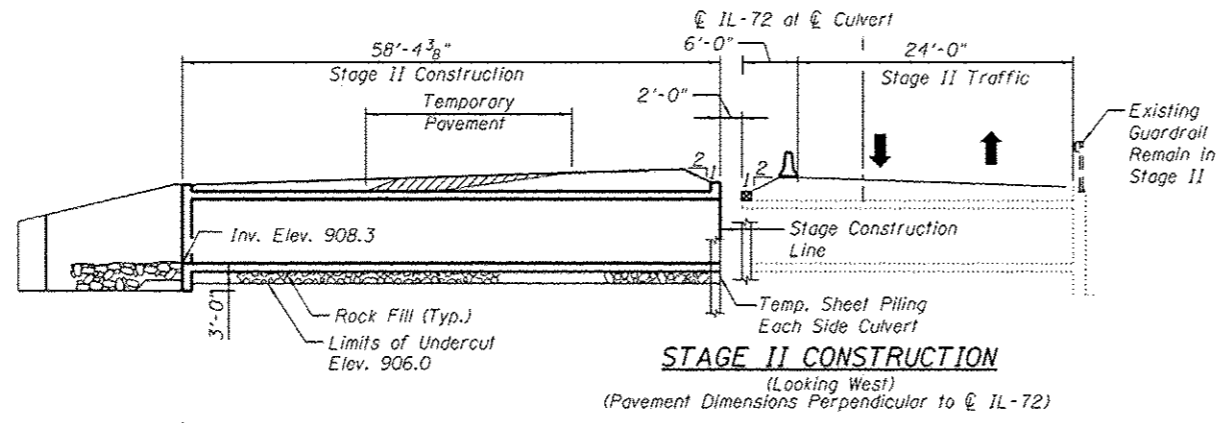
GENERAL PLAN AND ELEVATION
STRUCTURE NO. 045-2041
SHEET NO. 51 OF 59 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
345	106-S-N-1	KANE	167 95
			CONTRACT NO. 60110
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			



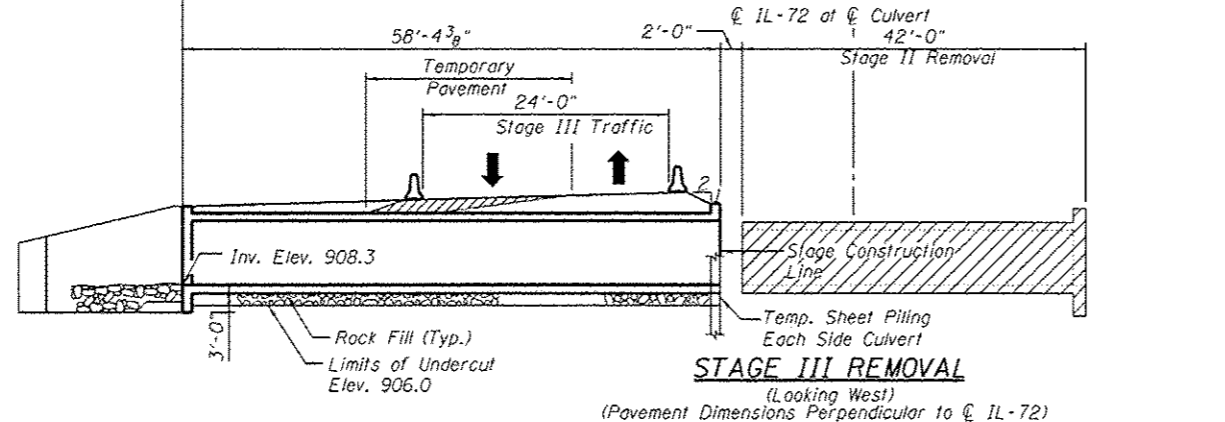
STAGE II REMOVAL

(Looking West)
(Pavement Dimensions Perpendicular to CL IL-72)



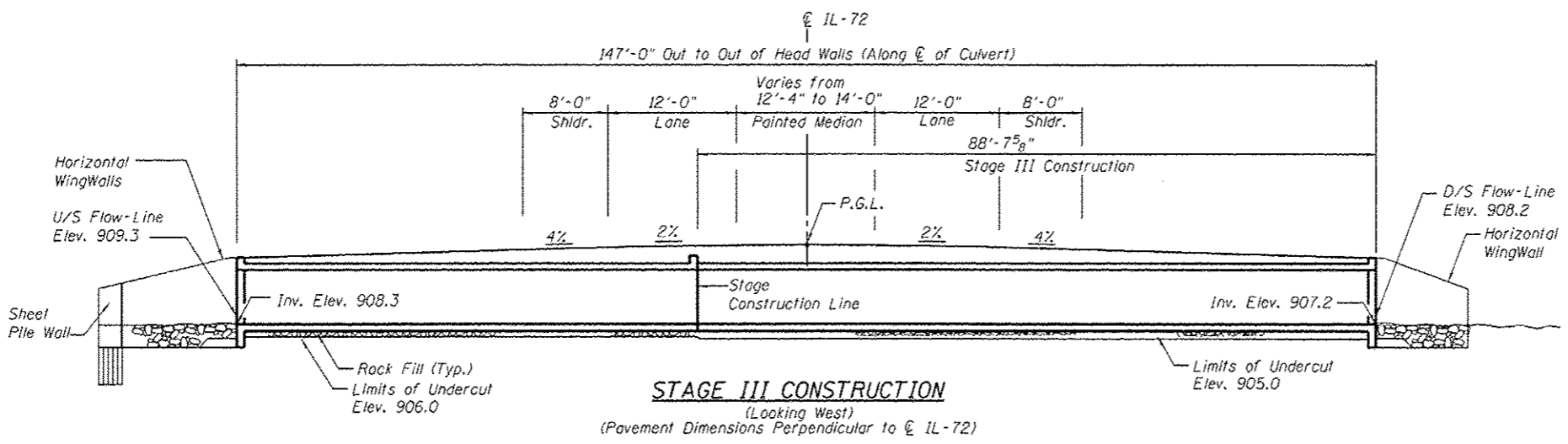
STAGE II CONSTRUCTION

(Looking West)
(Pavement Dimensions Perpendicular to CL IL-72)



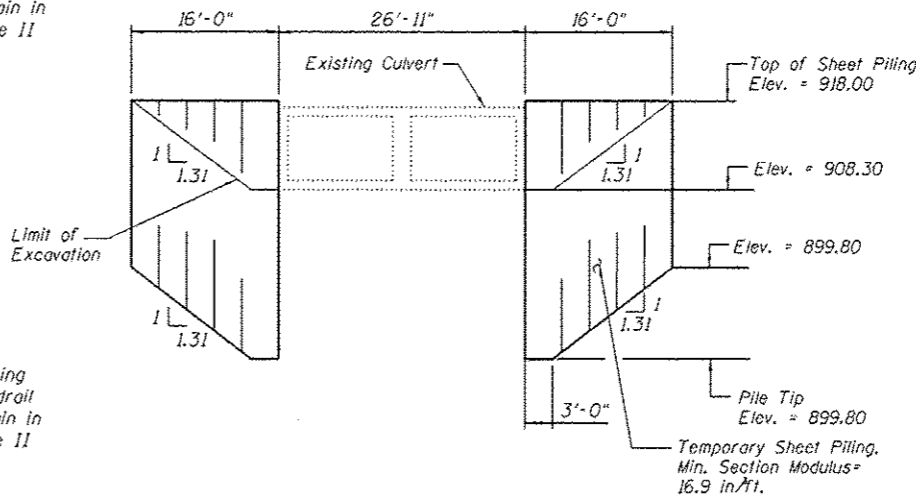
STAGE III REMOVAL

(Looking West)
(Pavement Dimensions Perpendicular to CL IL-72)



STAGE III CONSTRUCTION

(Looking West)
(Pavement Dimensions Perpendicular to CL IL-72)



ELEVATION - TEMPORARY SHEET PILING AT STAGE LINE

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq. Yd.	119
Filler Fabric	Sq. Yd.	125
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	357
Concrete Structures	Cu. Yd.	2.8
Reinforcement Bars, Epoxy Coated	Pound	117,690
Bar Splicers	Each	138
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	409.8
Permanent Steel Sheet Piling	Sq. Ft.	185
Temporary Sheet Piling	Sq. Ft.	1,224
Rock Fill-Foundation	Ton	445

INDEX OF SHEETS

- S1 General Plan and Elevation
- S2 Stage Construction
- S3 Temporary Concrete Barrier for Stage Construction
- S4 Culvert Plan, Top Slab, Bottom Slab and Sections
- S5 Culvert Plan, Top Slab, Bottom Slab, Elevations and Details
- S6 Culvert Sections and Details
- S7 Bar Splicer Assembly and Mechanical Splicer Details
- S8 Soil Boring Logs I
- S9 Soil Boring Logs II

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. The limits and quantities of removal of the existing soil and replacement with the rockfill materials shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.
3. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plan, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
5. Hatched areas indicate "Removal of Existing Structures."
6. See Roadway Plans for quantity of Temporary Concrete Barrier.

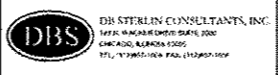
ABBREVIATIONS

- F.F. = Front Face
- B.F. = Back Face
- E.F. = Each Face

ADDENDUM 1 7-12-14

PLOT DATE = \$DATES\$
FILE NAME = \$FILEL\$

USER NAME =	DESIGNED - MBC	REVISED - 6/12/14 BA
PLOT SCALE =	DRAWN - SSR	REVISED -
PLOT DATE =	CHECKED - WPK	REVISED -
FILE NAME =	DATE - 7/7/14	REVISED -

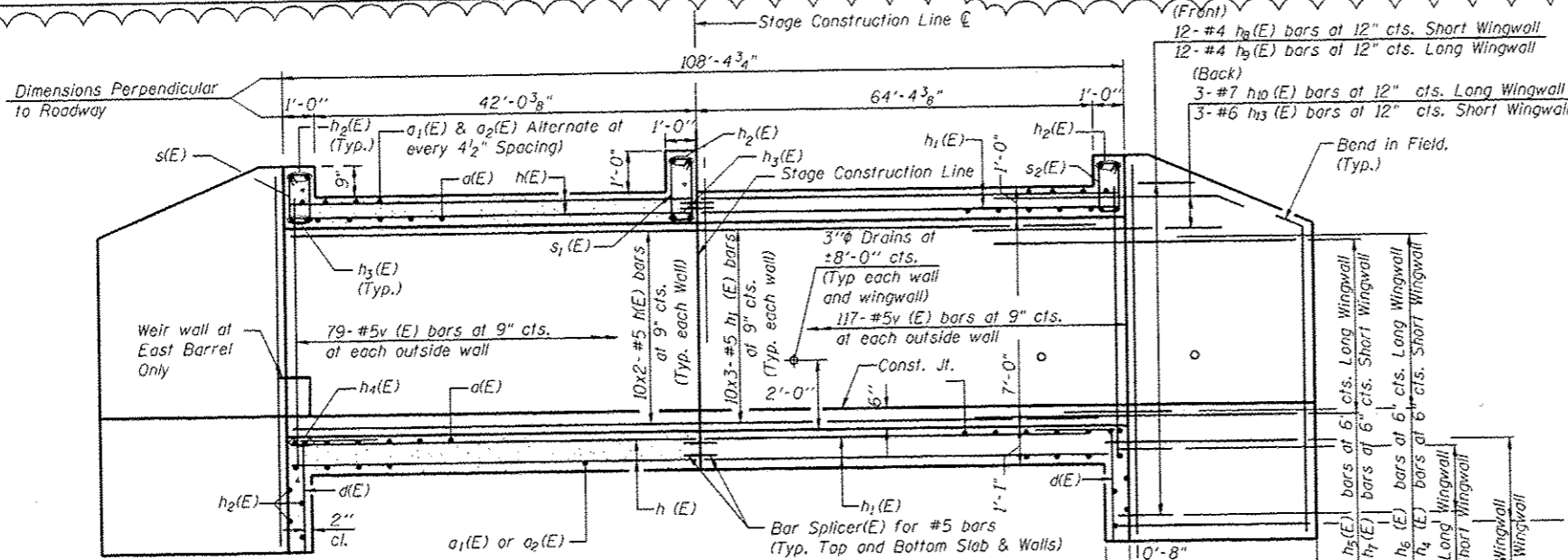


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION
STRUCTURE NO. 045-2041

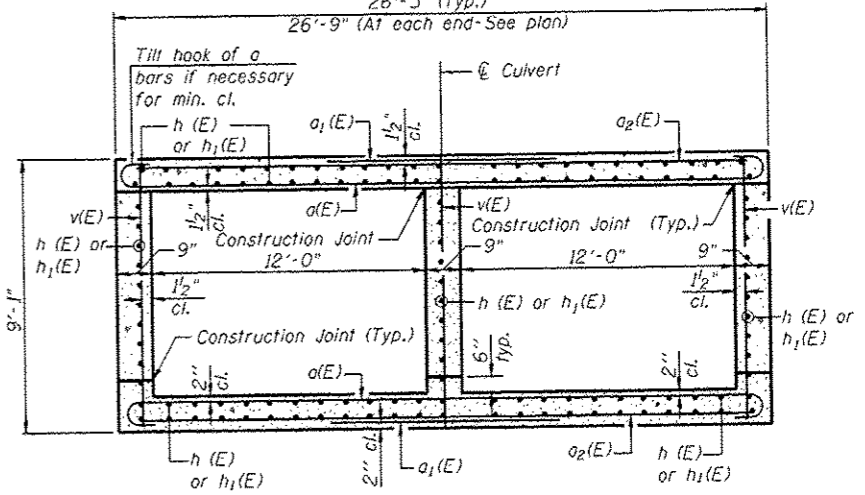
SHEET NO. S2 OF S9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	96
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



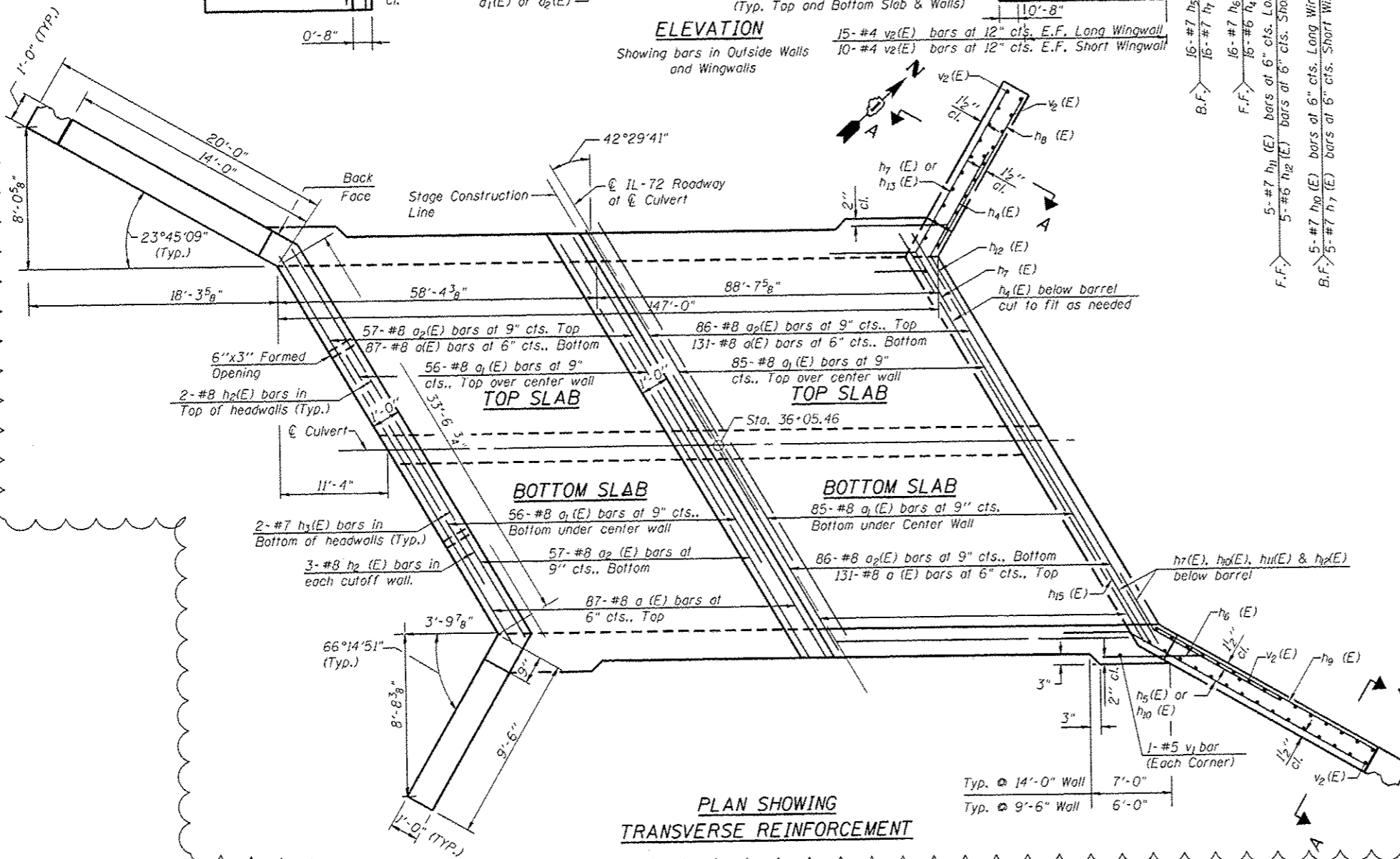
ELEVATION

Showing bars in Outside Walls and Wingwalls



SECTION THRU BARREL

- Notes:
1. A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
 2. Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
 3. Bars shown on south side of plan are Stage II reinforcement. Bars shown on north side of plan are Stage III reinforcement.
 4. All reinforcement bar spacings in the top and bottom slabs are perpendicular to bar placement.
 5. See Sheet S6 for Section A-A.



PLAN SHOWING TRANSVERSE REINFORCEMENT

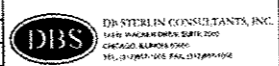
ABBREVIATIONS

F.F. = Front Face
 B.F. = Back Face
 E.F. = Each Face

ADDENDUM 1 7-18-14

PLOT DATE = 8/04/15
 FILE NAME = 8/15/15

DESIGNED - MBC	REVISED - 6/12/14 BA
DRAWN - SSR	REVISED -
CHECKED - WPK	REVISED -
DATE - 7/7/14	REVISED -

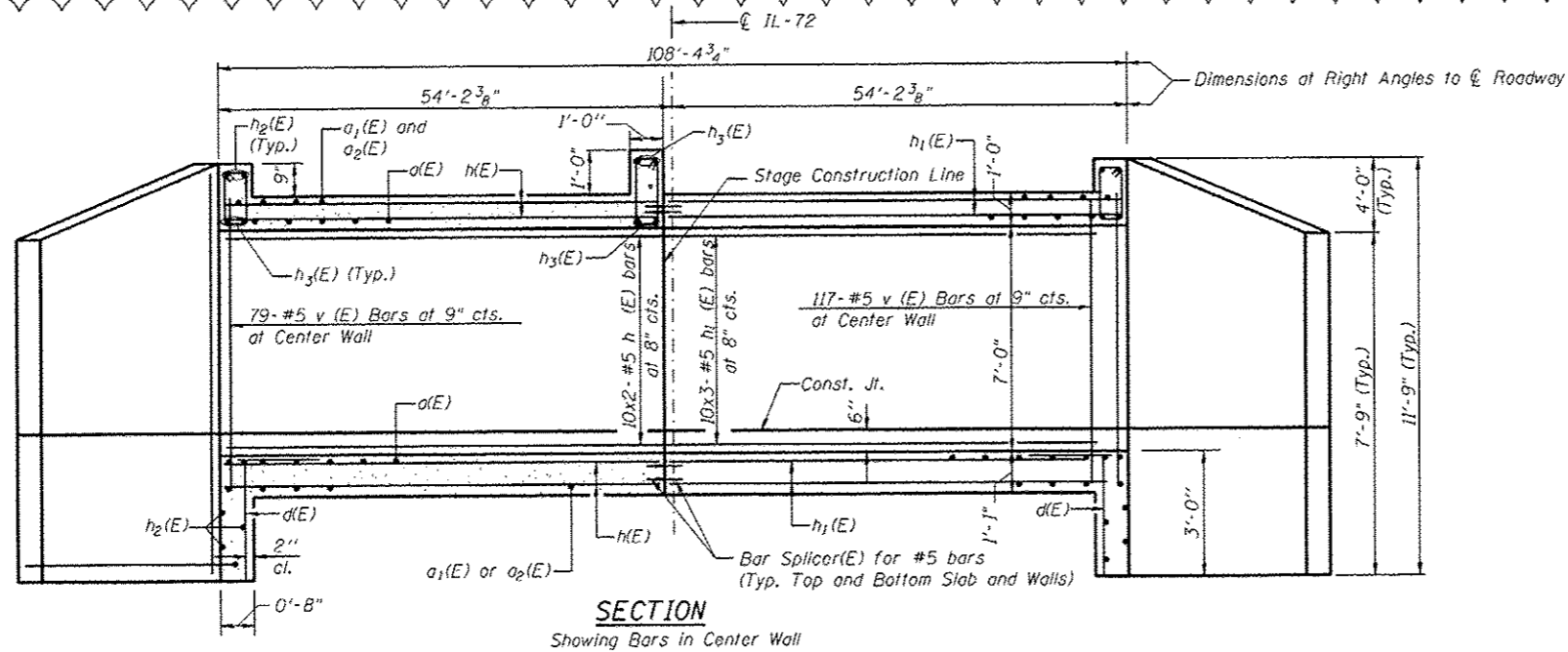


STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

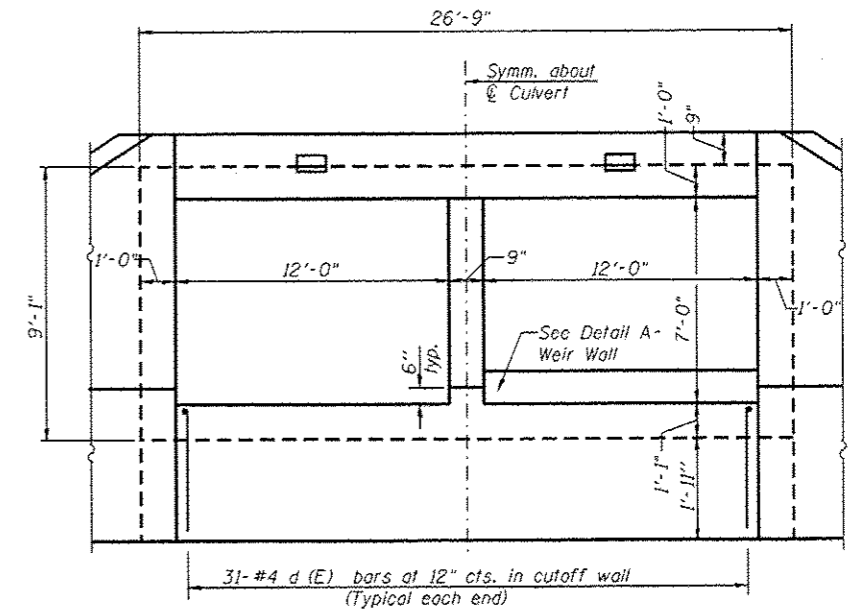
CULVERT PLAN TOP SLAB, BOTTOM SLAB AND SECTIONS
 STRUCTURE NO. 045-2041

SHEET NO. S4 OF S9 SHEETS

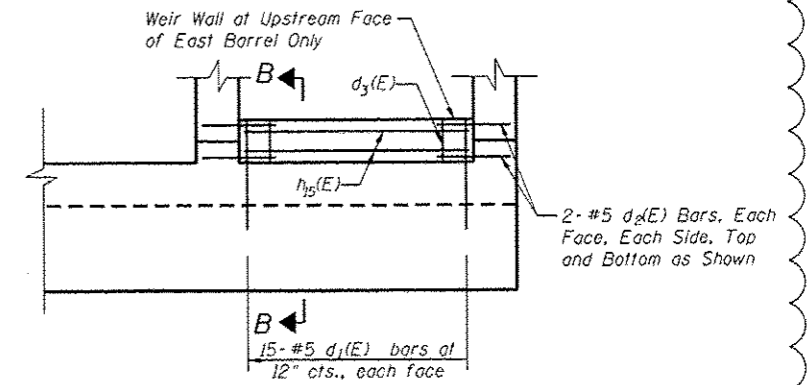
F.A.P. RTE. 345	SECTION 106-S-N-1	COUNTY KANE	TOTAL SHEETS 167	SHEET NO. 99
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



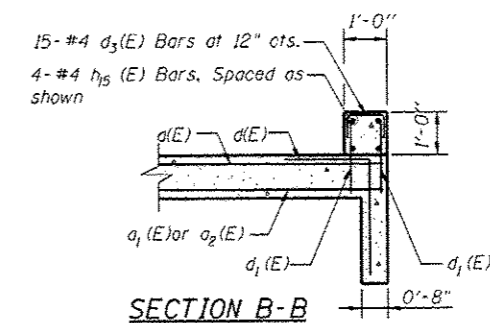
SECTION
Showing Bars in Center Wall



UPSTREAM END ELEVATION



DETAIL A - WEIR WALL

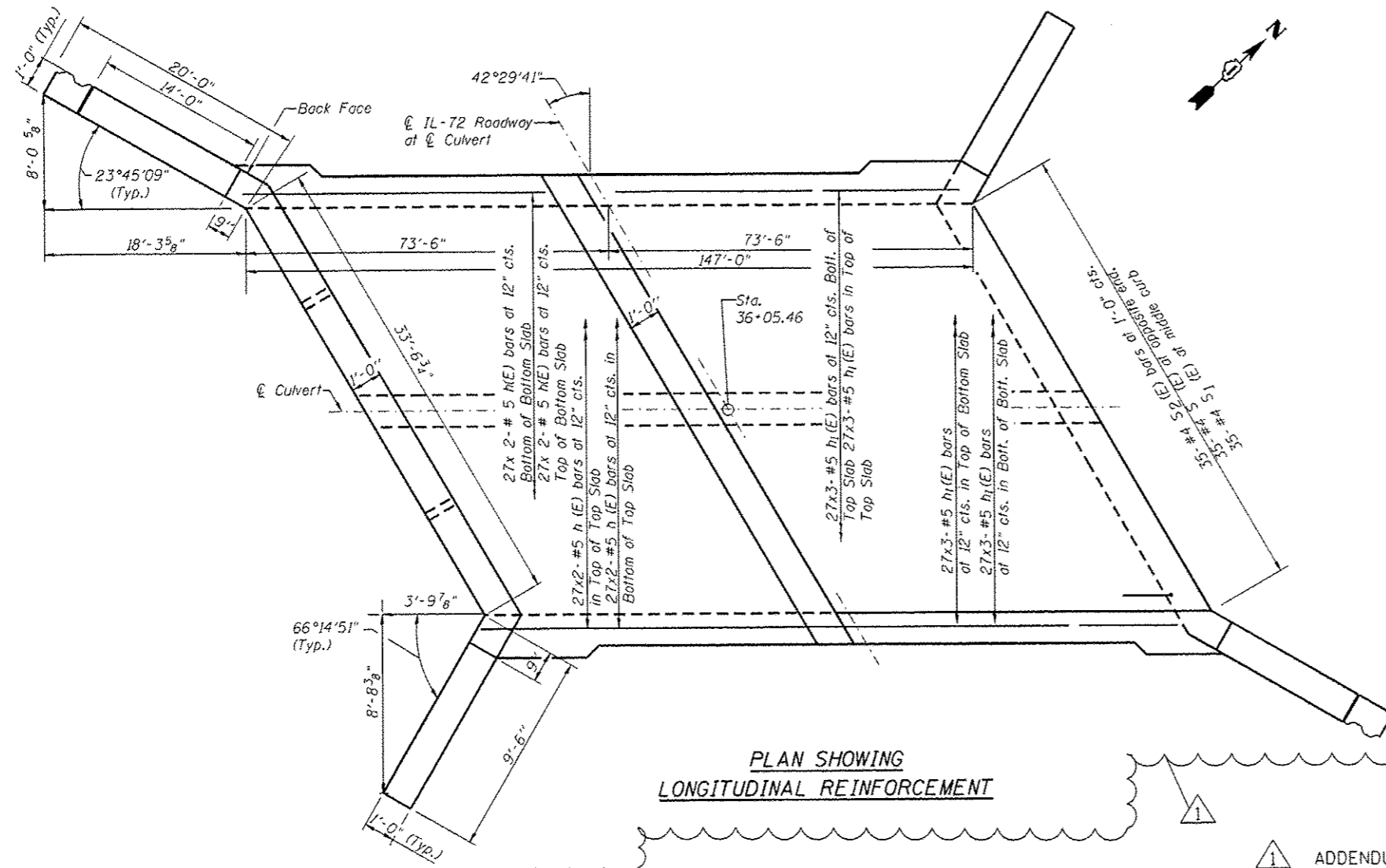


SECTION B-B

MINIMUM BAR LAPS
(Slab)

#4 Bar	= 2'-7"
#5 Bar	= 3'-3"
#6 Bar	= 3'-10"
#7 Bar	= 5'-2"

- Notes:
1. See Sheet S2 for Total Bill of Material.
 2. See Sheet S2 for General Notes.
 3. Work this Sheet with Sheet S4.
 4. See Sheet S6 for Bill of Material.

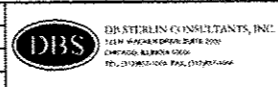


PLAN SHOWING LONGITUDINAL REINFORCEMENT

ADDENDUM 1 7-18-14

PLOT DATE = 8/04/14
FILE NAME = 8FILES

USER NAME	DESIGNED - MBC	REVISED -
PLOT SCALE	DRAWN - SSR	REVISED -
PLOT DATE	CHECKED - WPK	REVISED -
FILE NAME	DATE - 7/7/14	REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

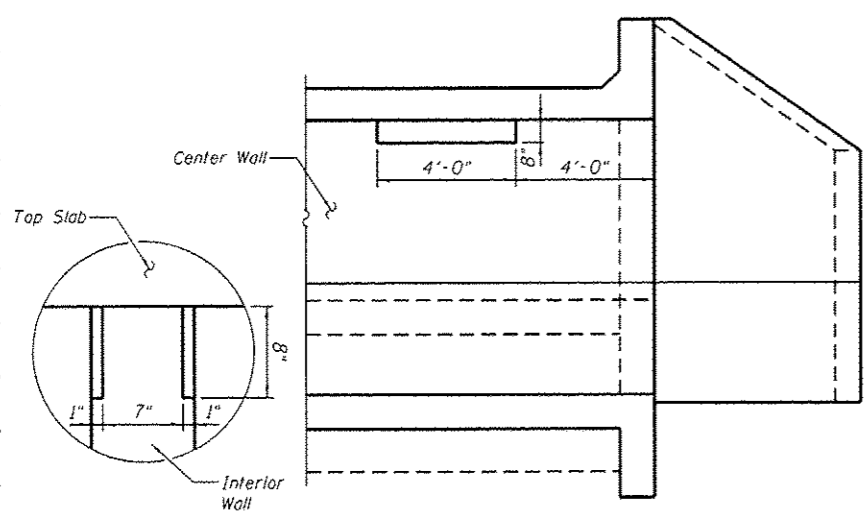
CULVERT PLAN, TOP SLAB, BOTTOM SLAB ELEVATIONS AND DETAILS
STRUCTURE NO. 045-2041

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	99
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60T10	

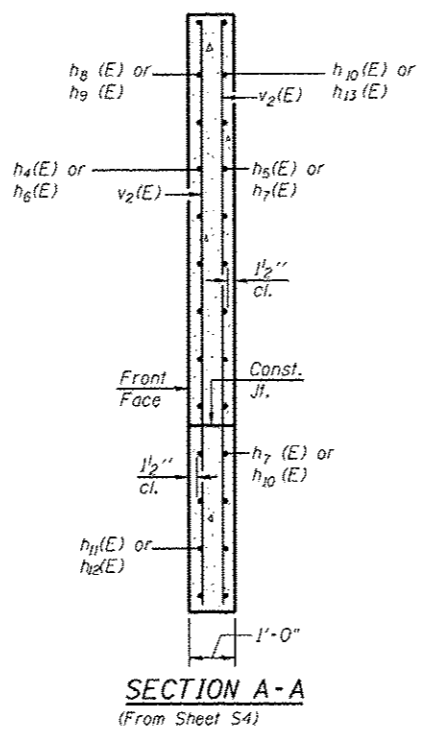
SHEET NO. 55 OF 59 SHEETS

BILL OF MATERIAL

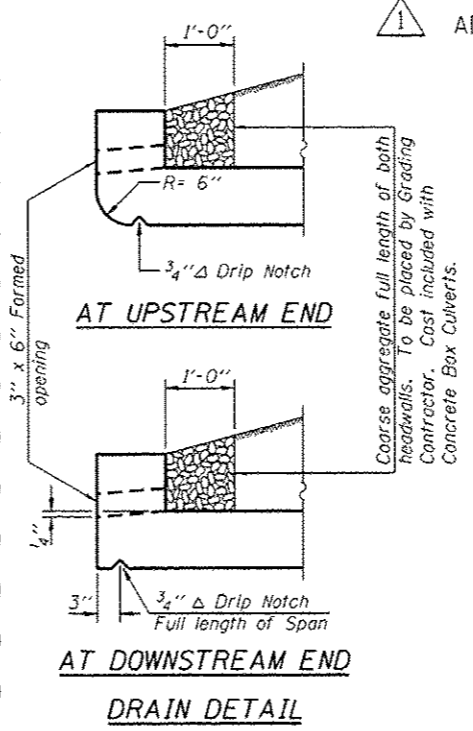
Bar	No.	Size	Length	Shape
a (E)	436	#8	37'-1"	U
a ₁ (E)	282	#8	16'-3"	U
a ₂ (E)	286	#8	35'-3"	U
d (E)	62	#4	4'-6"	L
d ₁ (E)	30	#5	2'-5"	L
d ₂ (E)	8	#5	1'-6"	L
d ₃ (E)	15	#4	2'-3"	L
h (E)	276	#5	30'-8"	U
h ₁ (E)	414	#5	30'-6"	U
h ₂ (E)	10	#8	34'-2"	U
h ₃ (E)	8	#8	35'-3"	U
h ₄ (E)	32	#6	8'-0"	U
h ₅ (E)	32	#7	17'-6"	U
h ₆ (E)	32	#7	8'-0"	U
h ₇ (E)	42	#7	13'-0"	U
h ₈ (E)	24	#4	9'-3"	U
h ₉ (E)	24	#4	13'-9"	U
h ₁₀ (E)	16	#7	17'-6"	U
h ₁₁ (E)	10	#7	17'-0"	U
h ₁₂ (E)	10	#6	12'-6"	U
h ₁₃ (E)	6	#6	13'-0"	U
h ₁₄ (E)	20	#4	5'-8"	U
h ₁₅ (E)	4	#4	16'-0"	U
v (E)	588	#5	8'-8"	U
v ₁ (E)	4	#5	8'-9"	U
v ₂ (E)	100	#4	11'-6"	U
v ₃ (E)	14	#4	8'-7"	U
s (E)	35	#4	5'-3"	L
s ₁ (E)	35	#4	7'-9"	L
s ₂ (E)	35	#4	5'-3"	L
Concrete Box Culverts		Cu. Yd.	409.8	
Reinforcement Bars, Epoxy Coated		Pound	117,690	
Bars Splicers		Each	138	
Concrete Structures		Cu. Yd.	2.8	
Permanent Steel Sheet Piling		Sq. Ft.	185	



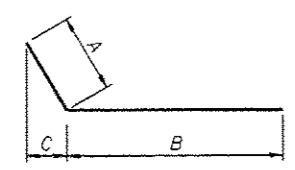
NOTCH DETAIL
LONGITUDINAL SECTION
PHOEBE NESTING SITE
(Near downstream end)



SECTION A-A
(From Sheet S4)

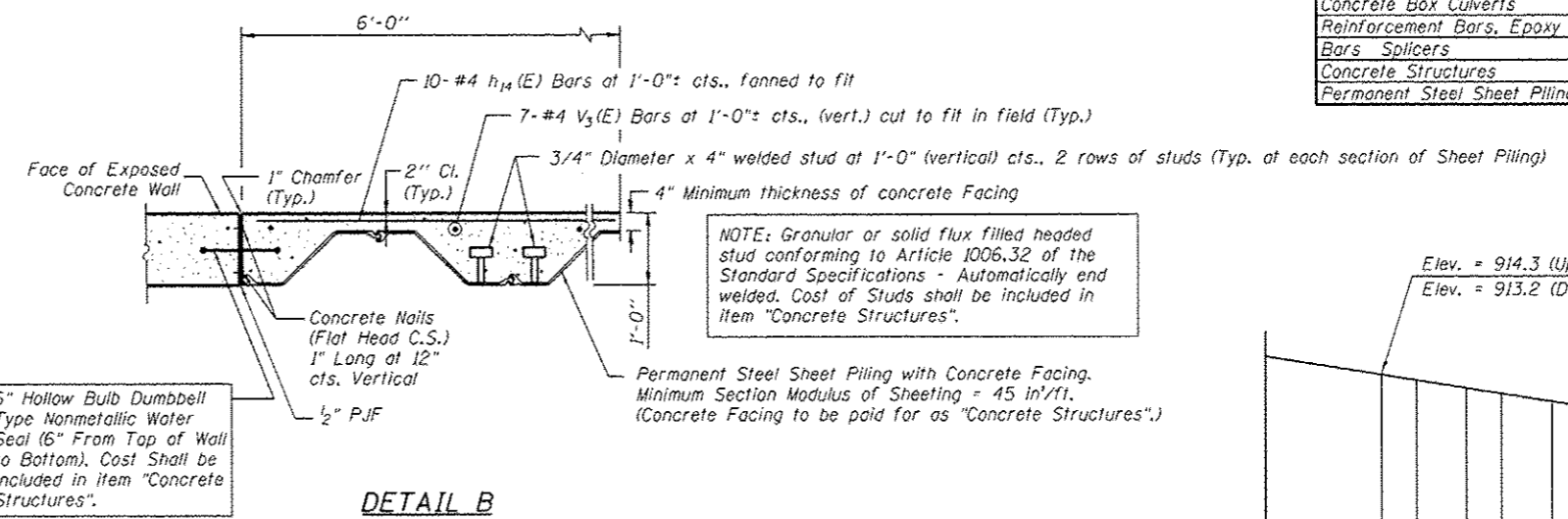


DRAIN DETAIL

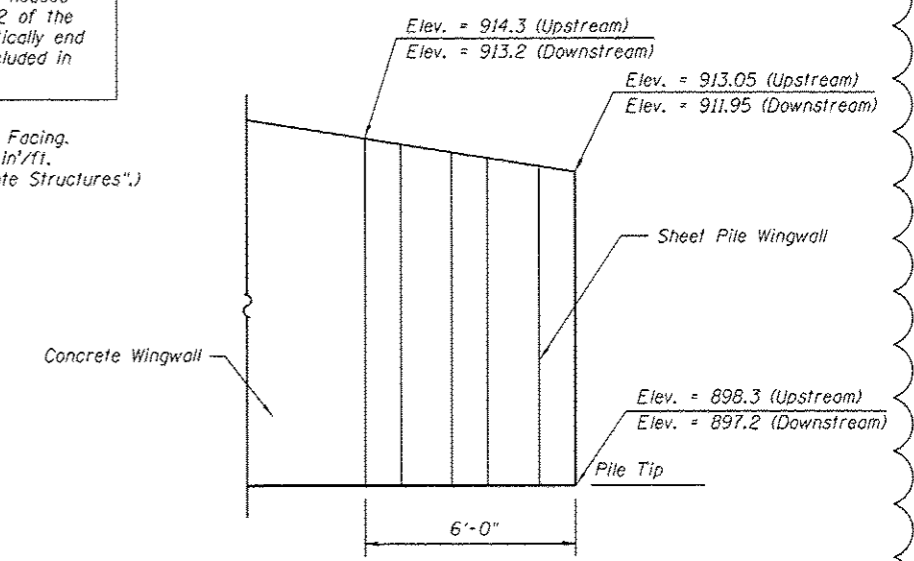


BARS h8(E) Thru h11(E), and h15(E) Thru h20(E)

Bar	A	B	C
h4(E)	3'-0"	5'-0"	1'-2 1/2"
h5(E)	3'-0"	14'-6"	2'-9"
h6(E)	3'-0"	5'-0"	2'-9"
h7(E)	3'-0"	10'-0"	1'-2 1/2"
h10(E)	3'-0"	14'-6"	2'-9"
h11(E)	3'-0"	14'-0"	2'-9"
h12(E)	3'-0"	10'-0"	1'-2 1/2"
h13(E)	3'-0"	9'-6"	1'-2 1/2"

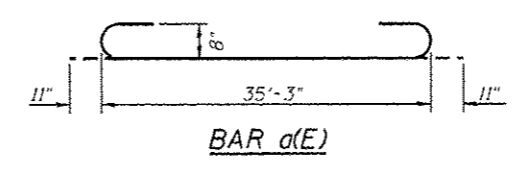
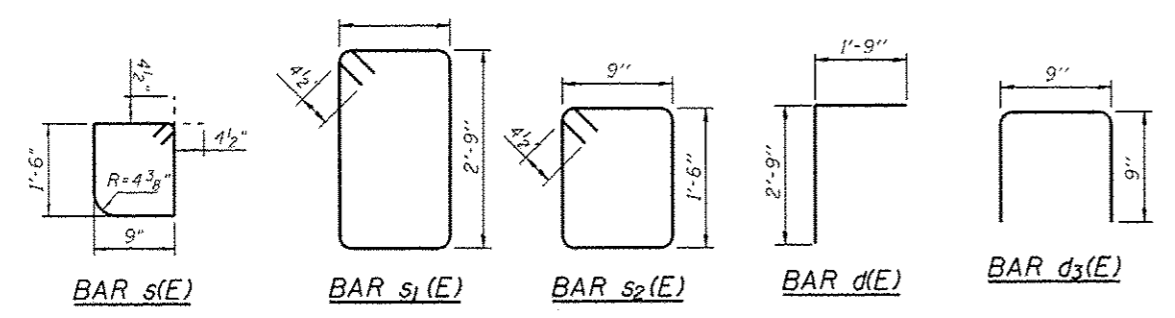


DETAIL B



ELEVATION - PERMANENT SHEET PILING

NOTE: Contractor shall drive Sheet Pile Wall first, and then pour Concrete for Concrete Wingwall and Concrete Facing.



PLOT DATE = 5/24/14
FILE NAME = SFILES

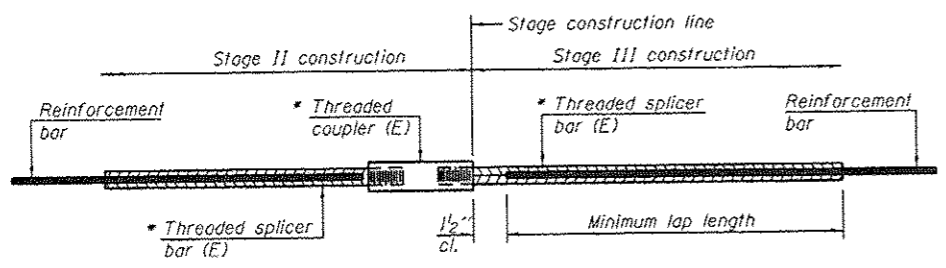
USER NAME =	DESIGNED - MBC	REVISED - 6/12/14 BA
PLOT SCALE =	DRAWN - SSR	REVISED -
PLOT DATE =	CHECKED - WPK	REVISED -
FILE NAME =	DATE - 7/7/14	REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT SECTIONS AND DETAILS
STRUCTURE NO. 045-2041
SHEET NO. 56 OF 59 SHEETS

F.A.P. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	100
CONTRACT NO. 60T10			FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT	



STANDARD BAR SPLICER ASSEMBLY

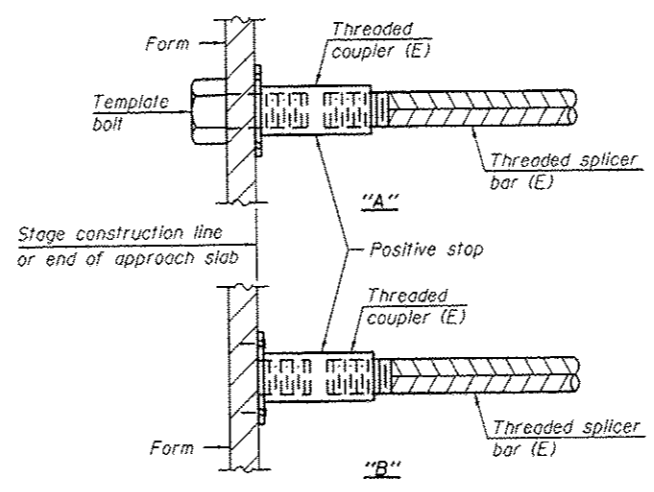
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

- 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, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

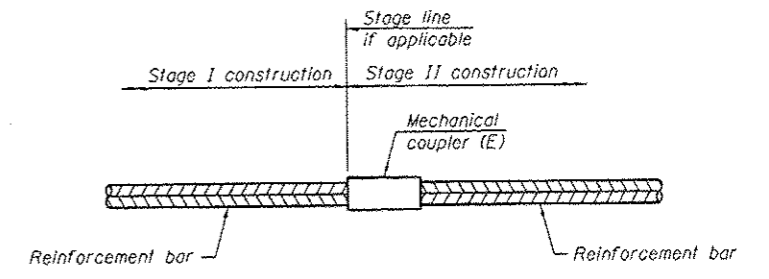
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top Slab	#5	54	3
West Wall	#5	10	4
Center Wall	#5	10	4
East Wall	#5	10	4
Bottom Slab	#5	54	3

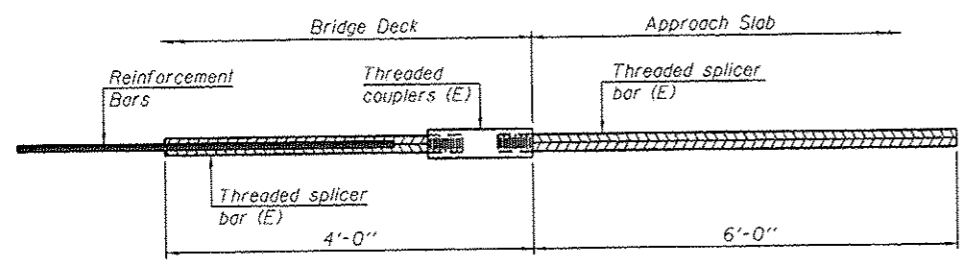


INSTALLATION AND SETTING METHODS

"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.

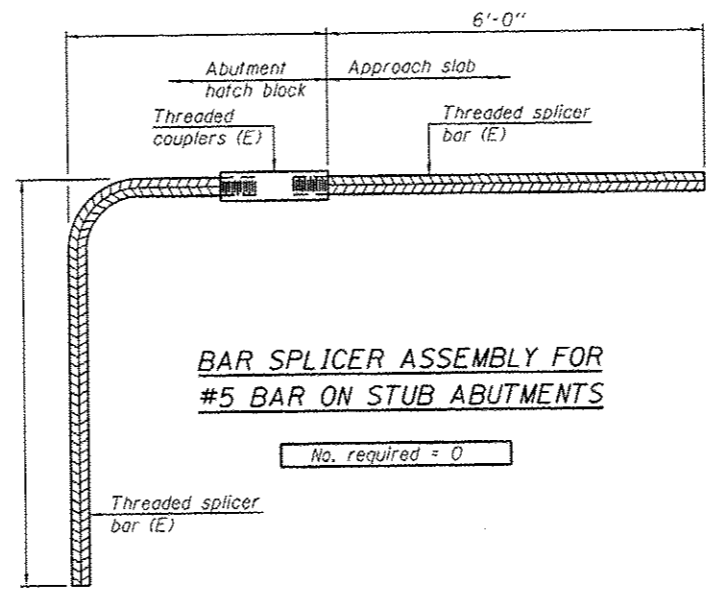


STANDARD MECHANICAL SPLICER



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

No. required = 0



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 0

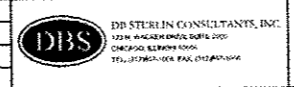
NOTES

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

ADDENDUM 1 7-12-14

PLOT DATE = \$DATE\$ FILE NAME = \$FILEL\$

USER NAME *	DESIGNED - MBC	REVISED -
PLOT SCALE *	DRAWN - SSR	REVISED -
PLOT DATE *	CHECKED - WPK	REVISED -
FILE NAME *	DATE - 7/7/14	REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 045-2041
SHEET NO. 57 OF 59 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	101
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Bench Mark: BM #5 Set at Sta. 131+88.6, Elev 915.520. Square cut on the 3rd step from the road level on concrete stairs to brick pump house about 90' northwest of railroad bridge over IL. Routes 47 and 72, and U.S. Route 20

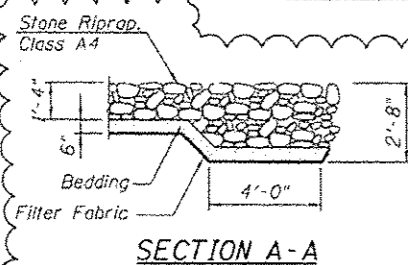
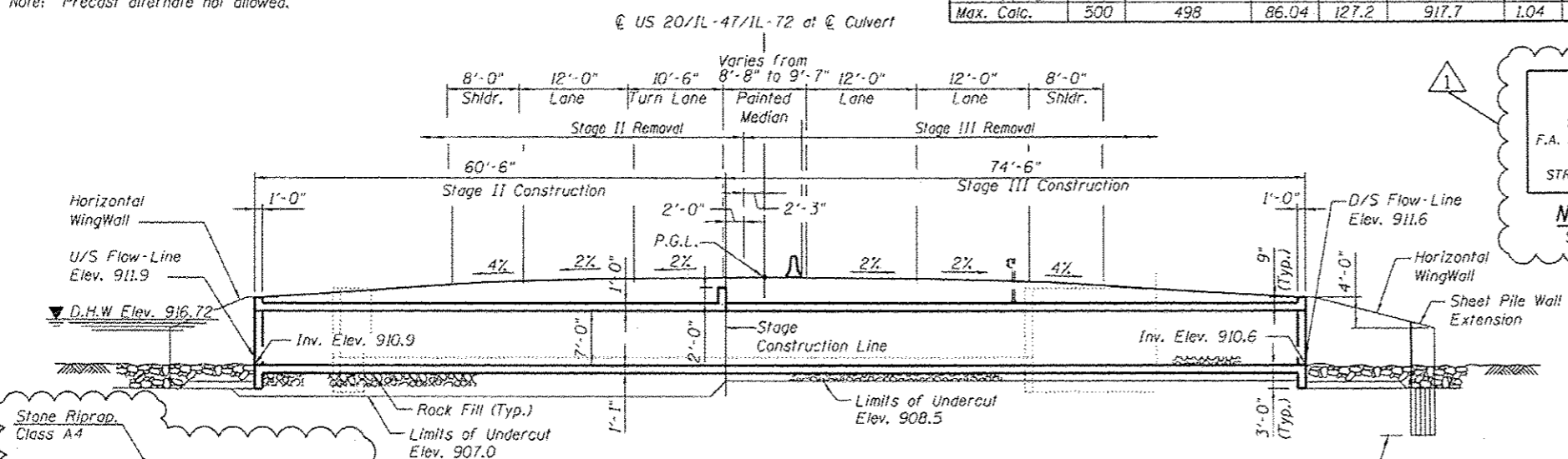
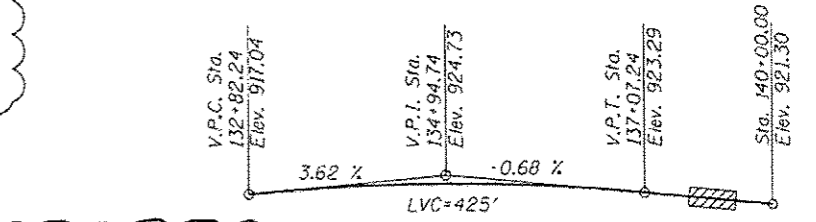
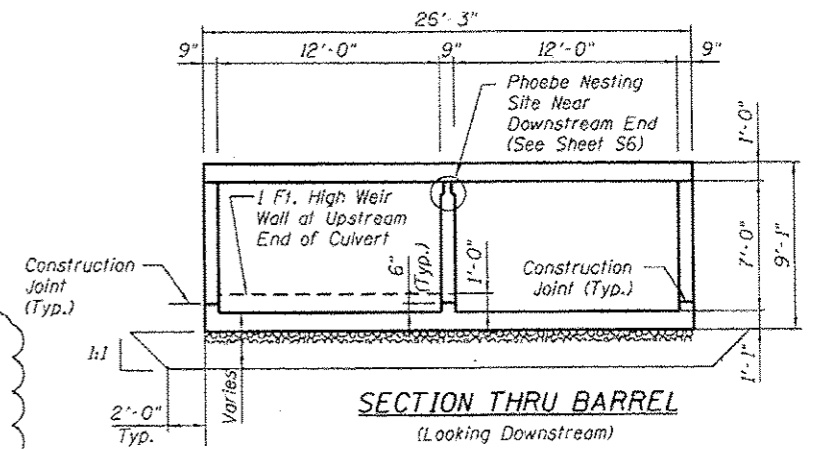
Existing Structure: SN 045-2029 was built in 1936 as part of S.B.I. Route 47, Section 106-S. A low flow profile was cut into the south barrel. The structure is a 2-cell cast-in-place concrete box culvert approximately 23.8 feet in width and 91.8 feet in length. The structure is skewed 32 degrees 15 minutes from the roadway centerline and carries four 12-foot traffic lanes and two variable width shoulders. Structure to be removed and replaced with a double-cell cast-in-place concrete box culvert. Traffic to be maintained utilizing stage construction.

No Salvage.

Note: Precast alternate not allowed.

WATERWAY INFORMATION

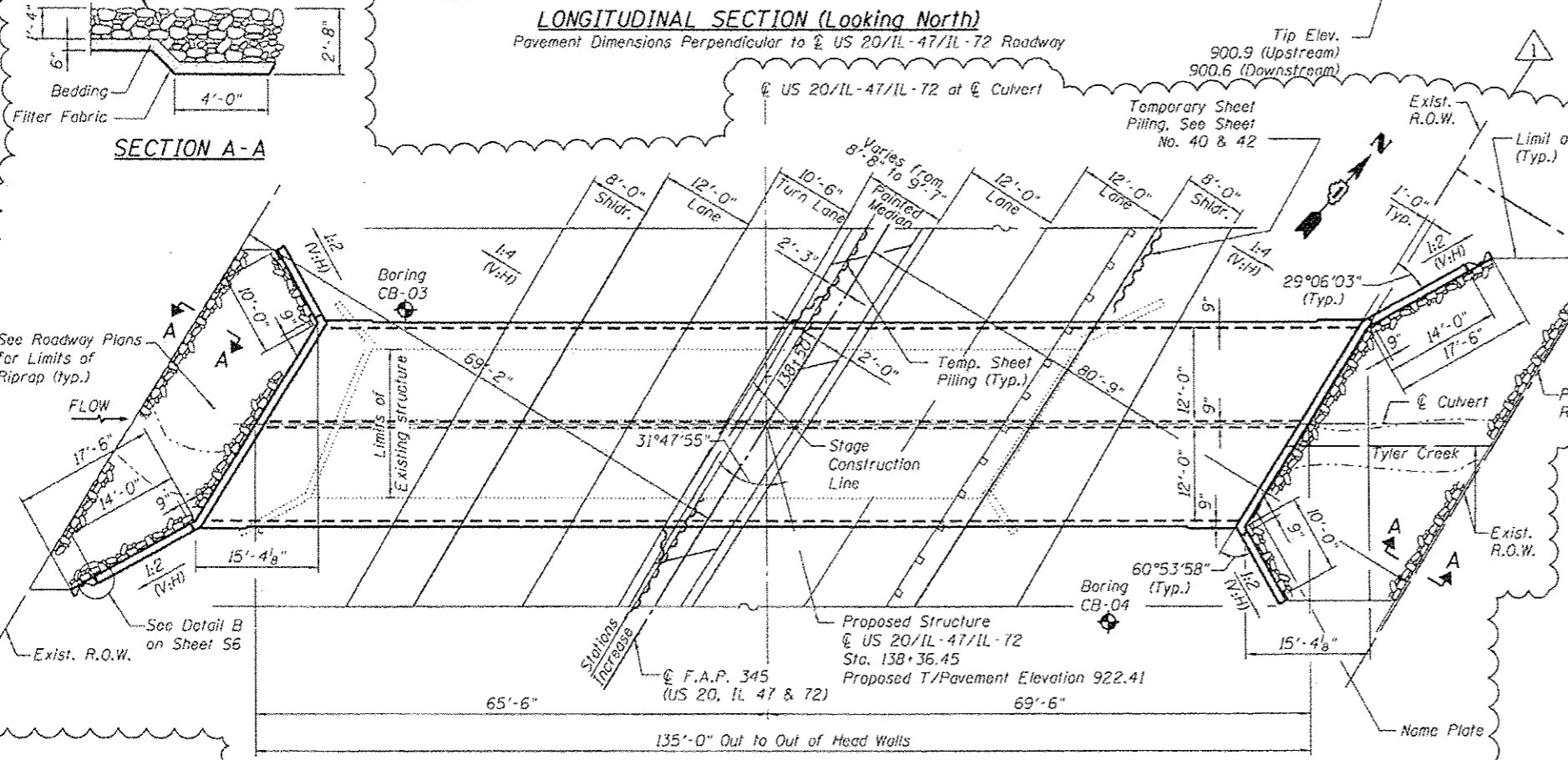
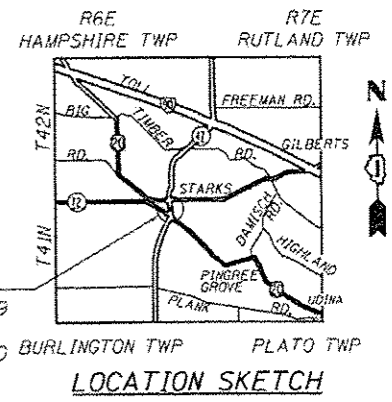
Drainage Area = 0.95 Sq. Mi.		Existing Low Grade Elev. = 921.10 ft. @ Sta. 140+23							
		Proposed Low Grade Elev. = 921.10 ft. @ Sta. 140+23							
Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Natural H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	245	51.84	82.08	915.82	0	0	915.82	915.82
Base	100	335	67.5	103.7	916.72	0.24	0.15	916.96	916.87
Overtopping	N/A		74.88	113.5	917.13	0.60	0.44	917.73	917.57
Max. Calc.	500	498	86.04	127.2	917.7	1.04	0.83	918.74	918.53



STATION 138+36.45
BUILT 20... BY
STATE OF ILLINOIS
F.A. RT. 345 SEC. 106-S-N-1
LOADING HL-93
STRUCTURE NO. 045-2040
NAME PLATE
See Std. 515001

LOADING HL-93
Allow 50 #/Sq Ft. Future Wearing Surface
DESIGN SPECIFICATIONS
100T Bridge Manual January 2012,
100T Culvert Manual, All
Design Memoranda, and
2012 AASHTO LRFD Bridge Design
Specifications, 6th Edition
With 2013 Interims
DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

Notes:
1. For Index of Sheets, See Sheet S2.
2. For Total Bill of Materials, See Sheet S2.



APPROVED
For Structural Adequacy Only
Mehmet B. Civelek
Engineer of Bridges & Structures

GENERAL PLAN
US RTE 20 / IL RTE 47 / IL RTE 72
OVER TYLER CREEK
F.A.P. ROUTE 345-SECTION 106-S-N-1
KANE COUNTY
STATION 138+36.45
STRUCTURE NO. 045-2040

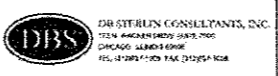
Signed *Mehmet Basar Civelek*
Mehmet Basar Civelek, P.E., S.E.
Il. Lic. No. 081-005449
Expires 11-30-2014
Date 7-18-2014

ADDENDUM 1 7-18-14

LEGEND
Soil Boring
Sheet Piling

DATE: 7/1/14
FILE NAME: 045-2040-01

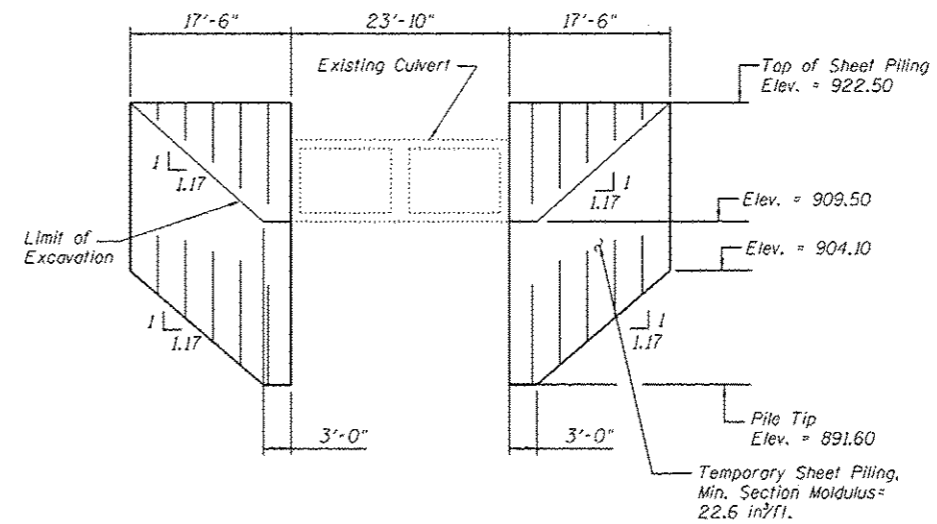
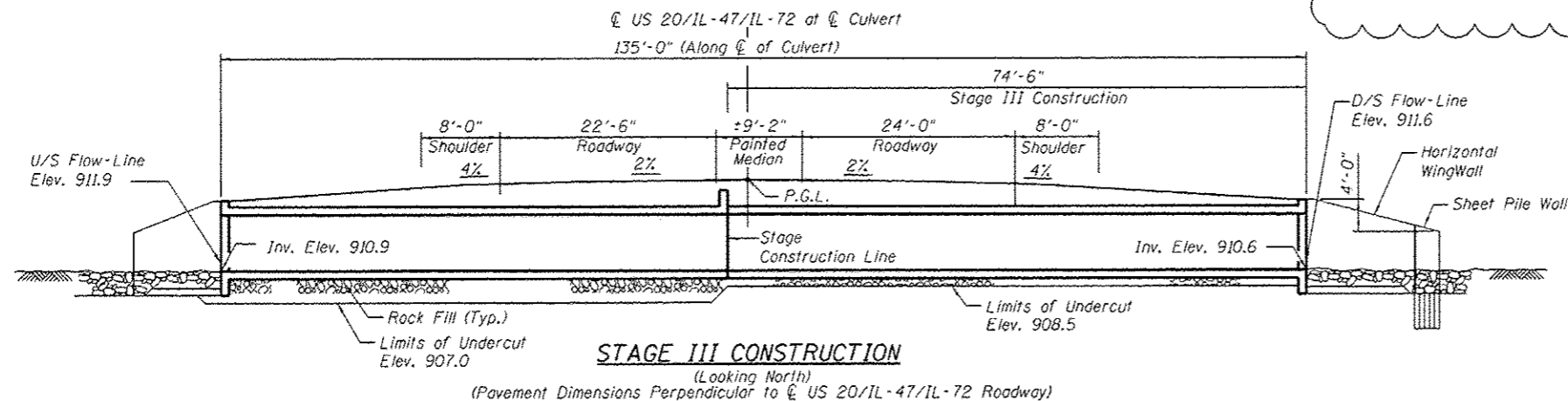
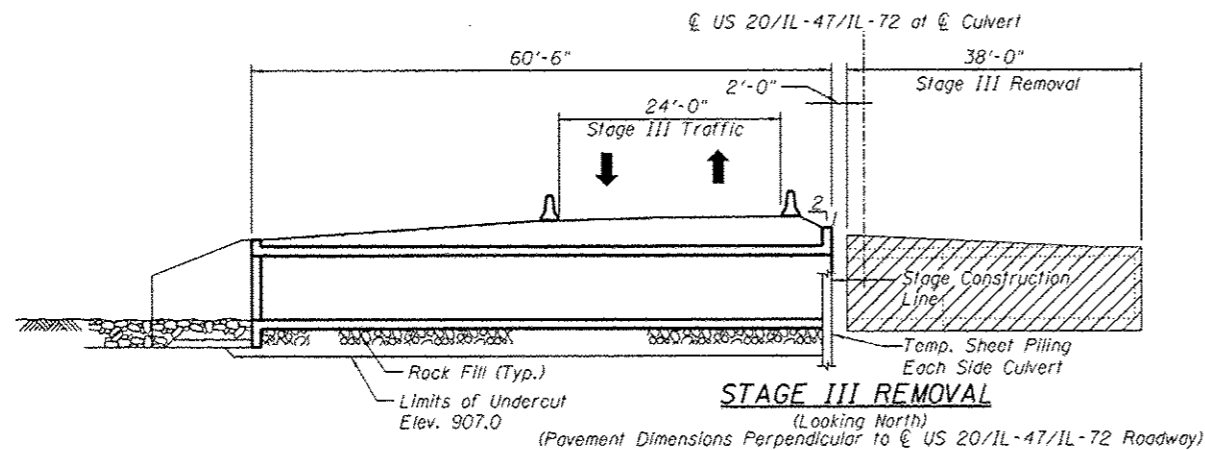
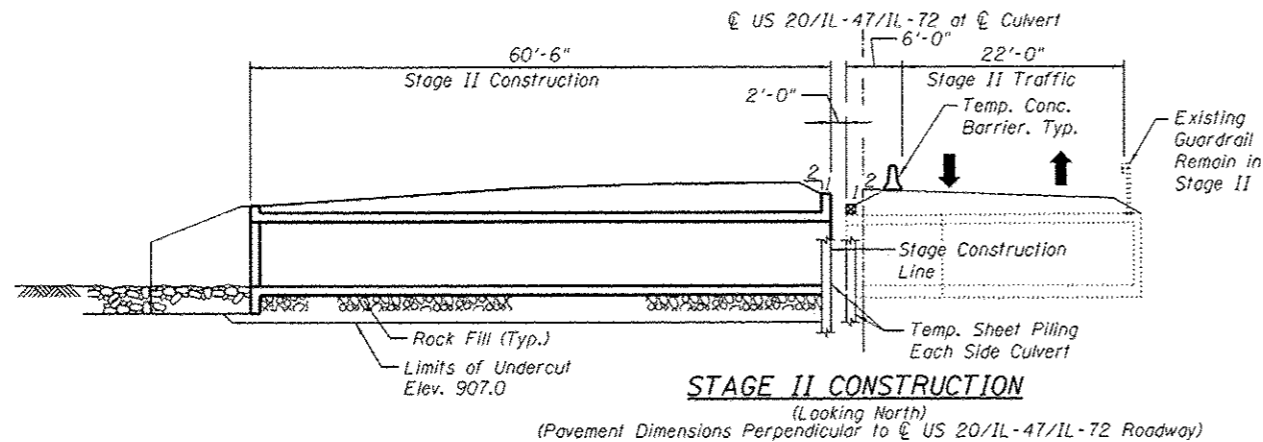
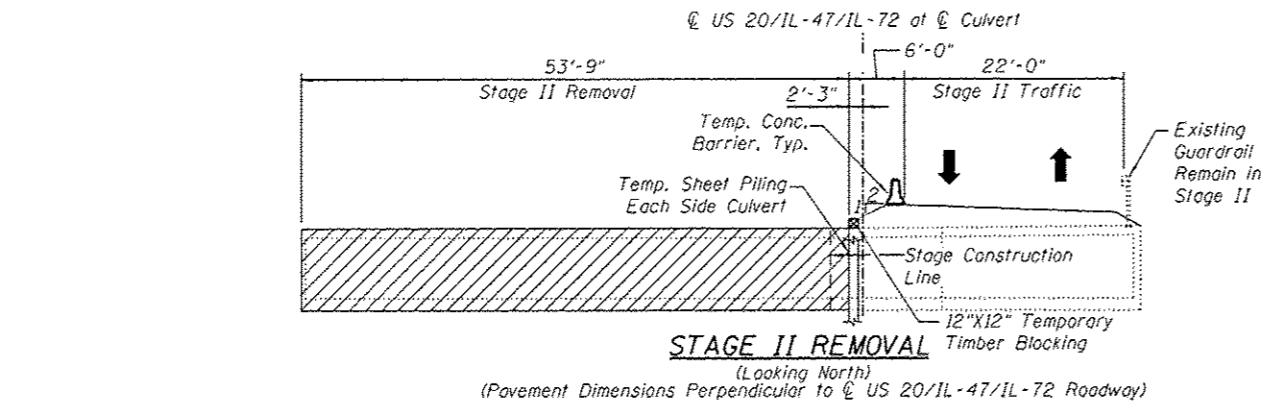
DESIGNED - MBC	REVISIONS - 6/12/14 BA
DRAWN - SSR	REVISIONS -
CHECKED - WPK	REVISIONS -
DATE - 7/1/14	REVISIONS -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 045-2040
SHEET NO. 51 OF 59 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	104
CONTRACT NO. 60T10				



ELEVATION - TEMPORARY SHEET PILING

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. The limits and quantities of removal of the existing soil and replacement with the rockfill materials shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.
3. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plan, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
5. Hatched areas indicate "Removal of Existing Structures."
6. See Roadway Plans for quantity of Temporary Concrete Barrier.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq. Yd.	202
Filter Fabric	Sq. Yd.	207
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	76.2
Concrete Structures	Cu. Yd.	1.6
Reinforcement Bars, Epoxy Coated	Pound	89,890
Bar Splicers	Each	138
Name Plate	Each	1
Concrete Box Culverts	Cu. Yd.	377.9
Permanent Steel Sheet Piling	Sq. Ft.	107
Temporary Sheet Piling	Sq. Ft.	2,622
Rock Fill-Foundation	Ton	527

INDEX OF SHEETS

- S1 General Plan and Elevation
- S2 Stage Construction
- S3 Temporary Concrete Barrier for Stage Construction
- S4 Culvert Plan, Top Slab, Bottom Slab and Sections
- S5 Culvert Plan, Top Slab, Bottom Slab, Elevations and Details
- S6 Culvert Sections and Details
- S7 Bar Splicer Assembly and Mechanical Splicer Details
- S8 Soil Boring Logs I
- S9 Soil Boring Logs II

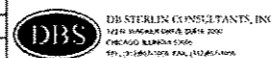
ABBREVIATIONS

- F.F. = Front Face
- B.F. = Back Face
- E.F. = Each Face

ADDENDUM 1 7-12-14

PLOT DATE = \$DATE\$
FILE NAME = \$FILEL\$

USER NAME =	DESIGNED - MBC	REVISED - 6/12/14 BA
PLOT SCALE =	DRAWN - SSR	REVISED -
PLOT DATE =	CHECKED - WPK	REVISED -
FILE NAME =	DATE - 7/7/14	REVISED -

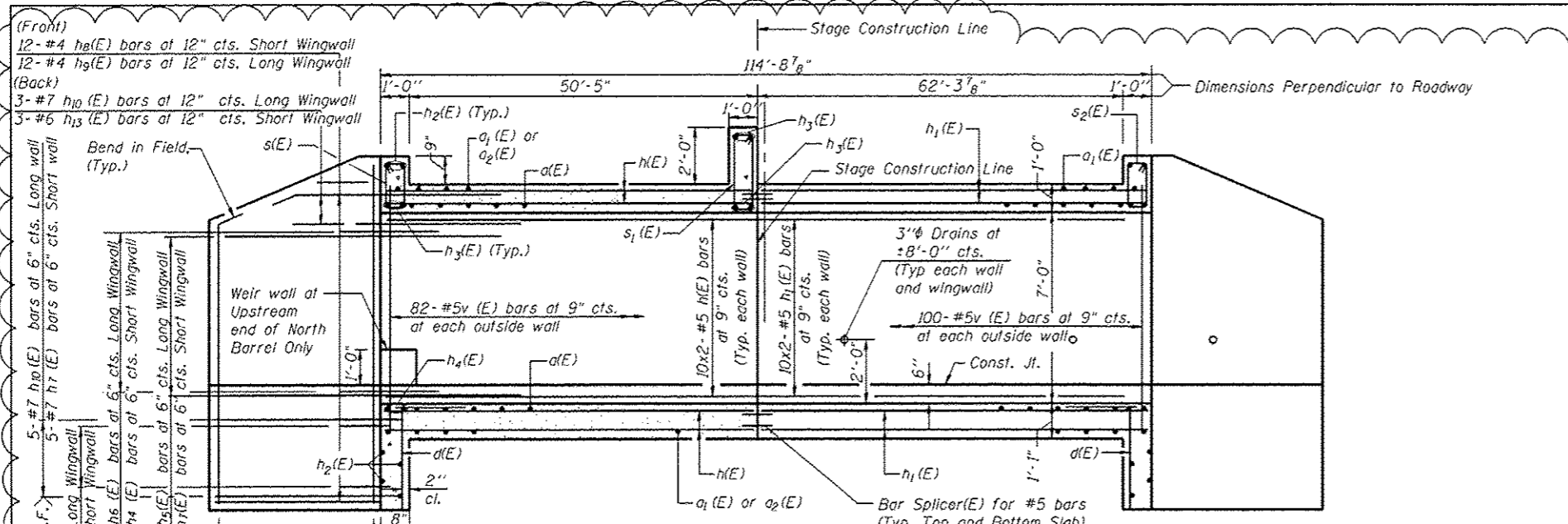


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

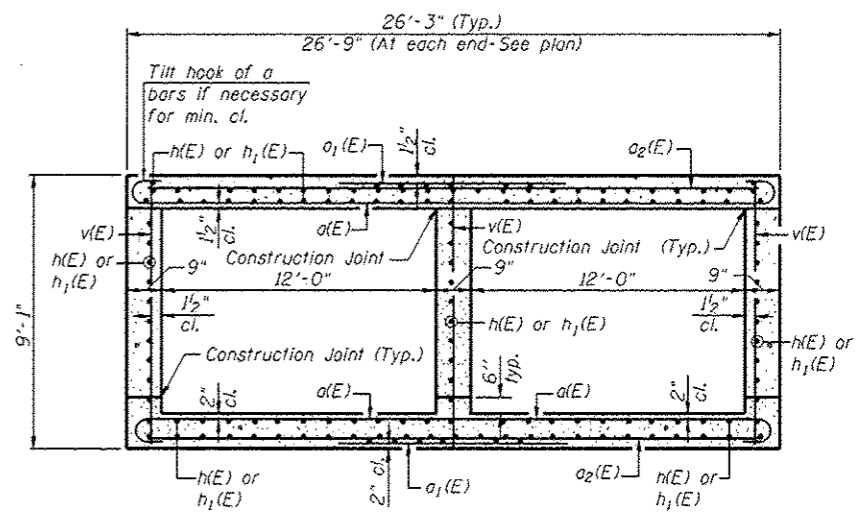
STAGE CONSTRUCTION
STRUCTURE NO. 045-2040

SHEET NO. 52 OF 59 SHEETS

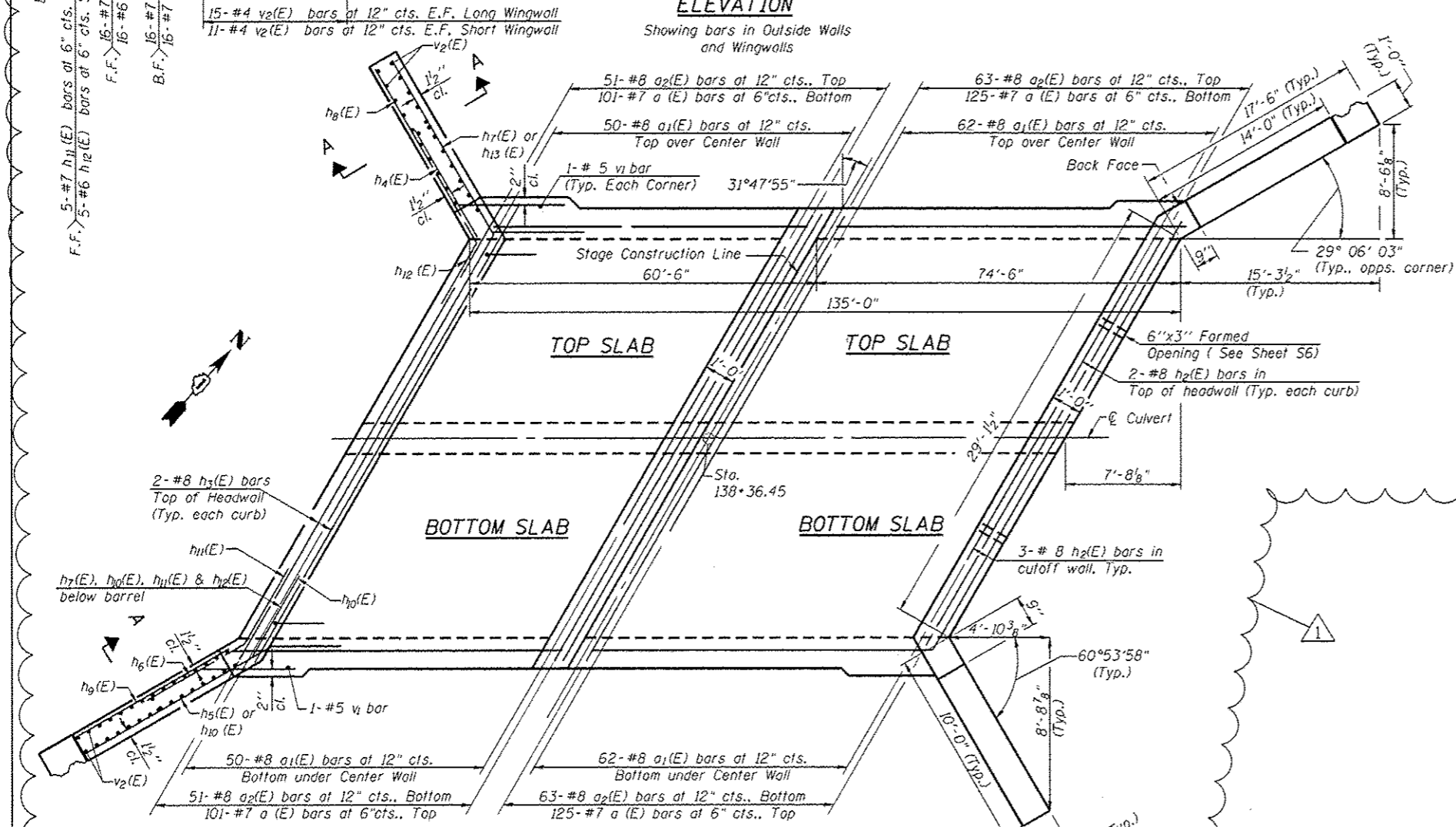
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	105
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



ELEVATION
Showing bars in Outside Walls and Wingwalls



SECTION THRU BARREL



PLAN SHOWING TRANSVERSE REINFORCEMENT

NOTES

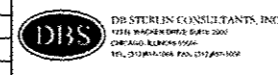
1. A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
2. Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
3. Bars shown on west side of plan are Stage II reinforcement. Bars shown on east side of plan are Stage III reinforcement.
4. All reinforcement for spacings shown in the top and bottom slabs are perpendicular to bar placement.
5. See Sheet S6 for Section A-A.

ABBREVIATIONS

F.F. = Front Face
B.F. = Back Face
E.F. = Each Face

PLOT DATE = #DATES
FILE NAME = \$FILEL\$

DB-H-R	7-1-10	DESIGNED - MBC	REVISED - 6/12/14 BA
USER NAME *		DRAWN - SSR	REVISED -
PLOT SCALE *		CHECKED - WPK	REVISED -
PLOT DATE *		DATE - 7/7/14	REVISED -
FILE NAME *			



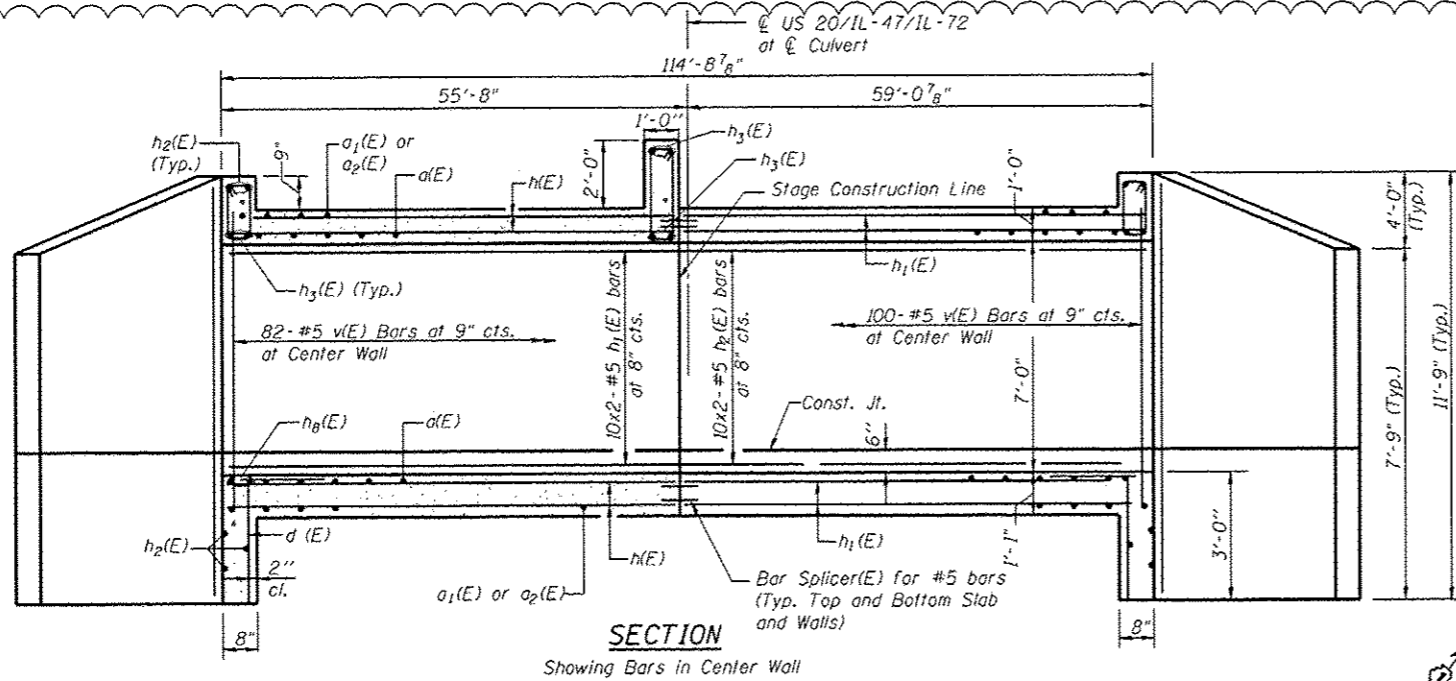
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

**CULVERT PLAN, TOP SLAB, BOTTOM SLAB AND SECTIONS
STRUCTURE NO. 045-2040**

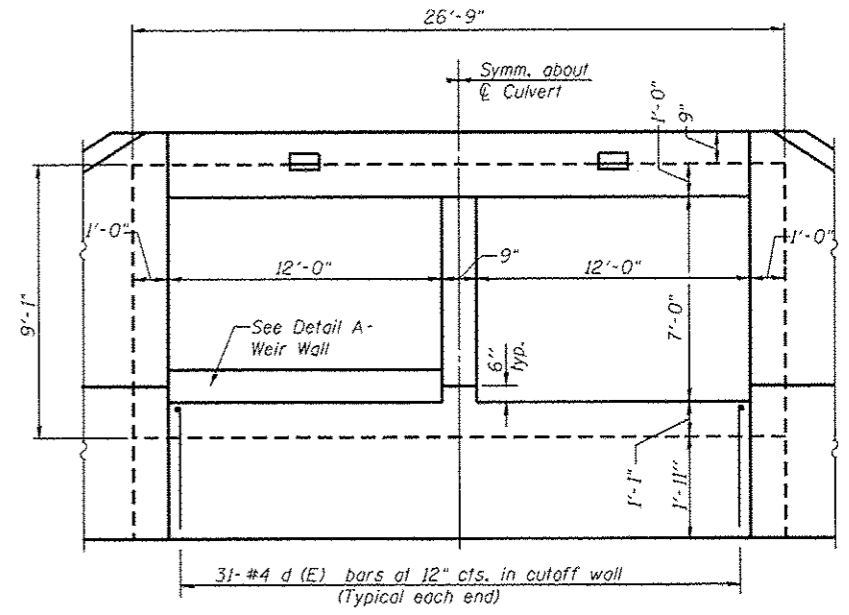
SHEET NO. 54 OF 59 SHEETS

F.A.P. RTE. *	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	107
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

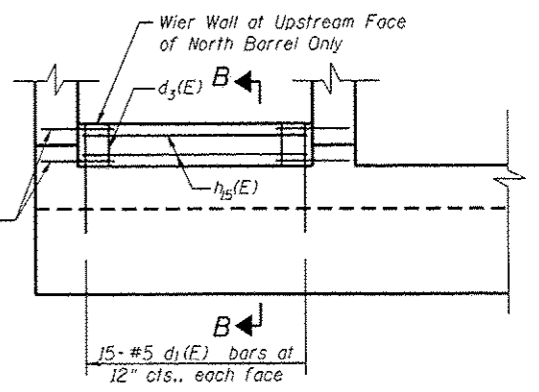
ADDENDUM 1 7-18-14



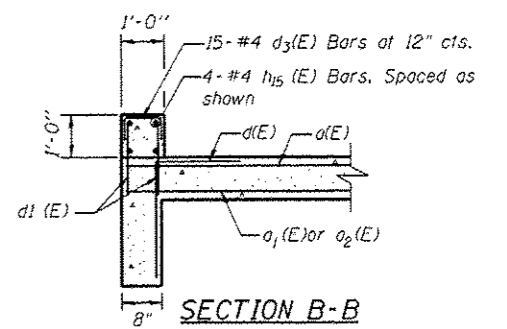
SECTION
Showing Bars in Center Wall



END ELEVATION



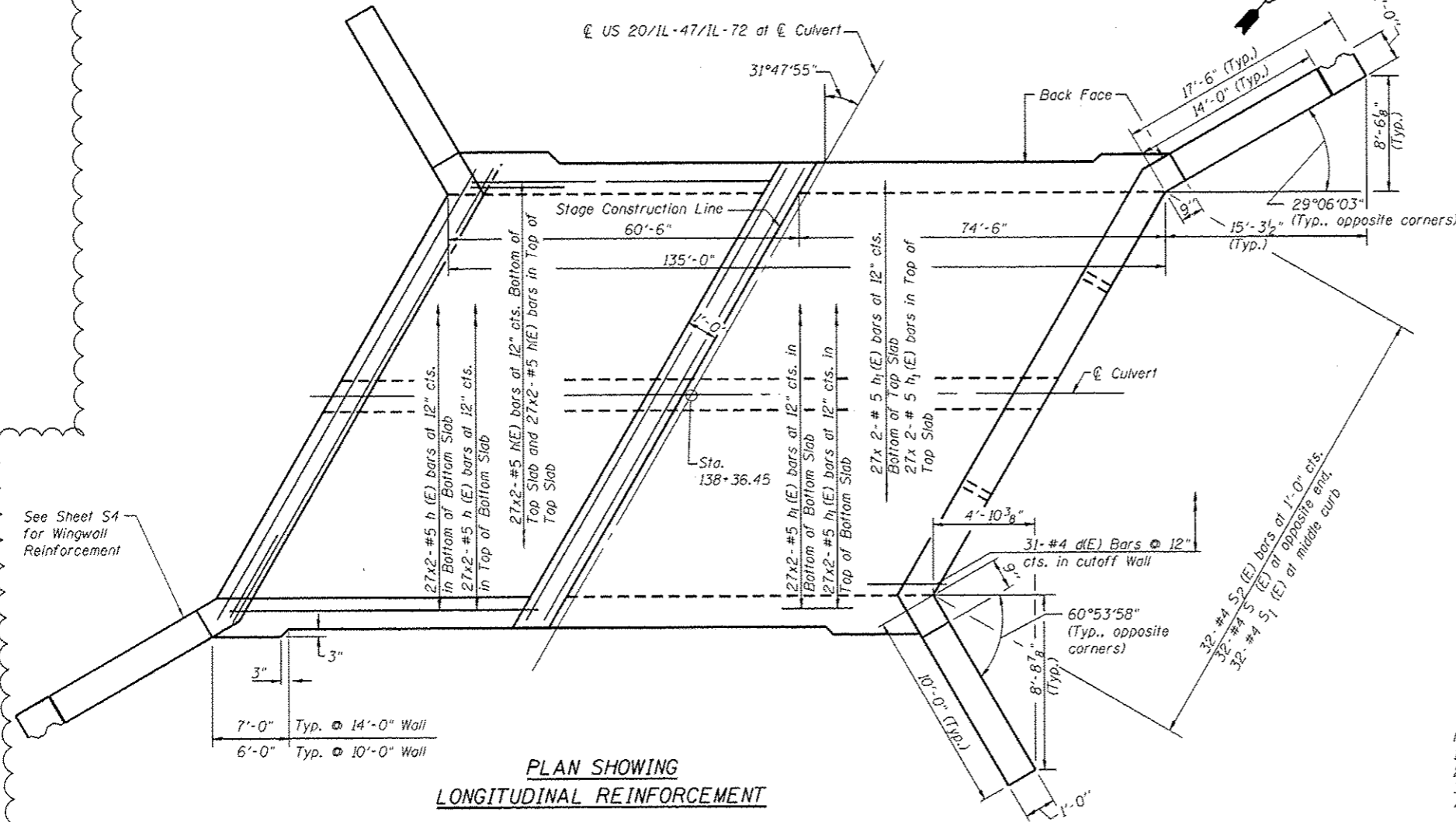
DETAIL A - WEIR WALL



SECTION B-B

MINIMUM BAR LAPS

- (Slabs)
- #4 Bar = 2'-7"
- #5 Bar = 3'-3"
- #6 Bar = 3'-10"
- #7 Bar = 5'-2"

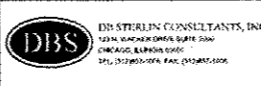


PLAN SHOWING LONGITUDINAL REINFORCEMENT

- Notes:
1. See Sheet S2 for Total Bill of Materials
 2. See Sheet S2 for General Notes
 3. Work this Sheet with Sheet S4
 4. See Sheet S6 for Bill of Material

PLOT DATE = \$DATE\$
FILE NAME = \$FILE\$

USER NAME *	DESIGNED - MBC	REVISED -
PLOT SCALE *	DRAWN - SSR	REVISED -
PLOT DATE *	CHECKED - WPK	REVISED -
FILE NAME *	DATE - 7/7/14	REVISED -



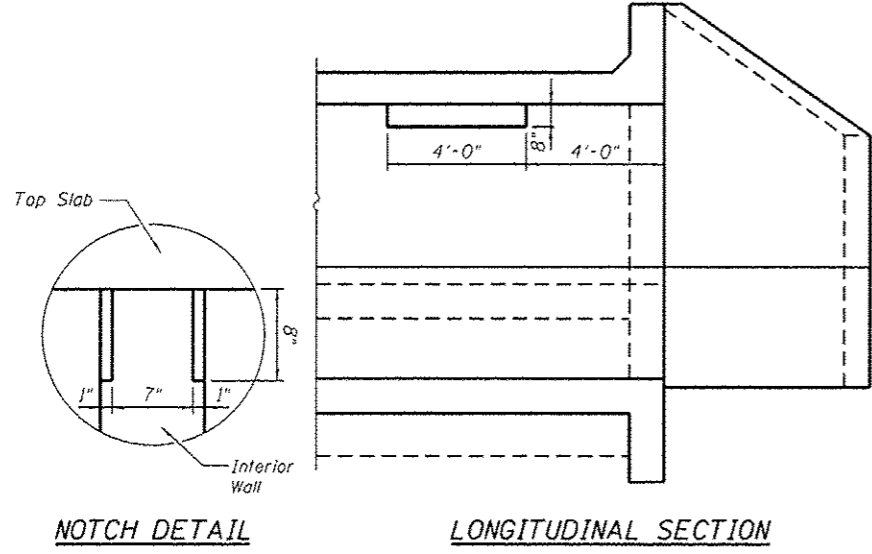
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT PLAN, TOP SLAB, BOTTOM SLAB, ELEVATIONS AND DETAILS
STRUCTURE NO. 045-2040

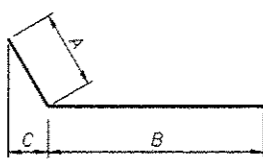
SHEET NO. S5 OF 59 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	108
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

ADDENDUM 1 7-18-14

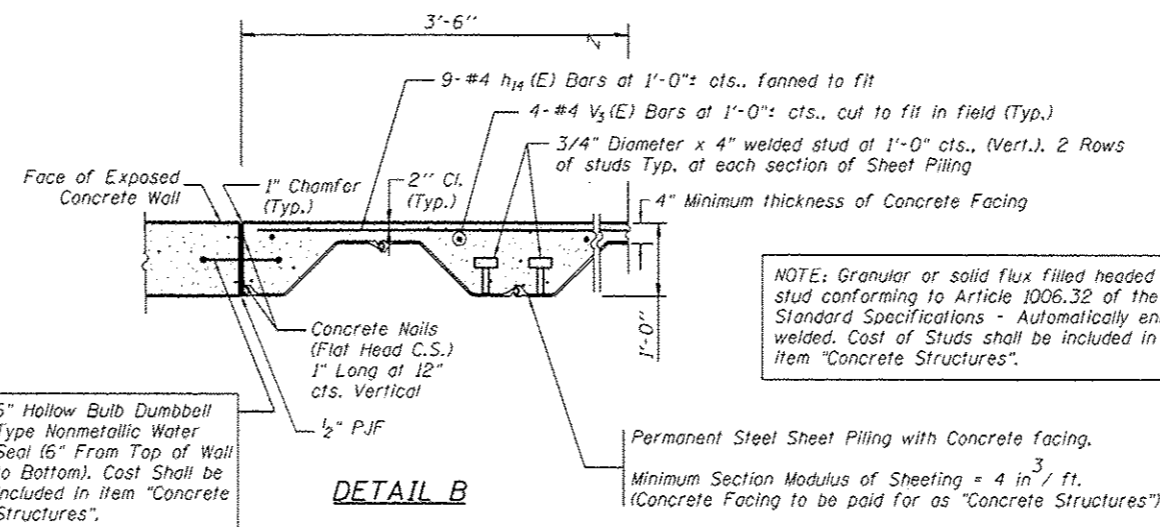
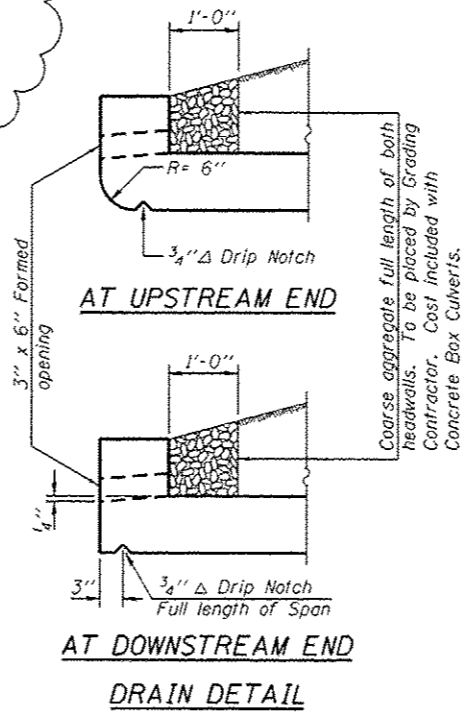
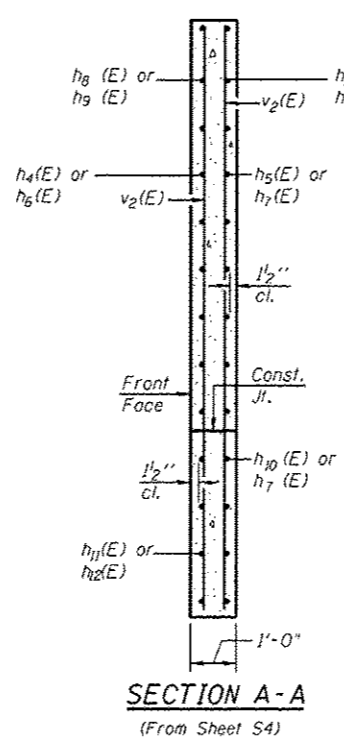


PHOEBE NESTING SITE
(Near downstream end)



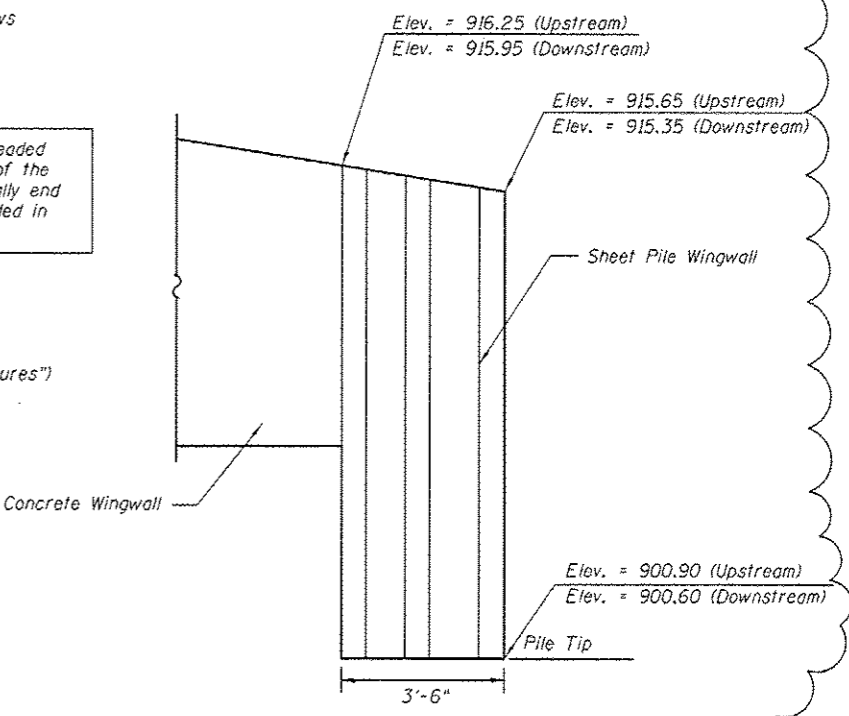
BARS h4(E) Thru h7(E) & h10(E) Thru h13(E)

Bar	A	B	C
h4(E)	3'-0"	5'-0"	1'-5 1/2"
h5(E)	3'-0"	14'-6"	2'-7 1/2"
h6(E)	3'-0"	5'-0"	2'-7 1/2"
h7(E)	3'-0"	10'-6"	1'-5 1/2"
h10(E)	3'-0"	14'-6"	2'-7 1/2"
h11(E)	3'-0"	14'-0"	2'-7 1/2"
h12(E)	3'-0"	10'-0"	1'-5 1/2"
h13(E)	3'-0"	10'-6"	1'-5 1/2"



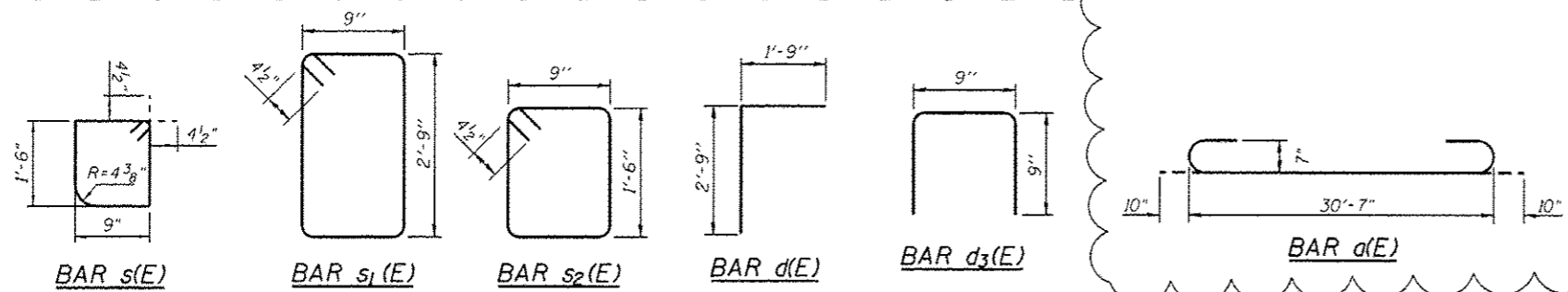
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a (E)	452	#7	32'-3"	U
a1 (E)	224	#8	14'-1"	U
a2 (E)	228	#8	30'-7"	U
d (E)	62	#4	4'-6"	U
d1 (E)	30	#5	2'-5"	U
d2 (E)	8	#4	1'-6"	U
d3 (E)	15	#4	2'-3"	U
h (E)	276	#5	31'-9"	U
h1 (E)	276	#5	38'-9"	U
h2 (E)	10	#8	30'-1"	U
h3 (E)	8	#8	30'-7"	U
h4 (E)	32	#6	8'-0"	U
h5 (E)	32	#7	17'-6"	U
h6 (E)	32	#7	8'-0"	U
h7 (E)	42	#7	13'-6"	U
h8 (E)	24	#4	9'-9"	U
h9 (E)	24	#4	13'-9"	U
h10 (E)	16	#7	17'-6"	U
h11 (E)	10	#7	17'-0"	U
h12 (E)	10	#6	13'-0"	U
h13 (E)	6	#6	13'-6"	U
h14 (E)	18	#4	3'-2"	U
h15 (E)	4	#4	13'-10"	U
v (E)	546	#5	8'-8"	U
v1 (E)	4	#5	8'-9"	U
v2 (E)	104	#4	11'-6"	U
v3 (E)	8	#4	8'-2"	U
s (E)	32	#4	5'-3"	U
s1 (E)	32	#4	7'-9"	U
s2 (E)	32	#4	5'-3"	U
Concrete Box Culverts			Cu. Yd.	377.9
Reinforcement Bars, Epoxy Coated			Pound	89,890
Bars Splicers			Each	138
Concrete Structures			Cu. Yd.	1.6
Permanent Steel Sheet Piling			Sq. Ft.	107



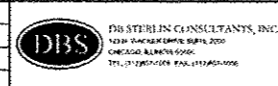
ELEVATION - PERMANENT SHEET PILING

NOTE: Contractor shall drive Sheet Pile Wall first, and then pour Concrete for Concrete Wingwall and Concrete Facing.



PLOT DATE = \$DATE\$
FILE NAME = \$FILEL\$

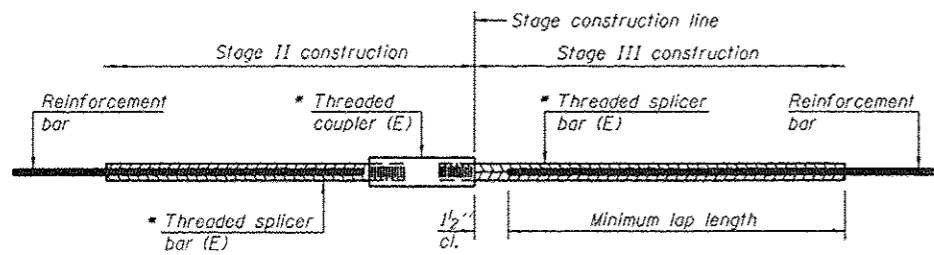
USER NAME =	DESIGNED - MBC	REVISED - 6/12/14 BA
PLOT SCALE =	DRAWN - SSR	REVISED -
PLOT DATE =	CHECKED - WPK	REVISED -
FILE NAME =	DATE - 7/7/14	REVISED -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT SECTIONS AND DETAILS
STRUCTURE NO. 045-2040
SHEET NO. S6 OF S9 SHEETS

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	109
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



STANDARD BAR SPLICER ASSEMBLY

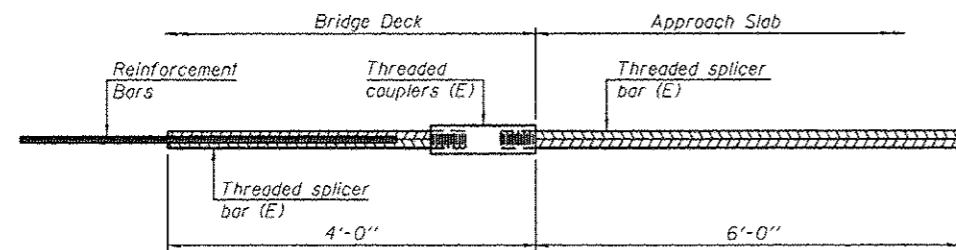
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

- 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, Class C
- Table 6: Epoxy bar, Top bar lap, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

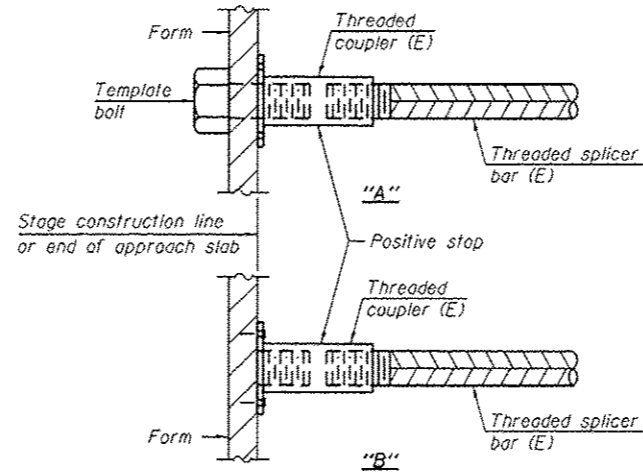
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top of Top Slab	#5	27	3
Bottom of Top Slab	#5	27	3
Top of Bottom Slab	#5	27	3
Bottom of Bottom Slab	#5	27	3
North Wall	#5	10	4
Center Wall	#5	10	4
South Wall	#5	10	4



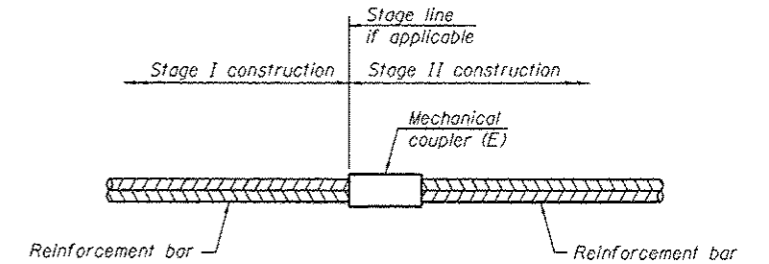
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 0



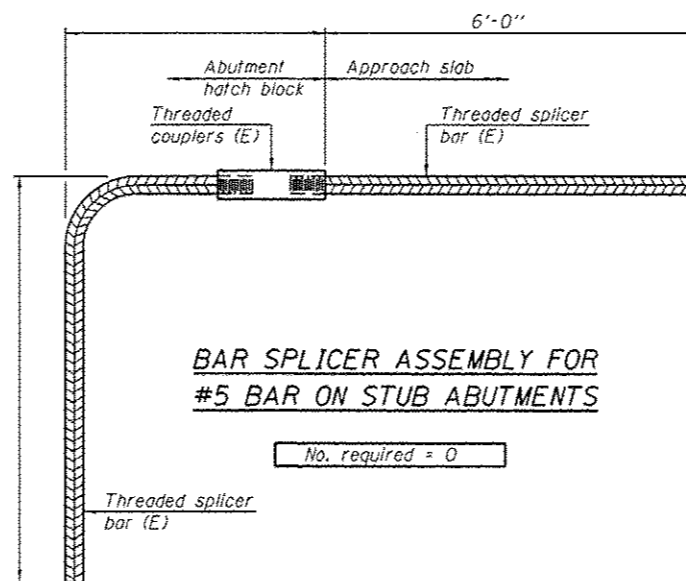
INSTALLATION AND SETTING METHODS

- "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 STUB ABUTMENTS

No. required = 0

NOTES

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

1 ADDENDUM 1 7-12-14

PLOT DATE = \$DATE\$
FILE NAME = \$FILEL\$

BSD-1

1-27-12

USER NAME =	DESIGNED - MBC	REVISED -
PLOT SCALE =	DRAWN - SSR	REVISED -
PLOT DATE =	CHECKED - WPK	REVISED -
FILE NAME =	DATE - 7/7/14	REVISED -

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1221 N. WILSON AVENUE, SUITE 2000
CHICAGO, ILLINOIS 60642
TEL: 312.942.1000 FAX: 312.942.1000

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 045-2040

SHEET NO. 57 OF 59 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	106-S-N-1	KANE	167	110
CONTRACT NO. 60T10				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				