

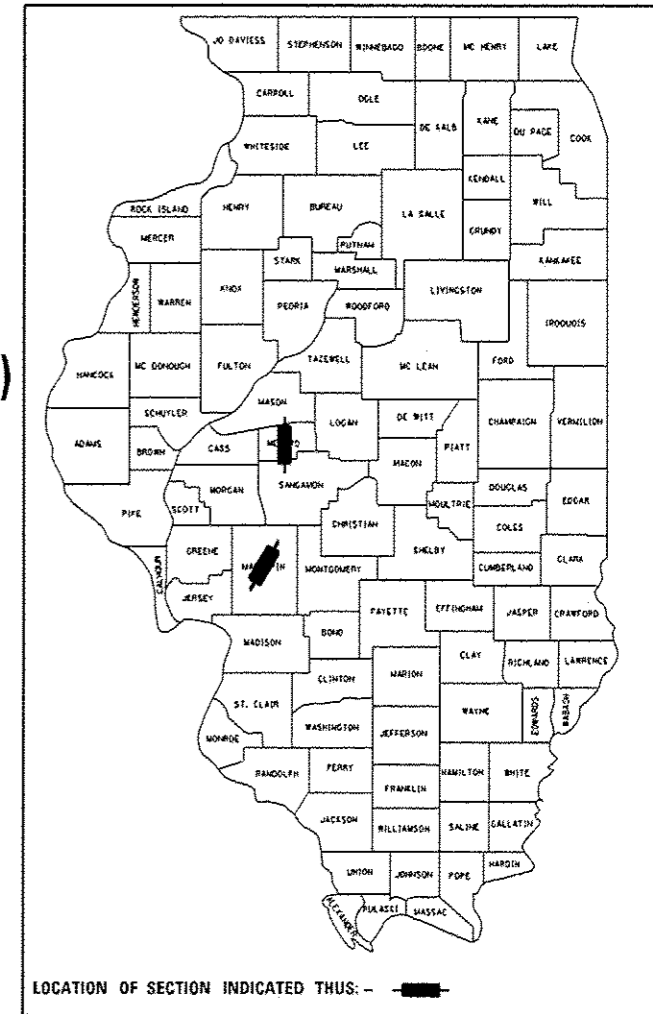
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 662, 608, & 737 (IL 4, IL 111, & IL 123)  
SECTION D6 DE MISC 2014  
PROJECT  
DRAINAGE IMPROVEMENTS  
MACOUPIN & MENARD COUNTIES  
C-96-034-14

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D6 DE MISC 2014	MACOUPIN & MENARD	22	1
ILLINOIS			CONTRACT NO. 72G64	

D-96-034-14



FOR INDEX OF SHEETS, SEE SHEET NO. 2

HIGHWAY CLASSIFICATION

F.A.P. ROUTE 662 (IL 4)

CLASSIFICATION: MINOR ARTERIAL  
ADT: 2,650 (2012) PV = 88.7% (2012)  
ADT: 2,730 (2014) SU = 6.6%  
ADT: 3,569 (2034) MU = 4.7%  
DESIGN SPEED: 60 MPH  
POSTED SPEED: 55 MPH

HIGHWAY CLASSIFICATION

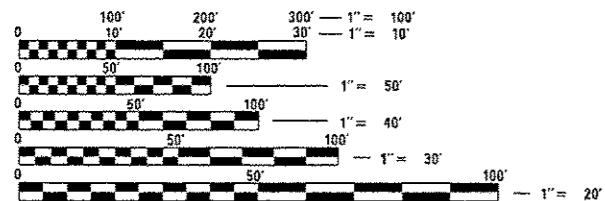
F.A.P. ROUTE 608 (IL 111)

CLASSIFICATION: MINOR ARTERIAL  
ADT: 1,750 (2012) PV = 93.0% (2012)  
ADT: 1,785 (2014) SU = 4.3%  
ADT: 2,135 (2034) MU = 2.7%  
DESIGN SPEED: 35 MPH  
POSTED SPEED: 30 MPH

HIGHWAY CLASSIFICATION

F.A.P. ROUTE 737 (IL 123)

CLASSIFICATION: MINOR ARTERIAL  
ADT: 2,000 (2012) PV = 72.0% (2012)  
ADT: 2,040 (2014) SU = 24.0%  
ADT: 2,440 (2034) MU = 4.0%  
DESIGN SPEED: 60 MPH  
POSTED SPEED: 55 MPH

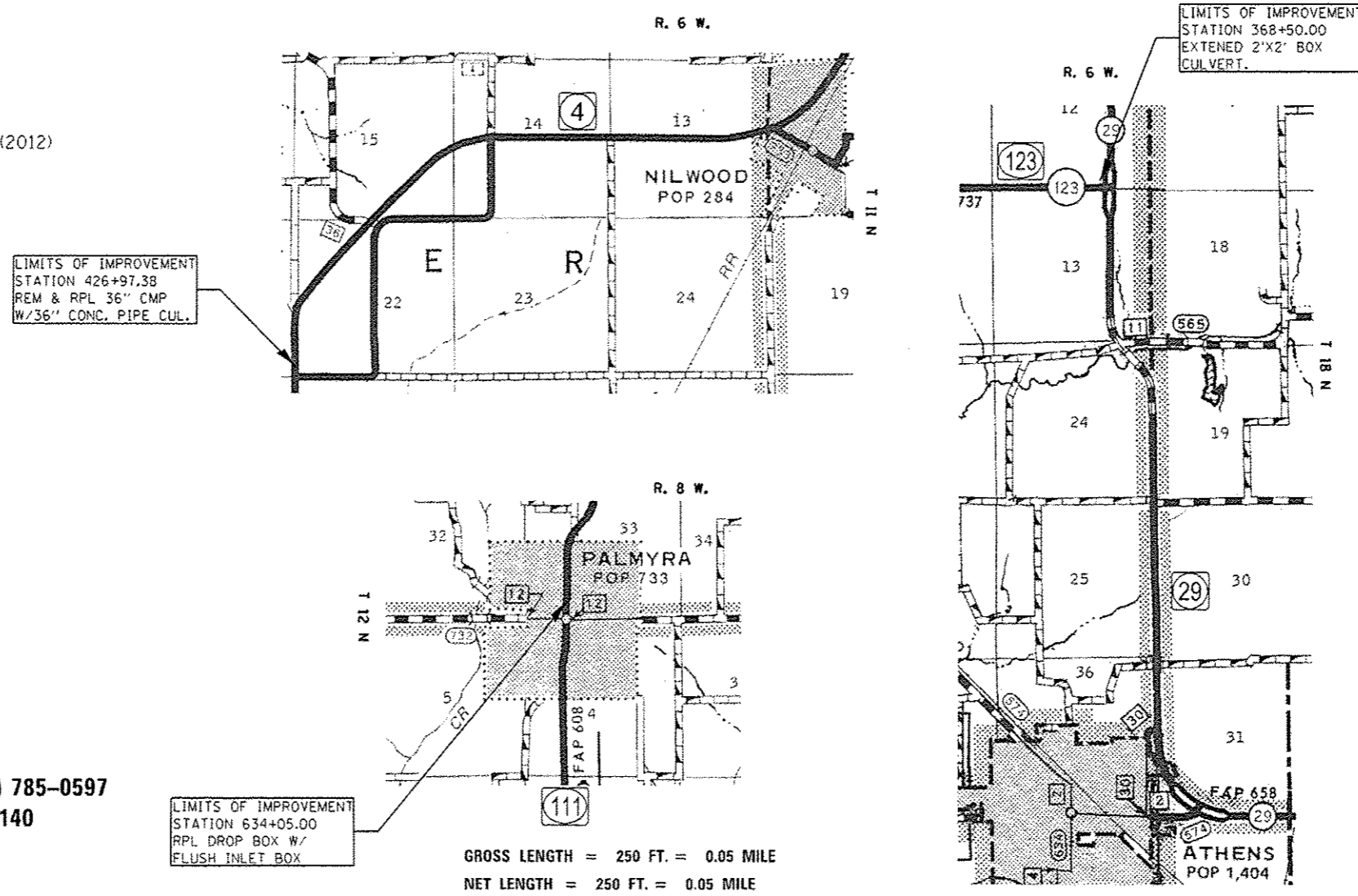


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

SENIOR TEAM ENGINEER: MARK DUST (217) 785-0597  
TEAM LEADER: JONATHAN COX (217) 558-5140

CONTRACT NO. 72G64



GROSS LENGTH = 250 FT. = 0.05 MILE  
NET LENGTH = 250 FT. = 0.05 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED December 13, 2013  
Rep. Z. Osman  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Jan 24, 2014  
John D. Baranzelli, P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT

Jan 24, 2014  
Omer Osman, P.E.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

**GENERAL NOTES**

- ① WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSES OR OTHERWISE REFERENCED THEIR LOCATION.
- ② ANY REFERENCE TO A STANDARD IN THE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION, AS INDICATED BY THE SUB-NUMBER LISTED IN THE INDEX OF SHEETS, OR THE COPY OF THE STANDARD INCLUDED IN THE PLANS.
- ③ THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE JULIE NUMBER IS 800-892-0123. A MINIMUM OF FORTY-EIGHT HOURS ADVANCED NOTICE IS REQUIRED. ANY DAMAGE TO THE UNDERGROUND FACILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTORS EXPENSE, INCLUDING TEMPORARY REPAIRS WHICH MAY BE REQUIRED TO KEEP THE FACILITY OPERATIONAL WHILE MATERIAL IS BEING OBTAINED TO MAKE PERMANENT REPAIRS.
- ④ THE LOCATIONS OF THOSE BURIED AND ABOVEGROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATIONS, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, REROUTING, DISCONNECTION, PROTECTION, ...ETC OF ANY UTILITIES MUST BE COORDINATED BETWEEN CONTRACTOR, UTILITY COMPANY, AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDOUS ASSOCIATED WITH BURIED AND ABOVE GROUND UTILITIES REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ⑤ THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE:

LOCATION(S):	
MIXTURE USE(S):	
AC/PG:	
DESIGN AIR VOIDS	
MIXTURE COMPOSITION (Gradation Mixture)	
FRICTION AGGREGATE	

- ⑥ IN ADDITION TO FIELD AND AERIAL SURVEYS, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
- ⑦ THE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. AFTER THE CONSTRUCTION IS COMPLETED, THE CONTRACTOR WILL REPLACE THE SIGNS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- ⑧ EXISTING PAVEMENT DAMAGED DUE TO CONTRACTOR'S OPERATIONS, AND NOT OTHER WISE NECESSARY TO REPLACE, SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- ⑨ ANY SEEDING, MULCHING, & FERTILIZER NUTRIENTS FOR IL 4, IL 111, & IL 123 SHALL BE INCLUDED IN THE COST FOR EARTH EXCAVATION.
- ⑩ REMOVAL OF EXISTING GRATE AND STEEL ANGLES ON DROP BOX AT STA. 364+04.46 ON IL 111 SHALL BE INCLUDED IN THE COST FOR FLUSH INLET BOX FOR MEDIAN STD 542546, SPECIAL. THE GRATE WILL NOT BE SALVAGED.

**INDEX OF SHEETS**

1	COVER SHEET
2	INDEX OF SHEETS, LISTS OF STANDARDS, GENERAL NOTES AND COMMITMENTS
3-4	SUMMARY OF QUANTITIES (2)
5-6	SCHEDULE OF QUANTITIES (2)
7	PLAN SHEET - IL 4
8	PLAN SHEET - IL 111
9	PLAN SHEET - IL 123
10	CONCRETE COLLAR AND CULVERT EXTENSION DETAILS
11-14	FLUSH INLET BOX FOR MEDIAN DETAIL (4)
15	CROSS-SECTION SHEET - IL 4
16-17	CROSS-SECTION SHEET - IL 111 (2)
18-19	CROSS-SECTION SHEET - IL 123 (2)
20-22	CROSS-SECTION SHEET - IL 29 (3)

**STANDARDS**

000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02	AREA OF REINFORCEMENT BARS
442201-03	CLASS C & D PATCHES
542301-03	PRECAST REINFORCED CONCRETE FLARED END SECTION
542546-01	FLUSH INLET BOX FOR MEDIAN
602301-04	INLET-TYPE A
604036-02	GRATE TYPE B
701006-05	OFF ROAD OPERATIONS 2L, 2W 15' TO 24' FROM EDGE OF PAVEMENT (PATCHING, & CULVT.)
701201-04	LANE CLOSURE 2L, 2W DAY ONLY, FOR SPEEDS ≥ 45MPH (MARKING PATCHES & CLEAN-UP)
701301-04	LANE CLOSURE 2L, 2W SHORT TIME OPERATIONS
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701901-03	TRAFFIC CONTROL DEVICES

THE ITALICIZED TEXT DESCRIBING STANDARDS ARE GENERAL USES FOR THE APPLICATION SPECIFIED AND NOT LIMITED TO THEM.

**RATES OF APPLICATION TABLES**

THE FOLLOWING RATES OF APPLICATION HAVE BEEN ASSUMED IN CALCULATING PLAN QUANTITIES.

BITUMINOUS MATERIALS (PRIME COAT):	0.00038 TON / SQ YD (ON PAVEMENT)
	0.001425 TON / SQ YD (ON AGGREGATE)
AGGREGATE MATERIALS (PRIME COAT):	0.002 TON / SQ YD
HMA SURFACE MIX C / BINDER (112 LBS):	0.056 TON / SQ YD + in
AGGREGATE MATERIALS:	2.05 TON / CU YD
NITROGEN FERTILIZER NUTRIENT:	90 LBS / ACRE
PHOSPHOROUS FERTILIZER NUTRIENT:	90 LBS / ACRE
POTASSIUM FERTILIZER NUTRIENT:	90 LBS / ACRE
AGRICULTURE GROUND LIMESTONE:	2 TON / ACRE
MULCH:	2 TONS / ACRE
EMBANKMENT SHRINKAGE FACTOR:	1.28
AGGREGATE ROCK FILL:	1.89 TON / CU YD

**COMMITMENTS**

- ① THE RESIDENT ENGINEER SHALL CONTACT STUDIES AND PLANS CONCERNING ANY MAJOR PLAN CHANGE, TO MAKE SURE NO PREVIOUS COMMENTS (NOT LISTED) WERE MADE AFFECTING THE DESIGN AND ALLOW AN IMPROVED DESIGN FOR FUTURE PROJECTS.

<b>DISTRICT SIX</b>	
EXAMINED <u>12/4</u> 20 <u>13</u>	
<i>Bellm Boyer</i>	
OPERATIONS ENGINEER	
EXAMINED <u>DECEMBER 5</u> 20 <u>13</u>	
<i>Jimmy L. L.</i>	
PROGRAM IMPLEMENTATION ENGINEER	
EXAMINED <u>December 3</u> 20 <u>13</u>	
<i>ARMLY</i>	
PROGRAM DEVELOPMENT ENGINEER	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	MACOUPIN COUNTY		MENARD Co.
				CONSTRUCTION CODE		
				100% STATE IL 4	100% STATE IL 111	100% STATE IL 123
				PIPE CULVERT 0044 RURAL	BOX CULVERT 0044 URBAN	BOX CULVERT 0044 RURAL
20200100	EARTH EXCAVATION	CU YD	147			147
20400800	FURNISHED EXCAVATION	CU YD	358			358
44201365	CLASS C PATCHES, TYPE II, 11 INCH	SO YD	17	17		
50104400	CONCRETE HEADWALL REMOVAL	EACH	3	2		1
50105220	PIPE CULVERT REMOVAL	FOOT	46	46		
50800105	REINFORCEMENT BARS	POUND	92			92
54002020	EXPANSION BOLTS 3/4 INCH	EACH	16			16
542A0217	PIPE CULVERTS, CLASS A, TYPE 1 12"	FOOT	40		40	
542A0235	PIPE CULVERTS, CLASS A, TYPE 1 30"	FOOT	36			36
542A0241	PIPE CULVERTS, CLASS A, TYPE 1 36"	FOOT	46	46		
54213675	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 30"	EACH	2			2
54213681	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 36"	EACH	2	2		
54248510	CONCRETE COLLAR	CU YD	1.5			1.5
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	5	5		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	MACOUPIN COUNTY		MENARD Co.
				CONSTRUCTION CODE		
				100% STATE IL 4	100% STATE IL 111	100% STATE IL 123
				PIPE CULVERT 0044 RURAL	BOX CULVERT 0044 URBAN	BOX CULVERT 0044 RURAL
60236200	INLETS, TYPE A. TYPE B GRATE	EACH	1		1	
67100100	MOBILIZATION	L SUM	1	0.34	0.33	0.33
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.5		0.5
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1		1	
X5424505	FLUSH INLET BOX FOR MEDIAN, STANDARD 542546, SPECIAL	EACH	1		1	
X6050065	REMOVING INLETS, SPECIAL	EACH	1		1	
Z0054517	ROCK FILL - FOUNDATION	TON	6		6	
X6023200	INLETS, TYPE A, SPECIAL	EACH	1		1	

\*SPECIALTY ITEM

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Default									ILLINOIS FED. AID PROJECT	* MACOUPIN/MENARD		

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAV ( CU YD)	FURN EXCAV ( CU YD)
FAP 737 ( IL 123)		
367+50.00 TO 368+00.00	19.47	39.44
368+00.00 TO 368+50.00	47.31	87.02
( Measured Using CADD)		
NW QUADRANT	47.05	104.65
SW QUADRANT	15.17	62.74
FAP 658 ( IL 29)		
328+50.00 TO 329+00.00 LT	0.00	1.01
329+00.00 TO 329+50.00 LT	0.00	6.81
331+50.00 TO 332+00.00 RT	14.37	43.32
332+00.00 TO 332+50.00 RT	3.48	13.06
SUB-TOTAL =	147	358
TOTAL =	-211	
FOR INFORMATIONAL USE ONLY		
FAP 608 ( IL 111)		
363+80.00 TO 364+27.00 LT	10.00	10.00

SEEDING SCHEDULE

LOCATION	AREA ( SQ FT)	SEEDING & MULCH METH 2 ( ACRE)	NITRO FERT NUTRI ( POUND)	PHOSP FERT NUTRI ( POUND)	POTASS FERT NUTRI ( POUND)	AGRI GRD LIMSTN ( TON)
FOR INFORMATIONAL USE ONLY						
FAP 737 ( IL 123)						
( Measured Using CADD)						
367+50.00 TO 368+50.00 LT	3,142.86	0.07	0.001	0.001	0.001	0.14
NW QUADRANT	4,081.62	0.09	0.001	0.001	0.001	0.19
SW QUADRANT	2,103.53	0.05	0.001	0.001	0.001	0.10
FAP 658 ( IL 29)						
328+50.00 TO 329+50.00 LT	2,986.59	0.07	0.001	0.001	0.001	0.14
331+50.00 TO 332+50.00 RT	3,556.07	0.08	0.001	0.001	0.001	0.16
TOTAL =		0.36	0.004	0.004	0.004	0.74

REMOVAL SCHEDULE

LOCATION	CONC. HDWALL REM ( EACH)	PIPE CULVT. REM ( FOOT)	REMOV INLETS SPEC ( EACH)
FAP 662 ( IL 4)			
426+97.38	2	46	
FAP 608 ( IL 111)			
364+04.46 LT			1
FAP 737 ( IL 123)			
368+50.00 LT	1		
TOTAL =	3	46	1

DRAINAGE SCHEDULE

LOCATION	P CULVT CL A T1 12" ( FOOT)	P CULVT CL A T1 30" ( FOOT)	P CULVT CL A T1 36" ( FOOT)	PRC FLAR END SEC 30" ( EACH)	PRC FLAR END SEC 36" ( EACH)
FAP 662 ( IL 4)					
426+97.38			46		2
FAP 608 ( IL 111)					
363+80.00 TO 364+00.00 LT	20				
364+07.00 TO 364+27.00 LT	20				
FAP 737 ( IL 123)					
368+50.00 LT		18		1	
368+50.00 RT		18		1	
TOTAL =	40	36	46	2	2

CONTROLLED LOW-STRENGTH MATERIAL

LOCATION	LENGTH ( FOOT)	WIDTH ( FOOT)	CONTR LW STGTH MAT ( CU YDS)
FAP 662 ( IL 4)			
426+97.38	5	30	4.17
TOTAL =			5

COLLAR SCHEDULE

LOCATION		REINF BARS ( POUND)	EXPAND BLTS 3/4" ( EACH)	CONC. COLLAR ( CU YD)
FAP 737 ( IL 123)				
368+50.00	LT	46	8	0.75
368+50.00	RT	46	8	0.75
TOTAL =				
		92	16	1.5

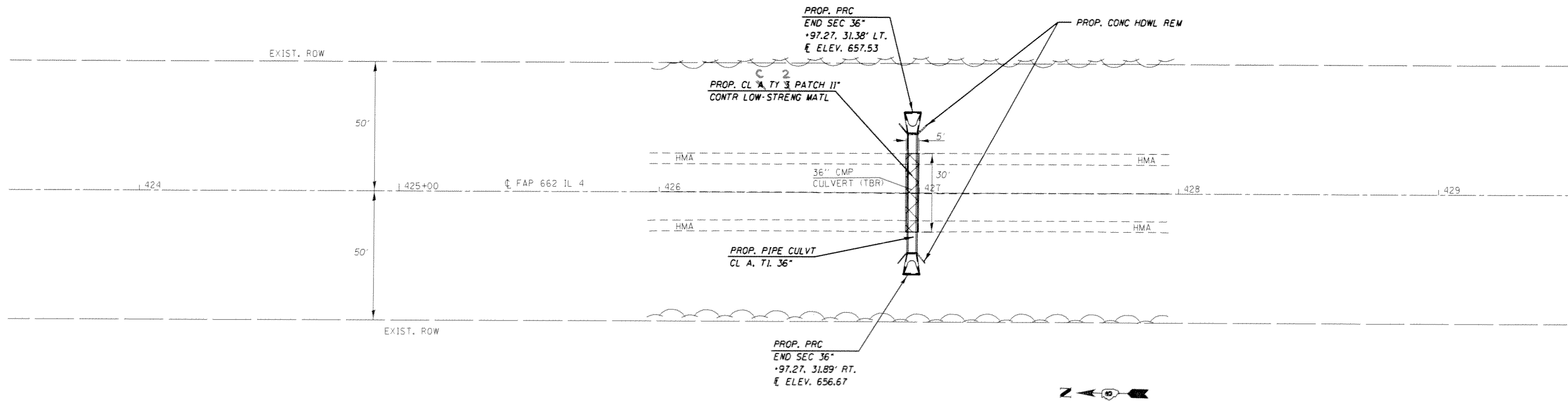
LOCATION		INLETS TYPE A TYPE B GRATE ( EACH)	INLETS TYPE A SPECIAL ( EACH)
FAP 608 ( IL 111)			
363+80.00	LT	1	
364+27.00	LT		1
TOTAL =			
		1	1

FLUSH INLET BOX FOR MEDIAN STANDARD 542546, SPECIAL SCHEDULE

LOCATION		FLUSH INLET BX MED STD 542546 SPEC. ( EACH)	ROCK FILL FOUND ( TON)	FOR INFO USE ONLY		
				REM & DISP UNS MATL STRUC. ( CU YD)	REINF BARS EPOXY CTD ( POUND)	CLASS SI CONC. ( CU YD)
FAP 608 ( IL 111)						
364+04.46	LT	1	6	3.1	2,100	7
TOTAL =						
		1	6	3.1	2,100	7

BM 255: SET CHISELED SQUARE IN  
 CENTER OF EAST HEADWALL OF 36" CMP  
 CULVERT LOCATED AT STA 426+97;22.8 LT  
 NAVD 88 ELEV = 661.19 FT (GPS DERIVED)

+92.27  
 ---  
 +02.27



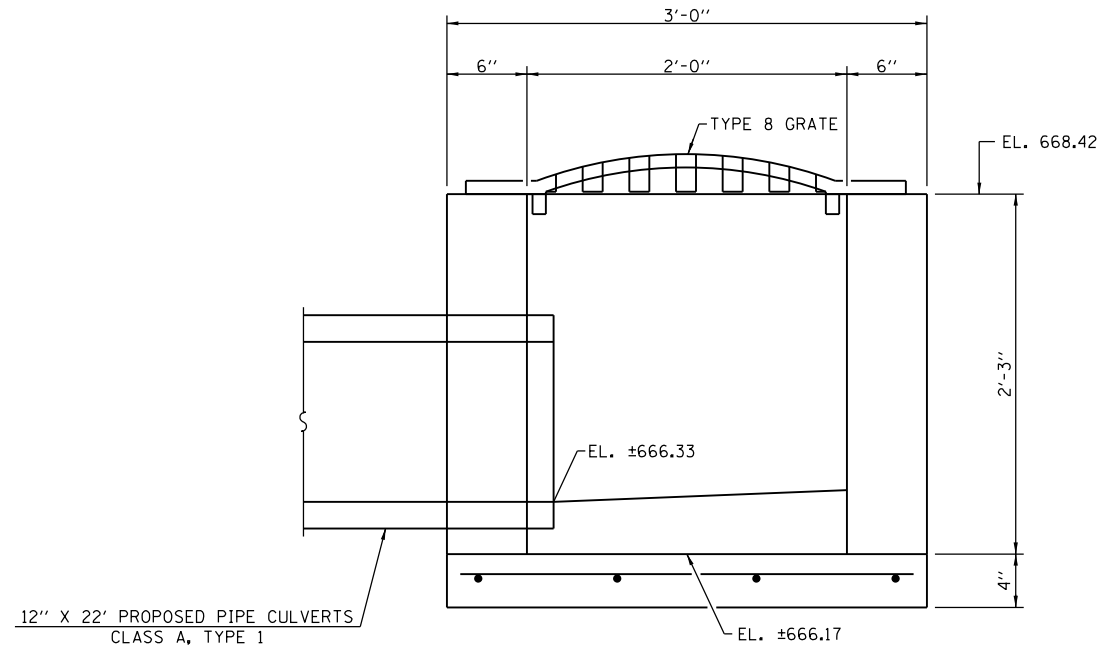
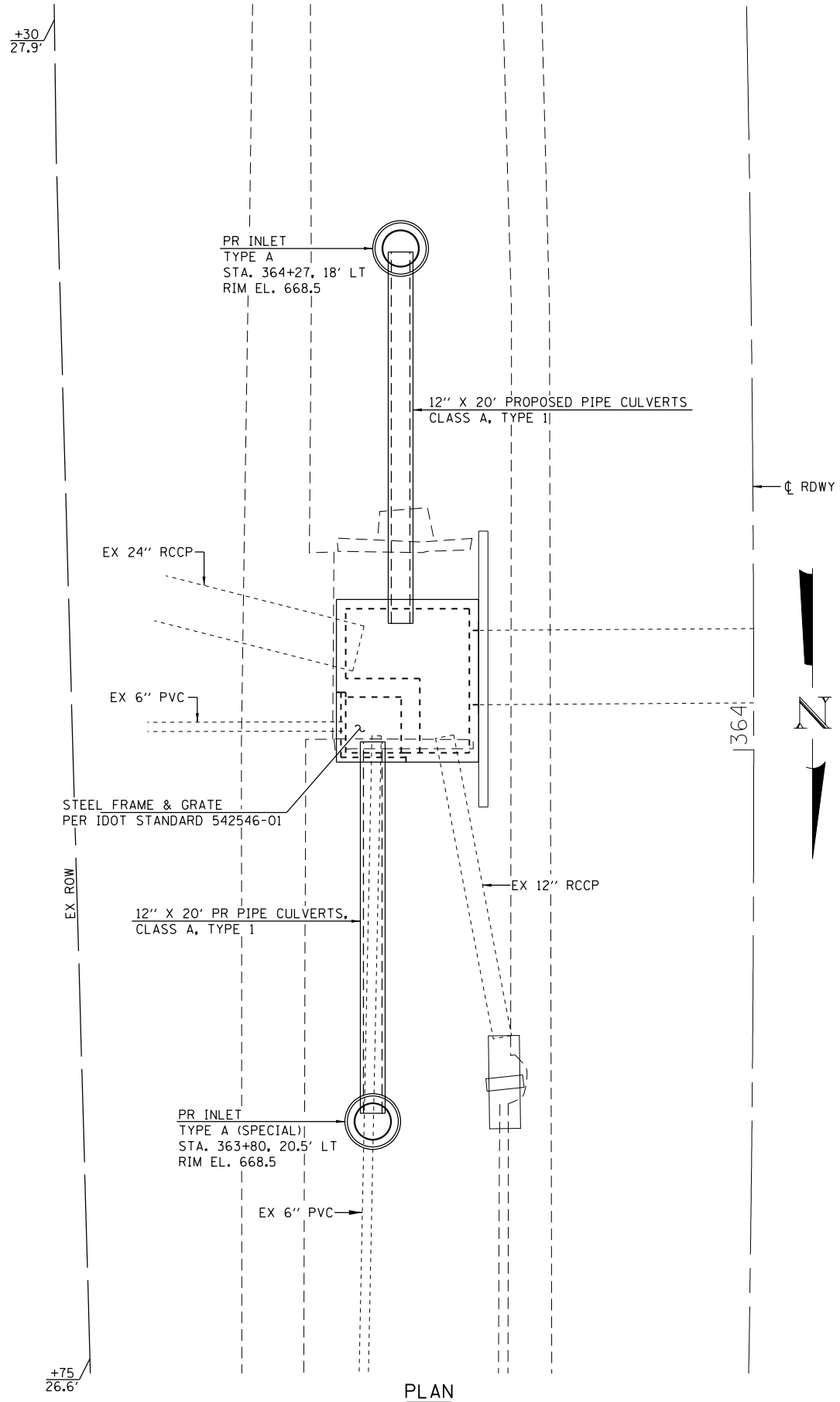
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

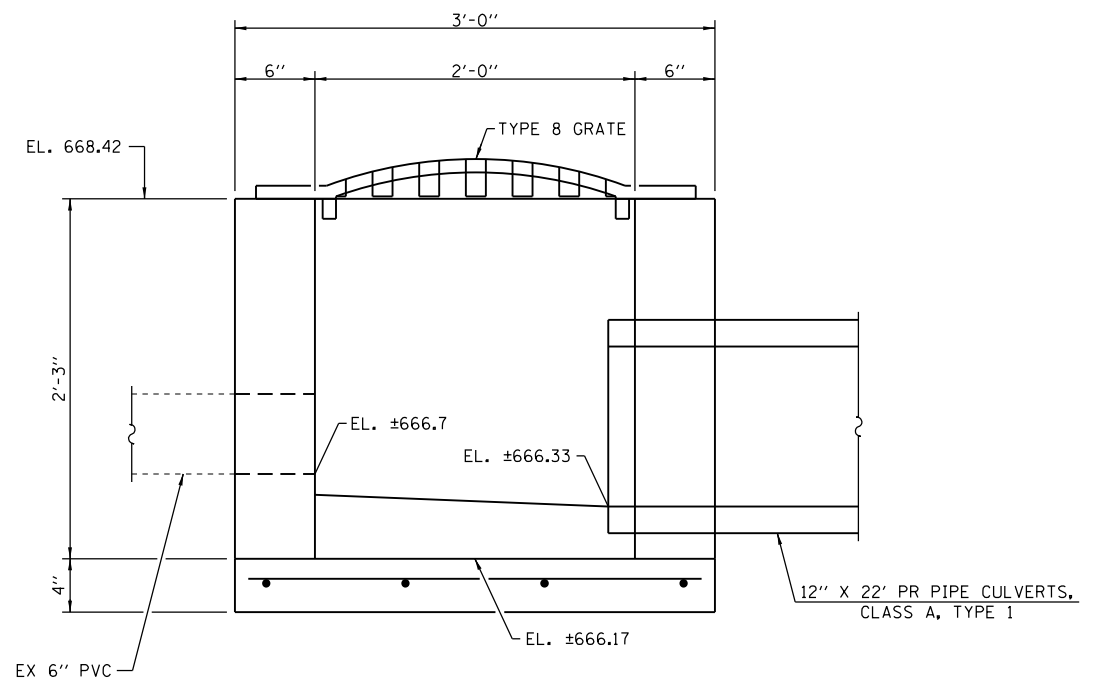
PLAN SHEET IL 4

SCALE: SHEET 1 OF 1 SHEETS STA. 423+50.00 TO STA. 429+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D6 DE MISC 2014	*	22	T
CONTRACT NO. 72G64			ILLINOIS FED. AID PROJECT	



ELEVATION - TYPE A INLET  
STA. 364+27, 18' LT



ELEVATION - TYPE A INLET (SPECIAL)  
STA. 363+80, 20.5' LT

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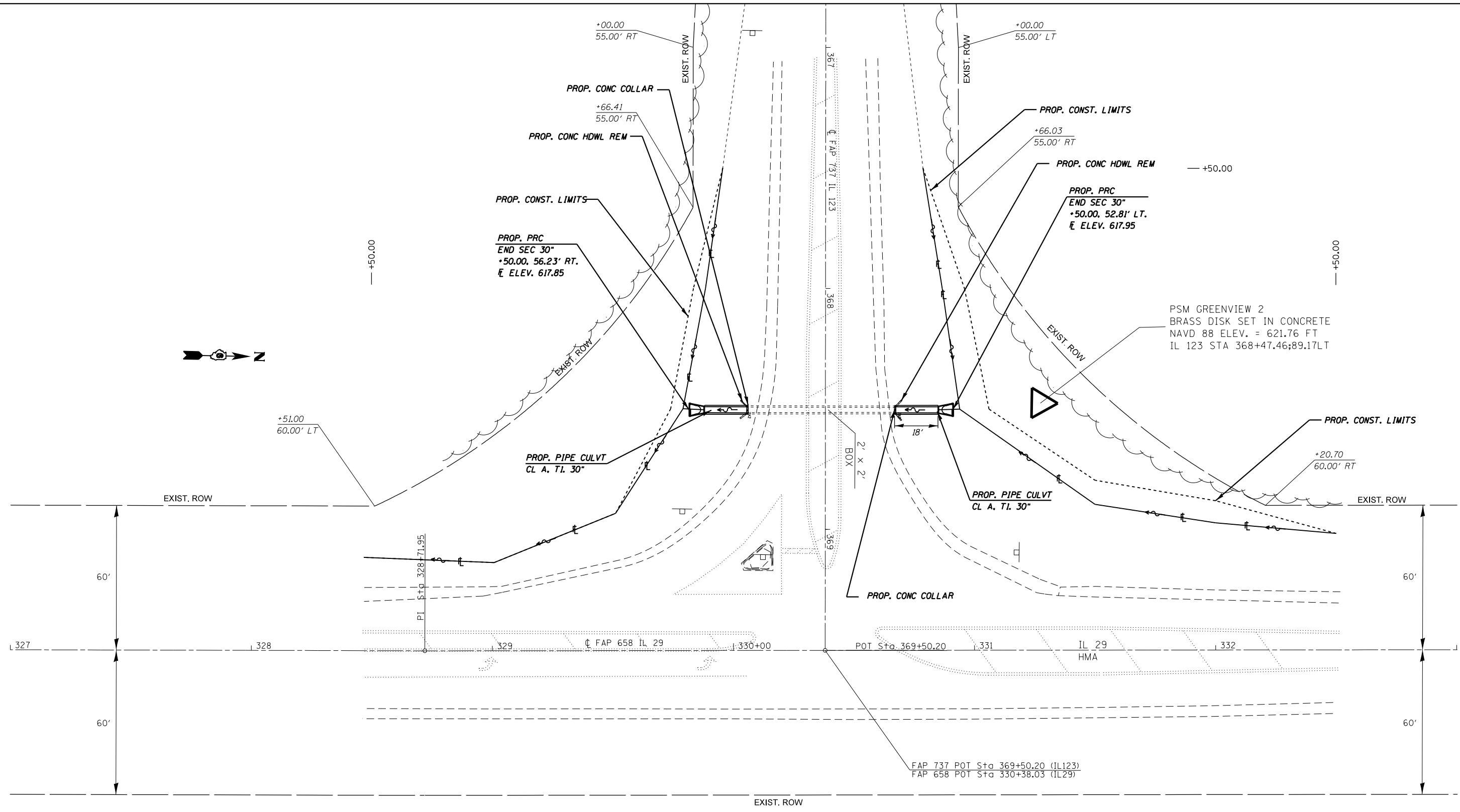


**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

<b>PLAN SHEET IL 111</b>			
SCALE:	SHEET NO. 10F 1 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D6 DE MISC 2014	*	22	8
CONTRACT NO. 72664				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
*MACOUPIN/MENARD				



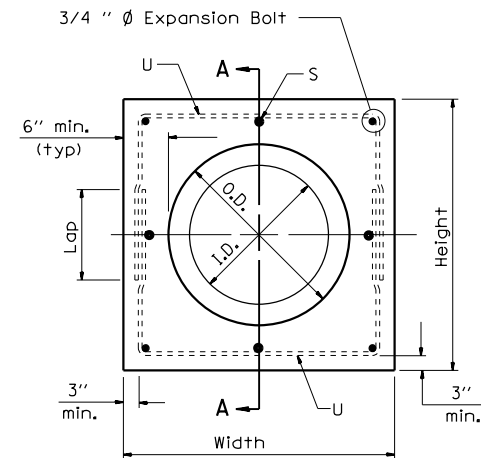


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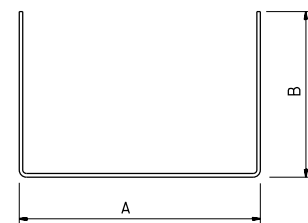
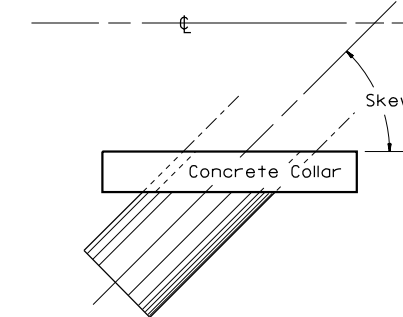
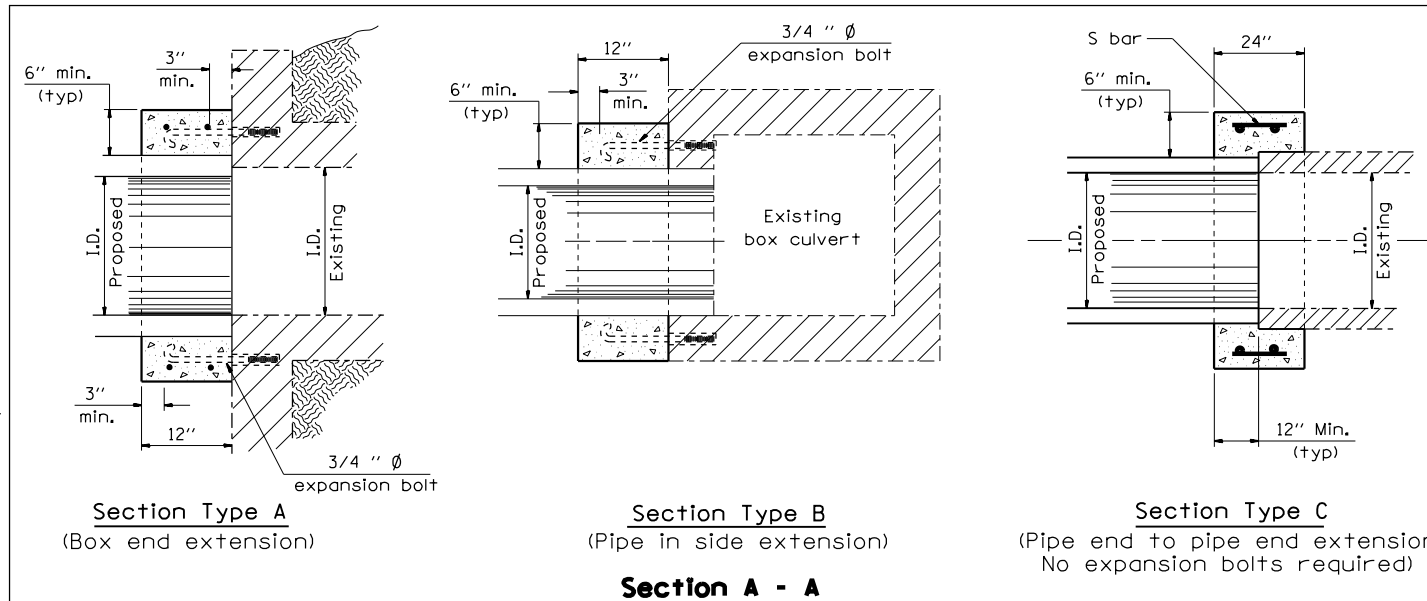
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PLAN SHEET IL 123/IL 29</b>			
SCALE: 20	SHEET 1	OF 1 SHEETS	STA. TO STA.

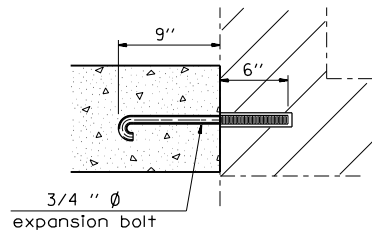
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D6 DE MISC 2014		22	9
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72G64	



PIPE CULVERT EXTENSION COLLAR



#4 U - bar

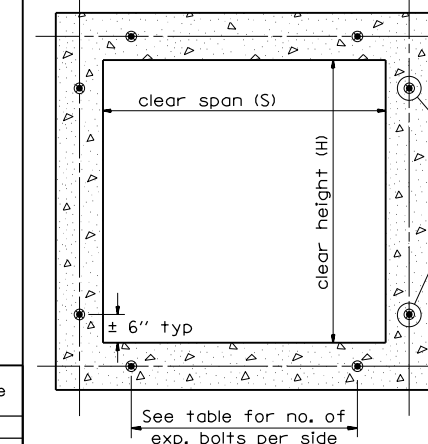


Expansion Bolt Detail

Notes:

- Expansion bolts shall consist of self drilling expansion shields and 3/4 inch diameter hooked bolts. Hooked bolts shall extend a minimum of 9 inches into new concrete. Minimum Certified Proof Load - 4,080 lbs.
- Use minimum of 1 (one) expansion bolt at each corner.

BOX CULVERT POURED IN PLACE EXTENSION



Section Thru Barrel

EXPANSION BOLTS REQUIRED FOR CULVERT EXTENSIONS

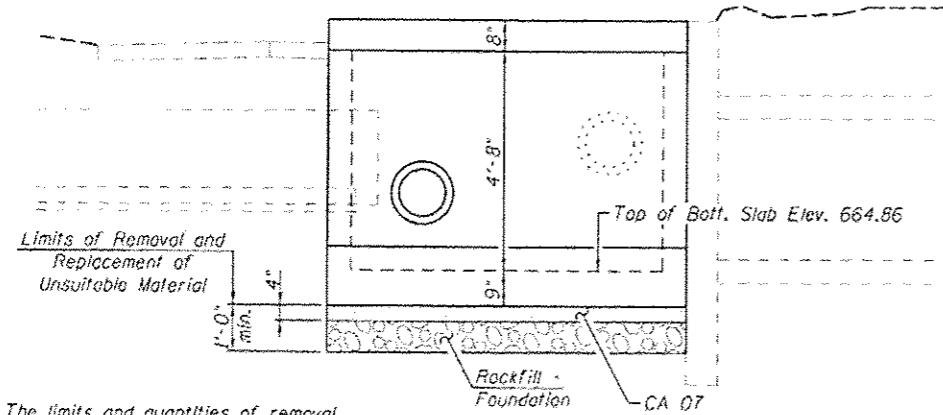
H or S	No. Expansion Bolts Req'd. Per Side			
	Extension ≤ 15ft		Extension > 15ft	
	No.	Spacing	No.	Spacing
24"	*	*	*	*
30"	2	18"	2	18"
36"	2	24"	2	24"
48"	3	18"	3	18"
60"	4	16"	3	24"
72"	5	15"	4	20"
84"	5	18"	4	24"
96"	6	17"	5	21"
108"	6	19"	5	24"
120"	7	18"	6	21"
132"	8	17"	6	24"
144"	8	19"	7	22"

Note: Number of expansion bolts in table based on non-skewed culverts.

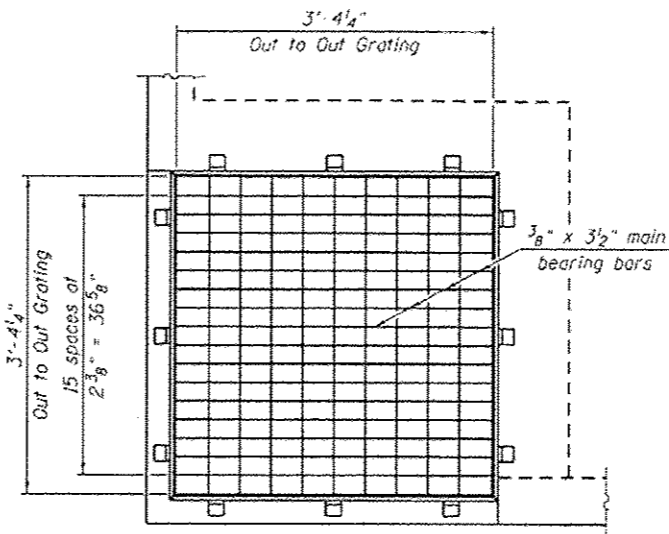
\* Use minimum 1 (one) expansion bolt in each corner.

IL 123

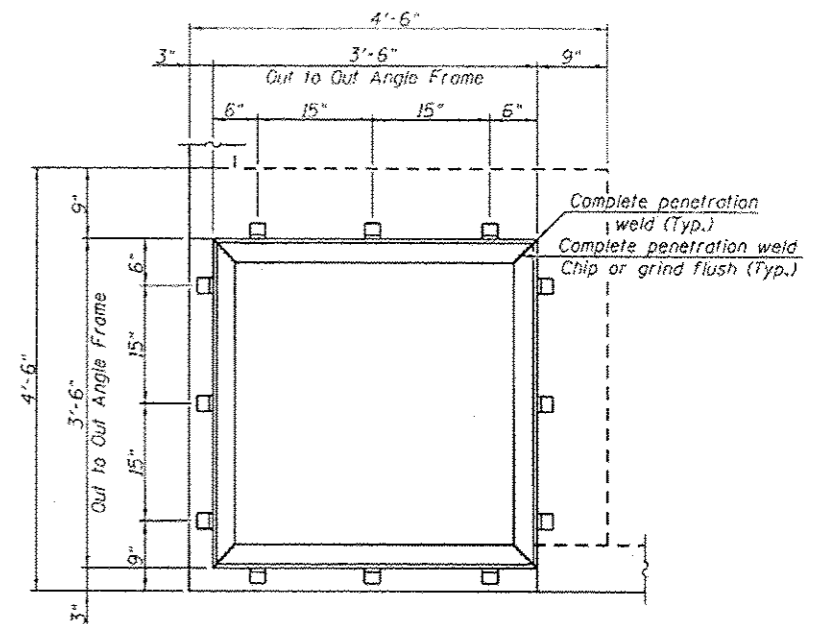
Station	Section Type	Skew	Existing Culvert Size	Proposed Culvert		Collar		Reinforcement Bars								Expansion Bolts 3/4"	Class SI Concrete Collar yd <sup>3</sup>		
				I.D.	O.D.	Height	Width	S bar		U bar								lb	
								No.	Size	Length	No.	Size	A	B	Lap	Length		Each	
368+50.00 L	A	0°	2'x2'	30"	37"	49"	49"	8	4	8"	8	4	3'-7"	2'-2"	8"	15'-10"	46	8	0.75
368+50.00 R	A	0°	2'x2'	30"	37"	49"	49"	8	4	8"	8	4	3'-7"	2'-2"	8"	15'-10"	46	8	0.75
Total																	92	16	1.5



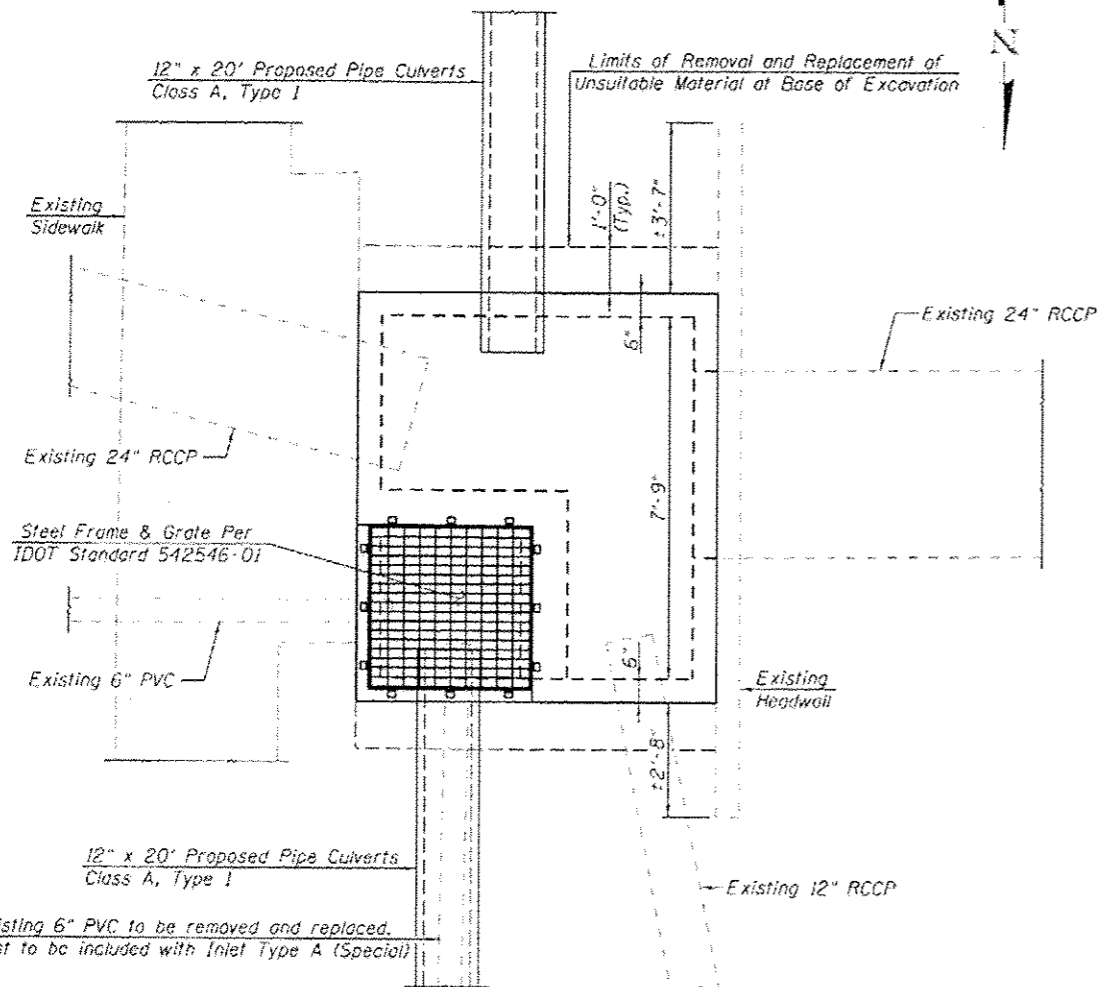
**ELEVATION**



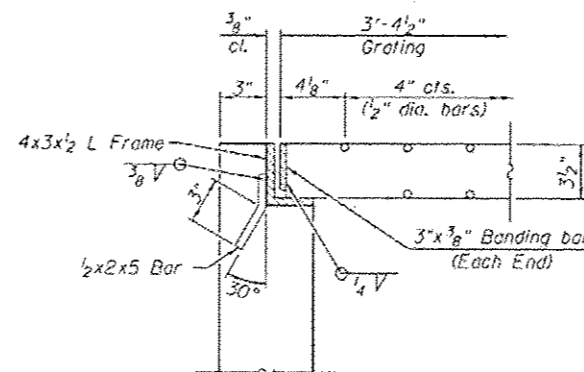
**STEEL FRAME & GRATE**  
(Per IDOT Standard 542546-01)



Note: The limits and quantities of removal and replacement may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.



**PLAN**



**SECTION THRU STEEL FRAME & GRATE**

**TOTAL BILL OF MATERIAL**

Item	Unit	Quantity
Flush Inlet Box Special	Each	1
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	3.1
Rockfill - Foundation	Tons	6

**DESIGN STESSES**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**GENERAL NOTES**

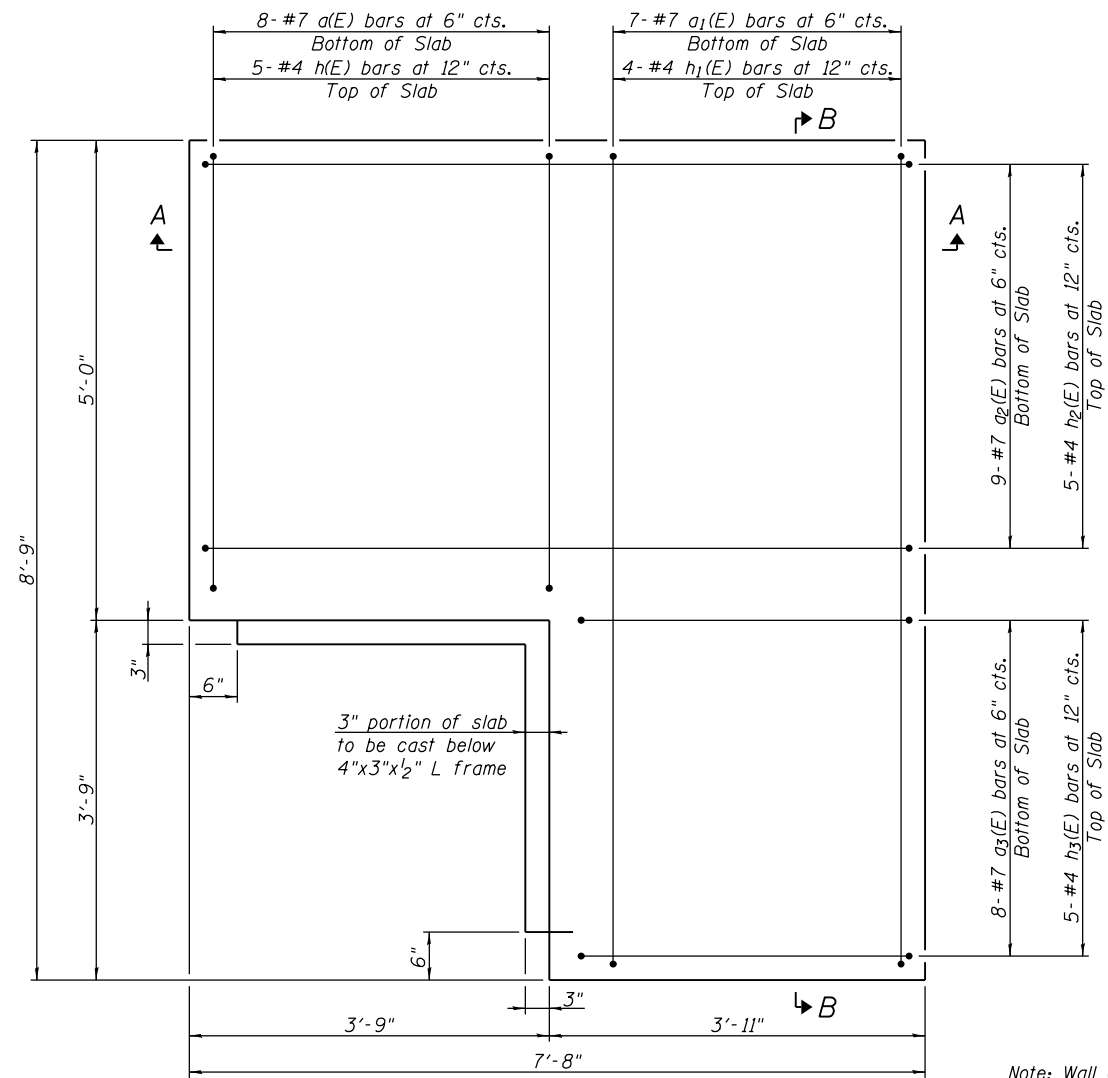
Reinforcement bars designated (E) shall be epoxy coated.  
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

12/10/2013  
GERALD B. ROYER  
LICENSED STRUCTURAL ENGINEER  
STATE OF ILLINOIS  
EXPIRATION: 11/30/2014

DESIGNED	CHECKED	REVISIONS	DATE	PROJECT	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED	DRAWN	REVISIONS	DATE	STRUCTURE DETAILS	D6 DE MISC 2014		22	11
CHECKED		REVISIONS	DATE	SHEET NO. 1 OF 4 SHEETS				

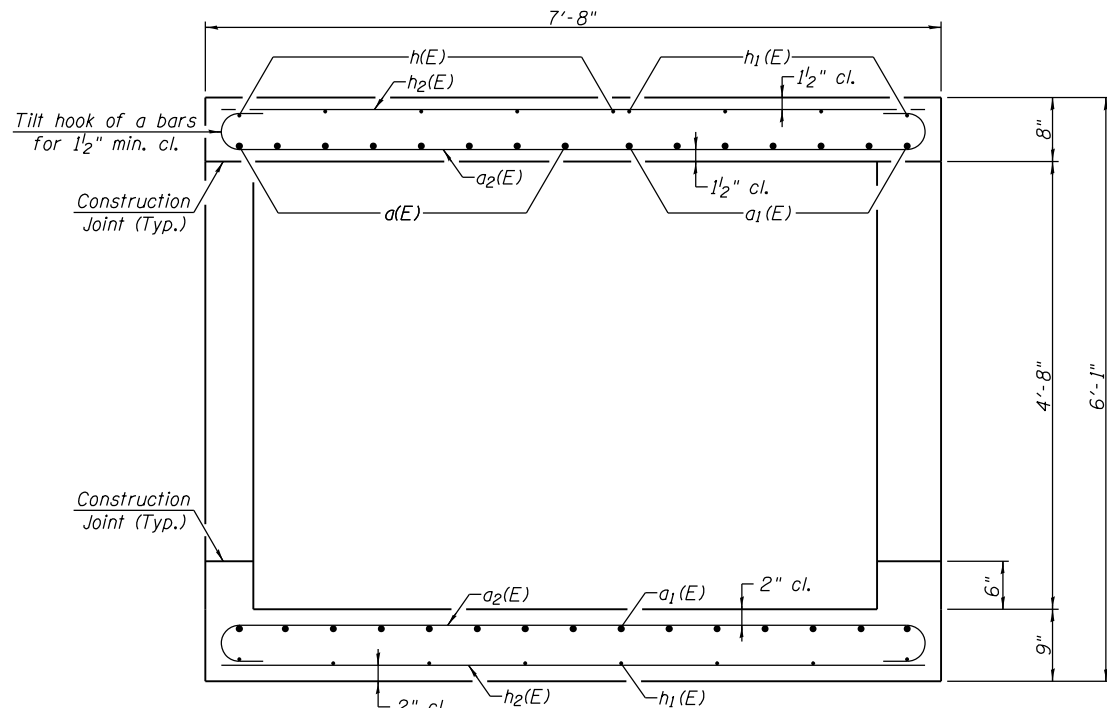
Allen Henderson & Associates, Inc.  
Civil and Structural Engineers Springfield, IL  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

ILLINOIS FED. AID PROJECT  
CONTRACT NO. 72064  
MACHIN/PIN/MFNARR

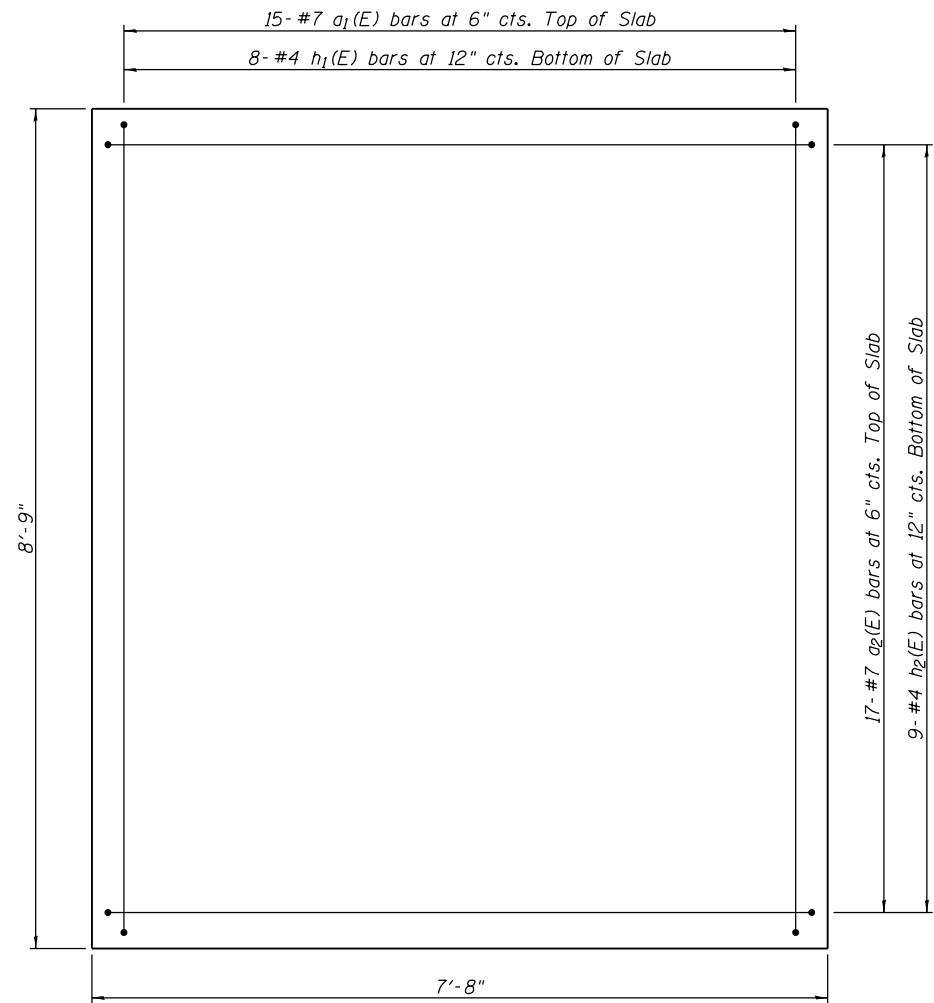


PLAN - TOP SLAB

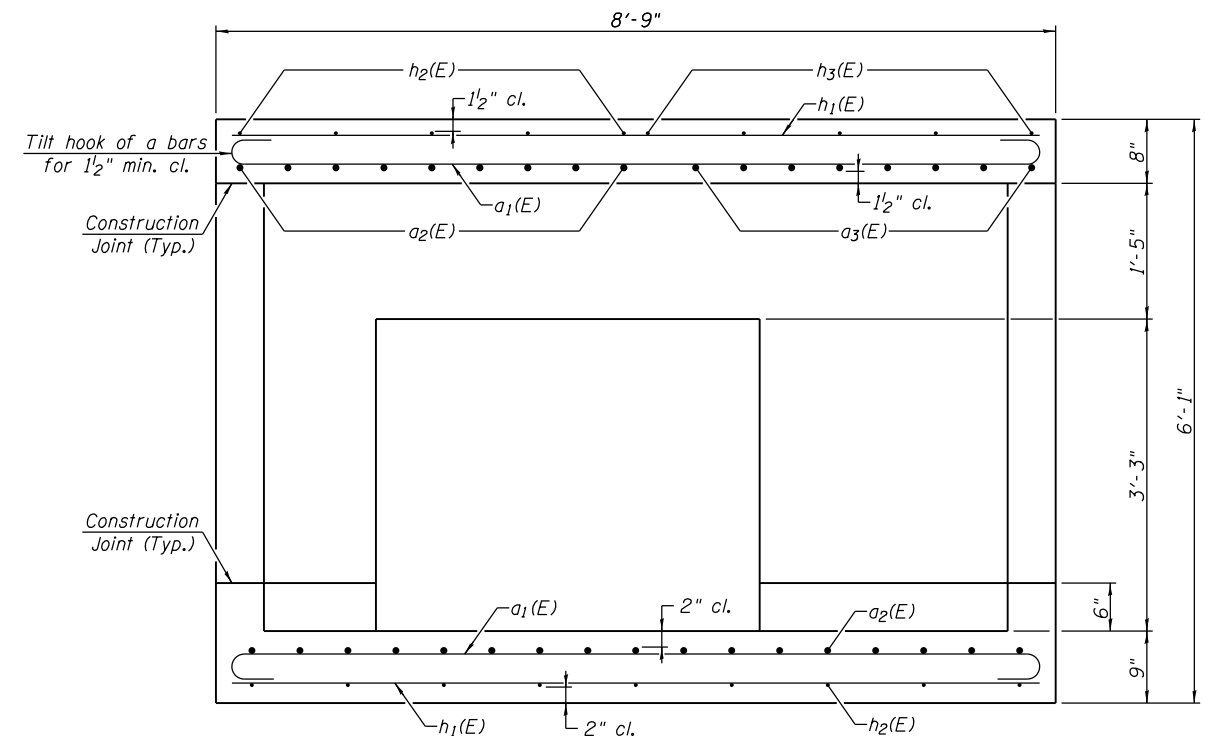
Note: Wall outlines and L frame not shown for clarity.



SECTION A-A



PLAN - BOTTOM SLAB



SECTION B-B

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -



Allen Henderson & Associates, Inc.  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

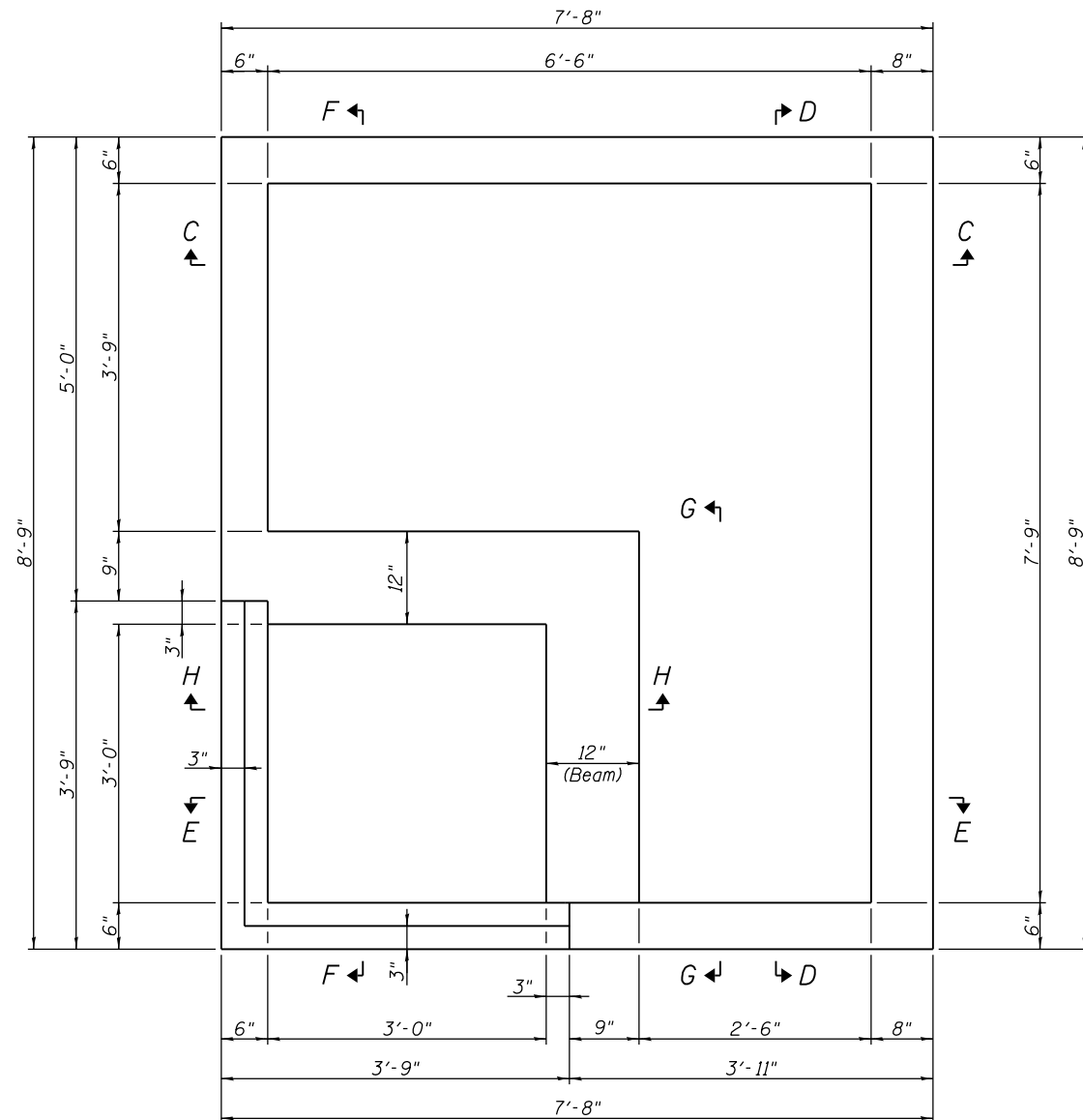
STRUCTURE DETAILS

SHEET NO. 2 OF 4 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D6 DE MISC 2014	*	22	12
CONTRACT NO. 72G64				

ILLINOIS FED. AID PROJECT

MACOUPIN/MENARD



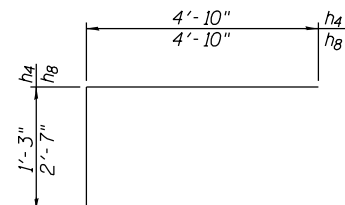
PLAN - WALLS

Note: Top Slab, L Frame & Pipes not shown for clarity.

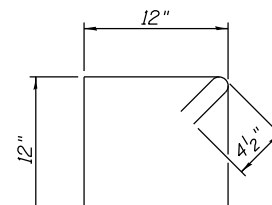
Bar	L
a	4'-6"
a <sub>1</sub>	8'-5"
a <sub>2</sub>	7'-4"
a <sub>3</sub>	3'-5"



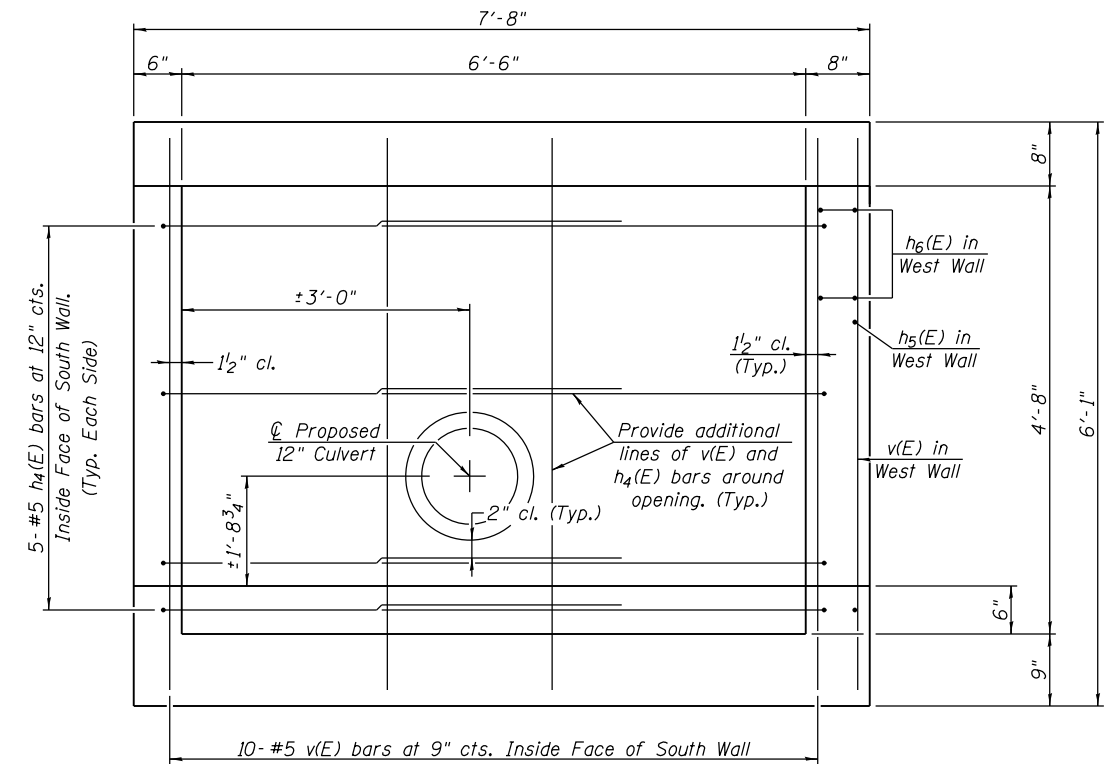
a, a<sub>1</sub>, a<sub>2</sub> & a<sub>3</sub> BARS



a<sub>4</sub> & a<sub>8</sub> BARS



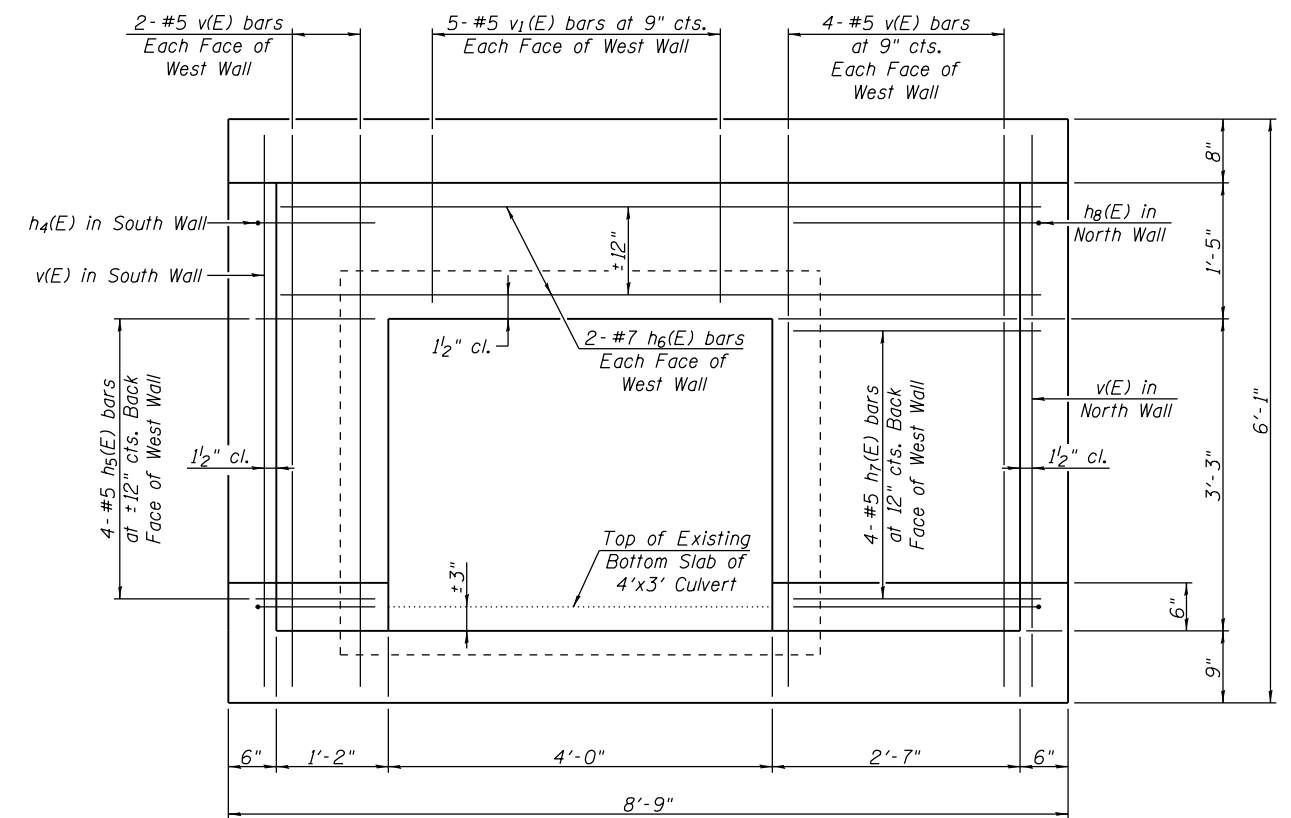
s BAR



SECTION C-C

(Showing Wall Reinforcement Only)

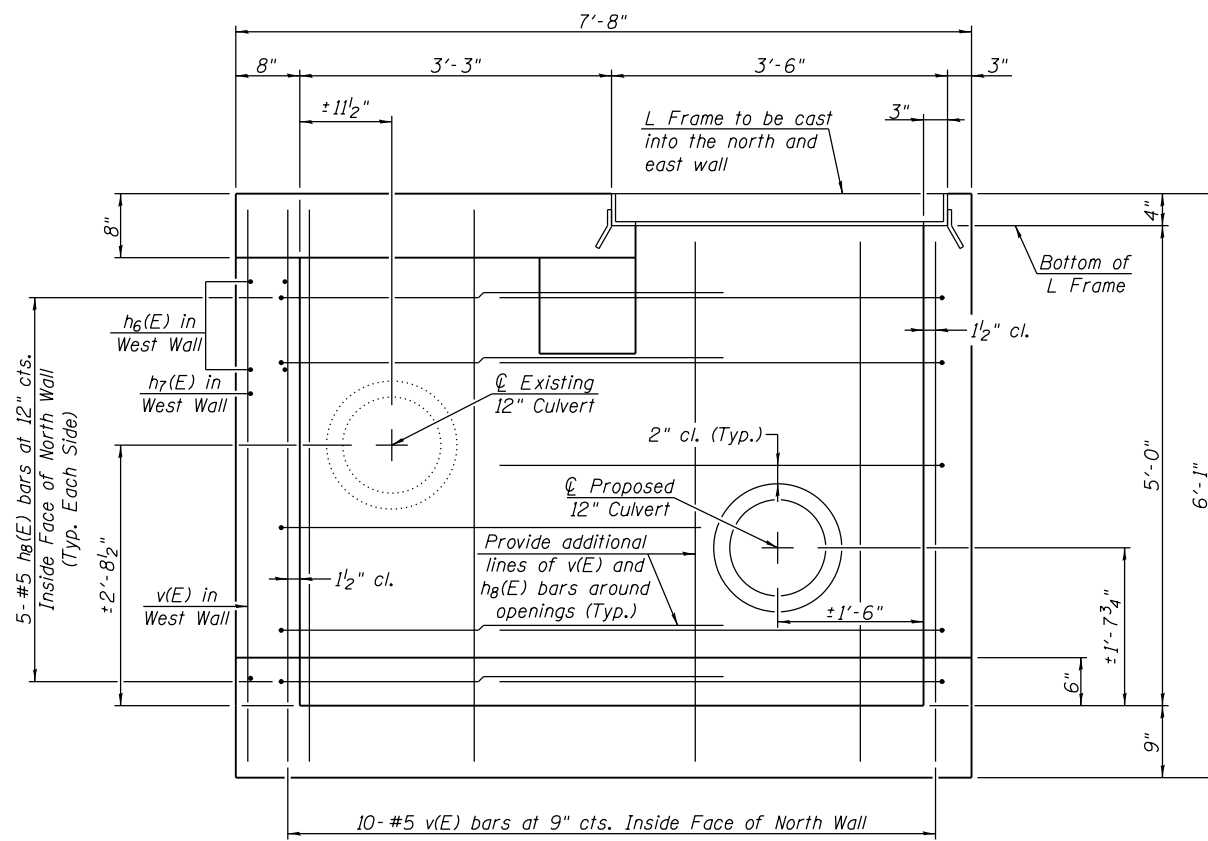
Note: Cut reinforcement in field as required to fit.



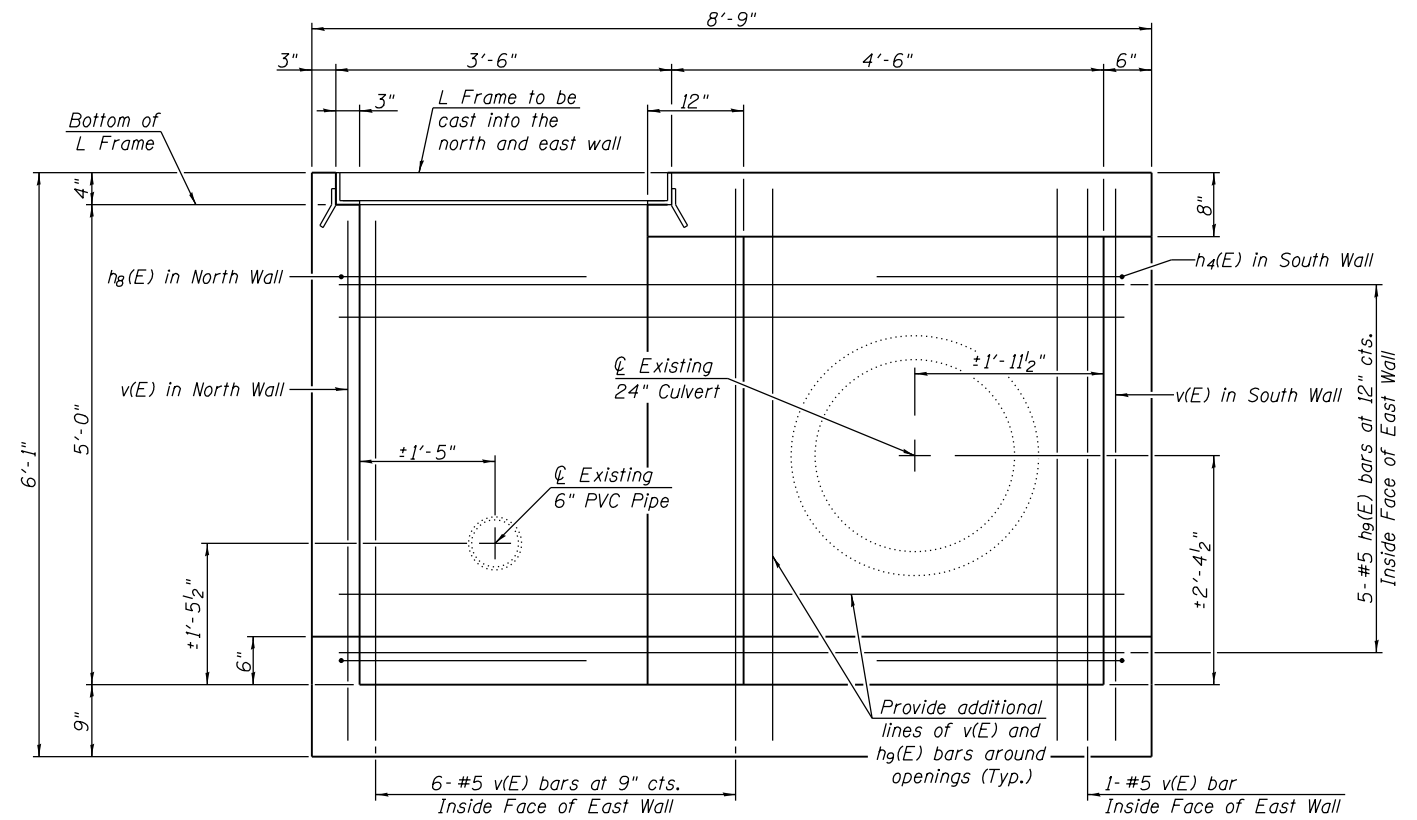
SECTION D-D

(Showing Wall Reinforcement Only)

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	<b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	<b>STRUCTURE DETAILS</b> SHEET NO. 3 OF 4 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISED -			VAR	D6 DE MISC 2014	*	22	13	
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		PLOT DATE =	CHECKED -			ILLINOIS FED. AID PROJECT MACQUIN/MENARD					

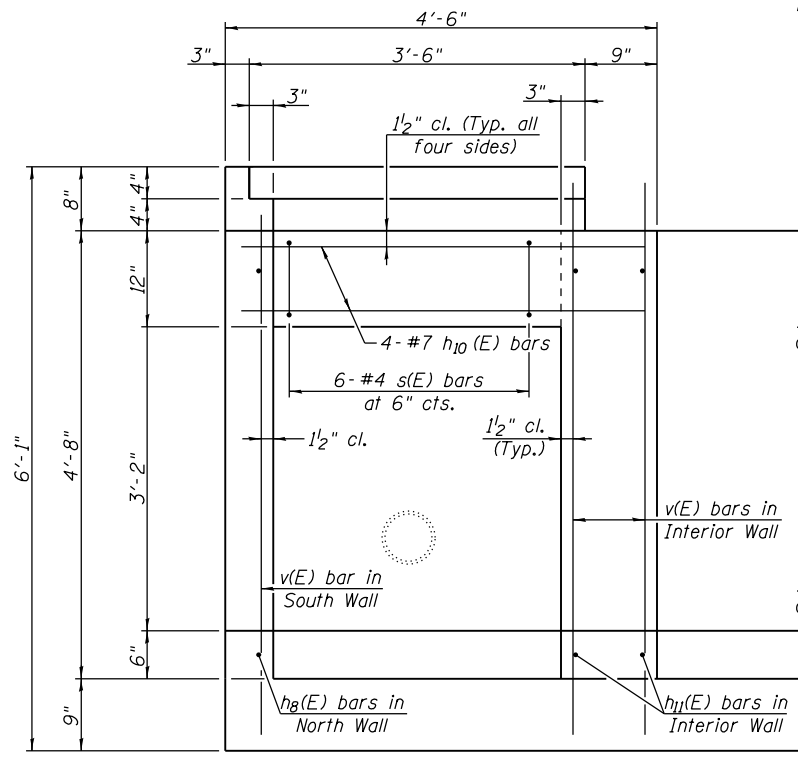


**SECTION E-E**  
(Showing Wall Reinforcement Only)

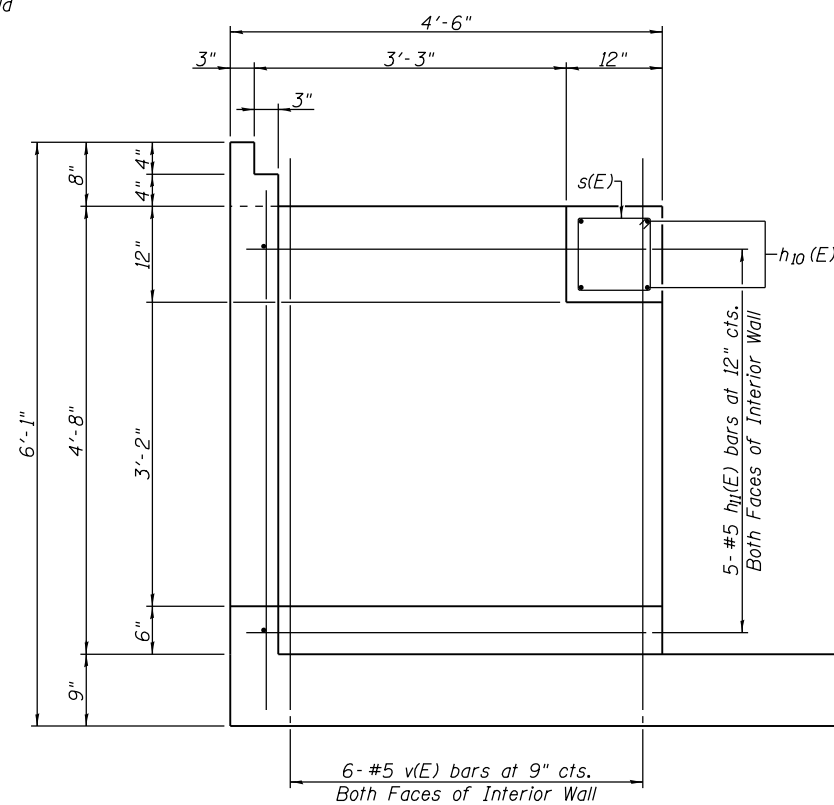


**SECTION F-F**  
(Showing Wall Reinforcement Only)

Note: Cut reinforcement in field as required to fit.



**VIEW G-G**  
(Showing Wall Reinforcement Only)



**VIEW H-H**  
(Showing Wall Reinforcement Only)

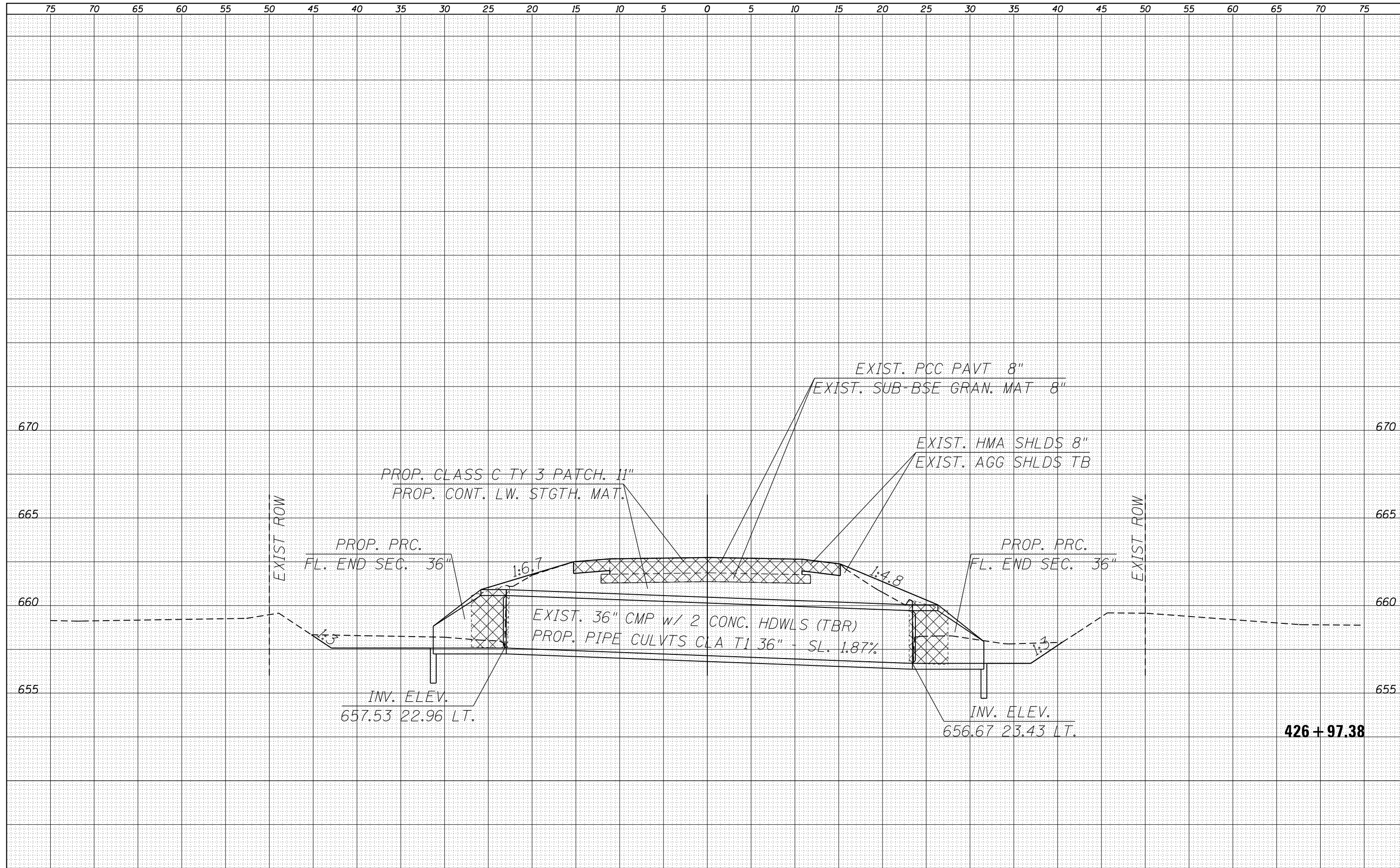
**\*BAR LIST**

Bar	No.	Size	Length	Shape
a	8	#7	6'-2"	┌───┐
a <sub>1</sub>	22	#7	10'-1"	┌───┐
a <sub>2</sub>	26	#7	9'-0"	┌───┐
a <sub>3</sub>	8	#7	5'-1"	┌───┐
h	5	#4	4'-6"	───
h <sub>1</sub>	12	#4	8'-5"	───
h <sub>2</sub>	14	#4	7'-4"	───
h <sub>3</sub>	5	#4	3'-5"	───
h <sub>4</sub>	14	#5	6'-1"	┌──┐
h <sub>5</sub>	4	#5	1'-3"	───
h <sub>6</sub>	4	#7	8'-3"	───
h <sub>7</sub>	4	#5	2'-7"	───
h <sub>8</sub>	16	#5	7'-5"	┌──┐
h <sub>9</sub>	7	#5	8'-3"	───
h <sub>10</sub>	4	#7	4'-3"	───
h <sub>11</sub>	10	#5	4'-3"	───
s	6	#4	4'-9"	┌──┐
v	57	#5	5'-9"	───
v <sub>1</sub>	10	#5	1'-9"	───

\* For estimating purposes only. Actual number and length to be determined after field verification of existing dimensions.

DATE	
BY	
FINAL SURVEY	
NOTE BOOK	
NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	



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	DATE -	REVISD -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

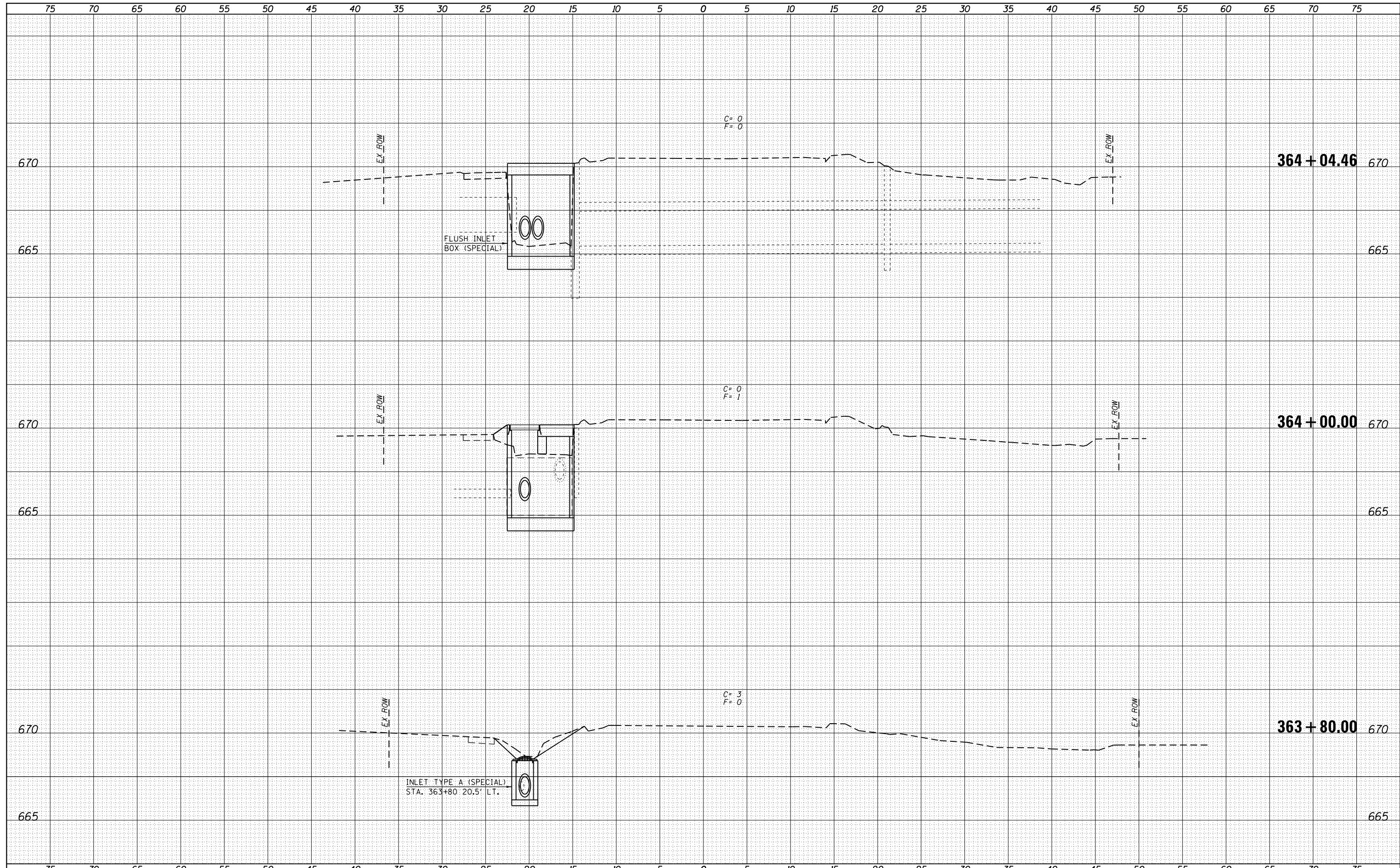
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SCALE: SHEET 1 OF 1 SHEETS STA. 426+97.38 TO STA. 426+97.38

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DE MISC 2014	*	22	15
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72664	

DATE	
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FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

DATE	
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ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

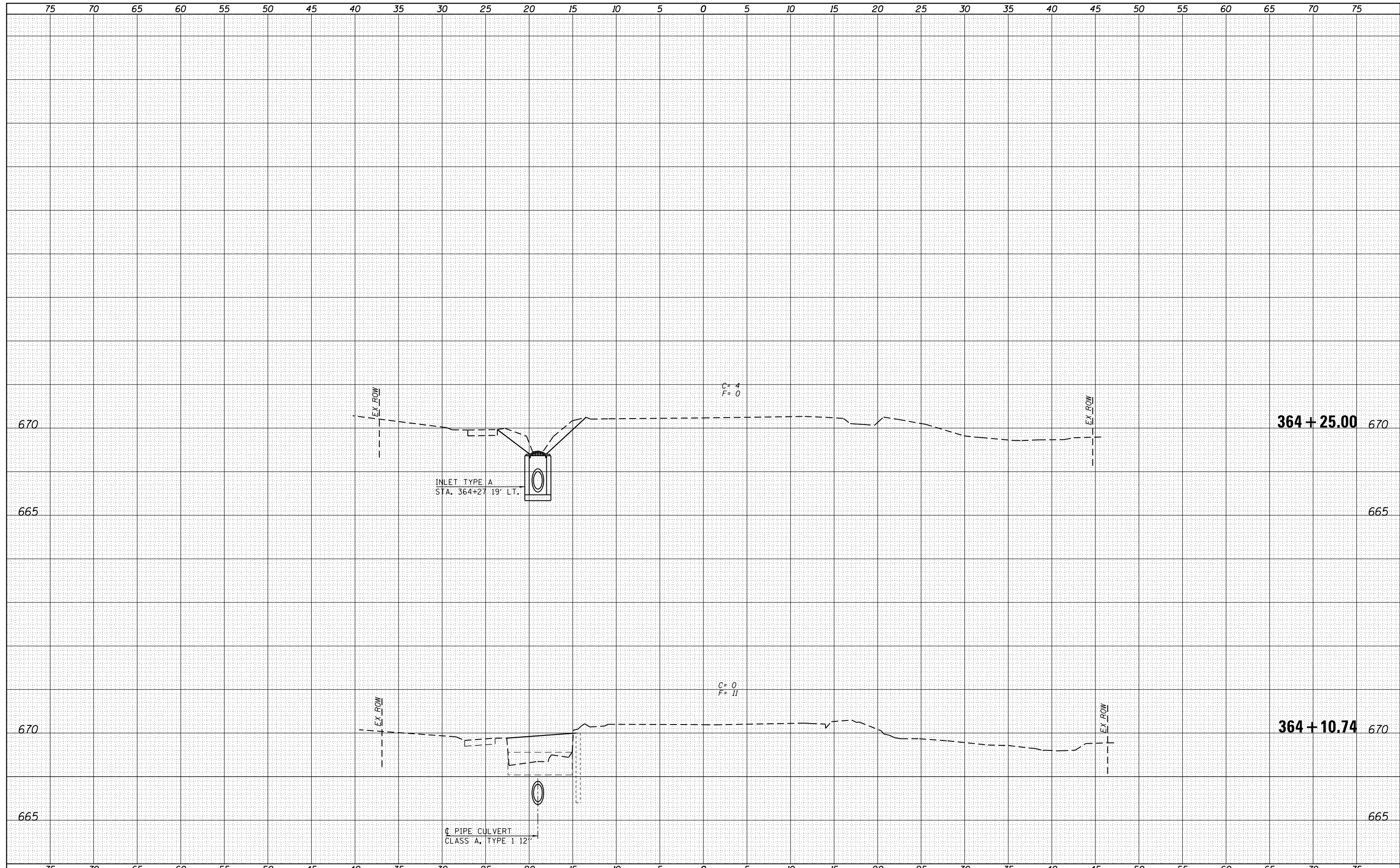



FILE NAME =	USER NAME = sparksq	DESIGNED -	REVISED -	 <b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	<b>CROSS SECTIONS IL 111</b>		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT DATE = Dec-13-2013 09:22:05AM	DATE -	REVISED -					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

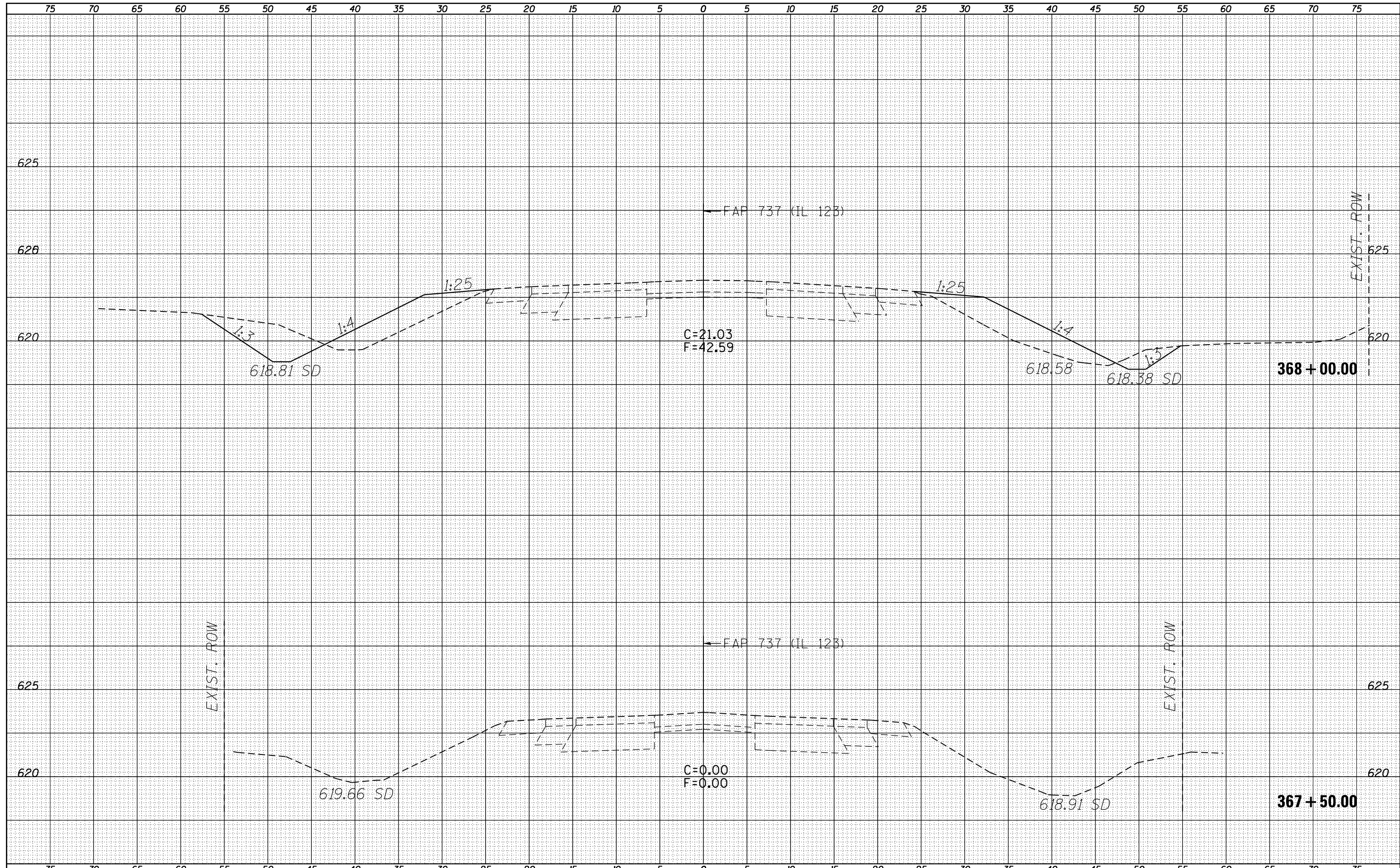
DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED



FILE NAME =	USER NAME = sparksgw	DESIGNED -	REVISED -	 <b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	<b>CROSS SECTIONS IL 111</b>		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ORIGINAL SURVEY NO.	
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DESIGNED -  
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REVISED -  
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 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

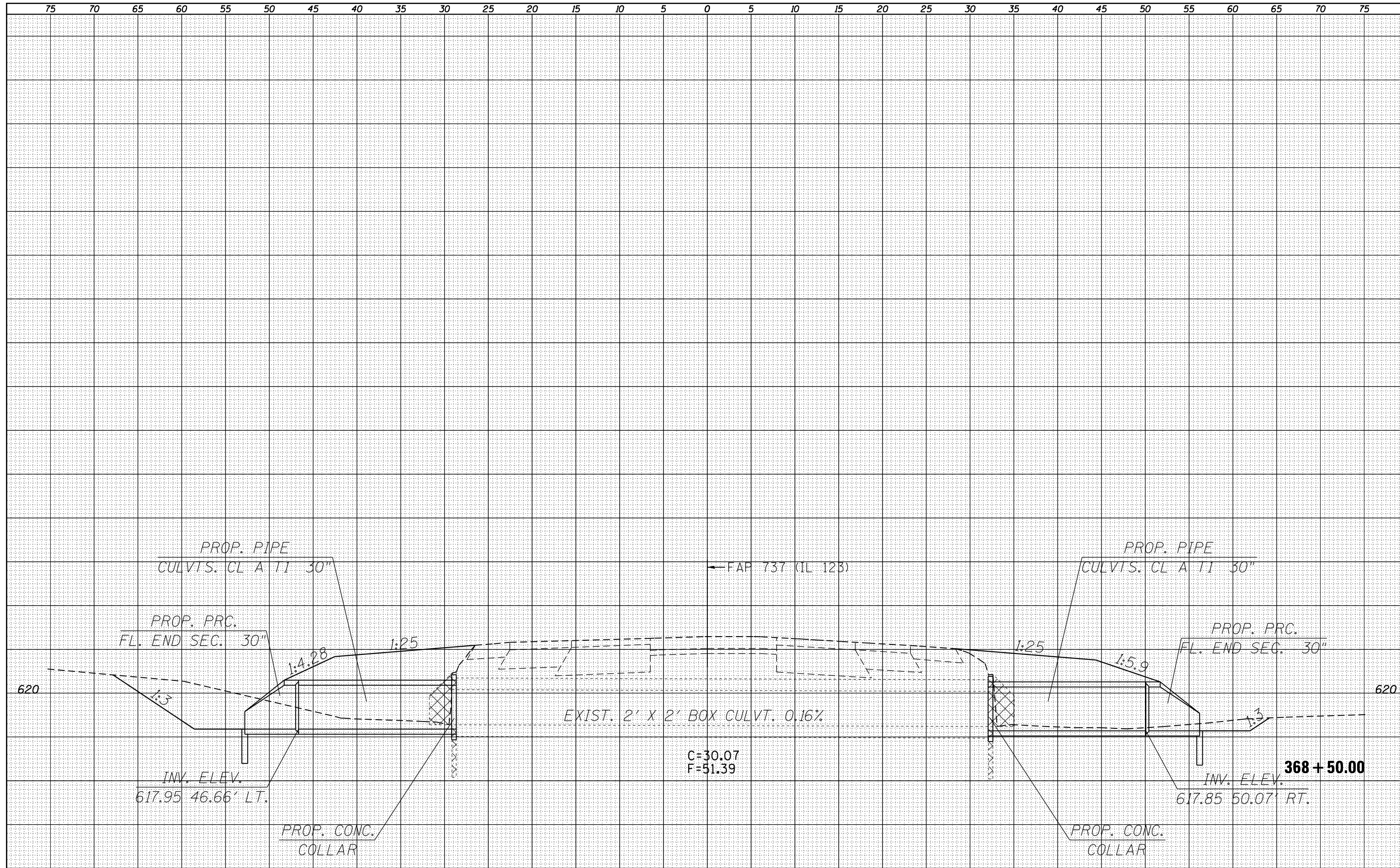
**CROSS SECTION SHEETS IL 123**

SCALE: SHEET 1 OF 2 SHEETS STA. 367+50.00 TO STA. 368+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DE MISC 2014	*	22	18
CONTRACT NO. 72G64			ILLINOIS FED. AID PROJECT	

DATE	
BY	
FINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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DATE	
BY	
ORIGINAL SURVEY NO.	
SURVEYED	
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TEMPLATE	
AREAS	
CHECKED	



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 PLOT DATE = Dec-13-2013 09:22:07AM  
 DATE -

REVISIED -  
 REVISIED -  
 REVISIED -  
 REVISIED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTION SHEETS IL 123

SCALE: SHEET 2 OF 2 SHEETS STA. 368+50.00 TO STA. 369+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	DE MISC 2014		22	19
CONTRACT NO. 72G64			ILLINOIS FED. AID PROJECT	







