

PLAN	SURVEYED	DATE
NOTE BOOK	ALIGNED	
NO.	BY	
	BY	
	DATE	

PROFILE	SURVEYED	DATE
NOTE BOOK	ALIGNED	
NO.	BY	
	BY	
	DATE	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				BOX CULVERT 0011 S.N. 047-2052
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	48	48
20200100	EARTH EXCAVATION	CU YD	735	735
25000210	SEEDING, CLASS 2A	ACRE	0.75	0.75
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	59	59
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	59	59
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	59	59
25100630	EROSION CONTROL BLANKET	SQ YD	3162	3162
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	65	65
28000305	TEMPORARY DITCH CHECKS	FOOT	210	210
28000400	PERIMETER EROSION BARRIER	FOOT	688	688
28000500	INLET AND PIPE PROTECTION	EACH	2	2
28100107	STONE RIPRAP, CLASS A4	SQ YD	157	157
28200200	FILTER FABRIC	SQ YD	157	157
31100300	SUB-BASE GRANULAR MATERIAL, TYPE A 4"	SQ YD	211	211



\* SPECIALTY ITEMS

REVIS 10-19-16

 DELTA ENGINEERING GROUP, LLC	USER NAME = swhankong	DESIGNED - SA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 2.0000" = 1' in.	CHECKED - GC	REVIS -					607	126(BR)	KENDALL	33	3
	PLOT DATE = 8/5/2016	DATE = 7/26/2016	REVIS -		SCALE: NONE	SHEET 1	OF 4 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

DATE	
BY	
DESIGNED	
CHECKED	
PLOTTED	
PRINTED	
FILED	
NO.	

DATE	
BY	
DESIGNED	
CHECKED	
PLOTTED	
PRINTED	
FILED	
NO.	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				BOX CULVERT 0011 S.N. 047-2052
50800105	REINFORCEMENT BARS	POUND	15388	15388
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	142	142
51500100	NAME PLATES	EACH	1	1
54003000	CONCRETE BOX CULVERTS	CU YD	87	87
54011006	PRECAST CONCRETE BOX CULVERTS 10' x6'	FOOT	58.33	58.33
54200223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	97	97
54215553	METAL END SECTIONS 18"	EACH	4	4
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	275.0	275.0
* 63000025	STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES	FOOT	46.0	46.0
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	4	4
63200310	GUARDRAIL REMOVAL	FOOT	385.0	385.0
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	8	8
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	3
67100100	MOBILIZATION	L SUM	1	1

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\* SPECIALTY ITEMS

△ REVISED 10-19-16



USER NAME: rmmood  
 DESIGNED: SA  
 DRAWN: RM  
 CHECKED: CC  
 DATE: 7/26/2016

REVISED: -  
 REVISED: -  
 REVISED: -  
 REVISED: -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NONE SHEET 3 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
607	126(BR)	KENDALL	33	5
CONTRACT NO. 66C62			ILLINOIS FED. AID PROJECT	

003 01 00A

PLAN	REVISION	DATE
NO.	DESCRIPTION	
1	ALTERNATE CHECKED	
2	BY FILE NAME	

PROFILE	REVISION	DATE
NO.	DESCRIPTION	
1	ALTERNATE CHECKED	
2	BY FILE NAME	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				BOX CULVERT 0011 S. N. 047-2052
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70101835	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 22	L SUM	1	1
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1396	1396
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	218	218
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2792	2792
* 78001130	PAINT PAVEMENT MARKING - LINE 6"	FOOT	436	436
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	8	8
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	8	8
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	4	4
X0327726	MEMBRANE WATERPROOFING FOR CULVERTS	SO YD	149	149
X2010400	STUMP REMOVAL ONLY	UNIT	54	54
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	243	243
Z0004552	APPROACH SLAB REMOVAL	SO YD	102	102
Z0016702	DETOUR SIGNING	L SUM	1	1
Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	42	42


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\* SPECIALTY ITEMS

△ REVISED 10-19-16

Rev.

 DELTA ENGINEERING GROUP, LLC	USER NAME = schwenker PLOT SCALE = 2.0000 1/1 in. PLOT DATE = 8/9/2016	DESIGNED - SA DRAWN - RM CHECKED - CC DATE - 7/26/2016	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES SCALE: NONE SHEET 4 OF 4 SHEETS STA. TO STA.	F.A.P. RTE. 607 SECTION 126(BR) COUNTY KENDALL TOTAL SHEETS 33 SHEET NO. 6 CONTRACT NO. 66C62 ILLINOIS FED. AID PROJECT
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**BENCH MARK:**

Sta. 841+17.79, 22.09 ft. Right,  
Chiseled "□" S. E. Wingwall  
Elev. 689.41.

**EXISTING STRUCTURE:**

The existing structure number 047-0037 was built in 1932 as F.A. Route 607, section (126)BR in Kendall County over Saratoga Creek located 4.8 miles west of Illinois 47. The existing structure is a single span bridge constructed of 15 1/2" Reinforced Concrete Deck with clear width of 40'-0" and back to back of abutments 41'-0". The bridge is located on a tangent section with a 0 degree skew.

The road will be temporarily closed, traffic will be detoured using state route detour during existing structure removal and proposed structure construction.

**SALVAGE:**

No Salvage

**LEGEND:**

⊗ - Soil Boring Location

**INDEX OF SHEETS**

SHEET NO.	TITLE
S1	General Plan
S2	Miscellaneous Details
S3	End Section (1 of 3)
S4	End Section (2 of 3)
S5	End Section (3 of 3)
S6	Soil Boring Logs

**LOADING HL-93**

Allow 50 #/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 interims.

**DESIGN STRESSES**

**FIELD UNITS**

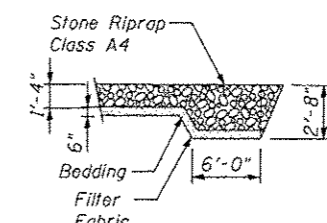
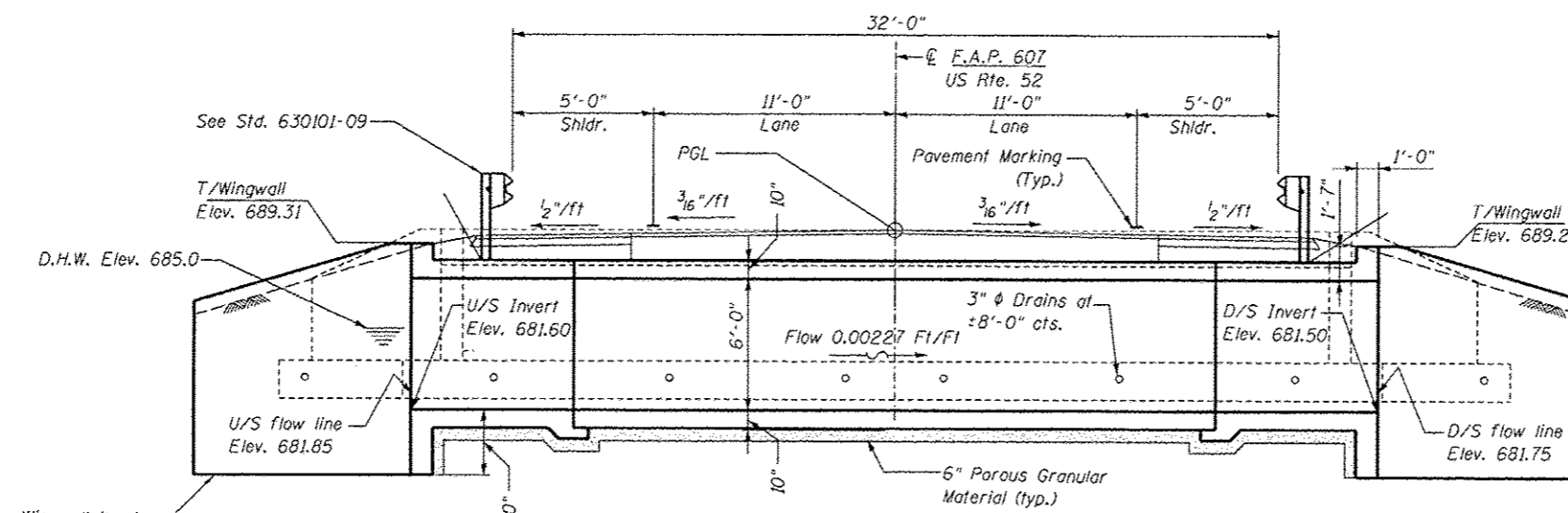
f'c = 4,000 psi  
fy = 60,000 psi (Reinforcement)

**PRECAST UNITS**

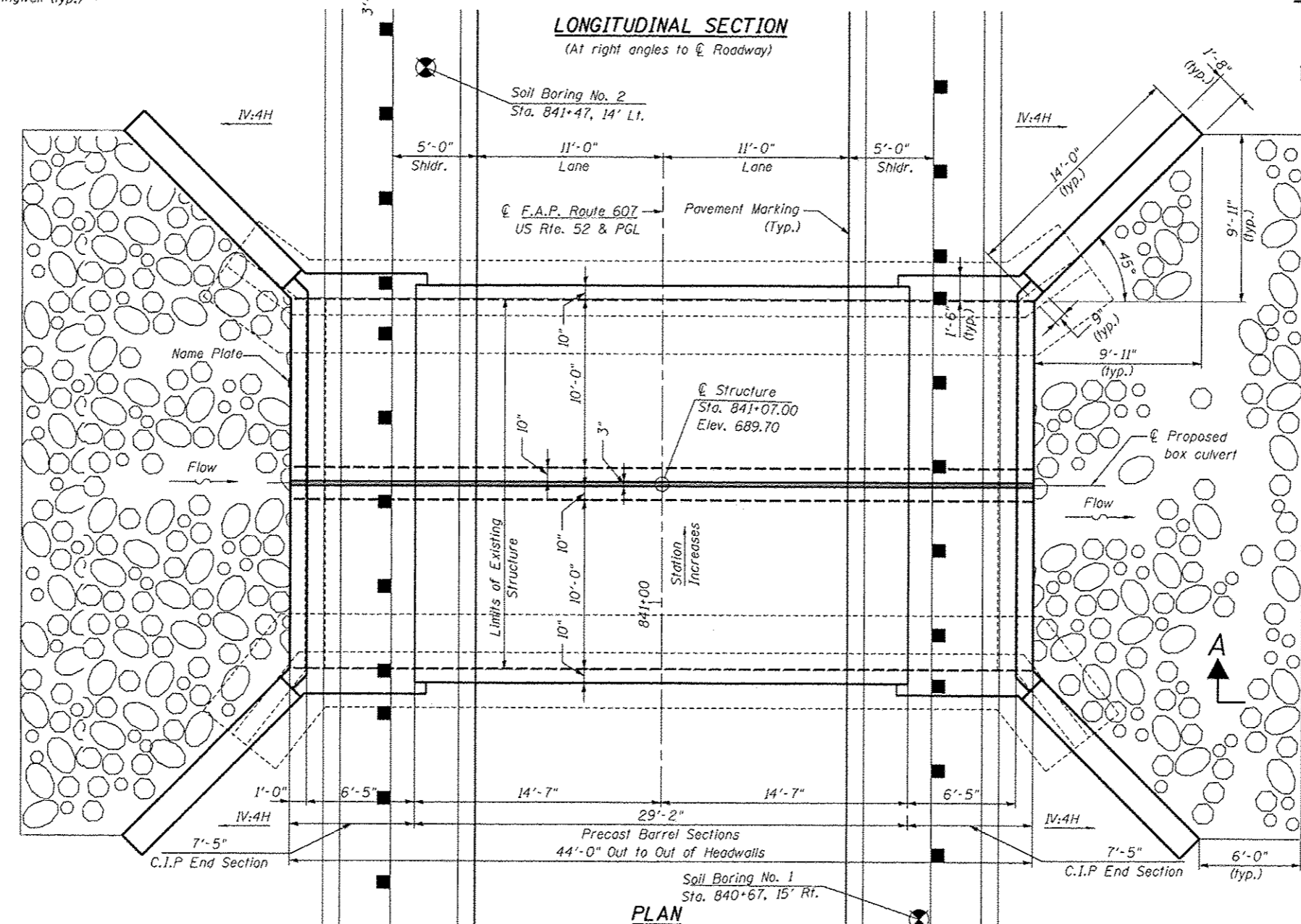
f'c = 5,000 psi  
fy = 65,000 psi (Welded wire fabric)  
fy = 60,000 psi (Reinforcement)

**DESIGN FILL HEIGHT**

Design Earth Cover=1.0 ft.



**SECTION A-A**



**PLAN**

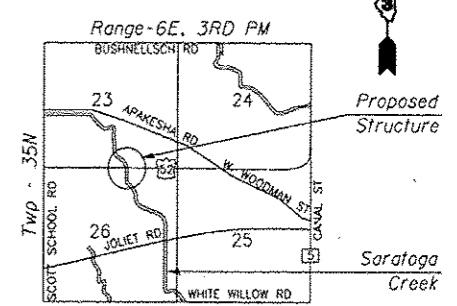
STATION 841+07.00  
BUILT BY  
STATE OF ILLINOIS  
F.A.P. RT. 607 SEC. (126)BR  
LOADING HL93  
STR. NO. 047-2052

**NAME PLATE**

See Std. 515001



Arad Hussain Kazi  
DATE  
LICENSE EXPIRES ON 11/30/2016



**LOCATION SKETCH**

**GENERAL PLAN**  
**US ROUTE 52 OVER SARATOGA CREEK**  
**F.A.P. ROUTE 607 - SECTION (126)BR**  
**KENDALL COUNTY**  
**STATION 841+07.00**  
**STRUCTURE NO. 047-2052**

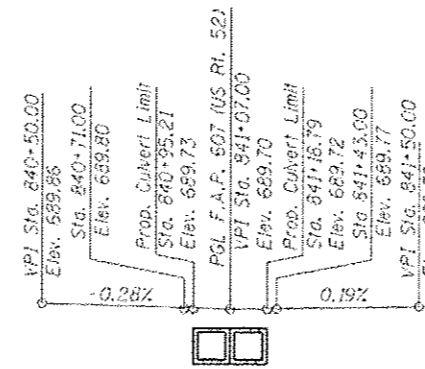
<p>DELTA ENGINEERING GROUP, LLC FILE NAME: G:\PLANS\11818\11818-66C62-Culvert Design STR &amp; ROW\11818Sheet Files\11818-66C62-eh1-str-act.dgn</p>	USER NAME: aabbasi PLOT SCALE: 4,000' = 1"	DESIGNED: NS DRAWN: RM CHECKED: SK DATE: 7/26/2016	REVISED: - REVISED: - REVISED: - REVISED: 10-12-16 ADDENDUM#1	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN STRUCTURE NO. 047-2052 SCALE: N.T.S.	SHEET 51 OF 56 SHEETS STA. TO STA.	F.A.P. RTE. 607 SECTION 126(BR) COUNTY KENDALL TOTAL SHEETS 33 SHEET NO. 18 CONTRACT NO. 66C62 ILLINOIS FED. AID PROJECT
	ENTIRE SHEET REVISED 10/12/2016 GC						

**GENERAL NOTES**

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
3. Precast concrete box culvert sections shall conform to the requirements of article 540.05 of the standard specifications and the applicable requirements of ASTM C1577
3. Wingwalls must be poured monolithically with cast-in-place end section.

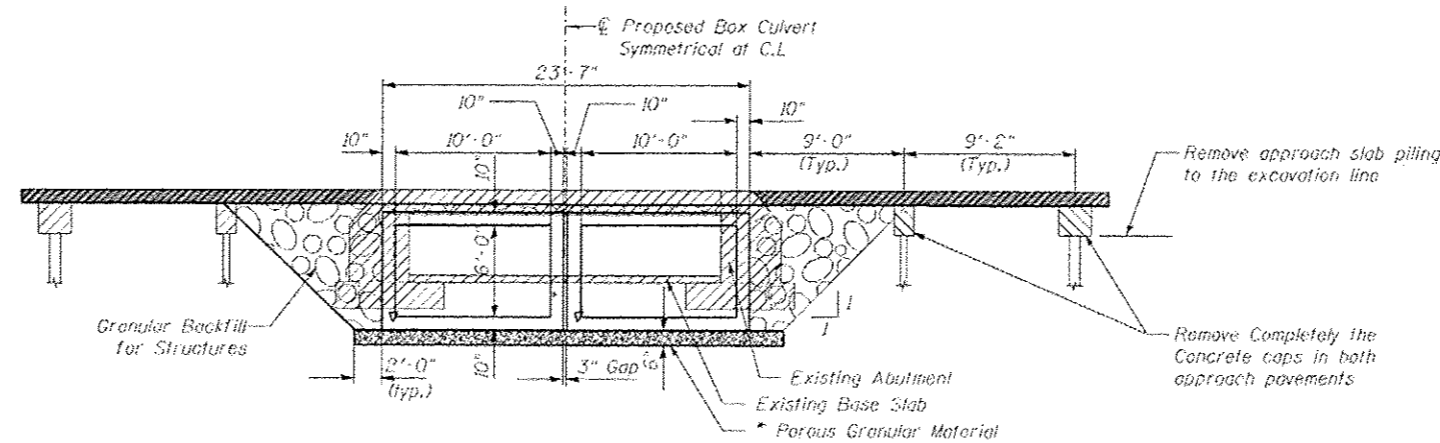
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal of Existing Structures	Each	1
Name Plates	Each	1
Precast Concrete Box Culvert 10'x6'	Foot	58'-4"
Stone Riprap, Class A4	Sq Yd	137
Filter Fabric	Sq Yd	137
Granular Backfill for Structures	Cu Yd	243
Concrete Box Culverts	Cu Yd	87
Reinforcement Bars	Lbs	15,388
Reinforcement Bars Epoxy Coated	Lbs	142
Structure Excavation	Cu Yd	293
Membrane Waterproofing For Culverts	Sq Yd	145



**LEGEND**

- Removal of Existing Structures
- Granular Backfill for Structures
- Porous Granular Material



**SECTION THRU PRECAST BARREL**

Dimensions at right angle to C of culvert (Looking North).

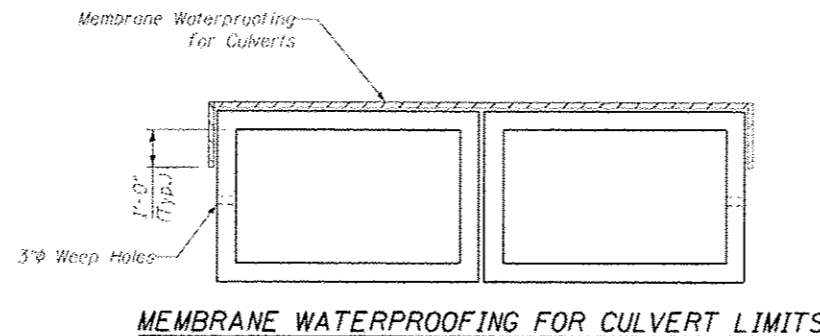
\* Porous Granular Material, cost included in pay item Precast Concrete Box Culvert 10' x 6' (25 Cu Yd).

**WATERWAY INFORMATION TABLE**

Drainage Area = 1.61 sq. mi.  
 Exist. Low Grade Elev. = 688.87 @ Sta. 845+00  
 Prop. Low Grade Elev. = 688.87 @ Sta. 845+00

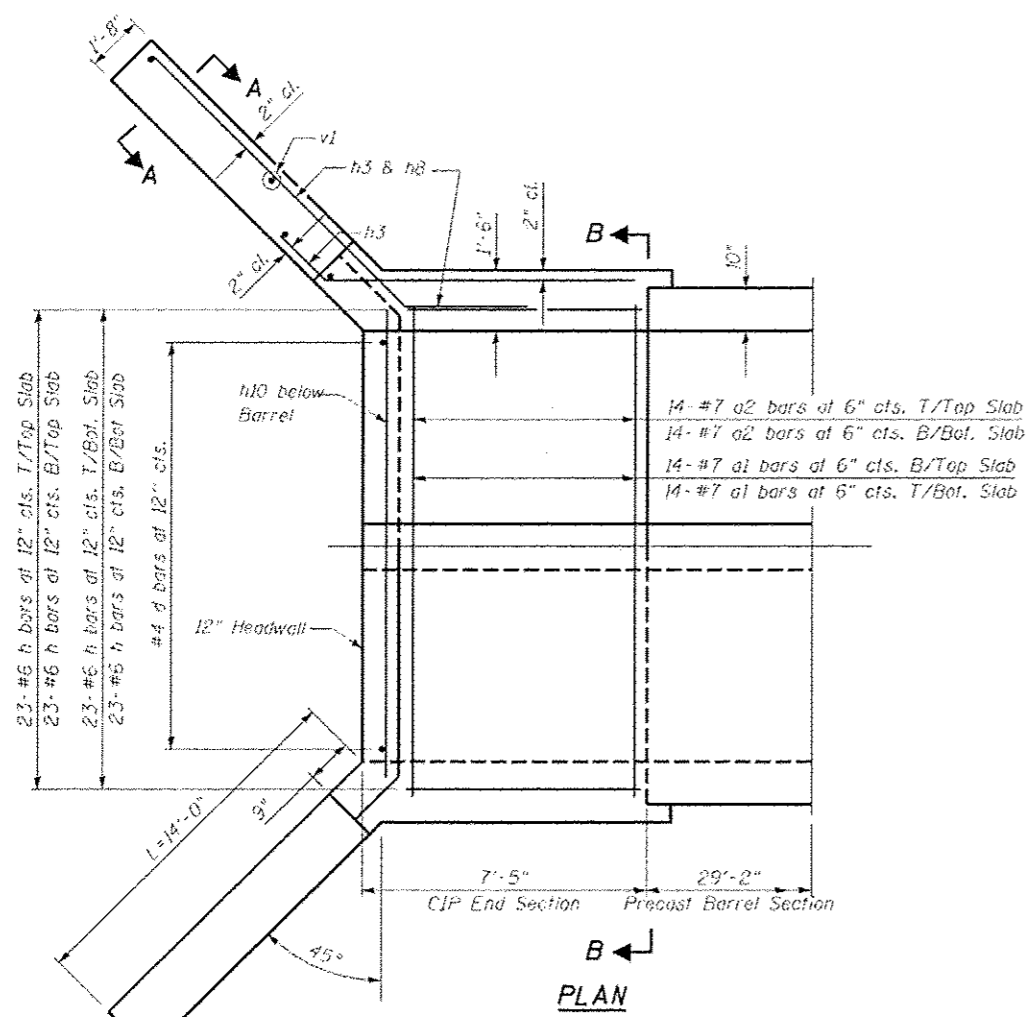
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater EL	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	223	56	57	684.7	0.2	0.0	684.9	684.7
Design	50	337	61	63	685.0	0.6	0.4	685.6	685.4
Base	100	382	63	65	685.1	0.8	0.6	685.9	685.7
Scour Design	200	429	65	66	685.2	1.1	0.8	686.2	686.0
Max. Calc.	500	491	67	68	685.3	1.4	1.1	686.6	686.3
Overtopping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Existing 10-Year Velocity=4.4 ft/sec.  
 Proposed 10-Year Velocity=4.5 ft/sec.

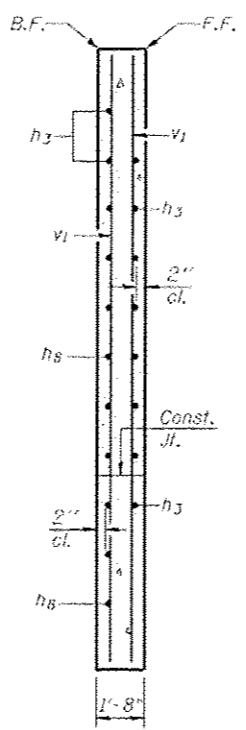


	USER NAME -	DESIGNED - NS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MISCELLANEOUS DETAILS STRUCTURE NO. 047-2052	F.A.P. RTE. 607	SECTION 126(BR)	COUNTY KENDALL	TOTAL SHEETS 33	SHEET NO. 19
	FILE NAME: G:\PLANS\RIE\W01166C62_Culvert Design STA & ROW\166662.dwg PLOT DATE: 10/18/2016	CHECKED - SK	DATE - 7/26/2016			REVISED - 10/12/2016	SCALE: N.T.S.	SHEET 52 OF 56 SHEETS STA. TO STA.	CONTRACT NO. 66C62	

ENTIRE SHEET REVISED 10/12/2016. 55X

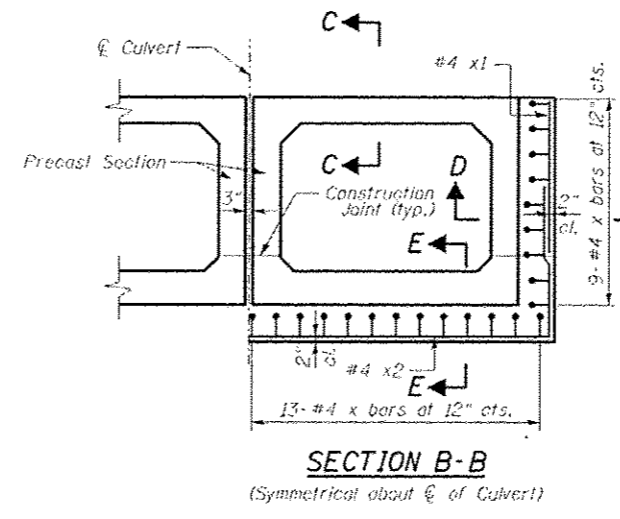


**PLAN**



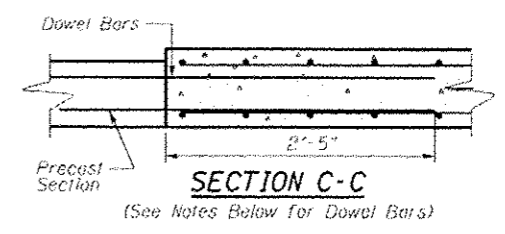
**SECTION A-A**

v bars shall not be placed more than 1/2" cl. from back face of wingwall.



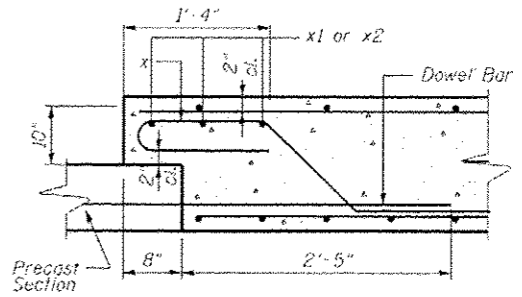
**SECTION B-B**

(Symmetrical about  $\bar{C}$  of Culvert)



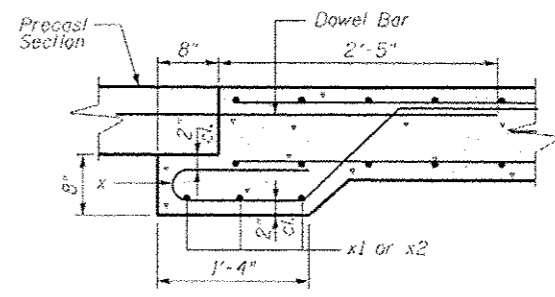
**SECTION C-C**

(See Notes Below for Dowel Bars)



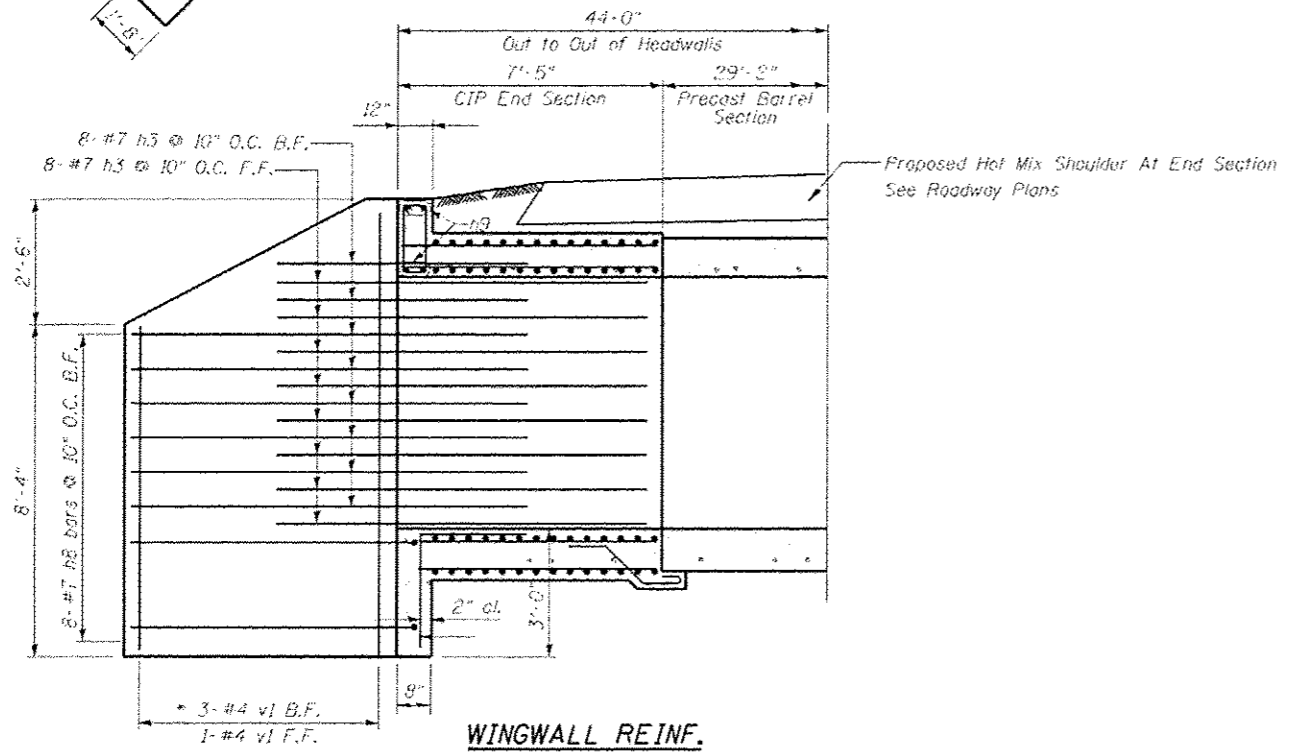
**SECTION D-D**

(See Notes Below for Dowel Bars)



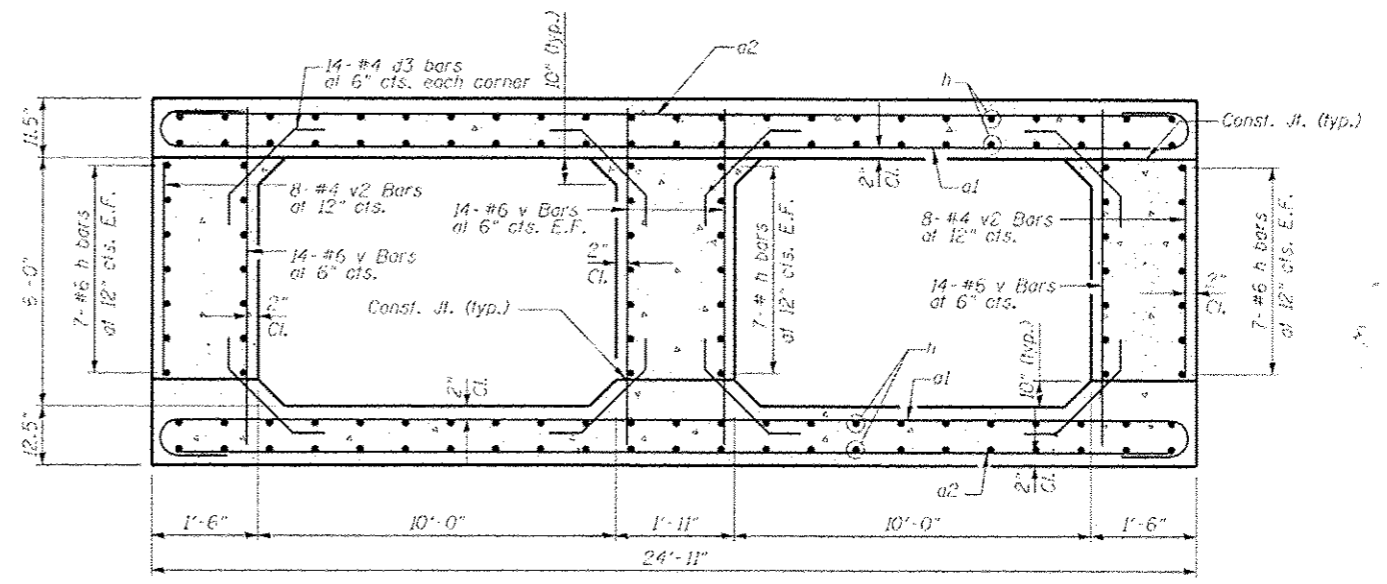
**SECTION E-E**

(See Notes Below for Dowel Bars)



**WINGWALL REINF.**

\* Cut to fit v1 bars as required in field



**SECTION THRU C.I.P. END SECTION**

(Looking North Along  $\bar{C}$  of Culvert)

**NOTE**

- Dowel bars projecting out of precast into cast-in place end section shall lap with h bars.

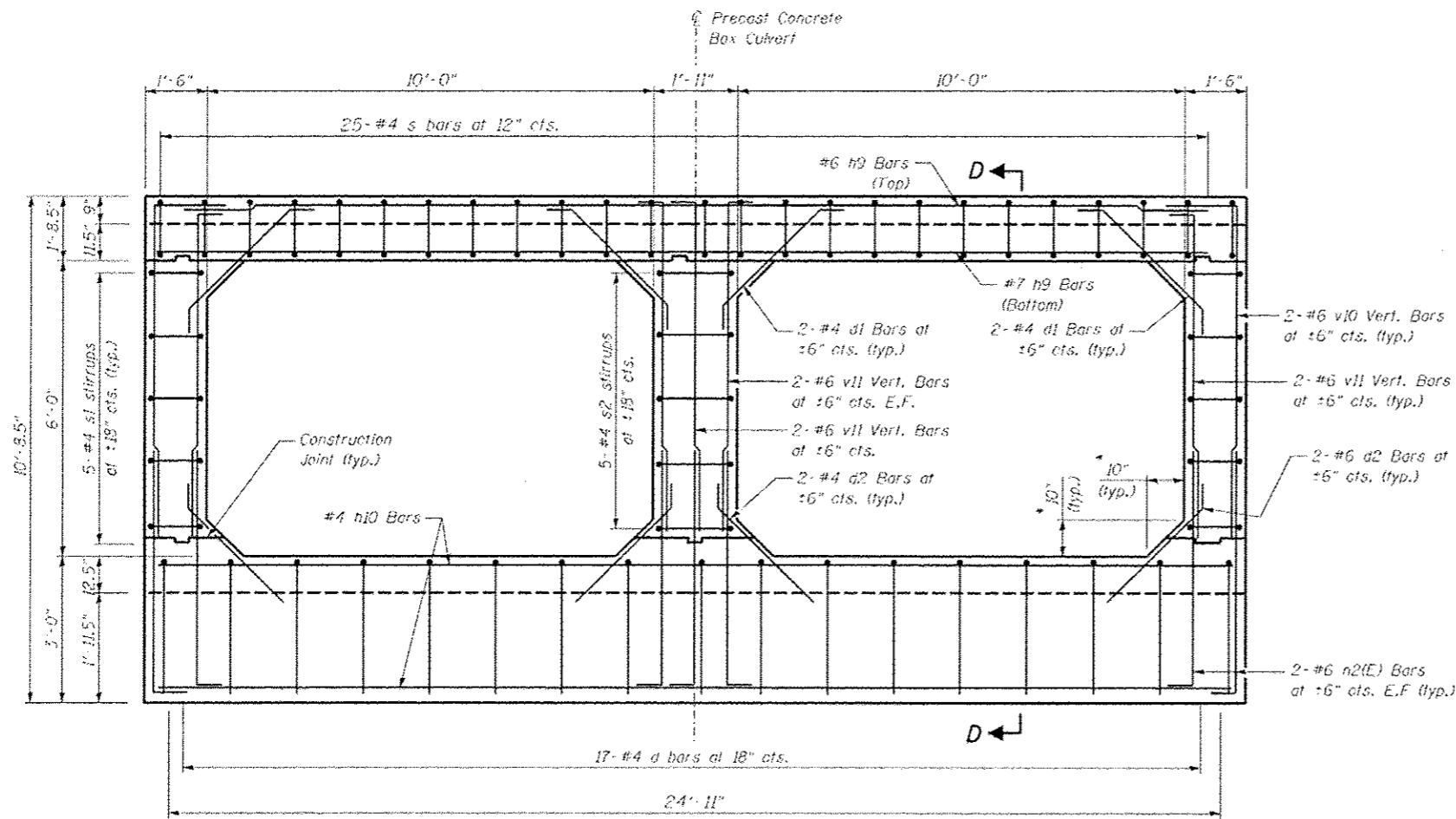


DESIGNED - NS	REVISED -
DRAWN - RM	REVISED -
CHECKED - SK	REVISED -
DATE - 7/26/2016	REVISED - 10/12/2016

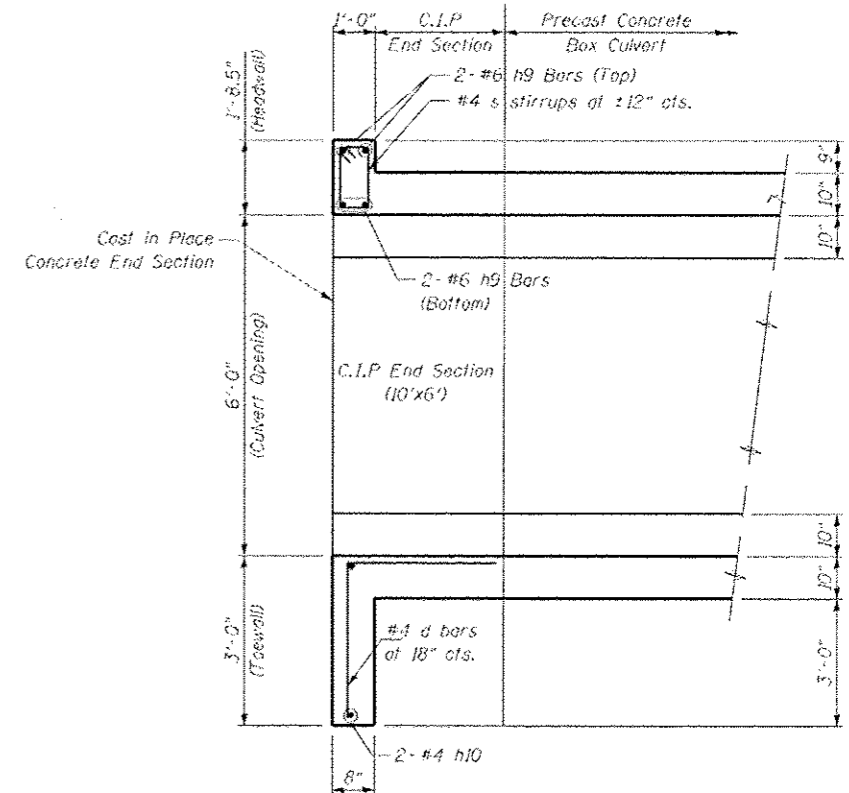
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>END SECTION (1 OF 3)</b>	
<b>STRUCTURE NO. 047-2052</b>	
SCALE: N.T.S.	SHEET 53 OF 56 SHEETS
STA.	TO STA.

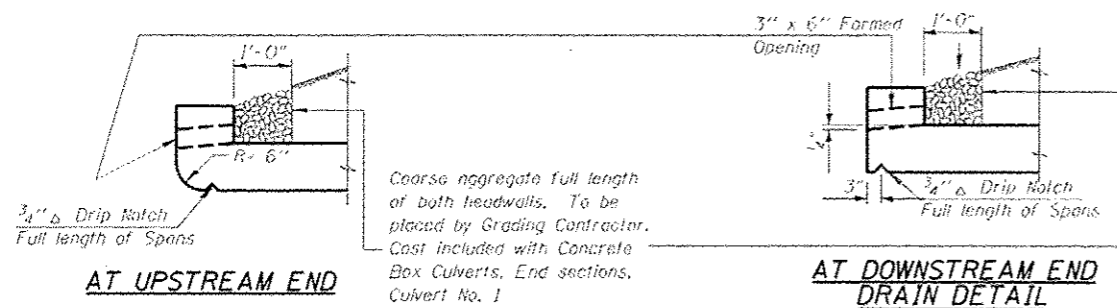
F.A.P. RTE. 607	SECTION 126(BR)	COUNTY KENDALL	TOTAL SHEETS 33	SHEET NO. 20
CONTRACT NO. 66C62				
ILLINOIS FED. AID PROJECT				
ENTIRE SHEET REVISED 10/12/2016. SSK				



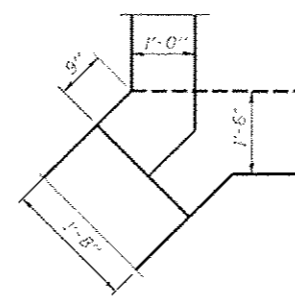
**ELEVATION**  
 (Looking North Perpendicular to Roadway)  
 • Dimensions At Rt. Angles



**SECTION D-D**

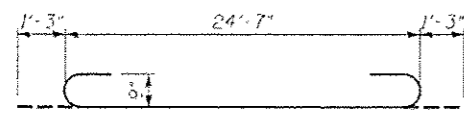


**SECTIONS THRU HEADWALL**



**CORNER DETAIL**

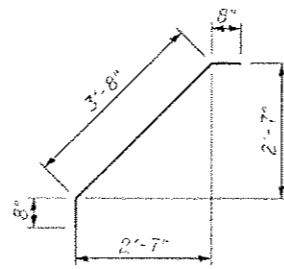




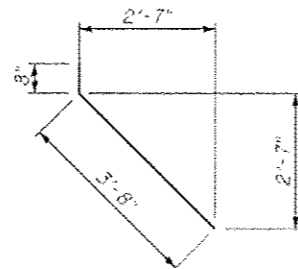
BAR a1



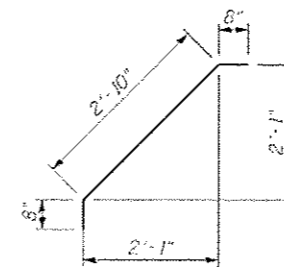
BAR d



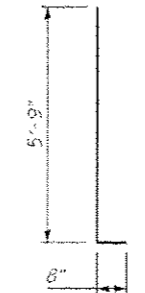
BAR d1



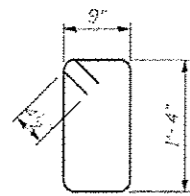
BAR d2



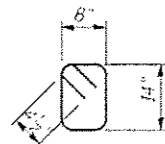
BAR d3



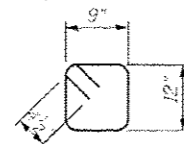
BAR n2(E)



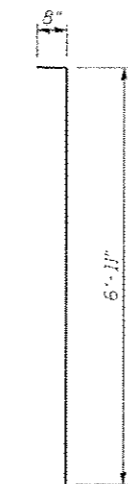
BAR s



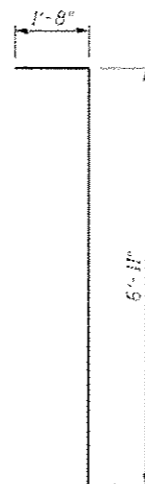
BAR s1



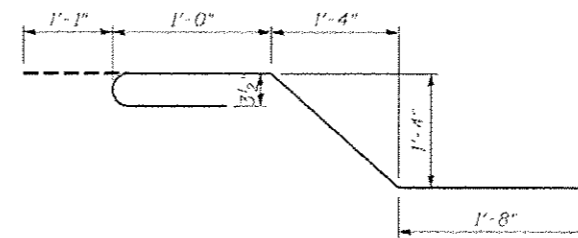
BAR s2



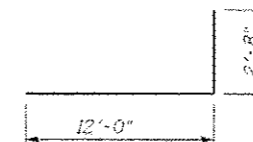
BAR v11



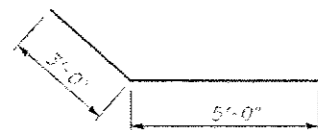
BAR v10



BAR x



BAR x2



BAR h3



BAR h8

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a1	56	#7	27'-1"	[Symbol]
a2	56	#7	24'-7"	[Symbol]
d	34	#4	3'-5"	[Symbol]
d1	16	#4	5'-0"	[Symbol]
d2	16	#4	4'-4"	[Symbol]
d3	224	#4	4'-2"	[Symbol]
h	268	#6	7'-1"	[Symbol]
h3	64	#7	8'-0"	[Symbol]
h8	32	#7	17'-0"	[Symbol]
h9	8	#6	24'-7"	[Symbol]
h10	4	#4	24'-7"	[Symbol]
n2(E)	14	#6	6'-5"	[Symbol]
s	50	#4	4'-11"	[Symbol]
s1	20	#4	4'-5"	[Symbol]
s2	10	#4	4'-3"	[Symbol]
v	112	#6	7'-7"	[Symbol]
v1	16	#4	10'-4"	[Symbol]
v2	32	#4	4'-10"	[Symbol]
v10	8	#6	8'-7"	[Symbol]
v11	20	#6	7'-7"	[Symbol]
x	88	#4	5'-8"	[Symbol]
x1	12	#4	5'-9"	[Symbol]
x2	12	#4	14'-8"	[Symbol]
Concrete Box Culverts				Cu. Yd. 87
Reinforcement Bars,				142
Epoxy Coated				Pound
Reinforcement Bars				Pound 15,389

\* Cut to fit v1 bars as required in field

Notes:  
1. Quantities shown are for four wingwalls and two end sections.